RÉPUBLIQUE FRANÇAISE

June 2014

ARCEP's Annual Report 2013

ARCEP
Autorité de régulation des communications électroniques et des postes
www.arcep.fr

Chairman's message

At a time when the digital society continues to evolve at a tremendous pace, in France, in Europe and around the world, 2013 was marked by four major developments in areas that fall under ARCEP's regulatory purview.

First, an acceleration in the transition to superfast broadband on both fixed and mobile networks, as much in terms of coverage as subscription numbers. This trend went hand in hand with demands from users for a greater transparency on the quality of the services being sold by operators.

The second trend in France, and in a great many other countries for that matter, was the start of a growing reconfiguration of the sector, brought about in particular by Vivendi's decision in late 2013 to sell off SFR. As a backdrop is the work being performed at the European level to create a single market for telecommunications. ARCEP contributed to reflections on these matters in 2013, and will continue to do so in 2014, notably through the opinions it will be called upon to issue.

The year was also marked by a growing imbalance of economic power between the top internet companies and internet service providers (ISP), which is one of the central issues of today's net neutrality debates.

And, finally, 2013 saw an increased rate of decline for postal traffic, along with a need for postal operators, and La Poste in particular, to define a new business model.

In light of these developments, it is now more important than ever that regulation be constructed and put into effect by taking the expectations of economic stakeholders into consideration, while meeting the different objectives assigned to the regulator by Law: i.e. to enable users (individual consumers, public services and businesses) to benefit from fixed and mobile service offerings at a reasonable price, thanks to fair and balanced competition; to facilitate the development of the market and the economy as a whole, through innovation and investment and, as a result, job creation; to stimulate a balanced digital regional development.

A fast-changing electronic communications market

For the past ten years or so, the electronic communications sector throughout the world has been shaped by two major technical and economic developments: the convergence of fixed and mobile networks and services, due to the growing ubiquity of IP, and the accelerated shift from voice to data as the core parameter of operators' business model. During the transitional period that is now coming to an end, moving from the old model to the new has resulted in a decrease in prices, despite a swift rise in traffic.

The volume of activity in the sector increased sharply in 2013, in terms of both traffic and subscription numbers. Traffic on both fixed and mobile networks continues to increase: by around 3% for calling traffic – resulting from a decrease in fixed calling traffic and an increase in mobile calling traffic – by 6% for SMS traffic and by more than 60% for mobile data traffic. There has also been a tremendous upsurge in fixed internet traffic. This reflects consumers' unflagging interest in the innovative services enabled by 4G and fibre. Meanwhile, the number of fixed broadband and superfast broadband subscribers rose by 4% during the year, and mobile customers by 5%.

Wholesale and retail electronic communications markets in France generated €46.6 billion in revenue, which marks the third consecutive annual decrease, dropping by 6.4% (on a comparable basis) compared to 2012. This can be attributed to the drop in retail prices (-10.3% according to national statistics office,

INSEE), which has only been partially offset by the rise in volume.

This downturn in revenue was accompanied by a decrease in gross margins, although the average EBITDA in the sector remained unchanged from 2012 (around 30% on average for the five biggest operators in 2013), which can be attributed chiefly to a drop in costs enabled by sizeable productivity gains in this "service industry". Having acquired no licenses in 2013, operators were able to maintain their essential physical investments at the record high levels reached in 2011 and 2012: €7.1 billion, which allowed them to finance the deployment of new generation fixed and mobile superfast networks, in addition to upgrading their existing systems.

Although the number of direct jobs provided by electronic communications operators declined by around 3% in 2013, due primarily to the decrease in Orange staff, the number is still higher than it was in 2009. Looking at the digital industry as a whole – of which ISPs are central players, as recently underscored by Secretary of State for digital affairs, Axelle Lemaire – some 180,000 new jobs have been created over the past five years.

Mobile market: swift rollout of 4G

In a world where, more and more, users want a mobile connection to their devices both at home and at work, the rapid, large-scale commercial rollout of 4G has stimulated retail market growth, and replaced the advent of the fourth mobile operator in early 2012 as the key source of competition in the marketplace. After having increased by 6.6% in 2012, the number of mobile subscriptions rose by a further 5% in 2013, which sets France apart from Europe's other large markets. In late 2013, Bouygues Telecom was reporting 4G coverage of 63% of the population, Orange of 50% and SFR of more than 40%, which is allowing an ever-increasing number of users to benefit from superfast mobile broadband, and for 4G rollouts to become increasingly systematised.

This momentum has been stimulated by ARCEP granting Bouygues Telecom permission in March 2013 to refarm its 1800 MHz frequencies to deploy 4G. Part of an ongoing trend to have a more efficient use of spectrum resources, this authorisation went into effect on 1 October 2013.

Another key event in 2013 was the mobile network sharing agreement signed by SFR and Bouygues Telecom, which aims to achieve a better balance between infrastructure-based competition and infrastructure sharing between these two operators.

In 2013, ARCEP took part in national discussions on the timetable and possible conditions for freeing up the 700 MHz frequency band, paving the way for a second digital dividend for future generations of mobile networks and services.

Working in collaboration with the Government, ARCEP also began to prepare the call for applications that will enable the allocation of frequencies, and the rapid deployment of 4G in France's overseas departments and territories.

Lastly, in summer 2014, ARCEP will perform a detailed verification of operators' compliance with their rollout obligations, notably for Free Mobile, as well as the accuracy of the operators' coverage maps and the quality of service of their offers.

Fixed market: accelerated transition to superfast broadband

The fixed market is following the same path towards superfast access, which this year was spurred by a large increase in the number of homes eligible for both fibre-to-the-home (FttH) and superfast access in general, i.e. including cable and VDSL2.

On the matter of FttH, the number of homes passed increased by 38% during the year, up to around 3 million, with private sector operators and public initiative networks deployed in both very high density and more sparsely populated parts of the country. Meanwhile, VDSL2 became available in October 2013, which enabled a sizeable number of lines, particularly in areas where the network was re-engineered, to upgrade to superfast access.

As a result, at the end of 2013, more than 11 million households – or around a third of all households in France – had access to a superfast service, which is 24% more than in 2012.

Alongside this increased coverage, there was a close to 30% rise in the number of fixed superfast broadband subscriptions, which overstepped the

2 million mark for the first time. FttH subscriptions alone increased by 72%. This has translated into a sizeable increase in superfast broadband penetration, with 20% of eligible households now subscribing to an offer – which is a good indication that superfast access, and FttH in particular, satisfies a real demand amongst the population.

It was within this environment that ARCEP began to review of broadband and superfast broadband market analysis, a process that is the cornerstone of what is referred to as asymmetrical regulation, in other words which applies specifically to the incumbent carrier. This review included a re-examination of symmetrical obligations as well, i.e. which apply equally to all operators deploying fibre to the home. It resulted in a substantial increase in the scale of network sharing, by reducing the size of the area considered to be "very high density" and specifying the terms for connecting small buildings.

Furthermore, aware of the stakes attached to the transition from the copper network to new generation networks, ARCEP took part in a series of initiatives at the request of market stakeholders. This included support for the "100% fibre in Palaiseau" trials, and making an active contribution to the work being done by the Champsaur task force on the transition to superfast access networks and the copper switch-off.

And, finally, the Authority began a forward-looking exploration of Fibre to the Distribution Point (FttDP) architecture in 2013, which consists of reusing existing copper or cable in the last metres to connect households to an optical fibre network.

Net neutrality and quality of service: freedom and user information

ARCEP began to tackle the issue of net neutrality back in 2009, kicking off a series of discussions and consultations with all of the sector's stakeholders. This led to the publication of 10 proposals and recommendations in 2010, then to the publication in September 2012 of a report requested by Parliament and the Government, which included an analysis of the technical and economic facets of net neutrality. Once this work was complete, ARCEP identified several aspects of net neutrality that warranted further exploration: transparency, quality of internet access services, traffic management practices, interconnection and relaying traffic and, lastly, an analysis of the ecosystem and the relationship between stakeholders.

ARCEP continues to devote itself to this work, notably through its active participation in the Body of European Regulators for Electronic Communications (BEREC), which has adopted a similar position to ARCEP's – based on complying with certain set principles rather than, at this stage, introducing overly specific regulation that would quickly fail to keep pace with technical developments. Net neutrality is also one of the topics addressed in the European Commission's proposed "Connected Continent" regulation for a single market for electronic communications, which was presented in September 2013 and adopted by the European Parliament in March 2014 – in a substantially altered version from the initial proposal. The principle of net neutrality needs to be implemented in such a way as to reach the right balance between, on the one hand, respecting users' fundamental freedoms on the internet, notably the freedom to send and receive any content and, on the other, ensuring the internet runs smoothly and innovative services are able to develop, which requires investments in network rollouts and upgrades.

From a practical standpoint, the decision made by ARCEP in 2012 on regular gathering of information on the technical and pricing terms of interconnection between ISPs and internet companies – a decision that was confirmed by the Conseil d'Etat in 2013 in response to an appeal filed by AT&T and Verizon – allows the Authority to deepen its understanding of the market's inner workings. In 2013, ARCEP made a second decision, this time on measuring the quality of internet access services. The first findings will be made public in summer 2014.

In addition to the quality of internet access, it is increasingly crucial to provide users with information on coverage and quality of service, whether fixed or mobile. As new products make their way to the marketplace, it is public authorities' job to ensure that users are able to make informed choices, not only on the price but also the quality of the services, which is largely contingent on economic stakeholders' investments.

To this end, the Order of 3 December 2013 on providing consumers with prior information on internet access services on fixed networks, drafted by the Government and its departments alongside with ARCEP and the market's operators, indicates the path to take to ensure an ever higher degree of transparency for operators' retail market plans, both fixed and mobile. By the same token, every year ARCEP tests

the quality of mobile services and, in 2013, added measurements for 4G networks, with the first results due to be published in summer 2014.

Postal services: a new business model?

France's postal market is now populated by 33 operators. Among them, the incumbent La Poste needs to find a way to respond to the roughly 4% annual decrease in the volume of mail items that has occurred since 2008. In 2013, however, the letter market suffered a twofold decrease: in both revenue (-4.2%) and volume (-5.8%).

ARCEP is keeping a close eye on these developments, particularly as cost savings enabled by the decrease in volume are not, at this stage, offsetting the drop in revenue, which is thus destabilising the traditional postal model.

The development of online shopping is nevertheless creating new requirements in terms of speed and format, and even in the variety of shipping and distribution modes. These developments are opening up new prospects for postal operators who are working to offer products tailored to the delivery of small parcels.

ARCEP is also endeavouring to provide La Poste with clarity on its future pricing, thanks to a multi-annual price cap for the universal postal service. It allows La Poste to adapt and anticipate its medium and long-term strategy in an environment where the volume of mail continues to shrink year on year.

The regulator is also working to ensure that new postal operators can enter the marketplace and develop their business, in most instances in specialised postal markets, even if the competitive landscape is by no means comparable to the electronic communications market.

And, finally, since 2010 postal users have been able to appeal to ARCEP as a last resort to resolve their complaints, which has allowed the Authority's departments to elicit improvements to postal products, in concert with La Poste. ARCEP also notes significant progress in the quality of the registered mail service, as more than 95% of registered letters are now delivered by D+2. Although the targets set by public authorities have been exceeded, delivery times must continue to be monitored closely: delivery time for first class letters (D+1) increased slightly in 2013, after having decreased steadily for years.

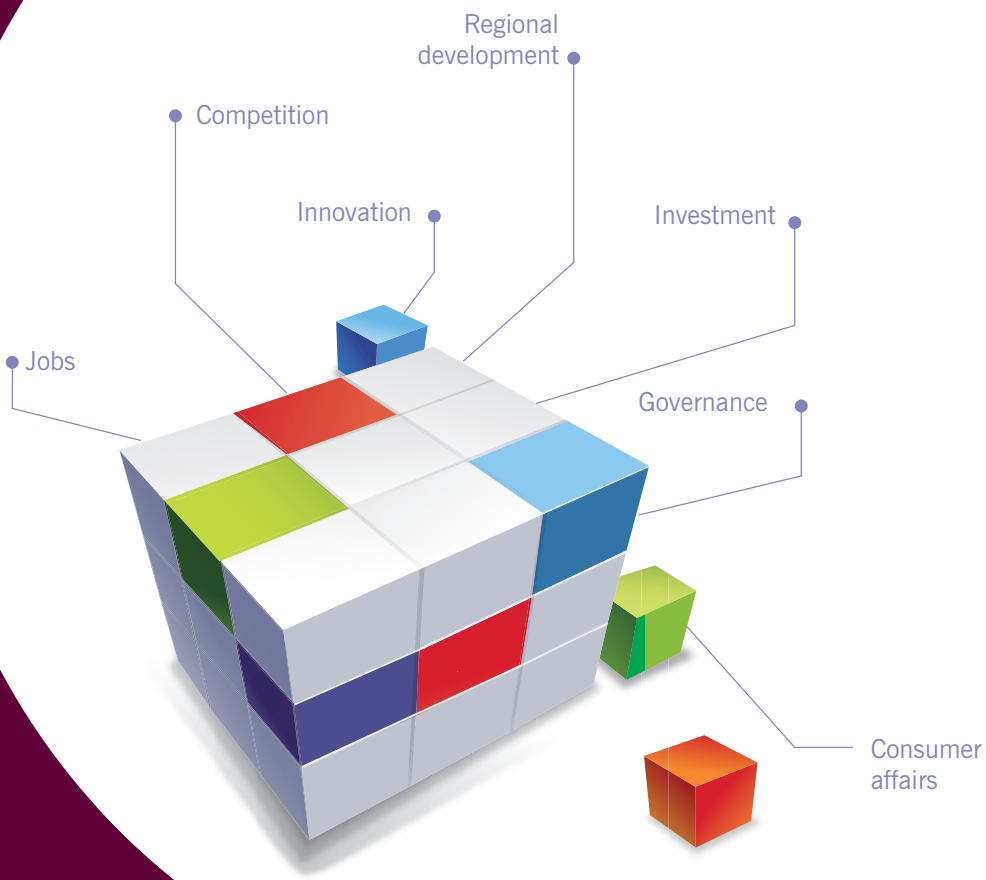
Conclusion

More than 15 years since its creation, ARCEP plays a more vital role than ever in the sectors it regulates, evolving alongside them to keep pace with changes in the marketplace, as the scale and diversity of the work performed in 2013 reflects. Its actions complete the broad range of public policies that fall under the Government's jurisdiction.

It does so by keeping its finger on the pulse of the sectors – listening to economic stakeholders through consultations, hearings, working groups, etc. but also to Parliament, the Government and local authorities. ARCEP's Executive board and its entire staff devote themselves every day to building a framework tailored to the "networks of the future," while working to protect incentives for stakeholders to invest and innovate.

Jean-Ludovic Silicani
Presidente dell'ARCEP

PART ONE
ARCEP


Regional development
Competition
Innovation
Investment
Jobs
Governance
Consumer affairs

ARCEP's responsibilities and activities

1. ARCEP's responsibilities

ARCEP is an independent administrative authority that was created on 5 January 1997, under the name of ART– which stands for *Autorité de régulation des télécommunications*, or Telecommunications Regulatory Authority – to accompany the French telecommunications sector as it was opened up to competition, and to regulate the markets created in the process.

In 2005, the Law on postal regulation[1] expanded the Authority's powers. It thus became the Electronic communications and postal regulatory authority, or ARCEP (*Autorité de régulation des communications électroniques et des postes*), as it assumed the responsibility of overseeing the postal market's liberalisation and proper operation.

The joint objectives set by Law for the Government and the regulator are:

- first, thanks to fair and balanced competition, to enable users (enterprises, government departments and individual consumers) to benefit from fixed and mobile service offerings at a reasonable price;
- second, to facilitate the development of the market and the economy as a whole, through innovation and investment and, as a result, job creation;
- third, to stimulate regional digital development.

To this end, ARCEP performs market analyses, which consists of defining relevant markets, of designating those operators that enjoy significant market power (SMP) and of setting the obligations to which they are subject, generally in wholesale markets — in other words markets where operators bill for services provided to one another – to resolve competition issues that have arisen. This is referred to as "asymmetrical" regulation as it does not apply equally to all of the market's operators.

ARCEP also has the power to set the general obligations that apply to all operators, within the scope set by law. This is what is known as "symmetrical" regulation as it applies equally to all market operators.

In addition, the Authority is responsible for allocating spectrum and numbering resources. And, finally, the Authority sets the amount of the contributions to the universal service fund, defined by the Law of 1996, and ensures the oversight of these financing systems.

The legislative provisions that define ARCEP's role and status are contained in the French Postal and electronic communications code or CPCE (Code des postes et des communications électroniques).

1 - Law No. 2005-56 of 20 May 2005 on postal activity regulation, JO of 21 May 2005

2. ARCEP's activities

2.1 Decisions and opinions

a/ Decisions

The ARCEP Board issued 1,483 opinions and decisions in 2013, of which 15 pertained to the postal sector.

As concerns the decisions relating to the electronic communications sector:

- 1 136 concerned the allocation of resources: 934 on spectrum resources and 202 on numbering resources;
- two decisions concerned the Authority's *ex ante* regulatory powers, including one decision extending the decision of April 2010 on analysis of the capacity services market (market 6) up to 2014, to be able to adopt the new analyses of markets 4,5 and 6 in a synchronised fashion using the European Commission nomenclature;
- six decisions concerned adminstrative inquiries. ARCEP concluded its inquiry into the technical and fianancial conditions governing access between a provider of public online communication services, Google, and an operator, Free Mobile.

ARCEP also adopted a decision on mobile operators' coverage surveys, and three decisions on implementing annual and quarterly information gathering campaigns and surveys.

b/ Opinions

In 2013, ARCEP issued 38 opinions, including:

- 19 opinions on draft legislation, decrees and orders;
- two opinions submitted in response to a request from the Competition Authority;
- one opinion addressed to the French Broadcasting Authority, CSA (*Conseil supérieur de l'audiovisuel*);
- nine opinions on universal service tariffs in the electronic communications sector;
- and seven opinions on postal complaints.

2.2 Consultations, surveys and reports

Twenty one public consultations were launched in 2013, either as part of market analyses procedures, on matters that are within the Authority's regulatory purview, or as part of the process of implementing operators' asymmetrical obligations and market-wide schemes, e.g. use of spectrum, universal service, numbering, fibre rollouts, call termination.

The Authority also published two reports on equipment and usage levels:

- one in July 2013 on electronic communications and TV equipment levels amongst households and individuals in the five French overseas departments;
- a report on the dissemination and use of information technologies in French society, produced by CREDOC in December 2013.

Equipment and traffic levels in the overseas departments

In June 2012, 72% of households in overseas France had a landline phone, which is considerably fewer than in Metropolitan France (88.3%), whereas the individual ownership rate for mobile phones (84%) is much closer to the 88%* penetration in mainland France. Half of all households in the overseas departments have an internet connection at home, except in Mayotte where the percentage stands at only 14%. These are just some of the finding to emerge from the survey that was conducted from April to June 2012 on household and individual telecom and media equipment levels in Guadeloupe, Guyana, Martinique, Mayotte and Reunion in 2012, which the General delegation for overseas departments (DéGéOM), in partnership with ARCEP and French Broadcasting Authority (CSA), commissioned from polling institute, LH2 DOM.
Published on 26 July 2013, the survey – which is made up of six reports: a detailed report for each department plus a summary report – measures the degree to which people in French overseas departments have adopted and employ new technologies, and the penetration rate for new services in each of these locations. It also sheds light on users' perception of the quality of the services on offer, and assesses households' budgets for the services and hardware in question.

** CREDOC survey conducted in June 2012 for ARCEP and the Committee for industry, energy and technologies, CGIET (Conseil général de l'industrie, de l'énergie et des technologies)*

Lastly, ARCEP published a status report on "Local authority involvement in the electronic communications sector".

2.3 Operator declarations

The Act of 9 July 2004 on electronic communications and audiovisual communication services altered and simplified the regulatory framework that applies to electronic communications in France, as a result of which operators are required only to declare themselves to the Authority prior to doing business, whereas they had previously been required to apply for an authorisation.

In 2013, 243 new operators declared themselves, of which a third have an only department-wide service area. As of 31 December 2013, ARCEP thus recorded 1,497 declared operators – compared to 1,328 in 2012 – of which 866 operate a network, 842 provide a fixed telephone service, 839 an internet access service and 184 provide mobile services..

Operator declaration: now an online procedure

As part of ongoing efforts to streamline its relationship with operators, in early 2014 ARCEP introduced new, fully online system for operators to declare their business, which has been deployed on a trial basis. Undertakings wanting to declare themselves as electronic communications operators, in accordance with Article L. 33-1 of the French Postal and electronic communications code, can fill out the declaration form that is available on a dedicated extranet which is accessed from the ARCEP website. The form takes around 15 minutes to complete. An FAQ is also available.

2.4 Dispute settlements

ARCEP adopted two dispute settlement decisions in 2013, including one between the companies Quentiop and Orange[2].

ARCEP issued a decision on the request filed by Quentiop, the operator in charge of the optical fibre public concession in Saint-Quentin-en-Yvelines, concerning a dispute with the firm Orange . The concession-holder – which had launched a call for proposals from co-investors, with a view to deploying a superfast access network in the urban community of Saint-Quentin-en-Yvelines – was complaining that Orange, which had not responded to this CFP, had launched its own call for co-investors with a view to deploying a separate network in this same location. After having discounted certain conclusions – due either to the fact that ARCEP did not have the required jurisdiction to investigate, or to inadmissibility as no negotiations had fallen through – ARCEP ascertained that Quentiop, which is an operator declared with ARCEP, and like any other operator deploying a public-initiative network, has the freedom to establish and operate a public network. However, there is no law that allows an operator establishing an FttH network to force another operator to use its network, nor any obligation for that second operator to co-finance or operate FttH lines installed by the first operator. As a result, ARCEP could not grant Quentiop's requests.

2.5 Performance indicators

When enacting the Finance Act of 2006, referred to as the LOLF[4] (*Loi organique relative aux lois de finances*), a common performance objective was set for all three of the independent administrative authorities responsible for economic regulation, namely to "make quality decisions within a set timeframe". This objective has resulted in similar indicators for compliance with those timeframes being set for the three bodies.

2 - Decision No. 2013-0720, of 28 May 2013
3 - France Telecom was renamed Orange, on 1 July 2013 For the sake of clarity, the name Orange will be used throughout the report.
4 - Legislation governing public finance, i.e. Finance Act No.2001-692 of 1 August 2001, JO of 2 August 2001

In 2013, ARCEP's average timeframe for issuing opinions on texts were:

- 7.3 business days for opinions on tariffs;
- 18.8 business days for adopting opinions on regulatory texts.

Additional indicators were defined in 2009 and updated in 2012 which pertain more specifically to "professional" performance (see table below).

"Professional" performance indicators

	2010	2011	2012	2013
Regulator's administrative efficiency				
- Number of opinions or decisions issued	1 377	1 510	1 674	1 521
- Number of decisions cancelled by the courts	0	0	1	1
Electronic communications				
a) Equipment				
- Number of broadband and ultra-fast broadband subscribers (million)	21,3	22,7	24	24,9
- Number of ultra-fast broadband subscribers (million)	1,1	1,3	1,6	2,0
- Number of mobile subscribers (million)	65	68,6	73,1	76,8
- Number of Internet subscribers (% of households)	69,2	72,9	74,5	78,6
b) Regulated market development: geographical coverage (by technology)				
- Mobile (% of the population) [5]	99,9	99,9	99,9	99,9
- Broadband (access at 512 Kbit/s or more) (% of lines)	99,0	99,1	99,3	99,4
- Fibre (% of homes passed)	3,2	4,4	6,5	9,0
Postal sector				
a) Quality of service				
- % of single-piece priority letters delivered in D+1	83,4	87,3	87,9	87,4
- % of "Colissimo guichet" parcels delivered in D+2	84,8	88,7	89,8	89,4
b) Number of operators	22	29	32	33

Source : ARCEP.

5 - *This refers to 2G mobile coverage. As concerns 3G, 98% of the population of Metropolitan France is covered. Deployment of the 4G network has been underway for the past two years.*

The ARCEP Board in March 2014.
From left to right: Pierre-Jean Benghozi, Daniel-Georges Courtois, Françoise Benhamou, Jean-Ludovic Silicani (Chairman), Marie-Laure Denis, Jacques Stern, Philippe Distler

ARCEP's organisation and operation

1. ARCEP

Since 2007[1], the Chairman of ARCEP has been appointed after receiving the opinion of parliamentary committees.

Members of the Board cannot be dismissed, their six-year term is not renewable and their position is incompatible with any other business activity, national appointment or civil service position. The code of conduct that the Authority adopted in 2007 applies to all ARCEP Board members[2]. Moreover, since the Law on transparency in public life[3], was adopted, ARCEP Board members are also required to declare their assets and their financial interests.

In early 2013, the Senate appointed Pierre-Jean Benghozi, Director of Research at the CNRS and a professor at the *École Polytechnique*, to replace Denis Rapone. The President of the Republic appointed Philippe Distler, a member of the Corps of Engineers and who had been the Director-General of ARCEP since 2003, to replace Jérôme Coutant.

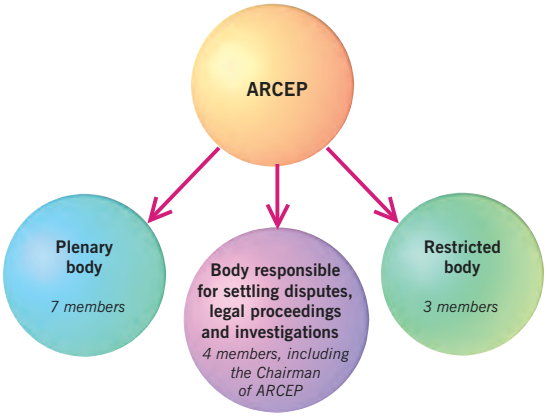
Following a priority preliminary ruling on constitutionality, which resulted in the Constitutional Council invalidating the legal provisions assigning ARCEP the power to impose penalties in the electronic communications sector[4], the Government restored these powers and entrenched them in an order[5], as authorised by Article 1 of the Act that gives the Government the power to simplify and safeguard the life of businesses[6].

Since March 2014, in accordance with Article L. 130 of the French Postal and electronic communications code (CPCE), three distinct bodies have exercised ARCEP's different powers:

- **the plenary body**, composed of the seven members of the Executive Board, which deliberate on all decisions and opinions, except for decisions where the Law expressly assigns that power to one of the other bodies[7];
- **the body responsible for settling disputes, legal proceedings and investigations** (referred to in French as "RDPI"), is composed of four Board members, including the ARCEP Chairman. It adopts decisions on investigations, inquiries and dispute settlements, as well as decisions on proceedings carried out as part of a penalty procedure (initiating the procedure, issuing formal notices, notifying the statement of objections)[8];
- **the restricted body**, composed of the three most recently appointed members of the ARCEP Board, excluding the Chairman, which deliberates on decisions to impose or not impose penalties .

The rules governing ARCEP's operation – and particularly how sessions and the presentation of cases must be organised – have been revised to ensure they comply with the new legal provisions. These new rules also bring all of the needed guarantees to the enterprises concerned, while continuing to ensure that ARCEP is able to act effectively[10].

1 - Law No. 2007-309 of 5 March 2007 concerning modernisation of audiovisual broadcasting and television in the future (loi relative à la modernisation de la diffusion audiovisuelle et à la télédiffusion du future), and Law No. 2010-838 of 23 July 2010 on the application of paragraph 5 of Article 13 of the Constitution
2 - Decision No. 2007-0461 of 7 June 2007 adopting the code of conduct for ARCEP Board members.
3 - Law No. 2013-907, of 11 October 2013
4 - Priority preliminary ruling on constitutionality Decision No. 2013-331 of 5 July 2013, Numericable SAS and others
5 - Order No. 2014-329 of 12 March 2014 on the digital economy
6 - Law No. 2014-1 of 2 January 2014, giving Government the power to simplify and safeguard the life of businesses
7 - Decisions adopted under CPCE Articles L. 5-3, L. 5-4, L. 5-5, L.5-9, L. 32-4, L. 36-8 and L. 36-11
8 - Decisions adopted under sections I and II CPCE Article L. 5-3, Articles L. 5-4, L. 5-5, L. 5 9, L. 32-4 and L. 36-8 and sections I, II and IV of CPCE Article L. 36-11
9 - Decisions adopted under sections III and V of CPCE Article L. 5-3 and sections III and VI of CPCE Article L. 36-11
10 - Decision No. 2014-0471 of 15 April 2014, adopting ARCEP's new rules of procedure



Three distinct bodies exercise ARCEP's different powers.
For penalty procedures, the RDPI body conducts the proceedings,
while the decision whether or not to impose a penalty is discussed and adopted by the restricted body.

2. Organisation and department budgets

2.1 ARCEP budget, management and human resources

■ Credits

ARCEP's credits are adopted every year by the Parliament. Since 2009, ARCEP's budgetary allotment has constituted Action 13 – "electronic communications regulation" – of programme 134 of the Finance Act's economic mandate, "business and job development". For 2013, Parliament allocated ARCEP a budget of €16 million in payment credits for personnel expenses (item 2) and €6.9 million for operating expenses (item 3). These amounts were reduced to match the precautionary resources voted by Parliament (0.5% for item 2 and 6% for item 3), a government amendment of €19,000 and an additional freeze of €400,000 euros (being managed) for item 3, as well as a tax that is to bring €142,000 in financing to the Superfast broadband task force (being managed) , which corresponds to transferring two positions to the Superfast broadband task force, for item 2.

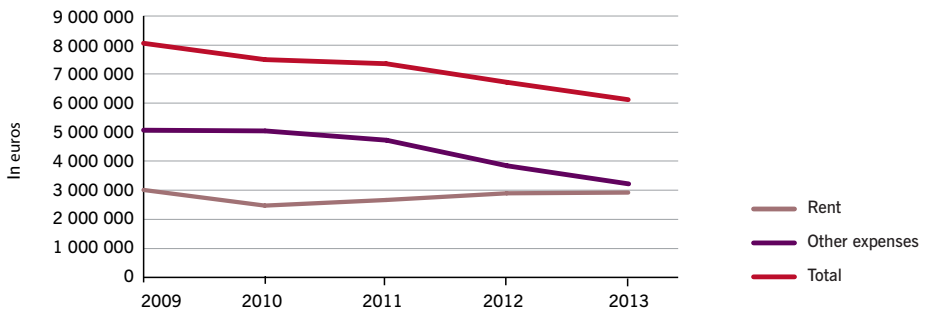
Despite these budgetary restrictions, ARCEP was able to cover all of its personnel and operating expenses without having to request financing from programme 134. The Authority in fact performed a partial reorganisation of its departments which allowed it to reassign personnel in an optimal fashion. Human resources have decreased for the first time, in terms of both credits and maximum staff levels, going from 173 full-time equivalent employees (FTEE) in 2012 to 171 FTEE in 2013. ARCEP has also cut its outside expertise budget by streamlining its priorities, and by limiting its foreign travel to address only European issues – with the exception of FRATEL[11].

■ Expenditures

ARCEP worked to reduce its costs systematically and continuously from 2009 to 2013, and achieved an overall 24% reduction in spending (37% not including rent) in five years. The Authority reached the "nadir" of allotted resources in 2013 – short of accepting skeleton operations, which would have repercussions on the Authority's ability to meet the responsibilities assigned to it by law, as well as consequences for public financing since ARCEP is responsible for collecting revenue tied to the allocation and use of State-owned spectrum resources. These points were underscored in the opinions issued by the National Assembly and Senate Economic Affairs Committees during budget talks in the run-up to the draft budget for 2014 (see below).

11 - *Cf. p. 46*

ARCEP expenditure curve



Source: ARCEP.

Opinion expressed by Deputy Corinne Erhel, on behalf of the National Assembly Economic Affairs Committee, during debates on the budget bill for 2014

Your reporter indicates that ARCEP's operating resources, both human and physical, are being reduced while the tasks assigned to it continue to increase, notably as part of the Superfast broadband in France programme. Indeed, the legal framework for optical fibre rollouts has broadened the scope of regulation, since ARCEP must monitor the activities of all public initiative networks (PIN). In short, as ARCEP Chairman, Mr Jean-Ludovic Silicani, indicated to your rapporteur, ARCEP must now regulate the operations of several dozen undertakings with fewer resources than when it was concentrating on only four operators.

Opinion expressed by Senator Pierre Hérisson, on behalf of the Senate Economic Affairs Committee, during debates on the budget bill for 2014

During the previous fiscal year, your draftsperson drew our attention to the particularly virtuous nature of ARCEP's management of its budget, especially when compared to its European counterparts, but also to the limits of this cost-cutting trajectory which undermines the Authority's ability to exercise its institutional functions and, as a corollary, the quality of the regulation of the markets that fall under its purview.

This has had an especially significant impact on two areas of expenditure: study budgets, on the one hand and, on the other, mobile coverage verification surveys, which are relatively expensive since they require agents in the field to conduct tests across the entire country.

Revenue

In 2013, the revenue (licensing fees and taxes) collected by the Authority, which is deposited into the State's general budget, came to €308 million, of which €50 million went into the Old Age Solidarity Fund, FSV (*fonds de solidarité vieillesse*).

2.2. ARCEP's organisation

Organisation chart as of 1 June 2014

Forward-planning Committe

Interconnection and Access Committee

Consumer Affairs Committee

GRACO (Working group between ARCEP, local authorities and operators)

Department of Human resources, administration and finances

Manages ARCEP's means and resources as well as our publications, documentation and information systems

Claire BERNARD
Deputy : *Elisabeth CHEHU-BEIS*

Human resources
Catherine AUTIER

General administration
Elisabeth DUPRÉ

Finances
Isabelle HAGNERE

Documentation
Elisabeth CHEHU-BEIS

Information systems
Jean-Philippe MOREAU

Department of Legal affairs

Responsible for all legal aspects of ARCEP's activity

Isabelle CARON

Procedures, spectrum, audiovisual media, interconnection and consumers
Elisabeth SUEL

New regulations, new networks, local authorities and Europe
Laurent PERRIN

Department of European and international affairs

Coordinates and implements ARCEP's European and international activities

Anne LENFANT
Deputy : *Joël VOISIN-RATELLE*

European affairs
Françoise LAFORGE

International affairs
Joël VOISIN-RATELLE

Department of Economics and forward-planning

Coordinates economic analyses
Regulates the broadcasting market
Universal service and directory
Observatories and external reports
Forward planning

Olivier COROLLEUR

Statistical observatory and market monitoring
Sophie PALUS

Network economics, forward-planning and universal service
Jennifer SIROTEAU

Costs and tariffs
Gaëlle NGUYEN

Executive Board

Chairman
Jean-Ludovic SILICANI

Members
Pierre-Jean BENGHOZI
Francoise BENHAMOU
Daniel-Georges COURTOIS
Marie-Laure DENIS
Philippe DISTLER
Jacques STERN

Communications
Jean-François HERNANDEZ
Deputy : *Ingrid APPENZELLER*

Directorate-General

Director General
Benoit LOUTREL

Deputy Director General
François LIONS

Departments

Department of Mobile access and manufacturer relations

Spectrum planning and management
Issues spectrum licences
Regulates mobile wholesale markets
Monitors relations with equipment manufacturers.

Rémi STEFANINI
Deputy : *Guillaume MELLIER*
Julien MOURLON

Mobile spectrum
Julien MOURLON

Mobile markets
Guillaume MELLIER

Regulation, strategy and manufacturer relations
Thomas GOUZENES

Spectrum management
Jean-Luc STEVANIN

Department of Fixed access and local authority relations

Regulates wholesale fixed broadband and superfast broadband access markets
Monitors relations with local authorities for the purposes of regional digital development

Romain BONENFANT
Deputy : *Guillaume MEHEUT*

Relations with local authorities
Julie CHABROUX

Ultra-fast broadband copper access and infrastructure
Thomas HOARAU

Fibre access networks and superfast broadband usage
Guillaume MEHEUT

Department of Electronic communication services and consumer relations

Regulates interconnection and capacity services market
Monitors general authorisations
Monitors consumer relations

Renan MURET
Deputy : *Catherine GALLET-RYBAK*

General authorisations, network security and numbering
Catherine GALLET-RYBAK

Capacity services and fixed telephony markets
Thibaud FURETTE

Consumer relations
Delphine GOMES DE SOUSA

Department of Postal activities

Regulates of mail-related postal activities: operator authorisations, universal service controls, accounting and tariff supervision of the universal service operator

François LIONS

Accounting, modelling and economics
Francesco MATERIA

Authorisations and universal service
Julien COULIER

2.3 Outside expertise

The pace of the changes at work in the sector, and the highly technical nature and importance of regulatory issues have led ARCEP to seek outside technical, economic, statistical and legal expertise.

The work of outside experts has allowed ARCEP to benefit from specialised skills and unbiased outside advice. For the Authority, this usually results in the appropriation of tools for internal use which are not intended to be made public. However, certain reports and certain consumption or quality of service (QoS) surveys are intended as a means of informing the sector, are thus freely available on the Authority's website.

In 2013, the report budget amounted to €773,655. Sixteen reports were commissioned, at an average cost of €48,353 and an average duration of six months.

Chief external reports and surveys commissioned in 2013
Market knowledge
Deployment and use of information technologies in French society ▲ ●
Telephone, internet and TV equipment and usage levels in households in the French overseas departments * ●
Monitoring the price residential users are charged for the various types of call: local, long distance and international calls, calls to special numbers, fixed to mobile and mobile calls in Metropolitan France and the overseas departments in 2013
Comparison of the US and European electronic communications markets
Pricing inventory of consumer fixed access and mobile access plans and fixed-mobile bundles in Metropolitan France and the overseas departments in 2014
Obligation enforcement and audits
Assessment of the cost model for a generic mobile broadband and superfast broadband operator
Fixed network cost modelling (including call termination)
Mobile operator's in-house verification of network coverage ●
Pilot campaign for measuring 4G data services coverage
Audit of 3G mobile network coverage in Metropolitan France (SFR)
Annual audit of the quality of voice services on mobile networks in 2013
Annual audit of the quality of data services on mobile networks in 2013
Resource management
Planning spectrum auctions in the overseas markets
Assistance and support
Assistance in updating the access and backhaul cost model with a view to setting the price of Orange regulated wholesale offers: DSLE, C2E, CELAN cuivre (enterprise bitstream offers on the copper network)
The regulator's power to satisfy requests for contract enforcement

Source : ARCEP.

▲ Report commissioned jointly by the Committee for industry, energy and technologies, CGIET (Conseil général de l'industrie, de l'énergie et des technologies) and ARCEP
* Report commissioned jointly by Broadcasting Authority, CSA (conseil supérieur de l'audiovisuel), the General delegation for overseas departments (DéGéOM) and ARCEP
● The regulator's power to satisfy requests for contract enforcement

2.4 Documentary resources and open data

• ARCEP's information and documentation centre is responsible for maintaining the Authority's documentary database. It capitalises on and makes use of in-house and outside expertise, sharing it on an ongoing basis, or on demand using professional outside sources. The centre also maintains an online competition and regulation monitoring system, and answers requests for information from members of the Executive Board and from ARCEP staff, as well as enquiries from the public about the Authority's areas of activity.

- ARCEP is fully involved in the process of making government data publicly available that was initiated following the Prime Minister's circular of 27 May 2011, and in the work performed by the state agency responsible for open government data, Etalab, which is available online at: data.gouv.fr.

This site aggregates and makes information produced or collected by the State, and by local authorities and other entities mandated to fulfil a public service remit, available to the public.

ARCEP thus began publishing quarterly and annual series from its observatory in Q1 2012.

3. ARCEP's advisory bodies

3.1 Forward-planning committee

Created in late 2009, the purpose of ARCEP's Forward-planning committee is to better identify and understand medium and long-term developments and disruptions in the electronic communications and postal sectors. The committee allows the Authority to better meet its responsibility to monitor stakeholders and provide information.

Reappointed by and large in June 2013, the committee is made up of the seven members of the ARCEP Board and outside experts: Michèle Debonneuil, member of the Economic analysis committee, Elisabeth Flüry-Hérard, vice-chairperson of France's Competition Authority, Catherine Lucet, President of publishing houses Nathan, Editis and Sejer, Bruno Patino, Managing director of programming, broadcasting and digital development for France Télévisions, Guy Roussel, Vice-chairman of the Digital services strategic planning committee, Bernard Stiegler, philosopher and professor at the *Ecole des hautes études en sciences sociales* and Henri Verdier, director of Etalab.

After two rounds of work – the first in 2010, devoted to analysing supply and demand mechanisms in the digital technologies sector, and particularly the role that public authorities need to play to stimulate the development of new markets – the Forward-planning committee began a new cycle of discussions in June 2013, covering the years 2013 and 2014 and dedicated to the new technical, economic, legal and societal factors – be they national, European or international – that affect the digital ecosystem, and so capable of changing the scope of sectoral regulation and/or regulatory methods themselves.

- The culmination of this round of study and reflection was ARCEP's annual conference[12] which took place on 17 October 2013, devoted to the topic of "*Creating and sharing new revenue streams: what does the future hold for telecoms*". Discussions centred around three main questions: "*How can the telecoms sector stimulate and capitalise on increased usage?*", "*How to promote due value for electronic communication services?*", and "*How to achieve a system of efficient revenue sharing?*".

12 - *Cf. p. 30*

- Lastly, in December 2013, the committee explored the topic of data massification via the concepts of big data and open data, along with corollary questions over data privacy and protection.

For 2014, in addition to its annual conference, ARCEP plans on holding three committee working meetings.

The first, held on 29 April, was devoted to changes in consumer behaviour that were likely to have a significant impact on electronic communications networks.

Two types of behaviour were analysed: new behaviours tied to the internet of things (IoT) and changes in certain existing behaviours, such as television viewing. Three speakers shared their views: Frédéric Potter, Founder and CEO of Netatmo, Olivier Ezratty, innovation strategies consultant, and Mathias Hautefort, CEO of Vidéo Future Entertainment.

3.2 The Electronic communications advisory committee (CCCE)

The Electronic communications advisory committee, CCCE (*Commission consultative des communications électroniques*) is composed of 24 members, and provides equal representation to network operators and service providers, consumer representatives and experts. The Committee Chairman is Charles Rozmaryn, a member of the Corps of Engineers. ARCEP acts as the committee's secretary. Under the aegis of the Government and ARCEP, the CCCE is consulted on all draft measures concerning electronic communications.

The committee was consulted on three occasions in 2013 – on 1 March, 14 June and 6 December – notably on the reuse of the 1800 MHz band for technologies other than GSM, and on the methods to be used for producing and verifying the accuracy of the coverage maps that mobile operators publish, as well as the methods for applying fixed number portability.

3.3 Interconnection and access committee

Created by a Decree dated 3 March 1997, the Interconnection and access committee (Comité de l'interconnexion et de l'accès) is made up of representatives of public network operators and service providers, appointed by ARCEP decision[13].The Authority's Chairman presides over the committee, and the Authority itself ensures its secretarial duties.

The committee provides a forum for discussions between ARCEP and the sector's stakeholders. It met three times in 2013, and its worked focused primarily on:

- reuse of the 1800 MHz band, voice call and SMS termination;
- analysis of broadband and superfast broadband markets, the quality of wholesale offers for the enterprise market, FttH rollouts, monitoring the "100% fibre in Palaiseau" project, quality of internet access services, and the technical and pricing terms of interconnection and data routing;
- the general authorisation and the numbering scheme: fixed and mobile number portability, emergency numbers.

4. A broad palette of information and communication tools

For it to be efficient, the business of regulation needs the information produced by ARCEP to be disseminated quickly to all of the stakeholders: elected officials, consumer associations, economic actors, etc.

13 - Decision No. 2014-0111 of 28 January 2014

To this end, the Authority employs a wide array of modern communication tools – whose frequency varies: daily, weekly, quarterly, annual – and which guarantee that the entire sector will have access to the most exhaustive and useful information possible, as much on the work being performed by ARCEP as on the sector itself. These tools are also used to solicit the opinions of the sector's players on regulatory issues, and to stimulate dialogue and debate.

The quality of ARCEP communications has in fact been rewarded. The head of ARCEP's communications team was awarded the title of "Best communications department in the public sphere" in March 2014, by 170 journalists who were polled as part of the "V com V" survey devoted to 43 public sector players, which include partially State-owned companies (Orange, Areva, Airbus, etc.), independent regulatory authorities (CSA, ASN (nuclear safety), Competition Authority, etc.) and institutions: RFF (railways), IRSN (radiation protection and nuclear safety), Court of Auditors, etc.

4.1 ARCEP's online presence

■ The ARCEP website

ARCEP's website (***arcep.fr***)[14] is the preferred platform for disseminating information, in both French and English. Updated on a daily basis, it satisfies the essential requirement of providing instantaneous information on a sector in a state of constant flux.

The site was redesigned in 2013.

Practical

There are RSS feeds on several pages (e.g. opinions and decisions, press releases, job opportunities) that allow readers to keep abreast of updates.

There are also tools for sharing information on several social networking sites.

The site provides several ways to perform online searches: on ARCEP opinions and decisions, on the frequencies the Authority is responsible for allocating, on the telephone numbers that the Authority assigns to telecom carriers, and on the articles and video interviews published in the weekly newsletter and in the quarterly review, "*Les cahiers de ARCEP*".

Dedicated web pages overhauled

In 2013, a fully overhauled version of the web pages dedicated to consumers and postal and telecoms operators was developed.

- Operator declaration, rights and obligations, requests for numbering or spectrum resources, statistical monitoring… operators now have access to a complete toolkit in just a few clicks. This page also provides a link to a dedicated intranet. The Operators' web page also provides a link to the list of declared telecom operators, address files for operators that have been allotted numbers, the list of MVNOs and trademark licencing agreements, as well as the list of authorised postal operators.
- the dedicated web page for consumers is not meant to replace the Telecom-infoconso.fr site. More general in scope, it lists all of the work that ARCEP has undertaken on behalf of consumers, and the core areas of focus such as quality of fixed and mobile services, quality of internet access services, and mobile coverage across France.

14 - In addition to its institutional site, ARCEP also runs a website dedicated toconsumers: telecom-infoconso.fr

Informative

Updates on the latest information posted to the website are sent via e-mail to the 25,448 subscribers to ARCEP's four mailing lists, on telecommunications or the postal sector, all of which are available in French and English. A total 104 messages were sent out in 2013.

More than 10,000 visitors a day

Traffic on the site increased in 2013, attracting an average of 10,450 unique visitors a day, compared to 9,000 in 2012 and 7,000 in 2011, for a total 3,817,000 visitors for the year as a whole.

Press releases are the most commonly viewed, logging 1,245,334 hits, followed by the numbering database (603,966) and the homepage (298,952).

All of the documents that ARCEP publishes are made available online in PDF format. Each is downloaded thousands, and even tens of thousands of times: 78,782 downloads for the most sought-after document in 2013, a public consultation on capacity services.

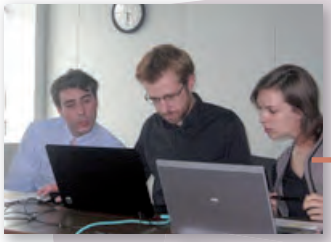
■ Strong presence on social media

ARCEP has been on Twitter and Facebook since September 2011. This allows the Authority to reach new audiences, and to become even more reactive. ARCEP tweets on a near daily basis to its more than 1,560 followers (as of 1 April 2014), and its Facebook page is updated several times a week.

■ Maintaining a dialogue with consumers

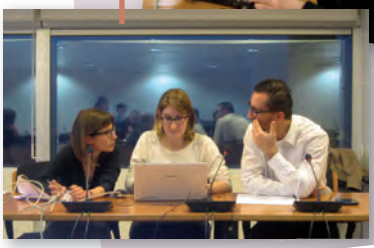
Because of how interactive they are, online chats are a good way to create a dialogue with consumers. ARCEP hosted three live chats in 2013.

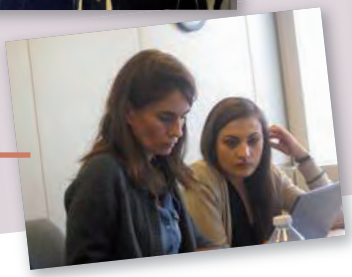
- ARCEP hosted a live chat on 1 October 2013 to coincide with operators' VDSL2[15] rollouts across the country, to answer users' questions on the matter. Who can benefit from VDSL2? What throughput will it deliver? Will all operators offer VDSL2 services? When? It was a very successful chat: 682 people took part, generating 640 questions.



The VDSL2 live chat on 1 October 2013

Live chat on the enterprise market on 12 December 2013I





Live chat on 4G on 27 March

15 - *Cf. p.82*

- On 12 December 2013, the experience was repeated with the enterprise market . This time, ARCEP experts answered questions from professionals, businesses and local authorities. The live chat attracted 151 participants and generated 125 questions, focusing on the relationship between shared and dedicated optical fibre, quality of service and the mobile communications market for non residential customers.

- Lastly, a live chat on 4G was held on 27 March 2014. With 971 live participants and more than 370 questions, the audience was a record high. ARCEP staff members devoted to 4G answered users' questions, many of whom were seeking answers over issues such as coverage and quality of service. The experts reiterated that operators must publish coverage maps, and that ARCEP works to ensure they meet this obligation by checking the accuracy of their maps in the field. A verification of 4G coverage maps will in fact be performed before summer 2014. ARCEP will also be publishing a scorecard on the quality of 4G services in the summer.

A transcript of these live chats is available on the ARCEP website.

4.2 Publications

■ The weekly e-newsletter

Launched in September 2010, ARCEP's weekly e-newsletter published its 150th issue in May 2014. Given a facelift earlier this year, this medium acts as a complement to the Authority's institutional site, allowing it to share succinct and topical information on a regular basis.

Upcoming events, news, the latest from local authorities, European and international affairs, noteworthy figures and statements, every week the e-newsletter provides readers with an update on both ARCEP's activities and the latest news from the two sectors it regulates: i.e. the postal and the electronic communications market.

The Chairman's editorial looks at current debates and the latest ARCEP decisions (fibre and ultra-fast broadband regulation, infrastructure sharing, digital regional development, the postal sector, etc.).

Since late 2012, the newsletter has been interviewing two figures from the digital or postal sector every week. From Jérôme Delormas, Director of the "La Gaîté lyrique" digital cultural centre, to Nadia Ziane, lawyer for the "Familles Rurales" consumer protection association for families in rural areas, by way of CNIL chairwoman Isabelle Falque-Pierrotin, Jacques de Herre, President of Europe's second largest optical fibre manufacturer, and Marie-Vorgan Le Barzic, Delegate-general for digital innovation association, Silicon Sentier. Each week an industry personality takes part in a brief video interview. Pieces from the field – e.g. at the Mobile World Congress 2013, Le Web 2013 in London and Paris – report on the latest highlights in this vibrant sector.

The most popular videos on the site in 2013 were:

- **Validating VDSL2** interview with Catherine Mancini, Chairwoman of the special committees on copper and fibre, on 26 April 2013 (6,794 views)
- **Creation of the superfast broadband task force** interview with Antoine Darodes, Head of the superfast broadband task force, on 7 December 2012 (2,622 views)

- **Roubaix Valley: geek paradise**: report from OVH, Europe's data centre leader, and interview with the company's vice president, Alban Schmutz, on 20 September 2013 (1,938 views).

Catherine Mancini

Antoines Darodes

Alban Schmutz

directly or indirectly to its areas of responsibility. These events provide an opportunity to have open discussions on what are often complex issues, to exchange ideas with speakers from foreign markets, and to engage in forward-looking analyses.

The 2013 conference held on 17 October focused on "creating and sharing new revenue streams: what does the future hold for telecoms". This 15th edition of the Authority's symposium brought together more than 300 participants for eight hours of roundtables and open discussion. The debates were moderated by business journalists Delphine Cuny of *La Tribune*, and Solveig Godeluck of *Les Echos*.

Several members of Parliament attended or took part in the discussions: Laure de la Raudière, Deputy for the Eure-et-Loir, and Corinne Erhel, Deputy for the Côtes-d'Armor, took part in two roundtables, while Daniel Raoul, Chairman of the Senate Economic Affairs committee, Bruno Retailleau, Senator for the Vendée, and Patrice Martin-Lalande were among the audience members.

Live streaming of the conference on the ARCEP website was tremendously popular (16,255 connections). The proceedings and a VoD recording of conference are available on the Authority's website.

■ ***Les Cahiers de l'ARCEP***

A special 60-page issue of the Cahiers devoted to 4G was published in 2013. At a time when operators in France were deploying their systems and launching their first fibre plans, ARCEP delivered a technical and economic snapshot of 4G usage in France and around the world. The issue provided an opportunity to offer a compendium of the views of equipment manufacturers, operators, elected officials and industry specialists, but also to explore the new challenges these technologies create, particularly in the realm of spectrum.

4.3 Annual conference

Since its creation in 1997, the Authority has been holding regular conferences on topics that relate either

The Authority's political and administrative environment

1. Relationship with Parliament

By virtue of European directives, ARCEP is independent from the French Government and is accountable to Parliament. This means that it must regularly give an account of its decisions to the National Assembly and the Senate. An ongoing dialogue with both has thus been established, which takes the form of very regular meetings, primarily with the competent committees from the two chambers[1] – including hearings conducted as part of reports to Parliament, reviewing legislation on matters that fall under the Authority's purview, as well as informal meetings.

1.1 Hearings and meetings

ARCEP was consulted on 10 occasions in 2013, which is less than in 2012 (13 meetings and hearings), due in particular to the lack of bills before the houses pertaining to the postal or electronic communications sector and their regulation.

a) Hearings on the market's organisation and future development

As in 2012, the Chairman of ARCEP was interviewed about the changes in market competition in the electronic communications sector, and particularly in mobile services markets: on 10 April 2013, along with Competition Authority chairman, Bruno Lasserre, by the National Assembly's Economic affairs committee and on 24 April 2013 by the relevant Senate committees to discuss how market competition is affecting digital regional

Competition in the telecom sector: friend or foe of consumers and the sector itself?

On 10 April 2013, ARCEP Chairman, Jean-Ludovic Silicani, and Competition Authority Chairman, Bruno Lasserre, were interviewed jointly by the National Assembly's Economic affairs committee on the topic of competition.

It gave the two regulators an opportunity to reiterate the vital role that competition plays in market economics: Jean-Ludovic Silicani stressed that "*Competition doesn't just happen spontaneously; economic stakeholders are always tempted to create oligopolies or even monopolies. So public intervention is required, not only from independent administrative authorities, but also from other public players, Parliament and the Government, who will define and implement the appropriate public policies*," stressed Jean-Ludovic Silicani. "*ARCEP is a landscaper. Its role is to plot out the crops and the market's design. The Competition Authority is the gardener, who will maintain what has been planted, and ensure it grows in a harmonious fashion,*" observed Bruno Lasserre. Ex ante regulation is an important tool for the sector's regulator. Its purpose is to facilitate the market's construction, while ex post regulation – employed by the Competition Authority – aims to protect competition, and penalise breaches when necessary.

1 - Either the National Assembly Economic affairs committee, or the Senate Economic affairs committee or the Committee on sustainable development, infrastructures, facilities and regional development.

development. The ARCEP Chairman was also interviewed on 13 March 2013 by the relevant Senate committees as part of a review of the Government's digital roadmap for superfast broadband..

The national committee for assessing State policies in the overseas departments also sought to interview ARCEP on changes in the marketplace, and the specific needs of electronic communications markets in France's overseas departments. The Authority's Director-General was thus interviewed by Deputies Gabriel Serville and Ibrahim Aboubacar, and by Senator Michel Magras on 17 September 2013.

b) Hearings on draft proposals or bills

Jean-Ludovic Silicani was interviewed on 25 June 2013, at the National Assembly, by Deputy Marcel Rogemont, rapporteur for the Law on the independence of public television[2] adopted on 15 November 2013. The review of the Finance Act also resulted in the Chairman of ARCEP being interviewed on 25 September, by Deputy Corinne Erhel, draftsperson for the Economic affairs committee opinion on the "electronic communications" budget. In addition to the budgetary aspects, the meeting addressed the outlook for 4G development and the sector's spectrum requirements. Deputy Michèle Bonneton, draftsperson for the Economic affairs committee opinion on the "Postal" budget, interviewed the Director-General of ARCEP on 1 October 2013, on the La Poste contract for 2013-2017, and the issues inherent in the undertaking's national presence.

Members of Parliament also devoted efforts to issues and challenges that are specific to the electronic communications sector in relation to consumer protection laws, as part of the parliamentary review of the Consumer Protection Act adopted on 17 March 2014[3], and on the bill on applying the precautionary principle defined by the Environment charter to the risks arising from exposure to electromagnetic fields[4].

c) Consultation when preparing parliamentary reports and resolutions

The Director-General of ARCEP was interviewed by Deputy Corinne Erhel, as part of the National Assembly Economic affairs committee's preparatory work on an opinion on a draft resolution on the European Union's Digital Agenda[5].

d)) Meetings with members of Parliament

The Chairman of ARCEP attended a meeting of the Parliamentary club on digital affairs (*Club Parlementaire du numérique)* on 4 June 2013, to discuss the sector's current spectrum needs and net neutrality with members of Parliament.

1.2 Reports

As required by Law, ARCEP submitted its annual report for 2012 to the Presidents of the National Assembly and the Senate, to the President of the Republic, the Prime Minister and concerned ministers on 1 July 2013.

On 19 December 2013, ARCEP also submitted a report on assessing the net cost to La Poste of fulfilling its regional development mandate, in accordance with the Law of 9 February 2010[6]. The Public service commission for the post and electronic communications, CSSPPCE (*Commission supérieure du service public des postes et des communications électroniques*) issued an opinion on the report prior to its publication, and on 4 December the Commission interviewed ARCEP's Director of Postal activities when preparing to draft this opinion.

2 - Law No. 2013-1028 of 15 November 2013, on the independence of public television
3 - Act No. 2014-344 of 17 March 2014, on consumer protection
4 - Bill presented by Deputy Laurence Abeille and several fellow deputies on applying the precautionary principle defined by the Environment charter to the risks arising from exposure to electromagnetic fields, No. 531, tabled on 12 December 2012
5 - European resolution proposed by Deputies Axelle Lemaire and Hervé Gaymard, on the European Union's Digital Agenda, No. 1410, tabled on 8 October 2013
6 - Law No.2 010-123 of 9 February 2010 on the public company La Poste and postal activities, JO of 10 February 2010

2. Relationship with the French government and its department

ARCEP is a State administration that operates independently from the Government. This independence does not mean that ARCEP acts singlehandedly. On the contrary, ARCEP works in close coordination with all State departments, both centralised and regional, intervening in the postal and electronic communication sectors on the various matters that fall solely under its purview.

2.1 The Government

To ensure consistency in government actions in the regulated sectors, Article L.32-1 of the French Postal and electronic communications code, CPCE (*Code des postes et des communications électroniques*), sets common objectives for the Minister responsible for electronic communications and ARCEP. The Law also defines the Authority's powers and responsibilities, which of its decisions must be receive ministerial approval, and those that require a joint decision from the Government and the regulator. Such is the case with the award of frequency licences for mobile services. The Government must also obtain ARCEP's opinion on any legislative or regulatory bills relating to the electronic communications or postal sectors.

The Chairman of ARCEP meets on a regular basis with the ministers who are concerned with ARCEP's actions and, in general, once a year with the President of France and the Prime Minister. The concerned ministers are those who are responsible for electronic communications and digital affairs, those in charge of regional development, overseas France and consumer affairs.

But ARCEP's day-to-day operations also require an ongoing dialogue with the different administrations.

2.2 Superfast broadband task force

In February 2013, the Government defined the Superfast broadband in France action plan (*Plan France très haut débit*) which replaces the national Superfast broadband programme launched in 2010. The President of France laid out the first guidelines for the digital growth strategy. This includes earmarking €20 billion over the next 10 years to develop superfast access for all, of which some €3 billion in State subsidies to support local authorities' projects.

On 29 April 2013, a decree issued by the Prime Minister established the specifications for the call for proposals for "Superfast broadband in France – Public initiative networks" . The document sets out a list of objectives from the new manager of the superfast broadband action plan – the superfast broadband task force – which is due to become a permanent structure, and lists all of the criteria that local authorities' PIN projects must satisfy to be eligible for State funding.

A superfast broadband task force was created in early 2013, to undertake cross-cutting technical work. It operates under the aegis of the Minister responsible for digital affairs.

ARCEP lends its expertise to the task force. In 2013, it was thus called upon to draft a "rollout planning and monitoring agreement" model for the task force, which was published in the autumn, as well as the model for framework agreements with donor agencies published in January 2014. Future priorities will require ARCEP to continue to work closely with the task force on broadband and superfast broadband observatories, on the technical issues surrounding enterprise networks' backhaul and access network sections, and on harmonising fibre-to-the home (FttH) network sharing solutions. ARCEP is also working on achieving proper coordination between the objectives set by the Government as part of the Superfast broadband in France action plan and changes to the regulatory framework.

In addition, the superfast broadband task force manages the financial support given to local authorities' projects.

At the time of this writing, the dossiers have been filed with the *Caisse des dépôts* (Deposit and consignment office) and are being reviewed by the relevant departments. They will then be reviewed by a committee of experts from the relevant administrations (superfast broadband task force, the Inter-ministerial land planning and regional action delegation, DATAR (*Délégation interministérielle à l'aménagement du territoire et à l'attractivité régionale*), the Directorate General for competition, industry and services, DGCIS (*Direction générale de la compétitivité, de l'industrie et des services*), the General Directorate for local authorities, DGCL (direction générale des collectivités locales), the General Directorate for the overseas territories, DGOM (direction générale des outre-mer) for projects in the overseas departments, CEREMA[7] and CGI) and the Caisse des dépôts . ARCEP is an invited member of this technical body. It provides its regulatory expertise and gathers the information needed to monitor regional developments effectively.

Moreover, as part of the process for filing applications for State funding, on its website ARCEP publishes the rollout plans of local authorities applying for financing under the action plan. The specifications of the CFP for "Superfast broadband in France – Public initiative networks" projects in fact stipulate that, in addition to submitting a completed dossier to the *Caisse des dépôts*, local authorities must also provide ARCEP with the information needed to establish the scope of their rollout plans, at least six months prior to submitting their request for funding. Private sector operators then have two months from this filing to inform local authorities of their own rollout plans in the area targeted by the public-initiative network project. To facilitate the implementation of this consultation procedure, ARCEP publishes a list of these projects on its website . Sixteen such projects were published in 2013.

As part of the review process for these dossiers, in addition to the opinion of the committee of experts, the FSN (investing in the future programme) committee in charge of granting subsidies in the form or repayable advances – which advises the Prime Minister on aid allocations – solicits the opinion of the Superfast broadband in France national consensus committee. Chaired by the prefect Pierre Mirabaud, this committee interviews the local authorities applying for State aid. It may be called upon when discussions between local authorities and private operators fail, and it is authorised to interview anyone from the sector who may help inform its decisions.

ARCEP has been invited to attend the committee's debates since September 2013. The Authority was thus

Pierre Mirabaud: Chairman of the Superfast broadband in France consensus committee

In the past, the State or carriers managed major telecom infrastructure projects singlehandedly. Ten years ago, Article L. 1425-1 gave local authorities and their representative bodies (public establishments for cooperation between local authorities, or EPCI , and public/private joint associations) a major role to play in deploying broadband and superfast broadband. "*We have gone from a very State-led system to one involving a multitude of players. The advantage is that every stakeholder wants to achieve something, which makes things very dynamic. The danger is ending up with a piecemeal and disparate landscape, which is why there needs to be somebody at the helm. But times have changed and a certain decentralisation of public networks is now enabling faster development than a centralised system would*," says Pierre Mirabaud, honorary prefect and Chairman of the Superfast broadband in France consensus committee, whose role is to help examine local authorities' rollout projects. "*For each dossier, we endeavour to work in harmony so that investments are maximised, with no redundancy, to achieve the best possible network at the lowest possible cost – as public and private monies are scarce – to satisfy end users*".

Interview published in ARCEP weekly newsletter No. 142, 14 March 2014

7 - *Centre for study and expertise on risks, the environment, mobility and development. This structure includes the former centres for technical design and planning, notably CETE de l'Ouest.*

queried formally by the consensus committee in November 2013 on optical fibre backhaul networks, and particularly the Orange LFO wholesale fibre rental offer. In December 2013, Pierre Mirabaud shared his insights at the GRACO plenary meeting hosted by ARCEP, devoted to building trust between stakeholders.

2.3 National digital advisory council

The National digital advisory council, CNNum (Conseil national du numérique) is an independent advisory committee tasked with drafting opinions and recommendations on a wide range of questions relating to digital technologies' impact on society and the economy. Its field of action thus extends beyond the electronic communications sector. The council's earliest assignments nevertheless involved regular interaction with ARCEP over the course of 2013: first when preparing the CNNum opinion on net neutrality , and later as part of consultations relating to online service platform ecosystems. This interaction afforded ARCEP the opportunity to give an account of its work and initiatives devoted to net neutrality.

2.4 The other administrations

ARCEP works closely with the General directorate for competition, industry and services, DGCIS (*Direction générale de la compétitivité, de l'industrie et des services*), but also with the General directorate for fair trade, consumer affairs and fraud control, DGCCRF (*Direction générale de la concurrence, de la consommation et de la répression des fraudes*). The main discussions in 2013 concerned the consumer protection bill and conditions for improving the information that operators provide to consumers. ARCEP also interacts more periodically, and depending on the matters it is called on to address, with the General Directorate for local authorities, DGCL (*direction générale des collectivités locales*), the General Directorate for media and culture industries, DGMIC (*direction générale des médias et des industries culturelles*) and the different departments of the Ministry for Overseas France. Joint work was done with the latter in 2013 on preparing the framework for allocating mobile frequencies in the overseas territories[8].

Matters pertaining specifically to regional digital development require ARCEP to work closely with the Inter-ministerial land planning and regional action delegation, DATAR (Délégation interministérielle à l'aménagement du territoire et à l'attractivité régionale), the General Commission on Investment (Commissariat général à l'investissement) – which is under the aegis of the Prime Minister – and with regional government authorities, particularly those responsible for ICT development initiatives working for the General Secretariats for Regional Affairs, SGAR (secrétariats généraux pour les affaires régionales). As a result, ARCEP regularly attends the meetings of regional advisory committees for digital regional development, CCRANT (commissions consultatives régionales d'aménagement numérique des territoires), which operate under the aegis of the prefect of the region. Lastly, because it is the body responsible for allocating the


Dossier
TRÈS HAUT DÉBIT / Collectivités territoriales, opéra teurs, Etat : quelle concertation sur le terrain ?
Reportage à Rouen pour le premier CCRANT en Haute-Normandie
Questions aux acteurs de l'aménagement numérique du territoire

Les Cahiers de l'ARCEP No. 9 "Digital territories" - December 2012

8 - *Cf. p. 128*

frequencies used to provide electronic communications services, ARCEP sits on the Board of the National frequency agency, ANFr (*Agence nationale des fréquences*). The two authorities interact on a regular basis, notably on matters requiring consultation and on international negotiations that fall under the agency's purview, as well as spectrum management issues (cf. p. 175-179).

Interview with Gilles Brégant, Director-General of ANFr

A little-known institution, the National frequency agency, ANFR (l'Agence nationale des fréquences) watches over a scarce and precious resource: the radio spectrum which is a State-owned asset. Created at the same time as ARCEP, in 1997, this public establishment that operates under Government supervision, is responsible for frequency planning, managing the location of transmitters, supervising spectrum (half of all agents are dedicated to monitoring) and issuing spectrum and radio operator licences. It also conducts technical assignments on behalf of different administrations: resolving interferences between DTT and 4G in the 800 MHz band, preparations to free up DTT spectrum in the 700 MHz band to be allocated to telecommunications…

Interview published in ARCEP weekly newsletter No. 113, on 21 June 2013

3. Relationship with local authorities

Local authorities are authorised to act as electronic communications operators by virtue of Article L. 1425-1 of the local and regional collectivity code, CGCT (*Code Général des Collectivités*). The main reason for doing so is to further digital development in their region, for instance by providing local businesses, government agencies and residents with faster internet access and/or a broader selection of services, at more affordable prices.

The central challenge today is deploying superfast access nationwide, which involves rolling out a vast optical fibre access network, even if several other technologies exist as well. The State has been involved in a programme since 2010 to provide funding for local authorities wanting to deploy superfast broadband in their area. The current Government maintained the programme's central tenets and methods when creating the superfast broadband task force in February 2013.

This is why ARCEP created a forum for discussions between the Authority, local authorities and operators back in 2004 called GRACO (groupe d'échange entre ARCEP, les collectivités et les opérateurs).

3.1 GRACO

To ensure that the regulatory framework is taken into account as early on as possible in the projects' planning stage, ARCEP hosts four GRACO meetings every year, which bring together 200 to 300 local authority, operator and Government department representatives. These meetings provide an opportunity to:

- present and explain current and future changes to regulations governing fixed and mobile networks to local authorities;
- create an ongoing dialogue between local authorities and private sector operators, which is vital to the market's smooth operation;
- enable a set of best practices between local authorities and private sector operators.

In 2013, the three technical meetings, attended by ARCEP departments and local authorities, provided an opportunity to discuss the "Palaiseau 100% fibre" experiment, the relationship between local authorities and landlords when deploying optical fibre indoors, and gaining access to civil engineering infrastructure to deploy superfast access networks.

The plenary meeting – which brought together the members of the ARCEP Executive Board, elected

GRACO plenary meeting on 4 December 2013

officials and telecom carrier executives for a series of roundtables – was held on 4 December 2013, and devoted to the topic of building trust between digital regional development stakeholders.

This GRACO plenary meeting was also streamed, and 774 people watched it live. A video and transcript of the proceedings are available on the ARCEP website.

An account of the work that GRACO performed in 2013 was published to coincide with the meeting. Educational in purpose, the document describes how local authorities are involved in the area of electronic communications, and sets out best practices for implementing regulation.

3.2 Ongoing dialogue with local authorities

ARCEP is regularly called upon by local elected officials for assistance, particularly as part of fixed superfast network rollouts, quality of service issues with the copper network or mobile network coverage problems. The Authority fulfils its role of support mechanism by providing local authorities with detailed answers to their questions, but also when travelling in the field and taking part in meetings of regional advisory committees for digital regional development, CCRANT (*commissions consultatives régionales pour l'aménagement numérique du territoire*)[9].

In 2013, ARCEP Board members, Pierre-Jean Benghozi and Philippe Distler, travelled to Seine-et-Marne, in Alsace, and to Lille to lend their expertise in electronic communications regulation. They also travelled to Auvergne where the first regional superfast broadband public-initiative network contract was signed.

ARCEP staff members made some twenty trips across France in 2013, to discuss the various projects that are underway.

As part of the Superfast broadband in France action plan, (p. 35), ARCEP also attends the action plan's task force meetings with local authorities managing superfast network rollout projects. ARCEP staff thus met with some twenty such project managers at these events in 2013

ARCEP Board members and staff visit the Seine-et-Marne

9 - *Cf. p.75-76*

4. Relationship with the courts and other independent authorities

4.1 The courts

a/ Administrative courts

In its role of court of first instance and last resort for appeals of ARCEP decisions, the *Conseil d'Etat* (France's highest administrative court) issued two particularly noteworthy decisions in 2013

- **L'approche de l'ARCEP sur la neutralité d'internet confortée par le Conseil d'Etat**

Through an important decision[10], dated 10 July 2013, the Conseil d'Etat confirmed the legality of ARCEP's decision of 29 March 2012 on gathering information on the technical and pricing conditions governing interconnection and data routing.

The ARCEP decision had been disputed by American carriers AT&T and Verizon (MCI Communications Services), and by their French subsidiaries.

The information gathering system that ARCEP introduced concerns the interconnection and data routing markets. These markets are home to complex and potentially strained relationships between internet service providers (ISP), providers of public online communication services (PPOCS) and technical intermediaries such as transit operators and content delivery networks (CDN). ARCEP considered that regular, twice-yearly information gathering campaigns were vital to the regulator's ability to ensure that these markets run smoothly over time from a technical and economic perspective, particularly in relation to ARCEP's ability to settle any possible disputes that might arise between ISPs and providers of public online communication services.

The *Conseil d'Etat* confirmed that ARCEP has the power to gather information in this way from ISPs and PPOCS. The Court thereby also upheld ARCEP's power to query all market undertakings, including those located outside the European Union whose business and/or activity could have a significant impact on internet users in France.

The *Conseil d'Etat* also concluded that ARCEP's information gathering campaigns were necessary and proportionate to the regulator's ability to meet the responsibilities assigned to it by Law, notably in light of the net neutrality provisions resulting from the transposition of the EU's third Telecoms Package.

- **The Conseil d'Etat confirms ARCEP's decision on refarming 1800 MHz band spectrum**

In an order dated 11 July 2013, the President of the Conseil d'Etat rejected[11] a request from Free Mobile to suspend the ARCEP decision of 4 April 2013, authorising Bouygues Telecom to refarm the 1800 MHz band to technologies other than GSM, starting on 1 October 2013 — provided the company relinquish some of its spectrum according to a specific timetable

The President of the court ruled that the ARCEP decision did not have any anti-competitive effects, as any mobile operator is able to deploy a 4G network thanks to the 1800 MHz-band spectrum it has already has been allocated, and could be allocated in future.

This decision thus confirms ARCEP's balanced approach which aims to encourage all operators to further the development of superfast mobile access, while ensuring the conditions for effective and fair competition in the mobile market.

b/ Legal jurisdictions

The Paris Court of Appeal has an economic regulation division that specialises in regulation and competition disputes, and which rules on the Authority's decision in the form of an appeal. Although called upon to rule on

10 - Decision No. 360397 of 10 July 2013
11 - Order No. 369267 of 11 July 2013

an administrative decision, the Court of Appeal adjudicates on the procedural grounds of the ARCEP decision which it may uphold, cancel or amend, whereas the Court of Cassation confines its power to reviewing the rules of law applied by the Court of Appeal.

- On 16 April 2013, the Court of cassation confirmed the order dated 19 January 2012 in which the Paris Court of Appeal rejected the request from France Telecom to annul or amend the ARCEP decision[12] settling the dispute between Bouygues and France Telecom. In this decision, the Authority considered that, as part of broadband network rollouts in high-density areas, it is fair that the commercial operator recruiting the customer should shoulder 90% of the cost of installing the last metres of the connection to that end user, and that the building operator which has installed fibre up to the building's branching unit shoulder the remaining 10%.

- Lastly, the French Postal and electronic communications code (CPCE) requires the Chairman of ARCEP to inform the Public prosecutor of facts that may prove criminal in nature. In early 2013, the Chairman thus informed the Public prosecutor of the company Skype's possible failure to meet its obligation to declare itself as an electronic communications operator in France. The Public prosecutor has not yet made a decision.

4.2 The Competition Authority

ARCEP has close institutional ties with the Competition Authority (*Autorité de la Concurrence*), and can solicit its opinion when it believes that an SMP operator is abusing its dominant position, or in the event of practices that are preventing competition from being exercised freely in the electronic communications or postal sector

Moreover, when ARCEP performs an analysis of electronic communications markets to determine whether or not any operator enjoys significant power in a relevant market, it must hold public consultations on its draft decisions and solicit the opinion of the Competition Authority on the market definition and the SMP operator analysis.

By the same token, the Competition Authority may consult ARCEP and request its opinions on technical matters concerning the electronic communications and postal sectors. ARCEP thus sent several opinions to the Competition Authority in 2013..

4.3 CSA

The legislature sought to strengthen the cooperation between ARCEP and France's Broadcasting Authority, CSA (*Conseil supérieur de l'audiovisuel*), by putting mutual consultation procedures into place. ARCEP must in any event obtain the Broadcasting Authority's opinion when making decisions that will have a significant impact on the broadcast of radio and television services. In exchange, CSA must obtain ARCEP's opinion on any decision it makes that concerns electronic communications. ARCEP thus rendered an opinion to CSA in 2013 on a dispute the Broadcasting Authority was called on to settle.

In addition, CSA and ARCEP created a working group that meets on a regular basis to address topics where their interests overlap.

4.4 CNIL

When performing its market analyses, ARCEP is careful to solicit the opinion of the French National commission on computing and freedom, CNIL (*Commission nationale de l'informatique et des libertés*) on matters that concern the treatment of personal data. The two authorities have therefore discussed the issues that enforcing the Law on Computing and Freedoms of 1978 raises for telecom carriers.

ARCEP has appointed a "CNIL correspondent" to its Legal Affairs Committee, who is responsible for keeping all ARCEP departments apprised of aspects of computer file use that are likely to affect privacy protection.

12 - Decision No. 2009-1106 of 22 December 2009

Interview with CNIL Chairwoman, Isabelle Falque-Pierrotin, (7 February 2014)

On 4 February 2014, Isabelle Falque-Pierrotin was re-elected Chairwoman of the CNIL, a position she has held since 2011. During her new term, she will be required to continue the CNIL's adaptation to a globalised digital environment, where the private data of citizens and users the world over are collected en masse, often without them even being aware of it, by global online (OTT) undertakings. "*People are more and more concerned about their personal data, and we have seen an increase in complaints: up to 6,000 a year, which is substantial*," stresses Isabelle Falque-Pierrotin. "*At the same time, people continue to expose themselves, and companies continue to use these data*."

It's a fact: the digital era we live in requires the regulator to rethink the way it works and the tools it uses. But Isabelle Falque-Pierrotin believes that expectations are changing as well: "*There are expectations regarding protection but also, for individuals, expectations regarding control and, for businesses, regarding innovation*". Beyond that, one of the major challenges for CNIL will be negotiating with leading internet companies which, "*harvest data thinking that European law does not apply to them […] Since they are so interested in this information, well then, let's monetise it!*" says she. "*We are not the helpless prey of these companies. We have tools entrenched in our laws, and we can design new ones: let's do that, and negotiate with them*". The EU regulation being drafted by Europe's CNIL will no doubt lay down some of the groundwork

Interview publiée dans la Lettre hebdomadaire de l'ARCEP n° 138, le 7 février 2014

5. Relationship with European and international bodies

Electronic communications regulation in the European Union is very harmonised between the different Member States. French authorities and European institutions work closely on these issues, and ARCEP's efforts are closely interlinked with the work being done at the European level.

5.1 European Union institutions

■ Legislative work being done by the European Council and Parliament

Generally speaking, as provided for in CPCE Article L. 36.5, ARCEP lends its expertise to the work and negotiations being conducted by the French government: DGCIS, National frequency agency (ANFR), Secretariat General for European Affairs (SGAE), and particularly France's Permanent Representation to the EU.

ARCEP thus contributes to drafting the instructions established by the General directorate for competition, industry and services, DGCIS, and the other interested ministerial branches and authorities – most often the National frequency agency (ANFR), the Broadcasting Authority (CSA) and the General Directorate for media and culture industries (DGMIC) – which are communicated to the Permanent Representation (PR) of France to the European Union. ARCEP also participates, alongside the PR, in European Council meetings devoted to preparing the texts adopted by the Council of Ministers.

Since autumn 2013, and up to at least summer 2014, these meetings have and continue to be held at very regular intervals due to the range of actions under discussion[13].

■ Work being done by committees (COCOM, RSCOM)

European directives created committees that bring together all Member States, and chaired by the European Commission. Their main purpose is to discuss

13 - cf. Chapter V, p. 60

Commission initiatives to implement directives, regulations and other decisions made by the European Parliament and Council of Ministers. They are the Communications Committee (COCOM) and the Radio Spectrum Committee (RSCOM).

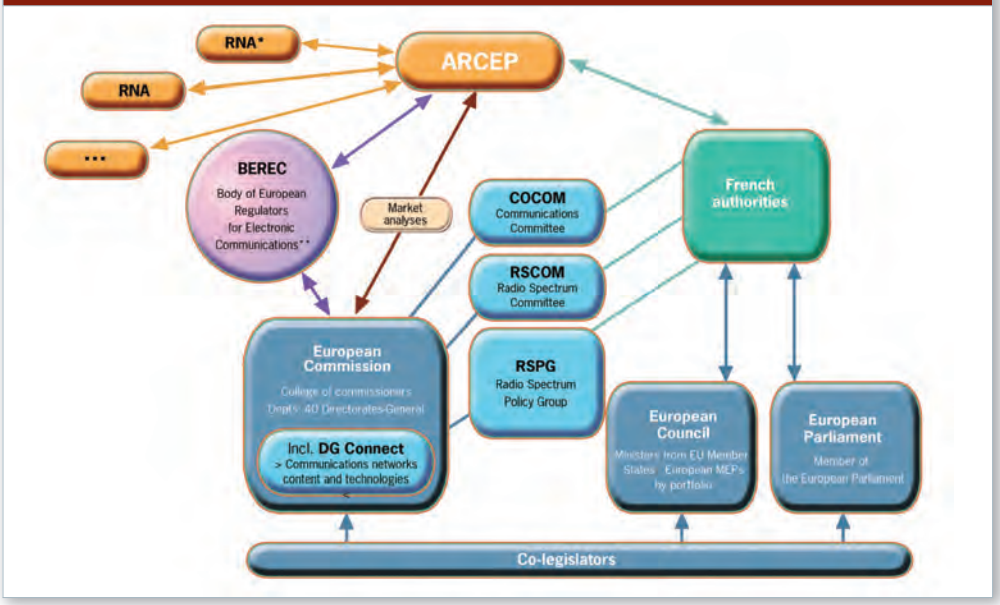
In 2013, COCOM was asked to issue an opinion on the Commission's draft recommendation on non-discrimination and broadband cost accounting methods[14], and the implementation of the European decision on mobile satellite services. RSCOM was consulted on applying the spectrum inventory provided for by the multi-annual radio spectrum policy programme (RSPP).

Representatives of DGCIS and, for frequency issues, ANFR sit on these committees, alongside ARCEP representatives – as well as the other bodies responsible for allocating frequencies, such as Broadcasting Authority, CSA. Positions are drafted jointly, after holding preparatory meetings with the sector's stakeholders (operators, consumer associations, etc.)

■ ARCEP's direct relationship with the European Commission

ARCEP also maintains direct relationship with the Commission on strictly regulatory matters, and particularly asymmetrical regulation and market analyses. Before officially notifying its market analysis to the Commission[15], the Authority always meets with Commission staff to discuss the asymmetrical regulation being planned. Although informal and optional, these meetings help avoid potential disagreements post-notification, which could lead to the Commission opening an in-depth analysis (i.e. phase II procedure), and potentially result in the Commission vetoing an NRA's draft decision.

ARCEP's interaction with European bodies



Source: ARCEP.
** National regulatory authorities (such as ARCEP) from European Economic Area (EEA) member countries*
*** Electronic communications*

14 - Final text published on 11 September
15 - In accordance with Article 7 of the Framework Directive 2002/21/EC

5.2 Regulatory groups

■ BEREC

The Body of European Regulators for Electronic Communications (BEREC) was created by regulation when drafting the new European regulatory framework in 2009.

Composed of the national regulatory authorities (NRA) of European Union Member States, its chief role is to strengthen cooperation between NRAs and to advise European institutions (Commission, Parliament and Council). It also works to promote an interior electronic communications network market. NRAs from European Economic Area (EEA) member countries and EU candidate nations have observer status in the Body. The BEREC Office is located in Riga, Latvia.

In 2013, the Body's chairmanship was assumed by Austrian regulator, RTR, then taken over by Swedish regulator, PTS, in 2014.

BEREC Chairman, Leonidas Kanellos, expresses himself on the European Commission's "Connected Continent" project (4 October 2013)

In September 2013, the European Commission tabled draft regulation on a single European market for electronic communications, a series of proposals aimed at enabling the development of a single market and stimulating investment.

While sharing the Commission's overall objectives, BEREC points out that this regulation could have a negative impact on innovation, consumer protection and investments. "*We share the political objective of stimulating investment, but we differ on the way to go about achieving it,*" explained Chairman of Greek regulator, EETT, and BEREC Chairman in 2013. "*The Commission's initiative was taken too quickly to be able to consult with regulators and market players*," he lamented, "*and BEREC was not involved in this work, even though it could have provided its expertise from the start*".

Interview published in ARCEP weekly newsletter No. 123, 4 October 2013

The heads of Europe's national regulatory authorities (NRA) meet four times a year in BEREC plenary sessions, during which they discuss and adopt reports, opinions given to the Commission and the European Parliament or Council, and the recommendations and common positions drafted by the working groups. In 2013, efforts focused primarily on the European Commission's draft regulations, and particularly the recommendation on non-discrimination and broadband cost accounting methods, as well as the preliminary report on reviewing the recommendation on relevant markets. In addition, BEREC continued its work on implementing the third European regulation on international roaming by publishing its guidelines on implementing the decoupling obligation. BEREC also conducted an in-depth examination of the different matters addressed by Europe's regulation for a single telecoms market: authorisations, harmonised remedies (wholesale broadband offers), net neutrality, international roaming, NRA powers, BEREC's organisation, etc. Finally, BEREC was asked for its opinion on the European Commission's ability to veto national regulators' draft market analysis decisions[16].

16 - Cf. p. 170-172

Moreover, as it does every year, BEREC published its twice-yearly benchmark of call termination rates for fixed and mobile voice calls and for SMS, as well as roaming tariffs in Europe.

■ RSPG (Radio Spectrum Policy Group)

The European Commission created the RSPG in 2002[17]. The groups assists and advises the Commission on spectrum policies. Since the Telecoms Package review of 2009, the European Council and Parliament can also solicit the group's opinion. The RSPG is composed of members of the Commission and high-level representatives of each of the Member States' spectrum authorities. Representatives of the European Conference of Postal and Telecommunications Administrations (CEPT), European Economic Area (EEA) Member States, candidate countries and the European Telecommunications Standards Institute (ETSI) are admitted to meetings as observers.

In 2013, the group began preparatory work for the World Radiocommunications Conference in 2015 (WRC-15), focusing particularly on issues surrounding the 700 MHz band.

Frequency agency ANFR heads up the French delegation, which is responsible for drafting positions in tandem with the concerned ministries – chiefly the DG for competition, industry and services (DGCIS) and the Ministry of Culture's DG for media and culture industries (DGMIC) – and the different bodies in charge of allocating spectrum[18]. ARCEP participates in the preparatory meetings, in drafting France's positions and in certain RSPG meetings.

5.3 International bodies

In addition to its work at the European level, ARCEP also maintains relations with international bodies.

■ Organisation for Economic Cooperation and Development (OECD)

The OECD is an advisory organisation devoted to economic and social development policies. Working alongside the relevant departments of the French government, and particularly the General directorate for competition, industry and services, DGCIS, and the Secretariat General for European Affairs (SGAE), ARCEP helps define the French position on the work of the Committee on Digital Economic Policy which is devoted to economic, social and technical issues relating to ICT. One of the highlights of 2013 was the publication of "Communications outlook 2013, a survey that the OECD conducts every two years, and for which ARCEP helps collect date. At the same time, a new interactive tool has been put into place which inventories national broadband infrastructure mapping initiatives.

The OECD also began an ad hoc network of economic regulators in 2012, which ARCEP was invited to join. Initiated in 2012, the network of economic regulators became official in 2013, notably with the appointment of a permanent office and the adoption of its statutes. It is a forum for discussions between infrastructure (postal, telecom, energy, water and transportation networks) regulators from OECD Member States and guest countries. Its pioneer efforts were devoted to regulators' governance policies and measuring their performance.

■ International Telecommunications Union (ITU)

In 2013, ARCEP participated in ITU council meetings and THE Standardization advisory group (which it chaired up to the end of 2012) that deals with service definitions and numbering issues.

As it does every year, ARCEP participated in the Global Symposium of Regulators which, in 2013, was held from 3 to 5 July and brought regulators from around the world to Warsaw to discuss market dynamics, changes in the sector, how they affect operators' practices and the role of

17 - Decision 2002/622/EC, revised by Decision 2009/978/EU
18 - *ARCEP, CSA, civil aviation, Ministry of Defence, Ministry of the Interior, Space programme, meteorological agency, administration for ports and maritime and inland waterway navigation, Ministry of Higher education and research, Telecommunications in Region 3 French territories (overseas collectivities), High Commissioner for the Republic or Senior Administrator in the overseas collectivities.*

regulators. Participants shared their views on spectrum needs (notably the use of white spaces and the digital dividend), standards and their role for ICT sector companies, optimising the potential of universal service funds, digital transactions, the need to increase the number of IP addresses, new applications and service provision platforms, 4G regulation and regulators' changing role, national broadband interconnection pricing and whether or not there was a need to regulate it.

ARCEP is also a member of the French delegation at the different preparatory meetings for ITU conferences that are held as part of the CEPT (European Conference of Postal and Telecommunications Administrations).

■ Cooperation with francophone countries (FRATEL)

The FRATEL technical seminar was held in March 2013 in Conakry, Guinea, on the topic of "measuring the quality of electronic communications services: approaches, tools and methodologies". It was attended by 80 participants, including 15 FRATEL member NRAs, along with market stakeholders such as donor agencies, equipment manufacturers, telcos, lawyers, consultants and administrations. ARCEP was represented by Board member, Jacques Stern.

The annual meeting in Bucharest in October 2012 was brought together some 100 participants representing 22 FRATEL member country regulators and stakeholders from the sector, to discuss the topic of "Quality of service: The regulator's role and objectives". ARCEP was again represented by Jacques Stern.

On 15 and 16 April 2014, the 11th annual FRATEL seminar was held in Dakar, on the topic of "3G and 4G licences: status of first digital dividend allocations". It was attended by over participants representing 16 members of the FRATEL network. Jacques Stern delivered a talk on the regulatory objectives to be reconciled when defining licence award procedures, etc. – using 4G licence allocations in France to illustrate his points.

The next annual meeting – devoted to the question "What frequencies and what spectrum policies to meet the electronic communications sector's future needs?" – will be held in Rabat, Morocco, in the second half of 2014.

■ Euro-Mediterranean network of regulators (EMERG)

ARCEP has been involved in the Euro-Mediterranean network of Regulators (EMERG) – an initiative financed by the European Commission – since its creation.

ARCEP Board member, J. Stern, and Diaby Moustapha Mamy, Director-General of the ARPT of Guinea

In February 2013, the 5th plenary meeting was held in Lisbon, attended by seven European regulators (from Austria, Cyprus, France, Greece, Italy, Spain and Portugal), the Swiss regulator, regulators from seven Mediterranean countries (Egypt, Tunisia, Morocco, Lebanon, Turkey, Palestine and Jordan), two consultants and two European Commission representatives to approve the work programme for 2013.

In 2013, two ARCEP experts participated in two workshops: one on mobile number portability, and the other on the regulator's power to enforce decisions and the recourses available to operators.

Universal Postal Union (UPU)

An international institution, the UPU is a specialised agency of the United Nations. Its mission is to promote international cooperation on technical matters, to enable the development of high quality universal postal services.

In 2013, ARCEP participated in the UPU working group devoted to international postal issues. Different working groups were created to prepare France's position for Union's 25th Universal Congress in 2016.

Bilateral relations

Over the course of 2013, ARCEP met with some 30 representatives of foreign institutions (ITU, ministries, foreign NRAs, research institutes, etc.) as well as telecom and postal service operators.

On 20 November 2013, ARCEP Board member, Daniel-Georges Courtois, and ARCEP Director-General, Benoit Loutrel, met with Goran Marby, Director-General of Swedish regulatory authority, PTS, and BEREC Chairman in 2014

On 9 and 10 July 2013, ARCEP hosted a delegation of representatives from Serbia's Ministry responsible for the information society

On 11 February 2014, Jean-Ludovic Silicani, Pierre-Jean Benghozi and Philippe Distler met with Sung-Shee Park, Commissioner to South Korea's Communications Standards Commission

Relationship with economic stakeholders

1. 1. Operators

1.1 Electronic communications operators

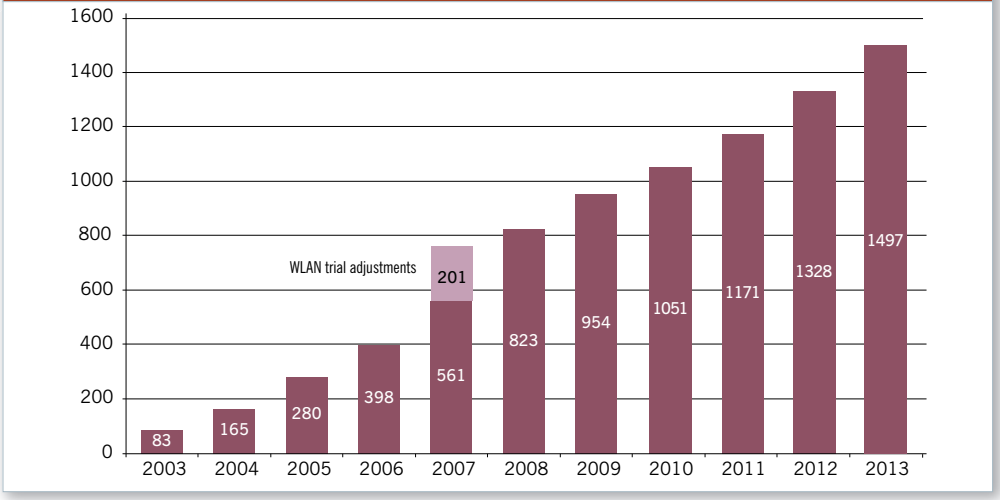
Operators of fixed and mobile electronic communications networks that are open to the public, or which provide the public with electronic communications services, are the market players that are the most immediately concerned with the work performed by ARCEP. They are subject to a system of prior declaration to the Authority.

As of 31 December 2013, the Authority had recorded 1,497 declared operators:

- 866 operating an electronic communications network (fibre, cable, Wi-Fi…),
- 842 providing a telephone service,
- 1,109 providing services other than telephony, including:
- 839 providing internet access,
- 737 providing data transmission services,
- 184 providing (or planning to provide) mobile services.

The number of operators has increased steadily since the declaration regime was implemented in 2004 – by around 100 to 200 a year – as illustrated in the following graph. In 2013, 243 new operators declared themselves and 74 put an end to their activities, which translates into a net increase of 169 operators listed in ARCEP's register.

Growth of operator numbers



Source: ARCEP

- As part of the work being done on updating its information systems, i**n October 2013 ARCEP opened an extranet** which is to be used primarily by electronic communications operators. Its purpose is to enable online exchanges between operators and the Authority.

ARCEP maintains close ties with electronic communications operators. The Authority's Chairman presides over the Interconnection and access committee (*Comité de l'interconnexion et de l'accès*) whose members include telcos, trade associations and the Authority. The Committee meets three or four times a year to discuss concrete changes to regulatory mechanisms.

ARCEP's Executive Board holds regular meetings with operators, notably when preparing decisions that will have significant economic consequences, such as those relating to use of the 1800 MHz band for 4G mobile services, or to call termination.

Several working groups have been created among ARCEP departments to provide a necessary forum for technical and economic discussions between ARCEP experts and operators. These groups focus on a wide variety of topics, such as the number portability process, the technical conditions of fibre rollouts, unbundling, the quality of fixed, mobile and Internet access services, and numbering – for instance when public consultations are held on reorganising certain number ranges.

On the whole, all of the Authority's areas of responsibility result in technical consultations with market stakeholders, on either a regular basis or as the need arises.

These discussions are completed by more formal, systematic public consultations on the actions the Authority plans to take. Operators are the most frequent contributors to these consultations.

ARCEP also interacts with operators through several trade associations, such as the French Telecoms Federation, FFT (*Fédération française des télécoms*) which, in the few years since its creation, has acquired a true legitimacy on several issues that affect the entire sector, such as pricing and a code of conduct for surcharged numbers. In 2013, ARCEP engaged in talks with the FFT on several legislative measures that concerned the sector, and proposed when reviewing the consumer protection bill (reverse directory for VAS providers, framework for cold calling, distance selling, etc.) and, in more general fashion, on informing consumers on fixed internet access as well as net neutrality.

Pierre Louette, *Chairman of the Fédération française des télécoms* (FFT)

"*We are being asked to finance two new generation access networks at once, namely fibre and 4G, which means making a massive investment at a time when carriers' revenue and prices are decreasing […] On a positive note: traffic is exploding, and consumers' appetite is growing. The challenge for operators lies in monetising this excitement*". Pierre Louette, Chairman of the French Telecoms Federation, FFT, and Deputy CEO of Orange, spoke in May 2013 about the telecoms market data for France in 2012, published by ARCEP.

It provided an opportunity to recall what the Federation expects from public authorities in general, and from the regulator in particular, as well as proper taxation of the internet giants. *"If they were subject to the same tax rules as national players, they would pay 22 times more corporate tax*," and on taxation rules applying to the sector in general: "*telecom carriers pay 25% more tax, just because they are telecom carriers, or a total €1.2 billion, which is a far from negligible sum, and a situation you find only in France*".

Interview published in ARCEP weekly newsletter No. 110, 31 May 2013

1.2 Postal operators

In accordance with the European Postal directive[1], the Law of 9 February 2010[2] opened France's postal sector up fully to competition, as a result of which the entire postal market has been open to alternative postal service providers since 1 January 2011.

By Law, an undertaking wanting to exercise a postal activity must first obtain an authorisation from the Authority. Examinations of authorisation requests may involve on-site visits.

ARCEP has issued 47 authorisations since June 2006. As of 31 December 2013, 33 authorised operators were active in the French postal market, including:

- 22 providers of domestic delivery of items of correspondence;
- 10 providers of outbound cross-border mail delivery;
- La Poste, which holds an authorisation for both the domestic delivery of items of correspondence and outbound cross-border mail.

2. Equipment manufacturers

ARCEP believes strongly in maintaining strong, ongoing relations with equipment manufacturers, and with the trade associations that represent them. Keeping up with their views of industry issues is indeed vital to regulating electronic communications, given how important innovation in technologies and services is to this market.

These relationships take the form of bilateral meetings (either general or devoted to a single issue), which allow ARCEP to keep abreast of technological developments and how equipment is maturing. The Authority also interact with industry stakeholders through public consultations, during on-site visits and at trade shows and conferences.

As it does every year, in 2013 ARCEP attended the Mobile World Congress (MWC) in Barcelona, which is hosted by the GSMA (Global Mobile Suppliers Association). This trade show provides carriers, equipment suppliers and device manufacturers with an opportunity to unveil their latest innovations and to share their views on the future of the mobile network market. ARCEP representatives met


Dossier

REPORTAGE

Le monde de la téléphonie mobile en congrès à Barcelone : les temps forts de l'édition 2013

ET SI ON PARLAIT INNOVATION ?

HOLA

72 000 VISITEURS

DÉLIRES EN TOUT GENRE

PENDANT CE TEMPS, LES ENTREPRISES FRANÇAISES...

BIG IS MOBILE!

ZTE

SAMSUNG

LA CONFÉRENCE MINISTÉRIELLE

Ministerial Programme

Alcatel-Lucent

gemalto

ET SI ON PARLAIT INNOVATION ?

Report on the Mobile world Congress in Barcelona (February 2013) - Cahiers de l'ARCEP on "4G", May 2013

1 - Directive 97/67/EC of 15 December 1997, amended
2 - Law No. 2010-123 of 9 February 2010 on the public company, La Poste, and postal activities

with equipment manufacturers Alcatel-Lucent, Ericsson, Nokia Siemens Networks, Huawei, Qualcomm and ZTE. The 2013 edition of the event helped confirm the swift spread of 4G around the globe, particularly in the 1800 MHz band, in addition to being a chance to discover new devices – notably those compatible with all of the LTE bands being used in Europe, or operating in 25 to 40 of the mobile frequency bands – and to see the resurgence of small cells in new mobile networking architectures.

In February 2013 the Chairman of ARCEP met with the President and CEO of Qualcomm, Paul E. Jacobs, to discuss the company's latest innovations, and especially trials being conducted on the L band in collaboration with Orange, with particular focus on carrier aggregation[3].

In April, the firm Samsung spoke with ARCEP's Chairman about the medium and long-term outlook for the network equipment market, and for new smart devices and connected applications.

In June, during a meeting between the Chairman of ARCEP and Michel Combes, CEO of Alcatel-Lucent, and again in October at ARCEP's annual conference, the equipment supplier had a chance to talk about the current state of affairs in his company, along with a change in industrial strategy which is shifting the focus of its corporate investments to superfast wireline and wireless systems.

Lastly, in early 2014, the Chairman of ARCEP met with Alain Ferrasse-Pale, President and CEO of NSN France, to discuss the latest developments in the company, the latest innovations in 4G and the development outlook for 5G.

From a talk by Michel Combes, CEO of Alcatel-Lucent, at the ARCEP conference: "*Creating and sharing new revenue streams: What does the future hold for telecoms?*" 17 October 2013

"I am in favour of real competition, one where the rules imposed on European companies are also imposed on their competitors, both in European markets and around the world. I am a fervent believer in corporate social responsibility, but it cannot apply only to French or European businesses as that would only distort competition. France and Europe cannot continue to be the global village idiots, and need to take action on the international stage to ensure that equal rules apply across the board […] Among other things, this supposes access to public funding that is comparable to what our, notably Asian, competitors, receive.

3. Content, applications and service providers

As part of its work on internet and network neutrality, and to fulfil a mandate that was recently expanded to include undertakings that provide public online communication services, ARCEP maintains a dialogue with content, application and service providers (CAP)[4], ainsi qu'avec les organismes qui les représentent[5]. and with the organisations that represent them . This interaction allows the Authority to obtain an accurate analysis of the relationship between the internet's stakeholders – ISPs and users alike – of which CAP play a central role.

- In 2013, ARCEP continued its work on **data interconnection** (cf. p. 190-191), particularly in relation to two important dossiers: gathering information on the technical and pricing terms of interconnection and routing[6], and the administrative inquiry that concerned several companies, including Google and Free, pertaining to the technical and pricing terms governing online data traffic routing between them[7].

3 - Based on the principle of Supplemental Down Link or SDL
4 - e.g.:.:ASIC (association des services Internet communautaires/ social media organisation working to"promote a new Internet"), Association for the digital economy, ACSEL (association de l'économie numérique) and online service operators' group, GESTE (groupement des éditeurs de services en ligne)
5 - e.g.: ASIC, l'ACSEL ou le GESTE
6 - ARCEP Decision No. 2012-0366 29 March 2012
7 - ARCEP Decision No. 2012-1545 of 22 November 2012

- Content, application and service providers are also involved in the work ARCEP is doing on **introducing a quality of service monitoring mechanism for internet access**[8] (cf. p. 188-190). It is vital to these companies that the quality of the service supplied by ISPs (internet service providers) be sufficiently high and not diminish. The social media organisation working to "promote a new internet", ASIC (*association des services Internet communautaires*), the online service operators' group, GESTE (*groupement des éditeurs de services en ligne*) and the Association for the digital economy, ACSEL (*association de l'économie numérique*) were thus invited to the working meetings that preceded the adoption of a decision[9] on the quality of internet access services on fixed networks. This collaborative work will continue on through 2014.

4. Consumer associations representing residential and enterprise users

4.1 Consumer associations

ARCEP has been holding Consumer affairs committee meetings since 2007. At these, typically biannual, meetings ARCEP outlines the work it is doing on issues that are of particular interest to consumers. They also provide an opportunity for proper discussions with consumer associations. On hand as well are representatives of national bodies responsible for regulation and consumer affairs: the General directorate for fair trade, consumer affairs and fraud control, DGCCRF (*Direction Générale de la Concurrence, de la Consommation et de la Répression des Fraudes*), the General directorate for competition, industry and services, DGCIS (*Direction générale de la compétitivité, de l'industrie et des services*), the electronic communications ombudsman and the National Institute for Consumer Affairs, INC (*Institut national de la consommation*).

In 2013, the Consumer affairs committee, chaired by ARCEP Board member Pierre-Jean Benghozi, addressed the following topics in particular:

- the issues surrounding changes to the fixed number portability procedure (shorter waiting period, creation of a new reference number for fixed operators, and putting cancelled numbers in "quarantine");
- the current state of broadband and superfast broadband markets (slamming, network standardisation, last metre connection);
- reforming value-added services, and the expected benefits for consumers.

ARCEP departments also presented the work they are doing on the quality of fixed telephony, internet and mobile services.

Lastly, the Authority took stock of the complaints it received in 2012, whose numbers were up by 30% compared to the previous year: totalling 7,605, they pertained chiefly to disagreements over invoices, quality of service and the problems users encountered when trying to unlock their mobile phones. In all, 6,726 complaints were handled in 2013, or 11% fewer than in 2012. The mobile sector accounted for 39% of these requests. Again last year, the main sources of customer complaints were vendor

Telecom – Infoconso.fr ARCEP's website for consumers

In 2009, ARCEP launched a website aimed specifically at telecommunications services users: www.telecom-infoconso.fr

Informative, practical and educational, the purpose of the site is to provide consumers with access to all of the information they need to defend their rights, better understand how the sector operates and keep up with the outstanding issues of the day.

8 - *Including the quality of certain applications such as Web browsing, P2P downloads and streaming video.*
9 - *Decision No. 2013 0004 of 29 January 2013*

Nadia Ziane, *Familles rurales*

A consumer protection association for families in rural areas, Familles Rurales – which celebrated its 70th anniversary in 2013 – is the largest family-centric organisation in France, with 180,000 member families. Of the close to 10,000 cases treated every year, 15% of the complaints the association receives relate to telecom services, of which "*an enormous number concern quality of service". For Nadia Ziane, consumer information is also an issue: "What the families don't understand is that they pay the same price as everyone, that they are the ones who have the greatest need for electronic access, since they are the farthest away from any services, and also the ones who have the hardest time obtaining a connection*".

The message is clear. Although the association has made dialogue its chief weapon in the battle against the digital divide and for "fair" consumer information, it is nonetheless willing to turn to the courts when dialogue fails, as testified by a suit that is currently underway against an operator and the information on 4G it provides. Familles Rurales also has a new bow in its quiver: class action suits, which the Consumer Protection Act[10] introduced into law in early 2014.

Interview published in the ARCEP weekly newsletter No. 137, 31 January 2014

Marie Louise Desgrange, electronic communications mediator

Created in 2003 on the initiative of four operators, the electronic communications mediation association, AMCE (*association de médiation des communications électroniques*) has the task of providing the mediator with all of the human and material means required to arbitrate. The association celebrated its 10 anniversary on 21 November 2013, which was the perfect opportunity to talk to electronic communications mediator, Marie-Louise Desgrange who believes that "*electronic communications mediation has been a complete success*".

There is no doubt about the efficiency of mediation, nor are there any doubts about its legitimacy, particularly since a European Directive issued in March 2013 stipulates that all European consumers should have access to mediation, regardless of the sector and their geographical location. "*Simple, fast and free," "this marvellous tool*," according to the mediator, has been embraced by both consumers and telecom sector operators.

Interview published in the ARCEP weekly newsletter No. 129, 22 November 2013

contracts and billing (26%), the quality and availability of services (21%) and unlocking mobile handsets (10%). Other complaints related to mobile number portability, slamming, value-added services and fraud, along with fibre network access. These trends carried on into the first quarter of 2014, with 1,708 complaints having been lodged as of 31 March.

4.2 Associations representing enterprise customers

To fulfil its regulatory mandate as effectively as possible, particularly in the realm of net neutrality and on matters pertaining to value-added services supplied through so-called "special" numbers, ARCEP consults widely and regularly with the representatives of the businesses that use operators' networks and services, and which themselves supply network and services that rely on these operators.

To deepen its understanding of the enterprise market, ARCEP departments have turned to several business associations to discuss the way the enterprise retail market functions. In mid-2013, for instance, ARCEP met with representatives of CIGREF, an association of

10 - *Cf. p. 58*

big businesses whose chief purpose is to promote digital culture as a source of innovation and improved performance. These discussions helped further the research that ARCEP has been doing to prepare for a review in 2014 of some of its market analyses that pertain specifically to businesses.

ARCEP has also called upon several other business associations – representing online service providers (GESTE) and e-commerce companies (FEVAD) – for the work it is doing on net neutrality, as part of multilateral technical committees.

Lastly, ARCEP departments met on several occasions with representatives of the SVA+ association representing value-added service (VAS) providers, notably as part of the work being done on reforming the pricing scheme for special numbers, i.e. short numbers and numbers starting with 08. In 2013, ARCEP was especially interested in the work the association was doing on adopting and implementing the code of conduct that applies to VAS providers

Bernard Dupré, chairman of CRESTEL,
the "enterprise" branch of the French association of telecoms users (AFUTT)

Little known fact: the enterprise market is a significant market for the telecommunications sector. Estimated at €13 billion, it represents a third of businesses' and public establishments' telecom spending, the other two thirds going to IT. When taken all together, digital products and services represent two thirds of expenditures. Cloud computing, M2M, big data, the internet of things, home automation, connected cars… before coming to enrich consumer markets, these new digital goldmines begin their development in the business world. They also represent a real growth opportunity for operators.

"*Enterprises are an extremely important engine for digital innovation […]*" confirms Bernard Dupré, "*but competition alone is not enough to protect this market*". The chairman of CRESTEL believes that ensuring the "harmonious and efficient development" of the enterprise market, from SMEs to large multinationals, means rising to three major challenges: quality, price and security.

Interview published in the ARCEP weekly newsletter No. 136, 24 January 2014

Changes to the legal framework governing ARCEP's activities

1. The national framework

1.1 Changes made in 2013

a) Priority preliminary ruling on the constitutionality of ARCEP's power to impose sanctions

In 2013, the Constitutional council (Conseil constitutionnel) called into questions the legal provisions of the French Postal and electronic communications code (CPCE) that establish ARCEP's power to impose sanctions. Through its priority preliminary ruling on constitutionality Decision No. 2013-331 of 5 July 2013, on remand from the Conseil d'Etat, the Constitutional council declared first twelve paragraphs of CPCE Article 36-11 to be unconstitutional, as "*according to the first paragraph of CPCE Article L. 132, ARCEP departments are placed under the authority of the Chairman of ARCEP; according to Article D. 292 of this same code, the Director-General is appointed by the Chairman of ARCEP and participates in the Authority's deliberations; as a result and even though decisions to give notice fall under the responsibility of the Director-General, the provisions of the first twelve paragraphs of CPCE Article L. 36-11, which do not ensure a separation within the Authority of, on the one hand, the functions of prosecution and investigation of possible breaches and, on the other hand, the function of adjudicating on these same breaches, misunderstand the principle of impartiality*".

Subsequent to this decision, Parliament adopted Law No. 2014-1 of 2 January 2014 giving Government the power to simplify and safeguard the life of businesses, whose Article 1 a) authorises the Government to establish the Authority's power to impose sanctions by way of order. Order No. 2014-329 of 12 March 2014 on the digital economy, issued in application of this legislative power, establishes a new sanction procedure for ARCEP, in both the postal and electronic communications sector, which is based on a the CNIL (French data protection authority) model whose constitutionality has been validated by the Conseil d'Etat. This new model is capable of giving the enterprises concerned all of the guarantees they need, while continuing to ensure that ARCEP is able to act effectively: a body composed of four members of the Executive Board, including the Authority's chairman, adopts decisions to give notice, and decisions on investigations, settling disputes and inquiries, while a second body composed of the three other Board members adopts the penalty decisions[1].

1 - Cf. p. 19

ARCEP thus once again has a legal basis for exercising its power to impose sanctions, which is an essential tool of economic regulation. Penalties are not an end in themselves, but rather an instrument used to guarantee that operators meet their obligations, which are set out in existing legislative and regulatory provisions , or in decisions that ARCEP issues when exercising its regulatory powers.

b) Consumer Protection Act

ARCEP's ability to act on behalf of consumers was strengthened by the Consumer Protection Act of 17 March 2014. It stipulates that the Authority will fulfil its mandate to ensure a high level of consumer protection in tandem with the Minister responsible for consumer affairs, and assigns ARCEP the responsibility of monitoring the information provided to consumers when enforcing CPCE provisions requires. Several measures contained in the Act also seek to provide a clearer framework for distance sales and cold calling: sending automated calls or text messages for prospecting purposes now requires subscribers' consent to use their personal data, and the period of withdrawal, which has been increased from seven to 14 days, can no longer be waived. Moreover, the Pacitel system has been entrenched by requiring that operators to keep a national register of consumers who do not want to receive cold calls. It also forbids the use of numbers with no caller ID, and certain ranges of surcharged numbers for prospecting purposes.

Lastly, the Act strengthens consumer protection by regulating the supply of value-added services (VAS), and by requiring that operators provide a directory that allows consumers to identify the name of the service and its supplier through the number being used, in addition to introducing a service for reporting fraudulent VAS, along with a free option for blocking calls to certain number ranges.

The Order of 3 December 2013 on providing consumers with prior information on the technical features of fixed, wireline internet access offers, requires ISPs to provide consumers with "educational" information on the actual throughput of their connection and the available ancillary services being supplied. The order also frames commercial information on ADSL and VDSL connections, making it mandatory to provide certain details, such as the throughput that is actually "*achievable*" depending on the customer's distance from the subscriber connection point (typically the neighbourhood cabinet)[2].

c) Security requirements

Law No. 2013-1168 of 18 December 2013 on military programming, or LPM (*Loi relative à la programmation militaire*) for 2014 to 2019 introduced several changes concerning defence and national security.

- LPM Article 23 expands the scope of the penal code's authorisation scheme[3] to include technical devices and instruments capable of intercepting electronic communications, and not only those designed specifically for that purpose.

- Article 21 gives France's national information systems security agency, ANSSI (Autorité nationale de sécurité des systèmes d'information) administrative requisitioning powers to identify natural or legal persons who have been or are likely to be the target of cyber attacks. This article concerns only operators listed in CPCE Article L. 34-1.

- The Military Programming Act repeals CPCE Article L. 34-4-1 whose provisions on security requirements (concerning connection data) are now grouped together in the homeland security code. The responsibility assigned to ARCEP to ensure that "*electronic communications network operators and service providers comply with national defence and public safety obligations*"5 has not been altered, however.

2 - Cf. Glossary
3 - Article 226-3
4 - CPCE Article L. 32-1

- The Military Programming Act also adds the ANSSI as the legal person authorised to obtain from access providers, and order kept for two years, technical data of a personal nature as part of an investigation by a judicial authority or HADOPI6[5].

d) Changes to the regulatory framework governing FttH rollouts

ARCEP adopted a decision and a recommendation that come to complete the regulatory framework governing fibre-to-the-home (FttH) network rollouts.

In December 2013, ARCEP adjusted[6] the list of municipalities that constitute very high density areas, as defined in December 2009[7]. The purpose of this amendment – which reduces the size of very high density areas, and so reinforces operators' shared rollouts – is to take into consideration the deployments that operators have performed since 2009, and the technical and financial conditions governing operators' connection to these NGA networks. The number very high density areas has thus decreased from 148 municipalities (representing around 6 million households) to 106 municipalities (or around 5.5 million households), which represent fewer than 17% of all households in France.

In January 2014, ARCEP also adopted a recommendation on the terms of accessing FttH lines for small buildings with fewer than 12 residential or business premises located in high density areas, but outside low-density pockets[8]. The aim of the new recommendation is to enable coverage for all types of building, regardless of their size or location.

Lastly, the Order of 14 March 2014 brought several changes to the legal framework governing fibre to the home rollouts in multi-tenant premises.

Subsequent to the work that ARCEP performed in 2012, and publication of its recommendations in 2013, the Order's provisions specify the respective responsibilities of the building's (co)owner(s) (provide host infrastructure, i.e. ducts, wireways and service rooms) and the operator (install the optical fibre cables). The text also extends the field of application of connection procedures to all types of multi-tenant premises, buildings and housing developments.

1.2 Debate on internet governance

For the internet to operate smoothly, the assignment of domain names (DNS) and IP addresses needs to be managed in a coordinated fashion. At the international level, these functions are assumed by ICANN (Internet Corporation for Assigned Names and Numbers), but a host of other multi-stakeholder structures contribute to the various aspects of internet governance.

At the conference in Montevideo in October 2013, these institutions voiced their support for broader national representation, particularly within ICANN. One of the main goals of this reform of the conditions of representation is to minimise the risks of having a fragmented internet, which could occur as a result of certain States' desire to do away with a system of common governance. The European Commission also sought to contribute to the debate by publishing a communication on Europe's role in internet policy and governance, on 12 February 2014[10].

It was in this context, and following revelations that several intelligence services had been accessing information being exchanged online, that the Senate created a joint task force on the European Union's strategy for global internet governance in November 2013, chaired by Senator Gaëtan Gorce. The task force asked to interview ARCEP which, although not directly

5 - Amendment of CPCE article L. 34-1
6 - Decision No. 2013-1475 of 10 December 2013
7 - Decision No. 2009-1106 of 22 December 2009
8 - Defined in the ARCEP Recommendation of 14 June 2011
9 - "Europe's role in shaping the future of Internet Governance" COM/2014/072 final, 12 February 2014

involved in the work being done on the matter, believes that the internet's development has a direct influence on the development of the electronic communications sector.

On 11 March 2014, ARCEP Chairman, Jean-Ludovic Silicani, and Executive Board member, Pierre-Jean Benghozi, spoke to the task force about the work that ARCEP and BEREC are doing on net neutrality, and the status of discussions on the matter in France and in Europe. They reiterated that for the internet to develop in a balanced fashion, there needs to be a close dialogue between stakeholders, and a fair balance of power between the various undertakings along the value chain (operators, content and application providers, etc.). Defending a balanced approach to net neutrality helps achieve this second imperative.

1.3 Debates over the future of the digital society

The ubiquitous use of the internet in the workplace, in government departments and amongst the population leads to both the development of new businesses and activities, and changes in the way that all trade-related activities operate. These changes have fuelled wide-ranging discussions over adapting the terms of State intervention to this new environment – in its capacity of economic regulator and to protect certain online rights.

It was within this environment that the Prime Minister kicked off discussions in August 2012 on changes to broadcasting and electronic communications regulation in the internet era. ARCEP and Broadcasting authority CSA shared their analyses with the Government in October 2012. This resulted in the suggestion of merging two authorities being dismissed, and working instead on finding ways to modernise regulation, notably to adapt broadcasting regulation to the include the development of new online services. The two authorities also suggested several means to better coordinate their work, while the purpose and methods of their actions will continue to remain by and large distinct.

The Government did not want to undertake any institutional reforms, so its initiatives in 2013 focused on improving the broadcasting sector's regulatory framework, by adopting the Law of 15 November 2013 on the independence of public broadcasting, which could be completed in 2014 or 2015.

In 2013, Parliament also took an interest in the terms of digital economy regulation, and particularly the protection of certain online rights, including intellectual property, pluralism and protecting personal data. The Senate's "Media and new technologies" study group thus interviewed representatives of ARCEP, CSA, CNIL and HADOPI on 16 January 2014, asking them to detail both how their actions fit together and complement one another, and how changes brought by the ubiquitous use of digital technologies might affect the ability to maintain strong protection for users' rights. This public policy objective will also be central to the bill on digital affairs that is currently being drafted.

2. The European framework

The final days of the current term for the European Parliament (European elections were held in late May 2014) and the Commission (whose mandate expires on 31 October 2014) were a time of intense legislative activity. In the first half of 2014, a number of texts were in the process of being debated or adopted. ARCEP lent the Government its expertise in developing the French positions, and contributed to the work that BEREC did on these projects.

2.1 Review of the Telecoms Package and European Parliament reports

The European regulatory framework that was reviewed in 2009, commonly known as the Telecoms Package, contains certain provisions on the revision of regulatory texts[10]. The European Commission must thus "periodically" review how well the framework is working, and submit a report to the co-legislators, namely the European Parliament and Council[11].

The timetable is more specific for reviewing the scope of universal service, which began in early 2014[12].

In addition, the regulation that establishes BEREC[13] requires the European Commission to produce an evaluation of its operations three years after it officially begins its work programme, in other words in 2013. This report is also submitted to the co-legislators, and the European Parliament issues an opinion on it.

■ Evaluation of the implementation of the regulatory framework

In 2013, the Commission did not perform any assessment of the framework, per se. It did nevertheless propose a review of certain aspects of the directives with its Connected Continent proposals. The review of the framework is due to be conducted by the next Commission in 2015.

The European Parliament nonetheless wanted to draw up its own assessment before its mandate expired[14], and prior to the European Council in October 2013 on the digital economy. Which it did in a report[15] drafted by Member of the European Parliament (MEP) Catherine Trautmann[16]. For her analysis, the rapporteur called upon BEREC which expressed its informal views, to which ARCEP contributed – offering several paths for discussion and possible improvements to keep in mind for the forthcoming review of the framework.

The report from Parliament states that further improvements could be made to Europe's telecom market, as the objectives set for it have not been fully achieved, while also underscoring that the framework alone does not provide a response to all of the difficulties the sector is facing, and that stakeholders are affected by a number of other legislative measures. MEPs invited the Commission to conduct a wide-reaching examination of the issue, to be in a position to make legislative proposals during the next mandate. Parliamentarians also suggested a series of objectives for the future framework, and a series of elements to take into account during the forthcoming review, such as symmetrical regulation, joint dominant position, strengthening the independence of national regulatory authorities (NRA) and, more generally, taking better account of the digital ecosystem as a whole.

■ Evaluation of BEREC

In late 2012, the Commission published a study on the evaluation of BEREC[17]. It reports on the efficiency of BEREC's operations and process, and offers possible areas of improvement, notably for its permanent office located in Riga. The European Parliament confirmed the Commission conclusions in an opinion[18] prepared by MEP Salvador Sedó, published in November 2013. As a result, no legislative amendment was proposed for BEREC operations.

10 - According to Directive 2002/21/EC of the European Parliament and Council, of 7 March 2002
11 - "Council" refers to the European Union Council, otherwise known as the Council of Ministers
12 - According to Article 15 of directive 22/2002/EC, amended by directive 2009/136/EC
13 - Cf. p. 44
14 - European elections were held from 22 to 25 May 2014, depending on the EU Member State .
15 - Implementation report on the regulatory framework for electronic communications - 2013/2080(INI), 1 October 2013
16 - Catherine Trautmann was the rapporteur for the "Better law-making" (Mieux légiférer) directives during the review of the Telecoms Package of 2009
17 - Study on the Evaluation of BEREC and the BEREC Office, report by PricewaterhouseCoopers
18 - Input on the BEREC and the BEREC office evaluation process – 2013/2053(INI), 13 November 2013

2.2 Proposal for regulation "laying down measures for a single market for electronic communications"

The Commission's Connected Continent proposal

On 11 September 2013, the European Commission published a proposal for regulation that would help create a single market for electronic communications. Its publication was not preceded by the usual consultation with the sector's stakeholders.

The text proposes a number of legislative changes:

- Creation of the status of "European service provider" and, to regulate it, a system of prioritisation and interaction between the different NRA[19], which also gives the Commission the power to veto remedies imposed on these service providers;
- increased harmonisation of spectrum management, again giving the Commission the ability to veto frequency allocations;
- complete harmonisation of consumer protection laws pertaining to telecoms, and harmonisation of certain regulatory remedies for broadband;
- legally binding net neutrality obligations;
- changes to the existing regulatory framework, notably on the matter of BEREC's governance.

This proposal was a top priority for the Commission's Vice-President responsible for the Digital Agenda, Neelie Kroes, and the Commission's Chairman, Jose-Manuel Barroso – hence the particularly ambitious initial work schedule. The Commission in fact wanted the co-legislators (the European Parliament and Council) to adopt the regulation before the end of its mandate in October 2014.

Following the proposal's publication, BEREC issued a public statement on the text[20] along with a more detailed analysis of its views on the Commission's proposal[21]. If national regulators share the objectives set out by the Commission, they do not believe the proposed measures would make it possible to achieve them, and could even be counterproductive for the sector.

Work of the European Parliament

The European Parliament committed to adopting a position at first reading[22] before its mandate expired (in spring 2014), hence the intense pace of the work. The Parliament Committee on Industry, Research and Energy (ITRE) was designated responsible for work on the single market proposal, with MEP Pilar del Castillo as rapporteur. The Internal Market and Consumer Protection Committee (IMCO), whose rapporteur is MEP Malcolm Harbour, was designated responsible for questions relating to consumer and net neutrality laws.

In early December, the Parliamentary committees held public hearings. BEREC was interviewed on several topics. In particular, it came to present the Body's positions on net neutrality[23].

The Parliament adopted its position at first reading, in a plenary session on 3 April 2014, introducing deep-seated changes and simplifying the Commission's proposal by:

- putting an end to roaming charges within the European Union in 2015, with a proviso of "fair use" and for "periodic" travel;
- redefining the notion of net neutrality;
- increasing harmonisation of spectrum management at the European level;
- cutting red tape and simplifying the declaration process for telecom operators;
- harmonising the role of NRAs.

19 - National regulatory authority
20 - "BEREC statement on the publication of a European Commission proposal for a Regulation on the European single market", 16 September 2013
21 - BEREC views on the proposal for a Regulation "laying down measures to complete the European single market for electronic communications and to achieve a Connected Continent", 17 October 2013
22 - The next European Parliament is not, however, bound by this position, and may choose to return to square one of the procedure
23 - ARCEP co-chairs the BEREC study group on net neutrality

In addition, the Parliament refers the regulatory provisions proposed by the Commission on consumer law to the regulatory framework's Universal service directive, shoring it up and making it more precise. It also refers to a number of elements being proposed to the forthcoming review of the regulatory framework, which will occur in 2016.

The European Council's view

In October 2013, the meeting of the European Council was devoted specifically to the Digital Agenda[24]. As the European Parliament and Commission's term was coming to a close, the Council gave priority to the legal texts that were the furthest along, and "encourages the legislator to carry out an intensive examination" of its Connected Continent package, "with a view to its timely adoption". The Council also pinpointed a number of more general courses of action and challenges for the sector, which could be explored during the upcoming review of the regulatory framework. The need for "a comprehensive approach fostering innovation and competition in digital services" was raised, along with questions over taxation in the digital economy, and the interoperability and portability of content and data.

Implementing the priorities listed by the European Council, the Council of Ministers, which met in Lithuania in the second half of 2013, postponed its work on the regulatory proposal to the first half of the following year. This work began in March 2014.

2.3 Directive on reducing the cost of deploying high-speed networks

The Commission's proposal

Having observed that civil engineering work represented a very large percentage of the total cost of deploying superfast broadband infrastructure, in summer 2012 the European Commission held a public consultation to obtain feedback on the matter from the sector's stakeholders, and to take an inventory of best practices across the European Union.

Following this consultation, the Commission published a proposal in March 2013 for regulation "on measures to reduce the cost of deploying high-speed electronic communications networks".

The text establishes operators' right to access existing civil engineering infrastructure, including those belonging to other sectors (energy, water, etc.), creates a "one-stop shop" for obtaining information on works and construction permits, and requires fibre to be installed in all new buildings (taking its cue from the French model).

The European Council's examination of the text

The European Council initially greeted the text with some reservation: the Commission's proposal consisted in a regulation (direct and immediate application by Member States, without transposition to internal law, so was a controversial legal tool for a text that affected the rights of local authorities and property laws) and included very technical provisions that require close examination.

24 - *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A Digital Agenda for Europe (COM/2010/0245 final).*
The Digital Agenda for Europe is one of the seven flagship initiatives of the Europe 2020 Strategy, set out to define the key enabling role that the use of Information and Communication Technologies (ICT) will have to play if Europe wants to succeed in its ambitions for 2020.

The European Council of October 2013, devoted to the Digital Agenda, nevertheless provided heads of State and the Government an opportunity to pinpoint the priorities in the telecom dossiers that were still being reviewed. It concluded that "legislative measures to reduce the cost of broadband roll-out should be adopted rapidly[25]".

Moreover, Parliament reported to the Council that it supported the main request from Member States to convert the regulation into a directive, making it a more adaptable instrument from a legal perspective, and so facilitating its transposition into national law.

In 2014, the Council performed an in-depth examination and established its position, which enabled the three-way negotiations (Parliament-Council-Commission) that led to an inter-institutional agreement in late February 2014.

■ Work of the European Parliament

Considering the text to be a good initiative for supporting high-speed network rollouts, the European Parliament wanted to examine it as soon as possible. The Parliament Committee on Industry, Research and Energy (ITRE) was designated as the committee responsible, and MEP Edit Herczog was designated rapporteur. The report was approved by the Industry Committee meeting in late November 2013, and formally adopted by the Parliament in plenary session on 15 April 2014, before being adopted by the Council of Ministers in mid-2014. Member States will have until 1 January 2016 to transpose the provisions of the text into national law.

The final text requires fibre to be installed in new buildings and buildings undergoing major renovations. It also requires network (water, gas, power, etc.) operators to grant reasonable requests from telecom operators wanting access to their physical infrastructure to deploy broadband networks. Moreover, the text includes provisions for improving the coordination of civil engineering works, and simplifies the procedures for issuing the permits needed to perform the work.

When preparing France's positions for the European negotiations, ARCEP paid particularly close attention to the relationship between the provisions contained in the new text and those already in force at the national level (notably asymmetrical obligations requiring Orange to grant access to its civil engineering, resulting from market analysis decisions), as well as the provisions on settling disputes that fall under its purview, and the exact scope of certain provisions and definitions.

2.4 Other legal texts

a) The "electronic communications" component of the Connecting Europe Facility (CEF)

In October 2011, the European Commission proposed a new fund for financing energy, transportation and telecommunications infrastructure projects called the Connecting Europe Facility (CEF). The final item is relatively new for the European Union, compared to its history of financing the other two sectors.

The CEF has an umbrella regulation that establishes its general operation, along with regulations that are specific to each of the three sectors. The Commission earmarked overall financing of €50 billion, of which €9 billion for electronic communications. The sector-specific regulation planned on financing certain projects covering, on the one hand, high-speed networks and, on the other, digital services infrastructure.

The CEF was nevertheless closely bound up with the decisions made by European institutions on the EU's multi-annual financial framework (2014-2020).

25 - *"To tap the full potential of the digital economy, to boost productivity and create new economic activity and skilled jobs, Europe needs investment and the right regulatory framework. New investments should be promoted to accelerate the roll-out of infrastructure capable of achieving the broadband speed targets of the Digital Agenda for Europe, and to accelerate the deployment of new technologies, such as 4G, while maintaining technology neutrality. Legislative measures to reduce the cost of broadband roll-out should be adopted rapidly."*

Moreover, unlike the Parliament, the Council in particular was less convinced of the need for such a mechanism for the electronic communications sector, which it considered by and large competitive. As a result, subsequent to a budget agreement between the Parliament and Council in late June 2013, the CEF provisional budget was reduced to €33 billion. The telecom component underwent the deepest cuts, and has been reduced to €1 billion. Following these budgetary agreements in late 2013, the Parliament and Council adopted an umbrella regulation[26] and regulation specific to electronic communications in March 2014[27].

b) Review of the general regulatory framework for State aid

In 2012, the Commission's DG Competition began a new round of review for the regulatory framework governing State aid. On the matter of broadband infrastructure, the Commission concluded that some State aid could be considered *de facto* compatible with the market if certain criteria are met. Two regulations adopted by the Council[28] in summer 2013 were revised: the procedural regulation[29] that sets the procedure to follow for reviewing State aid, and the enabling regulation[30] that identifies certain categories of aid that the Commission may exempt from prior notice obligations, and which gives the Commission the power to adopt the implementing texts (and regulations) that define the terms of exemption in more detail.

The Commission thus began to work on updating its implementing regulation, the General Block Exemption Regulation (GBER), adding for the first time a section on aid for broadband infrastructures[31]. This review took place in several stages, and in close collaboration with Member States and stakeholders (publication of draft revised text, workshops with Member States, publication of a second revised draft and a new round of consultation). The Commission is expected to adopted the GBER in 2014.

2.5 European Commission recommendation on non-discrimination and costing methodology

In summer 2012, the Commission's DG Connect[32] launched two public consultations: one on costing methodology for wholesale access products and the other on non-discrimination. The aim was to gather feedback from the sector's stakeholders, to develop consistent European guidelines. The consultations revealed a range of differing, if not opposing, opinions, notably on the impact of increasing or decreasing wholesale access prices for the copper network, and on fibre rollouts and access.

It was not until July 2013 that Neelie Kroes provided an outline for a recommendation on consistent non-discrimination and costing methodology. This document defines, first, a harmonised costing methodology for copper network access at the European level, to maintain an average price of €9. The document also addresses non-discrimination and the means for guaranteeing it.

---

26 - Regulation (EU) No 1316/2013 of the European Parliament and of the Council of 11 December 2013 establishing the Connecting Europe Facility, amending Regulation (EU) No 913/2010 and repealing Regulations (EC) No 680/2007 and (EC) No 67/2010

27 - Regulation (EU) No 283/2014 of the European Parliament and of the Council of 11 March 2014 on guidelines for trans-European networks in the area of telecommunications infrastructure and repealing Decision No 1336/97/EC Text with EEA relevance

28 - On the matter of State aid, the implementing texts (such as the regulations in questions) are adopted only by the Council, adjudicating on the Commission's proposal, and after having consulted with the EP (TFEU Art. 109)

29 - 30 Council Regulation (EU) No 734/2013 of 22 July 2013 amending Regulation (EC) No 659/1999 laying down detailed rules for the application of Article 93 of the EC Treaty

30 - Council Regulation (EU) No. 733/2013 of 22 July 2013 amending Regulation (EC) No 994/98 on the application of Articles 92 and 93 of the Treaty establishing the European Community to certain categories of horizontal State aid

31 - "aid in favour of (…) basic broadband infrastructure, small individual infrastructure measures covering next-generation access networks, broadband-related civil engineering works and passive broadband infrastructure, in areas where there is either no such infrastructure or where no such infrastructure is likely to be developed in the near future"

32 - Directorate General "Communications Networks, Content and Technology"

BEREC devoted considerable efforts to this document, and published an opinion[33] on it in March 2013. After having incorporated certain parts of this opinion, in May 2013 the Commission solicited the views of the Communications Committee (COCOM) which issued a favourable opinion on the revised document. The Commission then adopted its recommendation[34] on 11 September 2013. It specifies the methods for implementing non-discrimination and cost-oriented pricing obligations that an NRA can impose as a result of its analysis of markets 4 and 5. On the matter of non-discrimination, it expresses a preference for equivalence of inputs (EoI), provided it is proportionate, and recommends that NRAs introduce indicators for monitoring these obligations. As to costing methodologies, it recommends a specific costing methodology based on NGA network modelling, and introduces a target price range for the copper network of €8 to €10 a month. Finally, it suggests lifting all pricing obligations once a good quality of non-discrimination has been reached, and competition is sufficiently strong.

2.6 Implementing international roaming regulation within the European Union

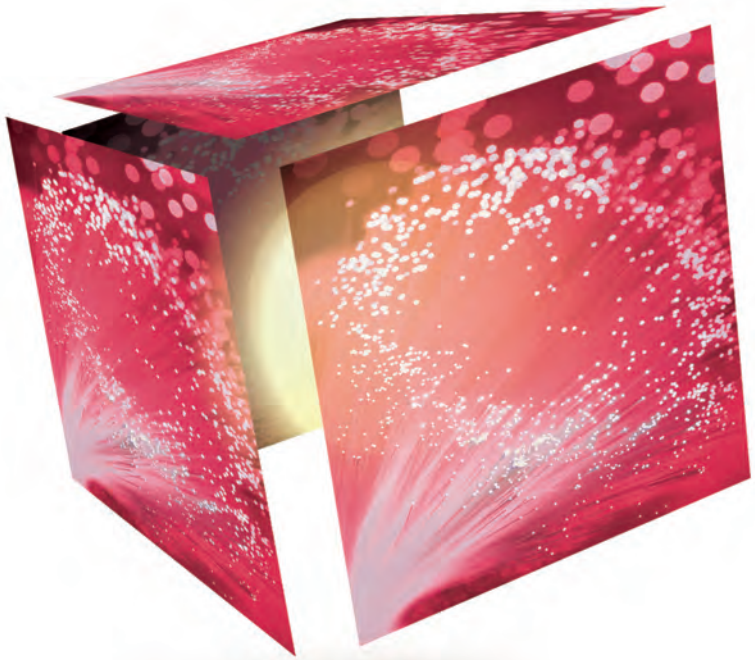
The third European regulation on roaming within the European Union[35] came into force on 1 July 2012. A detailed work programme is planned to ensure its implementation, involving the European Commission and BEREC in particular. A new provision in the regulation introduces an obligation for operators to allow their customers to purchase voice, SMS and data roaming services from other operators, and to be able to connect directly to an operator in the country they are visiting for their mobile data, when travelling within Europe (starting on 1 July 2014). For this to happen, the regulation tasks the Commission with identifying the technical solutions to be put into place, which it did in its implementing regulation of December 2012[36]. On the basis of these technical solutions, and after having consulted with the sector, BEREC detailed certain technical and regulatory aspects in the guidelines[37] it published in July 2013.

In March 2013, BEREC updated the guidelines[38] the European Regulators Group (ERG – BEREC's predecessor) had adopted after the previous roaming regulation came into effect in 2009. Among other things, these new guidelines provide details on transparency measures for users, the issue of inadvertent roaming, and introduce a retail Euro-tariff for mobile data.

Lastly, BEREC continues its ongoing work on monitoring the roaming market, and in November 2013 published its first report on the transparency and comparability of roaming tariffs[39].

33 - BEREC Opinion on Commission draft Recommendation on non-discrimination and costing methodologies (BoR (13) 41)
34 - Commission Recommendation of 11 September 2013 on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment (2013/466/EU)
35 - Regulation (EU) N° 531/2012 of the European Parliament and of the Council of 13 June 2012 on roaming on public mobile communications networks within the Union Text with EEA relevance
36 - Commission Implementing Regulation (EU) No 1203/2012 of 14 December 2012 on the separate sale of regulated retail roaming services within the Union
37 - BEREC Guidelines on Roaming Regulation (EC) N° 531/2012 (Third Roaming Regulation) (Articles 4 and 5 on Separate Sale of Roaming Services)
38 - 39 BEREC Guidelines on Roaming Regulation (EC) N° 531/2012 (Third Roaming Regulation) (Excluding articles 3, 4 and 5 on wholesale access and separate sale of services)
39 - BEREC Report on Transparency and Comparability of International Roaming Tariffs

PART TWO
ARCEP's main areas of focus in 2013



Stepping up the transition to superfast access

1. Current status of broadband networks

1.1 Providing fixed network coverage nationwide

Properly introduced in the early 2000s, broadband technologies significantly increased the connection speeds available to users. For fixed access, the "last mile" of users' connection is generally based on an existing wireline local loop solution – i.e. the public switched telephony network or cable operators' networks – but it can also be supplied over a wireless link by either a terrestrial or satellite system. For ARCEP, the term "broadband" refers to retail market offers that allow users to access the internet at speeds equal to or above 512 kbps and up to 30 Mbps. Most broadband coverage in France today is supplied by DSL technologies over the Orange telephone network, which constitutes the copper local loop.

The copper local loop is made up of around 33 million lines deployed across the whole of France through some 15,800 subscriber connection points[1] called NRA (*nœuds de raccordement d'abonnés*). Fewer than 1% of lines were still unable to deliver broadband services via DSL as of 31 December 2013. This ineligibility is due primarily to the length of the lines and the resulting weakening of the DSL signal (0.5% of lines) and the presence of multiplexing equipment (0.1% of lines). At ARCEP's request, Orange has begun a three-year plan to neutralise the bigger multiplexers across the country.

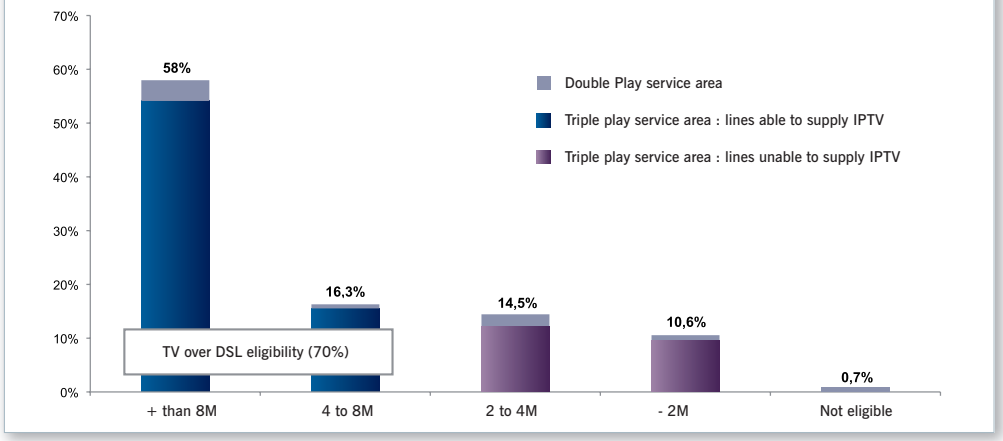
The fact that a digital subscriber line (DSL) is able to deliver broadband access does not necessarily mean that it can also supply all of the services delivered over DSL technologies, particularly video and TV services. Whether the lines are able to deliver these services depends on several parameters, including the minimum bandwidth that their operation requires. The variety of services available therefore depends, first, on the length of the copper lines. The next criterion is whether or not there are alternative operators selling these different services, and have therefore invested in the proper equipment to do so. Here, we can distinguish two situations:

1. 92% of lines (connected to 8,400 exchanges) are connected to an exchange capable of delivering a TV over ADSL service (triple play service area). However, only 3/4 of these lines are actually capable of doing so, as the remaining quarter are unable to deliver enough throughput to do so;

2. 8% of all lines (connected to 7,400 exchanges), can deliver only double play bundles, i.e. telephone and internet access services. As these exchanges are unable to provide TV over DSL services, users in those areas generally rely on satellite or DTT (digital terrestrial TV) for their television.

1 - Cf. Glossary. For the sake of brevity, the term "exchange" is used interchangeably when referring to these "NRA" subscriber connection points

Line eligibility according to theoretical throughput (end of 2013)

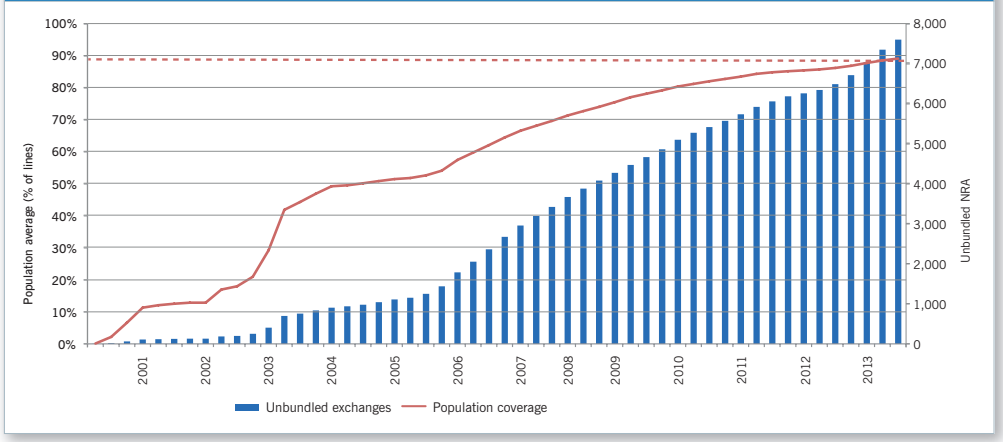


Source: ARCEP.

1.2 LLU still developing

If Orange has installed active equipment in all of the exchanges that make up the network's mesh across the country, such is not yet systematically the case for all of the market's main operators. When a new operator joins an exchange through the unbundling (LLU) process, competition between the products and services available in a given region automatically increases, in terms of prices, devices on offer, available TV and video services, etc. An exchange is deemed "unbundled" when at least one alternative operator installs its DSL equipment in the exchange and accesses the Orange local loop for the purpose of serving its own customers directly.

Development of unbundling (from day 1 to present)



Source: ARCEP.

As of 31 December 2013, 89.2% of existing lines were unbundled, which is 3% more than in 2012. This represents close to 7,600 unbundled exchanges out of the 15,800 in existence – each serving an average of 3,600 lines. Ten years after it was first introduced, the unbundling momentum continues apace, and has now made its way to smaller exchanges. This was especially true in 2013, with 1,100 additional exchanges unbundled – which is more than in 2011 and 2012 combined. Despite the fact that it involves increasingly

small exchanges (serving an average 1,100 lines in 2013) the ongoing steady pace of unbundling is contributing directly to making the market more competitive nationwide. This progress in LLU can be attributed to the investments being made by alternative operators and local authorities, the latter via public initiative networks (PIN).

1.3 Why backhaul networks matter

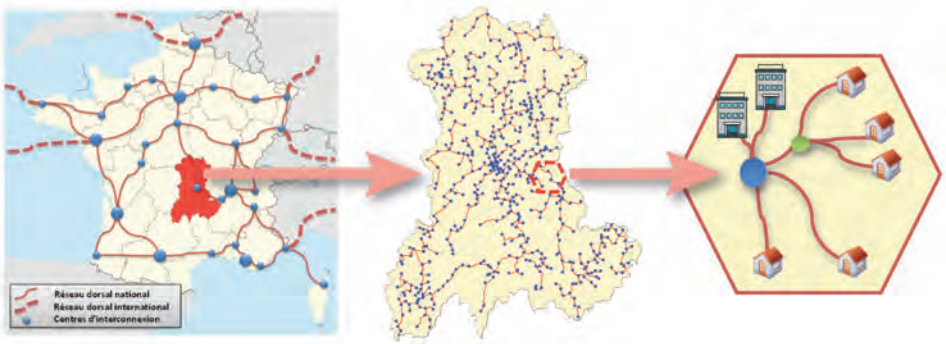
Definition

Electronic communications networks have a hierarchical structure that is broken down into three levels: the backbone or core network (the large optical fibre "motorways" that started being installed in the late 1980s), the backhaul network (intermediate) and the access network (local loop). It is crucial for the entire country to be fully covered by backhaul networks to be able to deliver robust, high-quality electronic communication services nationwide, in addition to being a key ingredient in the successful deployment of FttH and 4G networks in rural areas.

Orange owns the main backhaul network. It is completed by the 35,000 km of backhaul network that local authorities have deployed since 2004. Today, ARCEP estimates that the linear length of the backhaul network stands at 90,000 km, of which 70,000 km are optical fibre.

One of ARCEP's key areas of focus since 2011 has been to enable the transition to superfast broadband access in the whole of France, under the best possible conditions. An account of the progress being made in this area is given at each GRACO meeting. The review of market analyses, which began in 2013, also provided an opportunity to adjust and bring more clarity to the regulatory framework for backhaul.

The three network levels



Backbone network | Backhaul network | Access network

Technical details

The growing use of the high-speed internet meant that backhaul networks had to gradually adapt to be able to handle an ever-increasing amount of traffic. The development of TV over DSL services in particular, along with video on demand (VoD) products was made possible by the deployment of optical fibre backhaul networks. Today, close to two-thirds of all copper lines can deliver triple play bundles.

Optical fibre is now the most suitable and most future-proof technology – in terms of capacity and from an operational standpoint – for building backhaul networks. An optical fibre backhaul link makes it possible to achieve a throughput ranging from 1 Gbps to

several hundred Gbps (using the most advanced multiplexing technologies) whereas using copper cables for symmetrical links of n x 2 Mbps (with n parallel copper pairs) limits the backhaul network's bandwidth. These copper cables are currently employed in the Orange backhaul network only to connect to the smallest exchanges.

Increasingly dense fibre backhaul networks

As new optical fibre-to-the-home (FttH) local loops are being deployed in the largest cities in France, the demand for backhaul bandwidth is increasing rapidly. Demand is also increasing on 3G and 4G mobile networks. Today, there are around 3,000 exchanges, representing 2.4% of all lines in France, that do not have a fibre backhaul system. Upgrading these networks would make it possible to offer substantially faster connections to a greater number of people, along with new services (notably TV over DSL), in addition to expanding unbundling.

Market stakeholders continue to deploy an increasingly dense mesh of optical fibre backhaul networks, but these require massive investments. ARCEP has thus worked to ensure the best possible use of and ability to share existing infrastructure, to avoid useless and costly duplication.

The Authority thus began two new work programmes devoted to backhaul in 2012. The aim was, first, to improve access to existing fibre backhaul networks that are now saturated and, second, to explore targeted courses of actions for those rarer areas that are currently without a fibre backhaul system. This meant, on the one hand, making the utmost use of existing backhaul infrastructure, in particular thanks to the Orange "LFO" wholesale fibre backhaul solution and, on the other, creating new solutions that match the needs expressed by the various stakeholders as closely as possible, and particularly those attached to public initiative networks (PIN). Such is the case with the offer for accessing backhaul civil engineering infrastructure between exchanges, and the specific prior information offer for local authorities devoted to backhaul.

The discussions that took place between ARCEP, Orange, operators and local authorities made it possible to pinpoint several bottlenecks – the main ones being saturated LFO links, and the solution's inability to meet the needs of public initiative networks. This work resulted, first, in changes to the Orange LFO solution and, second, in the creation of an offer for accessing the civil engineering backhaul infrastructure between Orange exchanges, along with a specific solution for providing local authorities with prior information about backhaul.

• The Orange LFO fibre backhaul solution

First, Orange made changes to its LFO fibre backhaul solution in April 2013, in response to several requirements expressed by operators and local authorities. Orange has thus committed to granting at least 95% of operators' LFO requests, which translates into doubling its availability. To achieve this, the incumbent carrier will do the work needed to free up capacity on its network, whether through reengineering, using wavelength multiplexing for its own needs as a way to free up dark fibre or, in certain instances, by redeploying optical fibre.

Next, to extend unbundling to the smallest exchanges, Orange decreased the price of its LFO solution for exchanges of fewer than 1,150 lines. Having realised that the per-metre pricing scheme planned for the LFO solution could penalise certain regions, and the smallest exchanges – as they often have very long links – a maximum rate for links measuring more than 13 km has also been introduced for exchanges of fewer than 2,000 lines.

Lastly, the new version of the LFO solution is open to backhauling all traffic from the different wireline local loops.

- **Offer for accessing civil engineering infrastructure between exchanges**

Orange also created a solution for accessing civil engineering backhaul infrastructure between existing exchanges, which has been available since 1 April 2013, for the deployment of a fibre backhaul network to the exchange, by a private operator or on the initiative of a local authority, in the following instances:

- when Orange does not provide fibre backhaul for the exchange;
- or when Orange is unable to decongest its existing LFO fibre – which represents less than 5% of LFO requests nationwide.

Access is provided to this infrastructure at an attractive price, to be able to pool the use of existing backhaul infrastructures as much as possible, in tandem with the LFO dark fibre offer.

- **Providing prior information**

Lastly, aware of the central role that local authorities play in digital regional development, ARCEP identified a specific need for information on the status of backhaul networks. As a follow-through to this work, Orange has been providing local authorities with an offer of prior information on backhaul systems. This allows a local authority – either departmental or regional in scale – to obtain a status report on backhaul infrastructure that is available to use: available LFO optical fibre segments, and a route map of civil engineering infrastructure that can be used if the LFO is saturated or non-existent in their area.

All of these elements together help to stimulate backhaul network sharing, by using the Orange LFO solution, and to decrease the cost of deploying a backhaul network in those areas where this LFO offer is not available.

2. Local authorities' role in digital regional development

Local authorities can be involved in the electronic communications sector in three ways: by managing public property, by drafting a digital regional development strategy for their area, and by deploying public initiative networks.

In their role of manager of public property, local authorities act as facilitators for operators wanting access to public property and civil engineering infrastructure. This includes installing ducts, implementing geographical information systems, and establishing agreements for making infrastructure available to operators. With the deployment of FttH local loops, local authorities today are facilitating network drop point colocation for operators performing rollouts (such as FttH concentration points), and the installation of their civil engineering (which generally falls under the purview of municipalities, townships or inter-municipal bodies).

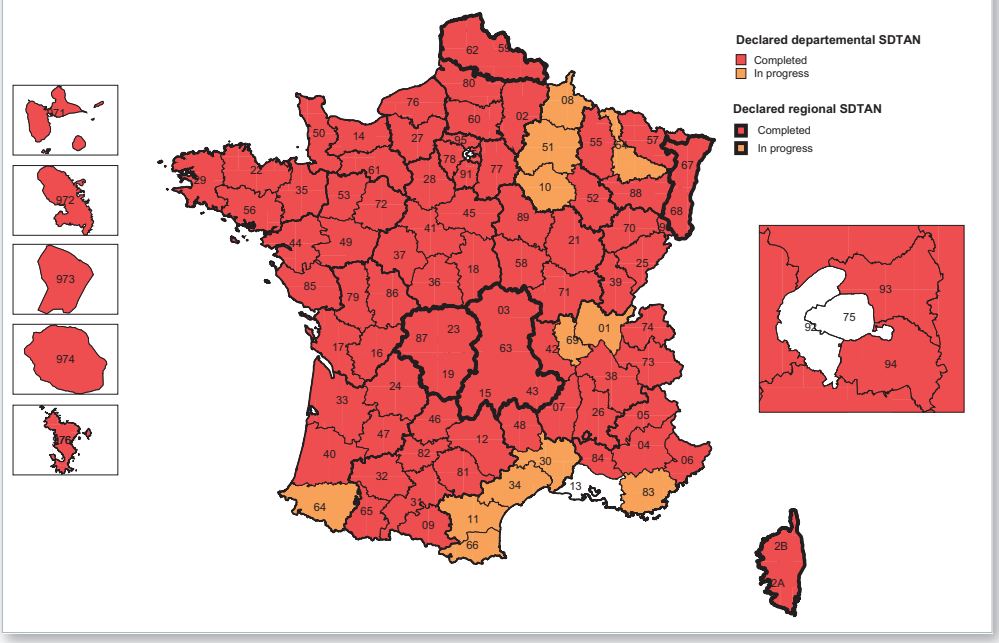
2.1. Consultation and implementing digital blueprints

In 2009, the law on bridging the digital divide, commonly referred to as the Pintat Act, gave departmental and regional local authorities the ability to draft a digital regional development blueprint, or SDTAN (schéma directeur territorial d'aménagement numérique)[2]. Local authorities are thus invited to inventory existing infrastructures and networks, and to lay out a development strategy for these networks (giving priority to superfast fixed and mobile systems) that ensures proper coordination with private investment. ARCEP is kept informed of these digital regional blueprints (their launch, their completion and any possible changes made along the way) and makes this information public through its website.

As of 1 April 2014, of the 98 departments with an SDTAN, 86 had fully realised their blueprint. A first summary of SDTAN digital regional development blueprints was published in late 2013, as part of a report on the work of the GRACO discussion forum between ARCEP, local authorities and operators.

2 - *Article L. 1425-2 of the Local authorities' general code, CGCT (Code général des collectivités territoriales)*

SDTAN declared to ARCEP as of 1 June 2014



Source: ARCEP.

What conclusions can be drawn?

- **The vast majority of SDTAN are departmental in scale**

Only 9 regions (of which four are overseas) currently have a digital blueprint. A strategic instrument for medium and long-term development, the purpose of an SDTAN is to enable local stakeholders to reach a consensus. Public policymakers are thus appropriating this instrument to map out the main regional development guidelines.

- **On the technological choices**

From a technological standpoint, the regions are taking different approaches to achieving the Government's goal of superfast broadband for all by 2022, and FttH for all further down the road. If a third of local authorities plan on ultimately achieving 100% fibre coverage in their area, the other two thirds have no such a target as yet. Many are opting to increase throughput on the existing copper network as an intermediate step, before the arrival full fibre coverage. As a result, close four out of five regional digital blueprints plan on using the Orange "PRM" sub-loop unbundling solution, which represents 800,000 lines over the next five years. Alternative technologies such as Wi-Fi and WiMAX are also being considered as interim solutions in 26 departments, representing a total 200,000 lines.

2.2. Public initiative networks' transition to superfast broadband

For close to three years now[3], local authorities have been authorised to deploy and operate electronic communications networks[4]. This means that local authorities and their joint associations can establish and operate infrastructure – and so engage in the business of carriers' carrier or wholesale operator – which they will make available to retail market operators providing services to end users. Local authorities in areas that are insufficiently served by private sector initiative are thus able to provide services directly to end users.

Local authorities' projects, which are commonly referred to as public-initiative networks, or PIN, must be submitted to ARCEP, "*at least two months before being put into effect*". In March 2014, ARCEP counted 393 public-initiative network projects in France. Nineteen of these are regional, 91 are departmental in scale (initiated either by the department, a joint association overseen by the department, or an association of electricity producers covering the entire department, etc.), 150 are managed by public establishments for cooperation between local authorities, or EPCI[5], and 119 are projects instigated by a municipality or township on its own. 150 projects cover more than 60,000 residents, and 168 cover more than 30,000 residents.

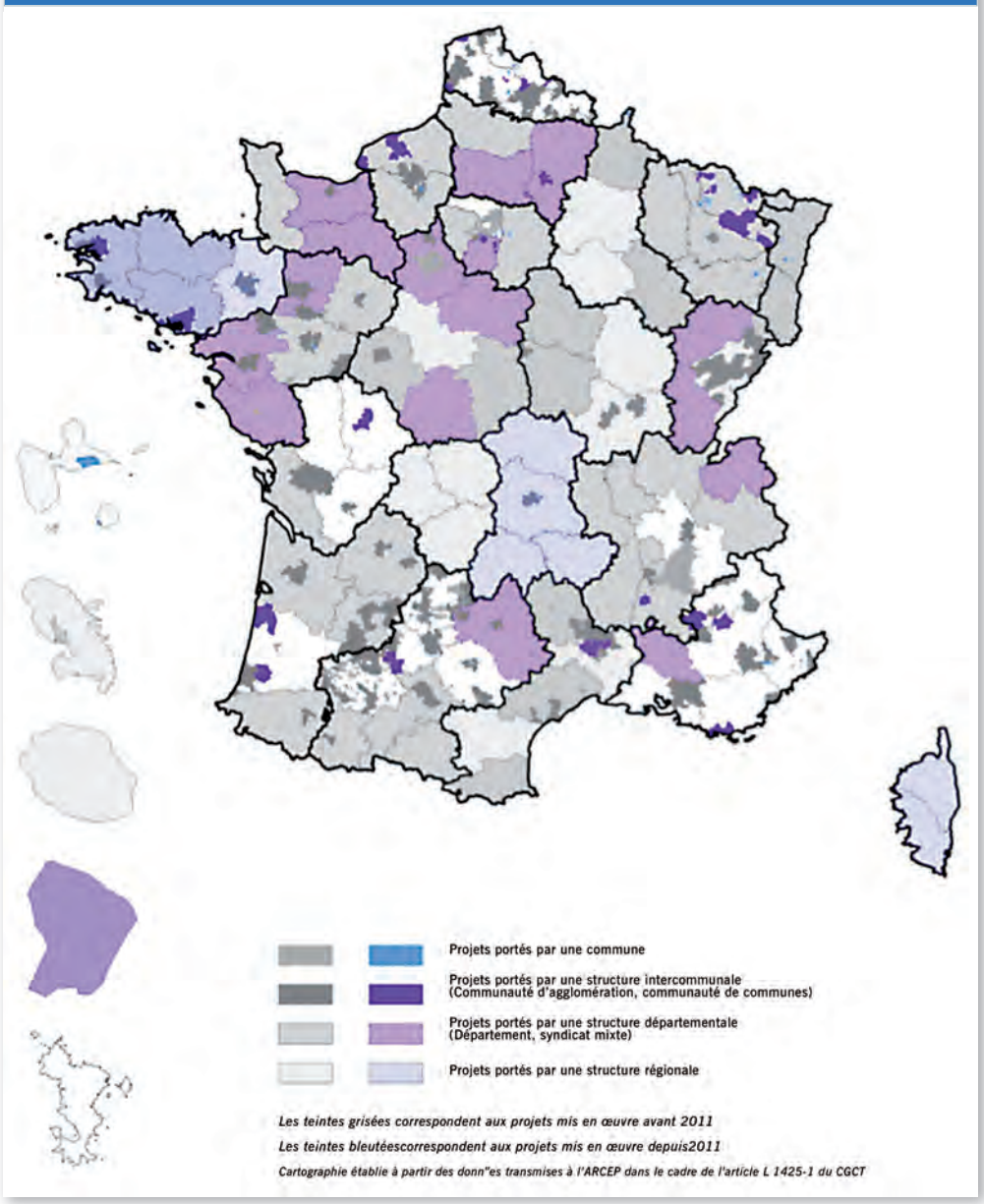
Thirty new projects got underway in 2013: two regional, 11 departmental, eight inter-municipal (as part of an EPCI) and nine which are municipal in scale. Public initiative networks are clearly making the transition to superfast broadband, as most of the projects begun since 2013 include a backhaul, FttH or sub-loop unbundling component. This last technology is due to be employed by more than half of the PIN recorded in 2013 (18 out of 30).

This trend of increasingly ubiquitous superfast access in local authorities' plans is consistent with the French government's policy since 2010 – whose core roadmap was confirmed in 2012 in the Superfast broadband in France plan. The plan includes financial aid for projects that are at least departmental in scale, through the *Fonds pour la société numérique* (FSN), or Digital society fund. The implementation of this support policy has had a direct impact on local authorities' projects. Of all of the declarations that ARCEP has received[6], it is department-wide projects whose numbers have increased the most over the past year (+ 15.19%). This trend will likely continue on into the coming months as, on 6 February 2014, 46 dossiers representing 56 departments were submitted to the FSN, requesting State financing.

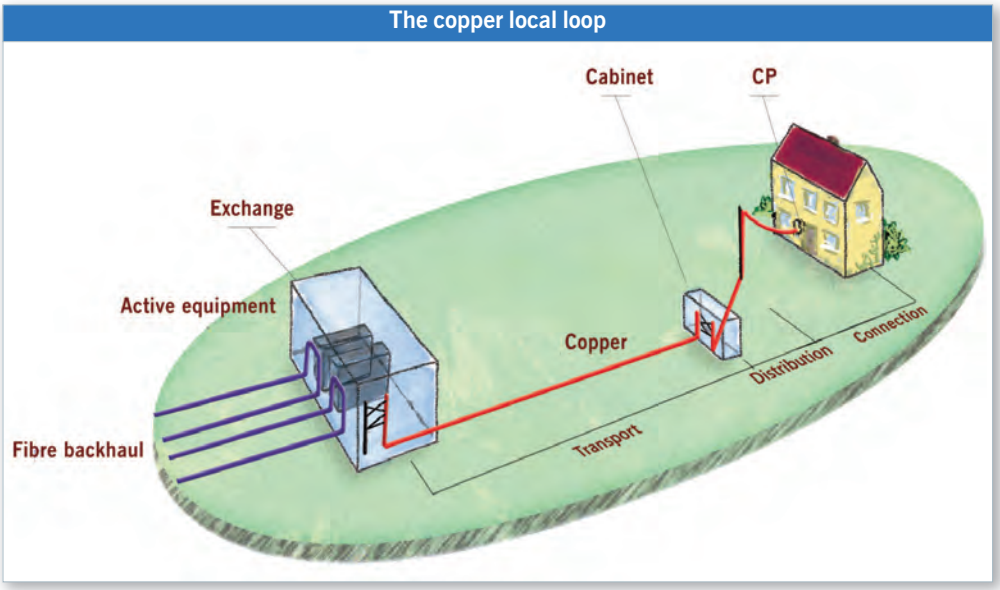
Lastly, as concerns the governance of future public initiative networks, a high percentage of local authorities have opted to create an open joint association (*syndicat mixte ouvert*) involving different types of public body to manage the superfast broadband PIN. This choice is often correlated with a rollout scheme that separates the network's construction (often through works contracts) and its operation (often in the form of a public service delegation or concession) through two distinct procedures: such is the case with 18 of the 42 SDTAN that have already chosen the setup for their future superfast broadband PIN.

3 - Law No. 2004-575, of 21 June 2004 on confidence in the digital economy
4 - Authorisation codified in CGCT Article L. 1425-1
5 - Which stands for Etablissements publics de coopération intercommunale
6 - In accordance with CGCT Article L. 1425-1

Map of PIN project initiators (February 2014)
PIN that have been registered with ARCEP in accordance with CGCT Article L. 1425-1



Source: ARCEP.



Source: ARCEP.

3. Upgrading existing networks

3.1 Increasing throughput via sub-loop unbundling

Increasing throughput on the Orange legacy copper network is a solution that currently makes it possible to satisfy, relatively quickly, demands coming from a number of regions where there are no plans for superfast optical fibre rollouts in the short or medium term. It has emerged as an intermediate path to superfast access, particularly in local authorities' digital regional development blueprints (SDTAN).

The aim of sub-loop unbundling is to increase users' connection speed. It can be done in one of two ways: single point injection or dual point injection.

Dual point injection has been possible since summer 2010 thanks to the Orange PRP (*Point de raccordement passif*) passive access point solution. It has elicited little interest, with only a single dual point injection cabinet having been installed in the whole of France thus far.

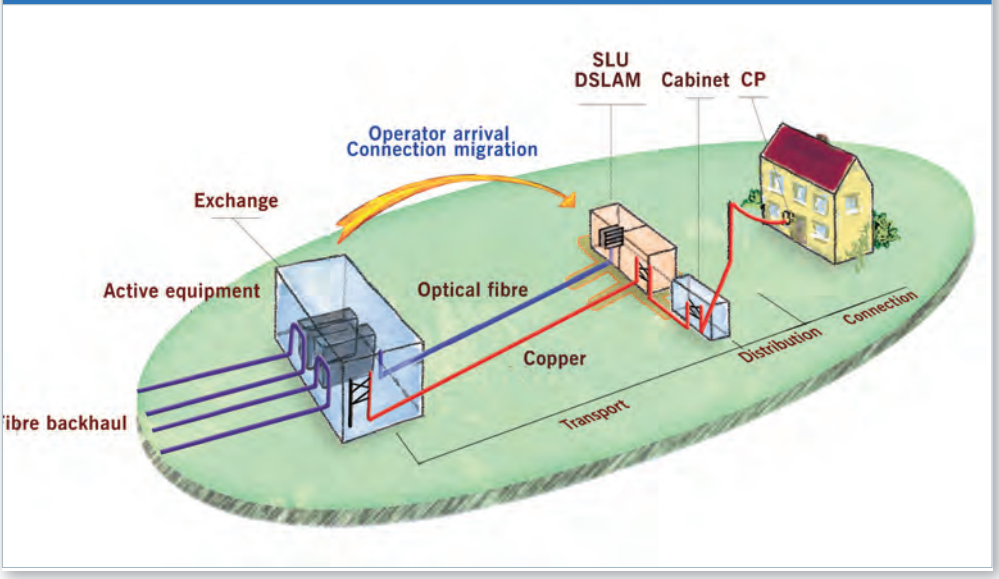
Single point injection, on the other hand, which is implemented using the Orange PRM (*Point de Raccordement Mutualisé*) shared access point solution, has been ordered to be used in a number of public initiative network projects.

■ Regulatory framework for single-point injection sub-loop unbundling

The single-point injection solution for increasing throughput by accessing the copper sub-loop consists of moving the DSL signal's injection point (i.e. operators' active equipment) further down the network to shorten the length of the copper lines and so increase customers' throughput. In more concrete terms, a second cabinet containing the alternative operator's equipment is installed adjacent to the existing neighbourhood cabinet7 (i.e. the copper network's flexibility points).

7 - *Cf. Glossary*

Re-engineering the copper local loop to increase throughput



Source : ARCEP.

Sub-loop unbundling (SLU) requires the Orange sub-loop to be re-engineered and involves, on the one hand, installing a new cabinet and moving equipment located in the old or original street cabinet, referred to as the NRA-O (*noeud de raccordement d'origine*), to the new SLU DSLAM, referred to as an "NRA-MED" (*noeud de raccordement d'abonnés de montée en débit*) and, on the other, connecting the original street cabinet and the SLU DSLAM via fibre and outfitting the new cabinet with a power supply.

The optical fibre link is typically deployed on civil engineering sections of the copper local loop between the original street cabinet and the SLU DSLAM – through an Orange civil engineering offer called "NRA-SR" (SR = street cabinet) – when both cabinets are already installed. Deployments on the NRA-SR section include the use of overhead systems when possible.

All of these operations require close coordination, first between the installing operators and Orange and, second, between Orange and LLU operators. Having a systematised sub-loop unbundling process makes this coordination easier, and has enabled a swift and uniform implementation of SLU projects nationwide.

The introduction of single point injection has had a direct impact on unbundled connections in the affected sub-loop unbundling service area, as each LLU operator is required to move its lines, either by continuing on with unbundling in the new sub-loop injection point (SLU DSLAM) or by subscribing to a bitstream solution[8].

In its market analysis Decision of 14 June 2011, ARCEP identified the competitive risks that could affect unbundling, and so established the method for re-engineering the local loop to smooth the way for LLU operators to install their equipment in the SLU DSLAMs. For operators, the operational and industrial terms and conditions for ordering LLU access on SLU DSLAMs will be the same as with local loop unbundling. Moreover, a compensation and incentive scheme has been added to the framework, to encourage LLU operators that are already present in the original or backhaul cabinet to install their equipment in SLU DSLAMs.

8 - *Cf. Glossary*

Subsequent to the adoption of the aforementioned market analysis decision, Orange published its PRM (Point de Raccordement Mutualisé) shared access point solution for single point injection sub-loop unbundling projects. This offer is closely regulated by ARCEP – which includes an obligation for Orange to charge cost-oriented prices.

■ "PRM" being monitored by the entire sector, under the aegis of ARCEP

• Supporting local authorities with their projects to increase connection speeds

The regulatory framework for accessing the sub-loop through single point injection provides local authorities with a systematised tool for furthering their digital regional development, while protecting competition in the marketplace.

In November 2012, ARCEP published a handbook for local authorities and elected officials on the implementation of sub-loop unbundling, to allow them to assess the benefits and limitations of this technical solution. This handbook details the prior analysis that local authorities need to perform as part of the decision-making process for sub-loop unbundling projects, and explains the different stages involved.

One of the steps in the planning stage that is detailed in the handbook consists of checking whether the targeted areas are technically eligible for sub-loop unbundling, and forecasting how such a scheme will affect users' throughput. This requires having access to information on the Orange copper network, which is obtained through the Orange prior information offer.
In addition, ARCEP has created a page on its website dedicated to the prior public consultations provided for in the framework governing the "PRM" offer, which are held at the request of local authorities.

In early 2014, 55 pubic consultations – held by municipalities, townships, communities of municipalities, departments and regions – had been published on the ARCEP website.

• Regular monitoring of wholesale offers

As with all of the Orange regulated wholesale offers, the "PRM" shared access point solution is subject to operational monitoring by a multilateral working group whose members include Orange, installing operators, local authority representatives and ARCEP. Its purpose is to identify the operational issues that have arisen in the field, and to find possible solutions. The working group also has an educational dimension, which is especially important during the offer's introductory phase.

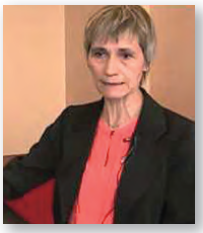
The first SLU DSLAMs were installed as part of the "PRM" offer in 2013. By the end of the year, close to 900 feasibility studies were commissioned, and 850 validated. At the same time, close to 500 SLU DSLAM were being installed in over 30 departments, and around 100 were in service. Alternative operators had placed close to 650 unbundling orders with Orange, on more than 400 of the SLU DSLAMs that are under construction or in service.

3.2 VDSL2

Unlike DSL technologies that have been deployed thus far in France, VDSL2 makes it possible under certain conditions to achieve a downstream throughput equal to or above 30 Mbps, which is the threshold for superfast broadband adopted by the European Commission. This substantial increase in throughput is nevertheless available only on shorter lines: beyond one kilometre, speeds will be the same as with ADSL2+. It also requires dedicated equipment be installed in the exchange, and for customers to have a compatible IP box. This technology could be an interesting solution in rural areas if deployed alongside sub-loop unbundling, although the more customers in a given service area are dispersed, the lower the number of lines that can benefit from the use of VDSL2.

Whether and how VDSL2 is deployed across the country will depend on operators' commercial strategies, but is also requires the permission of a committee of experts. Before a new technique is introduced into the copper local loop, it must be ascertained that it will not interfere with existing connections. To this end, ARCEP created an expert committee several years back to examine the introduction of all and any new technology onto the copper local loop.

Validating VDSL2: interview with Catherine Mancini, Chair of the expert committees on copper and fibre



The expert committee on copper systems – which is an independent committee whose members include operators, including Orange (owner of the copper network), equipment manufacturers and local authority representatives – issued an opinion on 26 April 2013 that supports the introduction of VDSL2 on the Orange copper local loop. What is VDSL 2? Under what configuration is it authorised? Ten years after LLU was first introduced in France (the decision dates back to April 2002), why is a committee of experts still necessary? What is the committee's role and what are its working methods? Committee chair Catherine Mancini, who also chairs the expert committee on fibre, which was created in 2009, lent herself to a series of questions in April 2013.

IInterview published in the ARCEP weekly newsletter, 26 April 2013

At this stage, and for technical reasons, the expert committee has confined its opinion to "direct supply" lines and lines attached to exchanges that were part of a network re-engineering scheme, which corresponds to around 20% of existing lines.

Subsequent to this opinion, Orange included VDSL2 technology in its reference offer, as a result of which it has thus been deployed in France since 1 October 2013. As of 31 December 2013, or only three months after it was first introduced, more than 2.3 million copper lines were capable of providing superfast access in VDSL2. Deployed chiefly in unbundled areas, this technology is an intermediate solution, while awaiting a complete FttH rollout.

3.3 Upgrading cable networks

Cable networks are capable of delivering telephone and internet access services thanks to an optical fibre core network, and by employing spectrum that is not being used for broadcasting television over the coaxial cable. Time-division multiplexing enables the available bandwidth to be shared between users located along the same branch, both upstream and downstream. Internet access speeds on these networks are typically

asymmetrical, with download speeds far exceeding upload speeds. This is by choice, as operators are able to configure how spectrum is allocated between upload and download throughput.

Upgrading cable networks consists in bringing optical fibre to the last metres of users' connections, and deploying new generation active equipment in cable company's network and optical node headends. Upgraded cable networks fall into two configurations:

- In ***FttLA (Fibre to the Last Amplifier)***[9] networks, fibre is pulled to the street or neighbourhood level, or even to the building ***FttB (Fibre to the Building)***, depending on the area. Here, each fibre ends in an optical node that converts the signal between the optical fibre portion located upstream, and the last metres of the connection in coaxial cable. An optical node thus serves around 100 households or business premises. Download speeds can exceed 100 Mbps, and upload speeds are typically around 10 Mbps if the latest generation of active equipment (**EuroDOCSIS 3.0**)[10] sont installés et si le nœud optique est positionné suffisamment bas dans le réseau.

- In **hybrid fibre-coax networks** (HFC), the area covered by each optical node is larger than with FttLA networks (around 500 to 1,000 households or business premises), and amplifiers are still used in the coaxial cable last mile. The throughput available on this type of network is considerably lower, with download speeds of around 30 Mbps and upstream speeds of around 1 Mbps.

When launching its IPO on 8 November 2013, Numericable announced its network upgrade plans. The company stated that it intended to upgrade its 3.4 million lines that are currently able to deliver a throughput of 30 Mbps, to make them capable of supplying a throughput equal to or above 100 Mbps by the end of 2016, in addition to the 5.2 million of its lines that were already eligible for such a performance at the end of 2013.

Cable companies are also able to provide their services over fibre-to-the-home networks thanks to Radio Frequency over Glass (RFoG) technology. Using RFoG optical network units (R-ONU) that convert traffic for delivery over the in-home network, this technology makes it possible to replace coaxial cable with a single fibre to transmit the signals.

Cable operators are thus in a position to market FttH networks via passive or active access, without having to reconfigure their overall engineering or the choice of terminal equipment, while maintaining the singular ability to broadcast[11] TV channels.

3.4 Other alternatives to copper: WLL and satellite

Wireline solutions are not always available to deliver broadband or superfast broadband access. In some areas, and isolated rural areas in particular, wireless solutions may prove particularly suitable from both a technical and economic standpoint.

The wireless local loop

The wireless local loop (WLL) is used to provide high-speed wireless internet access in rural areas in particular, when wireline solutions such as DSL are not available. The technologies employed, commonly referred to as WiMAX[12], make it possible to supply high-speed access with a peak theoretical throughput of several dozen Mbps downstream and upstream, over a potential distance of more than 10 kilometres.

9 - *Cf. Glossary*
10 - *Cf. Glossary*
11 - *On cable networks, TV channels are all transmitted in parallel in single stream broadcast to all of the customers served by the same branch of the network. This allows users to enjoy simultaneous access to different applications with no conflict over bandwidth use, and without affecting the quality of their internet access, regardless of how many users are watching television at any given moment.*
12 - *Cf. Glossary*

The wireless local loop (WLL) is used to provide high-speed wireless internet access in rural areas in particular, when wireline solutions such as DSL are not available. The technologies employed, commonly referred to as WiMAX12, make it possible to supply high-speed access with a peak theoretical throughput of several dozen Mbps downstream and upstream, over a potential distance of more than 10 kilometres.

The actual range of each tower station depends on its own features, but also on the transmission environment (relief, vegetation, etc.). These peak speeds and this theoretical range can be achieved under optimum conditions that are difficult to achieve in practice, which means that users' actual throughput will be below those headline speeds. Added to which, the actual bandwidth needs to be divided between the different users sharing the same cell.

WiMAX technology nevertheless makes it possible to provide a high enough throughput for internet access, in addition to enabling VoIP. However, it does not yet guarantee high enough bitrates at all times for all users in the service area, regardless of their location, to allow an ISP to offer TV services (hence triple play bundles) with a sufficiently high and consistent quality. Upcoming technological developments should nevertheless make it possible to increase theoretical throughputs.

Today, WiMAX services are authorised in the 3.5 GHz band. The 2.6 GHz band is also used for these networks, but this will no longer be the case in 2017.

Satellite technologies

Once used primarily for TV broadcasting, for several years now satellite technologies have also made it possible to provide internet access services.

Satellite can be a technically and economically attractive solution for covering broadband dead zones, as the service can be made available nationwide. Moreover, in those areas where connection speeds are below 2 Mbps, satellite networks make it possible to supply faster connections, and can even be considered as a way to increase access speeds for an entire region. However, because these solutions have a set available bandwidth capacity that cannot be expanded (70 Gbps for KA-SAT in 2010, distributed over 84 spot beams with a 250 km-wide connectivity area, including 10 spot beams for France), satellite operators tend to cap users' data allowance.

New generation satellites, such as Eutelsat's KA-SAT and the ASTRA 2F from SES Astra, have much larger dedicated capacity than their predecessors, and now enable ISPs selling high-speed internet access via satellite to market higher quality plans, offering connection speeds that are comparable to those typically supplied by fixed DSL networks. To give an example, it is now possible to offer a satellite broadband service running at up to 18 Mbps with a data allowance of 50 Gb, and even a triple play bundle.

4. The superfast broadband market

4.1 A snapshot in figures

■ Background

The surge in internet traffic, the development of media content and the emergence of new services that are consumed either individually or collectively will drive demand – from consumers, government services and businesses – for ultra-fast broadband solutions over optical fibre networks in the coming years. Deploying new generation superfast access systems across the whole of France thus represents a major development challenge that is at once social and economic. The *Superfast broadband in France plan (Plan France très haut débit)* has thus set a target of full national coverage by 2020. The target set for 2020 by the European Commission's Digital Agenda is for the entire EU to be covered by broadband above 30 Mbps, and for half of all households to be subscribing to a broadband plan above 100 Mbps.

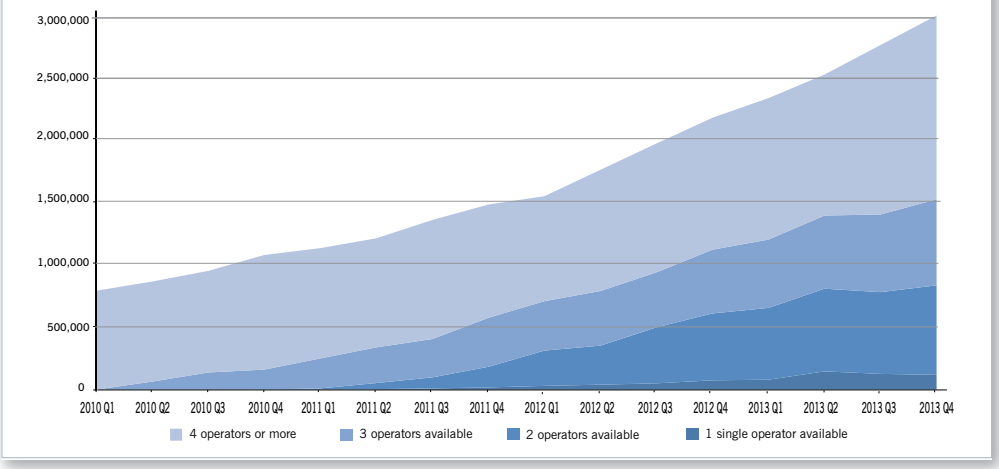
For several years now, operators have been engaged in large-scale fibre to the home (FttH) network rollouts in the country's biggest cities. Other technologies will also supply superfast access, notably cable networks (cf. 3.3) that are currently being upgraded. These upgrades involve deploying fibre in the horizontal portion of the networks while keeping coaxial cable13 in the last metres. Upgrades are also being made to the legacy copper network that will enable the introduction of technologies such as VDSL2[14].

Households eligible for FttH

In 2013, the number of premises passed[15] for FttH increased by 38%: up to 2,977,000 by year-end, and more than 50% of these premises are now passed by at least two operators, thanks to the use of a passive access solution at the concentration point.

At the end of 2012, 80% of these eligible households were in municipalities located in very high-density areas[16]. Deployments outside of very high-density areas are the result of public-initiative network projects and, since summer 2011, large-scale rollouts by private sector operators using their own resources.

Households eligible for FttH: number of operators present through a passive solution at the concentration point



Source: ARCEP.

Alongside private sector operators' rollout projects, local authorities are authorised to build and operate FttH infrastructure and networks in their area[17]. As of 31 December 2013, the number of lines eligible to provide FttH that were installed as part of a public initiative network stood at 484,000, or 16.3% of all FttH-capable lines in France.

This progress in FttH rollouts has gone hand in hand with the **heavy use of existing civil engineering, and particularly Orange infrastructure**: the linear length of civil engineering leased from the incumbent carrier increased tremendously over the course of the year, going from 8,990 km to 13,165 km, which translates into a 46% increase compared to 2012. Aside from

13 - FttH (fibre-to-the-home) consists of deploying optical fibre from end to end, up to the customer's premises, whereas FttLA (fibre-to-the-last-amplifier) and FttB (fibre-to-the-building) systems deployed by cable companies involve replacing a portion of the coaxial cable located on public land with optical fibre, and running up to the last metres or last mile of the connection (foot of the building, street or neighbourhood, depending on the area) which remain in coaxial cable.
14 - Cf. Glossary
15 - ARCEP considers as eligible or passed for FttH, those homes that require only a last metre connection from the optical branching unit for the home's occupant to have access to an operator's FttH service. At least one operator must have connected the concentration point to the optical branching unit where it activates its connections..
16 - In its Decision No. 2013-1475 of 10 December 2013, ARCEP set the list of the 106 municipalities that constitute very high-density areas .
17 - Cf. p. 75-76

Paris[18], the linear length of optical fibre that Orange has deployed in its civil engineering infrastructures is comparable to what it has leased to other operators. The alternative operator that has leased the most civil engineering infrastructure from the incumbent carrier has used it to deploy between 7,000 and 8,000 km of optical fibre.

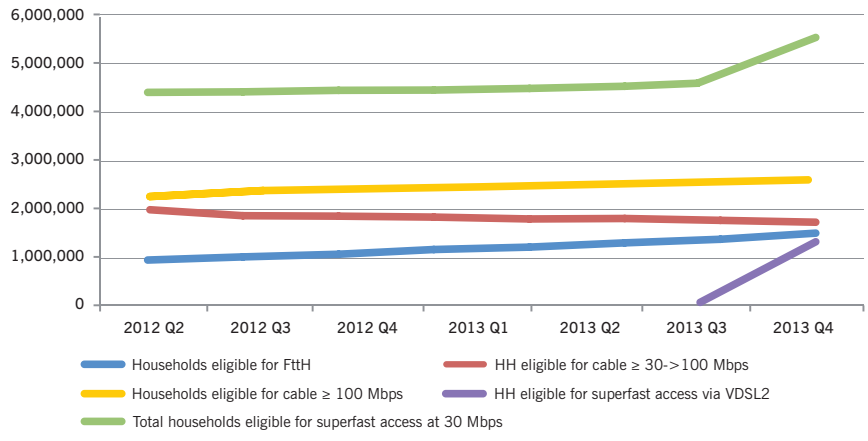
Homes eligible for FTTLA fibre-coax access

Meanwhile cable networks, and particularly the Numericable system, now covers around 5,179,000 homes with ultra-fast broadband, using an optical fibre network with coaxial cable in the last metres, providing connection speeds of over 100 Mbps. Some 3,397,000 homes are also covered by a cable network capable of achieving a throughput of between 30 Mbps and 100 Mbps. Fifty nine percent of these homes are located in a very high-density area. Several operators employ the Numericable network via an active solution.

Households eligible for VDSL2

Lastly, the process of upgrading exchanges with DSLAMs that are compatible with VDSL2 technology made 2,360,000 households eligible for superfast access via the copper local loop. Worth noting is that more than 1.8 million of the households now eligible for VDSL2 previously had no superfast access product available in their area.

Households eligible for superfast access, by technology



Source : ARCEP.

Total number of eligible lines in France

At the end of 2013, then, 11 million homes were eligible to receive superfast broadband – with some having access to a choice of two solutions, one supplied over an upgraded cable system and the other via FttH or the copper network.

4.2 Putting the finishing touches to the regulatory framework

The Law on modernising the economy of 4 August 2008 sets the legal framework for regulating the last metres of fibre networks. It establishes the principle of having operators share the last metres of the networks, and gives ARCEP the responsibility of implementing the network sharing scheme.

18 - Excluding the Paris area makes sense given that alternative operators use primarily the city's sewage infrastructure and not Orange civil engineering to deploy their networks there.

ARCEP has adopted a set of regulations (decisions and recommendations) since then on FttH network rollouts:

- 22 December 2009, Decision No. 2009-1006 on the terms governing access to superfast optical fibre lines, and instances where the concentration point can be located on private property (very high-density areas);
- 23 December 2009, a recommendation on the methods for accessing optical fibre superfast electronic communications lines;
- 14 December 2010, Decision No. 2010-1312 on fibre-to-the-home rollouts nationwide, outside of very high-density areas;
- 14 June 2011, a recommendation on the terms of accessing superfast optical fibre lines for certain buildings in very high-density areas, notably those with fewer than 12 residential or business premises;
- 10 December 2013, Decision No. 2013-1475 amending the list of very high density areas established in 2009;
- 21 January 2014, a recommendation (completing the one issued in June 2011) on the terms for accessing FttH lines for buildings in high density areas with fewer than 12 residential or business premises, and located outside the low-density pockets.

a) Change in the boundaries of very high-density areas

The Decision of 10 December 2013 increases resource pooling in 43 municipalities (corresponding to 547,000 households) that were initially designated as being part of high density areas and, on the flipside, adds the city of Poitiers to the list of very high density areas. By strengthening resource pooling, this amendment will help facilitate rollouts in the areas concerned, and provide residential and business customers with a wider selection of services to choose from. ARCEP thus took into consideration the rollouts that operators have performed since 2009, and the technical and financial conditions under which operators are performing their rollouts. This decision, which was submitted to a public consultation that ran from 21 October to 18 November 2013, was published in the *Journal officiel de la République française* on 26 January 2014. **The number very high density areas has thus decreased from 148 municipalities (representing around 6 million households) to 106 municipalities (or around 5.5 million households), which represent fewer than 17% of all households in France.**

In late 2013, ARCEP held a public consultation on the terms for accessing FttH lines for small buildings in high density areas with fewer than 12 residential or business premises, and located outside the low-density pockets – defined in the ARCEP recommendation of June 2011. **Following this consultation, a recommendation adopted on 21 January 2014 seeks to enable coverage for all types of building, regardless of their size or location.** ARCEP recommends (barring special cases) installing concentration points of 100 single-fibre lines for buildings in these areas that contain fewer than 12 residential or business premises, and which are not in a low-density pocket.

In addition, to optimise deployments and enable a complete and consistent mesh of coverage nationwide, ARCEP recommends introducing a system of prior consultation between stakeholders, including the interested local authorities. Among other things, this should make it possible to avoid unnecessary duplication of street cabinets, thanks to an increase in resource pooling for rollout schemes.

The adoption of these two texts puts the finishing touches to the regulatory framework governing FttH network rollouts across the whole of France (see table below).

Very high-density areas		Lower density areas
Outside low-density pockets	Inside low-density pockets	
For buildings with at least residential or business units or laccessible through a visitable sanitation network: multi-fibre concentration point at the building entry point **3.2 million premises**	Concentration point of 300 single fibre lines, regardless of the size of the building **0.8 million premises**	Concentration point of 1,000 single fibre lines, regardless of the size of the building Exception: a concentration point of 300 lines if the backhaul portion of network is shared **27,7 millions de logements**
For other buildings (i.e. fewer than 12 units and not accessible via visitable sewer): - general rule: CP of 100 single fibre lines (cabinet) - special cases (isolated buildings): multi-fibre concentration point (manhole, façade, terminal) **1.5 million premises**		

Source: ARCEP

b) Work on pricing access to shared optical fibre local loops

There was a significant increase in shared fibre-to-the-home network rollouts in lower density areas in France in 2013. The pace of these deployments is expected to accelerate in the coming years and, given the number of networks that have already been deployed or are under construction, the sale of wholesale offers that enable network sharing is also expected to undergo substantial development. Because the co-financed section of the network is much larger in more sparsely populated areas than in very high density ones, wholesale prices represent a much greater financial issue. This has led the stakeholders in these areas who are involved in building, financing or co-financing shared optical fibre local loops, to question the specific methods used to price the different passive wholesale offers that current regulation requires.

The future development of optical fibre networks, and the successful sale of access products on a large scale will depend in particular on having wholesale and retail markets that are economically and technically homogenous nationwide. Achieving homogeneous pricing schemes is part of the "*regional equality and solidarity*" objective that is a central tenet of the Superfast broadband in France plan.

It also meets European Union guidelines on State aid in support of the rapid deployment of broadband networks: these guidelines lay out the principles of benchmarking, to be able to compare the wholesale rates charged for networks receiving public monies and those relying solely on private initiative. This homogeneity is not guaranteed, however, since, contrary to the copper local loop, a wide variety of public and private sector undertakings are involved in deploying optical local loops.

It is within this environment that a number of parties (both operators and local authorities involved in fibre network rollouts) expressed to ARCEP a need for more clarity on the mechanisms for determining wholesale tariffs provided for under the regulatory framework. This increased clarity will in turn allow them to establish a more accurate business plan:

- by having the primary investors deploying the networks take the commercial risks, and the profitability outlook attached to the creation and wholesale operation of these networks into account when setting their pricing models;
- by stimulating the sale of network products through

the supply of long-term guarantees that all operators will be given fair and reasonable terms of access.

To tackle these issues, ARCEP devoted itself in 2013, first, to the mechanisms used to define wholesale tariffs for accessing shared optical fibre local loops outside of very high density areas and, second, to implementing an accounting system for the costs and revenue tied to the deployment and operation of these networks.

- The aim of the first component of this work was to ensure that all market players employ consistent and streamlined pricing methods, by establishing a generic pricing model for accessing FttH networks. This model, which was submitted to consultation in May 2014, lists several properties that are recommended to be included in price modelling exercises for the different wholesale offers. It thus helps establish a reference method that is consistent with the principles of reasonable, objective, relevant, non-discriminatory and transparent prices set by ARCEP decisions.
- The aim of the second component was to define accounting specifications that enable an accurate assessment of the investments that have been made, and of the operating costs shouldered by the different undertakings outside of very high density areas, in particular to ensure reliable input for pricing models.

4.3 Systemising FttH network rollouts

a) Multilateral efforts to facilitate FttX rollouts in Orange civil engineering infrastructure

Now that the learning stage for the processes that make up the Orange reference offer for accessing civil engineering infrastructure is behind them, operators have begun to place a large number of orders, which is laying the groundwork for systematising their rollouts. Multilateral efforts between operators and Orange, conducted under the aegis of ARCEP, have led to a series of improvements to the reference offer which, in turn, have further facilitated the deployment of vast and increasingly dense optical fibre networks in the most populated parts of France.

A first simplification of the operational processes that make up the reference offer occurred in March 2013. In the new version of the offer, Orange proposed simpler "streamlined" order processes, the aim being to give operators more freedom and autonomy in their rollouts (simplified *ex ante* documentation), in exchange for increased *ex post* control through the completion report, and taking greater responsibility when the work does not comply with specifications.

In addition to these simplified orders for the business customer connections (the Orange "RCA" offer, which stands for *raccordement de clients d'affaires*), network element connection (the Orange "REDR" offer, which stands for *raccordement d'éléments de réseaux*) and FttH components, this new reference offer aims to satisfy several of the needs that operators had expressed:

- the ability to install cables as part of a pre-deployment while awaiting the authorising signature to connect the customer, as part of a business customer connection contract (in business parks, for instance);
- increasing the size of an order, with guaranteed turnaround times for RCA and REDR contracts: all operators can now place up to 100 orders a month, per department;
- the ability to connect Wi-Fi or WiMAX antennae with the Orange "GC REDR" offer (civil engineering infrastructure for network element connection)..

At ARCEP's request, the reference offer was also clarified to allow operators to order connections in multiple service areas for a given exchange.

Moreover, in summer 2013, the reference offer's main client operators took part in an experiment with a view to simplifying the rules governing sub-enclosure[19] in the Orange underground civil engineering infrastructure.

19 - Sub-enclosure involves enveloping the cable with a plastic or cloth jacket to allow each operator to have a dedicated space for its deployments in Orange ducts. This rule results from the principle of network separation, which aims to simplify maintenance operations and limit the risks of damaging the networks.

Several (copper or optical fibre) pulling and installation operations were carried out in occupied ducts, with no prior enclosure of the optical fibre networks belonging to all of the experiment's participants. The aim of the operation was to obtain a precise analysis of the impact that (copper or optical fibre) pulling and installation operations would have on the cables that have already been installed in the infrastructures. Each of the operators thus monitored the performance fluctuations of the optical fibre in their network in real time, before, during and after pulling and installation operations. At the end of the experiment, operators observed no damage to their optical fibre cables, and no weakening of the optical structure. As a result, in November 2013 Orange proposed a simplification of the sub-enclosure rules in its reference offer.

b) The work of the expert committee on fibre

The expert committee on fibre to the home (FttH) is an independent working group, instituted by ARCEP and devoted to examining the technical requirements to be followed when deploying FttH networks. Chaired by an independent expert, Catherine Mancini, the committee is composed of some forty experts from the sector, including telecom carriers, equipment manufacturers and representatives of local authorities.

To help improve the technical harmonisation of FttH networks, the committee has been working since February 2013 on **establishing recommended functional and technical specifications for FttH network rollouts outside of very high density areas in France**. The aim of these specifications is to future-proof investments in optical fibre networks by ensuring that the deployed infrastructure:

- can be used by retail market operators;
- is long-lasting, guaranteeing that it will hold up over time and be able to handle a growing number of FttH users – up to a penetration rate that it as at least equal to the current use of the legacy copper network;
- is built and maintained under economically reasonable conditions.

The compendium of specifications drafted by the committee includes:

- recommendations on provisioning for the different segments of a shared fibre to the home network, taking into consideration the various types of locale and user that will potentially employ the network;
- technical recommendations on the different functional nodes (OLT, concentration point, ONU, etc.) that make it possible for an FttH network to be shared;
- further general recommendations to help ensure the network is used efficiently by retail market operators.

The first version of the compendium was published in October 2013. This technical harmonisation must nevertheless seek to protect the ability to innovate, and so make optimal use of the system over the long term. FttH networks are still new, and the compendium will evolve over time.

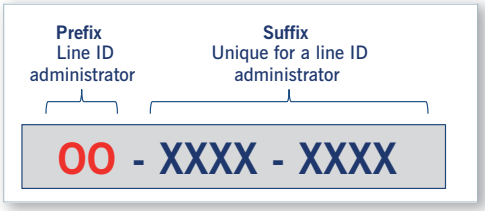
The technical harmonisation of optical fibre networks is also the focus of working groups in the *Objectif Fibre*[20] platform, in which ARCEP departments are active participants. After publishing a handbook on new buildings in October 2012, *Objectif Fibre* repeated the exercise for new and renovated detached houses. Having contractors and installers follow these best practices will make it possible to ensure that operators can integrate and operate resulting infrastructure efficiently.

c) ARCEP recommendation on standardised line identification

For FttH network rollouts to become increasingly systematised, one key stage will involve assigning each line an identifier that can be used whenever work is performed on the line, and especially when service orders are placed, to facilitate communications between consumers and their service provider, but also between service providers and building operators. This identifier, which will be the same nationwide, needs to remain consistent over time and be accessible to both customers and technicians performing service calls.

20 - Cf. Glossary

On 25 April 2013, ARCEP published a recommendation to encourage all operators to adopt this type of practice. From a concrete standpoint, the recommendation is for a unique identifier with a standardised 10-character format to be assigned to each line by a line ID administrator – which in most cases will be the building operator that installed the network. This identifier will be displayed on the optical network unit, which will make it easy for the customer, and technicians when necessary, to locate.



To this end, ARCEP has offered to keep an up-to-date list of two-character codes associated with each line ID administrator: i.e. of each building operator, at this stage. This list, along with the methods for registering identification numbers, are available on the ARCEP website.

d) Preparatory work on a symmetrical decision on operational processes

In 2013, ARCEP worked on preparing a draft decision on the operational processes of network sharing. As the sale of FttH networks is accelerating, it does indeed appear necessary to have clear and precise definition of the operational processes involved (exchanging information on line eligibility, ordering a line, after-sales service, etc.) to enable operators' information systems to develop and be implemented in a standardised fashion. The main task is to strengthen standardisation by formalising the best practices that were established, in large part, during the multilateral work done with operators, and in concert with the *Interop' Fibre* group.

This work consolidates the regulatory framework, and supports stakeholders in their efforts to systematise rollouts and their sales and marketing practices, to meet the challenge of a swift and large-scale transition to superfast broadband in France.

4.4 Forward-looking talks on FttDP

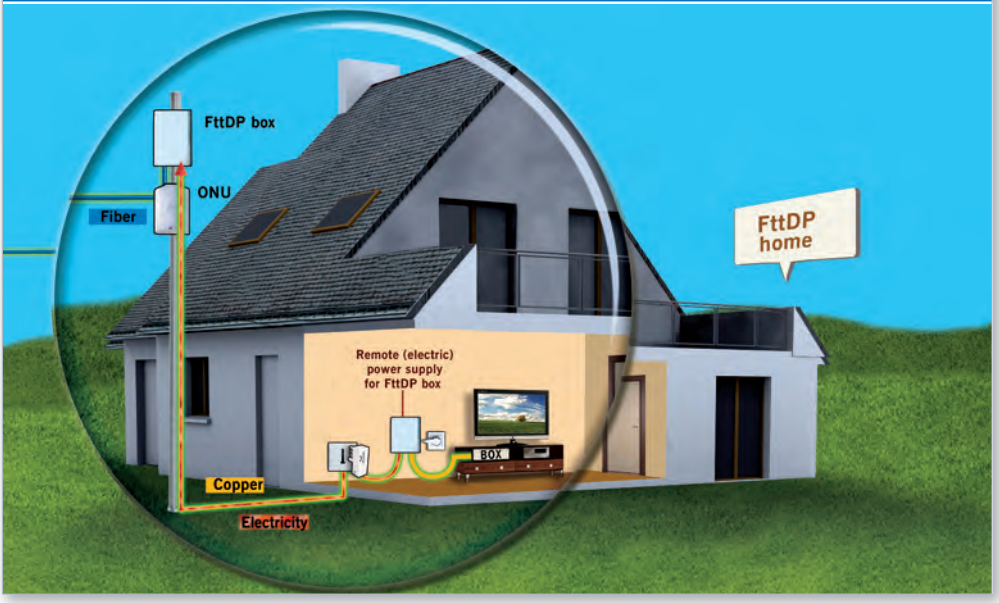
Fibre to the Distribution Point (FttDP) is a superfast network architecture that involves deploying optical fibre to a location close to customer premises and, unlike Fibre to the Home (FttH) systems, **reuses existing copper or coaxial cables in the last drop, to connect customer premises to the fibre network**. A network termination unit connects the fibre to the copper or coaxial line that delivers services to customers over the last few metres.

As it looks to the future, and aware that the FttDP architecture raises a number of questions – particularly on the maturity of technical solutions and their compatibility with the situation in France – ARCEP elected to create a working group that brought together operators, local authority associations and the concerned government departments.

The working group met on three occasions in the second half of 2013, with ARCEP Board members, Philippe Distler and Pierre-Jean Benghozi, in attendance. The Authority submitted a summary of the group's discussions to a public consultation that ran from 7 February to 28 April 2014. Discussions focused in particular on the configuration operators want to see for the connection point between fibre and copper systems, and the division of labour between building operators and retail market providers when installing this solution. Additional work, and particularly trials in real-world situations still need to be performed to assess the feasibility of deploying FttDP, and its economic equation. The greatest consensus today is the possibility of **deploying FttDP as part of an ongoing FttH rollout, to remedy transitory problems in installing the final metres of a fibre connection as they arise**, rather than use it as a large-scale means of upgrading the copper local loop. Viewed from this angle, FttDP could be a way of accelerating copper network users' migration to superfast optical fibre systems.

At the same time, the committee of experts on the copper local loop21 included an examination of FttDP in its work programme, to define the technical conditions that will enabled FttDP to cohabitate with the technologies that are already being used in the local loop. The target is for this work to culminate in real-world trials in the second half of 2014.

Detailed view of an indoor FttDP installation



Source: ARCEP.

5. Broadband and superfast broadband for enterprises

5.1 ARCEP monitors the enterprise market

To equip itself with the capability to keep close track of the enterprise market, and address all of the issues that businesses encounter, ARCEP created an "enterprise division" in 2010. With ties to all ARCEP departments, the mandate for this specialised and multidisciplinary team is to track developments in non-residential wholesale and retail markets, to ensure that the particular features of these markets are taken into account in the work being done by ARCEP, while helping to establish consistent and effective regulation.

The enterprise division is dedicated to non-residential issues, including analysis of the capacity services market, and the technical, economic and regulatory ties between shared optical fibre local loops[22] and dedicated optical fibre local loops[23].

21 - The committee of experts on the copper local loop is an independent working group, instituted by ARCEP, whose task is to issue an opinion on new technologies slated for introduction in the copper local loop.
22 - Cf. Glossary
23 - Cf. Glossary

5.2 Dedicated analysis of the enterprise market

For the first time, in 2013[24], ARCEP submitted its overall view of wholesale and retail fixed access services for enterprises to consultation, and began a joint analysis of markets 4 (wholesale physical network infrastructure access, including shared or fully unbundled access, at a fixed location), 5 (non-physical or virtual network access including bitstream access at a fixed location) and 6 (capacity services).

In the draft review of its analysis decisions for markets 4, 5 and 6, ARCEP was committed to grouping wholesale active products carrying QoS guarantees, which correspond to the specific needs of the non-residential clientele, into market 6. In their responses to the public consultation held on the analysis in late 2013, all of the stakeholders welcomed this approach.

Proposed changes that are specific to the enterprise market related in particular to:

- partial and progressive deregulation of bitstream offers on the copper network, in an area where competition is well established;
- gradual relaxation of regulation of bitstream offers on dedicated optical fibre, in an area with effective facilities-based competition;
- the introduction of new throughput classes, notably above 100 Mbps, in Orange bitstream offers on dedicated optical fibre;
- providing support for the technological transition to Ethernet on MPLS.

5.3 Operational work

At the national level

ARCEP meets on a regular basis with national operators within multilateral working groups, as part of ongoing efforts to improve existing offers.

In 2013 these efforts were devoted to:

- protecting access: in the enterprise market, connections have traditionally been rebuilt by the incoming operator, parallel to the outgoing operators' connections. The new process makes it possible to keep the existing connection while limiting downtime;
- quality of service: the incumbent carrier must provide a sufficiently high quality of service in the wholesale market so that alternative operators can provide a sufficiently high quality of service in the retail market;
- fixed number portability: operators must now provide non-residential customers with all of the information they need to change operators. In addition, if the contract ends before the number portability deadline, the old operator must continue to provide its services up to the portability deadline.

At the European level

In its draft revised recommendation on relevant markets, published on 24 January 2014, the European Commission plans on creating a "high-quality access" market to support the technological development of specific offers aimed at enterprises. It was with this very goal in mind that ARCEP decided in 2013 to synchronise its analysis of markets 4, 5 and 6, to address all of the questions pertaining to the fixed access market for enterprises, simultaneously.

Moreover, the Body of European Regulators for Electronic Communications (BEREC) has a mandate to contribute to the smooth running of the internal electronic communications networks and services market, notably by disseminating best practices between Europe's national regulatory authorities (NRA). In 2013, ARCEP proposed and was authorised to create workshop on the liquidity of enterprise markets, of which alternative operators have a structurally smaller share than they do of consumer markets. Hosted by ARCEP, these workshops are part of the BEREC work programme for 2014. The objective is for each NRA to disseminate concrete and operational initiatives in

24 - Subsequent to Decision No. 2010-0402 on prolonging the analysis decision on the capacity services market that is currently in force

Europe that have proven efficient at the national level, to alleviate constraints and improve the conditions for non-residential customers wanting to switch operators.

5.4 Local authorities and businesses

Business are a key source of focus for local authorities and a vital ingredient in the attractiveness of a region, as they help to sustain existing commercial activities over time and to attract new ones.

One of the central thrusts of the Superfast broadband in France plan, which launched in March 2013[25], thus concerns serving and connecting top priority buildings, both businesses and public services.

Aware of the economic impact that businesses represent, local authorities began deploying public initiative networks (PIN) back in 2004 to provide enterprises, business districts and business parks with broadband and later superfast broadband access. As a result, at the end of 2013, 81 PIN projects (each covering a population of more than 30,000) included a component for providing a fibre connection to business districts/parks.

The enterprise market has specific needs and properties in terms of products, dynamics and regulation. In addition to quality of service demands that distinguish them from residential plans, the Orange wholesale offers that retail market operators use to serve their enterprise clientele – DSL-E, CE2O (Ethernet backhaul for operators), C2E (core Ethernet enterprise), CE LAN (core Ethernet LAN), etc. – are covered by specific regulation. The price of these offers on both copper and fibre systems has decreased significantly since 2008, in tandem with the increased availability of optical fibre (expansion of the geographical areas where flat rates are applied to the CE2O and CE LAN offers).

Moreover, the short and medium term development of enterprise plans attached to shared optical local loops could radically alter the market. Although fibre plans for businesses have been around for some 15 years, using dedicated optical local loops, the economies of scale achieved through massive rollouts of shared optical local loops, could enable the creation more competitively priced fibre plans for businesses.

Which means that technical issues need to be examined, particularly with a view to guaranteeing quality of service on a network being used by multiple operators. Through the expert committee on fibre, ARCEP thus initiated work on the use of shared optical loops to produce wholesale and retail offers that meet the specific needs of enterprises.

Under these circumstances, the opportunity to deploy new public initiative networks for businesses must be evaluated with respect to several factors, including:

- a balanced business plan over the long term, in relation to the networks' evolution from a technical and pricing standpoint (upcoming deployment of a public or private shared optical loop, anticipating a decrease in regulated tariffs, etc.);
- compliance with European regulation on State aid. Here, the guidelines for the Superfast broadband in France plan stipulate that, "*spending on fibre to the office (FttO) access and connection is only eligible if no reasonably priced wholesale FttO offer exists, nor any commitment from a private operator to provide such an offer in the medium term. In any event, no FttO deployment/connection in the subsidised area will be eligible*[26]").

To provide local authorities with more clarity on possible future developments in the enterprise market, the GRACO meetings in 2013 included regular information updates and discussions on regulating this market. As

25 - *Cf. p. 35*
26 - *Superfast broadband in France plan (Plan France très haut débit) guidelines*

an additional measure, ARCEP met with local authorities and PIN operators, and responded to queries from SDTAN (digital blueprint) and PIN initiators on possible courses of action to provide businesses in their area with affordably priced superfast access products.

6. The transition from copper to fibre

6.1 ARCEP support for the transition

Although the possible shut down of the copper network is a far-off prospect, it is nevertheless one that needs to be addressed immediately. Switching off the network is only the final stage in a migration process that will take place over many years. To prepare for a migration of this scale, and given the variety of economic and social activities that currently depend on the copper local loop, ARCEP is already working on multiple measures to send out signals for all of the players to commit fully to this transition.

First, ARCEP is working on measures to encourage all players to remove the final obstacles to switching interconnection between operators' networks from traditional TDM[27] methods to IP interconnection, following through on work begun in 2012. During the fourth round of analysis on call termination markets (market 3)[28], the Authority sent out a reminder to the entire sector that IP interconnection will replace classic TDM in the medium term: "*The Authority stresses […] that TDM interconnection at the subscriber switch level must not be seen as a solution that will last beyond this round of market analysis. As VoBB[29] (voice over broadband) is steadily replacing classic switched telephony, in terms of lines and traffic, the situation should provide Orange with the possibility, when the time is right and after having consulted with the other operators, to put an end to this traditional interconnection method, after having given other operators ample notice and appropriate support*".

Furthermore, in late 2013 ARCEP began to prepare for the fourth round of analysis of fixed telephony markets 130 and 231, and the review of Decision No. 2011-0926 of July 2011, which is due to result in a new Decision in summer 2014. Looking ahead to the eventual shut down of the Orange public switched telephony network (PSTN), ARCEP is considering the future of "straight" carrier selection schemes, beyond this fourth round of market analysis – i.e. call by call or preselection, excluding VGAST wholesale line rental, whose volume has decreased significantly over the past several years.

ARCEP is also working to ensure that the price of wholesale access products does not compromise the transition to optical fibre networks. The cost of accessing Orange civil engineering infrastructure is broken down between copper and fibre local loops, prorated according to the number of customers on each of these infrastructures respectively, at the national level. Because the number of customers is calculated based on volumes recorded one year earlier, civil engineering costs allocated to fibre are reduced during the initial stage of FttH network rollouts, and the balance is allocated to the copper network. As concerns the price of copper network unbundling, economic literature reveals only uncertainty over how its development will affect superfast network rollouts, and the transition to these new systems – as much in terms of expected impact as intensity. After having analysed the issue and commissioned various economic studies, the European Commission appears to have reached this same conclusion before adopting its recommendation on costing methodologies[32].

27 - *Time Division Multiplexing*
28 - *Draft analysis of wholesale markets for fixed voice call, mobile voice call and SMS termination for operators in Metropolitan and overseas France, for 2014 – 2016, submitted to consultation by ARCEP in July 2013*
29 - *Cf. Glossary*
30 - *Retail market for access to the public telephone network at a fixed location*
31 - *Wholesale market for call origination provided at a fixed location*
32 - *European Commission Recommendation of 11 September 2013 on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment (2013/466/EU)*

On the matter of the universal service (US), the Order of 31 October 2013 stipulates that the operator designated to provide the "connection" component of the universal service is free to choose the wireline technology it wants to employ for residential connection[33]. As a result, the operator designated to provide the telephone component of the universal service can already choose to supply a customer with a fibre-to-the-home connection and provide them with the US retail offer over this network. It should be noted that under current legislation, it is possible to designate different operators in the different geographical areas[34].

Lastly, as part of its market analyses, ARCEP is setting the terms of decommissioning Orange exchanges, in accordance with the rules recommended by the European Commission in its NGA recommendation of September 2010.

6.2 ARCEP involved in ongoing work

Aware of the stakes attached to the transition from the copper network to new generation superfast access networks, ARCEP is also taking part in ongoing discussions over the conditions of the migration to superfast broadband, and on the prerequisites of planning for the copper network switch-off. This has included supporting the "100% fibre Palaiseau" trials, and taking an active part in the work being done by the Champsaur task force on the transition to superfast access networks and the copper switch-off.

a) "100% fibre in Palaiseau" trials

In October 2012, with the support of public authorities, Orange began a trial on switching off its legacy copper network in the town of Palaiseau in the Ile-de-France region, and migrating all the connections to optical fibre local loops. The goal of this experiment, whose announcement met with positive reactions from most stakeholders, is to assess on a large scale and in a concrete fashion all of the issues that can arise from a complete migration from the copper network to an optical fibre network. After having fully covered the town of Palaiseau with a fibre local loop, Orange began to migrate its customers in late 2013.

One of the aims of the trial is to detect the different applications and users for which a fibre-based solutions will need to be developed, before any large-scale transition is considered.

ARCEP is lending its support to this project, and is keen to see it reach completion and meet all of its objectives, namely to identify the technical and operational difficulties generated by the migration of an entire municipality's connections.

The early stages of the migration of residential and enterprise customers' connections made it possible to identify a series of new issues. This was especially true when migrating a number of specific services that have been handled by the copper network up to now, such as emergency services in lifts, for instance, or when serving specific premises – typically businesses – that require several connections.

Furthermore, the Palaiseau trial encountered particular difficulties when migrating businesses that subscribe to mid-range and low-end copper plans. Enterprises that have been using SDSL[35] plans on the copper network up to now cannot afford the offers available on optical fibre local loops that cater to the needs of the high-end market. To provide this segment of the business clientele with satisfactory solutions, plans that are adapted to their needs could be developed on a vast, shared optical local loop. New wholesale products will be sold in Palaiseau on a small scale, as part of the trial. Work is currently underway within the ARCEP expert committee on the issue of provisioning, and the technical

33 - *Order of 31 October 2013 designating the operator responsible for providing the "connection" an "telephone service" components of the universal service, in accordance with Para. 1 of Article L. 35-1 of the French Postal and electronic communications code (CPCE)*
34 - *CPCE Article L. 35-2*
35 - *SDSL (Symmetric Digital Subscriber Line) is an access technique that makes it possible to transmit data at high speeds (up to 2 Mbps) over the copper network. Contrary to ADSL (Asymmetric Digital Subscriber Line), the speeds provided by SDSL are symmetrical, i.e. the same throughput for upload and download. SDSL is typically aimed at business users.*

specifications of the shared optical local loop, to satisfy this business clientele's quality of service requirements.

b) The Champsaur task force

ARCEP is involved in the task force on the transition to superfast access networks and the copper switch-off, chaired by former ARCEP Chairman, Paul Champsaur.

Alongside Paul Champsaur, thirteen high-profile personalities appointed by the Minister responsible for the digital economy are taking part in the task force: Yves Rome, Pierre Hérisson, Bruno Retailleau (senators), Gwenegan Bui, Patrice Martin-Lalande, Jean Launay (deputies), Martin Cave, Jacques Cremer (economists), Jean Marimbert (State councillor, former Director-General of ARCEP), Jacques Champeaux, Jean-Dominique Pit (former chief executives for telecom carriers), Roland Courteille, Sophie Rognon (PIN representatives) and Catherine Tiquet (expert). Two ARCEP policy officers and an auditor from the Court of Auditors were appointed as the task force rapporteurs.

In early 2014, the task force invited the Chairman of ARCEP to share the Authority's views on the economic, legal and operational issues inherent in the transition to superfast access networks and the copper switch-off. Jean-Ludovic Silicani reiterated the importance of a regulatory framework that supports a swift transition to superfast broadband nationwide, and the conditions for bringing changes to this framework that keep pace with the transition to these NGA networks. He also spoke of the opportunity for a planned switch-off of the copper network, and listed the operational issues that will need to be resolved before any thought is given to the actual switch-off.

In addition, to help shed some light on the methods to be used for migrating the most specific uses of the copper local loop, ARCEP launched a survey on the uses of the copper network, to be able to then classify them according to criticality and the degree of difficulty their migration to another architecture will represent. The results of the survey are expected before the end of the year.

In January 2014 the task force submitted an interim report to the Government, and will render its final report in December


4G

Swift rollout of 4G in France

2013 was marked by a more rapid than expected rollout of 4G in France. Spurred by the heightened competition ushered in by the arrival of the fourth mobile operator in early 2012, and by the growing demand for faster services, all three "incumbent" MNOs reacted by stepping up their 4G investments. Among the outcomes was Bouygues Telecom – which was authorised to refarm its 1800 MHz spectrum to 4G – beginning operation of a 4G network covering more than 60% of the population of Metropolitan France, on 1 October 2013.

1. Making spectrum available

1.1 Responding to a growing demand for bandwidth

More and more users want to be able to access the same services they do on their desktop computer (websites, social media, sharing photos, watching videos, streaming music, professional applications, online gaming, etc.) on their smartphones and tablets while on the move, and with a comparable level of quality. Mobile has also opened the way for a range of new services, notably thanks to geolocation, which are coming to enhance the user experience.

Several paths have been identified to satisfy these growing demands, which require higher throughput and increased network capacity. They include:

- the use of more effective technologies, such as 4G, which is currently being deployed and which enables connection speeds of more than 100 Mbps;
- changes to network architecture, such as increased use of small cells;
- the use of new frequency bands.

On this last point, ARCEP has worked to identify new frequency bands and make them available to operators (cf. p. 176-177). Today, three bands can be used for 4G networks in France: the 800 MHz (from the digital dividend) and 2.6 GHz bands, which were identified specifically for this technology, and the 1800 MHz band which is still used for GSM but can be refarmed to 4G.

1.2 Frequency use The 2.6 GHz and 800 MHz bands

To help usher in these new-generation technologies and handle the surge in data traffic, two new frequency bands were identified in Europe and, in France, were assigned to ARCEP by decision of the Prime Minister: the 800 MHz band from the digital dividend and the 2.6 GHz band. These two frequency bands complement one another:

- the 800 MHz band is situated in the range of low frequencies, below 1 GHz, and thus has superior propagation properties which make it particularly well suited to providing broad coverage, notably in more sparsely populated areas and indoors;
- the 2.6 GHz band is situated in the range of high frequencies, above 1 GHz, and includes a larger quantity of frequencies than the 800 MHz band but inferior propagation properties. It is especially well suited to handling heavy traffic on the network, especially in urban areas.

ARCEP allocated these bands to operators during procedures conducted between June 2011 and January 2012, ARCEP. All four mobile network operators were thus able to acquire 2.6 GHz band spectrum. Bouygues Telecom, Orange and SFR also acquired spectrum in the 800 MHz band. In accordance with the provisions of the call for applications, Free Mobile, which was a candidate but not awarded any spectrum, was given roaming rights in the 800 MHz band on the SFR network, to be able to cover the priority rollout area made up of the most sparsely populated parts of France.

Mobile operators have relied heavily on these bands for their 4G rollouts. As of 1 March 2014, 4,940 tower sites had been authorised for 4G in the 800 MHz band and 8,388 in the 2.6 GHz band, all operators combined[1].

1.3 Refarming 1800 MHz frequencies

In July 2012, Bouygues Telecom sought ARCEP's permission to operate a fourth-generation (4G) network based on LTE technology, using its spectrum in the 1800 MHz band – on which only GSM (2G) systems had been permitted up until then.

ARCEP examined this request[2] to investigate:

- whether there was a reason – among those listed in Article L.42 of the French Postal and electronic communications code (CPCE) – which made it "*necessary*" to continue to restrict this band to GSM technology[3];
- whether ARCEP needed to "*take appropriate measures to ensure equality between operators and the conditions for effective competition*".

To this end, ARCEP engaged in a transparent process in concert with stakeholders, which included meetings, a public consultation and a series of meetings with all of the interested parties. Impact studies were also requested from all four operators. Once this work was complete, on 12 March 2013 ARCEP published a set of recommendations on the method to follow for introducing technological neutrality in the 1800 MHz band. The purpose of this document was to give the affected players a clear view of the terms under which requests will be investigated, and to guarantee that scarce spectrum resources will be properly distributed once the entire band is open to 4G systems.

On 14 March 2013 adopted its decision in response to the request from Bouygues Telecom. The investigation led ARCEP to conclude that there was no reason, among those listed in the CPCE[4], which made it "*necessary*" for the terms of Bouygues Telecom's 1800 MHz band licence to continue to restrict its use of the band to GSM technology – provided that, in light of current spectrum assignments, a more balanced allocation of the 1800 MHz band be performed, in the name of "*measures to ensure equality between operators and the conditions for effective competition*".

On 4 April 2013, ARCEP thus adopted a decision amending the terms of Bouygues Telecom's licence. In exchange for the ability to refarm frequencies in the 1800 MHz band to 4G, the operator must gradually hand back additional spectrum in the 1800 MHz band between 1 October 2013 and 25 May 2016, such that it will own only a duplex block of 20 MHz.

The fees attached to the ability to use these frequencies in a technology-neutral fashion were set by decree on 22 March 2013[5].

Operators SFR and Orange may also request that their 1800 MHz band licences be extended to include 4G at any time. Lastly, operator Free Mobile, which does not have any 1800 MHz band spectrum may, upon request, be allocated available frequencies in this band, as part of the process to allow more balanced access to the spectrum.

1 - *Source: ANFr observatory of 2G/3G/4G network rollouts*
2 - *By virtue of the provisions of Article 59 of the Order of 24 August*
3 - *Among those listed in Para. II of Article L.42 of the Postal and electronic communications code*
4 - *Para. II Article L.42*
5 - *Decree No. 2013-238,amending Decree No. 2007-1532 of 24 October 2007*

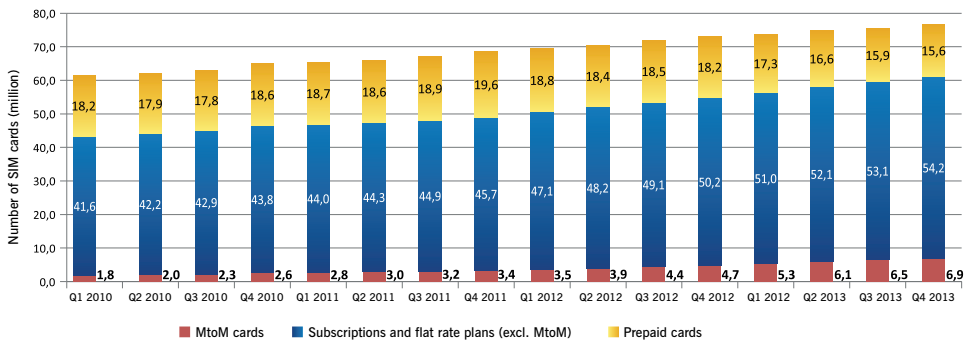
In 2013, Bouygues Telecom thus began to roll out 4G by relying largely on its 1800 MHz spectrum.

2. Retail market growth

Operators began deploying 4G in Metropolitan France in 2012, and the first 4G plans came on the market late that year. The commercial rollout of new gen mobile services has helped stimulate retail market growth, and increased a competition dynamic that began with the arrival of a fourth mobile network operator in early 2012.

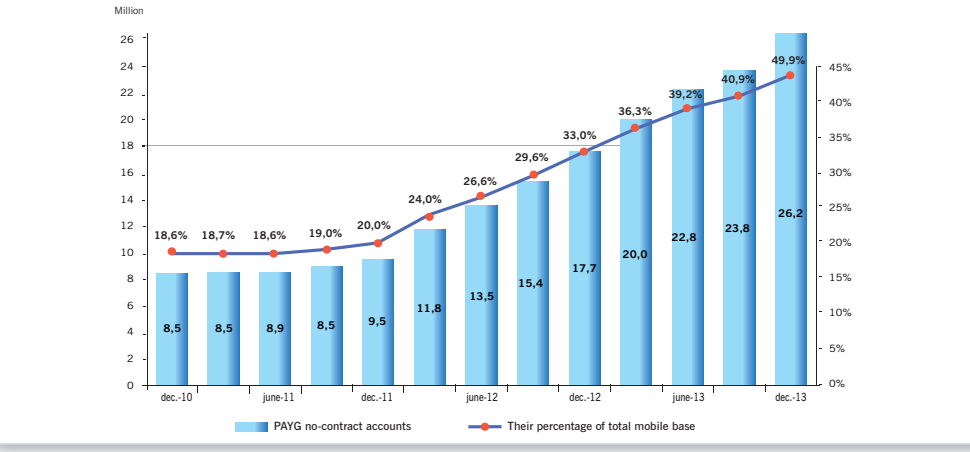
The growth rate for SIM cards in Metropolitan France has indeed remained consistently high since late 2011, while the number of customers with no-contract plans has also been increasing steadily. Customers are thus able to switch operators more easily, which helps stimulate competition in the retail market.

Number of SIM cards in Metropolitan France



Source: ARCEP mobile observatory

Pay-as-you-go contract-free users in Metropolitan France



Source: ARCEP mobile observatory

The fourth quarter of the year was particularly rife with 4G announcements. On 1 October 2013, Bouygues Telecom opened its "national" 4G network, switching on 1800 MHz spectrum that had previously been allocated to 2G services, and which it had been authorised to refarm to 4G in March 2013 (cf. section 1.3 of this Chapter).

At the end of 2013, five mobile operators were selling 4G plans: the four mobile network operators – Orange, SFR, Bouygues Telecom and Free Mobile – and one virtual network operator (MVNO): EI Telecom (under the brands NRJ mobile, Credit Mutuel mobile and CIC mobile), using the Orange network. A second MVNO (Oméa Telecom via the Virgin Mobile brand) introduced a 4G "compatible" plan, thanks to an agreement with Bouygues Telecom, which is due to give customers access to 4G services starting in spring 2014. With the exception of Free Mobile, all of the operators have released 4G coverage figures: Bouygues Telecom is reporting 63% coverage of the population, Orange 50% and SFR more than 40%.

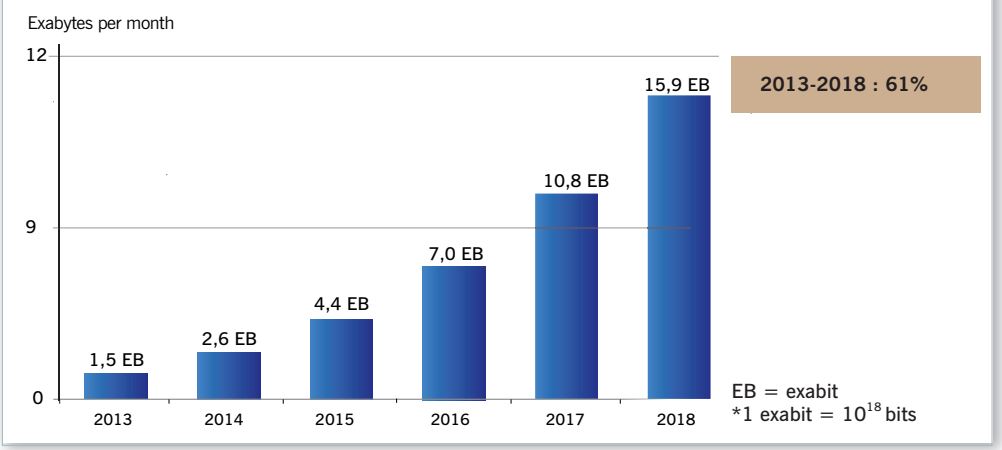
The launch of 4G plans has resulted in tremendous competition between retail market offerings, with data allowances that have increased from 6 to 20 Gb/month for high end plans, along with a price decrease for plans carrying the same data caps. When rolling out 4G, operators worked hard to deliver these plans at little or no added cost, and in some cases ran promotions offering discounts on plans or compatible handsets.

3. Creating a second digital dividend

As competition over 4G plans intensifies, steps are already being taken at the international level to prepare for future generations of mobile networks over the next decade. Indeed, since the mobile internet's inception we have seen global data traffic double every year, and all of the reports on the subject are predicting that it will continue to grow exponentially.

In a report published in February 2014, equipment manufacturer Cisco forecast that the planet's mobile data traffic will increase by a factor of 11 between 2013 and 2018, which translates into an average annual growth rate of 61%.

Cisco forecasts 15.9 exabytes of traffic a month in 2018



Source: Cisco: VNi Mobile 2014

Even as 4G networks are being deployed on a massive scale worldwide, the telecom industry is already planning for the transition to the fifth generation of mobile systems. 5G is expected to be introduced in the next decade, and aims to provide throughput that is a hundred times greater than what is currently available, along with a strong improvement in connectivity, to enable the emergence of new applications (the internet of things). Along with global initiatives in this direction, the European Union wants to support research into this evolution. To this end, the European Commission and the 5G PPP association signed a €700 million contract to create a 5G public-private partnership, and close to €50 million were spent on 5G research programmes in 2013.

Within this environment, new demands for frequency are key to the success of the next generation of mobile networks. It will be particularly important to identify "low" frequencies, i.e. below 1 GHz, whose physical propagation properties are essential to guaranteeing nationwide coverage for these future services.

International efforts begun at the World Radiocommunication Conference in 2012 (WRC-12), and through the multi-annual Radio Spectrum Policy Programme (RSPP) adopted by the European Parliament and Council, have already identified the 700 MHz band as the most suitable candidate to meet these objectives[6]. This range of frequencies is currently occupied by digital terrestrial television (DTT) services.

The possible assignment of this second digital dividend to mobile services therefore represents a public policy with major implications, as did the first digital dividend. But it also means that serious preparatory work needs to be done both nationally and internationally

In France, the President lent his support in 2013 to the idea of refarming the 700 MHz band to mobile services, which is due to be made official by a decision from the Prime Minister (an order bringing changes to the national frequency table). The Parliamentary committee on modernising television broadcasting[7] also plans on holding a consultation on the matter.

In 2013, ARCEP took part in national discussions to determine the timetable and terms for possibly freeing up the 700 MHz band, and in preparing France's positions on international efforts, in tandem with the French National frequency agency, ANFR, and particularly those being conducted at the European level.

The European Conference of Postal and Telecommunications Administrations (CEPT) began technical work on reassigning the 700 MHz band, and the future of 470-790 MHz frequencies in general, in 2013. The Radiospectrum Policy Group (RSPG)[8] has also included the draft of a European frequency strategy, to be submitted to the European Commission, in its work programme for 2014. And, finally, the future use of the 470-790 MHz band as a whole was the focus of two core European Commission initiatives announced in 2013, whose results are due to be released in 2014: the launch of a High Level Group chaired by Pascal Lamy, and a report on the topic commissioned from Plum Consulting.

4. Informing users: new issues and challenges

It is becoming increasingly vital to provide users with information on the coverage and quality of mobile services. It is indeed no simple matter for users to obtain information on the coverage and quality they can expect when subscribing to a mobile plan. The wide variety of circumstances under which they might use their phone (indoors, on a train, etc.), the range of services on offer (calling, SMS, MMS, mobile internet…) and the multiple plans available, make it very hard to anticipate the quality of service they are purchasing.

6 - *Cf. p. 178-179*
7 - *Created by Law No.2013-1028 of 15 November 2013 on the independence of public broadcasting*
8 - *Cf . p. 45*

On the other side of the equation, to be able to earn a return on their investments, mobile operators need to advertise not only the price but also the quality of the services they are selling. ARCEP is therefore very committed to informing users on these questions, to allow them to make informed choices, and to encourage operators to invest in the quality of their offerings.

4.1 Better user information

a) On mobile coverage

The Law requires that ARCEP ensure "*ensure the existence of fair and effective competition between network operators and the providers of electronic communication services, which benefits the users of electronic communication services*" [9]. ARCEP must also ensure "*a high level of consumer protection, notably thanks to the supply of clear information, and particularly through transparency in the pricing and terms and conditions of use for publicly available electronic communication services*".

Pursuant to these objectives set by Law, and in accordance with the terms of their frequency licences and of the French Postal and electronic communications code (CPCE)[10], mobile operators are required to publish coverage maps of their mobile networks. These maps are updated once a year, and verified annually by ARCEP in several towns across the country.

- **Defining a common set of metrics**

On 11 July 2013, ARCEP adopted a decision[11] that defines a common set of metrics for measuring mobile telephone network coverage, and which can be used for any technology used to supply voice call services (i.e. 2G and 3G today), along with the methods to be used to verify the accuracy of the coverage maps that operators make available online.

This decision comes to replace and enhance the 2007 decision[12] that set the terms for verifying mobile operators' 2G coverage maps, and includes a more detailed and consisted mechanism for all operators and network technologies, including 3G.

The audit performed in 2013, in accordance with this new decision, covered both 2G and 3G. The results will be available in summer 2014.

The Decision of 11 July 2013 also stipulates that should any inconsistencies be found between the results of the field survey and the information on operators' 2G and 3G maps, the operator must take the necessary steps to ensure that its published map be an accurate reflection of reality, i.e. by correcting its map or modifying its network.

- **Expanding the set of metrics to include 4G**

ARCEP began work with operators in summer 2012 to expand the common set of 2G and 3G metrics to include operators' 4G maps. Field trials were then conducted to implement the testing methods that would make it possible to verify mobile internet access via 2G, 3G and 4G technologies. This trial also made it possible to enhance the metrics used to test calling services (proper to 2G and 3G technologies)[13].

9 - CPCE Article L. 32-1
10 - Article D.98-6-2
11 - Decision No. 2013-0829 of 11 July 2013, based on CPCE Articles L.33-1, L.36-6 and D.98-6-2 (stipulated by the Order of 15 January 2010)
12 - Decision No. 2007-0178 of 20 February 2007
13 - Decision No. 2013-0829 of 11 July 2013

• **Adopting the new set of common metrics**

Once these theoretical measures had been taken, and after having obtained the opinion of the Electronic communications advisory committee[14], ARCEP adopted a decision[15] in March 2014 on the common set of metrics for measuring coverage, and the methods to use for verifying the accuracy of the published maps.

This new decision contains two major developments compared to the one in 2013.

1. It defines **the metrics for measuring internet access in mobile situations**. In concrete terms, the purpose of these metrics is to use ping tests in the different geographical areas to verify whether it is possible to obtain a data connection, using a given technology, in locations that an operator has stated as being covered. The metrics used to measure mobile telephony (voice calls) remains unchanged. Through tests calls made in the different geographical areas, it seeks to verify that it is possible to establish a call in locations that an operator has stated as being covered.

2. The decision also seeks to define n**ew methods for verifying the accuracy of the coverage maps** published by mobile operators, which are better suited to technologies that are currently being deployed and which evolve rapidly, as is the case with 4G today.

More specifically, these changes concern:
- shorter timeframes for conducting the coverage audits;
- the ability to conduct several audits a year;
- having operators transmit each updated version of their coverage maps to ARCEP.

Once it has been approved by the Minister responsible for electronic communications, this decision will allow ARCEP to perform its testing under the new system. Over the course of summer 2014, the Authority will thus be able to verify[16] the accuracy of the 4G coverage maps that operators have published on their websites.

b) Quality of mobile network services

Under the terms of mobile operators' licences, ARCEP will measure the quality of their services every year to ensure that they are meeting their regulatory obligations, and to provide users with information on the performances they can expect from mobile services. Conducted annually since 1997, these QoS audits are part of ARCEP's more wide-reaching actions to improve consumer information. The results are published on the ARCEP website.

Thanks to measurements taken in the field, these audits make it possible to evaluate the quality of the services that consumers use: voice calls, SMS, MMS, web browsing, file transfer (download and upload throughput) and streaming video. Their purpose is not, however, to obtain subscribers' views of the end-to-end quality of these services – through a customer survey, for instance. The user experience will depend on each individual's consumption habits, the network, and the device and the applications they use.

In summer 2014, ARCEP will publish the results of the QoS audit of Bouygues Telecom, Free Mobile, Orange and SFR[17] 2G and 3G services that was carried out in late 2013 and early 2014. In addition, tests were performed on 4G networks for the first time, on a trial basis. All of the voice and data services were tested using smartphones that are sold by all four operators.

14 - Cf. p. 26
15 - Decision No. 2014-0387 of 25 March 2014
16 - Via the protocol of the Decision described in Appendix 3
17 - MVNOs were asked, but did not express a desire to be part of the survey

Another new addition to the audits performed this year is the inclusion of municipalities with a population of less than 10,000, which correspond to the more sparsely populated parts of France. These towns had been included on a trial basis in the previous QoS audit.

4.2 Verifying mobile network rollout obligations

The terms attached to operators' frequency licences include rollout obligations, which ARCEP is responsible for verifying and enforcing. The Authority's monitoring is not confined solely to the deadlines listed in the licences.

Operators' 3G rollout obligations (percentage of the population to be covered)

Deadlines	30 june 2010	12 december 2010	31 december 2010	31 december 2011	31 january 2012	31 december 2013	12 january 2015	12 january 2018
Orange France*			91%	98%				
SFR*	84%		88%	98%		99,3%		
Bouygues Telecom**		75%						
Free Mobile**					27%		75%	90%

Source : ARCEP
** Pursuant to their notice to comply*
*** Under the terms of their licence*

Operators' 4G rollout obligations (percentage of the population to be covered)

Deadlines	11 october 2015	17 january 2017	11 october 2019	17 january 2022	11 october 2023	17 january 2024	17 january 2027
In the priority rollout area (18% of the population and 63% of the territory)		40% (800 MHz)		90% (800 MHz)			
In each department						90% (800 MHz)	95% (800 MHz)
In the whole of Metropolitan France	25% (2,6 GHz)		60% (2,6 GHz)		75% (2,6 GHz)	98% (800 MHz)	99,54% (800 MHz)

Source : ARCEP

Coverage levels are monitored on an ongoing basis to be able to verify that operators' rollouts are on track, before the deadlines are reached – notably on the basis of regular checks, conducted at least every six months.

The 4G licences issued in 2011 and 2012 list operators' rollout obligations, whose first deadline was in October 2015. Before examining them, it seems worthwhile to come back to 2G and 3G technologies which, today, are more widely deployed and used than 4G.

a) 2G rollouts

In Metropolitan France, three operators are licensed to deploy 2G GSM-standard mobile networks: Orange, SFR and Bouygues Telecom.

- Each of the three incumbent carriers covers more than 99% of the population, and so satisfies the population coverage obligations stipulated in their licence.

- Operators are also required to ensure that together they cover the centres of towns identified as part of the national programme to cover dead zones[18]. At the end of December 2013, 3,189 town centres were covered for 2G thanks to this programme, and 121 more are due to be covered. This means that difficulties persist in some 75 town centres, due in particular to a lack of investment, local authorities' lack of involvement in the dead zone programme, as well as research and construction-related problems.

- Lastly, operators are also required to cover major transportation arteries[19]. Each operator still has between several dozen and several hundred kilometres left to cover, and more than half of these sections measure less than 300 metres.

b) 3G rollouts

• MNOs' coverage

The four mobile network operators (MNO) in Metropolitan France are licensed to deploy 3G mobile networks, using the UMTS standard. Orange and Bouygues Telecom had covered 98.7% and 96.1% of the population, respectively, with 3G as of 1 July 2012, which means they are complying with their rollout obligations. SFR was to have achieved coverage of 99.3% of the population by 31 December 2013. ARCEP is in the process of verifying that this is indeed the case[20]. Lastly, Free Mobile must cover 75% of the population by 12 January 2015 and 90% by 12 January 2018. Both of these obligations will be verified carefully[21].

• Infrastructure-sharing agreements

Pursuant to the Law on modernising the economy of 4 August 2008, in April 2009 ARCEP adopted a scheme[22] that sets the legal framework for regulating the last metres of fibre networks. It instils the principle of having operators share the last metres of the networks, and gives ARCEP the responsibility of implementing the network sharing scheme. On 11 February 2010, Orange France, SFR and Bouygues Telecom signed an agreement to share their mobile network infrastructure in a bid to help expand 3G coverage in Metropolitan France. On 23 July 2010, this scheme was expanded to include Free Mobile[23].

The agreement concerns the three 2G/3G operators' deployment of a shared 3G radio access network (RAN sharing). It plans on upgrading the 2G sites that are listed in the national "dead zone" programme (i.e. for bringing mobile access to uncovered areas) to 3G, and on deploying an additional 300 sites outside the areas covered by this programme. In accordance with the agreement signed by all of the operators, Free Mobile will join the shared network on a different timetable than the three "incumbent" carriers.

Orange, SFR and Bouygues Telecom committed to complete this programme by 31 December 2013. Having observed a failure to meet these targets, on 27 May 2014 ARCEP launched an administrative inquiry to identify the reasons for the delay, and the means to remedy them.

c) 4G rollouts

In Metropolitan France, the four mobile network operators are also licensed to deploy 4G LTE-standard mobile networks in the 2.6 GHz band.

---

18 - This programme, overseen by the Inter-ministerial land planning and regional action delegation, DATAR (Délégation interministérielle à l'aménagement du territoire et à l'attractivité régionale), was created by an agreement signed on 15 July 2003 by the French Mayors' Association (AMF), the Association of French departments (ADF), ART (which later became ARCEP) and 2G mobile operators, and stipulates the terms of expanding mobile coverage into the town centres of more than 3,000 municipalities where none of the three 2G mobile network operators was present when audits were performed in 2003, then in 2008.

19 - Under a national agreement dated 27 February 2007, signed by the Minister responsible for regional development, the French Mayors' Association (AMF), the Association of French departments (ADF), the three operators, French national railway companies SNCF and Réseau Ferré de France (RFF), and ARCEP, mobile operators agreed to cover roads and motorways where traffic exceeds an average 5,000 vehicles a day, and the roadways in each department that connect the prefecture (i.e. the department's administrative capital) to the sub-prefectures (secondary administrative centres). This represents 57,127 km of roadway, and a commitment to provide service coverage outside vehicles

20 - An administrative inquiry was opened on 27 May 2014 to ensure the operator was meeting this obligation (Decision No.2014-0624-RDPI)

21 - An administrative inquiry was opened on 27 May 2014 to ensure the operator was deploying all of the financial means necessary to meet this obligation (Decision No.2014-0623-RDPI)

22 - Decision No. 2009-0329 of 9 April 2009, pursuant to Article 119 of Act 2008-776 of 4 August 2008 on modernising the economy (LME: Loi de modernisation de l'économie)

23 - Cf. Chapter 3 on infrastructure sharing

Only the three incumbent MNOs have a licence to use the 800 MHz band for 4G. Free Mobile may, however, request roaming rights in the 800 MHz band on the SFR network (as SFR was awarded two blocks of spectrum in this frequency band), to be able to cover the priority rollout area.

Moreover, in response to a request from the operator, in April 2013 ARCEP authorised Bouygues Telecom was to refarm its 1800 MHz spectrum to 4G[24].

Operators were thus able to begin deploying 4G in 2012, and the first plans were available to customers late that year. These rollouts are part of the obligations listed in mobile operators' licences, and notably their licences to use the 800 MHz band.

As requested by Parliament[25], regional development was one of the priority criteria for ARCEP when allocating 800 MHz frequencies, thanks to several measures:

- ambitious coverage targets:
  - at the national level: 99.6% of the population of Metropolitan France must be covered within 15 years (2027);
  - at the departmental level: 90% of the population of each department of Metropolitan France must be covered within 12 years (2024); this obligation was completed by an obligation made voluntarily by each operator during the spectrum licence award procedure to cover 95% of the population of each department within 15 years (2027);
- the obligation to make 4G rollouts in sparsely populated areas a priority. A "priority rollout area" was defined to this end, which corresponds to 18% of the population of mainland France, spread out over 63% of the territory. Operators must cover 40% of the population in these areas in five years (2017) and 90% in 10 years (2022);
- measures to encourage network sharing in hard to cover areas[26] ;
- lastly, operators with a licence to use 800 MHz frequencies must each cover all major transportation arteries within 15 years (2027).

800 MHz license-holders' 4G coverage obligations

Deadline	January 2017	January 2022	January 2024	January 2027
Percentage of the population of Metropolitan France to be covered			98 %	99,6 %
Percentage of the priority rollout area to be covered	40 %	90 %		97,7 %
Percentage of each department of Metropolitan France to be covered			90 %	95 %

Source: ARCEP

Rollout obligations are also listed in 2.6 GHz licences: operators must be providing 4G services to 25% of the population by October 2015, 60% in October 2019 and 75% in October 2023.

In late 2013, Bouygues Telecom announced that it had covered 63% of the population with 4G, Orange France more than 50% and SFR around 40%. Free Mobile, which opened its 4G network up commercially in late 2013, has not released any coverage figures. ARCEP will verify the accuracy of mobile operators' coverage maps in summer 2014.

24 - *SFR and Orange also have the ability to request permission to refarm their 1800 MHz band spectrum to 4G. Free Mobile, which does not have any 1800 MHz band spectrum may, upon request, be allocated available frequencies in this band, as part of the process to allow more balanced access to the spectrum, in keeping with the obligation to "take appropriate measures to ensure equality between operators and the conditions for effective competition".*

25 - *Law of 17 December 2009 on the battle against the digital divide, known as the Pintat Act*

26 - *Cf. p. 117-118*

Infrastructure sharing

In the electronic communications sector, one of the regulator's central preoccupations is the issue of sharing existing and of building new infrastructure. For a long time, reflections on these issues seemed to come down to two main models of market organisation, which were considered opposite to one another. On the one side was infrastructure or facilities-based competition, which encouraged the duplication of infrastructure and, on the other, service-based competition which encouraged the shared use of existing infrastructures, and pooling investments when new infrastructure needed to built.

The European regulatory framework for electronic communications promotes infrastructure-based competition. This model of market organisation allows operators that have invested in their own infrastructure to enjoy a signification degree of economic and technical autonomy, to differentiate themselves from the incumbent carrier, and to instil a state of lasting competition in the marketplace, which is beneficial to users.

Infrastructure-based competition is, however, rarely complete and adapted to each stage of the market's development. Aiming for a complete duplication of existing infrastructures, or preventing players from pooling their investments in new infrastructure can result in reduced efficiency for the market as a whole: lasting high barriers to entry, lower coverage and slower rollouts of new generation technologies.

As a result, it can be more efficient for the entire market to allow operators to share existing or future infrastructures. In the first instance, operators using the same infrastructure benefit from economies of scale and the situation favours new entrants to the market. In the second instance, pooling investments allow operators to reduce the cost of expanding and operating their networks, to accelerate their rollouts and to move into hard to reach areas more quickly. Infrastructure sharing can nevertheless create certain competition problems (restrictions imposed by the operator that owns the networks, understandings between operators making shared investments) that justify regulatory monitoring or intervention.

In light of all of these elements, the regulatory framework that ARCEP has put into place promotes infrastructure-based competition in those areas where it is economically viable, while encouraging pooling fixed networks and sharing mobile networks whose replication would be impossible or inefficient.

1. Infrastructure sharing on fixed networks

1.1 Regulatory scheme adopted for FttH rollouts

a) The principle of sharing as defined by Law

Law No. 2008-776 of 4 August 2008 on modernising the economy sets the legal framework for regulating the last metres of fibre networks. It instils the principle of having operators share the last metres of the networks, which helps to minimise construction and service calls on private property, while also reducing the chances of local monopolies in the buildings, so giving owners and tenants the freedom to choose their service provider. The Law gives ARCEP the responsibility of implementing the network sharing scheme.

ARCEP has adopted a set of decisions and recommendations that govern new optical fibre local loops, and set out the rules for their deployment, the terms for accessing these networks and for the exchange of information between market players, with certain provisions that are specific to very high density areas and others that apply to all other areas[1].

b) High degree of sharing for optical fibre local loops to diminish unnecessary duplications

• **In more sparsely populated areas** (81% of households and around 27.7 million lines) which correspond to more than 95% of the territory, optical fibre local loops are shared to a very high degree: regulation today requires all operators to deploy concentration points of at least 1,000 lines (300 lines if they offer a remote connection solution). In most instances, an offer for shared connection from the optical node to the concentration point is available. The level of sharing on FTTH networks will thus be at least equivalent to what currently exists on the copper network, and 95% of FTTH rollout costs are shared. In these configurations, only a single fibre is deployed downstream from the concentration point.

• Moreover, a high degree of sharing is recommended in the "**low-density pockets**" found in **very high-density areas** (just over 2% of households, or 0.8 million lines) employing a similar configuration to the one used in more sparsely populated areas (i.e. concentration point of at least 300 lines).

• **In very high-density areas, outside of these "low-density pockets"** (representing just under 17% of households or 5.7 million lines) different operators' networks can be deployed in parallel, to form a rather dense mesh in the horizontal portion, i.e. the streets. Here, sharing typically occurs in the vertical portion of the network, i.e. inside the buildings. But existing regulation in no way prohibits operators from sharing all or a portion of their networks upstream from the concentration point. Bouygues Telecom has in fact signed agreements with SFR and France Telecom to buy excess deployed fibres, and for shared fibre installations in certain upcoming deployments. Depending on the requests received from other operators, more than one fibre can be installed upstream from the concentration point in these areas, which gives operators more freedom to provide innovative services, and makes it easier for customers to switch operators.

c) Co-financing as a tool for network sharing and development

FTTH network rollouts provided an opportunity to introduce co-financing mechanisms into regulation that consist of having operators share the cost of deploying networks in exchange for indefeasible rights of use[2]. This makes it possible to amortise corresponding investments in these infrastructures, and serves as a complement to line rental offers (similar to unbundling).

1 - Cf . Chapter 1 of this section: 4.2 Putting the finishing touches to the regulatory framework
2 - The indefeasible rights of use described in these offers are generally awarded for a period of 20 to 30 years, and carry terms of renewal that depend on the state of the network at the end of that period

Co-financing:

- confers a right of scrutiny over the engineering and the network's rate of deployment and, over the long term, aims to prevent the structural problems that arise under the classic scenario of a single operator owning the network, which can only be leased by competitors concerned about discrimination;
- means sharing the financial and commercial risks tied to deploying new networks, which are considerable, and so increasing the chances of rapid success;
- and, ultimately, co-financing makes it possible to achieve more extensive coverage by having operators' pool their financial resources.

In very high-density areas, co-financing generally takes the form of operators sharing costs equally, in exchange for the right to use the infrastructure (with no limit on customer numbers).

In more sparsely populated areas, shared investment schemes are implemented by 5% increments, which allows the smallest operators to acquire small shares – and so to contribute in equal measure to rollout costs – in exchange for limited rights of use: i.e. drawing rights on a number of premises corresponding to the purchased increment. Any operator can participate in a co-investment scheme, including a building operator working on behalf of a public authority.

1.2 Opening existing fibre infrastructures up to competition: accelerating the deployment of new generation fixed networks

Several solutions are needed to provide effective access to the physical infrastructure that constitutes the wireline local loop under economically viable conditions. These include offers for connecting to Orange subscriber connection points, i.e. exchanges and cabinets – referred to as NRA (noeud de raccordement d'abonnés). Initially associated with accessing the copper local loop, these solutions are now just as necessary for accessing optical fibre local loops (FttH or FttO) as well.

When reviewing its market analyses, ARCEP was thus careful to ensure a continuity in these solutions, and to secure them for new applications.

• The Orange optical node collocation offer

This solution allows operators to employ the collocation infrastructure that already exists in Orange exchanges to configure their optical line terminals (OLT), and install their active optical local loop equipment that connects to their residential and enterprise customers.

• Accessing the Orange backhaul network

Backhaul is a vital ingredient in regional market competition, both for copper LLU and for building out optical fibre local loops[3].

Traditionally associated with the copper local loop, the Orange "LFO" (*liaison fibre optique*) fibre backhaul offer for connecting distant exchanges is equally necessary, particularly when looking ahead to the prospect of optical fibre local loops replacing the copper local loop.

Orange has already amended its LFO product accordingly, enabling the backhaul of traffic emanating from both the copper and optical fibre local loops since 1 April 2013.

As a result, ARCEP concluded that the LFO fibre backhaul offer should no longer be attached solely to unbundling exchanges. In its draft analysis of market 4, the Authority expands the scope of application and accessibility of the LFO fibre backhaul offer, which could

3 - Cf. Chapter 1 of this section: 1.3 Why backhaul networks matter

become a generic passive offer for backhauling traffic from copper and optical fibre local loops, connecting both residential customers and business sites. It would no longer be available solely to LLU operators, but to any operator subscribing to an Orange OLT or DSLAM collocation offer. Moreover, with a view to sharing backhaul infrastructure, the LFO fibre backhaul offer also makes it possible to connect optical line terminals other than those in the immediate vicinity of or inside Orange exchanges or OLT. This means that, once the decision comes into effect, the LFO offer will include the possibility of making a dark fibre link available in the fibre-enabled civil engineering manhole closest to the third-party operator's OLT, using the same methods and under the same terms and conditions as those that apply to exchange-PoP links under the existing offer.

In addition, ongoing discussions with the different stakeholders has helped identify several ways to improve this offer.

• Long-term predictability of the LFO product's pricing and terms and conditions

The LFO fibre backhaul offer currently allows alternative operators to lease an optical fibre link for a period of 10 years, after which the contract can be renewed. A number of stakeholders have pointed out the risks that fluctuations in LFO prices create for their business plans. Furthermore, this potential uncertainty is likely to affect operators' decision-making process when choosing between the LFO solution or rebuilding a backhaul network that runs parallel to the Orange system. In other words, the lack of long-term certainty over prices may well lead to inefficient investments, due to costly duplication of existing infrastructure.

As a result, in its draft revised market analysis, ARCEP invited Orange to propose, for instance, a constant price or one that is indexed over the duration of the contract, or possibly a single one-time fee to be paid at the start of the contract (excluding maintenance fees).

• Modification of the annual ceiling on unbundled exchanges applied to third party operators

The current version of the LFO fibre backhaul offer includes an annual ceiling on the number of additional exchanges an alternative operator can unbundle. Feedback from the stakeholders indicates that this cap creates an impediment to the rate of progress for unbundling, and is incompatible with the prospect of expanding the scope of the offer, particularly with a view to it being used to connect optical line terminals as well.

In its draft market analysis, ARCEP invites Orange to take into account the visibility that alternative operators can provide on the number of forthcoming LFO orders, when defining any possible caps, which would enable Orange to adapt its production capacity over time. This means that Orange could reasonably adapt its production capacity by adjusting it according to the degree of predictability that alternative operators provide.

By reusing existing infrastructure, all of these elements make it easier to deploy new optical fibre networks, while avoiding inefficient investments.

2. Mobile network sharing

There are several schemes that mobile operators can use to share their networks, each with a varying degree of integration. In descending order, they are: roaming, the MVNO model, active mobile network sharing and sharing passive infrastructure.

Under certain conditions, network sharing can help promote effective competition, while furthering regional development in a way that benefits consumers:

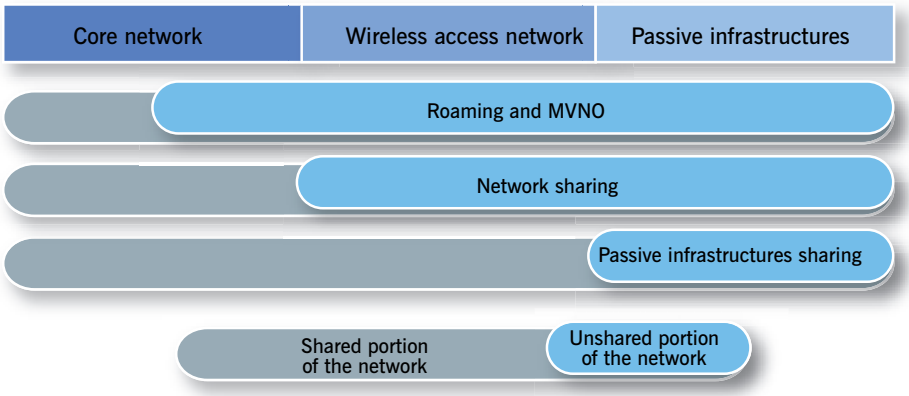
- it is useful, if not necessary, for lowering the barriers to entry for operators that have no spectrum resources, i.e. MVNOs or network operators that have joined the market more recently;

- it helps improve coverage and quality of service, and so directly stimulates the competition dynamic in rural areas;
- it can also help strengthen competition by correcting imbalances in spectrum holdings.

A balance nevertheless needs to be struck with infrastructure-based competition, which is the model under which the mobile market has developed since the early 1990s, and which has made it so that operators invest in building high quality networks.

Work was done on several aspects of this issue in 2013: in March the Competition authority published an opinion (following an ARCEP opinion dated 20 December 2012). These two texts detailed the authorities' views on mobile network infrastructure sharing. Meanwhile, in July 2013, SFR and Bouygues Telecom announced that they negotiating an active infrastructure sharing agreement, which was eventually signed in January 2014 after in-depth discussions with ARCEP and the Competition authority.

The different forms of mobile network sharing



Source : ARCEP

2.1 Roaming

Roaming consists of a mobile network operator (MNO) hosting another mobile operator's customers on its network, using only the host operator's frequencies. This system is employed to meet several regulatory objectives.

- **New 2G entrant awarded national roaming rights**

The possibility of issuing four 3G licences already existed back in 2000, even though there were only three MNOs in the marketplace. A provision was thus introduced for awarding temporary national 2G roaming rights to this potential fourth operator, for a period of six years from the date its licence is issued. The fourth 3G mobile licence was issued to Free Mobile in January 2010, and it enjoys these 2G roaming rights until 2016. The operator signed a 2G roaming agreement with Orange, which was then extended to 3G under a commercial agreement4, which allowed the operator:[4] which allowed the operator:

- to enjoy national coverage;
- and to be able to relay its customers' 2G traffic (which remains substantial, given the number of 2G handsets still in use) without having its own 2G network.

4 - In its avis n°13-A-08,of 11 March 2013, on the terms and conditions of mobile network sharing and roaming, the Competition authority notes that "Free Mobile has signed a 2G and 3G national roaming contract with Orange up to 2018, a period which thus extends beyond its 2G obligation (2016). "

At the same time, Free Mobile must deploy its own 3G network progressively, with an obligation to cover 90% of the population by January 2018[5].

- **International roaming for foreign operators**

France's mobile operators establish roaming agreements with mobile operators outside mainland France, to be able to provide their customers with services when they are travelling abroad, i.e. outside the area covered by their own network. Roaming agreements are thus established between operators in Metropolitan France and in the French overseas departments and territories, and between French operators and foreign operators.

The international wholesale and retail roaming tariffs that European operators can charge one another are currently regulated by the European roaming regulation of June 2012[6], which French Law[7] has extended to roaming in the overseas departments and territories.

- **Roaming in "dead zones"**

The 2003 programme for expanding mobile coverage in "dead zones"[8] – also known as white spots – requires the three incumbent mobile network operators to ensure that together they cover the centres of towns without 2G coverage, of which there were around 3,300. The two technical solutions chosen to do so are roaming, which is used in two thirds of cases, and sharing passive installations which is used in the other one third.

Because they help satisfy digital regional development imperatives in the more sparsely populated parts of the country, the programme's obligations were included in the terms of the three MNOs' licences when they came up for renewal: i.e. in 2006 for Orange and SFR, and in 2009 for Bouygues Telecom.

The technical procedure used for local roaming made it possible to deploy only a single 2G network in these areas, instead of three, which serves all of the mobile operators' customers.

2.2 MVNOs

- **Service-based competition**

MVNOs are "virtual" network operators since they have no spectrum. They acquire wholesale solutions from mobile network operators to be able to sell telephone and mobile internet products in the retail market. They engage in service-based competition as full-fledged operators in that they supply their own products, independently from their host operators. In the first quarter of 2014, MVNOs had an 11.3% market share.

When competing with network operators, MVNOs often seek to differentiate themselves by targeting specific forms of distribution or market segments, or by bundling their plans with other services.

Under the terms of their 3G (SFR and Orange) and 4G (all four) licences, mobile network operators are required to host MVNOs on their network.

- **The full-MVNO model**

A new wholesale business model was created for certain mobile virtual network operators (MVNO) in 2011, with the signature of full MVNO contracts. These operators have core network elements and purchase only access to the wireless local loop from their host operators. This means they have control over their interconnection with other operators, and enjoy greater commercial and technical autonomy. Full MVNOs are in a better position to leverage competition between host network operators. This model is very similar to the roaming model.

---

5 - *Cf. Chapter 2 of this section*
6 - *Regulation No. 531/2012 of the European Parliament and of the Council of 13 June 2012 on roaming on public mobile communications networks within the Union.*
7 - *Article 14 of Law No. 2012-1270 of 20 November 2012 on economic regulation of French overseas markets*
8 - *This programme, overseen by the Inter-ministerial land planning and regional action delegation, DATAR (Délégation interministérielle à l'aménagement du territoire et à l'attractivité régionale), was created by an agreement signed on 15 July 2003 by the French Mayors' Association (AMF), the Association of French departments (ADF), ART (which later became ARCEP) and 2G mobile operators.*

2.3 Radio access network (RAN) sharing

Network sharing means sharing a portion of active telecommunications equipment that transmits over the frequencies belonging to all of the operators involved in the sharing scheme.

a) 3G RAN-sharing in "dead zones"

Pursuant to the Law on modernising the economy (LME), on 9 April 2009 ARCEP adopted decisions that provide for the implementation of a 3G network sharing scheme between operators in Metropolitan France[9].

Based on these guidelines, in February 2010 Orange France, SFR and Bouygues Telecom signed an agreement to share their mobile network infrastructure. This scheme was expanded to include the fourth MNO, Free Mobile, in July 2010.

Operators are sharing their 3G networks in those areas covered by the national programme for extending 2G coverage in dead zones, and in additional locations. The agreement allows operators to cover the most rural and hard to cover parts of the country, and so contributes to increasing the percentage of the population covered by all the MNOs. The advantage that RAN sharing has over roaming (cf.2.1), which is also used in these areas for 2G services, is that it allows virtually all four 3G network operators to be present, even if only a single piece of active equipment is installed. An operation that is fully transparent for users.

b) 4G network sharing (RAN-sharing) as stipulated in operators' licences

The terms attached to 4G licences in the 800 MHz band contain specific provisions to encourage mobile network sharing. For ARCEP, these provisions carry multiple objectives:

- sharing costs to facilitate and accelerate 4G network rollouts, particularly in the more sparsely populated parts of the country;
- the use of broad channels enables high throughput and optimal use of available spectrum;
- operators with a licence to use 800 MHz band spectrum must share their frequencies as part of the "dead zone" programme;
- Bouygues Telecom and SFR have a mutual obligation to grant reasonable requests for network or frequency sharing in the "priority rollout area"[10].

c) Mobile network sharing agreement between Bouygues Telecom and SFR

On 31 January 2014, SFR and Bouygues Telecom announced that they have finalised and signed an agreement whereby the two operators will deploy a shared cellular network that covers 57% of the population of France.

This trend is neither new nor isolated. Examples from across Europe reveal that mobile operators in a number of countries – including the UK, Ireland, Poland, Sweden, Spain, the Czech Republic and Denmark – are engaged in sharing schemes. These agreements take a variety of forms, notably in terms of their geographical scope and the range of technologies deployed in common (2G, 3G or 4G).

9 - *Decision No. 2009-0328, of 9 April 2009 setting the terms and conditions under which 3G mobile network installations can be shared in Metropolitan France. This decision applies Article 119 of Law No. 2008-776 of 4 August 2008 on modernising the economy (LME) which stipulates that, "to facilitate increased nationwide coverage for third generation mobile radiocommunications, following a public consultation […], ARCEP will determine the terms and extent of a system for sharing third generation mobile electronic communications networks".*

10 - *Defined in terms of 800 MHz licences and representing 18% of the population and 63% the land mass of Metropolitan France, corresponding to the lowest density areas*

A number of network sharing agreements have been established in Sweden since 2001, varying in scale and in the technologies they cover, so much so that every mobile operator in the country is involved in at least one sharing agreement. In Spain, Orange and Vodafone established a 3G network sharing agreement in 2006 that applies only to rural areas. In Denmark, Telenor and TeliaSonera having been sharing all of their 2G, 3G and 4G access networks since 2012.

At a time when market competition is increasingly fierce, and operators' expenditures continue to be high, especially for 4G network rollouts, resource pooling agreements can provide telcos with a way to reduce their costs and increase the benefits passed onto users, including increased coverage and a better quality of service.

ARCEP welcomes all mobile network sharing agreements, in principle; they are in fact encouraged under the framework governing 4G frequency licence allocations that was drafted in 2011. These agreements must nevertheless meet certain conditions: first, the two operators must remain independent from one another; second, it must be ascertained that the agreement will not squeeze certain competitors out of the market and, third, the agreement must result in a verifiable improvement in the quality of service provided to end users.

SFR and Bouygues Telecom stated that they wanted to provide their customers with better coverage, both indoors and outdoors, as well as a higher quality of service by optimising the mesh of their shared network. They also announced that their project should help generate savings, while giving both parties the capacity to innovate on their own, complete commercial and pricing independence, and the ability to market different products.

2.4 Sharing passive infrastructure

Sharing passive infrastructure consists of pooling all or a portion of passive infrastructures (towers, masts, fences, service rooms, etc.) and easements (electricity, cooling, air conditioning, security, etc.).

Unlike roaming or network sharing, sharing passive infrastructure does not involve the shared use of mobile network equipment (antennae, station towers, transmission links, switches, etc.). It is a system that is used largely by operators, and encouraged by the legislative and regulatory framework[11], not least because it makes it possible to reduce the number of transmission sites and the resulting visual impact, and contributes to protecting the environment.

Sharing passive infrastructure in dead zones

Under the above-mentioned 2G programme of 2003 for bringing coverage to dead zones, a third of the rollouts involve sharing passive installations.

This technical approach thus allowed each operator to install its own equipment on shared towers. The solution's advantage over roaming is that it enables all three 2G network operators to be present, which in turn allows customers to have access to their network in a simpler and more transparent fashion than with roaming. The drawback is that it is a more expensive solution, since three sets of equipment are deployed, rather than only one.

11 - ACPCE Articles L.47, L.48 and D.98-6-1

3.3. Sharing broadcasting infrastructure

The terrestrial television broadcasting product that incumbent broadcaster TDF or alternative broadcasters sell to multiplexes combines several elements: transmission of the signal supposes the use of an antenna which must be installed on a tower, and the use of other equipment which is either housed indoors our located outdoors on the surrounding land.

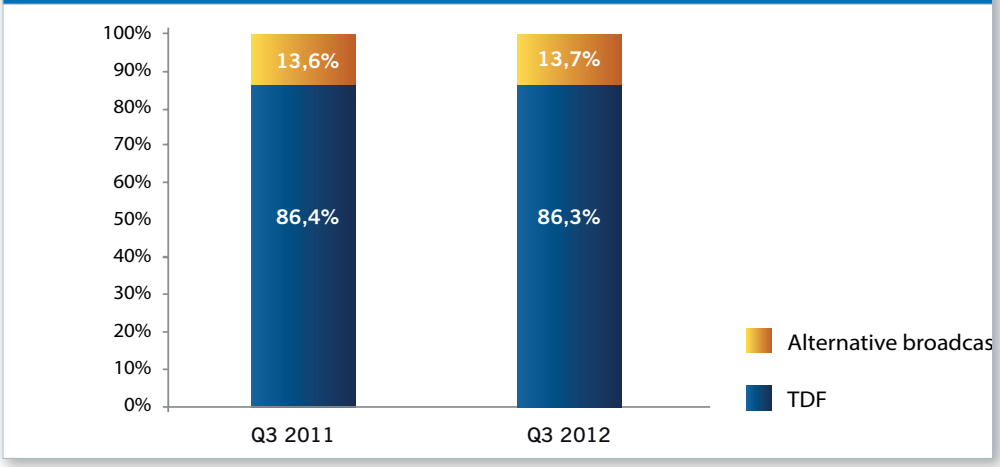
It is thus possible to distinguish three different situations for an alternative broadcaster, according to its position on the ladder of investment:

- if it has no infrastructure of its own, it will purchase the complete broadcasting solution sold by TDF, called "DiffHF-TNT" – which stands for digital terrestrial TV (DTT) high frequency broadcasting – whereby the TDF broadcasting channel is shared with other DTT points of service on the site. The alternative broadcaster will install its equipment (notably the transmitter) in the vicinity of the TDF tower, in most instances using the TDF product for hosting ground-based equipment;
- if the broadcaster has its own antenna, it can purchase hosting for its antenna on the TDF tower, which is virtually always combined with the TDF product for hosting its ground-based equipment;
- if the broadcaster has its own antenna and its own tower, it will not need to use TDF products in the upstream wholesale market.

In the upstream wholesale market for DTT broadcasting services, infrastructure may thus be replicated to varying degrees. Not all of these degrees are reasonable, however. If infrastructure-based competition allows competition to develop in a lasting fashion, it appears that alternative broadcasters wanting to respond to the different calls for tender for multiplexes across the country need to have access to TDF infrastructure. This is true not only for non-replicable sites, but also for a number of other sites, since replicating them would be a lengthy enterprise, and a risky one in the early years.

The following diagram illustrates multiplexes' overall use of sites managed by the incumbent broadcaster and those managed by alternative broadcasters, expressed as a percentage of the frequencies used.

Multiplexes' use of the different broadcasters' transmission sites

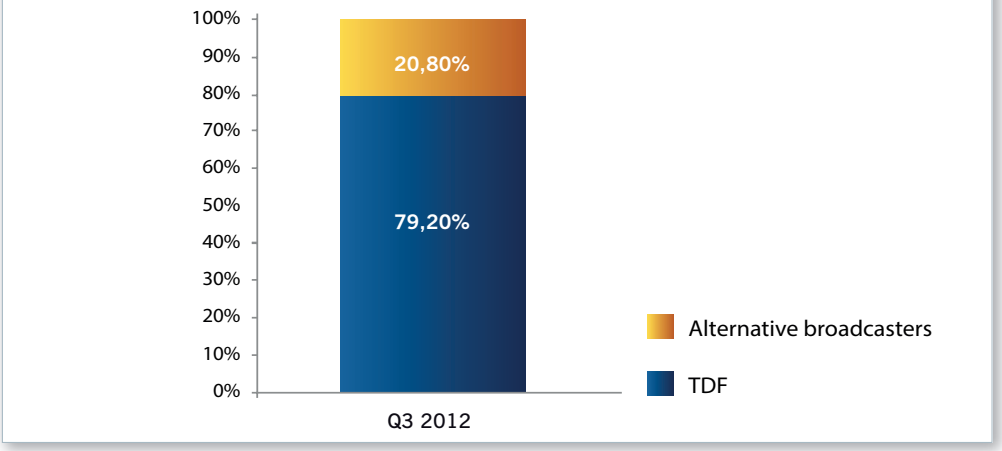


Source: ARCEP

However, having access to TDF infrastructure is not necessarily at odds with a certain form of infrastructure replication. Alternative broadcasters have in fact been installing their own antenna systems more and more since 2010, when hosted on sites managed by the incumbent broadcaster, in addition to their transmission and reception equipment.

The following diagram illustrates multiplexes' overall use of antennae installed by the incumbent broadcaster and those installed by alternative broadcasters, expressed as a percentage of the frequencies used.
.

Multiplexes' use of the different broadcasters' antenna systems



Source: ARCEP


Saint-Pierre and Miquelon
Saint-Martin
Saint-Barthélémy
Mayotte
Martinique
Guadeloupe
Reunion
Guyana

A more competitive overseas market

1. Monitoring overseas markets

1.1 The regulatory framework

The French Postal and electronic communications code, CPCE (Code des postes et des communications électroniques) does not apply in certain French overseas territories: namely Polynesia, New Caledonia, Wallis and Futuna and the TAAF districts (French southern and Antarctic territories) as ARCEP has no regulatory powers there.

It does, however, apply fully to the French overseas departments of Guadeloupe, Guyana, Martinique, Reunion and Mayotte, as well as the overseas collectivities of Saint Barthélemy, Saint Martin and Saint Pierre and Miquelon. The legal framework, both national and European, is identical to the one that applies in mainland France, and contains no special provisions for the overseas territories.

1.2 The singular challenges of overseas markets: submarine cables

One particular feature of supplying broadband access in the overseas markets is the reliance on submarine cables to relay data traffic to the main global internet exchanges. The costs induced by these undersea cables – infrastructures that are costly and complicated to deploy and maintain – are carried over to retail market prices for the electronic communications products sold in these overseas territories. The more isolated the territory, the higher the cost of the cable; the smaller the territory, the greater the repercussion on the price that customers are charged.

The regulatory instruments that ARCEP applies to wholesale submarine cable products depend on the state of competition on the segments between Metropolitan France and the overseas territories, and between the overseas territories themselves. ARCEP imposes obligations on the dominant operator, notably on its wholesale tariffs when a lack of competition has been ascertained in the sale of submarine capacity and/or the terrestrial extension. On the other hand, ARCEP imposes no such obligations when several interchangeable infrastructures exist, and when operators do not exercise joint dominance over the capacity services market.

Despite successive price decreases over the past several years, some overseas operators consider that the prices that submarine cable operators charge for their products, particularly in the Antilles region, continue to impede the development of broadband and superfast broadband usage. This is why, as part of its analysis of capacity services markets, ARCEP announced the implementation of detailed monitoring of these markets, through a system for collecting information on wholesale and retail market prices.

1.3 Committee for monitoring overseas markets

Created in 2009, this committee is devoted to supervising access and interconnection services in French overseas markets. It is composed of overseas operators and ARCEP representatives, and meets twice a year to address issues that are specific to the French overseas markets. It serves as a forum for discussions and a working group, and makes it possible to:

- ensure monitoring of overseas markets;
- inform operators in overseas markets of ARCEP decisions and the work it is doing;
- provide a forum for conciliation between undertakings operating in the overseas markets, local authorities and ARCEP;
- identify those issues that are specific to French overseas markets and monitor current actions.

In 2013, the committee met on 5 July and 27 November. It focused in particular on fixed access products, the work being done on allocating new mobile frequencies, mobile call termination, synchronising analysis of markets 4, 5 and 6, which includes regulation of submarine cables (market 6), as well as fixed and mobile number portability processes.

2. Current status and future outlook for electronic communications in the overseas markets

Electronic communications play a vital role in France's overseas markets as they make it possible, to a certain degree, to alleviate the obstacles to economic development resulting from the regions' insularity and geographical remoteness. In 2009, ARCEP members travelled to Reunion, Mayotte, Guadeloupe, Guyana and Martinique, to establish a status report on the conditions affecting access to electronic communications tools. In January 2010, the Authority delivered a report to Parliament and the Government describing the local markets, and making a number of proposals and recommendations.

Since the report's publication, and thanks to the biannual meetings of the Committee for monitoring overseas markets, there have been several positive developments in electronic communications competition and coverage in these departments and territories.

2.1 Broadband and superfast broadband market

a) Market status

- **Monitoring the quality of Orange wholesale products**

- Since its creation, the Committee for monitoring overseas markets has worked on improving the flow of information between Orange and alternative operators in each of the overseas departments. When the Committee was drafting its status report in 2010, alternative operators spoke of the difficulties they had in communicating on operational matters with the Orange carrier division – now called Orange Wholesale France (OWF) – in particular due to geographical distance. Local OWF representatives have thus been appointed for each of the overseas departments to improve communications with alternative operators.

- Orange was also asked to improve its transparency on quality of service (QoS) indicators for wholesale local loop access products. Published on a monthly basis, these indicators are calculated on a national scale, but do not provide any information on the quality of service obtained locally in each overseas department. Orange has thus begun to communicate on a regular basis with alternative operators that use its wholesale products, regarding specific QoS indicators produced for the overseas departments. ARCEP will continue to work to ensure that these indicators are transmitted to operators, and that they reflect an ongoing improvement in quality of service levels.

- Lastly, ARCEP asked Orange to host an annual meeting with operators, local authorities and State representatives in each overseas department, to deliver a status report on the local situation, and present relevant quality of service indicators.

The implementation of all of these tools makes its possible to monitor quality of service issues in the overseas territories over time, and to address problems as they arise.

• Progress in unbundling

Since the publication of the 2010 report, there has been a clear improvement in unbundling (LLU) coverage in the overseas departments, and most exchanges are now unbundled. LLU coverage has increased from 76% in 2009 to more than 94.2% at the end of 2013, which translates into more than 170 unbundled exchanges, or a national average of 89.2%.

Furthermore, fully unbundled and shared access lines represent 85.2% of the wholesale lines used by alternative operators overseas to deliver DSL broadband services to their customers, compared to 50% in 2009. Unbundling has thus become the most widely used wholesale product for alternative operators.

• Superfast network rollouts

On the matter of FttH rollouts and cable network upgrades:

- In Reunion, operator Réunicable owns a cable network that it is in the process of upgrading, as well as an FttH network that is currently being deployed in the greater Saint Paul area. Operator ZEOP deployed an FttH connection to around 1,000 premises in 2013;
- Numericable operates cable networks in Guadeloupe and in Martinique, and a network sharing offer has been available to retail market operators in Saint-Anne township in Guadeloupe since 2012, which makes it the first FttH network in the department, covering 18,000 premises.

b) Outlook

• For broadband: monitoring retail market prices and the development of competition

On the whole, significant progress has been made in broadband penetration rates, thanks to unbundling, and in improving available services – thanks to the launch of "unlimited" data plans enabled by the decrease in wholesale tariffs for submarine cables.

These improvements have not, however, gone hand in hand with a decrease in retail market prices. Public authorities in the overseas markets are surprised by how little impact earlier government funding initiatives (public subsidies, tax exemptions, etc.) have had on reducing retail market prices.

Moreover, despite widespread LLU coverage, alternative operators' share of the fixed services market in certain overseas departments remains very small compared to Orange's – except in Mayotte where ARCEP notes that alternative operators have made real strides, which is a good sign of a thriving market.

Department	Orange market share (wholesale DSL market)		
	Q4 2009	Q4 2012	Q4 2013
Guadeloupe	71%	65%	64%
Martinique	67%	61%	61%
Guyana	84%	73%	72%
Reunion	67%	49%	45%
Mayotte	N.A.	80%	64%

Source: ARCEP.

If the exchanges and cabinets are "ready" to be unbundled, few operators have managed to make the investments needed to cover all those that are currently LLU-ready. Among the potential obstacles for alternative operators are the lack of available fibre backhaul networks and their sometimes high wholesale tariffs.

ARCEP will keep a close watch over the availability and decongestion of the Orange LFO fibre backhaul offer, so that overseas departments benefit from the same level of commitment from Orange (95% availability for LFO links) as all of municipalities in Metropolitan France, to ensure that alternative operators can be competitive.

• For broadband: monitoring SDTAN and the choice of FttH

In 2013, France's five overseas departments (Guadeloupe, Guyana, Martinique, Mayotte and Reunion) launched a digital regional development blueprint, or SDTAN (schéma directeur territorial

d'aménagement numérique)[1]. Guadeloupe, Martinique, Mayotte and Reunion laid out their projects to the Superfast broadband in France Advisory committee, and obtained a favourable opinion.

These blueprints plan on beginning public superfast broadband network rollouts in the different territories, to complement private-sector FttH rollouts and cable network upgrades. Fibre to the home systems will account for a sizeable percentage of these rollouts: an average 64% of premises in these departments will eventually be covered by a public initiative, and 43% by 2018. Sub-loop unbundling[2] on the copper network will be used to a lesser degree, covering 11% of premises. These figures are to be taken on top of the deployments being performed by private-sector operators, which together will cover 19% of premises in these departments.

	Premises covered by operators' planned investments (LoI areas)	Ultimate FttH coverage target (public networks)	FttH coverage target for 2018 (public + private)	Target coverage for sub-loop unbundling (% of premises)	Total public monies earmarked (M€)
Guadeloupe	9%	66%	46%	12%	155
Guyana	30%	NC	NC	NC	NC
Martinique	25%	75%	50%	11%	244
Mayotte	0%	51%	51%	15%	20
Reunion	21%	79%	48%	12%	365
TOTAL	**19%**	**64%**	**43%**	**11%**	**784**

Source : ARCEP

2.2 In the mobile market

a) Current status

Unlimited voice and SMS plans have become more commonplace since 2010, keeping pace with users' growing consumption. At the same time, mobile internet plans have become increasingly popular as well. These developments have nevertheless occurred in a disparate fashion in the different regions.

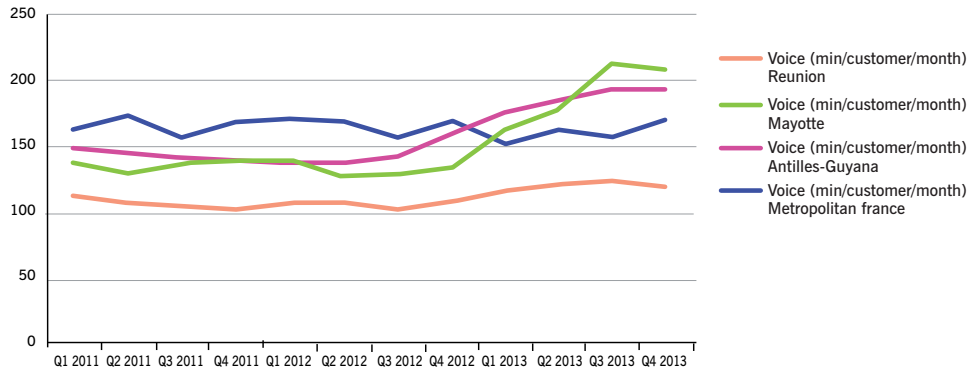
- **Explosion of voice traffic**

On the matter of voice plans, the commercial development of unmetered offers, which began in 2010 with offerings that were restricted to on-net calls, made significant progress in 2012 with the commercial launch of the first unlimited plans covering all networks, 24/7, and which became ubiquitous following the decrease in voice[3] and SMS[4] call termination rates on 1 January 2013[5]. This ubiquity resulted in an explosion in calling traffic in all of the overseas departments.

Average per-customer calling traffic increased across the board between the end of 2012 and the end of 2013: + 11% in Reunion, + 54% in Mayotte and + 22% in the Antilles-Guyana region. Consumption levels in Mayotte and the Antilles-Guyana region in fact exceeded consumption levels in Metropolitan France by 22% and 14%, respectively, at the end of 2013.

1 - Cf. p. 75-76
2 - Cf. p. 79-81
3 - ARCEP Decision No. 2012-1502, of 27 November 2012
4 - ARCEP Decision No. 2010-0892, of 22 July 2010
5 - Except for operators Dauphin Telecom and UTS for which the decrease in voice and SMS termination rates came into effect on 1 July 2013

Evolution of calling traffic (2011-2013)

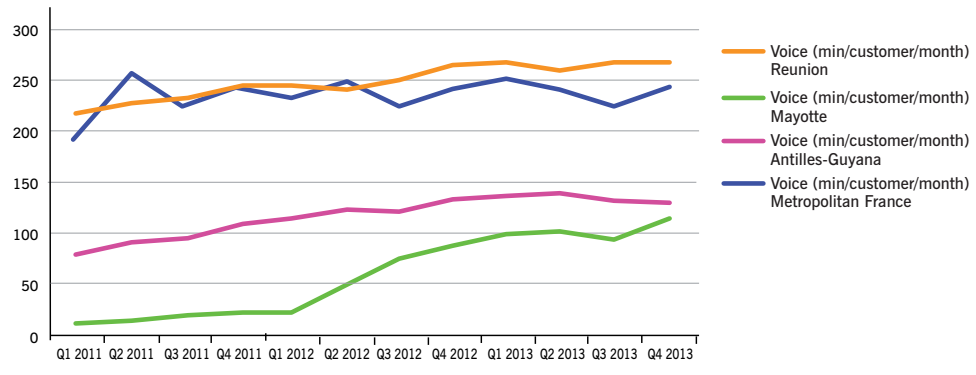


Source: ARCEP, Mobile indicator scorecard

• Increased use of texting

If the widespread availability of plans that include unlimited SMS contributed to the rise in consumption between 2008 and 2012, the decrease in SMS termination rates that came into effect on 1 January 2013 appears to have had less of an impact on traffic than the decrease in call termination rates. Person-to-person SMS traffic has increased substantially over the past several years, albeit less so in 2013, as was the case in Metropolitan France as well. Disparities still exist, however: average consumption at the end of 2013 stood, respectively, at 269 SMS/month in Reunion, 115 SMS/month in Mayotte and 130 SMS/month in the Antilles-Guyana region – versus 244 SMS/month in Metropolitan France. These figures reflect the very slight increase in consumption between then end of 2012 and the end of 2013 in Reunion (+0.5%) and the Antilles-Guyana region (-2%), whereas growth in Mayotte climbed to 31%. SMS traffic in Metropolitan France remained steady during this period.

Evolution of SMS consumption (2011-2013)



Source: ARCEP, Mobile indicator scorecard

• Changes in data plans and consumption

3G was introduced in the overseas markets between 2008 and 2010, so is a relatively recent addition to the marketplace, which explains why the differences in data products are more pronounced than in Metropolitan France.

- On the matter of **maximum available throughput**: while most plans in Metropolitan France today provide a maximum download speed of 14.4 Mbps[6], and up to 42 Mbps[7], we find greater disparities in the overseas markets, as much in terms of the technological upgrades deployed by the operators as the range of speeds provided to customers using these technologies, which run anywhere from 1.8 Mbps to 14.4 Mbps, and even as high as 42 Mbps.

- As concerns **data caps**: they never exceed 1 Gb/month (in December 2013) in the plans sold in the overseas markets, whereas in Metropolitan France some plans include as much as 20 Gb, and a great many plans now have a monthly data allowance of 3 Gb or more. This can be attributed to the slower throughput in the overseas markets.

• Evolution of retail market prices

No mobile price index is available for the overseas markets as yet. This is why, to obtain an understanding of pricing trends overseas, ARCEP adopted an approach that identifies each operator's best price for a given level of consumption, confining itself to prepaid flat rate plans with no set contractual commitment.

The overall trend in the overseas market is one of decreasing retail market prices. This trend is more pronounced for plans that include a data service component. Since the end of 2012, the price of low-end and mid-range flat rate plans has been relatively comparable to the price of plans in Metropolitan France, whereas unlimited plans in the overseas markets can cost twice what they do in mainland France.

b) Outlook: preparing for 4G licence awards

Mobile operators have expressed their growing need for spectrum resources to enable the ongoing development of 3G, and the deployment of 4G systems in the overseas markets.

• Public consultation on the assignment of new frequencies in the overseas markets

From 17 July to 30 September 2013, the French Government and ARCEP held a broad public consultation on the allocation of new frequencies in France's overseas territories – primarily with a view to furthering the development of 3G infrastructures, and rolling out 4G networks in these regions. The aim of the consultation was to take stock of stakeholders' spectrum requirements, and to obtain their views on the methods to be used for issuing frequency licences.

The consultation attracted 16 responses from mobile operators, new entrant candidates, one local authority and one media company. In February 2014, the Government and ARCEP published a summary of this feedback, and the responses in their entirety – which revealed that currently available spectrum was not enough to satisfy the stakeholders' requirements.

As a result, the Government and the Authority will soon launch selection procedures in Reunion, Mayotte, Guadeloupe, Martinique, Guyana, Saint-Martin and Saint-Barthélemy. These procedures will have several objectives: strengthen competition, further digital regional development, and stimulate innovation and adoption, along with stakeholders' competitiveness and job creation.

For the collectivity of Saint Pierre and Miquelon, the frequency requirements expressed by the stakeholders who responded to the consultation are compatible with the resources available in the different frequency bands used for mobile services. This spectrum can thus be allocated as stakeholders request it, without requiring a call for applications.

6 - *In HSDPA*
7 - *In DC-HSPA+*

• Preparing for frequency allocations

Working in tandem with the Government, ARCEP has begun to prepare the frequency licence award procedures for the overseas departments.

ARCEP welcomes all requests from existing and new entrant operators to perform technical trials with a view to preparing for and furthering the development of 4G in these markets. The first such authorisation was issued to Dauphin Telecom in 2013, to conduct temporary LTE technical trials in Saint-Martin, Saint-Barthélemy and in Guadeloupe. Other players plan on conducting similar trials in 2014.

3. Changing make-up of overseas markets

A series of takeovers in 2013 changed the make-up of the competitive landscape in France's overseas territories, particularly in the fixed market. These mergers and acquisitions gave birth to larger companies, and larger competitors for incumbent carrier, Orange: with one conglomerate owned by Altice, and another by Canal Plus Overseas. This consolidation could continue as a result of the Numericable (Altice) acquisition of SFR that is currently underway.

3.1 Altice acquisition of several overseas operators

In 2013, the Altice group engaged in a series of takeovers of telecom companies in the French overseas departments, via its Altice Six and Altice Blue TWO SAS subsidiaries:

- Altice took control of Outremer Telecom in July 2013. With a sizeable customer base in both the fixed and mobile market, Outremer Telecom was the biggest alternative operator overseas in 2013, selling fixed and mobile telephony and internet access products to both residential and enterprise customers. The newly formed entity, which combines the assets of Altice (Numericable) and those of Outremer Telecom, has become Le Cable-Outremer.
- Altice also acquired Mobius, a fixed market operator in Reunion. This acquisition has been approved by the Competition authority[8]. Mobius operates in the residential and enterprise fixed market, under the brands Mobius Technology and iZi, respectively, and sells triple play bundles to residential customers. The takeover comes to complete the Le Cable-Outremer conglomerate.

The Altice group has thus become one of the main providers of internet access in French overseas markets, and particularly in Reunion.

3.2 Canal Plus takeover of Mediaserv

Through its Canal Plus Overseas subsidiary, the Canal Plus group has taken over Mediaserv. This acquisition includes both retail market operator Mediaserv, and the companies in charge of public optical fibre concessions in Martinique, Guyana and Reunion. Canal Plus Overseas, which is the leading provider of pay-TV services, has thus entered the overseas telecommunications market, as Mediaserv is one of the largest internet service providers in these territories.

8 - *Decision No.13-DCC-199 of 24 December 2013*

PART THREE
Actions taken to ensure the markets run smoothly

The postal market

1. Overview of the postal market in France in 2013

1.1 The market as a whole

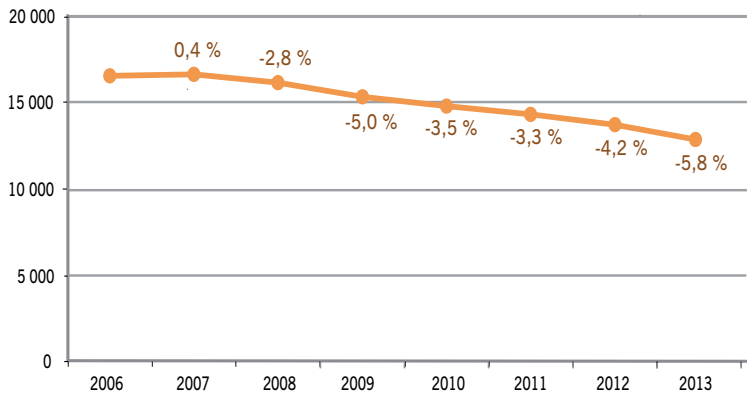
a) Items of correspondence delivered in France

In 2013, the correspondence market – i.e. letters weighing less than 2 kg – accounted for revenue of 6.9 billion euros, down 4.2% on 2012. The corresponding volumes (around 13 billion items) fell by 5.8% compared with 2012.

Volumes decreased more sharply in 2013 than in previous years. Volumes fell by an average of around 4.4 % per year over the previous three years.

The direct mail market (approximately 20% of the market in terms of value and 30% in terms of volumes) contracted more sharply (-8.5% in value and -7.3% in volumes) than the correspondence-item market (-3.2% in value and 5.2% in volumes).

Volumes (in millions) of items of correspondence delivered in France



Source : ARCEP.

Revenue (in millions of euros, excl. tax) for items of correspondence delivered in France							
	2008	2009	2010	2011	2012	2013	Evolution 2012-2013
Direct mail	1 625	1 466	1 460	1 453	1 358	1243	- 8,5%
Other correspondence	6 666	6 346	6 123	6 007	5 868	5678	- 3,2%
Total items of correspondence	**8 291**	**7 812**	**7 583**	**7 460**	**7 226**	**6921**	**- 4,2%**
Amount in the reserved area	6 170	5 859	5 721	-	-	-	-

Source : ARCEP, Observatoire postal – Annual surveys to 2012, forecast for 2013, provisional estimate

Volumes (millions of items) of correspondence delivered in France							
	2008	2009	2010	2011	2012	2013	Evolution 2012-2013
Direct mail	4 697	4 378	4 312	4 238	3 904	3618	- 7,3%
Other correspondence	11 419	10 928	10 454	10 047	9 784	9 279	- 5,2%
Total items of correspondence	**16 116**	**15 306**	**14 766**	**14 285**	**13 687**	**12896**	**- 5,8%**
Amount in the reserved area	13 470	12 780	12 243	-	-	-	-

Source : ARCEP, Observatoire postal – Annual surveys to 2012, forecast for 2013, provisional estimate

b) Outward international mail

With 339 million letters sent (i.e. 371 million euros in revenue) in 2013, correspondence flows shrank by approximately 5.9% compared with 2012, representing a loss of around 21 million letters. Almost 8 out of 10 outward international items were sent within the European Union.

Revenue (in millions of euros, excl. tax) and volumes (in millions of items) for outward international mail							
	2008	2009	2010	2011	2012	2013	Evolution 2012-2013
Revenue	392	376	391	380	379	371	- 2,0%
Volumes	468	436	413	370	360	339	- 5,9%

Source : ARCEP, Observatoire postal – Annual surveys to 2012, forecast for 2013, provisional estimate

1.2 The operators

a) Postal operators authorised by ARCEP

In compliance with the 1997 European Postal Directive[1], the law of 9 February 2010[2] opened the postal sector fully to competition in France. Since 1 January 2011, the entire postal market has been open to alternative postal service providers.

To enter the market, companies wishing to exercise postal activities must hold an ARCEP authorisation. Processing of authorisation applications may, inter alia, give rise to on-site inspections.

Since June 2006, ARCEP has issued 47 authorisations. At 31 December 2013, 33 authorised operators were active in the postal market:

- 22 providers of domestic letter-post services, including delivery;
- 10 providers of outward cross-border letter-post services;
- La Poste, which is authorised to deliver domestic items of correspondence and to handle outward cross-border mail.

1 - Amended Directive 97/67/CE of 15 December 1997
2 - Law No. 2010-123 of 9 February 2010 on the public enterprise La Poste and on postal activities

b) Authorisations issued in 2013

- In 2013, four new authorisations for mail delivery activities in France were issued, and two postal operators ceased trading. These new authorisations were granted to SMEs operating within limited areas of the national territory.
  Alongside La Poste, the main domestic operator in 2013 was Adrexo, which covers virtually all of Metropolitan France for direct mail and free newspapers. The other operators are generally SMEs with a local business base offering various postal services, including the delivery of correspondence.
- No authorisation application for the outward cross-border mail market was submitted in 2013.
  The main providers operating in parallel with La Poste are subsidiaries of established national incumbent operators (Germany, Netherlands, Switzerland, United Kingdom, Belgium) or the operator itself, as in the case of Austria Post.
  In addition, there are two private French operators, IMX-France and Optimail-Solutions.

2. The postal sector and postal operators in Europe

2.1 Wik study on main developments in the postal sector (2010-2013)

At the request of the European Commission, the consultancy firm Wik-Consult carried out a study on the main developments in the postal market in Europe. This is a benchmark study on the European postal sector regularly commissioned by that body.

The study points out that the decline in volumes of mail, which is the core of the postal operators' traditional business, was only partly offset by increased parcels volumes within Europe (although the increase in parcels did offset letter-post losses in some member states). This being so, despite the price increases introduced by many operators, cost savings associated with declining volumes were insufficient to compensate for reduced revenue, thus threatening the stability of the sector.

According to WIK-Consult, the costs associated with providing the universal service as currently defined by the directive could appear excessive in the long term. Consequently, WIK advocated greater flexibility in the universal service obligations, which should meet general criteria, such as ubiquity, affordability and accessibility, and which member states should have discretion to apply according to their particular circumstances.

WIK also stressed that it was in the interests of postal operators themselves to provide coverage throughout the territory, as this was what their customers, particularly the biggest mailers, demanded. The consultants felt that when market forces or the commercial motivations of the incumbent operator could be relied on for universal service provision, regulation could be put in place on an ex-post only basis for most mail flows, and the regulator would intervene only when necessary.

However, despite recommending less burdensome universal service regulation, WIK's report proposed that the powers of regulatory authorities should be extended with regard to competition and cost accounting, and that regulators should be empowered to take interim measures. WIK-Consult believed this was necessary for at least two reasons: first, to prevent anti-competitive behaviour, the effects of which would be difficult to reverse; and second, the sector's regulatory authorities were likely to have greater expertise in postal economics than the national competition authorities.

2.2 Stock market flotations

2013 saw the stock exchange launch of a number of Europe's postal operators.

- Belgium's incumbent postal operator, bpost, floated part of its capital, held by CVC Capital Partners (a private equity group), on the Brussels stock exchange on 21 June 2013. CVC raised 812 million euros from the sale of its 28% stake in the Belgian operator. The Belgian State remained the majority shareholder, with 50.01% of the capital, as it had not sold shares under this offer.
- In the United Kingdom, the incumbent postal operator, Royal Mail, was listed on the London stock

exchange on 15 October. This operation, which followed on from the Postal Services Act of 2011 (itself stemming from the 2008 Hooper report), removed the barriers to the government's ability to open up the operator's capital to private funds. By opening up Royal Mail's capital, the government was able to raise two billion pounds, while retaining 30% of the operator's capital.

- Portugal's incumbent postal operator, Correios de Portugal (CTT), listed capital on the Lisbon stock exchange on 4 December 2013. The Portuguese State raised 580 million euros from this operation, while retaining 30% of the operator's capital. The opening up of CCT's capital was part of a Portuguese state programme of public asset sales.

3. The universal postal service

3.1 Changes in the universal postal service

a) Changes in 2013

A number of changes were made to the catalogue of universal services in 2013, within the framework of a specific procedure provided for under the French postal and electronic communications code (CPCE)[3]. In the case of single-piece mail, La Poste sends its proposals for substantial changes to the catalogue simultaneously to ARCEP and the Minister for Posts. ARCEP issues an opinion within a month, and the Minister has two months in which to raise any objections.

■ Changes made to the catalogue of universal services at 1 January 2014

In July 2013, La Poste submitted the following draft changes to the catalogue of universal services, to take effect at 1 January 2014:

National mail

- The introduction of the on-line priority letter service, whereby letters sent to La Poste in electronic format can be delivered in paper format. Senders can opt to upload documents to the La Poste website, either drafting their own texts or using a letter template (applying for a crèche place, cancelling a reservation, etc.). La Poste then prints out the letter, puts it in an envelope, franks it and delivers is as a traditional priority letter. Items downloaded to the La Poste website before 19.00 are processed the same day.
- The guideline transmission time for the advice of receipt is D+2.
- The application of an advice of receipt option to items at the same tariff as the registered letter, i.e. 1.05 euros.

In September 2013, ARCEP issued a favourable opinion on these changes, which seemed beneficial to users, enhancing the content of the universal postal service or defining its characteristics.

The advice of receipt is a key document in the case of secure mail: it can be used as evidence in the event of a dispute and is therefore extremely important for insured items. The publication of a transmission time for this document, as requested by ARCEP on a number of occasions, provides postal service users with useful information.

International mail

On 31 July 2013, La Poste proposed a change to the catalogue of universal postal services, abolishing the international economy business letter and the economy business package.

This change, which would simplify the range of services, might be advisable, given that these flows represent only a very limited part of international business mail; moreover, their volumes are falling rapidly. However, since these services could be of real economic value to some businesses, ARCEP felt that La Poste should hold a consultation with businesses using them, or with their representative organizations, before abolishing them. Therefore, on 10 September 2013 ARCEP issued an unfavourable opinion concerning the abolition of the economy service offered by La Poste, inviting it to submit a new file in 2014, after a consultation phase.

3 - Article R.1-1-10

■ Changes to the mail offering to be made on 1 January 2015

In January 2014, La Poste sent ARCEP further changes to the single-piece universal service offering, with effect from 1 January 2015. These included the introduction of mailing conditions that were neutral in terms of content, applying both to correspondence items and to merchandise, with pricing based on weight and format criteria.

ARCEP issued a favourable opinion on these changes, which met a long-standing demand and would make it easier to send small items - a timely response to the growth in e-commerce.

During 2014, La Poste will undertake a major programme of staff information and training on these changes.

b) Accessibility of the redirection service

ARCEP had on several occasions asked La Poste to make the redirection service, which was part of the universal service and should therefore be accessible to all, available to residents of collective housing, such as university halls of residence and hospitals, whose mail was delivered by a third party internal service.

A solution was found through a cooperative arrangement between La Poste and third party delivery agents (caretakers, porters) in collective residences, who would return undelivered mail to the postman, in principle on the following day. Provided the addressee had signed a redirection contract, the items concerned could then be redirected to the new address.

La Poste adapted the specific conditions of sale for redirection accordingly, and the new redirection application forms were made available at its contact points.

In addition, instructions were issued to La Poste postal establishments, and training and information activities were provided for postal delivery staff to ensure that the redirection service would operate properly in collective residences.

c) Service contract between La Poste and the State

In July 2013, La Poste Group and the French State signed a service agreement for the period 2013-2017. This contract related to La Poste's four major public service missions:

- The universal postal service;
- Transporting and delivering the press;
- Providing access to banking services;
- Local and regional development.

The contract sets out a number of concrete improvements in line with ARCEP's previous requests to La Poste, notably with regard to its opinions on tariffs. They include measuring transmission time at D+2 for advices of receipt and guaranteeing customer access to the priority letter service.

The service contract also provides for a change to the catalogue of universal services, meeting users' small consignment dispatch needs by offering them an affordable, clear and coherent range of services that take into account item formats and production costs. This satisfies a long-standing request from ARCEP to La Poste.

The Minister for Posts requested ARCEP's opinion on the draft contract, and on 14 March 2013 the Authority issued its opinion on the aspects relating to the universal postal service.

3.2 Quality of service

At ARCEP's request, La Poste has published a universal postal service indicator table every year since 2006. The list of indicators featured in this table has expanded year by year and now covers a large part of users' essential information requirements.

a) Mail transit times

Priority-letter transit times were slightly longer in 2013 than in 2012, with a D+1 delivery rate of 87.4%. This was down 0.5 on the previous year, breaking the virtually continuous improvement in quality since 2005, interrupted only by 2010, which was atypical on account of the weather. Nevertheless, the level achieved by La Poste for 2013 still exceeded the quality of service target of 85% set by the Minister for Posts.

Quality of service for green letters remained unchanged from 2012, with a D+2 delivery rate of 92.8%. Given that this result fell below the 93% target set by Minister for 201.

Mail transit times

		2008	2009	2010	2011	2012	2013	Growth 2012-2013
Priority letters								
% delivered in D+1	82,5%	83,9%	84,7%	83,4%	87,3%	87,9%	87,4%	- 0,5 pt
% delivered in D+2	96,3%	96,8%	96,8%	96,0%	97,5%	97,8%	97,5%	- 0,3 pt
% delivered in D+3	-	-	-	-	99,2%	99,4%	99,3%	- 0,1 pt
Green letters								
% delivered in D+2	-	-	-	-	-	92,8%	92,8%	-
Cross-border mail (inward)								
% delivered in D+3	95,5%	97,0%	95,7%	92,7%	96,0%	95,8%	95,5%	- 0,3 pt
% delivered in D+5	99,1%	99,5%	99,3%	98,7%	99,3%	99,2%	99,1%	- 0,1 pt
Cross-border mail (outward)								
% delivered in D+3	94,8%	95,4%	94,4%	90,4%	93,6%	94,2%	93,4%	- 0,8 pt
% delivered in D+5	98,8%	99,0%	98,7%	99,6%	98,4%	98,8%	98,7%	- 0,1 pt

Source : La Poste.

b) Transit times for registered letters

2013 transit times for registered letters continued an upward trend begun in 2011, following ARCEP's request to improve the quality of this product and ensure its reliable measurement. Thus, in the space of a few years the "registered letter" has become a reliable service with a delivery rate of D+2.

Registered-letter transit times and reliability

	2008	2009	2010	2011	2012	2013	Growth 2012-2013
Transit times							
% delivered in D+2	90,9%	88,7%	85,8%	92,5%	94,7%	95,2%	+ 0,5 pts
Excessive delivery times (more than D+7)							
%	0,4%	0,3%	0,4%	0,2%	0,1%	0,1%	- 0,0 pt

Source : La Poste.

c) Colissimo guichet"transit times

Parcel measurements are for the "Colissimo guichet" product, i.e. single parcels posted at La Poste counters and contact points by private customers and small businesses. The contractual transit time is D+2. If this target is not met, La Poste undertakes to give senders a voucher for posting their next parcel free of charge. Although the percentage of Colissimo parcels delivered in D+2 was slightly lower in 2013 than in 2012, this product continued to show a marked improvement compared with the figures for 2005.

Colissimo transit times and reliability

	2008	2009	2010	2011	2012	2013	Growth 2012-2013
Transit times							
% delivered in D+2	85,0%	87,7%	84,8%	88,7%	89,8%	89,4%	- 0,4 pt
Excessive delivery times (more than D+4)							
%	1,3%	1,1%	1,7%	1,0%	0,8%	0,9%	- 0,1 pt

Source : La Poste.

d) Number of post boxes and latest posting times

The statistics published by La Poste show a decrease in the number of post boxes in France over the last three years.

La Poste attributes this trend first to improved post-box counts, which may previously have been overestimated, and second to a rationalisation policy of replacing small-capacity post boxes with fewer large-capacity boxes.

Number of post boxes and their distribution by collection time

	2009	2010	2011	2012	2013	Growth 2012-2013
Number of post boxes	149 208	148 292	144 610	141 646	140331	- 13015
including those emptied at or before 1 pm	119 913 80,4%	119 950 80,9%	117 669 81,4%	110 625 78,1%	114 632 81,7%	- 7 044 + 3,6 pts
including those emptied at or before 4 pm	141 795 95,0%	141 152 95,1%	137 757 95,3%	133 855 94,5%	133 107 94,9%	- 748 + 0,4 pt

Source : La Poste.

e) Complaints

La Poste achieves a very high response rate within 21 days. The number of Level 2 complaints, i.e. those which, when first submitted, have not been resolved to the customer's satisfaction, rose by almost 20%. However, the number of Level 2 complaint-processing applications submitted remained very low (around 1%).

Complaint processing statistics								
		2008	2009	2010	2011	2012	2013	Growth 2012-2013
Number of letters of complaint to La Poste								
Number of Level one complaints	417 237	446 751	627 812	862 538	926 872	886 811	889833	- 40 061
per 100,000 items	2	3	4	6	7	8	8	-
Number of Level two complaints	-	-	-	-	-	8 046	10 664	2 618
Response within 21 days	97,0%	97,7%	95,3%	99,0%	99,2%	98,9%	99,5%	+ 0,6 pt
Response within 30 days	98,7%	99,0%	98,0%	99,4%	99,6%	-	-	-
Indemnification								
Complaints giving rise to indemnification	9,0%	10,4%	14,6%	13,7%	12,9%	13,8%	9,8%	- 4,0 pt
Complaints eligible for submission to the Mediator								
	498	452	567	717	758	747	721	- 26

Source : La Poste.

3.3 2013 tariffs

a) Tariff changes in 2013 and 2014

■ Average increases introduced in 2013 and planned for 2014

Tariffs for universal service products increased by an average of 2.9% in 2013 and were expected to rise by 3.2% in 2014[4], taking into account tariff movements at the beginning of 2014. These increases were above inflation (0.9% in 2013 and 1.3% expected in 2014).

Average annual change in universal service tariffs						
	2009	2010	2011	2012	2013	2014
Single-piece stamped mail	1,7%	2,0%	3,3%	1,6%	4,0%	4,7%
Single-piece business mail	1,7%	1,6%	2,0%	0,7%	3,4%	3,7%
Transactional mail	1.0%	0,3%	1,7%	1,6%	2,1%	2,0%
Advertising	0,8%	0,1%	1,7%	1,6%	0,5%	0,3%
Parcels	3,4%	1,4%	2,3%	2,1%	2,6%	2,8%
Other (press, services, international …)	2,5%	1,9%	2,1%	0,4%	1,5%	2,4%
Overall basket	**1,5%**	**1,1%**	**2,1%**	**1,2%**	**2,9%**	**3,2%**
Volumes	**-5,7%**	**-3,8%**	**-3,6%**	**-4,9%**	**-5,7%**	**–**
Inflation	**0,1%**	**1,5%**	**2,1%**	**2,0%**	**0,9%**	**–**

Source: ARCEP calculations based on La Poste data

4 - Given that 2014 tariff changes came into effect on 1 January 2014 (except for parcels, 1 March), they were taken into account in the analysis. They are subject to marginal adjustments as the weightings used were based on estimated 2013 volumes (definitive values were not available when the report was finalised).

■ Tariff opinions issued in 2013

ARCEP approved[5] tariff increases of 3.2% and 3.0% for domestic and international mail respectively, with effect from 1 January 2014. In the domestic service, single-piece items (stamped mail sent by private customers or machine-franked business mail) increased by 4.1% and bulk mail (bills, bank statements, advertising mail) saw an increase of 1.8%.

The sharper fall in volumes compared with 2012, combined with the significant proportion of fixed costs in La Poste's charges and the pressure on the operator to adapt to changing activities led to tariff increases that were inevitable in order to maintain the economic stability of the universal service.

ARCEP issued an unfavourable opinion[6] on the proposed increase in the "mobility" range of redirection services, owing to the significant number of complaints about this product. Notwithstanding La Poste's undoubted efforts to improve the service, progress needs to be proven over time. After noting this opinion, La Poste decided to introduce a much smaller increase than anticipated for redirection services (2% instead of 9%).

Finally, ARCEP approved[7] tariff changes for universal service parcel products, authorising an average increase of 2.7% in the Colissimo service tariff with effect from 1 March 2014. This tariff increase was justified by the stability of Colissimo volumes, particularly in view of the falling volumes of other La Poste activities (mail or services at counters or contact points).

La Poste's tariff changes also took account of concerns raised by ARCEP in previous opinions:

- parcel tariff increases were the same in Metropolitan France and French overseas departments;
- a 5% discount for franking parcels on-line, currently available in Metropolitan France only, was extended with effect from 1 March 2014 to parcels sent within French overseas departments.

b) The price cap

ARCEP determines the characteristics of the multi-year price-cap system for universal postal service products. The price cap[8] applied limits the average annual increase in the price of universal service products (overall basket) to inflation plus 1%. This ceiling, which is less strict than that set for previous price caps (set at inflation plus 0.3% for 2006-2008 and 2009-2012), should enable La Poste to fund the universal service by ensuring a stable margin for providing universal service products throughout the period covered by the price cap on condition that the operator adapts its costs to changing volumes.

Based on reference inflation set under the finance law for 2013 and 2014 at 1.8% and 1.3% respectively, the cumulative indicative ceiling for 2013 and 2014 is 5.2%, whereas the tariff increases introduced amounted to 6.2%.

While La Poste did not use all the tariff margins available for the 2009-2012 price cap, it introduced increases above the indicative framework in 2013 and 2014. Any price increases it introduced in 2015 would therefore be subject to constraints.

3.4 Instruments for monitoring provision of the universal service

a) Audit of system for measuring quality of service

In order to carry out a satisfactory evaluation of postal service quality, the quality of the principal universal services provided is measured in accordance with standards designed by the European Committee for Standardisation (CEN), at the European Commission's behest. In particular, Standard EN 13850 organises the measurement of transit times for single-piece priority items which are, in principle, delivered in D+1.

5 - Opinion No. 2013-1147 on domestic mail and opinion No. 2013-1149 on international mail of 10 September 2013
6 - Opinion No. 2013-1148 of 10 September 2013
7 - Opinion No. 2014-0164 of 4 February 2014
8 - Decision No. 2012-1353 of 6 November 2012

■ Quality of service measurement system provided for in Standard EN 13850

The measurement system set out in Standard EN 13850 is based on test letters sent by panellists, independent of and unknown to the postal operator, who record the dates on which the test letters are sent and received. Provided these letters constitute a representative sample of real mail, the consolidation of the transit times for each test letter enables the quality of service level to be accurately determined.

The body responsible for implementing the measure provided for in the Standard is the linchpin of the system, and must be independent of the postal operator.

The Standard also provides for a periodic audit of the measurement system to ensure that it complies with the Standard's requirements. This audit must be carried out by an auditor who is independent of both the postal operator and the measuring body. If selected by the postal operator, the auditor must be approved by the national regulatory authority.

■ Application of the quality measurement system in France

The body responsible for quality measurement in France is the French Institute of Public Opinion (IFOP). It was selected by La Poste for the period 2013-2016 on the basis of a call for tenders. In compliance with the Standard, IFOP obtains a sample of test letters that are representative of real mail and defines the sampling plan. This plan forms the basis of the actual quality of service measurement, which is carried out by means of the exchange by panellists of test letters. The panel is made up of over 6,000 panellists (individuals and businesses), who exchange more than a million priority letters and around 800,000 green letters each year.

In June 2013, ARCEP published a recommendation concerning the method of implementing the audit of quality of service measurement for the priority letter and the green letter[9]. This recommendation sets out the measurement system provided for in Standard EN 13850 and the conditions under which it is to be applied in France. It also specifies the method for carrying out the audit and the points to which the auditor should pay particular attention.

■ Findings of the audit of quality of service measurement for the priority letter and the green letter

At ARCEP's request, and in compliance with the Standard, a general audit of quality of service measurement was carried out in 2013 for two major universal service products, the priority letter and the green letter. ARCEP issued a decision[10] approving the firm Ernst & Young to carry out this audit.

The audit report sent to ARCEP by Ernst & Young in January 2014 contained a number of recommendations to improve quality of service measurement for the two services audited. ARCEP will ensure that La Poste and IFOP carry out these recommendations, which focus in particular on the body responsible for measuring quality of service, the weighting method used and aspects of panel management.

b) Regulatory accounting

As the universal service provider, La Poste is bound by law to implement regulatory accounting that allows separation of the costs of universal service provision from those of other products.

To supervise the proper execution of these principles, ARCEP is charged by law to stipulate the cost accounting rules and to draw up specifications for the accounting systems.

Within this context, it amended certain cost allocation rules, including those concerning tax in relation to La Poste's exemption from VAT on certain services. This exemption, which mainly applies to universal service

9 - Recommendation on implementing the audit of quality of service measurement for the priority letter and the green letter
10 - Decision No. 2013-0721 of 30 May 2013

products, means that the operator has to bear tax costs (non-recoverable VAT and tax on salaries) of around one billion euros. ARCEP took a decision at the start of 2013[11] which led to better identification and improved allocation of these costs in La Poste's regulatory accounting. Statutory reporting was changed to identify these costs and the changes were applied for the preparation of the 2012 accounts.

ARCEP's work also led to changes in the cost allocation rules concerning early retirement plans put in place by La Poste. These plans allow employees, and in certain cases contract staff, approaching the legal retirement age to reduce their working hours gradually in return for a reduced salary and a severance payment on retirement. As a result of this scheme, remuneration for time not worked was entered under product costs in the regulatory accounting. ARCEP's work led to a decision[12] whereby only staff costs associated with working time would be allocated to product costs in the regulatory accounting.

c) Regulatory accounting: choice of auditor

The law also charges ARCEP to have an annual audit carried out to ensure that the service provider's accounts comply with its rules. The criteria on which ARCEP bases its approval of the body tasked with this audit are independence and competence.

The approval procedure for the 2013 to 2015 audits took place in autumn 2013 and led to the adoption in early 2014 of a decision approving the firm KPMG[13].

4. The parcels market

4.1 The European Commission's Green Paper and Roadmap

On 16 December 2013, the European Commission published a "roadmap" for completing the single market for parcel delivery. This document stemmed from the Commission's work on the growth of e-commerce and was a follow-up to the Green Paper on '*An integrated parcel delivery market for the growth of e-commerce in the EU*', published in early 2013, which formed the basis of the enquiry conducted by ARCEP and DGCIS (General Directorate for Competitiveness, Industry and Services)[14] among the postal market players in France.

The Commission's aim is to stimulate e-commerce in the European Union by providing e-retailers and consumers with high-quality, accessible and affordable parcel delivery services; however, in these two documents the Commission identifies problems concerning cross-border parcels in Europe. These relate mainly to delivery times, prices, insufficient consumer information, significant levels of loss and damage, and delivery problems.

Within this context, the Commission's Roadmap sets out the following three main objectives:

- increased transparency and information, particularly by encouraging the adoption of voluntary codes of conduct or codes of good practice;
- improved availability, quality and affordability of delivery solutions, particularly better parcel tracking and the development of solutions for more effective returns;
- improved complaint handling and redress mechanisms for consumers.

The Commission is of the view that it falls to the delivery operators themselves to respond to the challenge. It reserves the right to put in place remedial or additional measures to address market shortcomings if, within 18 months of publication of the Roadmap, the solutions proposed have not been fully implemented or have proved inadequate.

ARCEP commissioned an external study on cross-border parcels sent from France, the aim of which is to identify

11 - Decision No. 2013-0128 of 29 January 2013 which was submitted for prior consultation.
12 - Decision No. 2014-0294 of 11 March 2014
13 - Decision No. 2014-0074 of 21 January 2014
14 - Direction générale de la compétitivité, de l'industrie et des finances

players' needs and the features of available services likely to meet their expectations. The study will identify areas for improvement in the outward cross-border parcels market in France.

4.2 Xerfi study

ARCEP obtained a study by Xerfi on "*The parcels market in 2015*". This study reveals that the largely unregulated parcels market is currently experiencing steady growth and undergoing major changes, mainly as a result of the rapid expansion of e-commerce.

Historically, parcel delivery has been split between three segments: distance sellers' delivery networks via collection points; express; and La Poste. However, with the growth of e-commerce these distinctions have tended to become blurred.

It is worth noting that the traditional boundaries between parcels (which used to be sent mainly to private individuals) and express services (formerly almost exclusively business-to-business and with high added value) are being eroded, with express services repositioning in the segment delivering to private individuals in order to capture e-commerce flows of mainly low-value goods. This was the motivation behind the UPS decision to buy Kiala collection points, which enable it to deliver parcels to private individuals. Other express service providers are developing partnerships with collection point networks at which undelivered parcels can be left.

In addition, collection points originally set up by parent companies to deliver their own parcels ("Relais Colis" for "La Redoute"; "Mondial Relay" for "Les trois suisses") became generalist market players, targeting distance sellers as a whole.

For its part, La Poste diversifed its offering, launching new offers and related services for e-commerce. Inter alia, it expanded its delivery methods in response to the growing demand from on-line shoppers for convenience. For example, alongside traditional door-to-door delivery by the postman, it offers delivery to pick-up points, express delivery, automated collection units and delivery by appointment.

5. Consumers

5.1 Handling of postal complaints

In accordance with the Law of 9 February 2010, postal-service users have, since 1 January 2011, been able to submit to ARCEP complaints that have not been satisfactorily resolved using the procedures put in place by authorised postal-service providers. This provision is set out in article L. 5-7-1 of the French Postal and Electronic Communications Code (CPCE). ARCEP's Executive Board pronounces an opinion on admissible applications.

a) Complaints handling procedure

Before a complaint can be submitted to ARCEP, a number of conditions must be met: users must, inter alia, have exhaused all the complaints procedures put in place by the operator, (including referral to the La Poste Group mediator) and must comply with ARCEP's time limit for filing an appeal. These conditions are set out in a practical guide published in July 2013 on the ARCEP website.

If the complaint is admissible, the application is examined by ARCEP's services which, as part of their investigation, ask the postal operator to provide its comments before giving the complainant the "last word". The Authority's services consider the responses from the operator, the mediator (if any) and the complainant, and include them in their analysis. After deliberating, the Executive Board adopts an opinion, which is notified to the complainant, the operator and the Minister for Posts. Admissible complaints are normally dealt with within two months.

b) Handling of complaints in 2013

ARCEP publishes an annual review of complaints handling over the past year. In 2013, the Authority received 71 postal complaints, seven of which were deemed admissible. All the complaints received in 2013 concerned La Poste. The Executive Board issued five opinions and three admissible submissions resulted in an agreement between the complainant and La Poste.

As in 2012, the majority of the opinions related to terms of indemnification for lost or damaged items. These cases highlight the importance of the information postal operators provide to users and also of the questions users ask if in doubt about, for example, the adaptability of dispatch conditions to the contents of the item, particularly with regard to indemnification for loss or damage. This issue was addressed in ARCEP's 2012 review of complaints handling.

A 2013 opinion stressed the importance to users of being able to point out packing irregularities in parcels delivered against signature at the time of delivery. As a result, since 1 March 2013 users have been able to comment on the general condition of a parcel when it is delivered.

Finally, in its review of the handling of complaints in 2013, the Authority emphasized the importance of La Poste delivery staff supervising their trollies and locking them if they were left unattended.

5.2 The Postal Consumers Committee

In 2013, ARCEP organized two meetings of the Postal Consumers Committee[15] to seek the views of the consumer associations on certain subjects within the Authority's remit and to discuss with them recent changes in the postal sector.

Points raised by the consumer associations included the importance they attach to the quality, reliability and delivery conditions of the "registered letter" and, in particular, to ensuring that the item is handed over to the addressee in person.

The quality of the redirection service quality was also discussed. The consumer associations felt that the service needed to be improve, as its reliability was not fully guaranteed. The associations' representatives welcomed the work carried out on setting a quality measurement target for this service.

The consumer associations again raised the question of grouping post boxes under the "CIDEX" system. Among other things, they pointed out that addressees whose post was delivered to these units were often unsure about the procedure to follow in the event of receiving damaged or stolen mail, or losing the keys. It would therefore seem useful to provide the public with a user's guide setting out, inter alia, the obligations of La Poste and the addressees, and the contact point in the event of problems.

Finally, the consumer associations reported to the Authority that there was real uncertainty about the "electronic registered letter" and the legal security it offered. The associations were particularly concerned that the "electronic registered letter" did not fall within the scope of ARCEP authorisations and was therefore outside the Authority's control.

15 - The following consumer associations participated in the discussions: ADEIC (Associations de Défense et d'Information des Consommateurs), AFOC (Associations Force Ouvrière Consommateurs), ALLDC (Associations Léo Lagrange pour la Défense des Consommateurs), AssEco CFDT (Association Etude et Consommation de la Confédération française démocratique du travail), CGT Indecosa (Confédération générale du travail-Association pour l'information et la défense des consommateurs salariés), CNAFAL (Conseil national des associations familiales laïques), CNAFC (Confédération nationale des associations familiales catholiques), CSF (Confédération syndicale des familles), Familles Rurales and UFC-Que Choisir (Union Fédérale des Consommateurs—Que choisir). DGCCRF (Direction générale de la concurrence, de la consommation et de la répression des fraudes/General Directorate for Fair Trading, Consumer Affairs and Fraud Control), DGCIS (Direction générale de la compétitivité, de l'industrie et des services/ General Directorate for Competitiveness, Industry and Services) and INC (Institut national de la consommation/National Consumers Institute) also took part.

6. Evaluating the cost of the national planning and development mission

Through its network of contact points, La Poste contributes to the planning and development of the national territory, in addition to its universal service obligations. The Law of 9 February 2010 charges ARCEP with evaluating the net cost of this mission, and ARCEP carried out a third evaluation in 2013[16], following those conducted in 2011 and 2012[17], arriving at a cost of 252 million euros for 2012.

6.1 ARCEP's calculation of net cost

a) Calculation of net cost

The cost of this national planning and development mission is evaluated in accordance with the method specified in the Decree of 18 July 2011[18]. Without its national planning and development mission, La Poste would operate a smaller network of post offices. This hypothetical reduction in network size would result in avoided costs (the overheads for closed contact points) but also potentially in loss of revenue (due to customer demand not transferred to the contact points that were retained). In all, the net cost borne by La Poste corresponds to the avoided cost minus revenue loss without the additional network.

Under amended Law No. 90-568 of 2 July 1990, the network operated by La Poste in fulfilment of its national planning and development comprises 17,000 contact points. Without this mission, it is assumed that La Poste would have operated a network with around 7,600 points.

The net-cost method calls for the determination of the changes in demand and costs for its two networks. ARCEP bases this evaluation on a technico-economic modelling of La Poste contact points, which it made available for public consultation from 17 July to 10 September 2013.

Regarding demand, as for the previous financial year, it was assumed that demand remained the same following the transition to the hypothetical network, i.e. that all demand was transferred to the 7,600 points that were retained because of the continuing high density of the corresponding network. According to this hypothesis, there is therefore no loss of revenue. Nevertheless, in its evaluation of the 2012 net cost, ARCEP took into account the benefits accruing from the publicity value of displaying the logo on contact points belonging to the additional network. This benefit was valued at one million euros.

With regard to costs, the modelling developed by ARCEP arrived at an estimated 253 million euros for the cost avoided by operating a network of 7,600 points instead of the current network of 17,000 contact points.

Taken overall, the net cost of the national planning and development mission is the same as the avoided cost less the intangible benefits, namely 252 million euros for financial year 2012.

b) What the calculation shows

The law also provides that ARCEP report on the net cost to the Government and Parliament after consulting the Commission supérieure du service public des postes et des communications électroniques (CSSPPCE).

This report, transmitted on 19 December 2013, addresses inter alia the comparative economics of the various types of contact points and the impact on network costs of changing post offices into agencies operated on a partnership basis, either with municipal authorities (postal agencies run by local councils) or with retailers (sub post offices in shops). These solutions enable La Poste to fulfil its territorial presence mission

16 - Decision No. 2013-1169 of 1 October 2013
17 - Decision No. 2011-1081 of 22 September 2011 and decision No. 2012-1311 of 23 October 2012
18 - Decision No. 2011-849, of 18 july 2011

The benefits to consumers of increasing network density

The report also proposes a method of measuring the benefit to consumers of the territorial postal presence. For some consumers, the increased network density deriving from the public service mission reduces the distance between their home and the nearest postal contact point. Based on modelling the distance "as the crow flies", the contact point is closer by an estimated average of 3.3 km for around a quarter of consumers as a result of the planning and development mission. Assuming a typical speed of travel of 30 km/h and taking into account the value of the time spent in evaluating transport projects, the economic benefit to consumers is estimated at around 300 million euros. This guideline figure corresponds to part of the benefit resulting from the increased network density and, taken overall, is higher than the net cost borne by La Poste.

by mutualising the necessary resources. It thus transpires that this changeover process accounts for the bulk of mission-cost savings between 2006 and 2012 (see section 6.2 below), while other operative changes to the network over the period explain the residual difference.

6.2 Compensation received by La Poste

Since 1990, La Poste has been partially compensated for this mission by means of local tax reductions (property tax on developed and undeveloped property, territorial economic contribution), the amount of which is reviewed annually on the basis of ARCEP's valuation.

This compensation amounted to around 156 million euros in 2010, 168 million euros in 2011, and 170 million euros in 2012 and in 2013. Under the territorial postal presence contract signed between the State, La Poste and the Association des maires de France (Association of French Mayors), the amount of compensation over the period 2014-2016 is maintained at 170 million euros.

		2007	2008	2009	2010	2011	2012	2013
Net cost	Evaluation La Poste	382	351	314				
In millions of euros	Evaluation ARCEP			288	269	247	252	*
Reductions		137	136	133	156	168	170	

Source : ARCEP and La Poste.
** (2013 not yet available)*

7. The European Regulators Group for Postal Services (ERGP)

Created in 2010, the ERGP groups all the postal-sector regulatory bodies of the 28 Member States of the European Union. The regulatory bodies of the EEA Member States and of the countries in the process of accession to the EU have observer status. The model of a joint regulator for postal activities and the electronic communications sector was extended in 2013 and now applies to all the countries, with the exception of Denmark.

The ERGP's main mission is to study regulators' good practices and to advise and assist the European Commission with a view to consolidating the internal market in postal services.

Xxxxx, the ERGP was chaired by Joëlle Toledano, who is a member of ARCEP. In 2013 it was chaired by Luc Hindrycks, then by Jack Hamande, both Chairmen of Belgium's regulatory authority.

7.1 Net cost of the universal service

The ERGP adopted a report on the effects of VAT exemption on the cost of the universal postal service. It focused, inter alia, on the inherent threat of distortion of competition and the consequences for the internal market. The effects of VAT exemption are ambiguous: while it gives the universal service provider a competitive advantage in the case of private customers or organizations unable to recover VAT (government services, banks, charitable organizations ...), it is a disadvantage if the customer is a business that recovers VAT.

7.2 Regulatory accounting

ARCEP managed work on regulatory accounting, and a joint position on good cost allocation practices , submitted for public consultation at the end of 2012, was adopted. This joint position identifies general principles whereby costs can be measured consistently, even if some minor differences exist in Member States' practices.

In 2013, following this general review, the ERGP carried out an in-depth study of problems specific to cost accounting. This study confirmed that there was a certain lack of uniformity in the practices of the different Member States, be it in the estimation of a reasonable level for the universal service provider's profit entitlement (the concept of capital cost is used by just under half of all Member States, while others, including France, use a reference margin rate for price control), the allocation of delivery costs, the allocation of post office costs, or the measurement of postal traffic. This lack of uniformity can by partly explained by the different situations of the various Member States. For example, in some countries the network of contact points is mainly outsourced, whereas in others it is made up exclusively of traditional post offices. This work led to the adoption of a report following a public consultation.

7.3 Quality of service and consumer protection

The ERGP published its third report on quality of service monitoring, focusing in particular on complaints handling and consumer protection. In 18 of the 28 countries for which information was available, the quality of the priority letter service (level of next-day delivery) improved between 2011 and 2012, thus increasing the average level of delivery in D+1 from 87.1% to 88.4%. With regard to complaints, the report shows that the two main issues leading to the filing of complaints were lost (or excessively delayed) items and mail redirection relating to change of address.

7.4 Market indicators

In 2013, the ERGP published a report containing hard data on the postal market, in particular stamp prices, the number of postal-service providers, the degree of market concentration, traffic volumes, revenue from postal services, investment, employment and measurement of customer satisfaction. In 2011, the average price for a priority letter weighing less than 20 g was 0.54 euro. Despite a slight downward trend in the degree of market concentration, it remains extremely high in the majority of Member States, as the incumbent operator has a major share of most markets. Postal volumes remain very uneven in terms of postal service use, which varies between 496 postal items per inhabitant per year in Switzerland and fewer than six in Bulgaria. France, with 276 items, is one of the countries with high volumes of postal traffic. Mail traffic is falling in almost all Member States, although the lower revenue is mitigated by tariff levels.

7.5 Cross-border e-commerce parcels market

As part of its work on developing electronic commerce, the European Commission approached the ERGP to request an opinion on the delivery of cross-border parcels.

The ERGP opinion sets out the theoretical context of ex-ante regulation and describes market definition experience from other sectors. It looks at the particularities of cross-border e-commerce parcels delivery, inter alia the possible barriers to competition identified by different regulators. The report goes on to examine the extent to which potential problems relate to parcels delivery or to on-line selling in general and the appropriateness of ex-ante regulation as a possible means of resolving them.

The report states that the ERGP has not so far identified a competition problem concerning European cross-border parcels delivery that could be best dealt with by ex-ante regulation. Certain potential problems, such as the degree of transparency of information given to consumers or possible legislation differences relate to on-line selling rather than to the actual delivery.

These issues are likely to affect the cross-border parcels market, but they should be dealt with by the competent authorities. There could, however, be grounds for the sectoral authorities or the Commission to conduct a more detailed analysis of the parcels delivery market, given the presence in this market of postal operators which usually have a dominant position in the related mail market. The group considers that limited data collection would be useful for this purpose.

Electronic communications market figures

1. Principal market data

1.1. A lively and disparate market

Electronic communications operators' total earnings in France – i.e. retail and wholesale markets combined – reached €46.6 billion in 2013, which is 6.4% less than the year before when calculated on a comparable basis[1]. Wholesale interconnection generated €8.5 billion in revenue, while operators' retail market revenue stood at €38 billion (-7.7% compared to 2012). Income from services[2] alone came to €35.1 billion, which is 7.9% less than in 2012.

Revenue earned on mobile services, including value-added (VAS) and directory services, decreased by 12.6%, despite a sharp increase in consumption levels.

Operators' retail market revenue (billion €, excl. VAT)

	2009	2010	2011	2012	2013p	Growth 2013-2012
Fixed network services	20,8	20,7	20,1	19,7	18,7	ns*
Broadband and superfast broadband services	8,1	9,0	9,5	10,1	10,3	2,1%
narrowband services	9,0	8,1	7,0	6,1	5,3	-13,0%
capacity services	3,6	3,5	3,5	3,5	3,1	ns
Mobile network services	20,3	20,7	20,3	18,8	16,4	-12,6%
Total electronic communications market	41,1	41,4	40,4	38,5	35,1	ns
Other revenue	2,7	2,9	3,0	3,1	2,9	-5,6%
Operators' total retail market revenue	43,8	44,3	43,4	41,6	38,0	ns

** not significant*
Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

1 - The merger of France Telecom and Orange France in June 2013 put an end to the financial transactions between the two undertakings, which primarily affected the wholesale market between carriers, but also the capacity services retail market to some degree (around €500 million annually).
2 - – i.e. excluding device sales, equipment, directories, etc.

The revenue generated by fixed broadband and superfast broadband services grew by 2.1% in 2013, up to more than €10 billion. Most of this income was earned from the supply of access (€8.4 billion, +3.3%), with revenue increasing apace with subscriptions, whereas revenue earned on overage (i.e. on top of customers' flat rate fee) decreased again in 2013 as calls to mobiles are now included in flat rates, and because fewer customers exceed their allowances. Meanwhile, revenue from narrowband services shrank by 13% compared to 2012.

1.2 Strong increase in traffic

• Fixed and mobile service subscriptions

The mobile services market continues to grow rapidly. As of 31 December 2013, there were 76.8 million active SIM cards in use, which is 3.7 million more than the year before. Penetration – which is measured by the number of active SIM cards compared to the population – stood at 117.3% at the end of the year, up five points from December 2012.

Excluding MtoM[3] cards, the penetration rate stands at 106.7%. The mobile market's growth is being sustained by the rising number of classic flat rates (+4.0 million on the year) and MtoM cards (+2.2 million on the year), whereas the number of prepaid cards in use continues to shrink year on year, dropping by 2.6 million in 2013.

The rise in mobile ownership levels has not resulted in a decrease in wireline accounts. On the contrary, the number of landlines has held steady at 35.7 million. In December 2013, seven out of ten, or a total or 24.9 million fixed lines were supplying broadband or superfast broadband connection. The number of internet (broadband and superfast broadband) subscriptions thus increased by 4% in 2013, while the number of superfast broadband subscriptions now stands at over 2 million.

Equipment (in million)

	2009	2010	2011	2012	2013p	Growth 2013-2012
Number of fixed lines	35,5	35,4	35,8	35,7	35,7	0,0%
Number of mobile customers	61,5	65,0	68,6	73,1	76,8	5,0%
Number of broadband and superfast broadband subscriptions on fixed lines	19,8	21,4	22,7	24,0	24,9	4,0%

Source : ARCEP, , Electronic communications observatory
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

• Network traffic

Traffic on mobile networks increased sharply for the second year in a row in 2013.

The rise in mobile ownership rates is helping drive up the amount of traffic generated by mobile phones, as are the increasingly generous high-volume and unlimited plans on offer: data traffic rose by 63.3% in 2013, the number of SMS sent by 6.0% and voice traffic by 14.9%. For the first time, growth in the cellular calling market appears to have occurred at the expense of calls made on wireline phones: indeed, voice traffic originating on a fixed line reached its lowest point since 1998, and posted its sharpest decrease ever (-11.3 billion minutes on the year). Taken together, however, fixed and mobile calling traffic increased by 2.8% compared to 2012.

Data traffic on wireline networks is not measured specifically for the regulator, but it is increasing significantly and is a hundred times greater than traffic on mobile networks, according to studies carried out by major international companies.

3 - *Cf. Glossary*

Voice traffic (in billion minutes)						
	2009	2010	2011	2012	2013p	Growth 2013-2012
Originating on fixed networks	111,0	113,4	112,3	113,8	102,4	- 10,0%
Originating on mobile networks	100,8	103,0	105,5	119,6	137,5	14,9%
Total fixed and mobile calling traffic	211,8	216,4	217,8	233,4	239,9	2,8%

Source: ARCEP, Electronic communications observatory
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

SMS and data traffic on mobile networks						
	2009	2010	2011	2012	2013p	Growth 2013-2012
Number of person to person SMS/MMS (in billion)	63,5	103,4	147,4	184,6	195,6	6,0%
Mobile data traffic (in terabytes)	13 267	30 331	55 805	94 999	155 114	63,3%

Source: ARCEP, Electronic communications observatory
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

1.3 CapEx of more than €7 billion for the third year in a row, and a slight decrease in direct jobs

For the third consecutive year, operators' investments, excluding spectrum acquisitions, exceeded the record high of €7 billion: totalling €7.2 billion for the whole of 2013. Spending in 2012 had reached more than €10 billion due to the amounts paid for 4G licences: €2.6 billion were spent on 800 MHz band spectrum.

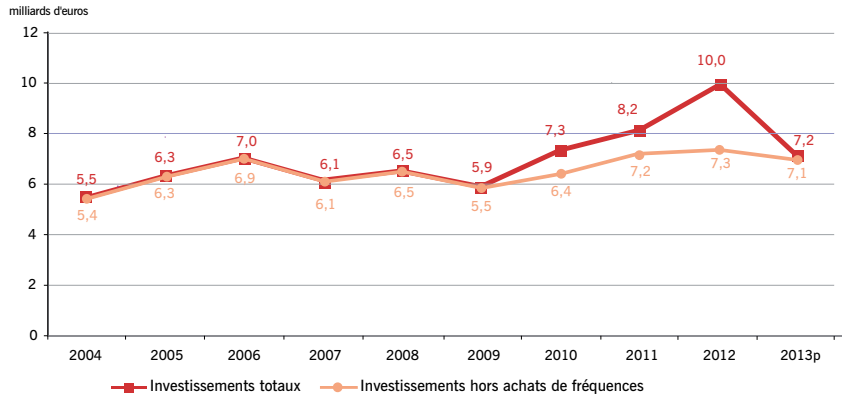
At the end of 2013, electronic communications operators in France employed 125,000 people directly. After decreasing steadily for around ten years, operators' overall employment levels had been improving for the past three (2010, 2011 and 2012). In 2013, however, personnel numbers dropped by around 4,000 jobs, which marks a 3.3% decrease on the year.

A portion of this decrease is due to employee transfers within telecom groups, as certain operations that carriers once ran themselves were either transferred to their subsidiaries or outsourced to outside vendors. The top five undertakings report a combined decrease of 3,300 jobs between 2012 and 2013. The bulk of this figure can be attributed to Orange, while job cuts and new hires at the other operators balance each other out. The total number of direct jobs in 2013 was higher than in 2009.

Employment and investment						
	2009	2010	2011	2012	2013p	Growth 2013-2012
Number of direct jobs (000s)	124,2	126,6	128,8	129,2	124,9	- 3,3%
nvestments (in billion euros)	5,9	7,3	8,2	10,0	7,2	- 28,1%
Spending on physical assets (in billion euros)	5,8	6,4	7,2	7,3	7,1	-2,7%

Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.
N.B.: these figures include only operators declared with ARCEP, and not the entire electronic communications economic sector. Excluded are distributors/retailers, service providers (consultants, market research firms, call centres…) and equipment manufacturers. Enterprises declared with ARCEP and which are involved only marginally in the electronic communication sector are not included in sector employment figures.
- As in previous years, investment figures refer to the gross investments made by operators declared with ARCEP in their electronic communications business during the fiscal year in question.

Electronic communications operators' investments



Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

1.4 Fixed services

■ Internet access and telephony

Revenue generated by broadband and superfast broadband services increased by 2.1% in 2013, to just over €10 billion. The bulk of this income was earned on access (€8.4 billion, +3.3%) with revenue increasing apace with subscriptions, whereas revenue earned on overage (i.e. on top of customers' flat rate fee) decreased again in 2013, as calls to mobiles are now included in flat rates and because fewer customers exceed their allowances. Meanwhile, revenue from narrowband services shrank by 13% compared to 2012, which is a much larger decrease than in previous years.

The number of broadband and superfast broadband subscriptions grew by just under one million in 2013, to reach 24.9 million in December 2013 (+4.0% on the year). The vast majority of these (22.9 million) are broadband accounts, while the number of superfast broadband accounts – i.e. including VDSL and providing a throughput of more than 30 Mbps, – stood at 2 million at the end of the year, which is 440,000 or 27.7% more than one year earlier. Fibre to the home (FttH) subscription numbers are growing steadily, increasing by 72.3% during the year, which translates into 543,000 new accounts.

Virtually all (over 94%) internet access plans are now bundled with a broadband or superfast broadband VoIP calling plan: there were 23.5 million voice over broadband (VoBB) accounts in use at the end of 2013, or 1.2 million more than one year earlier. On the flipside, the number of subscriptions to classic PSTN[4] lines has been shrinking by around 10% for the past five years, and stood at 15.6 million at the end of 2013.

After having increased steadily since 1998, traffic originating on landline phones dropped sharply in 2013, down to a record low. The growing use of voice over broadband services had entirely offset the drop in dial-up calls since 2004, but the tremendous development of unlimited plans for mobile phones resulted in VoBB traffic shrinking by close to 10% in 2013 compared to 2012. As a result, wireline traffic decreased by 11.3 billion minutes in 2013, down to 102.4 billion minutes. On average, seven out of ten calling minutes originate with customers equipped with an IP box, a percentage that rises to close to 90% for overseas calls.

Data traffic on wireline networks is not measured specifically for the regulator, but it is increasing at a substantial peace, and is far greater than traffic on mobile networks

4 - Cf. Glossary

Broadband and superfast broadband market revenue (in billion euros excl. VAT)						
	2009	2010	2011	2012	2013p	Growth 2013-2012
Broadband and superfast broadband access	6,7	7,3	7,7	8,2	8,4	3,3%
VoIP calls (not covered by flat rates)	0,7	0,8	0,7	0,6	0,6	- 7,4%
Other revenue	0,7	0,9	1,1	1,3	1,3	- 1,2%
Total broadband/superfast broadband services	8,1	9,0	9,5	10,1	10,3	2,1%

Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

Fixed narrowband market revenue (in billion euros excl. VAT)						
	2009	2010	2011	2012	2013p	Growth 2013-2012
PSTN subscriptions and calls	7,8	7,0	6,1	5,2	4,6	-12,4%
Public payphones, cards and narrowband internet	0,3	0,2	0,2	0,1	0,1	-38,0%
Value-added and directory services	0,9	0,9	0,8	0,8	0,7	-13,8%
Total narrowband services	9,0	8,1	7,0	6,1	5,3	-13,0%

Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

Subscriptions (in millions)						
	2009	2010	2011	2012	2013p	Growth 2013-2012
Broadband and superfast broadband	19,8	21,4	22,7	24,0	24,9	4,0%
Voice over broadband	17,1	19,1	20,9	22,3	23,5	5,3%
TV bundled with an ADSL package	8,8	10,7	10,8	13,8	14,6	6,6%

Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

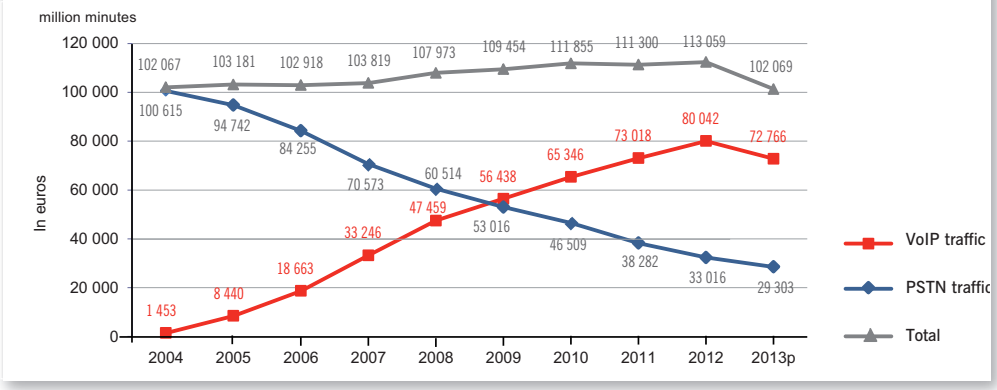
Subscriptions (in millions)						
	2009	2010	2011	2012	2013p	Growth 2013-2012
"Classic" telephone subscriptions	24,0	21,6	19,5	17,4	15,6	-10,4%
Carrier selection	2,8	2,2	1,9	1,5	1,3	-15,2%

Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

Voice traffic (in billion minutes)						
	2009	2010	2011	2012	2013p	Growth 2013-2012
VoIP calls	56,4	65,3	73,0	80,0	72,8	-9,1%
PSTN calls (including public payphones and cards)	54,6	48,1	39,3	33,7	29,7	-12,1%
Total traffic originating on a fixed line	111,0	113,4	112,3	113,8	102,4	-10,0%

Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

Voice traffic originating on a fixed line (excl. public payphones and cards)



Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

Capacity services

The revenue generated by capacity services totalled €3.1 billion in 2013. The merger of France Telecom and Orange France put an end to the financial transactions between the two undertakings from the second half of 2013 onwards: prior to that, Orange France leased lines from France Telecom. These transactions represented around €500 million annually. Even without this, the capacity services market has been shrinking, with revenue on a comparable basis decreasing by 1.5% in 2013. The bulk of carriers' revenue comes from businesses which, at the end of the year, accounted for around 85% of their income in this market.

Retail market revenue (in billion euros excl. VAT)

	2009	2010	2011	2012	2013p	Growth 2013-2012
Leased lines	1,5	1,4	1,4	1,5	1,1	ns
Data transport	2,2	2,1	2,1	2,1	2,1	- 0,7%
Capacity services revenue	**3,6**	**3,5**	**3,5**	**3,5**	**3,1**	**ns**

Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

1.5 Mobile services

There were 76.8 million SIM cards in service at the end of 2013, which is 3.7 million more than the year before. The mobile market's growth is being spurred by a rise in the number of active classic plans (+4 million on the year, or a total 54.3 million subscriptions) and in the number of MtoM[5] cards in use. The latter increased by 2.2 million in 2013, after having risen by 1.3 million in 2012. MtoM cards accounted for 9% of the SIM cards in service at the end of 2013.

The prepaid card, or pay-as-you-go (PAYG), segment has been on the decline for the past two years, due to the development of contract-free and low-cost plans that allow small consumers to enjoy flexible terms which had previously only been available to PAYG users, and at lower rates. There were 15.7 million prepaid cards in use at the end of December 2013, which is 2.6 million fewer than one year earlier.

5 - *Cf. Glossary*

This increase in customer numbers has resulted in a clear increase in mobile traffic, whether for calling, texting and mobile internet access. Voice traffic rose substantially for the second year in a row: by 14.9%, after having risen by 13.4% in 2012. This is the greatest increase since 1998, representing an additional 17.8 billion minutes. Calling traffic for the entire year came to 137.5 billion minutes. The popularity of texting is showing no signs of waning, despite the development of internet texting applications. The number of SMS and MMS increased by 10 billion in 2013, to reach a total 195.5 billion messages sent.

As the number of customers using 3G networks increases – and now represents around half of all users – data traffic on mobile networks is also increasing a phenomenal rate: by 63% in 2013, on the heels of a 70% increase in 2012, and represents around 150 Petabytes6. This explosion in traffic has not, however, translated into increased revenue for operators: their earnings have in fact declined by 12.6% if we factor in revenue from value-added and directory services (and by 14% when excluding VAS), as operators have lowered their prices.

Revenue earned on calling shrank by 21.4% in 2013, while revenue from data services, including SMS, rose by 2.6% thanks to increased usage.

On average, mobile service prices in Metropolitan France's residential market decreased by 27.2% in 2013, after having already dropped by 11.4% in 2012. This decrease affects every type of consumer, due to the growing availability of unlimited SMS and calling plans. Prepaid card users saw their prices decrease by 33.1%, while customers subscribing to post-paid plans (including blocked ones) enjoyed an average 25.5% price decrease. Meanwhile, the price of subscriptions without a device dropped by 28.1% on the year, although the rate of decrease has slowed considerably since spring 2013.

Mobile retail market revenue (in billion euros excl. VAT)

	2009	2010	2011	2012	2013p	Growth 2013-2012
Voice (calling) services	15,1	14,9	13,7	12,1	9,6	- 21,4%
Data services (SMS and data)	3,8	4,5	5,3	5,4	5,5	2,6%
Value-added and directory services	1,4	1,3	1,3	1,3	1,4	7,3%
All mobile services	20,3	20,7	20,3	18,8	16,4	- 12,6%

Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

Subscriptions – mobile services (in millions)

	2009	2010	2011	2012	2013p	Growth 2013-2012
Number of mobile network cards	61,5	65,0	68,6	73,1	76,8	5,0%
Active 3G subscribers	17,7	22,9	27,7	32,8	36,5	11,4%
Data only SIM cards	2,1	2,7	3,2	3,4	3,6	6,3%
MtoM SIM cards	1,6	2,6	3,4	4,7	6,9	47,3%

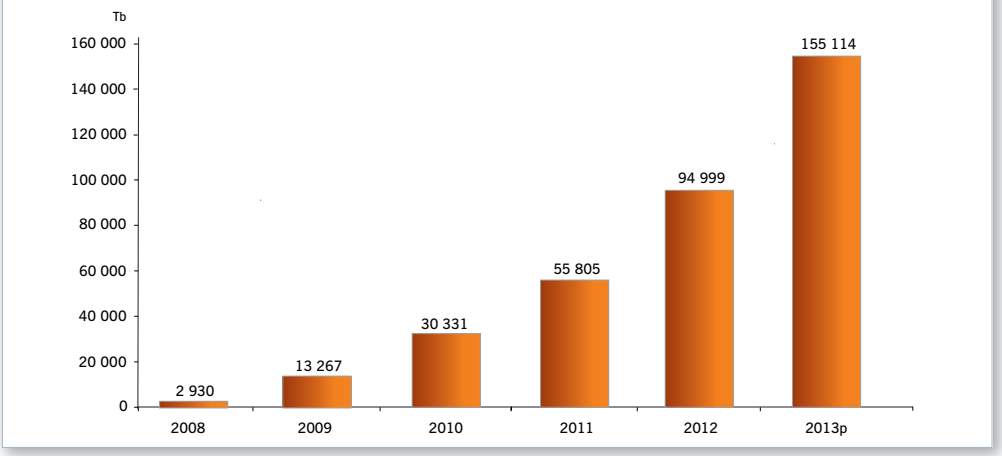
Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

6 - *Soit 150 millions de Gigaoctets*

Mobile traffic						
	2009	2010	2011	2012	2013p	Growth 2013-2012
Phone calls (in billion minutes)	100,8	103,0	105,5	119,6	137,5	14,9%
Number of person to person SMS/MMS sent (in billion)	63,5	103,4	147,4	184,6	195,6	6,0%
Volume of data consumed (in terabytes)	13 267	31 331	55 805	94 999	155 114	63,3%

Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

Growth of customers' mobile data traffic



Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

2. Usage

2.1 The CREDOC survey on the use of information and communication technologies (ICT) in French society

■ Highest rates of increase for portable devices

ARCEP, in partnership with the Committee for industry, energy and technologies, CGIET (Conseil général de l'industrie, de l'énergie et des technologies) commissioned Credoc to conduct a survey on information and communication technologies (ICT) equipment rates amongst people ages 12 and up in France. Conducted in June 2013, the survey revealed a significant increase in ownership rates for digital devices. Smartphones posted the highest rate of increase (+10 points compared to June 2012, owned by 39% of those surveyed) ahead of tablets (+9 points, 17%) and laptop computers (+4 points, 61%).

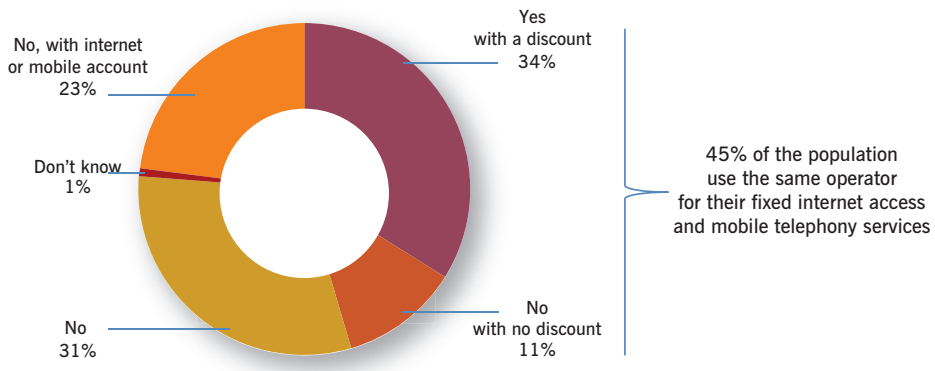
Landline (91% of those queried, +1 point) and mobile phone (89%; +1 point) ownership rates are still high, and having multiple devices has become the norm: four out of five people have both types of equipment.

■ Combined fixed-mobile plans increasingly popular, especially when they allow users to reduce their monthly bill

A growing percentage of the population has both fixed internet access and a mobile phone: their number increased by 8 points on the year, to reach 77% of those queried in June 2013. More and more people use the same operator for their fixed internet and mobile phone subscription. This was the case for 45% of the population in June 2013, with 34% of them obtaining a discount in the process.

This marks a tremendous rate of increase, as only 30% of the population were using the same vendor for both services in 2012, and only 17% had obtained a discount for doing so.

Does your residential ISP also provide mobile services?



Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.
Field: users 12 and up

■ Wi-Fi becoming the most commonly used type of connection at home, while mobile phones are the most widely used outside the home

More than eight out of ten people have an internet connection at home (81%, +3 points), and the vast majority of them (99%) have a broadband connection – 89% of which are supplied over ADSL. When at home, most users employ Wi-Fi (53% of those polled) which is becoming the most popular way to access the internet, ahead of a computer's wireline connection (used by 52% of those queried). We are also seeing a swift increase in the use of mobile phones and tablets to access the internet at home, whether via Wi-Fi (33%, +10 points) or a cellular network (27%, +7 points). But these access modes are interchangeable, and half of those queried report that they use at least two types of connection when at home, regardless of the device.

We are also seeing a steady rise in the frequency of users' internet connections: more than six out of ten people go online every day (63% of those queried, or 77% of those with an internet connection at home).

More and more people are accessing the web from a mobile device, both inside and outside the home: 37% of those queried, which is 9 points more than the previous year.

Accessing the web using another form of connection when travelling outside the home increased by one point during the year, up to 21%. And, finally, more than two out of five people (43%) went online using a mobile device in roaming mode, while outside the home in 2013.

More and more people using the internet on all devices

Those surveyed report spending an average 12 hours a week online, all types of connection combined. Internet users spend an average 15 hours a week online. Close to half of all those surveyed listen to or download music from the web (49%), a third of them (32%) download or watch videos and 45% have joined a social networking site. In addition to enjoying its social and cultural aspects, the internet is also used to shop (55%, +6 points), to access certain e-government services (51%), and to look for a job (25%).

Consumption on mobile devices is rising: in addition to web browsing (used by 37% of people surveyed), more and more people are using their mobile devices to access e-mail (30%, +7 points) and download applications (29%, +8 points). This is especially true amongst smartphone owners, 79% of whom use their handset to access the web, 66% to view their e-mail and 67% to download apps.

As a result, Voice over IP (VoIP) software is becoming increasingly popular on computers, mobile phones and tablets: it is used by 28% of the people surveyed. Twenty two percent of those surveyed watch TV on their computer, which is five points higher than three years ago, whereas watching TV on a mobile is decreasing (7% of people surveyed, -1 point), especially amongst smartphone owners (17%, -7 points).

Information and communication technologies blurring the lines between work and leisure time

A section of the survey is devoted to the ways in which ICT cause interference between users' private lives and their working life. Fifty five percent of people with a job have a computer at work, and virtually the same percentage (54%) also have internet access at their place of employment. Half of those in the workforce who have internet access at work use it for personal purposes to some degree. On the flipside, 32% of people in the workforce who have their own computer use new technologies to work at home. The consequences of this change in the boundaries between users' private and working lives is by no means cut and dried, however: 42% of people with a job say that new technologies allow them to achieve a better balance between their work and private lives. On the other hand, 40% believe that ICT allow their work to spill over too much into their private lives.

2.2 Average consumption indicators

The average monthly invoice for a fixed line (including monthly spending on landline calling – PSTN, VoBB or both – plus narrowband or broadband internet access) decreased for the third year in a row, this time by close to one euro, going from €36.60 in 2010 to €33.50 in 2013 (-€3.10 in three years). This can be attributed primarily to the drop in the number of customers who have both a narrowband and a broadband connection.

The number of monthly calling minutes originating on fixed lines shrank by close to 10% or by 24 minutes a month, after holding steady at around 4 hours and 20 minutes for 10 years. This decrease is due to the sharp drop in calling traffic (-44 minutes on the year, down to an average 4 hours 24 minutes a month), while customers with a dial-up line generate an average 2 hours 24 calling minutes a month, which is two minutes less than in 2012.

Average monthly consumption per fixed line

	2009	2010	2011	2012	2013p	Growth 2013-2012
Average monthly invoice: phone line plus calls plus internet access (in euros excl. VAT)	36,8	36,6	35,4	34,4	33,5	- 2,6%
Average monthly outbound voice traffic (in minutes per month)	259	263	261	264	238	- 9,6%

Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

Average monthly invoice per subscription

in euros (excl. VAT)	2009	2010	2011	2012	2013p	Evolution 2013-2012
To a PSTN service (access and calls)	25,9	25,7	24,6	23,5	23,0	- 1,9%
Narrowband internet access	7,3	6,8	6,5	6,3	6,3	- 0,3%
Broadband/superfast broadband access (internet, VoIP)	34,0	34,3	34,1	34,0	33,4	- 1,9%

Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

Average monthly outbound traffic per subscription

in minutes a month	2009	2010	2011	2012	2013p	Growth 2013-2012
For a PSTN subscription	176	170	155	146	144	- 3,4%
For VoBB calls	298	301	305	309	265	- 14,3%

Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.

Customers' mobile phone bill has decreased by close to €10 in five years. Price drops have been especially significant over the past two years: the average monthly invoice (excl. VAT) decreased by an average €3 euros in 2012 then by a further €3.70 in 2013. At year end, it stood at €24.40 for flat rate plans and at €6.60 for prepaid cards, or €18 a month on average.

At the same time, consumption has skyrocketed: going from 2 hours 24 minutes in 2011 up to 2 hours 54 minutes in 2012, and to more than 3 hours a month by the end of 2013. This can be attributed to the increasingly widespread availability of unlimited plans. The number of SMS sent has increased five fold in as many years, reaching 244 messages a month, or around eight messages a day by year end. Average data traffic has risen from 108 Mb a month in 2012, up to 179 Mb as of December 2013.

Mobile customers' average monthly traffic

	2009	2010	2011	2012	2013p	Growth 2013-2012
Average monthly invoice (in euros excl. VAT)	26,9	26,4	24,7	21,7	18,0	- 17,2%
Average monthly consumption (minutes)	147	146	144	157	174	11,2%
Average number of SMS sent each month	92	146	200	240	244	2,2%
Average data traffic per customer (Mb)	19	29	61	108	179	64,9%

Source: ARCEP, Electronic communications observatory.
Annual surveys up to 2012, quarterly survey for 2013, interim estimate.
N.B.: Calculations for average voice and SMS traffic do not include M2M cards (number of cards and corresponding revenue) or data only cards.

2.3 Household and individual equipment rates

Household equipment rates are high: internet access at home is now virtually on par with computer ownership (78.8% December 2013) and up 4.1 points on the year.

As for individual equipment rates, 78.2% of people in France have their own mobile phone.

Household equipment rates at year end (in%)

	2009	2010	2011	2012	2013p	Growth 2013-2012
Landline	86,2	88,1	87,8	88,7	88,3	- 0,5%
Computer	68,3	71,5	73,9	76,7	78,8	2,7%
Internet access	62,6	69,2	72,9	74,5	78,6	5,5%

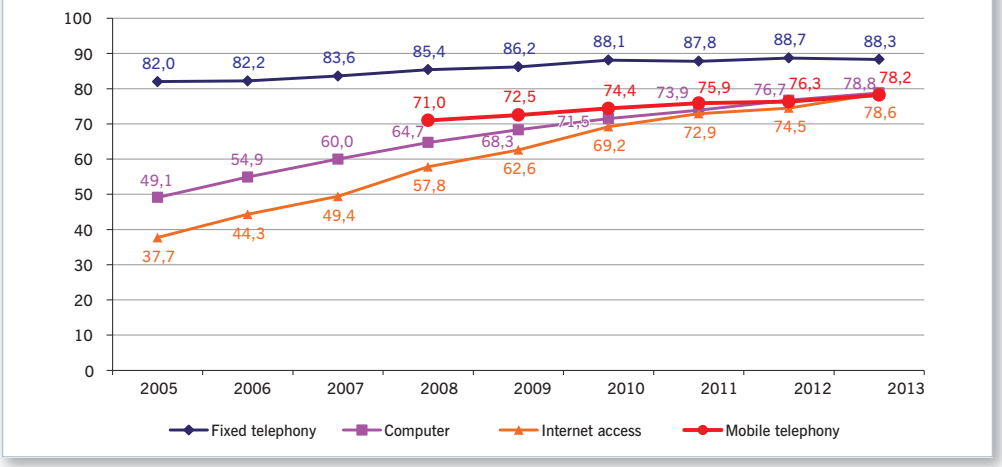
Source: Médiamétrie -"Référence des equipment multimédia" (multimedia equipment benchmark)

Individual equipment rates at year end (in%)

	2009	2010	2011	2012	2013p	Growth 2013-2012
Mobile penetration rate amongst individuals	72,5	74,4	75,9	76,3	78,2	2,5%

Source: Médiamétrie -"Référence des equipment multimédia" (multimedia equipment benchmark)

Household equipment rates for landlines, mobiles, computers and internet access - mobile equipment rates (% of individuals)



Source: Médiamétrie

N.B.: The rate of equipment cited by Médiamétrie refers to households and may differ slightly from the equipment rates published in the Credoc survey of individual equipment rates.


2005
39,6
41,1
41,4
41,8
40,8
2010
2011p
milliards d'euros
45,0
40,0
35,0
30,0
25,0
20,0
15,0
10,0
5,0
0,0
autres services
services offerts sur les réseaux mobiles
services de capacité
services bas débit
services haut et très haut débit
Ensemble du marché des communications électroniques
NL DK BE FR IK
AT SK IE MT EE PL IT CY
5 437
5 343
6 037
7 015
6 140
6 529
2003
2004
2007
2008
2009
Investissements nouveau cadre

Asymmetrical regulation

Market analysis decisions constitute the foundation of what is referred to as asymmetrical sectoral regulation. They define the obligations imposed on the operator that enjoys significant power (hence referred to as the SMP operator) in the market in question, and which, among other things, enable other operators to access essential wholesale products that allow them to market competitive offers in the retail market. These decisions remain in effect for a period of three years.

1. Regulated markets

1.1 Analysis of the unbundling, bitstream and capacity services markets

In July 2013, ARCEP began its review of fixed broadband and superfast broadband markets by submitting a document that contains an assessment of current regulation and possible pathways for development from mid-2014 to mid-2017, to public consultation.

This review covered all three fixed broadband and superfast markets for the first time, namely:

- the market for wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location (market 4);
- the market for non-physical or virtual network access including 'bitstream'[1] access at a fixed location (market 5);
- and the capacity services market (market 6).

In April 2013, in the run-up to the market analysis review process, ARCEP consulted with stakeholders on the outlook and conditions governing unbundling regulation.

Unbundling (LLU) is the main Orange wholesale product that enables alternative operators to use the passive infrastructure of the incumbent carrier's copper local loop, to deliver services to their own customers. To this end, alternative operators, which are the LLU product's customers, must install their own equipment in Orange exchanges. This wholesale offer is regulated by ARCEP.

This public consultation allowed the Authority to obtain public and private sector stakeholders' views on possible changes to unbundling regulations, with the ultimate aim of providing all users nationwide with the same services, insofar as possible, and so to reduce the digital divide.

1 - Cf. Glossary

After this second public consultation in July 2013, which provided a round-up of the current state of affairs and proposed possible changes to symmetrical and asymmetrical regulation for all of the markets – whether available to all users or specifically to business customers – ARCEP published draft analysis decisions on markets 4, 5 and 6 in November 2013.

What follows are the main measures contained in ARCEP's draft decisions:

- **Changes to the perimeter of Orange infrastructure made available to the competition**

Looking ahead to the rollouts getting underway in the more sparsely populated regions in France, the aim is to provide operators with more flexibility in their deployments by not forcing them to copy the architecture of the Orange copper local loop. ARCEP also examined the applications that will be enabled by deploying optical fibre on Orange infrastructure. The Authority has thus proposed that all uses be allowed to be replicated on the fibre local loop, as they already are on the copper local loop, not least because the former is due to eventually replace the latter.

- **Adjustments for help the switch from copper to fibre**

Historically, several products covered by the regulatory framework have been tied solely to the copper local loop, such as the Orange fibre backhaul (LFO) solution. ARCEP has thus sought to "modernise" the regulatory framework to shore up the transition from copper to fibre.

- **Strengthening the unbundling process, and new solutions for bringing it to the smallest exchanges**

In addition to the longstanding issue of expanding unbundling, ARCEP has concentrated specifically on the problem of how the copper local loop is used, and especially on the restrictions weighing on TV over DSL services in non unbundled areas which are tied directly to competition laws.

Although LLU coverage in France has reached levels unparalleled in Europe (over 88% of lines), it splits the country in two: one unbundled area where packages include TV over DSL services, and a non-unbundled area where these services cannot be made available.

This is why the ARCEP draft decision suggests three remedies, to ensure that users across the country have access to the same services.

1. Unbundle the non-unbundled areas: this would be the most efficient way to provide complete retail market solutions. To this end, ARCEP proposes lifting certain operational impediments to extend LLU as widely as is still possible. But because it is only increasingly smaller exchanges that are still not unbundled, this measure alone will not suffice to bring TV over DSL services to the whole of France within the next three years. ARCEP is thus proposing two additional courses of action.
2. Allow alternative operators to introduce, at least, on-demand (VoD) or catch-up TV services in those areas without LLU. To this end, ARCEP has amended the pricing structure of the Orange activated products used by alternative operators.
3. Clarify the restrictions applied to Orange, to open TV services on non-unbundled exchanges in a controlled fashion.

- **More clarity on the Orange LFO fibre backhaul product's pricing**

ARCEP has taken account of local authorities' need for clarity on the rates charged for Orange's LFO fibre backhaul offer, to allow them to make an informed choice between rebuilding their own backhaul network or using the existing Orange backhaul network. The Authority thus invited Orange to provide greater pricing security over the long term with, for instance, indexed rates or a fixed initial payment.

• **More careful control of submarine cable tariffs**

In addition to adjustments to the regulatory framework that seek to take account of changes in the marketplace, ARCEP suggests increased control of submarine cable tariffs, to allow for faster action during the decision's period of enforcement.

• **Relax enterprise market regulation**

ARCEP also wanted to clarify the regulations that apply to the enterprise market and, in the country's most competitive areas, has suggested relaxing the regulation governing dedicated optical local loops for activated products aimed at the enterprise market. From a more general perspective, ARCEP has assessed the transition from dedicated to shared optical loops (BLOD to BLOM[2]) that is expected to occur, and plans on lending its support by starting work on the requirements the process will create for operators.

In February 2014, ARCEP submitted all of its draft analysis decisions on markets 4, 5 and 6 to the Competition Authority for its opinion – which was rendered in due course, on 16 April. Issuing a favourable response to the planned analysis, the Competition Authority invited ARCEP to complete this round of its review within the initial timeframe, without waiting for the outcome of the investigation into the planned merger that is underway in the sector.

In accordance with the market analysis process, ARCEP then notified its decision to the European Commission on 12 May 2014. The review process is due to be complete by mid-2014 , with the adoption of new market analysis decisions.

1.2 Start of the third round of analysis for fixed and mobile voice call and SMS termination markets

The 2011-2013 regulatory period for fixed voice call, mobile voice call and SMS termination was particularly successful in several respects, and this in both wholesale and retail markets.

• **In wholesale markets**, one of the goals of call termination (CT) regulation was to reduce the financial transfers it induces between operators, as they are detrimental to the market's liquidity and to achieving fair and effective competition. High CT rates constitute a lasting impediment to market competition as they immediately transform any imbalance in traffic that a more generous competing offer may produce into a financial stream that captures all of the resulting monetary gains.

ARCEP has noted that the decrease in maximum call termination rates has helped reduce financial transfers, on the one hand, from small to large operators in the same market and, on the other, from fixed to mobile operators. CT rates for voice calls have now been reduced solely to structural differences in production costs.

• The prime objective of regulation in **underlying retail markets**, was to limit the proliferation of on-net plans (i.e. that allow customers to communicate with people who subscribe to the same operator for free, or at a reduced rate) which created a "club effect" on operators' networks, while lifting the artificial obstacles to market competition, and particularly to the development of unlimited "all-net" plans, i.e. covering calls to any operator's network. Here again, the goal was achieved: the highlight of the 2011-2013 regulatory period was the ubiquitous availability of 24/7 unlimited plans[3] covering all networks (fixed and mobile, voice calls and SMS).

• In May 2013, ARCEP began its analysis process for wholesale fixed voice call, mobile voice call and SMS termination in Metropolitan France and the French overseas markets, for 2014 to 2017. In light of the changes that have occurred, the issue of lowering call termination rates is now much less pressing than in the past, which coincides with the fact that for the first time, on 1 January 2013 fixed and mobile CT rates came in line with long-range incremental costs.

2 - Cf. Glossary
3 - Il s'agit d'offres illimitées sur le marché de détail toute la journée et tous les jours

To harmonise and simplify preparations for this new regulatory period, for the regulator and operators alike, ARCEP has elected to perform a combined analysis of these three markets which are comparable in terms of their definition, the designation of operators that enjoy significant power (SMP) and the competition issues encountered.

- The accelerated transition to IP[4] will be the regulator's main area of focus in wholesale markets: while most wireline networks now have an IP core, the switch to IP for interconnection between operators and in cellular network cores is only just beginning.

- Meanwhile, in retail markets particular attention will be paid to observing whether unlimited plans become commonplace in the overseas markets, as they did in Metropolitan France after call termination rates were lowered, and whether the development of unlimited plans in Metropolitan France and the French overseas markets continues on the trajectory begun in early 2013.

1.3 Broadcasting services

In September 2012, the ex ante regulatory scheme that applies to the wholesale market for digital terrestrial television (DTT)[5] broadcasting services was defined for 2012-2015. This includes several obligations imposed on SMP operator TDF: grant all reasonable requests for access, non-discrimination, transparency, cost accounting, accounting separation and price control.

Because the way in which competition can develop depends a great deal of the type of site required for DTT broadcasting, the Authority has distinguished two kinds of pricing obligation for the wholesale access products that TDF sells to the competition.

- For sites where it is impossible to deploy alternative infrastructures – referred to as "non-replicable" and listed in the decision's appendix[6] – TDF must charge cost-based prices.

- On all other sites – referred to as "replicable" – TDF must not charge excessive or predatory prices, to guarantee the ongoing development of alternative infrastructure. Lastly, for sites that are replicable but have not been replicated, TDF must not engage in predatory pricing.

Provisions demanding greater transparency have also been introduced: the aim is to provide market operators with more clarity on the possibilities for installing alternative infrastructure, and antennae in particular, on existing terrestrial broadcasting sites.

In October 2012, TDF published its first reference offer for the third round of regulation, and its second one in June 2013. ARCEP interacts on a regular basis with stakeholders in a bid to ensure the implementation of the new obligations, and especially of the reference offer's technical and pricing terms. Multilateral meetings are held twice a year – the latest of which took place on 16 January 2014.

Moreover, TDF's regulatory accounts for 2011 and 2012 were audited in April 2013 and its 2013 accounts in April 2014.

1.4 Cost accounting

Cost accounting and accounting separation obligations are contained in the European regulatory framework. When an operator enjoys significant power in a relevant market, the regulator can impose these obligations on it as a way to verify that it is meeting its price control and

4 - Cf. Glossary
5 - Decision No. 2012-1137 of 11 September 2012
6 - 79 sites in Metropolitan France and 3 sites in the overseas markets are listed

non-discrimination obligations. As a result, an operator may be subject to an obligation to "*perform separate accounting for certain interconnection or access operations, or to use accounting methods for the services and activities that make it possible to verify compliance with the obligations imposed under the present Article. an independent body designated by the Authority will verify compliance with these obligations, at the operator's expense*".[7]

- **A cost accounting system** has been constructed to distribute all of the costs that the undertaking incurs over all of the products it sells, and to compare them with the revenue earned on these products. The aim is to obtain an overall view and a benchmark of costs, which are required to achieve regulatory objectives, and particularly to ensure that price control obligations are met. the European Commission's recommendation of 19 September 2005 on accounting separation stipulates that: "*The purpose of imposing an obligation to implement a cost accounting system is to ensure that fair, objective and transparent criteria are followed by notified operators in allocating their costs to services in situations where they are subject to obligations for price controls or cost-oriented prices*"[8]

- **Accounting separation** consists of producing separate accounts based on an appropriate segregation of the enterprise, as required to achieve regulatory objectives, and particularly to demonstrate compliance with non-discrimination obligations, when applicable, and the absence of anticompetitive cross-subsidies.

The EC recommendation du 19 September 2005 states that the purpose of imposing accounting separation is to "*to reflect as closely as possible the performance of parts of the notified operator's business as if they had operated as separate businesses, and in the case of vertically integrated undertakings, to prevent discrimination in favour of their own activities and to prevent unfair cross-subsidy.*"[9]

In several of its decisions, ARCEP has described the cost accounting and accounting separation obligations imposed on Orange[10], mobile operators[11] and TDF[12].

2. Market analyses in Europe

2.1 The relevant markets to be analysed by national regulatory authorities

A European Commission recommendation lists the electronic communications markets that are relevant for analysis by national regulatory authorities (NRAs) in view of potential ex-ante regulation.

An explanatory memorandum attached to the directive describes the principles that an NRA must apply when performing its analysis of the relevant markets. It specifies that a market can be regulated *ex-ante* if it meets all three of the following criteria:

- the presence of high and non-transitory barriers to entry. These may be of a structural, legal or regulatory nature;
- a market structure which does not tend towards effective competition within the relevant time horizon. The application of this criterion involves examining the state of competition behind the barriers to entry;
- the insufficiency of competition law alone to adequately address the market failure(s) concerned.

The aim of the recommendation is to harmonise the scope of regulation in Member States, while not being

7 - CPCE Article L38, Para 5
8 - Article 1 of the European Commission recommendation of 19 September 2005
9 - Idem
10 - Decision 2006-1007 of 7 December 2006
11 - Decision 2013-0520 of 16 May 2013
12 - Decision 2008-0409 of 8 April 2008

prejudicial to the possible relevance of a market at the national level. As a result, while it is mandatory for an NRA to analyse all of the markets listed, imposing regulation is not if a market does not meet all three criteria, or if there is no SMP operator in the market.

On the flipside, an NRA can also decide to regulate a market that is not listed in the European Commission recommendation, provided it satisfies all three criteria. Such is the case with the wholesale broadcasting market in France.

In any event, national regulatory authorities (NRA) must notify their draft decision to the European Commission which has the power to oppose it.

The first Commission recommendation in 2003 listed 18 relevant markets, while the one adopted in 2007 contains only seven markets for which national regulatory authorities must perform an analysis with a view to potential *ex-ante* regulation:

Markets linked to fixed telephony
1- Access to the public telephone network
2- Call origination
3- Call termination
Markets linked to residential and enterprise fixed broadband and superfast broadband access
4- Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location
5- Wholesale broadband access (*bitstream*)
6- Wholesale terminating segments of leased lines
Markets linked to mobile telephony
7- Mobile call termination

The European Commission is currently in the process of reviewing the 2007 recommendation, and this list of relevant markets is expected to change in 2014. To this end, a public consultation was held in early 2013 to obtain feedback from stakeholders on the changing state of telecoms regulation in Europe. A report produced by an outside source was also published in October 2013. It recommends reducing the number of relevant markets that are regulated ex ante. Adopting some of the recommendations contained in this report, the Commission published a revised draft recommendation in January 2014, listing four *a priori* relevant markets:

Markets linked to fixed telephony
1- Wholesale fixed call termination
2- Wholesale mobile call termination
Markets linked to fixed broadband and superfast broadband access
3- a) Wholesale local access provided at a fixed location (including LLU)
b) Wholesale central access provided at a fixed location for mass market products (including bitstream)
4- Wholesale high-quality access provided at a fixed location (corresponding to the enterprise market)

The Body of European Regulators for Electronic Communications (BEREC) was involved in the work performed and discussions held throughout the review process via its Convergence and economic analysis Expert Working Group, which is co-chaired by ARCEP. BEREC will be called upon to issue an opinion on the Commission's draft decision, and the final version of the recommendation is expected to be published in the second half of 2014.

2.2 Summary of market analyses performed by European NRAs in 2013

Since the new European Framework Directive of 2002, commonly known as the Telecoms Package, came into effect, NRAs must notify their draft decisions concerning the definition of the markets to be regulated, the designation of SMP operator(s) and the remedies they intend to apply, to both the European Commission and their fellow European national regulatory authorities. The first two types of decision are governed by Article 7 of the Framework Directive, while the last is governed by Article 7a of this same directive. The European Commission, BEREC and the other NRAs have one month to submit their remarks. This one-month period can be extended by an additional two months if the Commission expresses "serious doubts" – which will result in a period of examination commonly referred to as a "phase II" procedure. BEREC must issue an opinion, and the Commission must take it into utmost consideration. Once these two months have elapsed, the Commission can either withdraw its "serious doubts" or veto the draft decision (if it is an Article 7 procedure), or issue a recommendation requesting that the draft

decision be withdrawn or amended (if it is an Article 7a procedure). The national regulatory authority also has the option of voluntarily withdrawing its draft measure at any time during the procedure.

In 2013, European NRAs notified 126 draft decisions associated with a market analyses procedure, which is slightly fewer than in 2012 (130). The most commonly analysed markets in 2013 were:

- fixed and mobile call termination markets (8);
- wholesale physical network access (3);
- wholesale broadband access (bitstream) (4).

The remaining analyses concerned fixed telephony and leased lines.

Except for two draft decisions that were immediately withdrawn by the NRA that issued them, BEREC adopted an opinion on all of the cases identified by the Commission. The BEREC analyses disagreed with the Commission's serious doubts in three cases. In ten of these cases, the procedures resulted in a recommendation requesting the draft decision be withdrawn, in a veto in two instances, in the serious doubts being lifted in one case, and in the NRA withdrawing its decision in one instance. The latest phase II procedure is still underway.

The most common motive for opening a phase II procedure in 2013 (in seven of the 17 cases) was the use of a **costing methodology** that the Commission believed could create barriers to the internal wholesale physical network access and wholesale broadband access (bitstream) markets, i.e. markets 4 and 5. These procedures concerned NRAs in Estonia, Spain, Austria and Italy, and all concluded with a recommendation from the Commission that the draft decision be withdrawn or amended. BEREC disagreed with the Commission in the Austrian and Italian cases, as it considered that the chosen cost calculation methods were justified. These phase II procedures took place while the Commission was preparing a new recommendation on non-discrimination obligations and cost methodologies.

La fixation des niveaux de terminaisons d'appels fixe et mobile Setting new fixed and mobile call termination rates was also at issue in several phase II procedures involving NRAs from Italy, Germany and Finland. Several of the draft decisions proposed using a method for calculating costs that differed from the one contained in the call termination recommendation of 2009, which resulted in CT rates that were deemed too high. These cost differences create competition problems and are detrimental to the internal market, which is what led the Commission to express serious doubts, with which BEREC agreed. Although the Italian regulator withdrew its draft decision after BEREC issued its opinion on the matter, the German NRA maintained its decisions, despite the Commission's recommendations. The Commission sent the German regulator a follow-up letter in October 2013, which constituted a preliminary step in what could become a dispute procedure for having infringed the European framework.

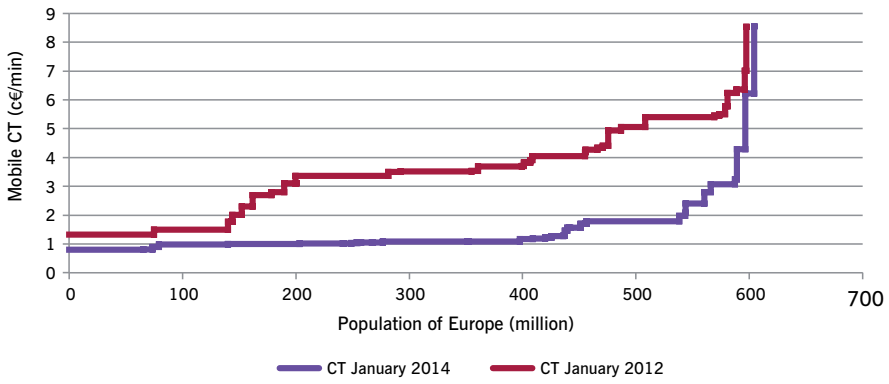
In the case involving analysis of fixed call termination in Finland, the regulator asserted that the interchangeability of fixed and mobile calling, and competitive pressure in the retail market were such that no single operator enjoyed significant power in its market. It therefore proposed that fixed call termination be deregulated. Having performed its analysis, BEREC concluded that it agreed with the Commission's position on the lack of supporting evidence for the Finnish NRAs conclusion, and on the risks of creating barriers to the internal market. The Commission thus vetoed the draft decision, which the regulator then withdrew.

Impact of market analysis on call termination rates

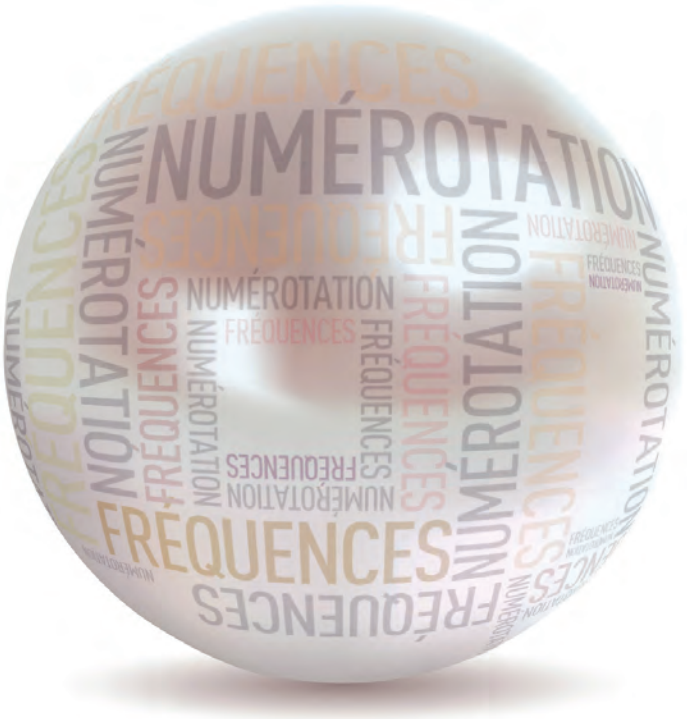
BEREC reports on call termination have revealed a decrease in the weighted average of mobile call termination (CT) rates for Europe, from 6.3 eurocents (4.76 cents for France) in January 2010 – when the recommendation was adopted – to 1.46 eurocents (0.8 cents for France) in July 2013, and from 0.58 cents (0.4 cents for France) in January 2011 to 0.37cents (0.08 cents for France) two years later for fixed CT rates. **The decrease in mobile CT rates enabled the swift development of plans that include unlimited calling to all networks.**

Some EU Member States nevertheless still employ methods for calculating CT rates that differ from the one contained in the 2009 recommendation, or have been late in applying this new method, particularly in the landline market, which explains why there are still differences between European carriers today.

Population concerned according to mobile CT rates (Variation 2012/2014)



Source: ARCEP.


NUMÉROTATION
FRÉQUENCES

Managing scarce resources

1. Frequencies

1. ARCEP's responsibilities

The French Postal and electronic communications code (CPCE) assigns ARCEP the task of managing radio frequencies, except for those that are used solely for broadcasting and for government purposes (defence, homeland security, civil aviation, etc.). The Authority carries out this task as part of the responsibilities assigned to it by Law as the sector's regulator, which include monetising and making proper use of the radio spectrum.

ARCEP is responsible for assigning frequencies to a growing number and increasingly wide variety of applications: spectrum users include operators, with a view to supplying services to the public, as well as local authorities, businesses and individuals for their own needs. Installations can include publicly available mobile networks (GSM, UMTS, LTE…), wireless local loop (WLL) networks, private mobile radio networks (PMR), live video feeds, radio links (for broadcasting services, mobile carriers' infrastructure networks, etc.), satellite communication systems, amateur radio and low-power and short-range devices (Wi-Fi, wireless microphones, wireless LAN, RFID, medical implants, remote controls, short-range radar for cars, meter reading systems, etc.).

The CPCE thus endows ARCEP with the following powers in the area of spectrum management:

- **Frequency regulation and planning**

In the frequency bands for which it is responsible, ARCEP can determine the type of equipment, network or service permitted to use those bands, along with the technical conditions of their use (transmission power, base station deployment rules, etc.).

These decisions are approved by the Minister responsible for electronic communications before being published in the Official journal (*Journal officiel*).

Along with the National Frequency Agency, ANFr (*Agence nationale des fréquences*), ARCEP is involved in drafting international regulation in this area and in managing the ongoing changes to frequency assignments defined by the national frequency allocation table (NFAT), and implemented by an order from the Prime Minister.

- **Allocating spectrum and issuing frequency licences**

ARCEP is tasked with issuing licences to the users of the frequency bands for which it is responsible. For frequencies whose use is governed by individual licences, ARCEP can elect either to issue licences over time as the need arises or, when judicious use of the

frequency band is required – because of its scarcity or because of the state of competition – to issue licences following a call for applications.

In such cases, the selection criteria for the applicants will be defined by the Minister responsible for electronic communications, based on a proposal from ARCEP and published in the *Journal officiel*.

- **Monitoring licences**

ARCEP is responsible for monitoring the use of the licences, and particularly for ensuring that operators are complying with the terms attached to these licences. These terms may include network rollout timetables, quality of service, licensing fees, terms governing the use of the frequencies and any commitments the licence-holder made when being issued the licence in response to a call for applications. ARCEP is also responsible for examining and supervising spectrum licence trades.

1.2 Measures taken in 2013

a) Spectrum regulation and participation in frequency planning

In 2013, ARCEP adopted a decision on the terms governing amateur radio stations' and amateur satellite radio stations' use of frequencies.

Working in tandem with France's national frequency agency, ANFR, the Authority continued the spectrum inventory whose purpose was to identify any additional available spectrum, to satisfy the expected rise in superfast mobile networks' frequency requirements. This work, which made it possible to establish a preliminary list of frequency bands whose assignment was likely to change between now and 2020, will continue and allow these candidate bands to be designated at the international level at the World Radiocommunication Conference in 2015 (cf. p 178).

ARCEP also contributed to work being done at the European level, including several EU harmonisation decisions on the following:

- the technical conditions governing use of the 3.4-3.8 GHz band, with a view to introducing new mobile technologies, and particularly LTE;
- the technical conditions governing use of the 823-832 MHz and 1785-1805 MHz bands by audio programme-making and special events (PMSE), including wireless microphones;
- the technical conditions governing use of the 1800 MHz and 2.1 GHz bands for the supply of mobile communications services on aircraft (MCA services);
- the technical conditions governing short-range devices' frequency use.

ARCEP also took part in European efforts to define possible future uses of radio spectrum:

- introduction of superfast broadband services in the 700 MHz band;
- introduction of Wi-Fi in the 5 GHz extension band;
- introduction of new applications in the 2 GHz band's TDD blocks;
- examining spectrum requirements for wireless microphones for professional use and mobile video links, which are employed heavily by broadcasters and media companies;
- introduction of short-range devices in new frequency bands;
- definition of the concept of spectrum sharing, for which industry stakeholders have expressed an interest as a way to use new frequency resources as efficiently as possible.

ARCEP also contributed to international work being done by the European Conference of Postal and Telecommunications Administrations (CEPT), and notably on:

- preparing a decision on harmonised conditions for use of the 1452-1492 MHz band to be used by superfast mobile systems;
- preparing a draft decision on harmonised conditions for use of the 3400-3800 MHz bands;
- harmonised introduction of high-speed mobile systems in the 2300-2 400 MHz band;
- examining spectrum requirements for security and emergency systems, and their impact on the future development of other private mobile radio (PMR) systems;
- identifying frequencies for the introduction of a Broadband Direct-Air-to-Ground Communications (BDA2GC) system for the Aeronautical Mobile Service that will supply a broadband link between aeroplanes and the ground, for the provision of in-flight internet access;
- developing the concept of spectrum sharing and of cognitive systems in particular;
- examining co-existence issues between the GSM-R system used to supply railways and mobile networks in the 900 MHz band;
- preparing a decision on harmonised conditions for use of the Ka band by earth stations on mobile platforms.

b) Spectrum allocation

The central events of 2013 included ARCEP authorising Bouygues Telecom to reuse the 1800 MHz frequency band for 4G. This is explored in detail in a separate section of the report (cf. p. 100).

ARCEP also issued several licences in response to requests from undertakings:

- for fixed service frequency allocations (wireless): 8,863 new assignments, 6,499 amendments, 8,093 cancellations and 1,879 renewals;
- for fixed and mobile satellite service frequency allocations: 110 assignments, 6 amendments and 46 cancellations;
- for professional mobile service frequency allocations: 1,478 network assignments, 787 amendments, 1,851 renewals and 1,355 cancellations (as well as the creation of 3,384 temporary networks);
- short-term events: 807 dossiers for 1,532 temporary allocations.

These procedures resulted in the adoption of 1,134 spectrum licensing decisions, of the total 1,462 decisions (or 77.56%) that ARCEP issued during the year, and which are broken down as follows:

- 757 decisions on the fixed service;
- 35 decisions on satellite services;
- 302 decisions on professional mobile services, representing 8,855 networks;
- 40 decisions on trials carried out by industry undertakings (on radars, drones, etc.).

c) Monitoring licences and collecting fees

Monitoring licences continued to be a particularly significant field of endeavour for ARCEP in 2013. Of particular import are the checks the Authority performs to ensure that operators are meeting the coverage and quality of service commitments they made during the call for applications. ARCEP's actions in this area are explored in more detail in a separate section of the report (cf. p. 104-108).

Lastly, ARCEP collected €298 million in spectrum licensing fees on behalf of the State in 2013.

1.3 Participation in international efforts

In 2013, the World Radiocommunication Conference (WRC), and the multi-annual Radio Spectrum Policy Programme (RSPP), adopted by the European Parliament and Council, began fundamental international work on meeting the challenges created by the tremendous rise in traffic on mobile networks. Gaining access to spectrum continues to be a crucial ingredient in satisfying the future needs of mobile internet services. A global movement devoted to identifying new frequencies for mobile services is underway.

In 2013 ARCEP contributed to the preparatory work being done in France by the National Frequency Agency, ANFR (Agence nationale des fréquences).

a/ European radio spectrum policy

The first multi-annual Radio Spectrum Policy Programme (RSPP), provided for in the European regulatory framework for electronic communications (commonly known as the Telecom Package) amended in 2009, was adopted by the European Parliament and Council on 14 March 2012. The RSPP was a policy decision taken at the highest level in Europe, setting a roadmap for achieving the objectives set out in the Digital Agenda for Europe, including superfast broadband access for all by 2020, in particular thanks to wireless communications: all EU citizens are to have an internet connection of a minimum 30 Mbps, and at least half of all households will have a connection with a throughput equal to or above 100 Mbps.

The RSPP lays out a roadmap for the availability of new frequency resources to satisfy future spectrum needs: a total of at least 1200 MHz need to be available for mobile broadband systems by 2015.

To this end, the European Commission has been called upon to perform a spectrum inventory in the European Union by 2015. This will involve recording current spectrum usage, particularly in the 400 MHz to 6 GHz range, to identify those bands that can be reallocated to another use or used more efficiently, and to determine future demand for spectrum in relation to the EU's relevant policies, according to the technological trends that have been ascertained.

b/ WRC-15

The World Radiocommunications Conferences (WRC), whose resolutions have the status of a treaty, are important events for ARCEP as they introduce essential technical and regulatory prescriptions that apply to all types of radiocommunications.

The latest World Radiocommunication Conference, WRC-12, which took place from 23 January to 17 February 2012 in Geneva, set the programme for international work on frequencies for 2012 to 2015.

The allocation of the 694-790 MHz[1] (aka the 700 MHz) band to mobile services on a co-primary basis with the broadcasting service, and the identification of this band for international mobile telecommunications (IMT) in region 1 (Europe, Africa and a portion of Asia) will come into effect after the next conference, which will run from 2 to 27 November 2015.

Based on the results of the technical and regulatory studies that are currently underway, the WRC-15 will decide on possible adjustments to the lowest channel allocated to the mobile service, and on the terms to ensure harmonised use of the band for the mobile service and IMT in region 1. It will then be up to each member country to determine which service will use this band, i.e. broadcasting or mobile services.

1 - See also chapter II 3. In Part 2 on the second digital dividend

The WRC-15 will also determine the nature and quantity of additional spectrum that will be needed to meet the needs of future generations of cellular systems and Wi-Fi networks. The entire spectrum below 6 GHz is currently being examined to identify the frequency bands for which it is feasible to add an allocation to mobile services. Several services are thus competing for access to the same spectrum.

Joëlle Toledano appointed to head up a ministerial task force on spectrum

On 27 September 2013, Fleur Pellerin, then Minister responsible for the digital economy, appointed Joëlle Toledano, economist, professor, member of the National Frequency Agency's Executive Board and former member of ARCEP's Executive Board (2005-2011), to head up a task force to "*identify the organisational, institutional, legislative and regulatory instruments that will enable more open and simpler spectrum policies, capable of stimulating innovation and growth*".

Indeed, since the launch of mobile internet services, and with the rising popularity of smartphones and tablets, the need for access to wireless networks has been increasing steadily, and proving a decisive factor in future innovation and growth in France and around the world. One of the central tasks assigned to Joëlle Toledano is to analyse the different ways to achieve more efficient and more flexible spectrum use, in particular by developing sharing schemes for certain frequency bands.

In the course of its assignment, the task force has held a series of talks with the sector's stakeholders, both national and international, of which ARCEP was one.

2. Numbering

2.1 ARCEP's responsibilities

In accordance with Article L. 44 of the French Postal and electronic communications code (CPCE), ARCEP is responsible for establishing the national numbering plan, for its operational management and management rules, and for allocating operators the numbering resources needed for their business – in addition to working to ensure these resources are used judiciously, given their scarcity and the current state of market competition. The national numbering plan corresponds not only to telephone numbers used by telephone services, but also to addressing resources for data networks, semaphore signalling points and MCC + MNC codes.

ARCEP is also responsible for invoicing and collecting the taxes and fees due from operators[2].

The amount invoiced for the numbering tax in 2013 came to €23.9 million.

2 - *In accordance with the provisions of CPCE Articles L. 44 and R. 20-44-28, completed by an order from the Minister responsible for electronic communications*

2.2 The situation in 2013 and changes to the national numbering plan

Status of numbering resources at the end of 2013	
Type of number	**Total numbers assigned**
Fixed and mobile communications	
Fixed geographic numbers (starting with 01, 02, 03, 04, 05)	214 260 000
Fixed non-geographic numbers (starting with 09)	33 650 000
Mobile numbers (starting with 06 and 07, incl. roaming)	122 940 000
Value-added services	
Special numbers (10XY)	34
Short numbers (3BPQ)	310
Six-digit numbers (118XYZ)	13
Non-geographic VAS numbers (08AB except 085B, 086B and 087B)	11 866 000
Codes	
E format prefixes	4
16XY format prefixes	31
Number retention prefixes (0ZO, 0600, 0509, 0840, 0842 and 0900)	1812

Source: ARCEP.

The rate of allocation for fixed geographical numbers and numbers for value-added services (VAS) is still below 50%.

On the other hand, 77% of mobile numbers have already been assigned. All numbers starting with 06 (aside from those allocated to the French overseas departments) have been attributed. All new number assignments in Metropolitan France now begin with 07.

2.3 Measures taken in 2013

In 2013, the Authority issued 268 decisions on numbering:

- 267 decisions on the day-to-day management of numbering resources:
  - 196 allocation decisions;
  - 16 operator-to-operator transfer decisions;
  - 4 decisions amending previous decisions;
  - 51 repeal decisions.
- One decision that was general in scope: amending the decision[3] establishing the emergency numbers that operators must route for free.

ARCEP amended[4] this list to open two new emergency numbers: 191 and 196 devoted, respectively, to aeronautical rescue (CCS – France's Central safety committee) and maritime rescue (CROSS – France's regional maritime search and rescue operations centres), in response to a request from the Ministry responsible for the environment, sustainable development and energy.

This decision also reserves the numbering plan's 19X range for emergency numbers. Before it can come into effect, the decision needs to be approved by the Minister responsible for electronic communications, and published in the Journal officiel.

In October 2013, the Authority launched a public consultation on opening up these two new emergency numbers. The regional maritime search and rescue centres (CROSS) and the aeronautical rescue coordination centres (CCS), which are the Directorate of Maritime Affairs and the Directorate-General of Civil Aviation's specialised services, are responsible for rescue operations – coordinating available search and rescue resources. An emergency number would allow them to

3 - Decision No. 02-1179, of 19 December 2002
4 - Decision No. 2013-1405, of 17 December 2013

reveal a caller's identification directly and immediately, along with information on their location, which would enable them to refine the search area, and so accelerate the planning and execution of search and rescue operations.

As part of ongoing efforts to make the best possible use of these scarce numbering resources, and to improve the efficiency of emergency calling systems (which must never be too numerous to avoid confusion between the different emergency services, and to make it easy for users to memorise them), the consultation suggests limiting the numbering plan's 19X range to future emergency number purposes. France already has eight emergency numbers: 15 for emergency medical aid (SAMU), 17 for the police or the gendarmerie, 18 for fire-fighters, 112 which is the European emergency number, 114 for the deaf and hard of hearing, 115 for the SAMU social hotline for the homeless and people in social distress, 116 000 for missing children and 119 to report child maltreatment.


Interconnexion
Ouverture
Qualité de service
Innovation
Ouverture
Qualité de service
Services gérés
Neutralité
Qualité
Transparence
Accès non discriminatoire
Transparence
ARCEP
Investissement
Interconnexi
internet
Bien collectif stratégique
Ouverture
Interconnexion
Investissement
Neutralité
Internet
Transparence
Bien collectif stratégique
Gestion de trafic
Investissement
Innovation

Regulating the internet: a technical and economic challenge

1. Issues and background

Initiated in the United States some 20 years ago, the net neutrality debate underscores the growing role that the internet plays in society, and how central the network of networks has become to the development of a modern, competitive and innovative economic fabric. In 2013, 81% of people in France had an internet connection at home[1], while 49% of mobile customers use their phone to access fast-growing data services[2].

ARCEP began to devote itself to the net neutrality issue back in 2009 – beginning a cycle of investigation and broad consultation with the sector's players and the public. After hosting an international conference on the topic April 2010, in September 2010 ARCEP published 10 "proposals and recommendations" that lay out the rules for internet access providers and, in September 2012, the Authority published a report to Parliament and the Government that sets down the economic terms of the net neutrality debate. These documents also provide concrete details on the work that ARCEP is doing to preserve net neutrality.

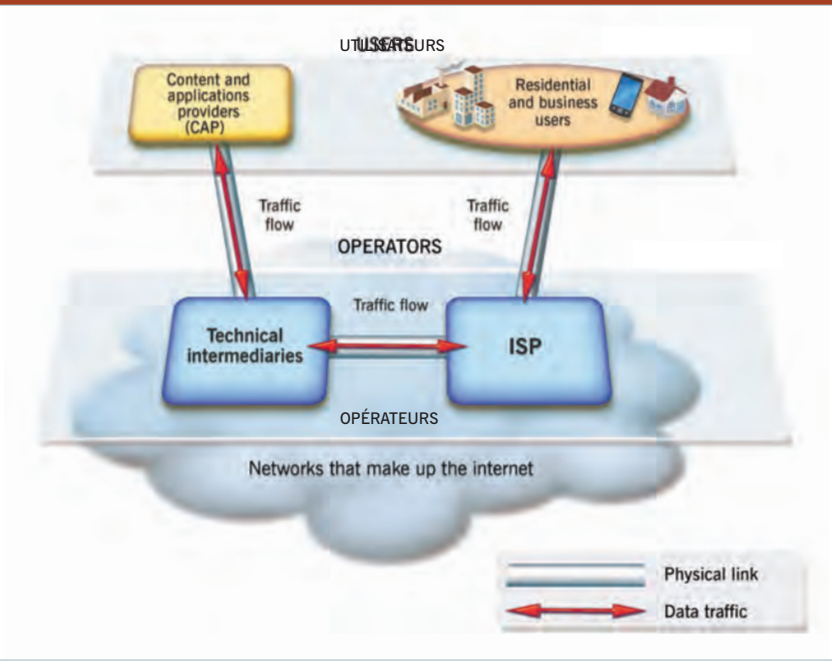
This work is part of the regulatory framework amended in 2011 by the transposition of Europe's third Telecoms Package.

The principle of neutrality implies that the networks that make up the internet ("lower layer") must relay information ("upper layer") without discriminating based on the nature of this information, its sender or recipient. This principle has largely underpinned the internet's trajectory up until now, as traffic streams are relayed according to the principle of best effort. This has allowed a host of services and applications to develop. Innovation "without permission" has thus been able to flourish, enabled by the low entry costs and the guarantee of immediate and unconditional access to the rest of the connected world, without having to enter into negotiations with the various intermediaries involved in relaying traffic to end users. For internet users, the principle of neutrality guarantees access to all services and the ability to interact with anyone who is online.

1 - CREDOC, survey of the availability and adoption of information and communication technologies in French society (November 2013)
2 - Data for Metropolitan France. ARCEP Observatory of electronic communications markets in mainland France, Q4 2013. Included are multimedia services such as the internet, WAP, MMS, e-mail, and this regardless of the supporting tech. Sending an SMS does not fall within the scope of this definition

Today, however, operators need to continue to invest heavily in increasing their networks' capacity, to handle the steady increase in online data traffic: estimated at 28% in 2013 and 24% in 2014[3]. As a result, some operators believe that traffic management techniques need to be employed to contain their costs, to generate revenue from services offering priority routing for online traffic, and to improve the quality of their services. In any event, it is vital that fundamental freedoms be respected on the internet, notably via the quality of the access provided to this space, and by developing innovative services through ongoing investment in deploying and upgrading the networks.

The internet's stakeholders



Source: ARCEP.

2. A European debate

2.1 Work being done by European institutions

After having held a public consultation on net neutrality in 2012, initially with the goal of publishing a recommendation on the subject, the European Commission ultimately decided to include its recommendations as part of its proposed regulation on measures concerning the "European single market for electronic communications".

The text sets out the rules for internet access services (IAS) and specialised services, and describes the obligations incumbent on both types of service. The draft regulation thus guarantees the neutrality of internet access services by guaranteeing users' right to access and distribute the information of their choice, and by forbidding the blocking and slowing of traffic, except when the practices used

3 - Source: Cisco

comply with certain strict criteria: proportionality, transparency, non-discrimination and proven necessity, in accordance with a set of predefined objectives.

Specialised services, on the other hand, can be offered freely, provided they do not impair the overall quality of IAS in any significant way. Operators' obligations to be transparent in their traffic management and the actual quality of service they provide have also been strengthened. Lastly, regulators have been given increased powers to allow them to measure the quality of internet access products and their availability in the marketplace.

Within the European Parliament, net neutrality proposals are examined by the Committee on Internal Market and Consumer Protection (IMCO) and the Committee on Industry, Research and Energy (ITRE). In their reports – adopted in January and in March 2014 respectively – these two committees proposed amendments to help strengthen the neutrality of IAS, and bring clarifications to the rules that apply to specialised services. Net neutrality rules became much more strict following the adoption of the European Parliament's position from first reading, in plenary session. Most of the discussions in the European Parliament were intense and highly technical, and revealed profound divisions over how to define specialised services, and how they interact with internet access products.

Meanwhile, the European Council[4] began an in-depth analysis of the proposed regulation in March 2014, and is expected to adopt a position on the entire text in the second half of the year. Net neutrality will no doubt be a focal issue for all EU Member States in the coming months.

2.2 The work being done by BEREC

BEREC (the Body of European Regulators for Electronic Communications) has played a vital role in net neutrality debates in Europe since 2010. Following the review of the Telecoms Package in 2009, during which European institutions had underscored the need to explore the issue more deeply, regulators were given a greater role to play, and the European Commission tasked BEREC with a set of projects in the areas of transparency, quality of service, traffic management and IP interconnection. Assigned largely to a working group co-chaired by ARCEP and its Norwegian counterpart, NPT, this work allowed BEREC members to develop a shared understanding of the regulatory issues at hand, and to establish a common methodology for addressing them. A series of three reports was released in late 2012, along with a summary of BEREC's position on net neutrality[5].

BEREC continued this work on into 2013 and, in March 2014, submitted a draft report on monitoring the quality of internet access services to public consultation[6]. The report describes the systems used for measuring quality of service that have been implemented by European regulators, and which allow them so ensure transparency and facilitate the regulator's task of supervision. The report also details the basic requirements to enable a convergence towards harmonised measurement systems.

At the same time, BEREC has continued its analysis of market dynamics to deepen its understanding of the reasons that lead operators to develop traffic shaping practices, and how users react to them.

In 2013, BEREC also examined the European Commission's[7] proposed regulation on a single market for electronic communications, of which a portion is devoted to net neutrality. In its analysis[8], BEREC underscored the fact that the Commission's proposal was by and large in line with its own analysis of net neutrality, despite certain legal uncertainties, particularly in the definition of specialised services and the role of regulators. BEREC also shared its views with the European parliamentary committees in charge of examining the text.

4 - *i.e. the Council of Ministers*
5 - *Summary of BEREC positions on net neutrality, 10 December 2012*
6 - *BEREC Report on Monitoring quality of internet access services in the context of net neutrality*
7 - *Cf. p. 62*
8 - *BEREC views on the proposal for a Regulation "laying down measures to complete the European single market for electronic communications and to achieve a Connected Continent"*

As co-chair of the working group devoted to net neutrality, ARCEP met with the two European parliamentary commissions in November 2013: the Committee on Internal Market and Consumer Protection (IMCO) and the Committee on Industry, Research and Energy (ITRE).

3. ARCEP's process and courses of action

If it does seem legitimate for these operators to actively manage internet traffic, for instance to protect against DOS attacks, worms, hackers, etc. other practices are more questionable, such as throttling or blocking data streams coming from the competition. In 2010, ARCEP had concluded that there was no significant or pressing issue in the marketplace, while also stressing that there were nevertheless risks with potentially sizeable consequences. Some operators are also working to change the terms governing interconnection between internet companies and their network, particularly with a view to increasing their earnings. As a result, ARCEP decided it would be useful to monitor the interconnection market (see above).

As a parallel measure, ARCEP proposed a framework that seeks to define the conditions for ensuring the internet's sustained development over time, and which respect its original nature as a space of freedom of expression and global interaction.

3.1 Guiding principles

In both the proposals published in September 2010 and the report submitted to Parliament and the Government in September 2012, the Authority formulated several proposals to this effect, reiterating the central role that competition plays – enabling the market's liquidity and transparency – and ensuring users have the broadest possible choice, in addition to giving vendors the incentive to provide high quality offerings.

ARCEP considers that, while it is essential that specialised services[9] (such as TV or Voice over IP) be allowed to develop to encourage innovation in the marketplace, this development must not impair the quality of internet access products.

The sector's stakeholders have by and large reacted positively to these principles, which apply as much to fixed as mobile networks.

3.2 Regulatory framework

ARCEP's actions to protect net neutrality are part of the legal framework that came into effect in August 2011[10] with the transposition of European directives (third Telecoms Package) that assign a new objective and new responsibilities to the regulator. ARCEP is thus now tasked with ensuring, "*the ability of end users to access and distribute information, and to run the applications and services of their choice*" [11].

The law requires operators to be transparent about the traffic management practices they employ, and to list them in customers' contracts and in extra-contractual documents, "*in a clear, detailed and easily accessible format*". [12]

In addition, ARCEP's powers to settle disputes have been expanded to include all undertakings involved in interconnection, as the Authority is now responsible for supervising the "*reciprocal technical and pricing terms and conditions governing traffic routing between an*

9 - *Unlike internet access services, specialised services, which are also referred to as managed services, provide users with access to applications and content with a controlled level of quality. An operator may provide access to certain content or a select number of applications for which it ensures the technical properties from end-to-end, either over its own network or through agreements with other operators who are responsible for relaying traffic.*
10 - *Order No. 2011-1012 of 24 August 2011, Conseil d'Etat Decree No. 2012-436 of 30 March 2012, and No. 2012-488 of 13 April 2012*
11 - *Article L.32-1, Point II, Para. 15 of the French Postal and electronic communications code (CPCE).*
12 - *CPCE Article L. 33-1 n and D. 98-12 – which refers back to Article L. 121-83 of the Consumer Protection Code, particularly points g. and i.*

operator and an undertaking providing online communication services to the public[13]*". It has also gained the ability to gather "information and documents concerning the technical and pricing terms of traffic routing applied to their services*"[14] from these undertakings.

The regulator has a newfound responsibility to maintain a sufficiently high level of service and prevent congestion, and "*can set minimum quality of service requirements*"[15]. This power is accompanied by the ability to determine the nature, rules and conditions governing the publication of the quality of service (QoS) measurements performed by the operators[16].

3.3 A pragmatic and progressive approach to regulation

In its annual report for 2012, ARCEP stated that, "*if Parliament should consider it useful to transcribe the guiding principles of net neutrality into Law, it would nevertheless be wise not to constrict their application through overly-detailed provisions that could prove difficult, if not impossible, to implement in a sector that is in a constant state of technological and economic flux, and which therefore demands that a certain flexibility of action be maintained*".

ARCEP's actions on net neutrality do not concern content

The net neutrality debate, and ARCEP's ensuing analyses and recommendations on the issue, relate solely to the technical and economic conditions of relaying internet traffic, in accordance with the objectives and powers the law confers on the regulator. The work that ARCEP has done on net neutrality does therefore not address the question of control over certain content sent, relayed or received via the internet, which is an essential question in all democracies and sometimes confused with the net neutrality issue, but which in no way falls under the purview of an electronic communications regulator.

ARCEP has elected to respond in a progressive and pragmatic way to the sector's ongoing technological and economic developments, preferring recommendations that are general in scope, strengthened market forces and a flexible framework that assess situations on a case-by-case basis, rather than imposing prescriptive ex ante regulation that explicitly lists authorised or forbidden behaviours. This approach, which is taken in addition to ensuring that operators meet their obligations, is above all a preventative one and may, if necessary, become more coercive. It is an approach built around three main tenets.

1. **Immediate and preventive actions**
   - improving transparency on the services sold to end users, to strengthen competition in retail markets;
   - guidelines for best practices in traffic management and interconnection;
   - measuring and publishing quality of service indicators for each operator.

2. **Acting on a case-by-case basis,** based on a deeper understanding of the market and the guidelines mentioned earlier, either on the instigation of the undertakings involved as part of dispute settlement procedures, or for verifying that the applicable obligations are being met.

3. **More general prescriptive measures when there is a proven market failure**, which could take the take the form of a decision setting minimum quality of service requirements17, but also relying on other more classic forms of symmetrical or asymmetrical regulation.

13 - CPCE Article L. 36-8, point 2
14 - CPCE Article L. 32-4, point 2
15 - CPCE Article L. 36-6, point 5
16 - CPCE Article D. 98-4
17 - In accordance with CPCE Article L. 36-6

3.4 The work being done by ARCEP

The Authority has identified four focal issues associated with net neutrality: transparency, quality of service, traffic management and interconnection, and data transport.

a) Transparency

Internet access products must be transparent, to allow electronic communication service users to make an informed choice between available offers, and so take full advantage of competition in the marketplace. Market competition is thus rendered effective, and instils discipline in ISPs' business practices. The transposition of the 3rd Telecoms Package strengthened operators' transparency obligations, particularly in the area of quality of service and traffic management techniques.

To improve transparency on the technical or pricing differentiation techniques that operators employ when managing traffic, in October 2011 ARCEP created a working group with the General directorate for competition, industry and services, DGCIS (*direction générale de la competition, de la consommation et de la répression des fraudes*) and the General directorate for fair trade, consumer affairs and fraud control, DGCCRF (*direction générale de la concurrence, de la consommation et de la répression des fraudes*) whose purpose was to draft a set of recommendations for improving the information available to consumers on the scope of internet access plans and their connection speed, a line's ability to supply a TV service, the services and applications subject to tiered pricing, priority treatment given to certain users or services, and the blocking or throttling of certain services or applications, hotspots, etc.

The working group reached a consensus with operators and consumer associations that any regulatory measures should apply to all operators equally, and not distort competition in any way.
This work resulted in:

- an opinion from the National consumer affairs committee, CNC (*conseil national de la consommation*) which aims to provide a framework for information of an educational nature: making changes to standardised *information sheets (FIS: fiches d'information standardisés*) and producing educational material;
- an order based on the Consumer Protection Code (*code de la consommation*) – and taking account of the opinions received from CNC and ARCEP – relating to advertising, extra-contractual and contractual information.

This order that sets out the rules for informing consumers on the technical features of internet access products was published in the Journal Officiel in December 2013[18]. It specifies the information that must be provided to consumers when they subscribe to a fixed internet access service, the rules governing the commercial information provided by internet service providers (ISP), and requires operators to make educational information available on an easily accessible, dedicated web page starting on 1 July 2014.

b) Quality of internet access services

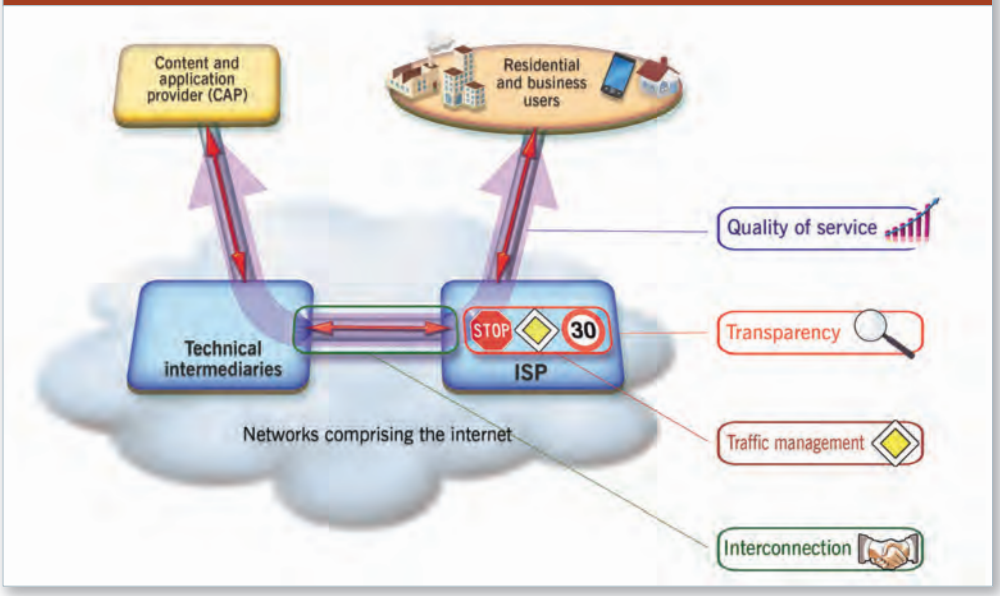
Internet access services must be of sufficiently high quality for the internet to continue to be a powerful vehicle for innovation. The ongoing increase in traffic, the development of specialised services and the use of traffic management techniques nevertheless have the potential to impair this quality of service. Having knowledge about the quality of electronic communication services is thus becoming an important factor in a competitive market. It can influence which operator users choose, in addition to constituting important information that allows the regulator to monitor the state of the market.

- **Quality of fixed internet access services**

The system that ARCEP introduced to measure the quality of fixed internet access services is made up of two parts:

18 - Order of 3 December 2013 relating to providing consumers with prior information on the technical properties of fixed wireline internet access products. On 10 October 2013 ARCEP issued Opinion No. 2013-1168 on the draft order.
19 - The main tool used to measure QoS was the subject of framework Decision No. 2013-0004 of 29January2013. It came into effect in late2013.

ARCEP's priorities and challenges: transparency, quality of service, interconnection, traffic management



Source: ARCEP.

- main measurements performed on dedicated lines, which are paid for by operators and performed by a single vendor under the aegis of ARCEP19,
- supplementary measurements financed by ARCEP which any user can perform on any internet access point.

The measurements are performed under conditions that make it possible to achieve a high degree of comparison between operators, and a sufficiently broad representation of the various network access conditions that users encounter. ARCEP worked in concert with consumer associations, operators and independent experts on the approach to be taken, as well as equipment manufacturers, and associations representing content and application providers.

A technical committee that meets on a regular basis under the aegis of ARCEP produced a set of common metrics, establishing precise definitions for the technical conditions for conducting the tests and publishing the indicators. Based on this common set of metrics, the operators concerned (Bouygues Telecom, Free, Numericable, Orange and SFR) selected a single vendor to perform the tests. The system was put into effect in 2013, and the first set of metrics will be measured then published in summer 2014..

The supplementary measurements will consist of tests that volunteer users will perform on their own equipment. Using a downloaded application or a web-based interface, these users will be able to measure their line's performance, and compare it with the benchmark obtained from primary testing. These secondary measurements will only begin once the principal ones are up and running.

- **Quality of mobile internet access**

The swift development of the mobile data traffic naturally gives rise to concerns about the quality of internet access services on cellular networks. This upsurge in traffic affects both a growing number of users and service providers, and operators may be tempted to reduce the quality of their service, or to introduce new forms of traffic shaping on these networks whose capacities are structurally limited. This is why ARCEP monitors the quality of mobile internet services, and is working on strengthening the tools used to do so.

ARCEP thus performs a QoS survey every year of mobile networks in Metropolitan France (cf. p. 197). In 2013, to match the user experience as closely as possible, ARCEP expanded the process by incorporating measurements of the four mobile network operators' 4G systems. The results that will be published in summer 2014 will allow users to compare how the different operators' networks perform for a given service, and give operators an incentive to maintain a sufficiently high quality of service.

c) Traffic management practices

ARCEP's recommendations on net neutrality lay out the general principles governing the use of traffic management techniques, in other words all of the practices that affect how traffic is treated – e.g. blocking certain applications or giving priority to certain services, etc.

To deepen its knowledge of the ever-evolving practices in the marketplace, in 2011 ARCEP asked operators to provide a status report of the traffic management techniques being used on their networks. Then, from December 2011 to January 2012, ARCEP took part in a similar exercise at the European level which was carried out by BEREC, at the request of the European Commission. This investigation, which involved both operators and other stakeholders, could be repeated in 2014. The findings underscored the variety of techniques being used: while some are pursuing entirely legitimate goals in an efficient and proportionate fashion, other undertakings' compliance with the principle of net neutrality needs would appear more questionable, and needs to be verified.

ARCEP presented a summary of this work in the net neutrality report published in September 2012, along with an analysis of how compatible these practices are with the traffic management recommendations[20] made in 2010. ARCEP is calling in particular for the elimination of any remaining blocking of VoIP and P2P services on mobile networks, and any restrictions placed when a device is used in modem mode.

Moreover, in early 2013, after Free installed a default ad-blocking mechanism, ARCEP queried the operator on the ultimate aim of the software and requested a detailed description of its operation. The operator deactivated the mechanism soon thereafter.

d) L'interconnexion et l'acheminement de données

Interconnection refers to the technical-economic relationship between operators, or between operators and the leading content and application providers, for connecting to one another and exchanging traffic. Interconnection is the very foundation of the internet: guaranteeing the global mesh of networks and the ability for all users to communicate with one another.

As a result of rising traffic, decreasing unit costs and the strategies being employed by stakeholders, the interconnection market is undergoing rapid changes and has become a source of tension between the players. There is thus a risk that certain players may engage in discriminatory or anti-trust behaviour.

In September 2012, consumer protection association, *UFC-Que Choisir*, had alerted ARCEP to a large number of complaints from the customers of ISP Free over malfunctions and slowed connection speeds when attempting to access certain online services and applications, and particularly YouTube.

In particular, *UFC Que-Choisir* underscored the fact that this decreased quality that consumers noticed in their service came at a time of increasing tensions between Free Mobile and Google subsidiary YouTube, and that commercial disagreements between the two companies could be behind the malfunctions and slowed connection speeds observed by the ISP's customers.

20 - *Propositions n° 2,3 et 4.*

After a series of informal talks with stakeholders, which did not enable ARCEP to gather all of the information needed to answer the questions raised by the letter from UFC-Que Choisir, the Authority deemed it necessary to launch an administrative[21] inquiry into the technical and financial terms governing traffic routing between the two undertakings.

Three questionnaires were sent to the concerned parties: Iliad and Google, and to the main backhaul operators involved in relaying traffic between these two corporations

The information provided allowed ARCEP to clarify the technical and financial terms governing traffic routing between Free Mobile and Google, and to investigate whether any infractions to the legal and regulatory provisions that apply to all stakeholders had occurred.

The inquiry made it possible to ascertain that Free's interconnection and backhaul capacities are congested. This congestion is the main reason for the slow connection to the YouTube video site experienced by Free Mobile customers during peak traffic hours, when peering[22] is saturated and a portion of the traffic generated by Google is managed by transit providers.

It did not reveal any discriminatory practices against Google or any other provider of public online services. The techniques used did thus not require ARCEP to take any additional action[23].

ARCEP nevertheless believes that the trends observed in the marketplace – including the vertical integration of certain undertakings, and ISPs' attempts to monetise interconnection – do not require the ex ante regulatory framework to be strengthened at this stage. Having introduced a system for periodically collecting information from stakeholders[24], ARCEP will be able to track these trends over time, analyse them and take them into account when fulfilling its responsibilities. The Authority will nevertheless continue to pay close attention to the possible development of paid peering which, although not forbidden, must not result in discriminatory practices between undertakings.

21 - Decision No. 2012-1545, of 22 November 2012
22 - Cf Glossary
23 - Moreover, to the best of the Authority's knowledge, the number of complaints filed by Free Mobile customers has decreased since the administrative inquiry began, which would seem to indicate that the quality of service they are experiencing has improved significantly.
24 - Decision No. 2012-0366 of 29 March 2012 recently amended by Decision No. 2014-0433-RDPI of 8 April 2014

Acting on behalf of consumers

The Consumer Protection Act was adopted by Parliament on 13 February 2014 and published in the Journal Officiel on 18 March 2014.

The aim of the bill tabled by the Government was to introduce, "*new tools of economic regulation to readjust the balance of power between consumers and businesses*". Measures that are specific to the telecoms sector were adopted. Articles L.32-1 II, para. 12 and L.33-1 I n) of the French Postal and electronic communications code (CPCE) were amended to clarify the respective competencies of the General directorate for fair trade, consumer affairs and fraud control, DGCCRF (Direction générale de la competition, de la consommation et de la répression des fraudes) and ARCEP. Additional measures were also introduced to the framework governing value-added services (VAS).

1. How the act affects telecom sector consumers

1.1 ARCEP's powers and responsibilities

One of ARCEP's responsibilities as regulator is to enable the existence of fair and effective competition that allows the electronic communication sector to develop in a way that is beneficial to users.

The Act of 17 March 2014 strengthened ARCEP's competencies in the area of consumer information. It stipulates that ARCEP:

- must ensure "*a high level of consumer protection, in tandem with the Minister responsible for consumer affairs*"[1]. This stipulation reflects the desire to coordinate the actions that ARCEP and the DGCCRF take on behalf of consumers;
- is responsible for consumer information regulation required to implement CPCE provisions or decisions made to enforce them[2];
- is authorised[3] to verify compliance with the provisions of the Consumer Protection Code relating to informing enterprise users[4] (these provisions are in line with the European legal framework set by the Telecoms Package of 2009).

1.2 Value-added services

Providing a framework for value-added services (VAS) and the battle against fraudulent services being billed to consumers are major areas of concern for ARCEP, which is in charge of the national numbering plan.

Article 145 of the Consumer Protection Act of 17 March 2014 adds several new articles to the Consumer Protection Code which strengthen the framework governing the value-added services market.

1 - CPCE Article L. 32-1 II para. 12
2 - By virtue of point n) of CPCE Article L. 33-1
3 - Pursuant to points n (a) and (b) inserted into CPCE Article L. 33-1
4 - Articles L. 121-83 and L. 121-83-1 of the Consumer Protection Code

- To improve the transparency of these services, the act requires operators and VAS providers to make an electronic directory available for free that allows consumers to identify "*the name of the product or service accessed through that phone or SMS number, a brief description of the product or service, the name of its provider, the provider's website if there is one, the provider's address and the customer service address and phone number for filing complaints*[5]" using a single VAS number. This provision allows consumers to properly identify the value-added services listed on their phone bill, and to file a complaint, if necessary, with the provider of the value-added service directly.

- To further the battle against unsolicited calls and messages, the law will require public telephone service providers to implement a reporting mechanisms similar to one that is already being used by members of the French Telecoms Federation, FFT (Fédération française des télécoms) via the number 337006.[6].

These first two measures will take effect in March 2016..

- Lastly, to protect consumers from "unpleasant surprises" on their monthly phone bill, resulting from calls to the value-added services that charge the highest rates, operators will be required to provide consumers with a "*free option that allows them to block calls to certain range of VAS number*"[7]. A joint order from the ministers responsible for consumer affairs and the digital economy, issued following an opinion from ARCEP, will list the corresponding ranges of numbers, taking into account the maximum rate charged and the numbers' format.

1.3 Pacitel and cold calling

The Consumer Protection Act also strengthens measures that protect consumers against marketing and soliciting over electronic communications channels.

It expands the scope of prospecting and canvassing defined by CPCE Article L. 34-5 du CPCE8 to include "*calls and messages whose purpose is to encourage the user or subscriber to call a surcharged number or send a message*"[9]. This form of prospecting that involves sending messages or automated calls also requires subscribers' express permission to use this personal information[10].

In addition, the Consumer Protection Act gives a legal basis to "Pacitel" – an association created by several trade federations[11] – which introduced an anti-cold call system. It is an online form that allows consumers to list up six telephone numbers they do not want telemarketers to call. The Consumer Protection Act creates a registry against cold calling that will prevent undertakings and vendors working on their behalf from contacting registered consumers, unless they have a pre-existing contractual relationship with them. An undertaking that violates this new provision can be fined up to €75,000.

The Consumer Protection Act also forbids operators and service providers from using numbers with no caller ID when contacting consumers. Consumers must be able to identify the company that is calling them, and be able to request they no longer be contacted, free of charge. CPCE Article L. 34-5, amended by the Consumer Protection Act also stipulates that it is "*forbidden to*

5 - Article L. 121-42 of the Consumer Protection Code
6 - Article L. 121-45 of the Consumer Protection Code
7 - Article L. 121-47 of the Consumer Protection Code
8 - *Direct marketing is the fact of sending any message whose purpose is to promote, directly or indirectly, goods, services or the image of a person or company selling goods or providing services"*
9 - Third paragraph of CPCE Article L. 34-5
10 - First paragraph of CPCE Article L. 34-5
11 - *– French customer relations association, the e-commerce and distance sales federation, the French telecoms federation, the distance sales federation and the national direct marketing syndicate*

hide the identify of the party for whom the call is being placed, and to discuss a topic that has no relation to the product or service being promoted". A future ministerial order will specify the ranges of surcharged numbers that cannot be used for cold calling.

1.4 Right to withdrawal, distance and off-premises sales, and number portability

The Consumer Protection Act strengthens businesses' obligations in the area of distance and off-premises sales, to protect consumers against fraudulent or abusive practices.

The right of withdrawal applied to distance and off-premises sales has been modified to comply with European Directive 2011/83 of 25 October 2011 on consumer rights, which provides for a harmonised period of 14 days in all European Union Member States.

The provisions contained in the new Consumer Protection Code thus increase the right of withdrawal from seven to 14 days, and gives the measure the status of public policy. No individual agreement can thus deviate from it12. This measure is, however, largely incompatible with the implementation of number portability when switching operators, in those instances where customers requested the number retention. Operators will not, in fact, have performed the number porting before the 14-day withdrawal period has elapsed. So a balance needs to be struck between consumer protection and market liquidity.

To reconcile the new right of withdrawal provisions with the right to retain one's telephone number when switching operators, the Act of 17 March 2014 provides for a specific number portability scheme when the customer asks for their number to be ported before the period of withdrawal expires. This new provision allows users to retain their phone number without having their service interrupted13. Consumers must, however pay for the service provided by the operator they are leaving until their number has been actually ported. The Act stipulates that, "*the consumer will be informed of the consequences of making a number retention request with another operator during the right of withdrawal period, at the same time as they are informed of their right of withdrawa*l".

2. Regaining consumer trust in value-added services

The value-added services (VAS) market includes all services delivered by telephone: e.g. weather forecasts, distance sales and public services (employment agency, CAF family allowances fund, etc.). Depending on the choices made by the undertaking providing them, the price of calls to numbers used by these services may be higher than the price of a "regular" call. The additional charge is added to the caller's phone bill.

The VAS market represented close to €1.1 billion in revenue in 2013, and some 8 billion minutes, compared to €2.1 billion in 2007 and 12.6 billion minutes. The lack of transparency over pricing, the terms governing use of the numbers in question and the lack of a code of conduct for the services were the main reasons for the market's decline.

12 - Article L. 121-21 of the Consumer Protection Code
13 - Article L. 121-83-2 of the Consumer Protection Code

This diagnosis, along with the trouble that operators and organisations offering these services had in reaching a consensus over price reforms that satisfied users' criteria, led ARCEP to take the issue on board and, after close to two years of work and a process of broad consultation with stakeholders, to adopt a decision in July 2012 that aims to reform the pricing principles applied to calls to the short and special numbers used by VAS.

This decision modernises the VAS market by making the pricing methods used for the services clearer for users. It contains two main measures: the switch from several disparate pricing models to a single harmonised model that clearly distinguishes the price of the call from the price of the service (referred to as the C+S model), and requiring that VAS numbers which are currently free for users calling from a fixed line, also free when calling from a mobile number.

In 2013, a number of stakeholders indicated to ARCEP that they required clarification on the way in which operators would implement the reform. To respond to this request from market players, the Authority drafted a recommendation on the relationship between call and recipient operators in the wholesale VAS interconnection market, following a broad public consultation held in late 2013.

Published in March 2014, the recommendation provides the necessary clarifications, reminding operators of their regulatory obligations and of the terms of application of the current framework.

3. Measuring quality of service

3.1 Quality of wireline telephone services

- **Regular scorecards**

In 2013, ARCEP published quality of service indicators for fixed telephony each quarter, in accordance with Decision No. 2008-1362. For the first time, QoS scorecards were also published for Orange and SFR FttH services.

- **Improving the system for measuring quality of service**

In early 2013, ARCEP introduced changes to the system for measuring the quality of the public fixed telephone service14. While the indicators that are measured remain the same, the new system aims to improve how representative the indicators are by switching to continuous measurement, rather than one lasting only two weeks. The measurement system's period of maintenance or malfunction nonetheless remains at 30 days, which corresponds to 150 days of measurement. The purpose is to take into account all of the failures that can occur on the network, while ensuring that the measuring system remains proportionate. The system has also been simplified, with the number of measurement locations decreasing from ten to six. Indicators are also now measured and published twice year, rather than on a quarterly basis.

IP Label was the company that operators chose to install the test lines and to perform and certify the measurements.

The first measurements under the new system will be taken in the first half of 2014, and the results published in October 2014.

14 - Decision No. 2013-0004 of 29 January 2013

- ***Ad hoc* interventions with operators**

In addition to these recurring QoS monitoring mechanisms for operators, ARCEP interacts with operators on an ad hoc basis when certain malfunctions occur, such as network outages, ISP hardware failures or hacked PABX (private automatic branch exchange), or in the case of fraudulent practices, such as charging residential customers for calls they did not make. All of which can cause problems for the residential or business customer on the receiving end.

Depending on the type of malfunction observed, France's national information systems security agency, ANSSI (agence nationale de la sécurité des systèmes d'information), the Central office for combatting crime linked to information and communications technologies, OCLCTIC (*office central de lutte contre la criminalité liée aux technologies de l'information et de la communication*) or the Electronic communications protection and defence commission, CCED (*commissariat aux communications électroniques de défense*) may need to be contacted to ensure that the operators involved have taken the appropriate steps to respond to the users who have contacted the Authority.

3.2 Quality of internet access services

ARCEP has taken several actions to measure and monitor the quality of internet access services. In January 2013, ARCEP adopted a decision[15] that defines the QoS indicators for internet access on wireline networks, and the method to be used for measuring them. This comes to complete the scheme for mobile networks that has been in place since 2006. Among other things, this new system will allow the Authority to verify that quality of service continues to be sufficiently high, and does not require more coercive action from the regulator.

A more detailed description of this work can be found in the previous chapter (3.4. page 188).

3.3 Quality of service on mobile networks

CIn accordance with the terms of mobile network operators' licences, ARCEP performs quality of service (QoS) surveys every year, to verify that operators are complying with their regulatory obligations, and to provide users with information on the performance they can expect from mobile services. Carried out since 1997, these surveys are part of the more wide-reaching actions that ARCEP is taking to improve customer information. Their results are published on the ARCEP website.

The goal of the surveys is to assess the quality of voice calls, SMS, MMS, web browsing, file transfer (upload and download) and video streaming services provided to consumers, using technical measurements taken in the field. Their purpose is not to obtain subscribers' views of the end-to-end quality of these services – through a customer survey, for instance. The user experience will depend on each individual's consumption habits, the network, and the device and the applications they use.

In the first half of 2014, ARCEP will publish the results of the QoS survey of Bouygues Telecom, Free Mobile, Orange and SFR[16] 2G and 3G services that was carried out in late 2013 and early 2014.

The 2013-2014 survey includes two new additions:
- measurements of 4G networks on a trial basis;
- municipalities with a population of less than 10,000 will be included in the survey (they had been included on a trial basis in the previous survey).

15 - Decision No. 2013-0004, of 29 January 2013
16 - MVNOs were solicited, but did not express a desire to be included in the survey

4. Universal electronic communications services

To ensure that a minimum set of high quality electronic communication services is available to all users at an affordable price that does not distort competition, in accordance with the European regulatory framework, the French Postal and electronic communications code (CPCE) establishes a universal electronic communications service.

4.1 Universal service components

Through its two dimensions – i.e. geographical (a single balanced tariff) and social (a preferential tariff for the most deprived) – the universal service makes it possible to ensure that the components are available nationwide and can be accessed by even the most underprivileged members of society. The service is financed by a sectoral fund to which all electronic communications operators contribute.

a/ Universal service components

The components of the universal service are available throughout the French territory – i.e. in mainland France, the overseas departments and the territorial collectivity of Saint-Pierre and Miquelon.

The three components are:

- **the telephone service** : this covers the installation and connection to the fixed public network and the provision of a quality telephone service over this connection, which enables connection to a sufficiently high quality access to the internet. The designated operator is required to supply telephone services (currently subscription and calls) at the same price nationwide, which commonly referred to as "geographically balanced". Following the review of the European framework, the two sub-components – "connection" and "service" – can now be provided by two different operators.

  The telephone service also covers special pricing and technical provisions for low-income users and those with disabilities. The beneficiaries of this social tariff are people who receive the earned income supplement, or RSA (*revenu de solidarité active*) [17]– a specific solidarity allowance, or ASS (allocation de solidarité spécifique), the disabled adult allowance, or AAH (*allocation aux adultes handicapés*) or the allowance given to disabled ex-servicemen.

- **A printed universal directory**, is made available for free to all those who subscribe to a public telephone service, fixed or mobile. In 2011, the Minister responsible for electronic communications concluded that there was no need to designate an universal service provider for an electronic directory or for directory services as competition was such that it guaranteed the availability of these services at an affordable price.

- **The public payphone service** which covers the installation and maintenance of public payphones (at least one public payphone in each municipality, and two in those with a population of more than 1,000) in the public thoroughfare, and the provision of a quality and reasonably-priced telephone service over these payphones.

b/ The service providers

The Minister responsible for electronic communications designates the operator(s) in charge of universal service, following calls for proposals.

- A ministerial order dated 31 October 2013[18] designates Orange to supply the telephone service for the next three years.

17 - The transitional measures in place during the implementation of the RSA scheme, which include the social tariff reduction for telephone services, were made official by Decree No. 2010-760 of 6 July 2010, extending the scheme to the overseas territories.
18 - Published in the Journal Officiel of 9 November 2013

- Orange was also designated to provide the public payphone service for a period of two years, following a ministerial order dated. 14 February 2012. Orange continues to supply the service while waiting for the Minister to designate the provider of the service for the next two years.

- Following an unsuccessful call for proposals, the Minister responsible for electronic communications re-appointed Pages Jaunes by default to be the provider of print directories for 2012-2014, through an order dated 6 December 2012[19].

4.2 ARCEP's role

a/ Determining the cost of providing the universal service

After auditing universal service providers' costs, ARCEP calculates the revenue, the cost and the intangible benefits of being the universal service provider, for each of the components. Every year, we publish the resulting net cost of the universal service which financed by a sectoral fund – to which all telecom carriers contribute in an amount proportionate to their retail market revenue – when this net cost constitutes an excessive burden on the designated service provider.

The Caisse des Dépôts et Consignations (*Deposit and consignment office*) is responsible for managing the universal service fund, FSU (*fonds de service universel*).

b/ Monitoring quality of service

The operators responsible for providing the universal service must comply with several quality of service obligations and publish QoS indicators for the universal service component(s) they have been designated to provide. Since 2005, their quality of service obligations have been listed in the annex of the ministerial orders designating the universal service provider for each component. In addition to providing a minimum level of quality, these obligations include the methods used and values provided for the QoS indicators for each universal service component they have been designated to provide.

For the telephone service, these indicators[20] relate in particular to turnaround time for supplying the initial connection, fault repairs and unsuccessful call ratios[21]. In addition to annual national and regional data, operators now provide ARCEP with a detailed quarterly status report on the most extreme situations concerning connection and fault repair turnaround times, at both the regional and national level.

c/ Monitoring universal service tariffs

The Authority has the power of supervision over all universal service tariffs. For most of the tariffs applying to calls made from a fixed telephone line which corresponds to the universal service offering, ARCEP has opted for a system of multi-annual price cap supervision rather than individual a priori supervision of universal service tariffs.

Tariff supervision allows universal service customers to benefit from a regular decrease in Orange calling prices. This decrease reflects both decreases in call termination charges, notably for fixed-to-mobile calls, imposed by the Authority and Orange productivity gains.

The price cap thus enabled an 18% decrease in retail market calling rates during the latest designation period (2009-2012).

For the other services – such as subscriptions, calls to special numbers and fixed line calls to international destinations, the price of calls made from public payphones and the price of calls to the directory information service – the Authority has an *a priori* power to veto the universal service tariff.

19 - Published in the JO of 12 December 2012
20 - Indicators listed in Annex 3 of the Universal Service (Directive 2002/22/EC), and restated in the Orders of 9 November 2009 and 23 february 2012 which designate Orange as the universal service provider.
21 - Indicating the number of connections installed or pending more than 30 days after the request was made, and the number of faults that had yet to be repaired two weeks after having been reported

Quality of the telephone service since 2009						
Indicator	**Target**	**2009**	**2010**	**2011**	**2012**	**2013**
Average time to supply an initial connection	< 8 days up to the end of 2013	6 days	6 days	6 days	6 days	NA
Connection turnaround time for the fastest 95% (all lines)	< 12 days starting end of 2013	NA	14 days	14 days	NA	12 days
Connection turnaround time for the fastest 95% (existing lines)	< 8 days starting end of 2013					8 days
Connection fail rate (% of base)	< 7,5%	7,9%	6,8%	5,7%	5,9%	5,7%
Rate of failure to detect a telephone service fault within 48 hours	< 15%	21%	22%	17%	18%	22%
Repair time for the 85% most quickly detected faults	< 48 hours	ND	70 hours	50 hours	53 hours	67 hours
Call failure rate (national)	< 0,7%	0,3%	0,3%	0,3%	0,3%	0,3%
Call establishment time (national calls)	< 2,9 seconds	1,4 seconds	2,3 seconds	2,2 seconds	2,2 seconds	2,1 seconds
Complaint rate, per user	< 7,0%		6%	6%	5%	5%

NA : Not available
Source: ARCEP.

QoS indicators for the public payphone service since 2009						
Indicator	**Target**	**2009**	**2010**	**2011**	**2012**	**2013**
Percentage of public payphones that are out of order						
For more than 24 hours	< 0,6%	0,6%	0,5%	0,5%	0,5%	0,5%
For more than 12 hours	<0,3%	ND	0,8%	0,7%	0,8%	0,8%

NA : Not available
Source: ARCEP.

4.3 The public payphone service

Orange is the undertaking designated by the Minister to provide the public payphone component of the universal service. The period of designation came to an end in February 2014. Orange will continue to provide the service while waiting for the provider to be designated for the coming period.

The minimum number of public payphones imposed on the universal service provider corresponds to the installation of around 46,000 phone boxes across the country.

Orange has the right to dismantle the roughly 50,000 payphones it operates over top of the regulatory minimum.

ARCEP has noted a significant decrease in the number of payphones over the past several years, including those installed on the public thoroughfare, in airports, train stations shopping malls, etc. Their number has dropped from 240,000 in 1998 to 150,000 at the end of 2008, and down to 102,000 at the end of 2013. This decrease has kept pace with the dramatic decrease in the use of public payphones: traffic today represents less than 2% of traffic 15 years ago. Annual calling traffic has shrunk

from 4.3 billion minutes in 1998 to 100 million minutes in 2012, or an average of around three calling minutes a day per public payphone.

As the need to designate of the new service provider became imminent, in April 2013 ARCEP suggested[22] that discussions be held over the scope of the service. It also brought to the Government's attention the fact that, "*sizeable investments will need to be made in the coming years to maintain existing equipment in good working order*".

Furthermore, ARCEP suggested that changes be brought to the method used to calculate the net cost of providing the public payphone service (whose financing is ensured by different operators) by taking account of a portion of the costs shouldered by the service provider in municipalities where it is operating at a loss. For 2011, this would translate into a 4.1% increase in the compensation given to Orange, which would thus total €12.3 million[23]. As it stands, when calculating the net cost, the only costs that are compensated are those tied to municipalities where Orange adheres strictly to its obligations in terms of installed payphones. But, given the difficulties involved in dismantling public payphones, this method means that the operator is being only partially compensated for its actual costs. This proposal from the Authority in no way affects the scope of the universal service nor, a fortiori, its existence.

5. Number retention

5.1 Mobile number portability

In 2013, ARCEP worked to ensure the smooth operation of the new mobile number portability system that came into effect on 7 November 2011 in Metropolitan France, and extended to the overseas markets in July 2012. ARCEP has observer status at the Executive Board meetings of the EGP (Entité de gestion de la portabilité) economic interest group (EIG) – which is the entity common to electronic communications operators in charge of managing the mobile number portability process in France – and followed with interest the work it performed which resulted in a 50% increase of the maximum processing capacity of the common portability platform, starting in June 2013, to be able to handle upcoming spikes in number portability with ease.

ARCEP also held discussions with mobile operators in Reunion and Mayotte to guarantee that push SMS sent by aggregators to ported numbers in those markets were routed properly. The goal of this work is to ensure that customers who have retained their mobile number when switching operators continue to have access to all of the services available to all the other customers in their area. The Authority is monitoring this process, which is due to be complete in 2014, on a regular basis.

ARCEP departments received 59 appeals from consumers in 2013, relating specifically to the implementation of mobile number portability.

5.2 La conservation des numéros fixes

In June 2013, the Authority adopted a decision on fixed number portability[24].

The aim of this new system is to:

- simplify the process for porting fixed geographic numbers assigned to alternative operators and non-geographic fixed numbers so that end users no longer have a different experience from users with fixed geographic numbers assigned to the incumbent carrier;
- adapt procedures to networks that are alternatives to the copper local loop, and optical fibre systems in particular, such that fixed number portability does not become an obstacle to the development of superfast broadband;

22 - *Opinion No. 2013-0519 of 16 April 2013 on a draft decree amending certain universal service regulations: ARCEP indicated that, "In view of the upcoming deadline […] for designating Orange to provide the universal service public payphone component, it would be appropriate to re-examine the scope of obligations listed in CPCE Article R. 20-30-3, concerning the national public payphone coverage, in the near future".*
23 - *€28.4 million for the entire universal service component*
24 - *Decision No.13-0830, of 25 June 2013*

- enable greater flexibility in the process for customers, to avoid them losing their fixed number, particularly when the customer cancels their old contract before the porting process is put into action.

ARCEP performed this work on updating the regulatory framework in tandem with wireline operators, who belong to the fixed number portability association, APNF (*association de la portabilité des numéros fixes*).

This decision establishes several obligations which are already in effect, such as reducing the waiting period for residential users to three working days, and to seven working days for enterprise customers (provided access is available), as well as clarifying the rules that apply to compensating customers in cases of overly long or mishandled fixed number porting processes, the introduction of harmonised information for consumers throughout the process, and providing enterprise customers with better information on the status of their installation and the details of their contract, in addition to maintaining service until the porting process is complete.

Moreover, the principle of "quarantine" will come into effect on 1 October 2014: any subscriber who cancels their contract will have up to 40 days from having done so to submit a request to keep their old phone number. Finally, on 1 July 2015, the system of operator identity statement or RIO (*relevé d'identité opérateur*), which is already in place in the mobile market, will be extended to the fixed market. On that same date, the inter-operator system (called SIAN) will be introduced that makes it possible for operators to identify the reference for the line supplying the customer's fixed telephone service, based on the customer's number and RIO, to facilitate the number portability process for all parties involved.

In 2013, ARCEP received and processed 237 queries from consumers that related specifically to fixed number portability – most of which involved failures to port numbers, requests that were not taken into account when switching operators, and porting requests that were wrongly said impossible to satisfy.

Carrier-to-carrier number porting[25] operations in 2013	
Mobile market	**7,096,654** (- 6% compared to 2012)
Fixed market	**2,607,790** (+4% compared to 2012)

Source: ARCEP.

25 - Figures provided, respectively, by the Unit in charge of mobile number retention within the economic interest group, EGP, and the Fixed number portability association, APNF.

Glossary

2G, 2.5G: mobile systems predating 3G. For 2G, they include GSM, and for 2.5G, GPRS and EDGE.

3G: third-generation mobile system. The gradual introduction of packet switching technology into mobile networks allows 3G networks to provide access to a wide range of new services, particularly high-speed Internet access.

3GPP *(3rd Generation Partnership Project):* cooperation between regional telecommunications standardisation bodies such as ETSI (Europe), ARIB/TTC (Japan), CCSA (China), ATIS (North America) and TTA (South Korea), whose aim is to produce technical specifications for 3rd generation (3G) mobile networks. 3GPP also ensures the maintenance and development of technical specifications for GSM mobile standards, notably for GPRS and EDGE.

4G: informal term for referring to fourth generation mobile telephony. Speeds will increase to roughly 40 Mbps in 2009-2010 and to 80 Mbps and perhaps more further down the road. Several technologies that are currently being deployed can also be put in this group, including WiMAX (IEEE 802.16 standard technology), iBurst (IEEE 802.20 standard technology)... (See also: LTE).

Access network: network to which users directly connect their terminal equipment in order to access services. (See "Core network".)

Accounting rates: system establishing the pricing principles to be used in interconnection agreements between international operators so that an operator in the country of origin and an operator in the country of destination may share international call revenue when cooperating to route international traffic. For calls to a given international destination, the operator in the country of origin sets the price charged to users (the retail price), which is called the collection rate. At the same time, this operator and the operator in the country of destination negotiate a per-minute accounting rate. Revenue is shared based on this rate according to a sharing formula that determines the portion (settlement rate) accruing to the operator in the country of origin and that accruing to the operator in the country of destination. This portion usually is equal to half of the accounting rate.

ADSL (Asymmetrical Digital Subscriber Line): ADSL is part of the xDSL technology family which allow end users to access a range of electronic communication services over its copper wire line – and especially telephony and internet access. The line's throughput it supports diminishes as the user's distance from the DSLAM increases.

AFA (*Association des Fournisseurs d'Access à Internet*): French association of Internet service providers.

AFORST: French association of telecommunications network operators and service providers.

AFUTT: French association of telecommunications users.

ANFr (*Agence Nationale des Fréquences*): agency responsible for managing the radio frequency spectrum, allocating frequencies to the various government departments and independent authorities that assign them (ARCEP, CSA, the Ministry of Defence, etc.), handling interference, and conducting international spectrum negotiations.

ARPU: Average Revenue Per User.

Asymmetrical regulation: a form of regulation that imposes certain obligations only on SMP operator(s) in a given market (e.g. France Telecom in the fixed telephony market), to enable the development of lasting competition.

ATM (Asynchronous Transfer Mode): technique for the asynchronous transfer of digital broadband communications using short, fixed-length packets. It remains a widely-used technique but is tending to be replaced by IP technology.

Backhaul: Backhaul is the section of an electronic communications network, built out at the departmental or regional level, that makes it possible to relay traffic to the local loop's concentration points (exchanges, neighbourhood cabinets, FDH, etc.). Most backhaul networks are fibre-based, but may contain wireless links and digital links over the copper pair.

Bandwidth: this denotes the *transmission capacity* of a transmission link. It determines the amount of information (in bps) that can be transmitted simultaneously. In computing, it is often confused with the *transfer rate* of a communication link, expressed in bits per second.

BAS (Broadband Access Server): equipment whose function is to manage ATM data transport for ADSL-based Internet access offerings. Each BAS in the France Telecom network aggregates ATM traffic from about ten DSLAMs. Thus, a BAS manages traffic for all ADSL lines in the coverage area of the DSLAMs to which it is connected. France Telecom calls the area covered by a BAS a *plaque* (coverage area). Two ATM circuits, one "upstream" and the other "downstream", are established between each connected customer and the BAS serving that customer.

Base station: active radio network equipment serving a given area. Sometimes called a cell site or tower when referring to cellular telephone networks.

Beauty contest (comparative selection): method of operator selection to award scarce resources. It is different from an auction in that it allows candidate selection to be based on multiple criteria and not just on price offered.

Bitrate: amount of data transiting a network within a given timeframe.

Bits per second (bps): unit of measurement for throughput on electronic communications systems. A bit (contraction of binary unit) is the basic unit of digital information, and can have a value of 0 or 1. More common is the use of the multiples kilobits per second (kbps) and megabits per second (Mbps). A throughput of 2 Mbps means that two million zeros or ones are transmitted per second.

Bitstream: refers to wholesale offers which may be used by alternative operators to market retail residential and business offers in zones where they have no broadband equipment of their own installed (sites which are too small or too far from their collection network). From a technical standpoint, France Telecom activates the copper pair to the end user with its own broadband access equipment, then routes the Internet stream up to the nearest connection point between its collection network and the alternative operator's collection network.

BSC (Base Station Controller): GSM base station controller. Equipment that controls one or several BTS and manages radio resources.

BTS (Base Transceiver Station): GSM equipment comprising transmitters and receivers and constituting the interface between the BSC and mobile terminals.

Building operator: the undertaking responsible for establishing and/or managing one or several lines in an existing building, typically governed by an installation, maintenance, line replacement or management agreement signed with the building's owner(s) or co-op members. A building operator is not necessarily an operator as defined by CPCE Article L. 33-1.

Bulk mail: mail items produced in mass quantities by computer – at least 400 items per mailing – such as invoices, bank statements, addressed advertising and periodicals.

CAA (*Commutateur à Autonomie d'Acheminement*): local exchange (exchange to which subscribers are connected) on the France Telecom telephone network. The structure of the France Telecom network is hierarchical and the *CAA* is the lowest-ranking exchange in the network. Thus, there are two types of exchange: subscriber exchanges (the *CAA*s) at the bottom of the hierarchy to which subscribers are linked via a subscriber line unit (called a *unité de raccordement d'abonné* or *URA*), and transit exchanges (*CT*s) at the top of the hierarchy.

Cable networks: audiovisual distribution networks that offer electronic communication services.

Call-back: a calling process that operates as follows: the user dials a number in the country operating the call-back; since the call is not actually set up, there is no charge; an automatic device calls back the user, setting up the call on an international line; the user then dials the number of the called party; the call is billed at the tariff charged by whatever foreign operator is selected. This system thus enables users to take advantage of tariffs in the called country.

Carrier selection: option given to customers to choose among multiple carrier operators. Carrier selection applies to all calls (local, national long distance and international long distance). It can be exercised per call or by subscription.

CCCE (Commission consultative des communications électroniques): the advisory committee on electronic communications to the Minister responsible for electronic communications and the Authority. Composed of 24 members, the committee is consulted on any draft measures whose purpose is to set or amend the terms relating to the declaration, establishment or operation of electronic communications networks or services, particularly in the areas of interconnection, network access and the use of radio frequencies.

CCRANT: regional advisory committees for digital regional development (*commissions consultatives régionales pour l'aménagement numérique du territoire*)

CDN (Content Delivery Network): a system of servers, deployed on different nodes of a network in the vicinity of end users. By storing temporary copies of Web content (i.e. principle of a cache server), the CDN allows for easier access to the data thanks to the reduction in the time and bandwidth needed for their distribution.

Circuit: bi-directional link between two terminal units over which a connection-mode service can be provided.

Cloud computing: a concept that consists of moving computer processes or data which have traditionally been run/stored on local servers or users' workstations to remote servers.

Collocation: under France Telecom's standard interconnection offer, physical interconnection is possible using three different techniques:

- collocation: The operator installs its equipment at France Telecom's premises.
- interconnection link: France Telecom installs its equipment at the operator's premises.
- in-span interconnection: a solution halfway between these methods of connection, where the connection point is located, for example, in the public domain.

For purposes of local loop unbundling, collocation consists of supplying the space and technical resources necessary to host and connect the technical equipment of alternative operators.

Commercial operator or vendor: the operator that the retail market customer chooses for the supply of her telecommunications service, or that an ISP chooses to supply its own customers with a telecommunications service.

Concentration point: the end point for one or several lines where the undertaking (typically the building operator) which is installing/has installed and operating optical fibre ultra-fast broadband electronic communications lines in an existing building provides other operators with access to these lines, with a view to serving retail market customers.

Concentration point operator: the building operator who operates a concentration point.

Convergence: convergence of the broadcast and telecommunications sectors, made possible by technological advances that allow different media (cable networks, terrestrial or satellite wireless networks, computer terminals and television sets) to be used to transport and process all types of information and services involving sound, images and data; since it derives from technological disruption (the digitisation of information), convergence has both economic and regulatory implications. (*See also Fixed-mobile convergence*).

Core network: the core or backbone network, consisting of all transmission and switching infrastructure beginning with the local exchange.

CPCE (*Code des Postes et des Communications Electroniques*): French postal and electronic communications code.

CSA (*Conseil Supérieur de l'Audiovisuel*): French national broadcasting authority.

CUG (Closed User Group): a CUG is an independent network for shared or private use. When the network is reserved for the use of the individuals or corporate entities that established it, it is called private, and when it is reserved for the use of multiple individuals or corporate entities organised as one or more closed user groups for purposes of exchanging communications internal to the group, it is called shared. The Authority has clarified this definition by indicating that a CUG is understood to be a group based on a community of interest that is stable enough to be identifiable and which predates provision of the telecommunication service. The notion of a "closed user group" is not limited to independent networks but is used also to define, for example, a virtual private network on a public network.

Direct interconnection: also known as call termination service. For an operator, this consists of terminating a call to a France Telecom subscriber. The call is routed by the operator to the interconnection point; from that point, it is carried by France Telecom over the France Telecom network to the subscriber's customer premises equipment.

DSLAM (Digital Subscriber Line Access Multiplexer): one of the devices used to convert conventional telephone lines into ADSL lines for broadband data transmission, particularly for Internet access. The DSLAM is installed on the main distribution frame of the local operator's network. It combines several ADSL lines onto a single medium, which routes data to and from these lines.

DTT: Digital Terrestrial Television.

Dual point injection: Consists of sending DSL signals equally to both the local loop (as is currently the case) and the sub-loop. This supposes that the DSL signals sent from the neighbourhood cabinet will be technically alternated and attenuated so as not to disturb the remaining DSL signals being sent from the subscriber connection point. Thanks to "bi-injection", carriers can therefore continue to activate their connections at the original LLU exchange for the customers in question, but without the benefit of increased bandwidth.

DVB-H (Digital video broadcasting handheld): a digital terrestrial broadcasting standard geared to enabling audiovisual content reception on a mobile handset (mobile TV).

EDGE (Enhanced Data rate for Global Evolution): A third-generation mobile standard, EDGE is an optimisation of GSM/GPRS technology that improves throughput for accessing the internet on a mobile handset. It is sometimes referred to as 2.75G.

E-SDSL (Extended symmetrical digital subscriber line): technology enabling symmetrical bitrates, but with a shorter range than classic ADSL.

EuroDOCSIS: a standard that specifies the communication interface and modulation techniques used on cable networks. EuroDOCSIS 3.0 makes it possible to provide end users with a downstream throughput of more than 100 Mbps.

Exchange: switching equipment permitting calls to be directed to their destinations by establishing a temporary connection between two circuits on a telecommunications network or by routing information organised as packets. France Telecom's network comprises a hierarchical system of switches. The higher the exchange is in the system, the greater the number of subscribers it serves.

FFT: *Fédération française des télécommunications* (French telecommunications federation).

Fixed-mobile convergence: also known as FMC, and which involves the convergence of the fixed and mobile telephony technologies used and services offered. FMC opens up the possibility for operators to offer all users the same services, regardless of the technology or network being used.

Flat-rate interconnection: denotes an offer for interconnecting third-party operators with the France Telecom network. Under it, the fees that third-party operators pay for the collection of local loop traffic are fixed on a per-circuit basis rather than billed per minute.

FttB: Fibre to the building. An optical fibre network deployed to the inside of a home, apartment or office building, and making it possible to provide an end user with access.

FttDP (Fibre to the Distribution Point): a superfast access network architecture that consists in deploying fibre to a distribution point in the immediate vicinity of the subscriber's premises and, unlike FttH, in reusing existing cable (copper or coaxial cable line) in the last metres to connect the customer premises to the optical fibre network.

FttH: Fibre to the Home. An optical fibre network deployed right up to the residential or business customer's premises, and making it possible to provide an end user with access.

FttLA (Fibre to the Last Amplifier): a network architecture with coaxial cable in the final metres, which consists in deploying optical fibre as close to customers as possible (to the street cabinet, and even to the outside of the building in some areas).

FttO: Fibre to the Office. Optical fibre network rollouts dedicated specifically to enterprise customers. Also known as dedicated optical fibre local loop. These FttO networks are not covered by the regulatory framework for FttH.

Full MVNO: a virtual mobile network operator that has its own SIM cards, its own customer database, or home location register (HLR), along with core network elements.

Full unbundling: or fully unbundled access to the local loop, which consists of making all of the frequency bands of the copper pair available. As a result, the end user is no longer connected to the France Telecom network, but rather to that of the new entrant operator.

GRACO: Discussion forum between ARCEP, local authorities and operators. An advisory committee chaired by ARCEP whose members include Authority staff members, local elected officials and carriers, and whose purpose is to define the terms for the successful realisation of local authorities' regional digital development initiatives (fixed and mobile networks and services). Three technical meetings and one plenary meeting are held each year, drawing on the output of the working groups.

HDSL (High-speed DSL): bi-directional symmetrical transmission technique conceived primarily for business applications. This technology achieves bit rates of 2Mbps over distances of up to 2500m.

HLR (Home Location Register): central database of permanent subscriber information for a mobile network.

HSCSD (High-speed Circuit Switched Data): circuit-switched data system (see "Switching") allowing improved bit rates on GSM networks.

HSDPA (High speed downlink packet access): a 3G technology that can deliver downstream speeds of up to 1.8 and even 3.6 Mbps (N.B.: also referred to by some as 3.5G).

HSUPA (High speed uplink packet access): 3G technology derived from HSDPA that makes it possible to increase upstream bitrates (and not only downstream rates, as is the case with HSDPA).

IMT-2000 (International Mobile Telecommunications 2000): third-generation mobile systems supporting enhanced mobility services thanks to the introduction of new functionality. The ITU selected five terrestrial radio interfaces for third-generation mobile systems under the designation IMT-2000. UMTS was one of the five.

Indirect interconnection: also known as call-collection service, in which an alternative operator collects a call from a France Telecom subscriber. The subscriber dials a prefix to select the operator and the call is then carried by France Telecom from the subscriber's customer premises equipment to the point of interconnection, where the call is then carried by the alternative operator.

Insured item: a service that consists of insuring a postal item for the value declared by the sender against loss, theft or damage.

Interconnection: the linking of various telecommunication networks so that any subscriber of one operator may communicate with any subscriber of any other operator.

Interconnection agreement: private contract negotiated and signed by two operators to determine, on a case-by-case basis, the terms and conditions of interconnection between them. Generally, agreements signed with an operator that has significant market power are based on that operator's standard interconnection offer. Otherwise, the conditions are determined without reference to a standard interconnection offer.

Interconnection interface: the set of technical specifications necessary for the operational implementation of interconnection based on establishing dialogue between networks. It defines physical interconnection arrangements, services and advanced functions accessible by the networks concerned, the ordering mechanism for these services, and associated billing and operating arrangements.

Internet: a group of networks of varying sizes that are interconnected by the Internet protocol (IP) over which a wide range of services can be provided.

Interoperability: also called interworking. Service interoperability refers to the seamless functioning of various services on different networks. With respect to interconnection, the technical functionality available at the interconnection interface determines partly whether a service will interoperate between different operators.

IP (Internet Protocol): telecommunications protocol that is used by the networks that support the Internet. It allows information to be packetised for transmission and the various packets to be addressed, transferred independently of one another, and reassembled into the original message on arrival. The switching technique therefore is referred to as packet switching. For Internet use, it is associated with a data transmission control protocol called TCP (Transmission Control Protocol); it is therefore known as the TCP/IP protocol.

IRIS (*Ilots regroupés pour des indicateurs statistiques*): aggregated units for statistical information. A breakdown of neighbouring municipalities with a population of less than 5,000 established by the INSEE for performing censuses with a view to mapping out the perimeter for the distribution of inter-city data.

ISP: Internet Service Provider.

Items of correspondence: postal items addressed to households and businesses. Includes both domestic items and items sent from abroad.

IVS: Interactive voice response system

LLO (Local loop operator): telecommunications company that operates subscriber lines.

Local loop unbundling: local loop unbundling, also known as unbundled access to the local network, consists of allowing new operators to use the incumbent operator's local copper-pair network to serve their subscribers

directly. The new entrant of course pays the incumbent for use of the local network.

Local loop: the wired or wireless facilities between the subscriber terminal and the local exchange to which the subscriber is connected. The local loop therefore is the part of an operator's network that provides direct access to the subscriber.

Long distance carrier: telecommunications company which transports national and/or international long distance communications.

Machine to machine (M2M): a form of communication that involves having intelligent (or smart) machines or objects "talk" to one another, or to a person, over an information system that employs mobile communication networks, generally without any human involvement.

Main distribution frame (MDF): apparatus that connects subscriber copper pairs to the cables that connect to the local exchange. It allows several subscriber lines to be concentrated onto a single cable.

Managed services: solutions for accessing content/services/applications by electronic means, for which the network operator guarantees specific properties end-to-end and/or during a given period of time, thanks to the processes it implements either directly on the network it controls or through agreements with the operators in charge of routing traffic.

MSC (Mobile Services Switching Centre) and VLR (Visitor Location Register): on GSM and/or UMTS networks, the MSC is the exchange that manages incoming and outgoing circuit-switched calls. The switch is linked to a database (VLR) containing a copy of the user profile and terminal or handset location information.

Multi-fibre: in the last metres of an optical fibre network, a multi-fibre configuration has several fibres (e.g. four) that connect the concentration point to the optical network unit (ONU) inside the customer premises. Access can therefore be supplied either over a dedicated or a shared fibre.

MVNO (Mobile virtual network operator): unlike mobile network operators (Orange France, SFR and Bouygues Telecom in Metropolitan France), MVNOs have no frequency resources of their own. To provide end customers with mobile services, they therefore use a mobile network operator's radio network.

Narrowband Internet: also referred to as dial-up. Internet access from the France Telecom public switched telephone network, which is used for routing conventional telephone calls.

NAS (Network Access Server): equipment used by operators to provide Internet access services over the switched telephone network. An NAS converts telephone calls into IP data streams and thus provides the interface between the switched telephone network and the IP data transport network.

Neighbourhood cabinet: a small exchange immediately downstream from the central office that makes it possible to split the copper lines that make up a portion of subscribers' lines. Unlike the central office, the cabinet contains no equipment capable of supplying a switched telephone service – this equipment is located higher up the network in the central office to which the cabinet is connected. It is at the neighbourhood cabinet level where access to the Orange sub-loop is made possible, once it has been reengineered. Broadband access can thus be supplied from this new network gateway, making it a broadband exchange. If necessary, the switched telephone service continues to be supplied from the central office.

NGA (*Next Generation Access*): the term employed by the European Commission to refer to the access supplied by new generation systems. One of the objectives the Commission set in the Digital Agenda for Europe (DAE) is to have 100% of European households capable of receiving a service running at 30 Mbps downstream by 2020. This throughput is often taken as the definition of NGA. Depending on the active equipment that has been deployed, and the portion of the network that is not fibre-based – but made up rather of copper or coaxial cable – FttH, FttB and certain FttLA and FttC networks are considered the networks capable of supplying NGA.

Network: totality of telecommunication resources employed including all switches and transmission links, whether wireline (metallic pair or cable or fibre optic cable) or wireless (terrestrial or satellite using electromagnetic waves).

Network sharing: Principle introduced by the Law on modernising the economy (LME) of 4 August 2008 to guarantee competition in the supply of ultra-fast broadband without increasing the number of undertakings required to do work on private property. The operator who installs the fibre in the building must therefore grant all reasonable requests from other operators to access the last metres of the network.

NRA: national regulatory authority.

NRA (nœud de raccordement d'abonnés): subscriber connection point. A term used by France Telecom to designate the main distribution frame (see "MDF").

SLU DSLAM: Sub-loop unbundling DSLAM. Referred to in French as *NRA–MED* (*NRA-Montée en débit*). A new type of cabinet deployed as part of the Orange PRM (*Point de Raccordement Mutualisé)* shared access point solution.

NRA-xy: a term that covers all of the new types of exchange (NRA) that Orange has installed as part of its re-engineering and single-point injection operations. For instance, an *NRA-ZO* refers to an exchange or cabinet installed to cover a broadband grey area (ZO = *zone d'ombre*), in other words an area where DSL had been unavailable up until then.

Number portability: also referred to as number retention. A system that allows a customer to keep their telephone number (either fixed or mobile) when switching operators.

***Objectif fibre*:** a working group that is open to volunteer stakeholders involved in optical fibre rollouts in a concrete fashion. It is devoted to identifying and lifting the operational obstacles to large-scale fibre rollouts, by proposing practical tools that serve the needs of the various sectors involved.

OLT (also known as ONT): point of convergence for the lines of FttH network subscribers located in the same neighbourhood or the same town. It can be compared to the "*NRA*" (see above) in the copper local loop.

On-net and off-net calling: respectively, calls between two customers of the same mobile network and between two customers of different mobile networks.

Passive equipment: network components dedicated to signal routing (notably cables and breakout boxes).

Peer to peer: Often contracted to P2P. Refers to file sharing between internet users over servers that manage their addresses and the content they make available for others.

Peering: a type of interconnection agreement that enables two operators to exchange the traffic that each is relaying to their respective customers, directly and without an intermediary.

PIN: Public-initiative network. An electronic communications built under a public service contract.

PMR (Professional Mobile Radio): Also known as Private Mobile Radio. Mobile radio networks for business users. In France the following distinctions are made:

- 3RP (*Réseaux Radioélectriques à Resources Partagés)*: trunked private mobile radio network.
- 3RPC (*Réseaux Radioélectriques à Resources Partagés Commerciaux)*: trunked public access commercial mobile radio networks using 3RP technology;
- RPN (*Radiocommunications mobiles Professionnelles Numériques*): digital trunked Professional Mobile Radio networks using Tetra or Tetrapol technology.
- 2RC (*Réseaux à usage partagé à relais commun*): trunked private mobile radio networks for commercial purposes.
- 3R2P: 3RP networks operated for the user's private purposes.
- RPX: local trunked networks (new category of network).
- RPS (*Radio Professionnelles Simplifiées*): Short-range business radio.

Point-to-point: a type of fibre optic network architecture whereby all of the customer premises are connected to the OLT by a dedicated fibre, from end to end.

PON (Passive Optical Network): a type of fibre optic network architecture. It is a tree architecture whose active equipment is all managed by the same operator. Unlike point-to-point technology, it cannot be "unbundled".

PSTN (Public Switched Telephony Network): the legacy circuit-switched phone network operating at 64Kbps – contrary to IP telephony which operates in packet mode and goes through ISPs' IP service boxes.

PSTN subscription: subscription to France Telecom's fixed telephone service.

Reengineering operator: refers to either a local authority acting as an electronic communications operator, an operator working in tandem with a local authority under a public service contract, or an operator working on its own behalf, which is responsible for performing the required reengineering of one or several neighbourhood cabinets to enable access to the sub-loop as a means of increasing access speeds.

Radio interface: system enabling a mobile terminal to communicate with the network. Standardisation of the UMTS interface was the subject of numerous discussions within ETSI during 1997. On 29 January 1998, the SMG (Special Mobile Group) committee adopted the UTRA (UMTS Terrestrial Radio Access) standard for the terrestrial interface (as opposed to the interface for satellite). The UTRA standard is a compromise between two originally competing standards: WCDMA and TD/CDMA. UTRA was adopted by the ITU in March 1999 as a radio interface standard for IMT-2000.

READSL2 (Reach Extended Digital Subscriber Line): a technique that makes it possible to increase the range of the ADSL signal by injecting more power into certain frequency bands. Its chief purpose is to provide minimum service to subscribers located just outside the farthest reach of the normal ADSL coverage zone.

Registered item: a service that guarantees flat rate compensation for the loss, theft or damage of the postal item and which, when so requested by the sender, provides proof of deposit of the postal item and/or its delivery to the recipient.

Remote concentration point: the supply point for a remote connection solution when a concentration point serves fewer than 1,000 lines, as provided for in ARCEP Decision No. 2010-1312. In practice, this point may be combined with the operator's fibre distribution hub (FDH).

Resale: wholesale solution that allows an operator to resell an electronic communications service under its own brand, whose technical aspects are fully ensured by another operator. Also referred to as white label products.

RFID: Radio Frequency Identification technology which takes the form of chips or electronic tags that contain information on the product in which they are inserted, and which are equipped with readers that make it possible to query the tags remotely (within a range of several meters).

***RIO* (*relevé d'identité opérateur*):** operator identity statement. A unique identifier which is attributed to a mobile phone line and the customer contract associated with it, enabling better identification during the number portability process.

SCoRAN (*Stratégie de cohérence regionale d'aménagement numérique*): Strategy for consistent digital regional development. Describes the core, overarching objectives for a public initiative aimed at enabling fixed and mobile broadband and ultra-fast broadband rollouts. The strategy is designed by a regional cooperation body.

SCS (*Société de commercialisation de services*): a term specific to the mobile sector, designating a mobile communications service provider, a company that sells and manages mobile subscriptions on behalf of an operator.

SDTAN (*Schéma directeur territorial d'aménagement numérique*): Digital regional development blueprint drafted in application of Article L. 1425-2 of the Local and regional authority code.

Shared access: or partially unbundled access to the local loop, which consists of making the "high" frequency bands of the copper pair available to third-party operators, on which they will be able to build an ADSL service, for instance. The low frequency band (the one used traditionally for telephony) continues to be managed by France Telecom, which thus continues to supply subscribers with its telephone services, without unbundling having any effect on the service.

Shared optical fibre local loop: dense fibre access rollouts (i.e. on all client sites in a given area). These are FttH networks deployed under the symmetrical regulation established by ARCEP, which can serve both residential and business premises.

Short messages or SMS (Short Message Service): text messages which are transmitted over the GSM mobile network signalling channels and have a maximum length of 160 characters. Transmission of these messages on the GSM network is standardised. A short-message server integrated into the mobile network provides the interface between the mobile and fixed-network environments.

Signalling: on a telecommunication network, the signalling function performs the exchange of information internal to the network for purposes of call routing. Just as road signs on a roadway network direct the movement of vehicles, signalling information directs the movement of communications on the telecommunications network. This could involve, for example, the information necessary to recognise the caller for purposes of setting up call billing or displaying the calling number. This function can be provided directly by the network transporting the subscriber call. Thus, it is generally integrated into the switches. It can also be performed by a separate network, called the signalling network.

SIM (Subscriber Identity Module): smartcard inserted into a mobile terminal and containing the subscriber data required to authenticate a user on the network (GSM standard).

Single fibre: a configuration whereby the building operator pulls a single fibre from the concentration point to the optical network unit inside the customer premises. Access is thus necessarily supplied over a shared optical fibre.

Single piece mail: mail items sent by individuals, businesses and high volume issuers, which are not subject to any special preparation. They are deposited in the collection boxes on the public thoroughfare or adjacent to sorting centres, or in La Poste points of contact.

Single point injection: consists of sending DSL signals to the sub-loop for all of the lines in the neighbourhood cabinet in question, with no particular technical restrictions. Here, activating the DSL connection for all of the subscribers downstream from the cabinet is no longer performed at the original exchange, but entirely at the neighbourhood cabinet level.

SMP (significant market power) operator: an operator has significant market power (SMP) if, individually or jointly with others, it commands a position equivalent to a dominant position, i.e., it has considerable ability to behave without regard to its competitors, its customers and ultimately, consumers.

SMS (Short Message Service): see "Short Messages".

SNG: satellite news gathering, refers to ground stations for temporary satellite video links.

Standard interconnection offer: also known as the interconnection catalogue. Technical and commercial interconnection offer that operators designated by the Authority as having significant market power, pursuant to Article L.38 of the CPCE (the French postal and electronic communications code), are required to publish annually so that other operators may establish their own commercial offers and prices. The standard interconnection offer also sets forth the conditions governing physical interconnection between the SMP operator and other operators.

Superfast broadband (or ultra high-speed access): a term that refers to Internet access capacities that exceed those of ADSL, when referring to fixed network access, and to those of UMTS, when speaking of mobile access. For fixed access, ultra-fast broadband is delivered via optical fibre while, on mobile, the technologies are referred to collectively as 3.5G (HSDPA) or 4G (LTE).

Switching: in a telecommunications network, switching allows temporary traffic connections to be established between two or more network points. This is carried out by equipment, called switches or exchanges, located at different points in the network. The basic structure of a telecommunications network therefore comprises transmission links interconnected by switches. Packet switching and circuit switching are two switching techniques used in telecommunication networks. The first is used by Internet (IP) networks for example and the second by traditional switched telephony networks.

Symmetrical regulation: a form of regulation that imposes the same obligations on all the operators in a given market in order to guarantee consumers network interoperability, a minimum quality of service, adequate information and streamlined operator switching procedures which, in turn, allow users to take the utmost advantage of market competition.

Terminal equipment: equipment allowing a user to send, process or receive information (e.g., telephone, fax, modem etc.).

Third-party billing: service by which new operators may entrust the incumbent operator with billing for the services they offer their customers via interconnection. In the case of special services, third-party billing can be used for charged services only (not for services that are free to the caller). As this market develops, third party billing becomes essential for effective competition.

Third-party collection: in the context of interconnection, a service enabling a network operator to collect traffic from the incumbent's network on behalf of an operator that has no infrastructure in the geographic area concerned. This service is used particularly by telephone operators who wish to provide their service over an extended area without deploying a network.

Traffic management: any form of technical intervention on a data stream which takes into account the nature of the traffic or the identity or quality of the stream's originator or recipient.

Transmission: in an electronic communication network, the transmission function transports information from one point in the network to another. The infrastructure supporting transmission may consist of copper or fibre optic cables or may be wireless. (See "Switching".)

Triple Play: a bundle of three services (broadband Internet access, unmetered calling and TV) delivered over an electronic communications network.

***URA* (*Unité de Raccordement d'Abonné*):** on the France Telecom network, this is the subscriber line unit, the part of the telephone switch where subscriber lines connect and information is digitised.

USSD (Unstructured Supplementary Service Data): a protocol used by GSM systems for allowing a mobile phone to communicate with a server in real time, without the communication being logged as an SMS. It can be used for instant messaging, payment or tracking consumption, for instance.

UWB (Ultra wide-band): a wireless modulation technology for transmitting large amounts of digital data over a wide spectrum of frequency bands, but with very low power to prevent interference with other signals.

Very high-density areas: municipalities with a highly concentrated population where, in a significant portion of that area, it is economically viable for several operators to deploy their own infrastructure, namely optical fibre networks, close to customer premises.

VDSL (Very high speed digital subscriber line): xDSL technologies enabling better performance on local copper loop access networks, the goal being to supply higher speeds than classic ADSL. This significant increase is only possible on the shortest lines, however: beyond 1 kilometre, throughput will be equal to what ADSL technologies supply.

***VGAST (vente en gros de l'abonnement téléphonique*):** a wholesale line rental offer marketed by France Telecom which includes not only the subscription as such and services which are traditionally associated with the telephone subscription (caller display, incoming call signal, etc.) but also all person-to-person calls, calls to special numbers and narrowband Internet access. It is compatible with the simultaneous use of the high frequency band, notably in the case of wholesale broadband offers delivered at the regional or national level and shared access, regardless of the operator employing this high frequency band.

VoBB (Voice over Broadband): fixed telephone services that use Voice over IP (VoIP) technologies on an internet access network with a throughput of more than 128 kbps, and whose quality is controlled by the operator providing them.

VoIP (Voice over IP): a technique that allows users to make voice calls over TCP/IP networks, be they private or public (e. g. the internet) and regardless of access technology: cable, ADSL, fibre, satellite, Wi-Fi, GSM, etc.

VPN (Virtual Private Network): a virtual private network, usually belonging to a business, that connects all of the company's offices and facilities using the internet's infrastructure and equipment, to guarantee that the transported data are "airtight".

VSAT (Very Small Aperture Terminal): satellite telecommunication service supporting two-way information exchange at low or medium speed via a small transmitter-receiver terminal that uses a narrow part of the total satellite bandwidth.

WAP (Wireless Application Protocol): standard that adapts the Internet to mobile telephone constraints, in particular by employing a suitable content format. This communication protocol is a component of the process for gradually migrating GSM mobile networks to the Internet.

WAPECS (Wireless access policy for electronic communications services): an initiative launched by European Union countries aimed at facilitating swift access to spectrum for new technologies, in a bid to promote competitiveness and innovation (by eliminating all of the obstacles impeding market momentum), and to ensure consistent licensing mechanisms, while upholding the principles of technological neutrality for services.

WDM (wavelength-division multiplexing): a technology that multiplexes several optical carrier signals onto a single fibre using different wavelengths, or colours, which makes it possible to increase datarates.

Wi-Fi (Wireless Fidelity): generic commercial name for IEEE 802.11b wireless local Ethernet network (WLAN) technology operating at 2.4GHz.

WiMAX (Worldwide Interoperability for Microwave Access): label certifying the interoperability of IEEE 802.16-standard equipment from different suppliers.

Wireline network: network based on metallic or fibre optic cable infrastructure.

WLAN (Wireless Local Area Network): wireless network operating over a limited area.

WLL (wireless local loop): local loop employing radio technology rather than the copper wire used in today's networks, thereby allowing for greater flexibility in infrastructure deployment.

WRC (World Radiocommunication Conference): its purpose is to ensure international coordination in matters relating to radiocommunication. This coordination is essential because frequencies cross borders and it is

simpler to have the same types of services in the same bands. Organised by the ITU, this conference is held every three or four years. The results, once incorporated into radiocommunications regulations, constitute international treaty. Each WRC conference is preceded by a meeting of the Radiocommunications Assembly and is followed by a conference preparatory meeting (CPM), where the groundwork is laid to prepare for the next conference.

ZAA (*Zone à autonomie d'acheminement*): local exchange area. In the France Telecom network, every category of switch is associated with a technical service area which indicates the number of subscribers served by one or more switches at a given level of the network. The ZAA (*Zone à autonomie d'acheminement*) corresponds to the CAA or local exchange, and the ZT (*Zone de transit*) corresponds to the CT or transit exchange (*Commutateur de transit*).

ZLT (*Zone locale de tri*): local sorting area. The local loop operator sends calls to the carrier designated by the calling party only when the calls are destined for called parties outside of the ZLT; it keeps and routes calls internal to the ZLT regardless of the way in which the calling party dials the call. In France, the ZLT generally corresponds geographically to a *département*.

ZT (*Zone de transit*): transit area. (See "ZAA").

Réalisation graphique : Studio Guy Bariol - guy.bariol@aliceadsl.fr

Achevé d'imprimer en juin 2014
sur les presses de l'imprimerie Bialec à Nancy

Dépôt légal : juin 2014
ISSN 1956-9572