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In addition, interviews with directors of local entities of France Telecom and Bouygues Telecom, as well as the head of the Digital Content Association of Japan, DCAJ, which is part of the Ministry of the Economy, Trade and Industry, METI, were also organised.

The quality of the presentations and discussions, the diversity of the contacts made and the warm atmosphere made this mission pleasant and a resounding success.

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The report summarizes the information received on the Japan experience on multimedia services which are by and large available on all communication platforms. A comparison with the situation in France is provided whenever possible.

Summary

Mr. Patrick Raude, a Member of the Executive Board of ARCEP, the French Postal and Electronic Communications regulatory authority, accompanied by Mr. Joël Voisin Ratelle, Head of International Bureau , travelled to Tokyo and Osaka in June 2010 to exchange views on the issues surrounding electronic communications market regulation and the development of ultra-fast broadband, both fixed and mobile, drawing on Japan's experience with new networks, services and contents.

The Japanese electronic communications market has a very strong domestic component that could be exported to outside markets, built on a broad digital multimedia offering and supported by well advanced fixed and mobile ultra-fast broadband network rollouts, along with a steady stream of innovations that national manufacturers bring to the domestic market.

Representing 9.7% of GDP in 2009, Japan's ICT sector accounts for a third of the country's growth and is the leading manufacturing sector.

The optical fibre divisions of Japanese manufacturers such as NEC and Mitsubishi Electric are a source of innovation in network equipment, as much in the realm of core networks as customer buildings and subscriber premises equipment.

A great many new generation devices, and especially mobile ones, are produced by Japanese suppliers like Sharp and Panasonic which rank first and third in Japan's mobile phone market with, respectively, a 26.2% and 15.1% share of the market. A trip to the newly opened Sharp plant in Osaka offered an opportunity to deepen our understanding of the localisation strategy employed in Japan for the production of high value-added components.

Several companies are involved in producing and distributing digital content, such as Navitime for mobile browsing software, Dwango for social networking, NTT Solmare, the world's largest publisher of Manga comics on mobile, NHK-On-Demand for VoD offers on broadband networks, along with studios such as TOEI for films and TV productions.

There are four dynamic mobile operators competing for a share of Japan's electronic communications market: NTT DOCOMO, Softbank, KDDI and eMobile.

Fixed optical fibre infrastructure has been deployed in all parts of the country where operations can theoretically be profitable, and now cover 90% of the population. The rollout strategy chosen in Japan is the complete opposite of what is being planned for France: FTTH for individual dwellings and greenfield installations, and FTTB combined with a WLAN modem for older apartment buildings.

Consumers are steadily switching over to fibre from ADSL which is losing market share very quickly.

Lastly, electronic communications market regulation is handled by the Ministry of Internal Affairs and Communications (MIC) which is regulator and also the ministry responsible for national ICT policies. The MIC wants to coordinate these two tasks, its primary objective being to strengthen the role that ICT play in the national economy. Regulation geared towards the deployment of ultra-fast broadband infrastructures, along with targeted government subsidies for network rollouts – including the *Grant-in-Aid System*, which received ¥50 billion in 2009, the *New IT strategy* in 2006 and the *Strategy on bridging the Digital Divide* in 2008 – are the cornerstones of Japanese public action in the sector.

In 2010, Japan's market players are all faced with three outstanding challenges:

- find a way to finance ultra-fast broadband access for the remaining 10% of the population that is not yet covered, aiming at covering it no later than 2015;
- compensate for the lack of services and content offerings likely to accelerate the complete migration or subscribers to optical fibre;
- and better prepare for the market's globalisation.

In addition to these specific points, the Japanese market as a whole remains a focal point for monitoring, analysing and forecasting global trends in the ICT sector.

Part I

Japanese fibre market contending with four main issues

A. A successful rollout strategy that is diametrically opposed to what is being planned in France

Fixed ultra-fast broadband network deployments are being performed primarily by NTT Holding. The NTT Corporation would have invested ¥3,000 billion (€26.25 billion) in developing its optical fibre access solutions since it rolled out its first commercial FTTH/FTTB offer in 2001. And the company continues to invest: a little over ¥300 billion (€2.6 billion) were spent over the past two fiscal years (2009 and 2010), not including expenditures on equipment such as routers and servers. Among the country's alternative operators, K-Opticom (which is a subsidiary of electric power company, KEPCO), for instance, has deployed 200,000 km of optical fibre (in and around Osaka, Kobe, Kyoto etc.) both for its backbone network and for bringing access to shared and individual housing units.

The fibre rollout strategy is different from the one being planned in France. FTTH (fibre-to-the-home) is being deployed for single-family houses and newly-built apartment blocks. For older apartment buildings, NTT is deploying fibre to the building (FTTB) for it has ruled it too expensive and too complicated to deploy it right to the customer premises, keeping in mind that customers will perceive no difference in the access speeds delivered by FTTH and FTTB solutions.

Incumbent carriers NTT East and NTT West announced that they have invested €30 billion in optical fibre over the past 10 years. By their own admission, fibre has allowed them to regain control of their home market, of which they now hold a 74.3% share – well ahead of power companies (9.2%) and KDDI (78%). It should, however, be pointed out that NTT only sells access, and does not have the right to market services.

B. Replacing DSL: switching ADSL customers over to fibre offerings

As with their mobile networks, Japan's market players also lead the way in ultra-fast broadband infrastructure. Since June 2008, the number of fibre-to-the home (FTTH) and fibre-to-the-building (FTTB) customers has risen to 17.2 million – and have outnumbered DSL customers since December 2009.

At the end of March 2010, Japan was home to 9.74 million ADSL subscribers, a number that has been shrinking steadily since December 2005, at which point 15 million households were subscribing to an ADSL service. Although the *Ministry of Internal Affairs and Communications* (MIC) reports a total 42 ADSL service providers competing in Japan, market share is actually concentrated in the hands of a few vendors: *Softbank* BB with a 38.6% share of the market, incumbent carriers NTT East and NTT West with 34.9%, e-Access (23.4%) and the others (3.1%). The maximum access speeds on offer range from 1Mbps/512kbps (download/upload) to 47Mbps/5Mbps in the country's most populated regions.

Japan has close to 32 million fixed access subscribers, broadband and ultra-fast broadband combined (excluding Wi-Fi) – 55% over FTTH/FTTB, 30% ADSL and 13.5% cable – out of a total population of 53 million households.

C. Infrastructure-based competition exists in several large regions in Japan, between NTT, the local power company and cable operator

Japan's operators and its market regulator agree on one thing: the incumbent carriers, NTT East and NTT West, dominate the country's fixed broadband and ultra-fast broadband market. Only a few other operators, a cable company and the largest regional power companies, are creating infrastructure-based competition in the most densely populated urban areas.

A trip to the Kansai region (Osaka, Kobe, Kyoto region) helped us to gain a more nuanced view of NTT's massive domination of the market. In urban areas, the sector is still an oligopoly. K-Opticom, which is a subsidiary of electric power company Kepco, is NTT's chief rival in the FTTx market in the Kansai region, having begun to deploy its optical fibre network before NTT West. K-Opticom covers 300 towns and villages, and has laid more than 200,000 km of optical fibre. It signed up its one millionth «eo Hikari FTTH» service subscriber in March 2010. As a result, NTT West has an «only» 58.8% market share of in the Kansai region, while rival K-Opticom, controls the remaining 33.9%. This infrastructure-based competition has helped to boost the popularity of fibre services in Kansai, bringing the take-up rate above the national average (28.7%).

One of the major regulatory challenges is maintaining the market presence of ISPs that do not have their own large-scale fibre infrastructure, such as KDDI and Softbank.

D. Coverage: going from 90% to 100%

The targets set by the MIC for the end of 2010 have already been met, with 98.8% of the population covered for broadband, and 90% for ultra-fast broadband access, with bandwidth of over 30 Mbps. There are still lingering uncertainties over the target of achieving full ultra-fast broadband coverage ("Hikari-ni-Michi") by the end of 2015. Operators do not want to have to shoulder the cost of deploying the network beyond its current state of development.

Part II

Ultra high-speed mobile market faced with four major innovations

A. Competing infrastructures and devices based on the latest technologies: phasing out 2G, 3G HSPA phasing out, and LTE data launch

A leading edge and thriving market, high-speed mobile in Japan is populated by four competing national operators.

Japan leads the world in user migration to ultra-fast broadband networks, with rollouts being performed by operators like NTT DOCOMO, Softbank, KDDI and eMobile, which are the country's 1st, 2nd, 3rd and 4th-ranked mobile operators, respectively.

As of March 2010, 97% of Japan's 116.3 million mobile subscribers had opted for third-generation (3G) mobile services. That same month, operator Softbank put an end to its 2G network. KDDI will do the same in 2011, followed by NTT DOCOMO in March 2012. eMobile, which is a wholly-owned subsidiary of eAccess, was awarded a 3.9 LTE licence in June 2009 and introduced the first HSPA service at 21 Mbps in July, along with «pocket Wi-Fi" and an all-in-one 3G mobile Wi-Fi router in November of that year.

The MIC issued a call for applications in spring 2009 for frequency licences and, on 10 June 2009, issued licences to the four national mobile operators. These authorisations carry a series of conditions and obligations, including the obligation to cover at least 50% of the population in the country's 11 districts with 3.9G access and 3.5G upgrades, using the newly allocated spectrum and the frequencies for which they already hold licences, within the next five years. The spectrum that was already allocated for 3G and 3.5G can be used as needed for 3.9G rollouts and coverage.

Operators are diversifying their infrastructure, notably with LTE and Wi-Fi, to lighten the load on clogged cells and to handle the sharp increase in data traffic on mobile networks (DOCOMO is reporting a twofold annual increase). They are thereby working to prevent any dangers of network overload caused by the growing popularity of smartphones, and to promote a broad offering of content and services, while also reducing traffic when a cell has reached saturation.

All of the country's cellcos have announced ambitious investment plans between now and 2014, totalling close to €10 billion to deploy the next generation of ultra high-speed mobile networks, after having agreed upon the LTE (Long Term Evolution) standard. This is the standard that will replace WiMAX and UMB (Ultra Mobile Broadband), which is the technology supported by Qualcomm and based on the CDMA2000 system of standards. LTE is viewed as a transitional technology between 3G and future 4G networks, which will eventually supply downstream speeds of 1 Gbps.

NTT DOCOMO has opted for LTE, which has been renamed Super 3G in Japan, to replace its HSPA (High Speed Packet Access) network, and was due to launch a commercial network in late 2010.

LTE will initially supply access speeds of 100 Mbps downstream and 50 Mbps upstream, and so enabling video conference and video offering in high definition. These speeds are expected to eventually increase to 3 Gbps.

At launch, the NTT DOCOMO LTE service is expected to be marketed for a fixed monthly fee, rather than being billed based on consumption, as a way to encourage users to adopt this new cellular network which could develop based on existing 3G networks.

The carrier is announcing that 50% of the population will be covered by 2014, with 10,000 ground stations in urban areas. For NTT DOCOMO, the initial objective for LTE rollouts is to have the 1% to 5% of its users who generate 30% of its traffic switch over to the new network.

Already having to contend with the challenge of covering the population and the saturation of their mobile networks, operators in Japan are reserved on the topic of Femtocell solutions: NTT DOCOMO cites restrictive administrative formalities and the high cost of femtocells. Viewed as useful only in extreme situations (i.e. when no network exists), Femtocell is seen as a possible long-term development, for home automation applications or in its LTE-compatible version for supplying fixed ultra-fast broadband services in parts of the country where fibre is seldom or non-existent.

The rationale behind this approach to new-generation networks is to stop the sizeable drop in ARPU (Average Revenue Per User) that has occurred, even though Japanese operators still enjoy one of the highest rates of income in the world: between €35 and €50 a month per user.

B. The new ecosystem linked to the success of smartphones

Softbank has been enjoying the highest rate of increase in new customers since its exclusive release of the Apple iPhone. The operator reported 229,500 new customers in June 2010, following the launch of the iPhone 4 for which it has the sole distribution rights until the start of 2011. Rival operator DOCOMO reported 164,600 new customers that month, and KDDI 61,300.

A newcomer to the Japanese market, Apple and its iPhone accounted for 72% of smartphone sales.

This development is helping to revive a market shaped by an ecosystem based on i-mode services, it has altered the behaviour of NTT DOCOMO which is now preparing to expand its i-mode model by offering consumers the ability to add services and applications to those selected on its portal, notably for those using Android smartphones.

C. New applications and the value chain

Japan is home to powerful manufacturers who dominate the domestic market, both in the area of network equipment and retail market devices.

NEC and Mitsubishi Electric worked in tandem with national operators for their mobile and optical fibre network rollouts, notably for the GE-PON solution.

The sector has been a constant source of innovation in the realm of consumer devices – one example being Sharp's ultramodern 10th generation LCD plant in Sakai, which is the largest in the world and the first one capable of manufacturing screens from mother glass measuring 2.88 x 3.13 metres, which is then converted into professional LCD panels, with excellent results in the consumer market.

Inaugurated on 1st October 2009, this new production plant houses 18 Japanese firms which form the "Sakai Combinat", including Dai Nippon Printing, Kansai Electric Power, Daiwa House Industry, Osaka Gas, Toppan Printing, Asahi Glass and Sekisui Plastics. The fruit of a close to ¥430 billion (€3.3 billion investment, this project is built around a production unit with an area of 1.2 million m^2 which uses the latest green production methods, and is fuelled in part by solar energy. Sony controls a 7% stake in the project and is expected to increase its share to 34% by 2011. The complex will create between 5,000 and 10,000 new jobs, both directly and indirectly, and an ROI of ¥11,000 billion (€84 billion) over 10 years is being forecast for the city of Sakai. With headquarters in Osaka, Sharp employs 54,800 people around the globe. It is the world's fifth largest manufacturer of LCD panels, with a 9.6% share of the market in 2007. In 2008, the company reported a turnover of ¥284 billion (€2.1 billion).

D. Promising technological developments to derive from 3D

Japanese manufacturers hold a 95% share of the mobile handset market. But the market is shrinking – with sales in 2010 expected to stand at 32 million, compared to 53 million in 2007 – due to the global financial crisis and a longer replacement cycle. Sharp (26% share of the national market) and Panasonic Mobile (15%) are emphasising the sophistication of their products, while recognising the challenge involved in exporting them: 86% of mobile phones in Japan are equipped with an LCD screen, 69% with a camera, NFC (Near-field communication: contactless payment system used for public transport, in shops, etc.) is widely used, digital TV (launch of a new standard, either ISDB-Tmm or MediaFlo, is planned for 2011) is available, a precocious mobile Internet (i-mode has existed since 1999), 3D screens that can be viewed without glasses.

Part III

Four outstanding regulatory challenges

A. Public funding mechanisms to bring coverage from 90% to 100%

The Ministry of Internal Affairs and Communications (MIC) is responsible for regulating the electronic communications market, and for setting Japan's digital policies.

In 2010, Japanese market players are tasked with finding ways to finance ultra-fast broadband access for the remaining 10% of the population that is not yet covered.

The headlines have been dominated by the debates over covering the remaining 10% of the population, with all stakeholders insisting on the need for public financing to achieve complete nationwide coverage, and by the discussions that are underway over the development of applications that will spur the entire customer base to switch to fibre.

B. Unbundling fibre

On the matter of fibre regulation, the MIC is focusing on achieving full coverage while imposing a form of unbundling.

The regulator is taking a close look at ways to increase competition, seeking to revise the terms governing fibre unbundling which are deemed to favour NTT too strongly, and is exploring the possibility of imposing functional separation.

The MIC also wants to improve coverage in sparsely populated areas by examining the possibility of public-private partnerships.

And, finally, it is working to lay the groundwork that will spur an increase in the rate of fibre subscription among consumers, which has topped out at 28.7% for the country as a whole.

C. The digital dividend

Like in France, the way technologies have evolved in Japan has led to a switch from analogue to digital broadcasting signals, and from analogue to digital terrestrial television (DTT). The analogue signal is due to be switched off definitively in July 2011.

The digital TV transmission system in Japan is ISDB-T, which is also used in Brazil and Peru.

While digital broadcasting began back in December 2003 in Japan, more than 90% of households were already covered and passed for digital.

The fact that the majority of the population lives in cities led to a situation where mobile has become the most popular way of accessing the Internet, i.e. more popular than fixed lines.

To support this trend, the regulator MIC elected to take advantage of the spectrum freed up by the digital switchover to issue LTE licences in the 1.5 and 1.7 GHz bands to the country's four main operators.

Frequency bands[1]	800 MHz	1.5 GHz	1.7 GHz	2 GHz	2.5 GHz	TOTAL
eMobile			30 MHz			30 MHz
NTT DoCoMo	30 MHz	30 MHz	30 MHz[2]	40 MHz		130 MHz
Softbank Mobile		20 MHz		40 MHz		60 MHz
KDDI & Okinawa Cellular	30 MHz	20 MHz		40 MHz		90 MHz
UQ Communications					30 MHz	30 MHz
TOTAL	**60 MHz**	**70 MHz**	**60 MHz**	**120 MHz**	**30 MHz**	**340 MHz**

D. E-government , e-education and e-health

An inter-ministerial committee is in charge of defining the terms for lifting regulatory barriers to the development of applications in areas that the MIC has identified as being strategic: healthcare, education and e-government. The Ministry of Internal Affairs and Communications also plans on making fixed ultra-fast broadband access a universal service.

Because they are lagging behind in the area of e-government services, Japanese authorities are examining the possibility of appointing a Government Chief Information Officer to promote the development of these services, to have the different departments pool their resources (with solutions like cloud computing), and to create an individual digital ID that would be common to several government services, notably social security and taxes.

In the realm of e-education, the MIC plans on completing its "*Future Schools*" programme by 2020, on introducing a "*Future School promotion Initiative*" in 2010, establishing guidelines for the use of tablet computers and digital book readers for students and on developing an "*Educational Cloud System*" by 2012.

Regulation concerning e-health solutions is restrictive – with patients able to be reimbursed for their doctor's visits only if the physician and the patient are physically present – even though the potential for doctor's visits, e.g. for the annual check-up required of each employee, is considerable. As it stands, only seven e-health procedures have been approved and can be reimbursed. The MIC's *Haraguchi Vision 2* plan, which was published in June 2010, contains a section on the development of telemedicine which includes the creation of a *Health and Medical Cloud* by 2020, which would allow users to manage their own medical records and make it easier for the various medical institutions around the country to share information remotely, and during emergency situations. Every citizen should have an *Electronic Health Record* online by 2015.

1 All the bands are reserved for LTE except the 2.5 GHz band which is assigned to WiMAX.
2 Allocated in the districts of Kanto, Tokai and Kinki.

Part IV

The three content-related issues

A. NTT DOCOMO's strategy: partnership and distribution, rather than a provider of content

With its 56 million users and its secured and particularly fine-tuned billing model, NTT DOCOMO is working to establish partnerships for the supply of content, including with console-makers Nintendo for its DS and Sony for its PSP, to install 3G technology on their handheld devices.

Japan's top mobile operator will be entering this new content supply sector by the end of 2010 through the digital book. Its customers will be able to receive digital versions of books, comics and daily newspapers on their mobile phones.

The purpose of this initiative from NTT DOCOMO aims at responding to its competitors who are forging more and more partnerships in the area of e-books: agreement signed in May 2010 between Softbank and Apple over e-books on the iPad, KDDI's July 2010 alliance with Sony, printer Toppan and daily paper, Asahi Shimbun, for the sale and distribution of e-books.

Another response from NTT DOCOMO to this budding market is the upcoming release of seven multipurpose handsets, including one equipped to receive digital terrestrial TV.

The carrier wants to maintain its lead in the development of innovative mobile services by adding mobile TV, e-book capabilities and contactless payment for services based on augmented reality, which consists of enhancing the users' view of the real world using a dedicated device (telephone, GPS, camera...).

The process used by DOCOMO involves the GPS chip in a phone that makes it possible to identify the mobile user, correlated with the data taken from the same mobile's digital compass to know which direction the user is heading. A remote query to a database then sends back a list of nearby points of interest.

Users can, for instance, point their mobile in a certain direction and then have the closest underground stations displayed on their phone, using the camera's viewfinder. Additional points of interest are also displayed overtop of the picture displayed on the screen, such as icons indicating restaurants, along with their distance from the user. The closer the restaurant is, the bigger the icon will be. A similar process allows users to locate their friends. DOCOMO will be testing this augmented reality service before the end of the year with 1,000 Android smartphone owners.

Meanwhile, rival KDDI has used a procedure that combines the mobile's sensors with GPS and a database of geotagged pictures. The operator offers a streamlined interface that delivers the same features for points of interest near to the user's location as the information incorporated into the mobile camera's viewfinder.

B. Mobile operators earning a healthy income

Japanese consumers have access to a broad selection of digital services and contents (37% of all Internet blogs are in Japanese), most of it home-grown and designed to satisfy the Japenese market's particular tastes and demands.

The electronic book market is growing at a tremendous pace (by 25 times over the past five years), particularly in the area of Manga comics which account for 80% of sales. The world leader in this field,

the firm Solmare, which is an NTT subsidiary, considers the swift deployment of fixed and mobile ultra-fast broadband to be the enabling factor for its business, and is reporting 700 million downloads a month and 30,000 titles on offer. Solmare products are available to customers using any fixed or mobile network in Japan. The company has not positioned itself as a publisher of Mangas, but only converts the print version of the comics into a format that is compatible with mobile handsets, and then sells them to the different operators' customers.

Navitime (a very complete mobile browsing offer) has four million customers who pay €3 a month, and is enjoying an increase in business in this competitive field marked by a great many free offers. The company attributes its success to four factors in particular: the early adoption of 3G, data flat rates marketed by all operators, the availability of high-speed GPS on handsets in Japan, enhanced service, when compared with what is available for free.

In addition to the broadcast mobile TV service that is available on the vast majority of mobile handsets in Japan (the free one-seg offer), operators also market dedicated mobile video services, such as DOCOMO and its BeeTV service which has over one million subscribers, and whose videos are tailored (length and format) to mobile viewing. However, the operator owns only a minority share of BeeTV which is actually controlled by a large Japanese media production company.

If the Japanese spend 26% of their media time on the Internet, it is thanks to a national offer tailored to the country's particularities. The firm Dwango has developed a hybrid service that is halfway between YouTube and Twitter, and which has 17 million users, including 800,000 customers who pay €5 a month. Online services in Japan are dominated by national players: Mixi and Gree are more popular than Facebook and MySpace, Rakuten is more popular than eBay...

Video-On-Demand (VOD) services are struggling, however. The sector's leader, NHK-On, from the first public television broadcaster, offers a selection of only 3,000 titles – a paucity that is due to issues with copyright holders, and the fact that there is no equivalent to the INA (France's national broadcasting archive) in Japan. Launched in December 2008, the service is reporting 450,000 users, of which only 8% are active, and generating revenue that is expected to total €5 million in 2010 – the business being still well in the red, and would need to earn ten times this income to reach the breakeven point.

C. A considerable lead in digitising the economy and ultra-fast broadband infrastructure, with two exceptions: broadcast radio and cinemas

In accordance with its "Guidelines for the new broadcasting" which were published in April 2010, the MIC is due to make a choice in the near future between NTT DOCOMO and KDDI, the two candidates for the country's only mobile TV licence. This new licence will allow the chosen operator to transmit new content such as films, sporting events and electronic books.

To bring its project to fruition, KDDI created the content distribution arm, MediaFlo Broadcasting Service Planning, in association with Qualcomm, using the company's MediaFlo technology and its Flo TV Broadcasting service, which is available in Malaysia, Taiwan and in the UK for around $15 a month. With a market capitalisation of ¥50 million (€450,000), KDDI owns 82% of the company, and the balance is controlled chiefly by TV Asahi.

Meanwhile, NTT DOCOMO has opted for the national standard based on ISDB-Tmm technology, relying on its Multimedia Broadcasting Inc. subsidiary, which was created in 2006 in tandem with Nippon Television Network Corp., Itochu Corp and Fuji Television Network Inc.

NTT DOCOMO's technological choice is dictated by the need to make optimum use of the frequency bands, which is also the stance taken by Softbank. Should it be awarded the licence, DOCOMO would inject capital into « Multimedia Broadcasting Inc. » to pay for the infrastructure, including base stations, calling on Softbank to share in the investments. Should it lose out KDDI, its Multimedia Broadcasting division plans on focusing its efforts on content production, with the infrastructure becoming hard to monetise but remaining a strategic asset.

An estimated ¥100 billion (€900 million) Investment will need to be made in infrastructure (equipment, construction of base stations).

Whether the new service is able to earn a return on this investment – the breakeven point is thought to be three million subscribers – will depend on two factors:

- the crucial role that TV networks will play in distributing content, given the decrease in their advertising revenue;
- the reaction of consumers, who already have access to the one-seg free mobile digital TV service.

On 8 September 2010, the government chose the service proposed by the NTT DOCOMO-led consortium for the deployment of the new mobile TV infrastructure. The panel that assessed the two solutions said that the main reasons for its choice were the attractive pricing scheme and the investment costs, followed by technological performance considerations. The business plan, which would enable content providers to enter the market, and the fact that NTT DOCOMO had secured locations for future base stations more firmly than its rival had, also weighed in its favour.

This choice is consistent with the sums that Japan and is manufacturers invested in ISDB-T, the previous generation of *ISDB-Tmm* which is used for the *one-seg service* that has been available since December 2003. Japanese manufacturers and public authorities have also enjoyed commercial success overseas with the earlier standard – renamed *ISDB-T international* for export – and especially in South America where it has been adopted by several countries over the past several years: Brazil, Argentina, Peru, Chile, Equator and, more recently, Costa Rica and Paraguay.

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