Press release

FUTURE NETWORKS

"Quantum technologies and their impact on networks", Arcep publishes the fifth briefing note in its "Future Networks" cycle of inquiry

Paris, 11 June 2026

The first quantum revolution paved the way for major innovations, such as semiconductors. Today, a new revolution is taking shape, forged by the hopes tied to quantum computing capacity, and the questions raised by cybersecurity threats. What forms of cohabitation can we expect to see between classic and quantum computing? What possible transformations in network architecture, performance and security? What are the challenges, but also the opportunities created for the electronic communications sector by the integration of quantum technologies?

Quantum technologies have the potential to transform the electronic communications sector, but it is still too early to draw any absolute conclusions

After having analysed the transformations underway on electronic communications networks, in the "Telecoms with an IT core" briefing note published in 2024, and the "AI and electronic communications networks" note published in 2025, this new briefing note sets out to explore the potential impacts of quantum technologies on networks. It provides an overview of the main issues tied to the development of quantum computing, notably the consequences for communications security. It also examines a number of issues associated with the development of quantum networks, along with regulatory issues and challenges, and the strategies being implemented by the countries leading the quantum computing revolution. This work was carried out in concert with stakeholders, and with the participation of the "Future Networks" Scientific Committee.

Arcep will be hosting a webinar to present the briefing note, at 9:30, on Thursday, 11 June. By invitation only.

Programme:

- Opening remarks by Arcep Executive Board member, Akim Oural
- Presentation of the highlights of the "Quantum technologies and their impact on networks" briefing note, by Julien Gilson, member of the Arcep team in charge of forward-looking work on "Quantum technologies"
- Discussion with ecosystem stakeholders, moderated by Arthur Vacchianni-Marcuzzo, task officer for the "Fixed coverage and deployments" unit, and member of the Arcep team in charge of forward-looking work on "Quantum technologies" :
    - **Fanny Bouton,** Quantum Lead, OVH Cloud
    - **Samih Souissi,** Chief of staff, Expertise department, ANSSI
    - **Romain Demur,** Quantum Photonics Lead, Welinq
    - **Alexia González Fanfalone,** Connectivity Services and Infrastructure Unit Head, OECD
    - **Andrés Barreneche,** Economist, OECD

Associated document:

- Briefing note: Quantum technologies and their impact on networks / English language version

Arcep's Future Networks initiative

What form could future networks take and how could they affect Arcep's role as a regulator? What new players might emerge and how could business models evolve across the sectors regulated by the Authority?

To support this forward-looking work and develop a comprehensive understanding of these changes over a five- to ten-year horizon, Arcep has invited twelve distinguished experts from academia, entrepreneurship and industry, representing a range of specialist fields, to form a Scientific Committee. To ensure this reflection is as broad and well-rounded as possible, Arcep's teams also engage with specialist stakeholders across the ecosystem, including network operators, equipment manufacturers, internet companies, service providers and local authorities.

Arcep shares the findings of this work as it progresses through a series of thematic briefing notes, freely available on its website, with the aim of informing and contributing to public debate.

The members of the Scientific Committee are:

Jean-Luc Beylat
VP Ecosystem, Nokia

Eric Brousseau
Professeur, Université Paris-Dauphine

Giovanna Carofiglio
Senior Director, Cisco

Grazia Cecere
Professeure, Institut Mines Télécom

Amira Alloum
Directrice Ingénierie, Qualcomm France

Serge Fdida
Professeur, Sorbonne Université

Yves Gassot
Consultant indépendant

Nolwenn Germain
Présidente fondatrice, HAIDO

Isabelle Hilali
CEO fondatrice, datacraft

Christophe Bejina
DSI, Alcatel Submarine Networks

Christian Licoppe
Directeur département, Institut Polytechnique Paris

Françoise Soulié-Fogelman
Conseillière scientifique, Hub France IA

Would you like to contribute to this work?

This initiative is intended to be an ongoing and collaborative effort. Arcep invites anyone wishing to contribute to these analyses to send their contributions to reseaux-du-futur@arcep.fr

Would you like to be informed about upcoming briefing note presentations?

Please contact com@arcep.fr for an invitation.

Other briefing notes

At the time of publication of this paper (June 2026), four notes have been published: "Telecoms with an IT core" (October 2024),), "Electronic communications networks' resilience" (May 2025), "AI and electronic communications networks" (June 2025), and "Choose your tech": viewing electronic communications networks through the lens of digital practices (September 2025).

Press liaison
Victor Schmitt
victor.schmitt@arcep.fr
Tel.: 01 40 47 71 84

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Arcep at a glance

The Regulatory Authority for Electronic Communications, Postal Affairs and Press Distribution (Arcep), a neutral and expert arbitrator with the status of independent administrative authority (IAA), is the architect and guardian of internet, fixed and mobile electronic communications, postal and press distribution networks in France

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