Telconomics

2018 progress report

22 May 2018

Arcep publishes its annual market scorecard: key figures for 2017

Operator revenue

€36.2 billion
(retail market)

Stable

Operator investment

€9.6 billion

+ 0.7Md€ ↗

Number of broadband and superfast broadband access lines

28.4 million

(of which 25% SFB)

+ 0.7 M ↗

Number of SIM cards

74.6 million

(of which 56% on 4G networks)

+ 1.6 M ↗

Pro-investment policy

Regulation to improve
fixed and mobile connectivity

Connectivity: a strategic challenge for France's digital transformation

Improving connectivity is vital to laying the groundwork for the digital society' development:

- Ensure access to and supply of online content for everyone
- Guarantee quality of service to keep pace with changing user habits

Make France a connected nation: one of the goals set out in the strategic review

June 2016 — Determine **infrastructure rollout targets** for the next three years

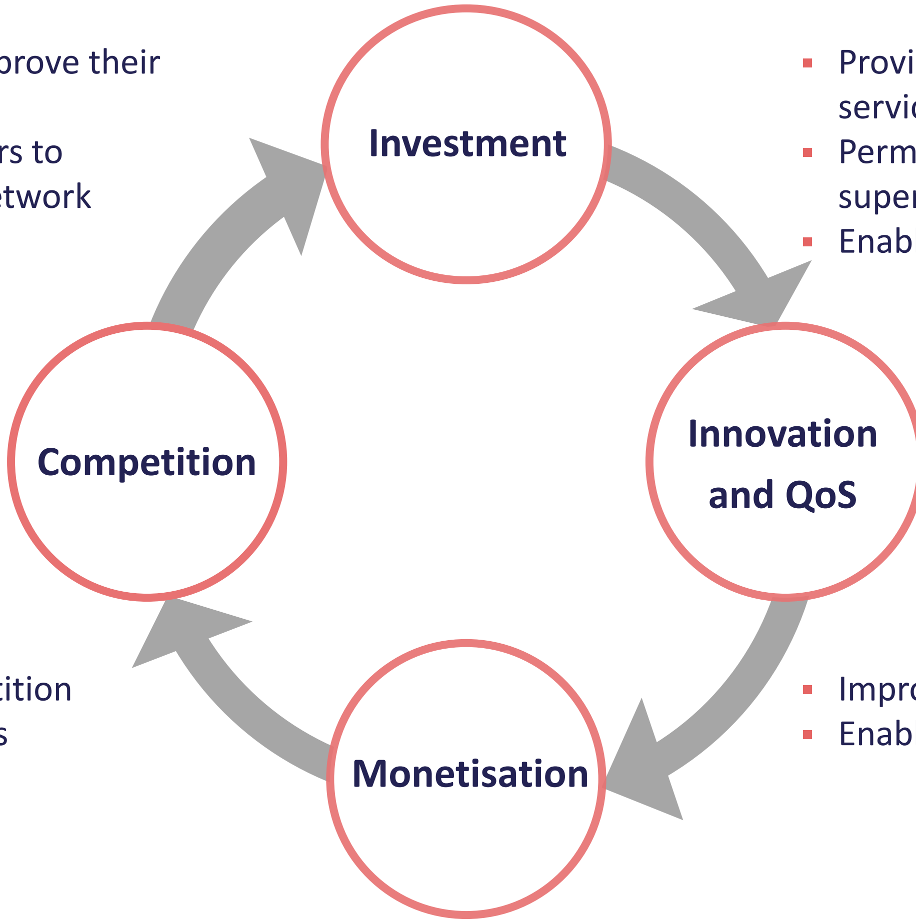
May 2017 — Progress reports: **connectivity advancing** in France but still room for improvement

Improving connectivity through pro-investment regulation

Competition is not an end unto itself: it Is part of a broader scheme to promote network investments

- Push operators to improve their service performance
- Incentivising operators to innovate results in network investments

- Provide coverage and make services accessible
- Permit services enabled by superfast connections
- Enable innovation

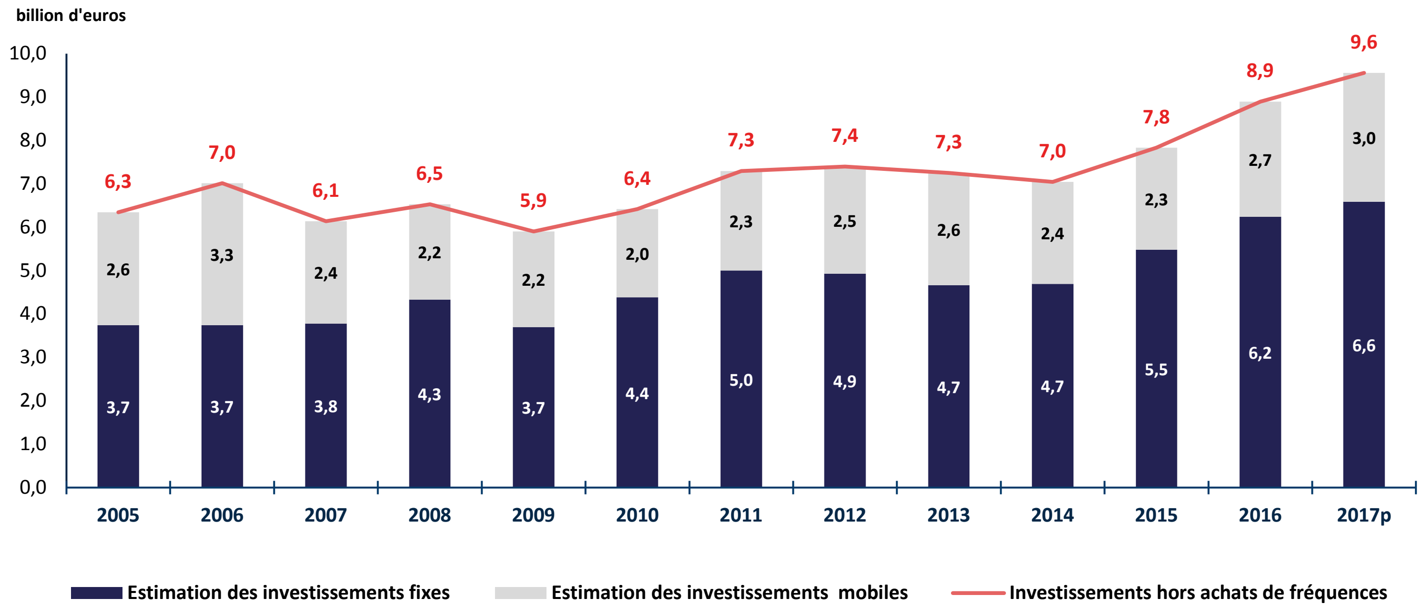


- Ensure viable competition
- Create growth outlets

- Improve QoE
- Enable monetisation

Operators continue to step up investments…

Increased investment in both fixed and mobile businesses



Increase spurred by **superfast local loops**

Superfast total (Bn€)	3.4	+ 0.7
- of which fixed	1.8	+ 0.3
- of which 4G	1.6	+ 0.4

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… which is reflected in infrastructure rollouts…

55 – 60%

Expansion of FTTH network coverage

3-year target: 7 to 8 million new FttH access lines deployed by private or public sector players

Progress status: 4.25 million access lines deployed since Q1 2016

Maintain

Achieve infrastructure-based competition

3-year target: two co-investors on 80% of FttH access lines deployed

Progress status: more than 85% of access lines deployed financed by at least two commercial operators at the end of 2017

80%

Upgrade existing cell sites to 4G

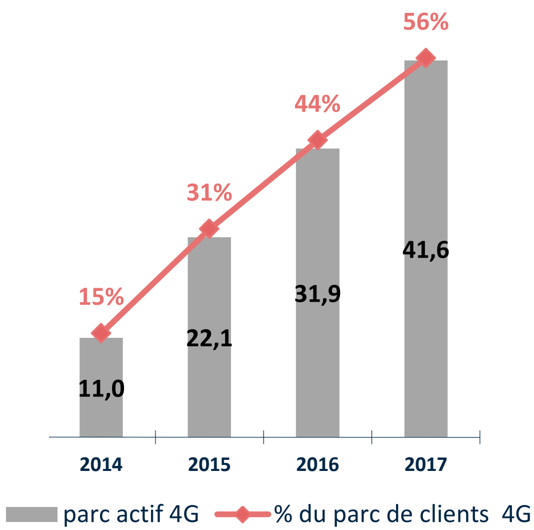
3-year target: 25,000 sites upgraded from 2G/3G to 4G

Progress status: 20,000 sites upgraded since Q1 2016

… and undergirding changing user habits

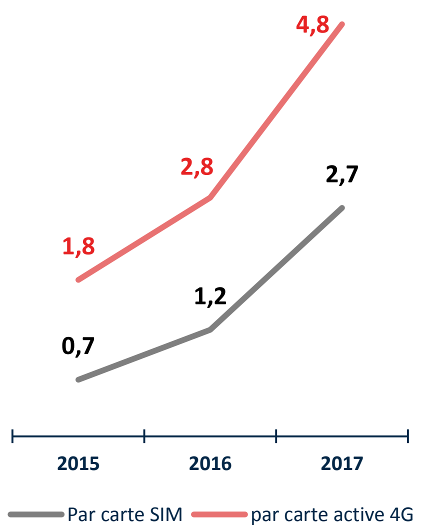
Increase in 4G and superfast FttH subscriber numbers

Number of active cards on 4G networks (million)



4G networks used by +62% of the population

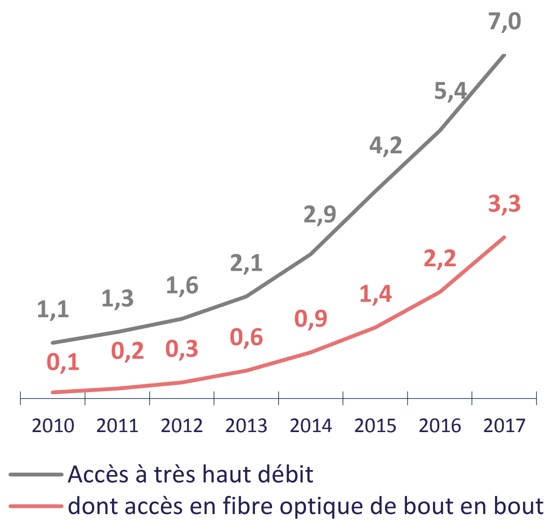
Average mobile data traffic (Gb)



Monthly use of mobile data services since 2015:

- x4 for all customers
- x2.5 for 4G users

Number of superfast access lines and end-to-end fibre lines (million)



FttH the chief purveyor of fixed superfast access line growth

Actions carried out this year

Several projects with a structuring effect on the sector

Structuring actions to accelerate fixed superfast rollouts

Several courses of action to lead operators to invest quickly and efficiently

Accelerate subscribers’ transition to superfast access through market analysis

- Facilitate access (e.g.: streamlining the Orange civil engineering offer)
- Facilitate connections and alternative operators’ ability to market access products (taking Orange commitments into account)

Accompany national operators’ arrival on PIN

- Introduce guidelines to prevent pricing issues
- Supervise new kinds of access products that enable the advent of national operators (e.g. framework agreement that Free the Bouygues Telecom signed with several PIN operators)

Ensure efficient investments

- Public consultation on the draft recommendation on achieving consistent FttH rollouts
- Opinion delivered to the Senate on the conditions for modernising electronic communications infrastructures and achieving regional digital coverage

A pro-investment framework for alternative operators in the business market

Create the conditions for the development of a competitive wholesale market, to enable a host of retail market business operators to innovate

Enterprise penetration rate in need of improvement

- 44% of SMEs (50 to 500 employees) connected
- 15% of SoHos (fewer than 49 employees)
- Source: Novascope study, mid-2017

Market analysis: obligations imposed on Orange

- Offer passive access products on the FttH network tailored to operators targeting the business market
- Provide an improved QoS option on the operated FttH lines

July 2017

Agreement between Kosc Telecom and Orange for access to Orange fibre infrastructures

Jan. 2018

Introduction of the Orange improved QoS option

An historic agreement to bolster operators' investments in mobile networks…

The New Deal: a paradigm shift from the Government, recognising the telecoms sector is crucial to outfitting the country with networks

Q4 2017

Dialogue with all of the stakeholders involved in mobile coverage, to rethink the methods used to allocate frequencies

Jan. 2018

Operators' commitments to high standard mobile coverage:

- Improve reception quality nationwide
- Accelerate targeted programmes for improving coverage: + 5000 new service locations per operator
- Achieving ubiquitous 4G reception by upgrading all cell sites
- Improve and accelerate coverage of transport routes
- Improve indoor telephone coverage

1H 2018

Make operators' commitments legally binding

Mid-2018

Progress report with the Government and publication of a scorecard to monitor commitments

… in keeping with Arcep guidelines on network sharing

Strengthen pooled investments to accelerate digital coverage in the country's most sparsely populated areas

Apply guidelines on network sharing between mobile operators

Shared investment obligations under the New Deal to achieve efficient investments

- Active sharing for at least 2,000 service locations per operator, of the 5,000 listed in the new targeted coverage scheme
- Passive sharing for the remainder
- For each new site deployed, obligation to inform other operators, with a view to potentially hosting them at that site

Actions to pave the way for investing in 5G networks in France

Several projects devoted to anticipating a wide variety of users' connectivity needs on future 5G networks

Identify the issues surrounding an innovative technology

Report on 5G issues and challenges, following a dialogue with stakeholders, to explore the disruptions created and potential courses of regulatory action

Prepare to free up and allocate frequencies

- Study on the methods for rearranging the 3.4 – 3.8 GHz band
- Public consultation on the system for introducing 5G on the 26 GHz band
- Preparation of the frequency allocation procedure
- Coordination with public sector entities to create a positive regulatory environment for rollouts

Objective: allocate 5G frequencies to enable commercial launches by 2020

Lead the ecosystem and stimulate the development of new applications

Simplify technical trials through the creation of a "5G pilot" window that is available to all stakeholders (notably vertical sectors) to:

- Test the technology
- Test use cases and mobilise players interested in these frequencies
- Obtain initial feedback and prepare for frequency allocations

Objective: active trials by 2019

5G work programme to be announced in the coming weeks

Use the power of data to engage the sector in a virtuous, pro-investment cycle

Better informed users to better steer the market: provide customised information through consumer platforms and open data

Letting the user experience help craft regulation: complete traditional forms of intervention with a less intrusive approach, through the notion of the State-as-a-platform

Join forces with the crowd: and work with crowdsourcing specialists to obtain better sources of information from users

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Data to stimulate mobile operators' investments, in support of regional connectivity

Monreseaumobile.fr: heavy dose of transparency to redirect the basis of competition by focusing on network performance

Sept. 2017

Publication of operators' enhanced **coverage maps** that now include **different levels** of coverage in Metropolitan France

Mid-2018

Publication of data on French **overseas markets**

Late 2018

Coverage maps enhanced to include QoS indicators for **data services** (notably 4G)

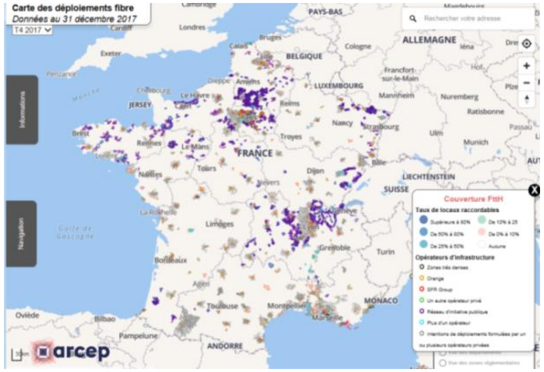
Data to stimulate investments in fixed services

New tools to encourage superfast network rollouts

Nov. 2017

Launch of cartefibre.arcep.fr

A navigable map depicting the progress of FttH rollouts, in each municipality



2H 2018

Finalisation of the mapping tool for monitoring fixed networks and services

To provide address-specific information on available operators and technologies, advertised connection speeds and operators’ coverage commitments

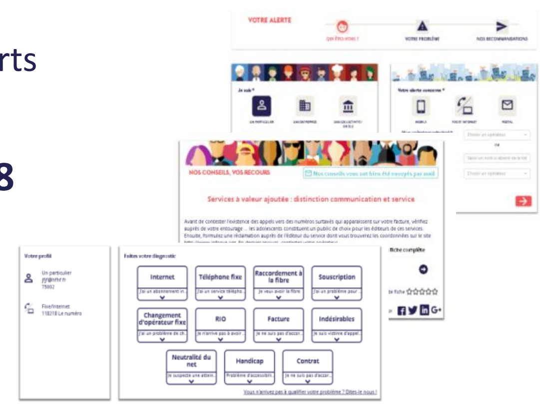
A platform to better connect Arcep to realities in the field

Give users the ability to report malfunctions and provide them with the information they need, on a case-by-case basis

Enable Arcep to become a more effective regulator:

- Monitor network issues in real time
- Identify recurring malfunctions and surges in user reports

First progress report scheduled for September 2018



Alliance with multiple testing specialists to create a well-informed community

Collaboration with third-parties to have access to a greater wealth of data

Develop a crowdsourcing approach

With **the sector's specialists:**

- Reach a consensus on data collection methods
- Demand high standards of quality, transparency and representativeness
- Arcep's reuse of these players' data

With all of the **relevant information aggregators:** from the fields of consumer protection, transport, property, tourism, etc.

Example: agreement between Qosi and Arcep

Reuse of monreseaumobile.fr data in Qosbee

Use of all of the data obtained through Qosi crowdsourcing applications and field surveys

Europe maintains its pro-investment stance

BEREC's ongoing work on connectivity

- Adoption in December 2017 of a joint report with RSPG on the challenges of bringing coverage to "challenging" locations
- Draft of a common position on measuring mobile coverage, planned for 2018
- 5G as a strategic priority for BEREC in the medium-term
- Draft of a report on pricing terms and conditions governing access to civil engineering infrastructures

Final discussions are underway on incorporating the goal of developing connectivity and investment into the revised framework

France’s connectivity lag is not yet behind us

France in European rankings in 2017

23rd place
(21st in 2016)

Worse on connectivity (DESI)

Main weaknesses: 4G and superfast coverage rates

Main strengths: broadband coverage and prices

27th place
(27th in 2016)

Unchanged on fixed superfast rollouts (DESI)

> 30 Mbps: 27th place. Difference from 15th place: 9.7 million households

> 100 Mbps: 25th place

21st place
(23rd in 2016)

20th place
(24th in 2016)

Improved on 4G coverage

Operators’ average coverage rates: 21st place. Difference from 15th place: coverage of an additional 1.5 million people (DESI)

Total rate of population coverage: 20th position. Difference from 10th place: coverage of an additional 420,000 people (Digital scoreboard)
Above the average rate for a European country the first time.

Thank you for listening