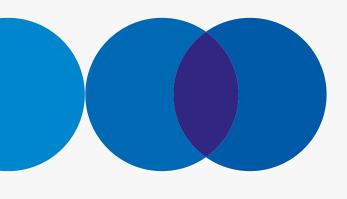JAN. 11th 2023

DIGITAL INFRASTRUCTURES AND SPATIAL PLANNING

Economic and social impacts of the France Superfast Broadband Plan

AN OVERVIEW

Launched in 2013, the France Superfast Broadband Plan (Plan France très haut débit, PFTHD) has reached its objectives of giving the entire French population access to superfast connectivity with a mix of technologies ranging from fibre to satellite, while meeting the €13.3 billion package of public investments notified to the European Commission in 2016.

Introducing fibre broadband has already been seen to play a significant role in improving territorial attractiveness, creating jobs and improving business performance.

The success of this plan can be widely credited to the original governance structure between local authorities, national services and private operators.

BACKGROUND TO THE FRANCE SUPERFAST BROADBAND PLAN

The "Internet revolution" spawned a growing need for new telecommunications infrastructures in the 1990s. While Japan responded to the challenge through massive investments in optical fibre networks in the early 2000s, Europe had to wait until 2010 for the EC to roll out a major connectivity plan as part of its **Digital Agenda** initiative, which paved the way for a digital single market.

In France, two urgent issues have been incorporated into the European agenda, namely the obsolescence of the long-standing copper network and the "digital divide". Inequalities in access to the superfast broadband network in certain areas, especially rural communities, are seen to be one of the reasons causing those areas to stall.

The PFTHD faces up to the digital divide

This is the percentage of French people living in areas without any fixed superfast broadband coverage in **2015**, which put France in 26th place in Europe. By 2022, France had moved up to **12th place for SFB and cemented its position in the leading group for fibre connectivity in Europe**.

Such was the context that prompted the government to launch the France Superfast Broadband Plan in 2013. The goal was to **provide all French citizens with SFB connectivity, i.e. greater than 30 Mbps by 2022**. How would this be achieved? By encouraging private investments to ensure nationwide coverage while providing for public funding in those areas where market shortages had been anticipated (public initiative areas).

77,6 % ›

30 Mbps

13,3
billions euros

Objectives and resources of the PFTHD

This is the amount of public investments to equip 18 million homes and business premises in public initiative areas out of nearly 43 million for the whole country.

Have these coverage objectives been fulfilled? At what cost and with what results for the communities? These are the questions that the France Stratégie report endeavours to answer. It aims to evaluate the governance process for the roll-out by the public authorities while analysing the social and economic impacts of implementation. **At the request of the State and the European Commission, this ex-post evaluation report was produced** by a Stakeholders' Committee and a Scientific Board featuring top-level experts in the field, including both scientists and practitioners.

We wanted to know about the impacts of the PFTHD, how it has benefited the different stakeholders and the extent to which it has met the expectations of citizens and companies alike. Has the Plan helped create wealth and jobs? Was the decision to prioritise fibre the right one?

99%
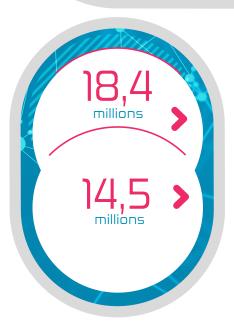
COVERAGE TARGETS ACHIEVED

By 2022, the PFTHD had achieved its objectives by providing **superfast broadband coverage for 99% of premises** across the country, **with a technological mix** ranging from wired solutions (fibre, ADSL and coaxial cable) to satellite, including radio technologies.

By steadily giving greater focus to the FTTH architecture (fibre to the home) where technical conditions and economic viability allow, the Plan has helped ramp up the technology's roll-out: by the end of 2021, over 70% of premises were eligible for FTTH.

"ELIGIBLE, PASSED, CONNECTED"... WHAT DO WE MEAN WHE WE TALK ABOUT THE "COVERAGE" OF A TERRITORY?

Premises are considered to be "covered" when at least one of the following superfast broadband technologies is available in its area. However, the actual connection requires the user to take out a subscription contract, and the access provider needs to comply with the contractual quality and connection times. This is not always the case. A 100% coverage rate may be surprising for users experiencing repeated difficulties in accessing the Internet services in their area or who expect to have a fibre-only connection.

In the case of fibre, the network has been rolled out, but if there is no commercial operator on the network currently able to offer a subscription to end users, the premises are passed but not yet eligible. Premises are eligible when there is at least one commercial operator willing to offer a subscription plan: users can sign up to install fibre in their home or premises. Users are then connected.

18,4 millions

14,5 millions

How many superfast broadband subscribers?

This is the number of superfast broadband subscribers, including…

fibre subscribers by the end of 2021.

60% of individuals
32% of companies were SFB subscribers in 2020
55% connected to the fibre network in 2022, depending on the sector.

Although the Plan's coverage objectives have therefore been achieved, there are still inequalities in roll-out depending on the investment areas.

57% of the population and almost 25 million premises

High-density areas – metropolitan areas, city centres - **strictly private investments** with an infrastructure-based competition model: each infrastructure operator rolls out its own network, from which several commercial operators can operate.

Dense areas – e.g. city outskirts - **pooled private investments**: infrastructure operators roll out a single network as part of a "co-investment".

Low-density areas – mainly rural zones - funding provided through public initiative networks (PINs) combining **public and private investments** - **43% of the population** and nearly 18 million premises.

94% of buildings are eligible for SFB, including 88% for FTTH (in 2021) in private investment areas, but the latest roll-out programmes are struggling to cross the finishing line, especially on the outskirts of certain major metropolitan areas.

Implementation in public initiative areas was slower out of the starting blocks. As a result, only 60% of premises have SFB access (as of Q4 2021) via wired technologies, and 51% of premises can be connected to FTTH. However, this figure is higher than the European average of 30% for fibre access in rural areas and, more importantly, it is growing rapidly. Based on the current roll-out rate in PIN areas (over five million outlets a year), fibre broadband should enter the mainstream by 2025.

The term "mainstream" is used here to mean the "systematic roll-out wherever this technology appears to be technically possible and economically viable".

> *"These configurations reveal that when operators are not guaranteed to see a return on their investment in some parts of the areas to be covered, full coverage may be hard to achieve through private initiatives alone. Public initiatives appear to be essential in areas that are less economically attractive, which most often means rural areas."*
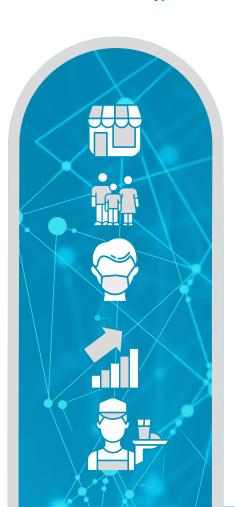
EMPLOYMENT, GROWTH, ATTRACTIVENESS:
THE IMPACT OF FIBRE ON LOCAL COMMUNITIES

Although the effects of fibre do exist, a period of at least three years is needed after roll-out until such effects are statistically identifiable. Since roll-outs are still recent or in progress, there is not enough hindsight to fully measure the effects today.

> *"All the studies carried out suggest that SFB has had a positive effect, and that fibre has had an additional effect on the attractiveness of the local communities, employment and companies' performance.*
>
> *The econometric methods used strive to estimate the "causal" effects wherever possible, based on a comparison between the local communities concerned and control communities. However, there is never any way to exclude any bias from this type of calculation."*

When a town or city upgrades to a fibre network
(from 0% to 100% coverage):

The number of facilities in the area increases by 2%, and even by 3.9% in sectors of activity with a high level of digital intensity

A younger population is attracted to the area

Local communities were more capable of withstanding the impacts caused by the successive wave of lockdowns over the 2019-2020 period (smaller drop in the number of jobs and less use of the reduced working hours model)

More generally, the **presence of SFB is associated with**:

A 7% increase in the added value generated by the commercial sector three years after the arrival of SFB, and 18% five years later

A 4.3% employment rise in the private commercial sector four years after the arrival of SFB, and 8% five years later.

NO "DISRUPTIVE" USE OF FIBRE...

The arrival of fibre in an area increases or intensifies pre-existing digital uses, but without radically transforming them.

For instance, companies adopting fibre broadband see an increase in the percentage of employees using a computer (by 8 points) or using the Internet for their jobs (by 11 points), or the number of **employees working from home** or using videoconferencing (usage doubled in France between 2019 and 2021). By contrast, it has not identified any effect on companies' ability to innovate or the development of e-commerce activities.

> *"The mere presence of a high-quality telecommunications network is not enough to transform practices. It is the existence of a conducive ecosystem (presence of suppliers, service intermediaries, training structures, etc.) that plays a decisive role in transforming practices."*

OUTSTANDING FIBRE USE CASES

Efficient emergency services: in the Sarthe region, the deployment of fibre has enabled the implementation of an innovative remote surveillance system for fire risks in wooded areas.

"Lycée 4.0": the Grand Est region has provided 352 colleges with equipment for accelerating their digital educational practices.
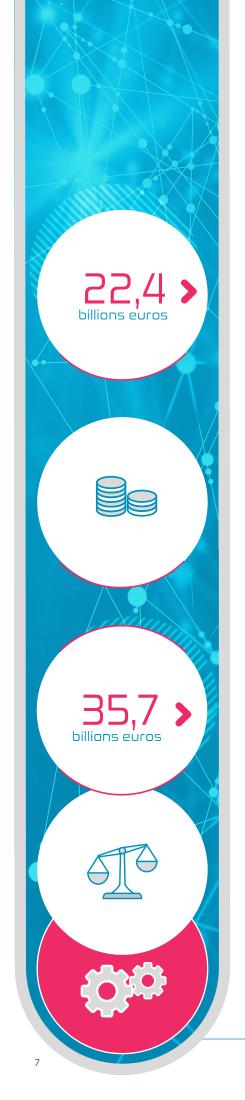
Digital tourism: "Val de Loire numérique" has equipped 80 sites in two departments with a tourist Wi-Fi system.

10 kwh
per subscription
for fibre

35 kwh
for copper
networks in 2020

... BUT A "COMPARATIVE ENVIRONMENTAL ADVANTAGE"

Fibre deployment has significant **comparative advantages when it comes to the environmental** footprint, starting with its low energy consumption. Fibre networks used an average of 10 kWh per subscription in 2020, compared to 35 kWh for copper networks. As with any technological development, these energy gains are affected by **the rebound effect in** consumption. Improved connectivity and higher data speeds lead to escalation and overlapping digital uses.

AN EFFECTIVE
PUBLIC SUPPORT POLICY

As regards the effectiveness and timeliness of the aid scheme, the financial commitments from the State and local authorities remained broadly consistent with the initial forecasts. These commitments were key to achieving SFB coverage earlier than planned, while striving for widespread fibre use by 2025.
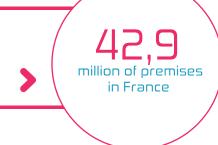
22,4
billions euros

This is the total amount invested in public investment areas for 18 million premises to be covered, and 42% of this investment is financed by infrastructure operators acting through public-private partnerships.

The total public roll-out cost of €**13.9 billion** (State, local authorities and European funds) is **in line with the budget notified to the European Commission** in 2016. The State's investments were consistent with the initial forecasts of approximately €3.5 billion. The network roll-out costs remained in line with the cost estimates in the regulator's market analyses as submitted to the European Commission. Basically, project implementation **did not lead to any budgetary overruns**.

Contractual arrangements between local authorities and private operators within the PINs have also been adapted to raise the project efficiency bar even higher. Local authorities have gradually embraced a management model that allows private operators to play a more involved role in the projects while reducing the risks taken by local authorities

35,7
billions euros

This is the total amount of public and private investments in the fixed local loop required to cover some

42,9
million of premises
in France

However, not all projects move forward at the same rate due to a variety of reasons, such as uneven learning effects and governance difficulties. This explains why the earliest projects have not necessarily been the fastest.

More generally, **the original governance of the Plan**, which is shared between the local authorities and governmental services, and tied into different forms of private partnerships, has injected a significant level of **flexibility into the system**. This is one of the keys to its success.

DOWNLOAD THE REPORT *"DIGITAL INFRASTRUCTURES AND SPATIAL PLANNING: ECONOMIC AND SOCIAL IMPACTS OF THE FRANCE SUPERFAST BROADBAND PLAN"* ON STRATEGIE.GOUV.FR (PUBLICATIONS SECTION)

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