

**ROLL-OUT OF SUPER-FAST BROADBAND
AND THE *FRANCE TRÈS HAUT DÉBIT* PLAN
SOCIO-ECONOMIC ASSESSMENT**

PROGRESS REPORT

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SUMMARY

Super-fast broadband in France

The 2004 Law on Confidence in the Digital Economy introduced Article L. 1425-1 into the General Local Authorities Code, which gives local authorities responsibility for digital development of their territory and thus enables them to set up public initiative networks (known as RIPs – *réseaux d'initiative publique*). The deployment of fibre-optic public Internet networks is largely based on this system, and this is how the first so-called first-generation public initiative networks (RIP 1G) were rolled out, initially targeting businesses and public buildings in limited areas.

In 2013, the government decided to launch a historic project aimed at covering the entire country with super-fast broadband by 2022, 80% of which will be provided by fibre-optic technology, with the aim of reducing the territorial inequalities that would have resulted from uncoordinated action at national level.

Furthermore, this policy is in line with the European objectives of the Digital Agenda for Europe (DAE), which sets a connectivity target for member countries to provide all Europeans with a speed of more than 30 mbps by 2020 and more than 100 mbps by 2025.

The challenges for French society are numerous. The *France Très Haut Débit* Plan attempts to strengthen the national economic fabric, but it is also an essential lever for regional planning policies and aims to reduce the digital divide and territorial inequalities in all metropolitan and overseas territories.

Successive governments have pursued this objective by reaffirming the State's commitment and stabilising the regulatory and fiscal framework, thereby securing the investments of operators and financiers. Similarly, these objectives remain a priority for the European Commission, which reiterated them when presenting its digital strategy in February 2020. The quality of super-fast fixed broadband networks will be fundamental to its ability to achieve its objectives in terms of the data economy, artificial intelligence and even the deployment of 5G.

One of the founding principles of the French Plan is participation by the State, local authorities and the private sector. Founded on a regulatory framework based on infrastructure rather than services competition, the French model sets out national

objectives, the implementation of which is entrusted to the local authorities, which are coordinated at national level.

The whole country has been divided into two distinct zones:

- Private intervention zones (55% of the population and nearly 3,600 municipalities), which also include co-investment zones (known as AMII zones). These are the most densely populated areas;
- Public intervention zones covering the least dense areas and rural areas, where public initiative networks (RIPs) are deployed at the initiative of local authorities supported by the State (45% of the population).

The total cost of the Plan has been estimated at 21 billion euros. Public investment is estimated at between 13 and 14 billion, of which a share is financed by the local authorities and 3.3 billion by the State (Programme 343 concerning the National Fund for a Digital Society, managed under the Investments for the Future Programme).

Financing of the *France Très Haut Débit* Plan

Financement du Plan France THD	
	7 Mds
	Financement net public
	dont 3,3 par l'Etat
A la charge des collectivités	0,58 Mds€ de FEDER
	3,1 Mds par les collectivités locales
90 % du territoire, 43 % de la population	
	7 Mds
	Financement public valorisé auprès des opérateurs FAI (souscription de droits d'usage)
	ou partagé avec des opérateurs de gros dans le cadre de partenariats public-privé (PPP, DSP, CREM...)
A la charge des opérateurs	
3600 communes, zones les plus denses	7 Mds
57 % de la population	Opérateurs privés
	réseaux propres sur 100 communes
	Réseaux mutualisés sur 3500 communes

Source: General Commission for Territorial Equality (CGET) - Structure of the initial financing plan for the France Très Haut Débit Plan.

At the end of 2019, 45% of premises in France were connectable to fibre: a total of over 16.7 million premises¹. Despite the Covid-19 crisis, by the end of the first half of 2020 this figure had risen to 19.6 million. By the same date, the State had committed more than €3 billion to the *France Très Haut Débit* Plan.

State of knowledge and literature review

The assessment programme presented below was preceded by a review of the existing academic literature (see Bibliography).

During this review, we noted that publications devoted to *ex-post* socio-economic assessments of super-fast networks and fibre in particular were relatively few in number for Europe and France. In France, numerous reports (parliamentary, Court of Auditors, Inspectorate General of Finance) have provided in-depth reviews of the progress of the Plan. Other works have proposed *ex ante* socio-economic assessments on a limited number of territories (Alsace, Nord-Pas-de-Calais, Drôme and Ardèche). However, there has been virtually no *ex-post* assessment in France.

It can also be seen that many of the studies consulted do not distinguish between the technologies implemented, and most of them deal with standard broadband (xDSL cable, speeds below 30 Mbit/s, asymmetric) or next-generation access networks (NGA) in general, without specifying the technologies or speeds covered. There are far fewer studies that focus specifically on fibre technology and have demonstrated the incremental benefits of this technology.

The assessment programme is therefore part of a very open academic landscape where many fields remain to be explored in order to study the situation in France.

The impact of super-fast broadband networks on macroeconomic indicators

On growth

There is a broad consensus in the academic literature that the arrival of the Internet and the deployment of networks has had a positive impact on growth.

If the Digital Agenda for Europe (DAE) targets are reached by 2020, the financial gain for all European countries has been estimated at over 220 billion euros (Gruber, Hätönen and Koutroumpis, 2014). This figure may vary depending on the amount of investment actually

¹ Definition of connectable premises: premises for which there is a continuous optical connection between the distribution point and the optical branch point.

made and the level and pace of adoption of the technology by consumers. For France, this amount could be 24 billion euros. By way of comparison, according to the same authors, it would be 65 billion euros for Germany and 53 billion euros for Italy.

Nevertheless, for the *ex-post* assessment of the French situation, it will be necessary to take into account both coverage levels, speed levels and the technologies deployed, in order to measure the incremental impact of super-fast broadband and fibre in particular.

On employment

The literature is divided on this issue. While some authors argue that the arrival of networks and the increase in available speeds have no significant effect on the reduction of unemployment or the level of job creation, others argue that the arrival of networks has a proven positive effect on the labour market.

In France, existing studies show that the arrival of networks in a territory and the increased use of the Internet, regardless of the speed, would lead to the destruction of jobs in the manufacturing sector and the creation of new jobs in the service sector.

Household welfare

While studies at the international level confirm an increase in household income with the arrival of the Internet, in France FttH² is said to have enabled a net benefit for consumers of more than 120 million euros in 2017³. In some territories, the increase in speeds and the accompanying development of activities and employment have made it possible to reduce inequalities between households (Houngbonon and Liang, 2019). These results, based on the period 2009-2013, i.e. before the massive deployment of fibre, remain to be confirmed in the more recent period.

Reduction of territorial inequalities

The literature agrees that the arrival of networks and the increase in speeds has a beneficial effect on a territory. But it also shows that not all territories have the same propensity to transform this technological potential into a competitive advantage. Some authors stress, for example, the need to accompany the arrival of networks by supporting demand (encouraging their adoption by households) or taking measures to support the development of usage practices (training and support for SMEs in particular).

² *Fibre to the Home*

³ Bensassi-nour and Liang, 2019. Work to be published.

Development of uses

While there are many studies on Internet uses in households and on the transformation of work in organisations, at this stage we have identified few studies on the measurement of the specific effects of super-fast broadband or fibre. One of the likely reasons for this situation is the methodological difficulty of capturing the effects of FttH on the observation of uses and services.

Ex-post assessment of the France Très Haut Débit Plan

The purpose of the assessment programme that the government has entrusted to France Stratégie (Annex 1) relates to this last category. This work is also intended to meet the assessment needs of the European Commission as specified in the notification of the State aid scheme of which the Plan was a beneficiary in 2016 (Annex 3).

The assessment programme involves academic research teams recruited through a call for research projects, as well as *ad hoc* work carried out by France Stratégie (studies, specialised seminars).

The programme guidelines were set out in the summer of 2019 and aim to:

- measure and analyse the socio-economic impacts of the deployment of super-fast broadband on growth, employment, access to services, the development of businesses and territories, and innovation, as well as the social and environmental impacts, and the evolution of uses (Focus 1);
- evaluate the effect of public action and funding: relevance, proportionality, effectiveness (Focus 2);
- analyse the quality of the Plan's governance and the effectiveness of public intervention (Focus 3).

Beyond the impact of deployment on macro-economic indicators (growth and employment), the aim is to measure the concrete consequences for the French people of better access to the Internet with virtually unlimited speeds, regardless of where they live: what improvements have there been in the accessibility of market and non-market services and public services? What transformation(s) have taken place in usage? What have been the impacts on the attractiveness of territories, on residential demographics, on business productivity or on the organisation of work?

Status of the work at the end of the first half of 2020

The work undertaken so far is as follows:

- April-October 2019, preliminary work: development of the research programme strategy; stakeholder consultations (Annex 5); identification of key data sources related to the deployment of the Plan to be made available to research teams (Annex 6);
- October 2019: launch of the first call for research proposals;
- January 2020: launch of a study dedicated to consolidating the cost elements of network construction. The aim of this study is to gain a better understanding of the real costs of deployment, in particular by conducting an analysis of the *ex-post* costs of the networks deployed and by modelling the costs of deploying FttH networks in France in private or public intervention areas.
- February 2020, selection of the winners of the call for research proposals.
 - *Assessment of the France Très Haut Débit Plan and local economic development* carried out by a team from Télécom Paris Tech. The aim of this project is to propose an empirical economics methodology to estimate the impact of State aid policies on the deployment of broadband in France.
 - *The impact of super-fast broadband on companies: what effects will it have on digital usage practices, innovation and performance?* Led by an INRAE team, this project aims to assess the impact of the arrival of broadband on the behaviour and performance of companies.
 - *Micro-econometric assessment of the effects of super-fast broadband on the behaviour of companies and households*, a project led by a team from the Institut des Politiques Publiques. The objective of this project is to carry out a quantitative analysis of the effects induced by the arrival of super-fast broadband in densely populated territories as well as in the more rural areas of the country.
- September 2020 (originally planned for March 2020): organisation of a European symposium, "Ultra-fast Broadband in Europe: State of Play and Trends."



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