FttH in France

WIK Investment Workshop
Brussels 7 March 2017
FTTH IN A NUTSHELL

Operators’ networks

Minimum size: 1000 lines

CP

Shared mono-fibre network

The shared terminal counts for ~90% of the cost per line.

1/ Asymmetric regulation on existing infrastructure: (ducts and poles + associated facilities)

Aims to build a level playing field for fibre rollout

Private initiative networks, purely privately funded

18 millions (55% of HH)

15 millions (45% of HH)

Public initiative networks, mix of public and private funding

2/ Symmetric regulation of fibre termination: Access and co-investment obligation in the last “drop”

Typical co-investment tariff:

- 500 € per home passed
- 200-300 € per subs. connection (drop)
- 5 €/month opex

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FTTH plugs (millions)

FTTH Subscribers (millions)

FTTH penetration rate (%)

2011 Q4 2012 Q4 2013 Q4 2014 Q4 2015 Q4 2016 Q4

0% 5% 10% 15% 20% 25% 30% 35% 40%
WHERE DO WE COME FROM

A QUASI EXCLUSIVE BROADBAND DSL MARKET WITH SMALL CABLE PRESENCE

Evolution of the number of accesses, by technology, on the retail market
WHERE DO WE COME FROM

Broadband access market shares (both high and very high speed) in Q1 2014 and Q1 2016

A FIXED BROADBAND MARKET WITH 4 MAJOR PLAYERS
WHERE DO WE COME FROM

A MARKET DRIVEN BY LLU LEADING TO SIGNIFICANT INFRASTRUCTURE DEPLOYMENT THAT CAN BE LEVERAGED FOR NGA

Expansion of « Unbundling » since 2001 (% of lines and number of MDF)
A LITTLE HISTORY

10 November 2006: ARCEP presents its work program on VHC Broadband

25 July 2008: Decision imposing access to Orange’s ducts

5 August 2008: Law 2008-776 for the Economy Modernization specifies that the FTTH terminating segment is built by a single operator who must give access under conditions determined by ARCEP

23 December 2009: ARCEP’s decision for FTTH deployment in very dense areas (5.5 millions homes)

15 December 2010: ARCEP’s decision for FTTH deployment outside very dense areas

28 July 2011: Government launches the Broadband National Plan

Q2 2014: market starts shifting to VHC Broadband

See more info at http://www.arcep.fr/index.php?id=11310#c21704
NGA technologies offer speeds above 100Mbit/s to approx. 30% of the French population, with FttH increasing rapidly.

**Market overview**

1. Cable footprint is expected to remain below 30%
2. FttH rollout undergo rapid growth (+38% yoy) and 25% penetration

**Competitive outlook**

Strong presence of fixed alternative operators at the local level

Market consensus that only **passive access** allows for sustainable competition and innovation
ARCEP’s FttH regulation consists of both asymmetric and symmetric obligations

- ARCEP’s regulation for NGA networks is based on two complementary pillars

  1/ Asymmetric regulation on existing infrastructure: (copper LL + ducts and poles + associated facilities)
    - Aims to build a level playing field
    - Minimum review period is every 3 years

  2/ Symmetric regulation of fibre termination:
    - Access and co-investment obligation in the last “drop”
    - Aims to preserve competition dynamics for new networks, expected to be deployed by a large number of private or public initiative operators

- France’s market conditions required openness of NGA networks to be guaranteed:
  - by specifying conditions of network architectures ahead of rollout
  - so that deploying operators adopt architectures compatible for long-term passive sharing
Symmetric rules for fibre vary with area density to strike the balance between competition and costs

- **Set of obligations** imposed on the operator deploying the last segment of the network
  - Provision of **passive access** at a concentration point
  - Publication of an access offer including **co-investment & line rental** options
  - **Access prices** based on principles of non-discrimination, objectivity, relevance and efficiency
  - Structured exchanges of **technical information** with commercial operators

- **Flexible setting** fit for all fibre local loop operators: incumbent, alternative ISPs, local authorities

- **Two sharing schemes**, depending on the density of the area:
  - **Very dense areas**: (5.5 millions households)
    - The shared terminal counts for ~60% of the cost per line.
  - **Less dense areas**: (27.7 millions households)
    - The shared terminal counts for ~90% of the cost per line.
    - Minimum size: 1000 lines
Co-investment model creates a new rung on the investment ladder

- More efficient than pure infrastructure duplication
- Decreases OPEX per line
- **Reduces regulatory exposure and increases predictability**
- Reconciles regulation and investment

![Graph showing comparison between Copper LLU and FtTH co-investment costs](image-url)
FttH rollout in private initiative networks is expected to cover up to 54% of households.

Public Initiative Networks (PINs) set to cover the rest of territory:

- 13-14 billion funds (~50% public)

Public Initiative Networks (PINs) in France:
- 84 wholesale only operators (mostly PPP), subject to the same symmetric regulation

Enables private operators to co-invest into PINs, benefitting from financial and technical access conditions similar to those of privately funded networks.

FTTH deployment by types of investment:

- Private initiative networks, purely privately funded
- Public initiative networks, mix of public and private funding

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FTTH deployment by types of investment:

- Private initiative networks in very dense areas
- Private initiative networks in low-density areas
- Public initiative networks in low-density areas
Thank you for your attention

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