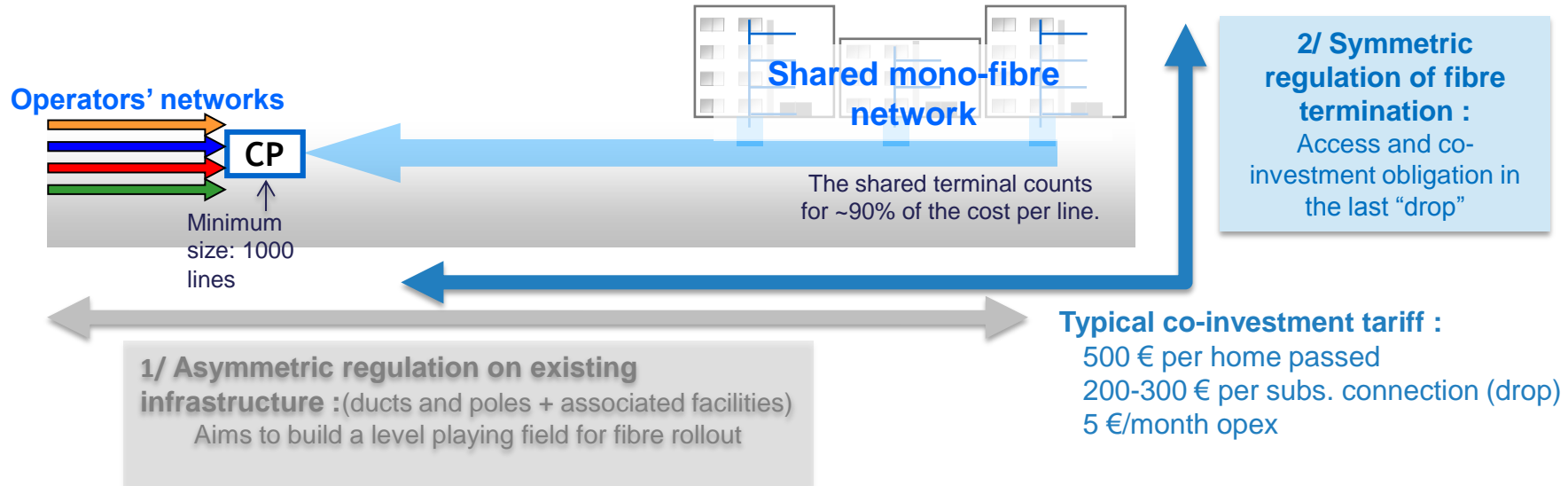


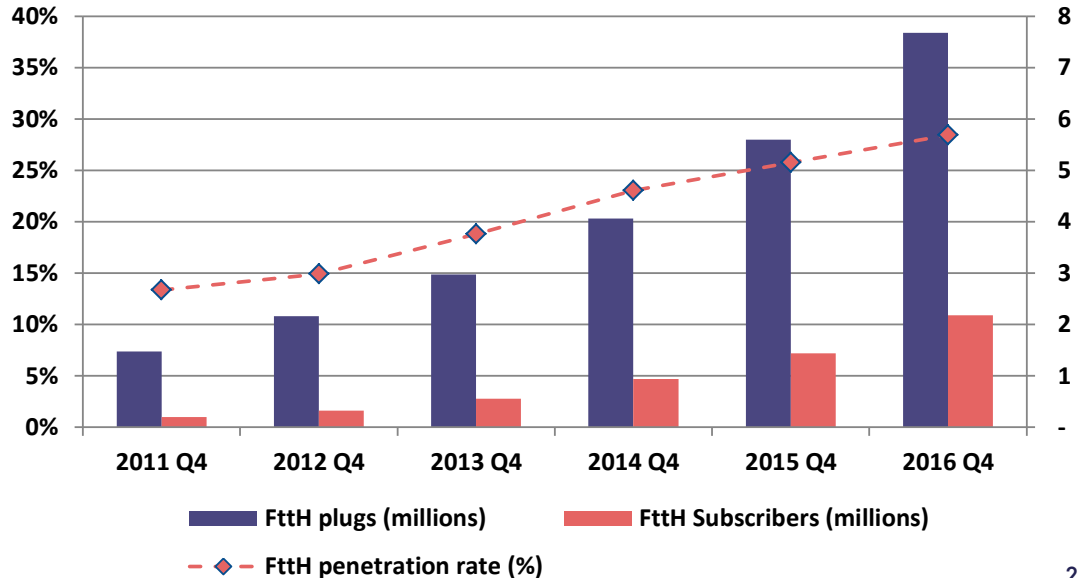
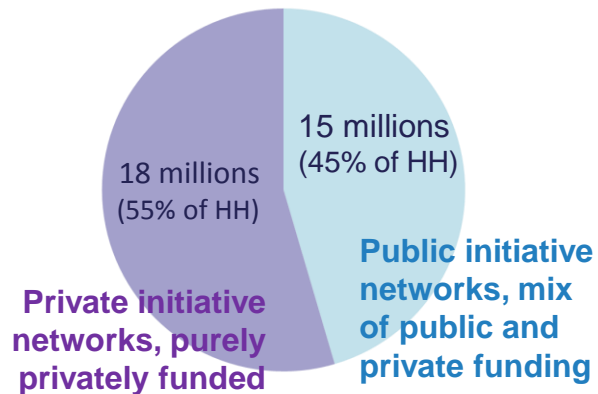
# FttH in France

WIK Investment Workshop  
Brussels 7 March 2017

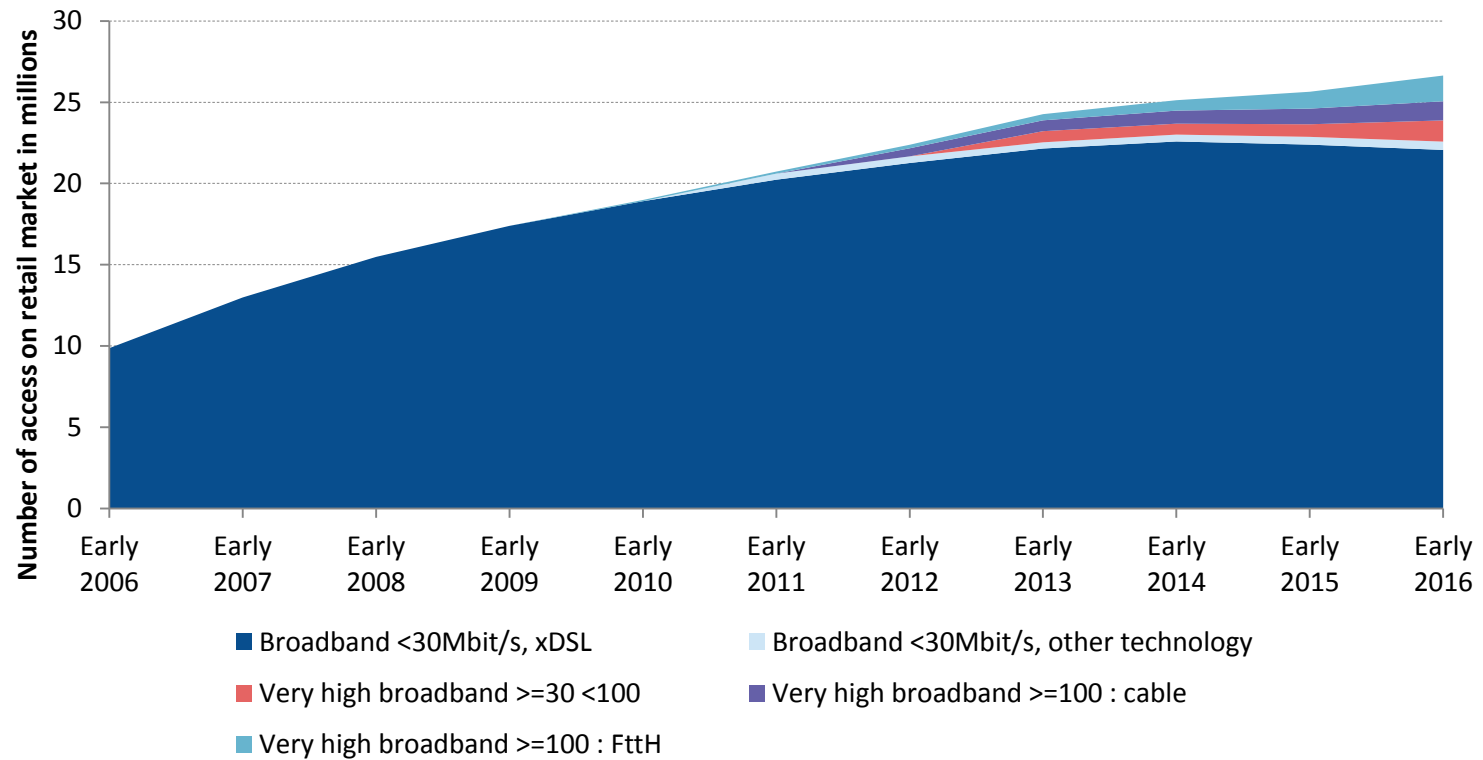
# FTTH IN A NUTSHELL



Private investment in dense areas,  
public-private investment in rural areas



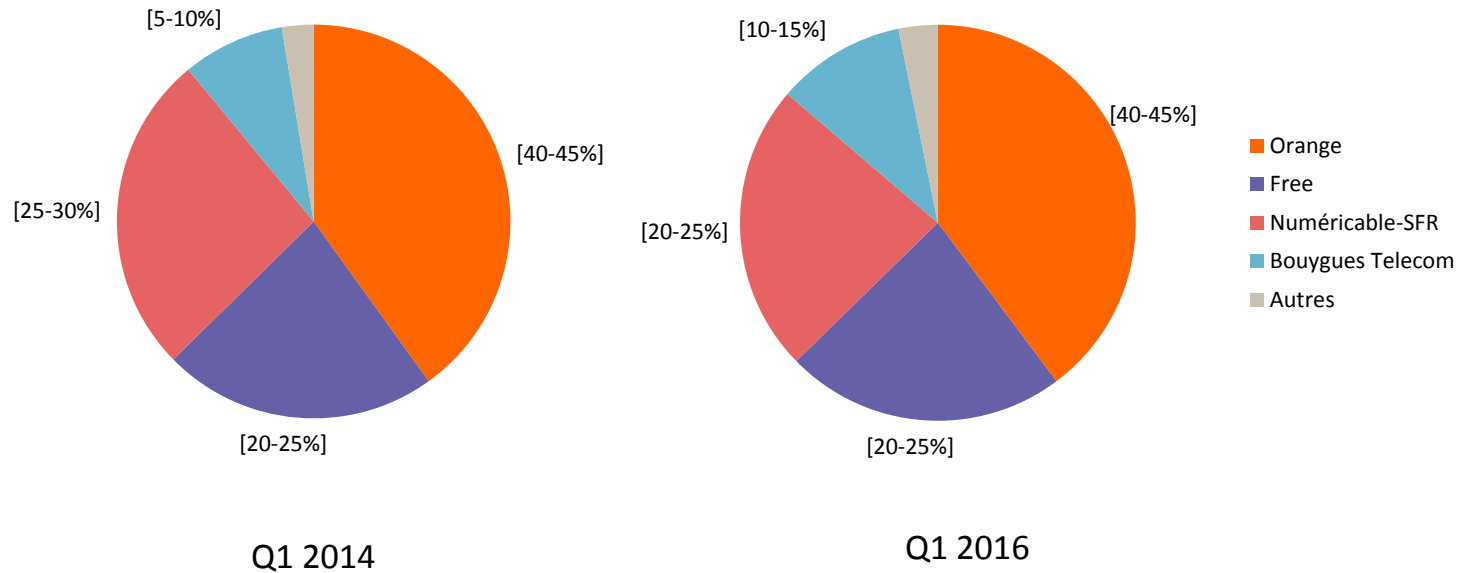
# WHERE DO WE COME FROM



Evolution of the number of accesses, by technology, on the retail market

**A QUASI EXCLUSIVE BROADBAND DSL MARKET WITH SMALL CABLE PRESENCE**

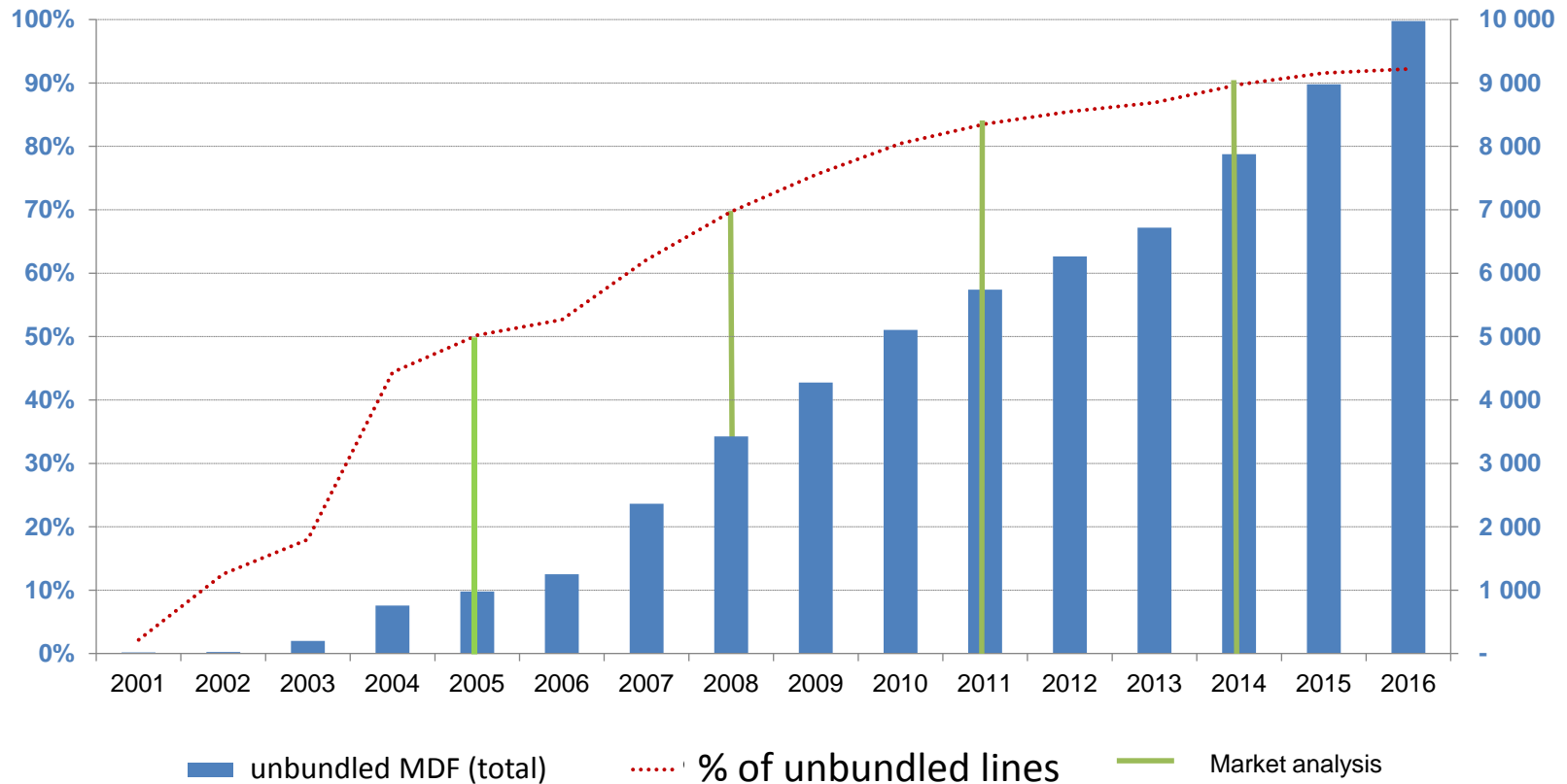
# WHERE DO WE COME FROM



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



**Expansion of « Unbundling » since 2001 (*% of lines and number of MDF*)**

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

# 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

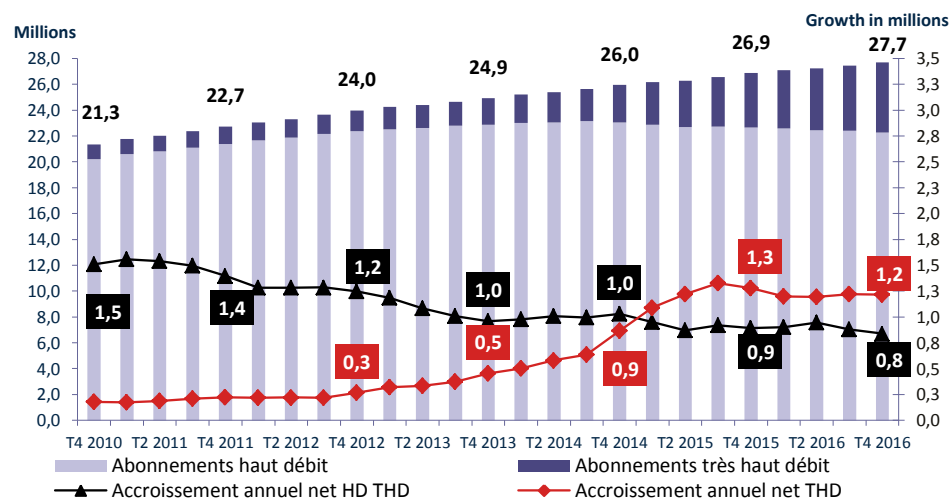
**23 December 2009:** ARCEP's decision for FTTH deployment in very dense areas (5,5 millions homes)

**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

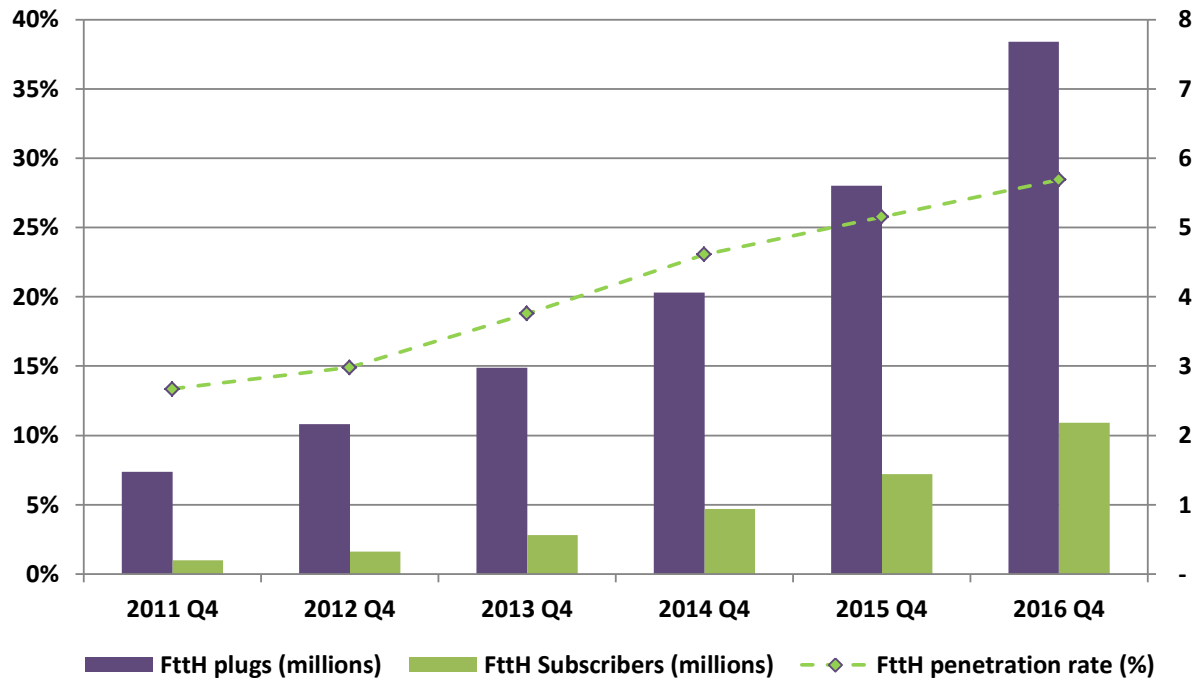
Broadband subs and net annual growth



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

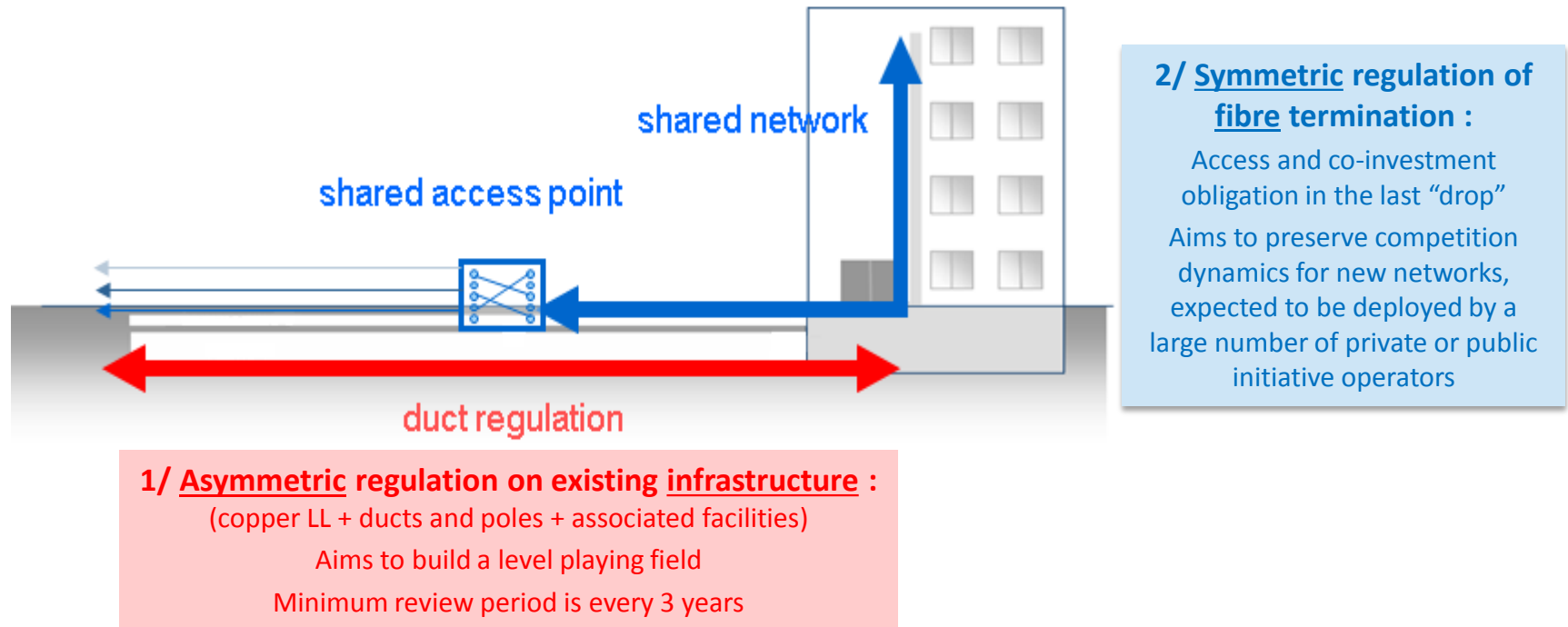
## Competitive outlook

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



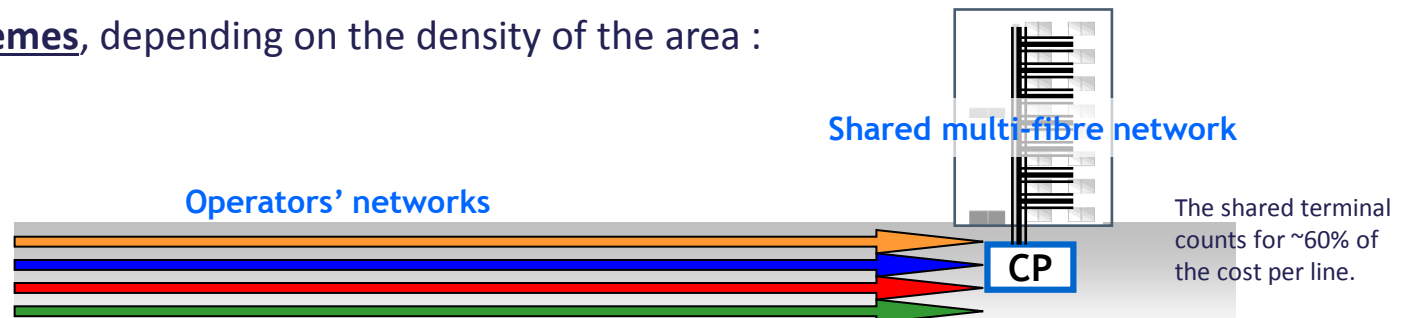
- ▶ France's market conditions required openness of NGA networks to be guaranteed:
  - by specifying conditions of network architectures ahead of rollout
  - so that deploying operators adopt **architectures compatible for long-term passive sharing**



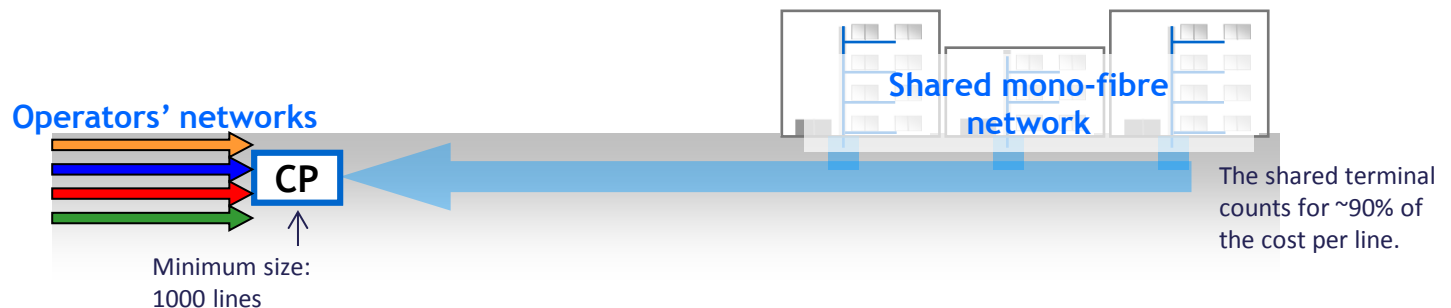
# Symmetric rules for fibre vary with area density to strike the balance between competition and costs

- ▶ **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 :

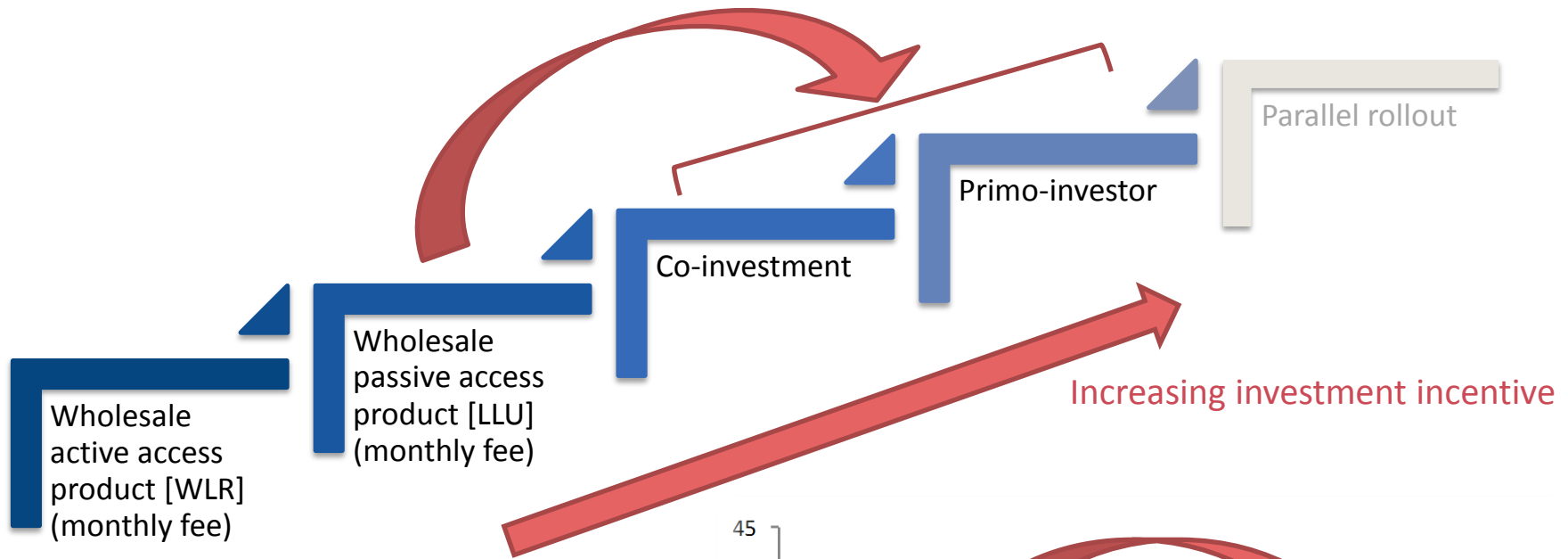
**Very dense areas :**  
(5,5 millions households)



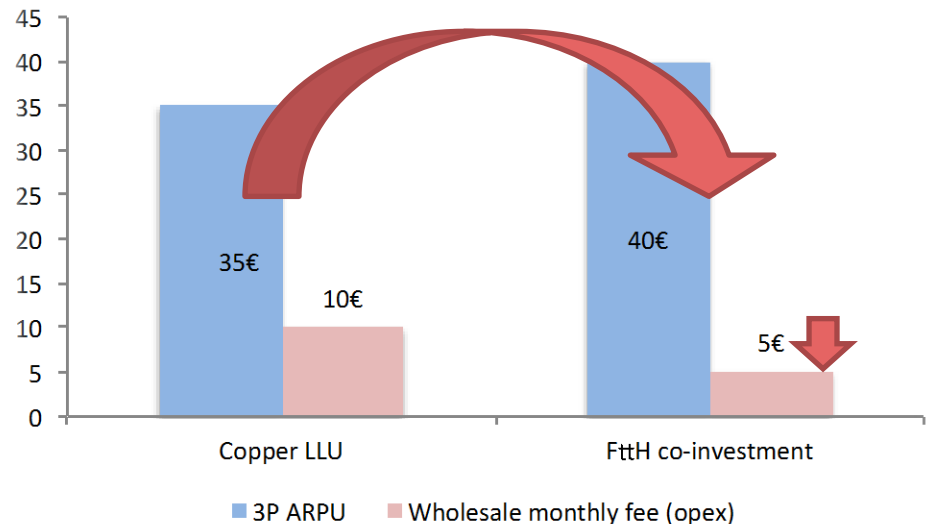
**Less dense areas :**  
(27,7 millions households)



# 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**



# FttH rollout in private initiative networks is expected to cover up to 54 % of households

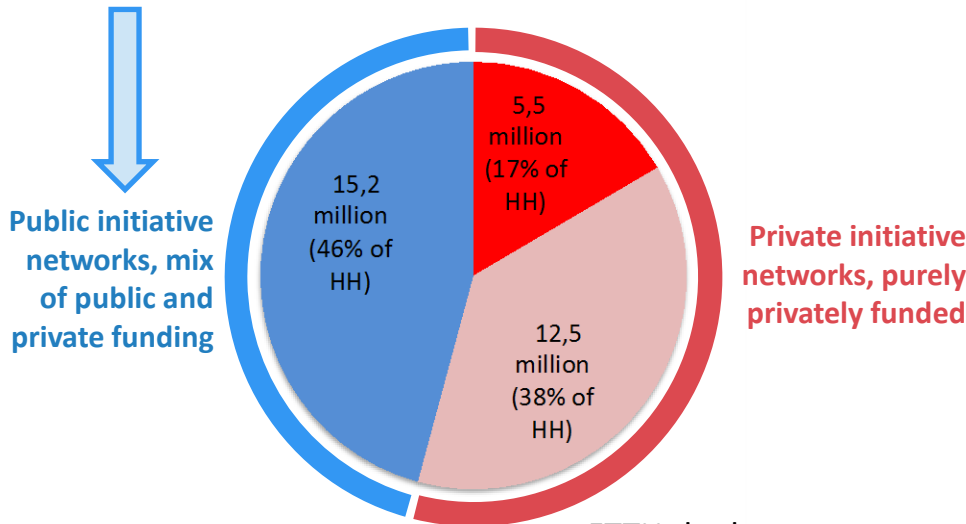
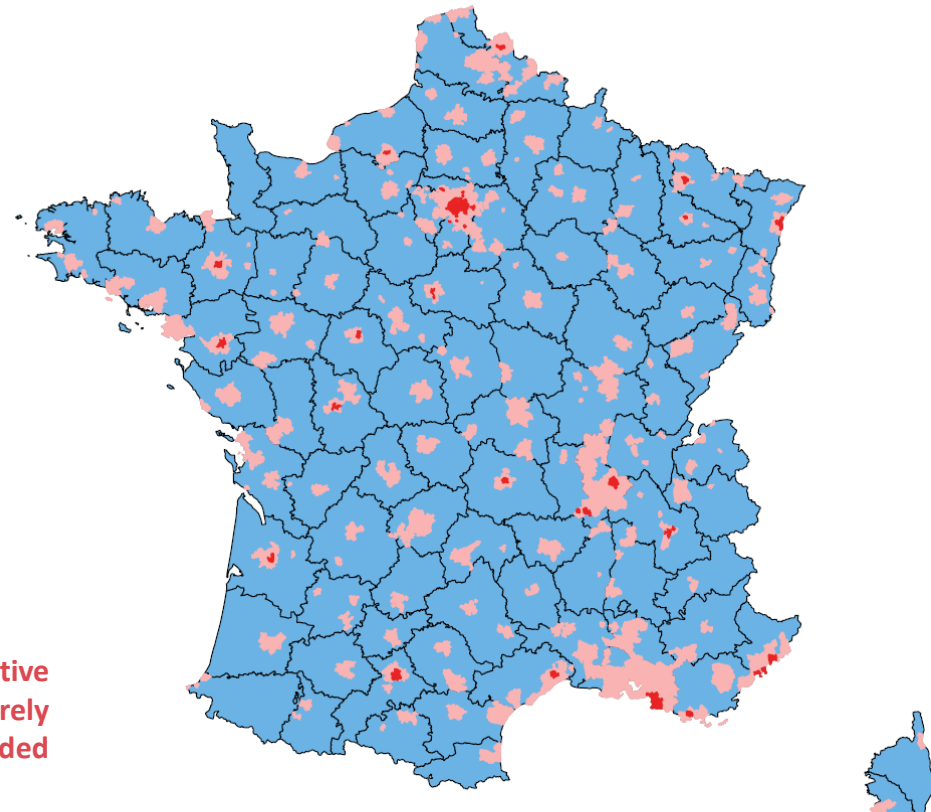
Public Initiative Networks (PINs) set to cover the rest of territory :

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

Thank you  
for your  
attention

*[www.arcep.fr](http://www.arcep.fr)*

