



Ultrabroadband Seminar

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Chair Innovation and Regulation

Telecom ParisTech

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Context

Access to civil engineering

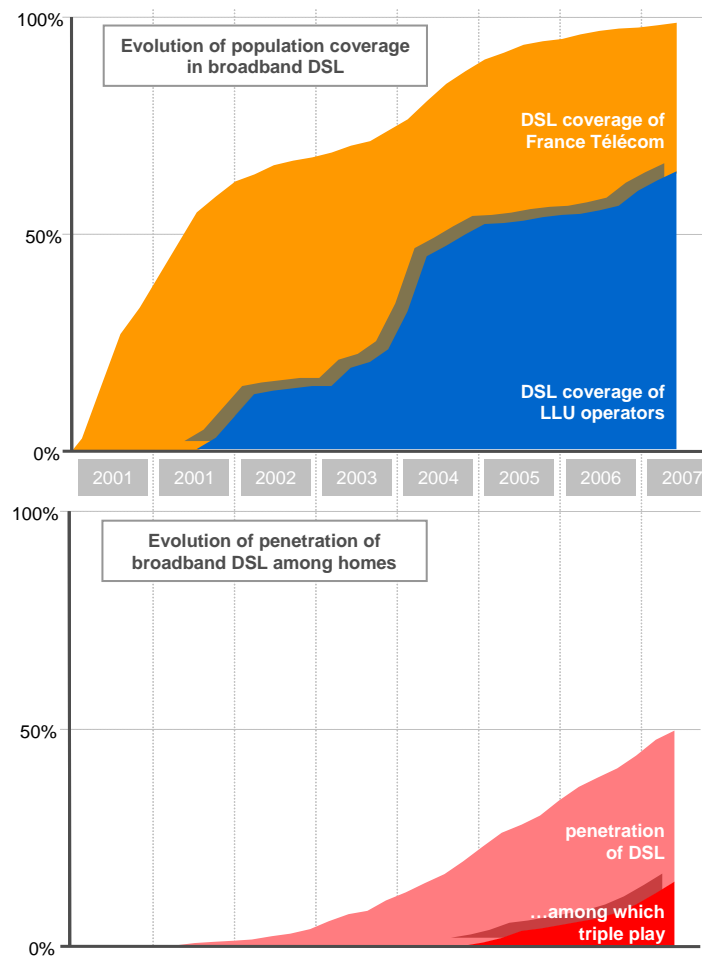
Access to buildings

Sharing of the last part

Conclusion

The regulation of broadband has encouraged investment by all operators

- Competition through infrastructures has fostered the development of broadband:
 - the geographic extension of local loop unbundling has encouraged France Telecom to equip all of its MDF (Metallic Distribution Frames) for ADSL
 - France has joined European leaders in terms of penetration...
 - ...and is in first place for "triple play"
- Regulation has made this increase in investments possible
 - local loop unbundling gives operators technical and economic control
 - "bitstream" serves as a geographic complement
- Municipal intervention assists this dynamic especially in low density regions



Very high bandwidth opens a new investment cycle

- No doubt very high bandwidth is the technological evolution in the medium term
 - to meet growing demand for content
 - to assist the concomitant rise in speeds
- Major players have announced fibre deployments
 - with respect to other European countries, the challenge here is to bring the fibre as close to the subscriber as possible (right to the base of the house or building)
- Investments are significant and will need to be spread over several years
 - several hundred euros per connectable home
 - at a rate of one to two million homes per year
- The concern is to ensure that this investment is borne by all operators as much as possible





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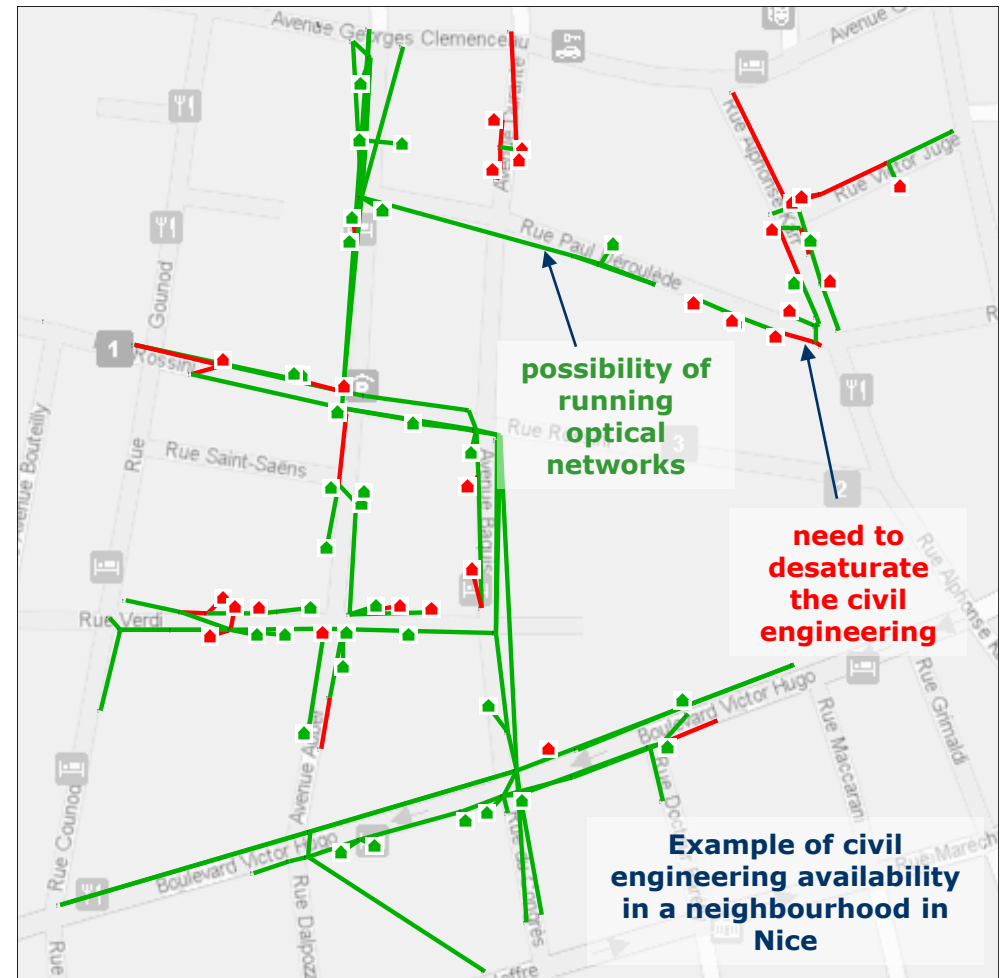
Alternative operators require access to civil engineering

- For an operator deploying a very high bandwidth network, access to existing civil engineering changes the economic equation considerably
- All operators are not on an equal footing:
 - alternative operators can deploy only in limited cases like Paris, where sewers can be visited and pass under every building
 - France Telecom deploys optical fibre in its civil engineering ducts inherited from the former monopoly
 - Numericable is progressively replacing coaxial cable with optical fibre
- France Telecom's ducts are an essential infrastructure
- Access to France Telecom's civil engineering must be guaranteed to allow all operators to invest



France Telecom's civil engineering has availabilities

- ARCEP has audited France Telecom's ducts in some ten cities
- The audit shows that civil engineering is available ...
- ...although availability is heterogeneous...
- ...and will depend on engineering rules, in particular for desaturation



Regulation of France Telecom's ducts has been initiated

- The regulation framework is that of the market analysis
 - to guarantee access to the essential infrastructure: France Telecom's civil engineering
 - the new Commission recommendation includes ducts regulation
- In its market analysis on broadband which is under public consultation, ARCEP has proposed to regulate the access to France Télécom's ducts.
- France Telecom has communicated its ducts offer to the operators
- Operators are experimenting the process of this offer
- ARCEP will be vigilant to ensure that all operators have access quickly to civil engineering under equivalent conditions. It requires:
 - to use appropriate engineering rules that optimize the available space and the usage of the ducts ;
 - to have a transparent, non discriminatory, cost oriented access to the ducts ;
 - to share part of the capital costs by coordinating work (by sharing studies for availability e.g.).



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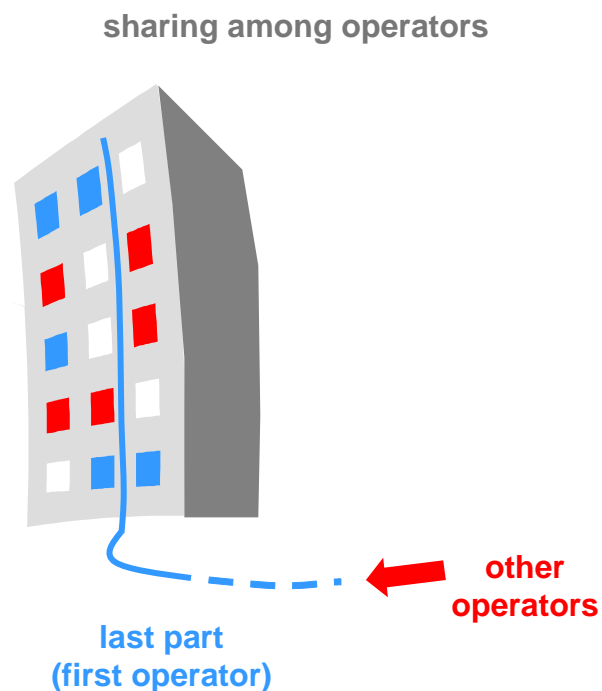
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For all players, access to buildings is the main problem

- Fibre deployment to the home means that private properties have to be equipped
- Operators are prepared to bear the cost of this installation in the centres of major cities
- However, condominium owners, landlords and building managers fear that monopolies will be created by building or neighbourhood
 - they want to limit the number of agents in common areas...
 - ...but want to be able to choose their operator, without having to move house
- So, sharing among operators is necessary
 - the first operator installs the fibre in the building then gives other operators access to its network
- In practice, operators have not yet applied sharing.



Legislative measures are needed

- The current framework doesn't include sharing
 - Condominium owners and landlords can demand it from the operators contacting them...
 - ...but it is often difficult to establish the means or verify its application
- Regulation appears to be a relevant tool, which the law could assign to ARCEP
 - require operators to share the last part of their fibre network
 - make ARCEP responsible for defining clear means of sharing and guarantee operators respect them
 - this would be like extending "symmetrical" regulation (obligations applicable to all operators), which is currently limited to interconnection
- A balance needs to be found between operators' rights and obligations, so that fibre deployment in buildings can be simplified
 - "antenna rights" could be extended to fibre
 - in new buildings, pre-equipment standards will have to be changed in the medium term



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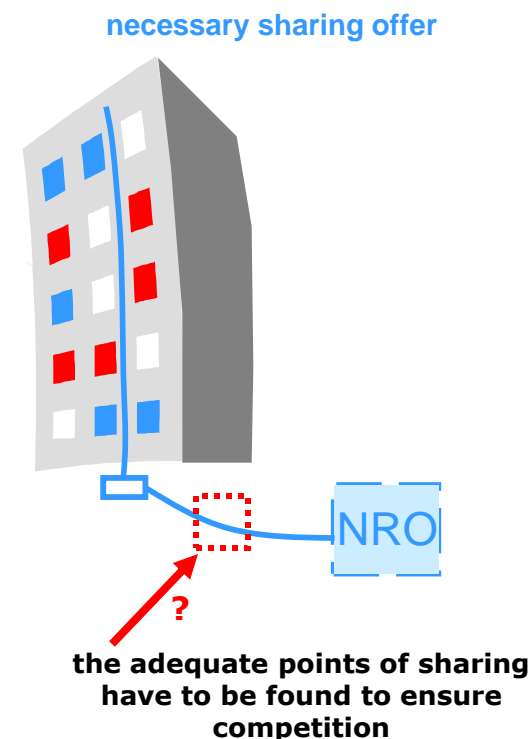
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Sharing of the last part

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Means of sharing must encourage competition through infrastructures while answering economical and operational concerns

- Sharing of in-house wiring and access to ducts alone will not be sufficient to guarantee sustainable competition, especially in low-density area.
 - it is doubtful that there will be several rolls out until the base of each building on all the territory.
- The first operator rolling out fiber in an area will have to allow sharing, at some point which has to be chosen carefully, as it will determine the topography of the network for the following ones.
- ARCEP is now initiating multi-lateral work to discuss how sharing can be done and will issue recommendations for landlords and building managers:
 - practical guide
 - model agreement
- The goal is to anticipate the “symmetrical” regulation framework and to provide guarantees so that fibre can be installed in buildings





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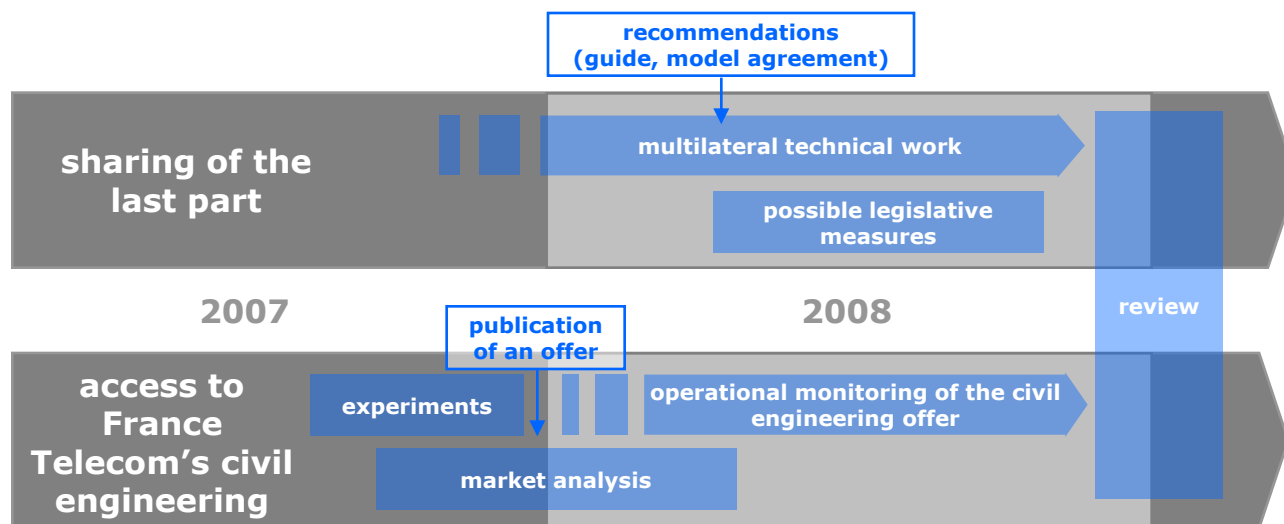
Conclusion

The measure includes two tools, which can be adapted to market developments

- Two tools are needed
 - regulation of the ducts inherited from the former public monopoly, which concerns France Telecom (“asymmetrical” regulation)
 - sharing of the last part of the fibre networks, which concerns all operators (“symmetrical” regulation)
- A good balance needs to be found between encouraging investment and preventing the creation of local monopolies
 - the initial situation is different with respect to the regulation of broadband because France Telecom’s dominant position is on the civil engineering and not on the local fibre loop
 - there is very little feedback from Europe, given France’s head start in deploying fibre to the home
- ARCEP will evaluate this measure in one year
 - France Telecom’s wholesale civil engineering offer
 - the implementation of sharing
 - based on operator deployments on the horizontal and vertical parts

Work will take shape in 2008

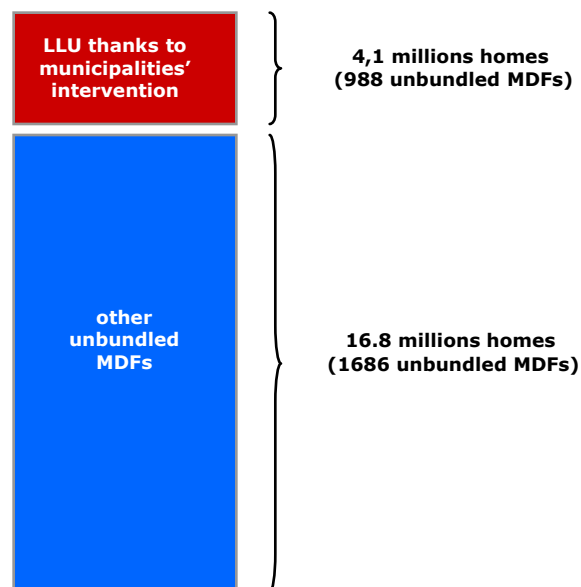
- Legislative measures are needed for access to buildings and the obligation to share the last part
- ARCEP is launching technical work to implement sharing and will issue recommendations for landlords and building managers
- Access to France Telecom's civil engineering has now entered the operational stage
- The measure will be evaluated in one year



Municipalities can play a key role

- In recent years, municipalities have played a key role in the digital development of their regions
- Their intervention can be just as essential on very high bandwidth
 - by providing local information: site surveys and geographic information systems for public land
 - on civil engineering: by coordinating work, laying remaining ducts and authorising lightweight civil engineering
 - on the last part: with social landlords, by authorising wiring on facades and encouraging pre-fibring in new buildings and major renovations
 - cities wired under public service delegations have an essential asset for very high bandwidth

**20,9 millions homes (64% of population)
covered by LLU in June 2007**



Adequate intervention of local authorities is likely to facilitate the rolls-out

- Their role could be decisive:
 - avoid inefficient duplication of basic infrastructures (ducts, even fiber), which can be shared among operators
 - lays ducts and then rent them to operators
 - lever effect on private investments
 - promote the choice of a common optical loop topography by operators
 - ensure the fair opening of the new optical loop

Which incomes?

A winning relationship between content and FTTH

- Necessity to revise the relations between operators, distributors and rights holders to develop a win-to-win relationship
- Very high speed opens up further opportunity to increase the value of contents (VOD,...)
- Needs:
 - to be able to have access to contents, in particular premium and sports programs
 - equitable additional incomes sharing
 - possible operators contribution to finance production

