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Electronic Communications Regulation in France

CITI / IDATE

Friday, October 20th, 2006

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I. The French Telecommunications market

II. Markets Regulation and the role of ARCEP

III. Broadband markets regulation

IV. FTTx

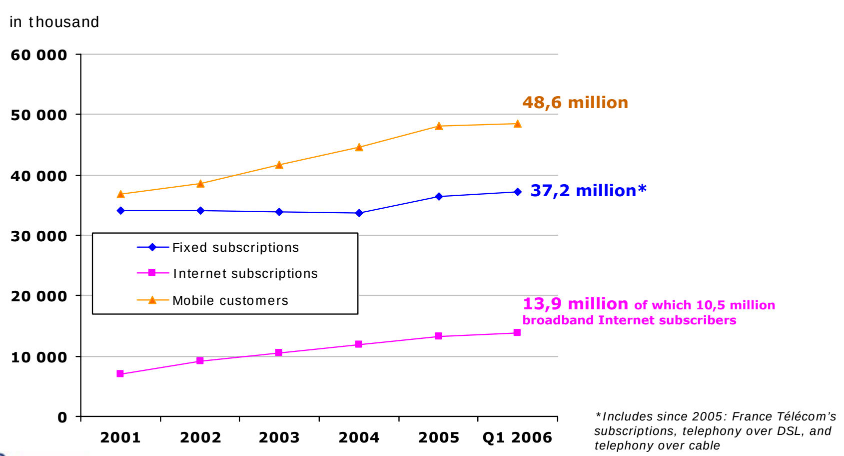
V. Fixed markets regulation

VI. Mobile markets regulation

VII. Spectrum issues

The French market : number of subscribers

Number of suscribers by services



**Includes since 2005: France Télécom's subscriptions, telephony over DSL, and telephony over cable*

Source: ARCEP

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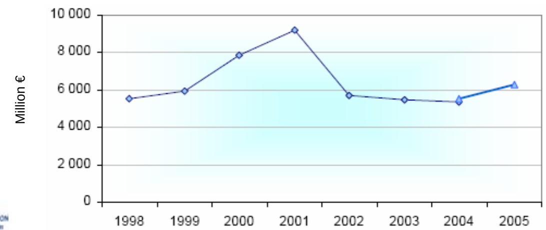
Investments 1/2

Global trend

Investments during accounting period

Millions €	1998	1999	2000	2001	2002	2003	2004	2005
Investments (former regulatory framework)	**5 538**	**5 909**	**7 832**	**9 182**	**5 699**	**5 437**	**5 343**	
Variations (%)		6.7%	32.5%	17.2%	-37.9%	-4.6%	-1.7%	
Investments (new regulatory framework)							**5 495**	**6 307**
Variations (%)								14.8%

Telecommunication investments variations



Source: ARCEP

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Investments 2/2

Operators

Key figures of fixed line and mobile operators on the French market (Billions €)

	2003	2004	2005
Fixed activities :			
Turnover of France Télécom - *incumbent* (except global services)	23.8	23.8	23.7
Turnover of alternative operators	4.5	4.9	5.5
CAPEX of France Télécom - *incumbent*	1.4	1.5	1.9
CAPEX of alternative operators	0.7	0.9	**1.0**
CAPEX/Turnover of France Télécom - *incumbent*	5.9%	6.4%	7.8%
CAPEX/Turnover of alternative operators	16.3%	17.8%	17.9%
Mobile activities :			
Turnover of Orange France - *incumbent*	8.0	8.6	9.8
Turnover of alternative operators in France	10.0	10.9	13.2
CAPEX of Orange France - *incumbent*	0.9	1.0	1.1
CAPEX of alternative operators	1.3	1.4	1.7
CAPEX/Turnover of Orange France - *incumbent*	10.7%	12.2%	11.3%
CAPEX/Turnover of alternative operators	12.9%	13.2%	12.6%

Keys

- **Continuous growth of investments through the efforts made by operators (5,7 billion € in 2005)**
- **In 2005, for the first time, alternative operators reached 1 billion € investments for the fixed activities (1/3 of the 2,9 billion € total)**
- **Competition, supported by regulation, stimulates investments and innovation**

Source : IDATE for Afors Télécom

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Markets regulation and the role of ARCEP 1/2

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- **ART is an Independent Administrative Authority, set up by law on January 5, 1997. It became ARCEP on May 2005, with mission to regulate the postal sector.**
  - It is a collegial institution with seven members (previously five)
  - For the telecom sector, it was given regulatory objectives:
    - Fair competition for the benefit of consumers
    - Provision and financing of all elements of public service
    - Employment, competitiveness and innovation
    - Non discrimination
    - Interest of the French territories…

Market analysis: procedure

- **ARCEP has to perform telecom markets analyses in 3 steps**
  - Definition of relevant markets
  - Designation of operators holding significant market power (SMP) on each market. An operator is assumed to have significant market power if it is dominant on its market, alone or with others, under competition law principles
  - ARCEP then has withdrawed or imposed the necessary obligations on SMP operators depending on the situation of each operator on each market
- **ARCEP must**
  - request an advice from the Competition Authority (Conseil de la concurrence)
  - Launch a public consultation
  - Notify its draft decision to the European Commission

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Markets regulation and the role of ARCEP 2/2

Market analysis: obligations

- **Obligations must be proportioned to regulatory objectives**
  - **Wholesale obligations:**
    - Transparency (including reference offer), non discrimination, accounting separation, access, price control and cost accounting obligations, and under exceptional circumstances others obligations (Commission has a veto power)
  - **Retail obligations:**
    - Can only be imposed when wholesale obligations are not sufficient to fulfil regulatory objectives
    - Non discrimination, price control, accounting separation
  - **Other specific SMP obligations:**
    - For SMP operators on the retail leased-line market, obligation to provide a minimum set of leased lines under transparency, non-discrimination and cost-based pricing terms
    - SMP operators on the market for connection to the fixed telephone service are required to propose a carrier selection and preselection offer
- **Obligations on non SMP operators can also be imposed** in order to ensure that operators controlling access to end-users provide end-to-end connectivity and to comply with international commitments

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VIII. Framework review

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Overview of the French broadband market

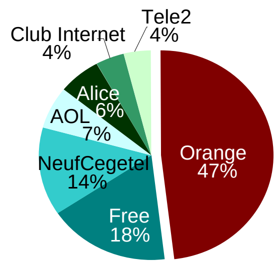
Broadband subscribers

As of June 30 2006, there are 11,1 million broadband subscribers:

- 10.5 million DSL residential subscribers, more than 90% of the total broadband market
- 630 000 cable modem subscribers
- The market grew by 116% in 2003, by 84% in 2004 and by 44% in 2005
- Revenue has reached 2,4 billion euros in 2005

A strong competitive dynamic

- 7 residential ISPs: FT/Orange (-ex Wanadoo), Free, Neuf-Cegetel, AOL, Club Internet, Tele 2, Telecom Italia France (Alice)
- Prices have significantly decreased. Broadband residential offers are offered as low as 15 € per month (bundled with CPS) for an 8 Mbit/s speed, and triple play for 30€ for a 25 Mbit/s speed
- Speed is increasing: 8 Mbit/s with ADSL, up to 20 Mbit/s with ADSL2+, offered by some French ISPs
- New services have been developed : TV over DSL, VoIP ("triple play")
- Professional offers: data, VPN…
- **The retail broadband market is not regulated in France**



Main DSL market players with market shares (January 2006)

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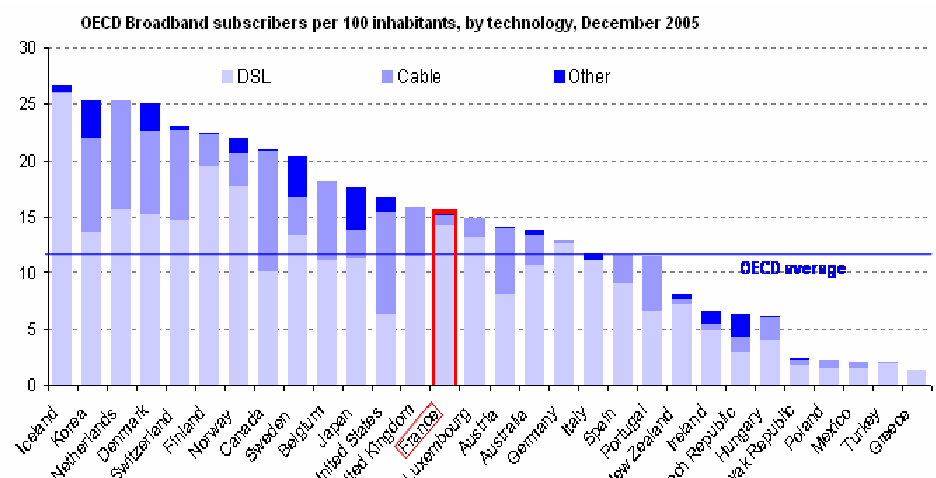
Overview of the broadband access in OECD countries



Source: OECD

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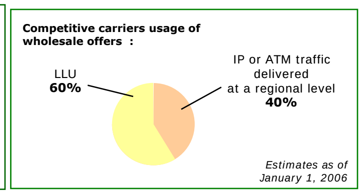
Local Loop Unbundling and Bitstream Access

Local loop Unbundling

- **LLU is of utmost importance for the development of competition in France**
  - As of June 30 2006, LLU accounted for 32% of all DSL lines (3.35 million lines, of which 1.24 million full LLU)
  - LLU is the only way for competitors to provide “triple play” services
  - New entrants made important investment to extend their networks
- **Recent tariffs evolutions**
  - Tariffs for collocation fees decreased
  - Tariffs for full LLU have been reduced from 10,50 € to 9,50 €, as of July 1, 2005, and 9,29€ as of January 19th 2006
- **Market analysis has confirmed current obligations**
  - Transparency (reference offer), non discrimination, accounting separation, access, cost orientation and cost accounting obligations

Bitstream Access (regional wholesale offers)

- **Bitstream access is gaining ground in France**
  - A way to provide competitive broadband services in areas not covered by LLU
  - Bitstream will allow competitive carriers to provide VoIP service
  - Market analyses imposed a cost orientation obligations on bitstream, as far as it does not lead to squeeze



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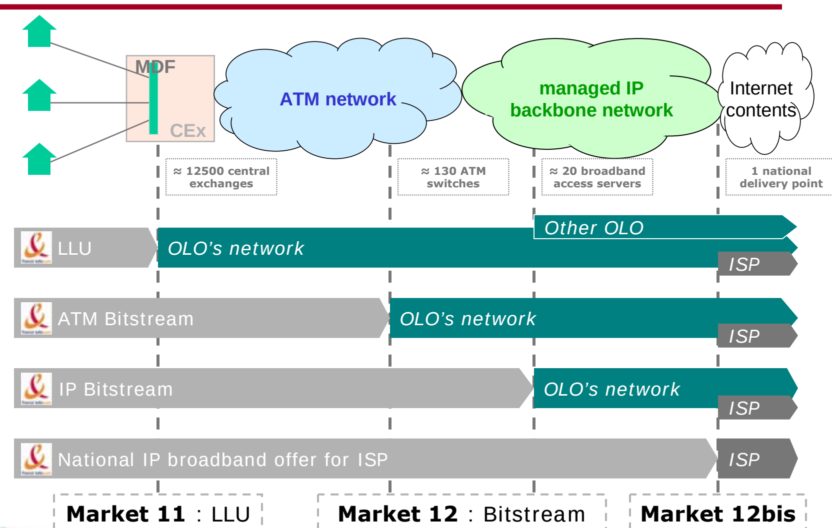
Broadband wholesale offers in France



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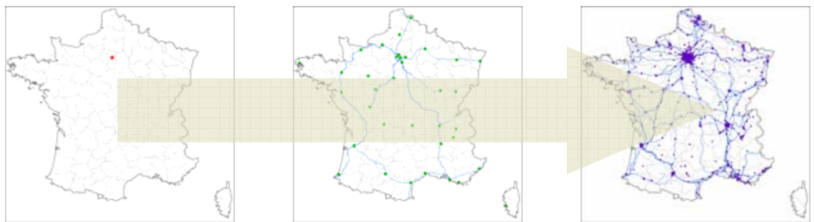
Three wholesale broadband offers : geographical architecture

- Increased capillarity for the OLOs
  - ➤ more investments in facilities, networks…
  - ➤ more independency (technical / economical) towards France Télécom



National offer
- – 1 delivery point
- – no need for a network

Bitstream offer
- – regional delivery (20 to 130 points)
- – need for a national network

Local Loop Unbundling
- – need to bring optical fibber till the central exchanges
- – need for a national and regional capillar networks

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Geographic disparities in terms of competition have arisen

- **Two areas identified**
  - ➤ depending on how many operators are <u>present on the LLU wholesale market</u>

● only France Télécom
= **non-unbundled area**

LR + 30€	Internet 8M VoIP

● at least two operators
= **unbundled area** (53% of the population covered)

30€	Internet 20M TV over DSL VoIP

situation at Q1 2006

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Fiber is a technological cut off

Technology	Downstream rate	Upstream rate
ADSL2+ at main distribution frame	8 - 16 Mb/s	< 1 Mb/s
Cable: tree structure	5 - 30 Mb/s	< 5 Mb/s
Wimax : shared bandwidth	10 - 20 Mb/s	10 - 20 Mb/s
VDSL2 floor distributor	20 - 40 Mb/s	5 - 20 Mb/s
FTTB (fiber to the building then VDSL2)	40 - 70 Mb/s	15 - 35 Mb/s
FTTH (fiber to the home)	**> 100 Mb/s**	**> 100 Mb/s**

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Economic equation

Costs	• Very high, even in densely populated areas • Concentrated on **civil engineering works and wiring inside buildings** ➢ local peculiarities ➢ operational difficulties • Sharing, especially using existing infrastructures (sewer system in Paris, cable ducts) changes the economic equation considerably
Incomes	• Speeds are not really justified for residential customers at present • Uncertainty regarding additional income

Risks

⚠ **Partial deployments (high density areas)**

⚠ **Inefficient investments**

⚠ **Re-monopolisation**

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Which investment model?

Passive investment (civil engineering works, fibre): ➢ Long return on investment ➢ Sharable	**Active assets** (main distribution frame, terminals): ➢ Rapid return on investment ➢ Operators' core business

Two investment models

Integrated operator	**Shared liabilities**
➢ **Currently preferred by incumbents**	➢ **Municipalities and/or utilities using liabilities** ➢ **Operators implementing active assets**

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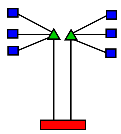
Which technical architecture?

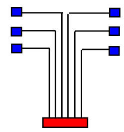
Two main architectures

PON (tree)



- More commonly used by incumbent operators (Japan, USA)
- Less easily shared (bitstream)
- Less upgradable (terminals)

Point to point (star)



- More commonly used in public projects
- Can be unbundled and upgraded
- Requires more ductwork

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What public action is needed (1/2)?

Lower entry barriers for all players

- To civil engineering works
- To wiring inside buildings

Encourage open architectures

- Public networks

Guarantee equitable sharing of value

- With respect to broadcasting and internet players

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What public action is needed (2/2)?

Lower entry barriers for all players

To civil engineering works

- **For existing works:**
  - Access to unused ductwork inherited from public monopoly
  - Inventory of existing ductwork
- **For construction: encourage sharing:**
  - Municipality equipment strategy
  - Co-building coordination

To wiring inside buildings

- **For new buildings (in activity areas, residential areas, apartment buildings):**
  - Encourage pre-wiring
- **For existing homes:**
  - Encourage the sharing of existing ducts and the laying of extra ducts

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Local governments: a structuring role for passive infrastructures

Coordination of provision of public infrastructures

Inventory of existing ductwork

Municipality

Encourage sharing

Incentive fee policy incitative

Municipalities are key players

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Fixed markets regulation

Incumbent regulation

- **Wholesale markets analyses**
  - ➢ France Telecom declared SMP on all wholesale fixed markets
    - ➢Call origination, transit, call termination
    - ➢Obligations : access, non discrimination, transparency, reference offer (interconnection including CPS and wholesale line rental offers), accounting separation, tariffs obligations
- **Retail markets analyses**
  - ➢ France Telecom declared SMP on all retail markets
    - ➢Access and communication markets : VoI excluded from the communication markets while VoB included
    - ➢ obligations : non discrimination, no abusive bundle, costs accounting obligation, no excessive neither squeeze prices, ex ante tariffs control
    - ➢ VoB not regulated

Alternative operators

- **All alternative operators have been declared SMP on their call termination market**
- **Obligations : access, transparency, non discrimination and non excessive prices (no cost orientation neither reference offer)**

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Wholesale Line Rental (WLR)

- **Recent offer (2006 – 2007)**

Tariff of monthly subscription for analogic single-lines*

	2006 (before July 1st)	July 1st, 2006	July 1st, 2007
Wholesale price (before tax)	4€ one shot (fees) + 10.03 €/month	4€ one shot (fees) + 10.86 €/month	4€ one shot (fees) + 11.7 €/month
Retail price (before tax)	11.7 €	12.54 €	13.38 €

* In this case, subscribers already have an analogic access

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Source: ARCEP

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VoIP situation in France

Market

- **Communications over IP grew up to 8 billion minutes in 2005, reaching 14% of the fixed line traffic in Q1 2006 (over 4,2 millions subscribers in Q1 2006)**

Residential Market

Services of voice over broadband accesses are growing in the residential market

- Most traditional ISPs are providing double or triple play offers including a fixed telephone service based on ISP, some including international calls in their basic offer

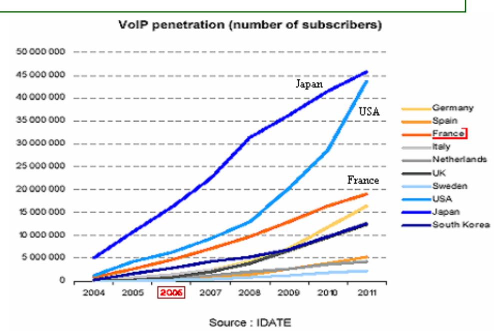
International

- **France ranks 3rd, just behind USA (2nd) and Japan (1st) in terms of VoIP subscribers**

(source IDATE)

Regulation

- **No asymetric regulation**
- **Symetric regulation : obligations similar to any electronic communication providers if actors can be qualified as such**



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Deregulation of the retail markets

- **Toward a total deregulation of the retail fixed telephony markets by september 2008**
- **Retail market evolutions**
  - WLR offer effective at wholesale level
  - Increase of competition pressure on retail markets thanks in particular to increase of VoB telephony
- **ARCEP has proposed a retail market deregulation in several phases:**
  - alleviating France Telecom's obligations on residential market by 2006
    - Withdrawal of all the obligations except for non discrimination, and cost accounting obligations
    - this alleviating does not apply to bundles between communication and access
  - going further to progressively extend the deregulation to the global fixed telephony retail market
  - Conditions : efficiency of WLR
    efficiency of accounting separation

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Strong market dynamics
Global trend

Mobile market dynamics

- **The mobile phone market is characterised by a continuous growth of turnover (+ 9 % in 2005)**
- **Traffic volumes are also increasing (+ 10 %)**
- **The 48 million mobile telephony customer base has overtaken fixed line telephony (36.4 millions)**
- **MVNOs just starting (June 2006 : 700 000 subscribers-1,46% market share)**

	2002	2003	2004	2005
Turnover (M €)	11 768	13 231	14 862	16 207
Volume (M minutes)	51 844	63 469	74 248	81 717

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Source: ARCEP

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Strong market dynamics
MVNOs market share (Q2 2006)

PANEL ON COMPETITION ON METROPOLITAN MARKET
MNOs and MVNOs
June 30th 2006

	june-05	sept-05	dec-05	march-06	june-06
- MNO customers	43 841 000	44 448 100	46 179 400	46 483 100	46 667 500
- Quarterly net sales	-	607 100	1 731 300	303 700	184 400
- *Quarterly net growth in %*	-	*1,40%*	*3,90%*	*0,70%*	*0,40%*
- MVNO customers	40 900	108 000	279 800	425 300	693 800
- Quarterly net sales	-	67 100	171 800	145 500	268 500
- *Quarterly net growth in %*	-	*164,10%*	*159,10%*	*52,00%*	*63,10%*
- MVNO market share	0,10%	0,20%	0,60%	0,91%	1,46%
- Market share of postpaid gross sales	-	4,10%	5,00%	5,50%	10,80%
- Market share of prepaid gross sales	-	-	3,20%	5,00%	7,20%

NB : the mobile operator's customer base for June 30th 2005 corresponds to the operators declarations for the same date minus the MVNO's customer base (the difference between the two customer bases is due to an operator's services' being sold out of France)

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Source: ARCEP

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Mobile Termination
Metropolitan France

- **Mobile Call Termination Rates**

	Average price in c€/min (tax free)				
	2004	2005	2006	2007	2008
Orange/SFR	14,94	12,5	9,5	7,5	not fixed yet
Bouygues Télécom	17,89	14,79	11,24	9,24	not fixed yet

- **Mobile SMS Termination Rates**
  - 27 July 2006, ARCEP's decided new wholesale prices of SMS Call Termination in accordance with European Commission (to be applied before 11 september 2006 by operators)
  - 3 cts € / SMS for Orange & SFR
  - 3,5 cts € / SMS for Bouygues Télécom

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Source: ARCEP

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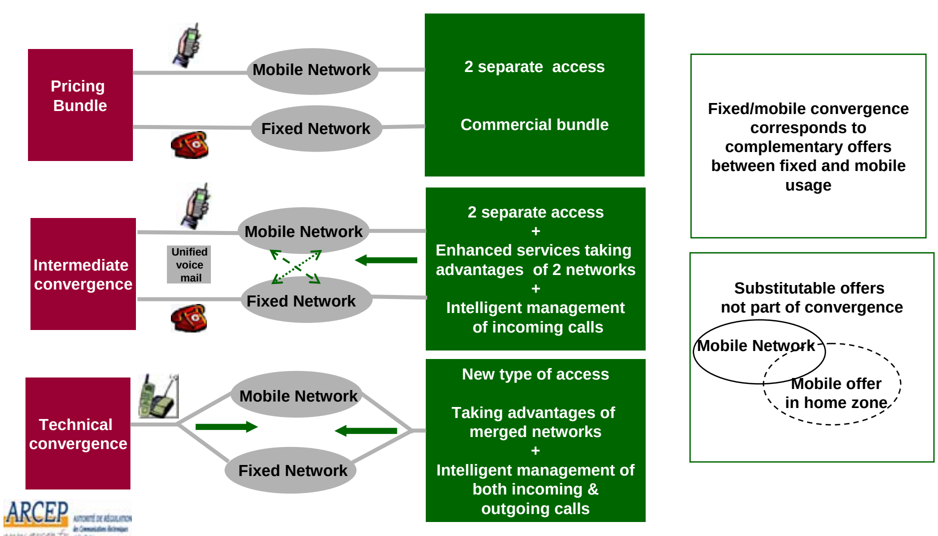
Fixed-Mobile convergence
Definition



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Fixed-Mobile convergence

Market structure in most European countries

New entrants Fixed operators	Integrated operators	Mobile operators
Need access to : ⁺ fixed local loop ⁺ mobile network (through MVNO offers)	Have both networks No need of access to another network **Most relevant structure to provide F/M Convergence**	Need access to fixed network

Fixed market	Competition through access regulation of the essential fixed local loop	
Mobile market	Potential competition IF Market 15 (MVNO) is competitive	Oligopoly
Convergence market	Potential competition IF Market 15 (MVNO) is competitive	Oligopoly through access regulation of the essential fixed local loop

IMPACT

The success of convergence offers could drastically reduce the number of market players if appropriate access to fixed and mobile networks are not satisfactorily provided.

Risks : extended dominance of the integrated operator and extension of the mobile oligopoly to F/M convergence market and then to the whole electronic communications sector

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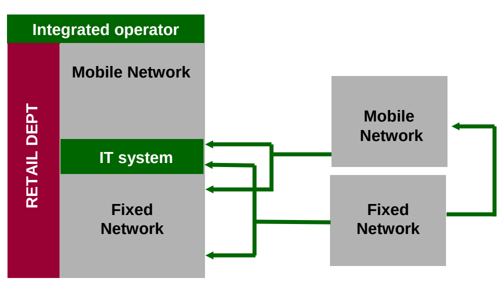
Fixed-Mobile convergence

Need to open up wholesale markets



Need to open up mobile networks for MVNOs

IF NOT : all independent fixed network operators are prevented from entering the convergence retail market, putting at risk competition existing on the fixed services (including broadband services)

Need for alternative operators to access the fixed local loop and IT system through an equal access obligation

Existence of 2 bottlenecks :
- Frequencies
- Fixed local loop

2 issues :
- Access to the mobile network
- Access to fixed network

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Fixed-Mobile convergence
Conclusion

- **New issues arising with fixed/ mobile convergence:**
  - 2 bottlenecks instead of one
  - Horizontal integration as well as vertical

- **Convergence market will develop differently in different European countries, regulators will need :**
  - Flexibility in market definition and analysis
  - Flexibility of remedies depending on the seriousness of the bottlenecks identified

- **Which solutions ?**
  - Ensuring a minimum level of competition on an oligopolistic market : need for effective tools to access mobile networks
  - New remedies for the integrated operator : equality of access = some kind of functional separation (need a new understanding of non discrimination)

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Overview of French Spectrum issues

3.5 GHz Wireless Local Loop (WLL): Wimax

- **New technology for Internet broadband access, supported by manufacturers**
- **Geographic extension for Internet broadband**
  - Mature technology for fixed applications
  - Speed up to 2 Mbit/s
- **Increasing support from local authorities for regional digital development, in particular to serve « zones blanches », not or badly covered by ADSL**
- **Regional authorisations awarded by ARCEP the 7 July 2006, to 15 operators of which 6 local authorities**
  - 1 national licence / 2 licences per region

3G

- **3G technology carries many interesting prospects:**
  - Supply of new services: visiophony, multimedia and data
  - All-you-can-eat voice and SMS offers
  - Enhanced content offers that can generate a good income
- **A 4th license is available**
- **3G extension obligations**
  - Orange France and SFR: commercial launch started in 2004. In early 2006, SFR reached coverage of 60% of the population and Orange France 58% of the population
  - Bouygues Telecom: commercial 3G services have to be offered on April 30th, 2007, with a coverage rate of at least 20% of the population

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Forthcoming issues

European review

- **Objective of the review : add flexibility for spectrum management**
- **Proposals from the European Commission :**
  - Strengthen services and technology neutrality : introduce freedom to use any technology in a spectrum band and to offer any electronic communications service
  - Open selected bands to trading rights of use
  - Widen allocation of spectrum resources without authorization
  - Impose when possible general authorisation as a principle
  - Allow Pan European services
  - Strengthen European coordination for spectrum management

Issues

- **Flexibility is indeed required but necessity to take into account at the same time**
  - interferences and interoperability issues
  - European harmonisation's needs (like for GSM or UMTS)
  - Efficient allocation of a scarce resource
- **Analog switchover to come**
  - French bill under examination at Parliament proposes 2011
  - Questions will arise concerning use of digital dividend

Conclusion

- ***Market analysis well in place***
  - Concentration on wholesale markets
  - Towards deregulation from some of the markets
- ***New challenges to come***
  - fixed-mobile convergence
  - NGN roll-out, especially NGN access
- ***Review launched this year by the Commission needs to address those issues***
  - Deregulation : no “black and white” markets, which tools are necessary to monitor the transition from regulation to deregulation?
  - Integrated operators and market by market approach : how to regulate cross market issues?
  - Integrated operators and equality of access : how to guarantee real equality of access ? from accounting to functional separation?
  - NGN and the debate on regulatory holidays

Thank you for your attention

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