the different markets and the regulator's actions

Chapter 1 The global electronic communications market

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The global electronic communications market

I. **The end customer market (value and volume)**
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I. The end customer market (value and volume)

1) The French market

Revenues generated by end customers

(million euros)	2001	2002	2003	2004*	Croissance %
Fixed telephony	14,375	14,030	13,509	12,780	-5.4%
Internet	1,119	1,186	1,385	1,882	+35.9%
Mobile services	10,028	11,788	13,243	14,661	+10.7%
Combined telephony and Internet	**25,522**	**27,003**	**28,137**	**29,323**	**+4.2%**
Advanced services	1,810	1,862	1,815	1,723	-5.1%
Leased lines	2,328	2,261	2,343	2,212	-5.6%
Data transport	676	506	633	563	-11.2%
Directory services and related income	342	344	358	278	-22.5%
Terminal sales and rental	2,072	1,753	2,014	2,259	+12.2%
Hosting and call centres	43	34	40	23	-40.8%
Combined telecommunications services	**32,793**	**33,763**	**35,340**	**36,381**	**+2.9%**

* Quarterly surveys for 2004, provisional estimate. – Annual surveys for 2001, 2002 and 2003

Source: ART, Market Observatory

Notes:

- *Internet turnover figures apply to declared operators' revenues, and so are underestimated (around 550 million euros – Cf. text box below) since they do not include undeclared operators' earnings.*
- *Mobile services include mobile telephony (including SMS), paging and corporate mobile networks.*
- *Advanced services are stated before repayment, i.e. they include the portion of sales passed on by operators to the companies providing the service.*
- *Data transport is understated since undeclared companies (e.g. Transpac) generate a significant share of their revenues from data transmission. For instance, declared companies earned only 633 million euros in revenues in 2003, out of a grand total (excluding data transport on mobile networks) of 2.3 billion euros, according to INSEE figures.*

Under the previous regulatory framework, Internet service providers (ISP) were not obliged to hold L33-1 or L34-1 licences to market their services. The Market Observatory, whose scope of enquiry covered licensed operators, only published data gathered from its own surveys. In addition, ART collaborated with the INSEE which surveyed players from the telecommunications branch that does not fall into the scope of ART's mandate, such as Internet access providers and companies involved in data transport. 2004 was a year of

transition from a regulatory standpoint, with one of the consequences being a change in the scope of the companies surveyed. This is why turnover for 2004 is an estimate of Internet revenues using constant field values: it does not include ISP end market data.
Nor does it include revenues for Wanadoo, which was reintegrated into France Telecom in the second half of 2004.

Combined end market Internet revenues totalled 2,428 million euros in 2004, according to the Internet Observatory, of which 1,648 million euros for broadband.

Generating 36.4 billion euros in 2004 (or 1.2 billion euros more than in 2003), the electronic communications market has confirmed its healthy dynamic. The market as a whole grew by 2.9%, less than in 2003 (+4.7%). As in 2003, growth varied in the different market sectors.
Fixed telephony revenues dropped by 5.4%, a downward trend which is clearly gaining momentum since the decline in fixed-line turnover totalled only 2.4% in 2002 and 3.7% in 2003.
In 2004, mobile telephony became the most lucrative sector, with revenues reaching 14.7 billion euros or 10.7% more than in 2003. Internet services generated a turnover of 1.9 billion euros (or an annual increase of 47.3%), thanks in particular to the high growth of broadband access in 2004 (2.4 billion euros in the end market).

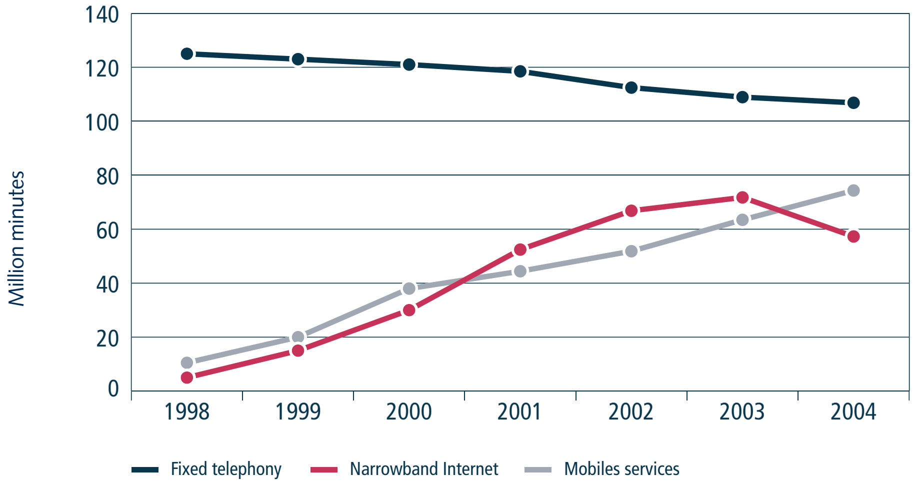
End customer Minutes of Use

(million minutes)	2001	2002	2003	2004*	Growth %
Fixed telephony	118,487	112,456	108,931	106,836	-1.9%
Narrowband Internet	52,446	66,831	71,779	57,299	-20.2%
Mobile telephony	44,419	51,844	63,469	74,336	+17.1%
Number of SMS sent (million units)	3,508	5,523	8,188	10,818	+32.1%

Source: ART, Market Observatory

*Annual surveys for 2001, 2002 and 2003 – Quarterly surveys for 2004, provisional estimate.

Telecommunications market: volume growth



Source : ART

Only mobile telephony volumes rose in 2004, while fixed telephony continued to decline at a rate of close to 2%.
Narrowband Internet volumes plummeted by 20%, due to the fact that narrowband access is being replaced more and more by broadband.

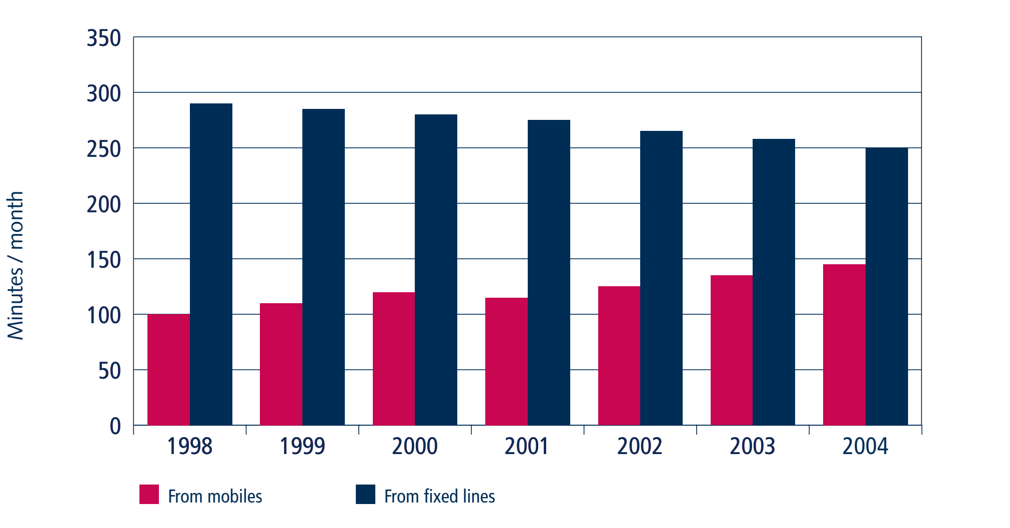
Number of subscribers

Parcs (unités)	2001	2002	2003	2004*	Growth %
Fixed lines	34,083,938	34,124,175	33,905,438	33,910,126	+ 0.1%
Carrier selection subscriptions	5,937,776	6,282,347	7,537,782	7,925,392	+ 5.1%
Internet subscriptions	6,986,500	9,059,975	10,605,693	11,739,594	+ 10.7%
Mobile services customers	36,997,400	38,592,777	41,683,598	44,551,800	+6.9%

*Annual surveys for 2001, 2002 and 2003 – Quarterly survey for 2004.

Source: ART, Market Observatory

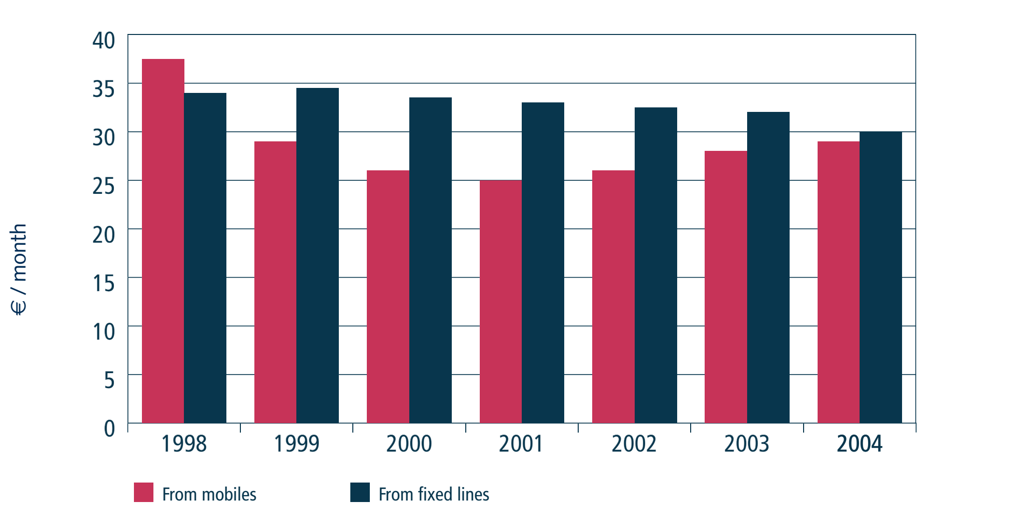
Growth of customers' average fixed & mobile subscriptions



Source : ART

The average number of minutes of use (MoU) is significantly higher for fixed telephony than for mobile: totalling 256 minutes a month for fixed and 149 minutes for mobile calling. Nevertheless, the volume of fixed calling traffic per customer dropped by 1.3% (or 3 minutes on the year), while mobile MoU per customer rose by close to 13% between the end of 2003 and the end of 2004.

Growth of customers' monthly invoice: mobile and fixed subscriptions



Source : ART

In terms of revenues, mobile customers' average monthly invoice is gradually catching up to fixed customers' average invoice.

Methodology

These indicators are calculated by dividing turnover (or volume) for year N by an estimate of the number of subscribers in year N, carried to the month. As to mobile telephony, the entirety of mobile subscriber spending is factored in. Revenues corresponding to interconnection (incoming calls) are not taken into account, however. The average monthly mobile phone bill is therefore different from what is commonly known as ARPU (average revenues per user). As to fixed telephony, the revenues factored in are only those generated by subscriptions and phone calls, and exclude any other income, notably Internet and advanced services revenues.

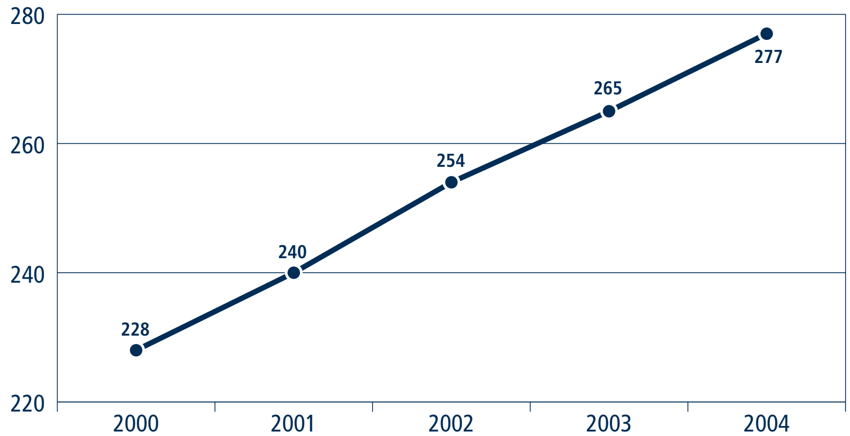
2) European comparisons

The electronic communications market (fixed telephony services, data services, mobile telephony services and cable services) grew by 4.6% between the summer of 2003 and summer 2004 in the 25 European countries (EU-25), according to the 10th European Commission Report. In terms of value, the end customer market was worth a total 277 billion euros, marking a 22.6% increase over five years, and a 4.6% rise over 2003. This rate is higher than the GDP's rate of increase in the Eurozone, which is estimated at 2.1%, and higher than the information and communications technologies sector's growth rate (+3%).

The electronic communications market accounts for 43% of the ICT sector's total value.

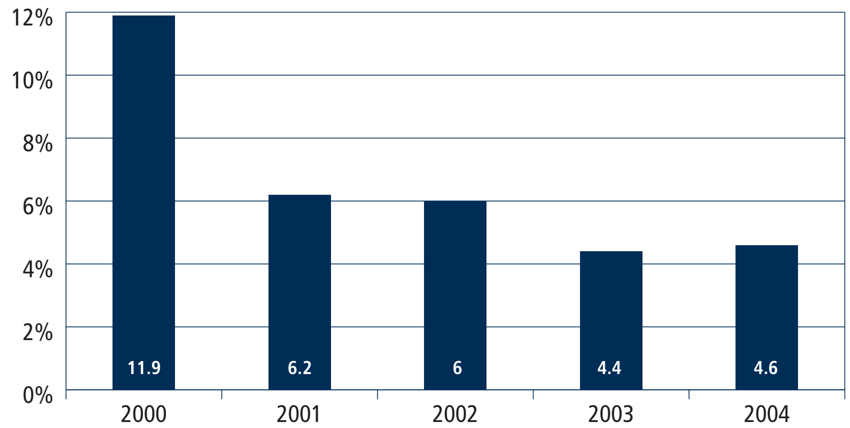
The market's growth is being driven by the growth of mobile services and broadband services (+7% and +11.5%, respectively).

EU electronic comunications market value (€ billion)



Source: 10th European Commission Report

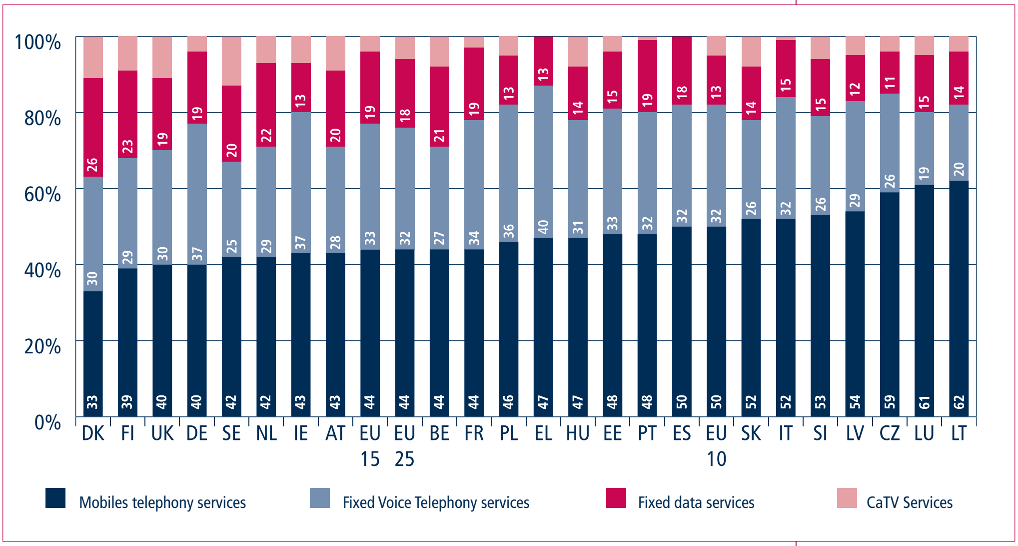
Yearly growth EU 25



Source: 10th European Commission Report

Mobile revenues are the largest component in all European countries' electronic communications market, and account for more than half of the total market in new member countries, as well as in Luxembourg and Italy, for instance

Breakdown of national telecommunications markets (2004)



Source: 10th European Commission Report

II. Investment and employment in France

1) Investment

For the third year running, there has been a drop in electronic communications operators' spending. This drop of 12.8% in 2004, compared to 2003, was due mainly to mobile operators' cutbacks.

	1998	1999	2000	2001	2002	2003	2004*
Telecommunications investment (billion euros)	5,538	5,909	7,841	9,182	5,699	5,437	4,740
Variations	-	+6.7%	+32.7%	+17.1%	-37.9%	-4.6%	- 12.8%

* Provisional estimates

Source: ART, Market Observatory

2) Employment

The drop in employment numbers in the telecommunications sector, which began in 2002, continued into 2004 amongst declared operators, and this despite the expansion of the market's scope, which partially integrates ISPs.

Declared operator employee numbers at year end

	1998	1999	2000	2001	2002	2003	2004*
Number of employees	155,992	155,297	154,522	151,191	145,487	138,716	135,326
% change	-	-0.4%	-0.5%	-2.2%	-2.9%	-4.7%	- 2.4%

Source: ART, Market Observatory

* Provisional estimates

The different market segments

I. The fixed telephony market
1) Market figures
2) ART's actions
3) Interconnection catalogue

II. Broadband
1) Broadband market figures
2) The retail market
3) The wholesale market
4) ART's actions
5) European comparisons

III. Mobile
1) GSM
2) UMTS
3) Paging

IV. Other services
1) Value-added services (fixed and mobile)
2) Leased lines and data transport

I . The fixed telephony market

1) Market figures

1.1. Line base, options and additional services

(in units)	31/12/01	31/12/02	31/12/03	31/12/04	Growth (%)
Fixed line base at period's end	**34,083,938**	**34,124,175**	**33,905,438**	**33,910,126**	**+0.1%**
- of which analogue lines	29,248,261	28,980,091	28,626,949	28,676,584	+0.2%
- of which digital lines	4,773,539	5,084,292	5,218,318	5,165,479	-1.0%
- of which WLL lines	518	438	378	205	-45.8%
- of which cable connections	61,620	57,674	59,793	67,858	+13.5%

Source: ART

The number of fixed lines held steady in 2004 at 33.9 million lines. The number of cable connections rose by 13.5% in the year, although cable access accounts for only 0.2% of all connections to the local loop.

1.2. Carrier selection

Customers' ability to select a carrier of their choice for conveying long distance calls, initially, and later for local calls as well, was one of the first mechanisms to be included in the market's deregulation. France Telecom subscribers can use this option either on a call-by-call basis, or by subscribing to carrier selection with the operator of their choice.

1.2.1. Call selection and pre-selection

(in units)	31/12/01	31/12/02	31/12/03	31/12/04	Growth (%)
Number of carrier selection subscriptions	**5,937,776**	**6,282,347**	**7,537,782**	**7,925,392**	**+5.1%**
- of which call-by-call selection subscriptions	3,167,059	2,634,549	2,990,671	2,383,498	-20.3%
- of which pre-selection subscriptions	2,770,717	3,647,799	4,523,321	5,541,894	+22.5%

Source: ART

The number of carrier pre-selection subscriptions reached 5.5 million in 2004, or an additional one million subscriptions for the year. The number of call-by-call selection subscriptions dropped substantially, however, totalling only 2.4 million in 2004 versus 3 million in 2003.

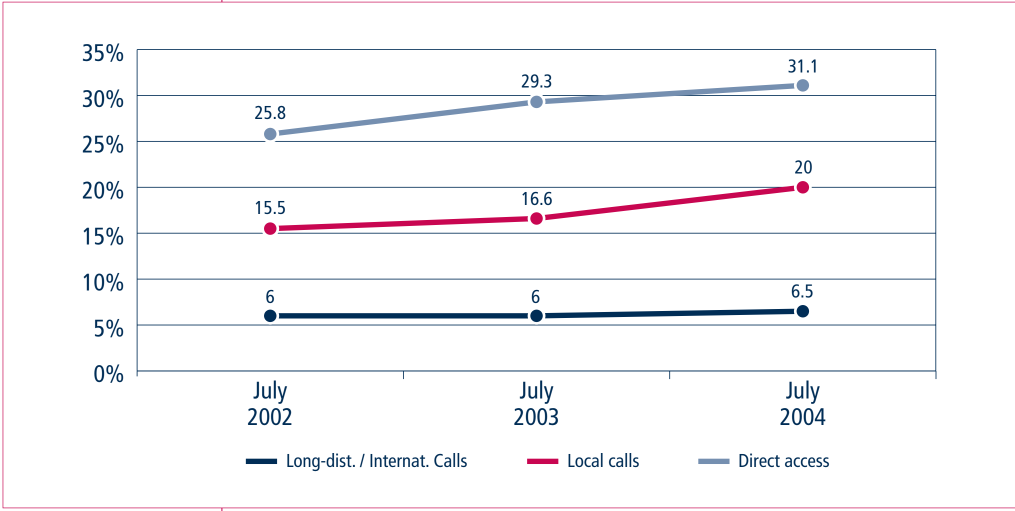
1.2.2. European comparisons

The use of an alternative operator is more and more common in the EU-15, whether through call-by-call selection or via pre-selection subscription, which

2 3 4 5 6

has been adopted by 6.5% of users (up 0.5 points since July 2003). On 1 July 2004, 835 operators in the EU-25 were marketing voice calling services, of which 518 were offering call-by-call carrier selection and 289 were marketing subscription-based pre-selection (some offer both systems). In all, one third of new voice services operators have direct access to their customers.

% of subscribers using an alternative provider, EU 15



Source: 10th European Commission Report

1.3. Access, subscription and additional service revenues

(million euros)	2001	2002	2003	2004	Growth (%)
Access, subscription and additional services fees	5,366	5,426	5,505	5,452	-1.0%

Source : ART

1.4. Calls from fixed lines

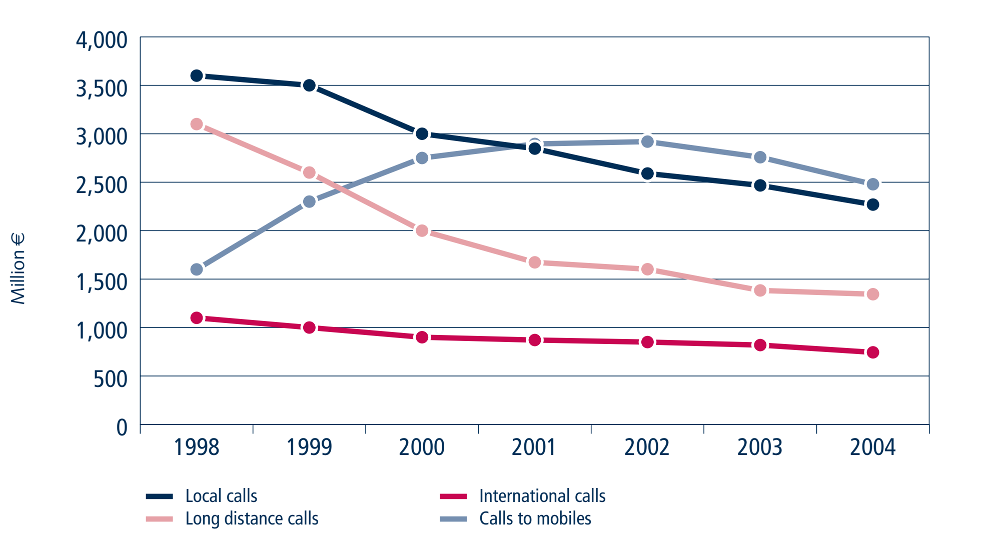
1.4.1. Breakdown of value and volume

Revenues *(million euros*	2001	2002	2003	2004	Growth (%)
Local calls	2,847	2,590	2,467	2,269	- 8.0%
Long distance calls	1,673	1,602	1,383	1,344	-2.9%
International calls	871	850	819	744	-9.1%
Calls to mobiles	2,895	2,919	2,758	2,479	-10.1%
Combined fixed-line revenues	8,287	7,961	7,427	6,836	-8.0%

Source : ART

Note: IP telephony calls are not included in this table.

Fixed line calling revenues



Source : ART

Revenues generated by calls made to mobile phones rose substantially between 1998 and 2002. The decline in revenues since then, despite the rise in traffic, is due to the decrease in prices for fixed-to-mobile calls.

Volumes *(million minutes*	**2001**	**2002**	**2003**	**2004**	**Growth (%)**
Local calls	72,527	66,052	61,809	58,023	-6.1%
Long distance calls	28,097	28,091	27,727	28,856	+4.1%
International calls	4,610	4,808,	4,907	5,085	+3.6%
Calls to mobiles	9,384	10,498	11,365	12,043	+6.0%
All calls from fixed lines	114,617	109,449	105,807	104,007	-1.7%

Note: IP telephony calls are not included in this table

Source : ART

The trend of dropping call termination tariffs on mobile networks, which began in 2003, carried through to 2004. Despite a 6% rise in volume, corresponding revenues for fixed-to-mobile calls decreased by 10%.

Calls from fixed lines also include revenues generated by IP telephony. At the end of 2004, there were close to a million Voice over IP customers in France.

1.4.2. Customers' average monthly phone bill

	2001	2002	2003	2004	Growth (%)
Average monthly bill, per customer, in euros*	33.4	32.7	31.7	30.2	-4.6%
Calls from fixed lines	4h40	4h27	4h19	4h16	-1.3%

Source : ART
*including subscription and access fees. These figures exclude VAT.

Customers' average monthly phone bill dropped by 4.6% in 2004 compared to 2003, due chiefly to the drop in fixed-to-mobile call termination tariffs, carried over to the retail market.

1.5. Fixed operator interconnection

Interconnection allows customers subscribing to different operators to call one another. This interconnection, which takes place physically at operators' points of presence (PoP), is an essential part of enabling competition in the market to flourish.

1.5.1. Growth in value and volume

(million euros)	2001	2002	2003	2004*	Growth (%)
Interconnection service revenues	3,290	3,033	2,612	2,679	+2.6%
of which incoming international traffic	798	715	682	790	+15.8%

Source : ART

* 2004: provisional estimates

(million minutes)	2001	2002	2003	2004*	Growth (%)
Volume of interconnection services	84,403	105,866	106,391	110,016	+3.4%
of which incoming international traffic	5,817	5,728	5,146	5,622	+9.2%

Source : ART

* 2004: provisional estimates

The Observatory has estimated the overall volume of fixed operators' interconnection services. Consolidation of the four quarters of 2004 has in fact proven a poor approximation of annual volume.

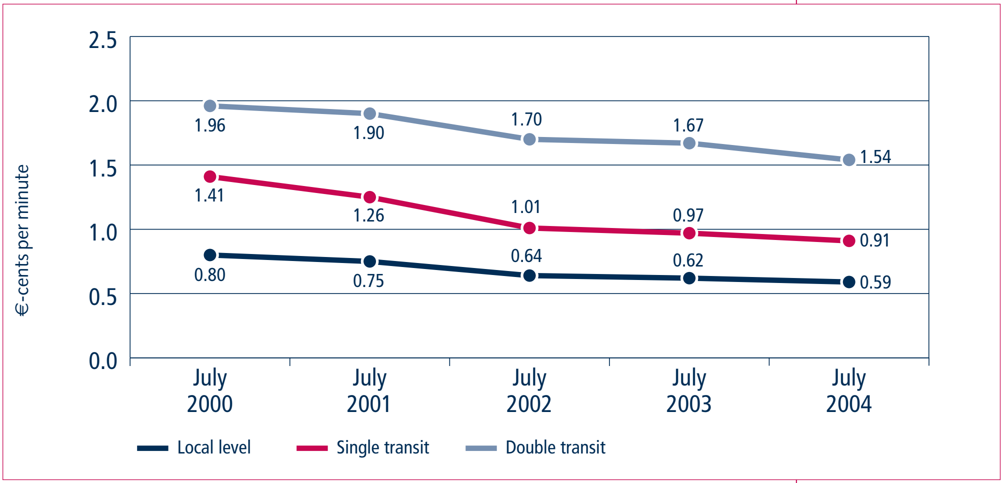
1.5.2. European comparisons

a) Fixed interconnection

According to the Commission, since July 2000 interconnection charges on fixed networks have dropped in the EU-15 by an average 55% for single transit, by 36% for interconnection at the local level, and by 22% for double transit.

We can note a strong correlation between the price of interconnection charges and the degree of market deregulation. In the new Member States these charges are therefore significantly higher (+74% at the local level, + 60% for single transit and +32% for double transit).

Fixed-to-fixed interconnection charges EU 15 weighted average

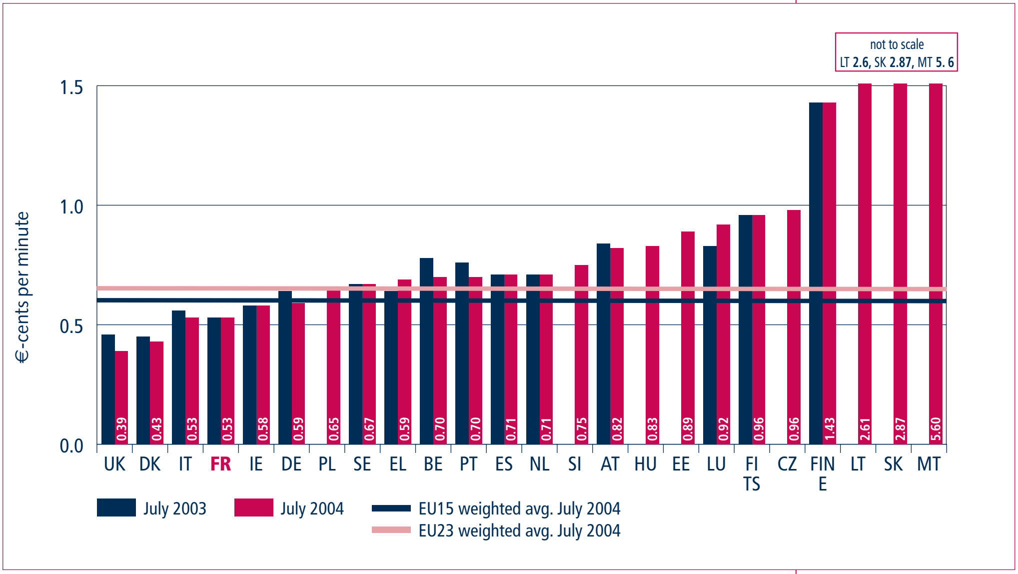


Source: 10th European Commission Report

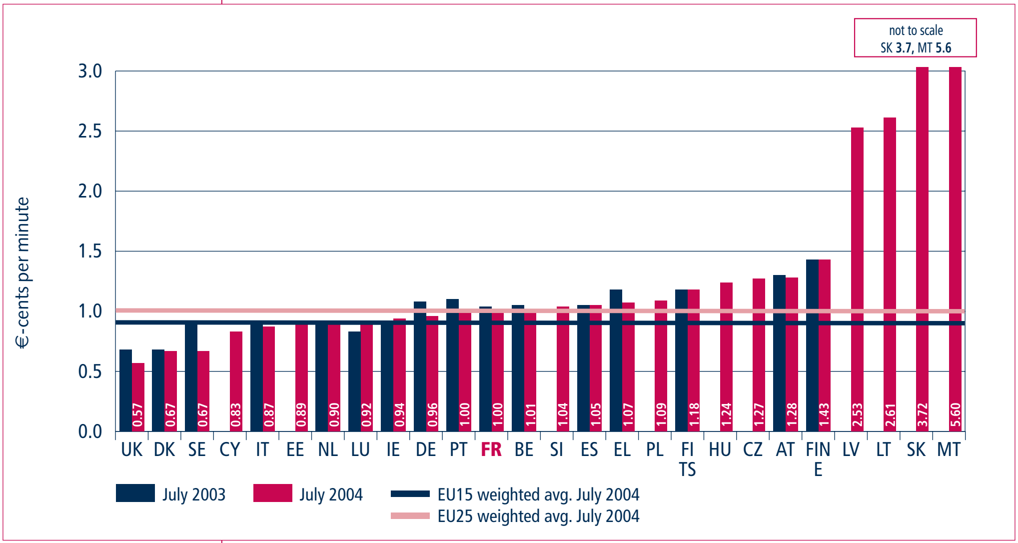
As to interconnection charges at the local level for call termination on the incumbent operator's network, prices in France are situated slightly below the EU-15 average, with the UK being the country with the lowest prices.
For single transit, France is in line with the average tariffs in the EU-25, and is well under the average price charged for double transit.

Interconnection charges for call termination on incumbents' fixed network

Source: 10th European Commission Report

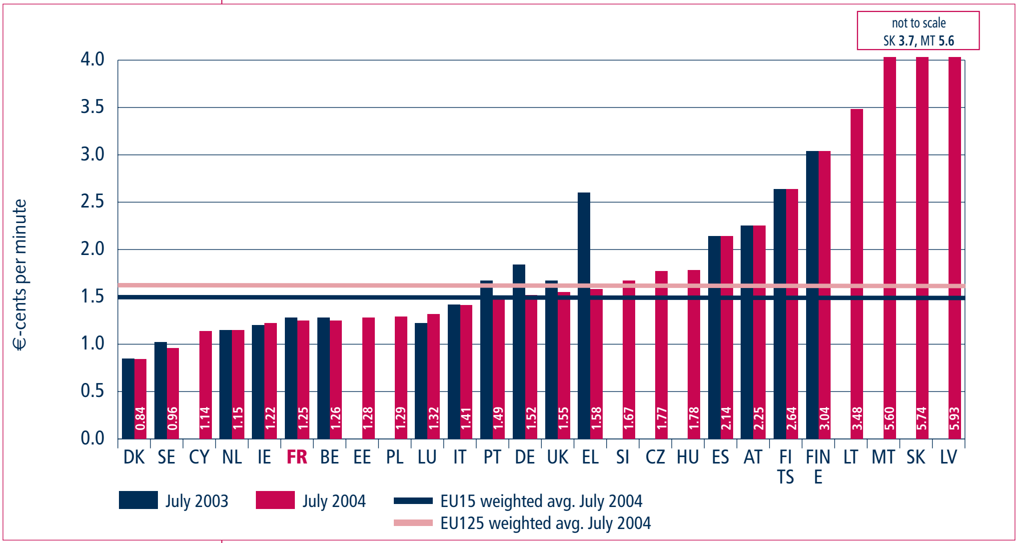


Interconnection charges for call termination on incumbents' fixed network (Single transit)



Source: 10th European Commission Report

Interconnection charges for call termination on incumbents' fixed network (Double transit)



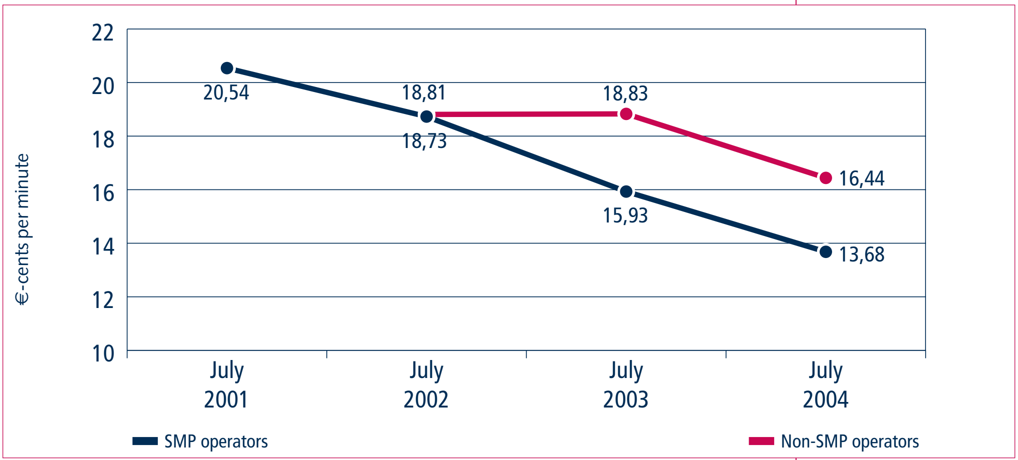
Source: 10th European Commission Report

b) Fixed-mobile interconnection

The Commission notes that tariffs set for fixed calls terminating on GSM mobile networks differ, depending on whether or not the mobile network is operated by an SMP operator. The average fixed-to-mobile interconnection charge for the 34 recognised SMP operators in the EU-25 was 13.73 euro cents, compared to 16.30 euro cents on the networks operated by the 41 non-SMP operators. When taking all mobile operators into account, the average tariff for terminating a one-minute call is 14.76 euro cents. The tariffs charged in France (15.76 euro cents) are slightly above this average.

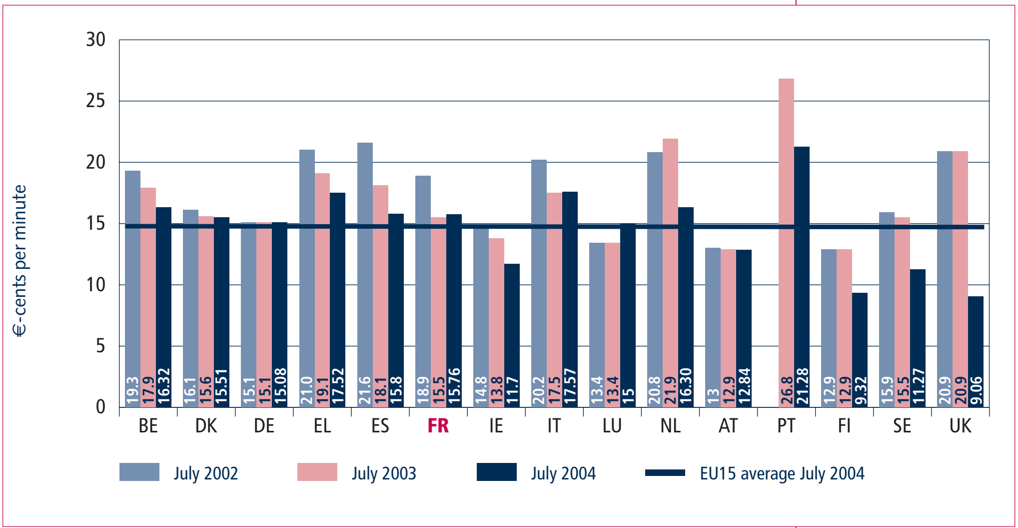
Despite a steady drop in tariffs, the average charge for fixed-to-mobile interconnection is still eight times higher than double transit interconnection charges for fixed-to-fixed calls.

EU 15 average fixed-to-mobile interconnection charges for SMP and non-SMP operators in the national interconnection market



Source: 10th European Commission Report

Fixed-to-mobile national average interconnection charges EU 15 weighted average



Source: 10th European Commission Report

1.6. Internet

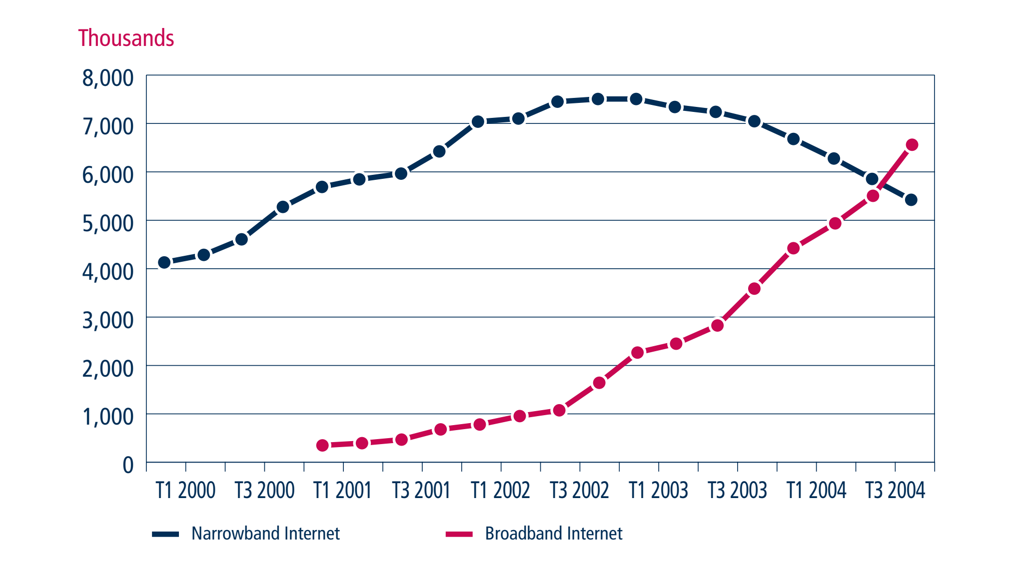
1.6.1. Internet subscriptions and revenues

(units)	2001	2002	2003	2004	Growth (%)
Number of Internet subscriptions	**6,987,003**	**9,123,887**	**10,617,252**	**11,936,519**	**+12.4%**
- of which narrowband	6,385,000	7,469,000	7,047,871	5,406,522	-23.3%
- of which broadband	602,003	1,654,887	3,569,381	6,529,997	+82.9%

Sources: AFA for 2001 and 2002. Figures drawn from the following ISPs: 9 online, AOL France, Club Internet, Free (PSTN only), InterPC, NC, Noos, Tiscali France, UPC France, Wanadoo. Included are free access accounts or billed on a pay-as-you-go basis, which have connected to the web in the past 40 days, and all accounts paid for on a monthly fllat rate basis (including and excluding a telephone fllat rate, both residential and business). Internet Market Observatory for 2003 and 2004.

At the end of the year, there were a total 11.9 million Internet subscribers, which represents an annual increase of 12.4%. With 6.5 million subscriptions, or an additional 3 million subscriptions registered in 2004, broadband now accounts for more than half (55%) of all connections.
The number of narrowband Internet subscribers totalled 5.4 million at the end of 2004, versus 7 million at the end of 2003, with a great many Internet users having migrated from a narrowband to a broadband subscription.

Number of Internet access subscriptions



Source: ART

(million euros)	2001	2002	2003	2004	Growth (%)
Internet revenues	**1,119**	**1,186**	**1,329**	**1,882**	**+47.3%**
- of which narrowband	615	670	569	406	-28.7%
- of which broadband	182	417	622	1,389	+123.3%
- of which other Internet-related revenues	122	99	86	87	+1.5%

Source : ART

Note: Revenues for 2004 were re-estimated using constant field values, i.e. excluding Wanadoo (cf. explanatory note under the table "Revenues generated by end customers").

1.6.2. Narrowband Internet volumes and revenues

(million minutes)	2001	2002	2003	2004	Growth (%)
Narrowband Internet volume	**52,446**	**66,831**	**71,779**	**57,299**	**-20.2%**
- of which Internet collection services	38,195	50,315	56,024	43,801	-21.8%
- - of which operators' narrowband Internet flat rates	925	4,206	5,594	5,507	-1.6%
- - of which pay-as-you-go usage	13,326	12,310	10,161	7,991	-21.4%

Source : ART

The decrease in the volume of narrowband connections, which reached a little over 20% in 2004, is the logical consequence of the growing use of broadband access.

(million euros)	2001	2002	2003	2004	Growth (%)
Narrowband Internet revenues	**815**	**670**	**569**	**406**	**-28.7%**
- of which Internet collection services	412	314	258	169	-34.3%
- of which operators' narrowband Internet flat rates	11	43	61	46	-24.4%
- of which pay-as-you-go usage	392	313	251	191	-24.0%

Source : ART

Note: collection and flat rates were re-estimated using constant field values, i.e. excluding Wanadoo.

Narrowband market figures for 2004

In early 2004, ART set up an Internet Market Observatory to track end customer revenues. The creation of this mechanism was made possible by the involvement of the companies present in this market. The observatory enables better measurement of the growth of subscription numbers in France, both narrowband and broadband. One of the tasks is to take as exhaustive a survey as possible, including all of the ISPs operating in France. This observatory has become a major source of Internet benchmarking since the AFA stopped publishing data on narrowband and broadband in September 2003, and since the French cable operators' association, AFORM, stopped publication of its cable Internet market figures.

Figures on the revenues and volumes generated by free access accounts (which are billed by the minute on a pay-as-you-go basis) are drawn from a survey conducted with declared operators, with customer billing being performed by the local loop operator.

As concerns flat rate traffic, a difference of 2.8 billion minutes in 2004 was found between the survey done with operators, and the survey conducted at the same time with ISPs (57.3 versus 54.5 billion minutes). This less than 5% gap is due to the reliance on different data sources.

Narrowband revenues totalled 780 million euros for the whole of 2004. Three quarters derive from flat rate formulas, even though they account for only 56% of Internet connections.

(units)	31/12/03	31/03/04	30/06/04	30/09/04	31/12/04
Number of narrowband Internet subscriptions	**7,047,871**	**6,660,209**	**6,230,045**	**5,810,631**	**5,406,522**
- of which flat rates	4,300,586	3,979,761	3,680,221	3,335,119	3,015,976
- of which free access accounts	2,747,285	2,680,449	2,549,824	2,475,512	2,390,546

Source: ART/Internet Market Observatory

(million euros)	31/12/03	31/03/04	30/06/04	30/09/04	31/12/04
Narrowband Internet revenues	na	229	205	178	168
- of which flat rates	na	173	157	135	124
- of which free access accounts	na	56	48	43	45

Source: ART/Internet Market Observatory

(million minutes)	31/12/03	31/03/04	30/06/04	30/09/04	31/12/04
Narrowband Internet volumes	17,313	16,289	13,911	12,193	12,081
- of which flat rates	14,793	13,929	11,855	10,413	10,285
- of which free access accounts	2,520	2,359	2,056	1,780	1,796

Source: ART/Internet Market Observatory

1.6.3. Narrowband Internet access interconnection traffic

(million euros)	2001	2002	2003	2004	Growth (%)
Interconnection revenues	352	235	218	143	-34.4%

Source : ART

(million minutes)	2001	2002	2003	2004	Growth (%)
Interconnection volumes	39,363	43,924	47,988	33,739	-29.7%

Source : ART

1.7. Public payphones

	2001	2002	2003	2004	Growth (%)
Calling revenues *(million euros*	469	426	333	278	-16.7%
Volume of calls *(million minutes*	1,960	1,627	1,383	1,092	-21.1%
Number of public payphones on 31 December	213,993	202,418	192,275	189,339	-1.5%

Source : ART

The declining use of public payphones over the past several years continued in 2004, replaced in large part by the use of mobile phones. Both the revenues and the volume of calls have dropped, as has the number of public payphones in service.

1.8. Fixed telephony cards (pre-paid and post-paid)

There are two types of fixed network phone cards (excluding calling cards that can be used only in the incumbent's payphones):

- \- Post-paid cards for which calls are billed after the call has been completed (the cards are attached to the customers' telephone account, with payphone calls being charged to the customers' regular invoice, to a credit or debit card that enables direct debit from a bank account, or an account held by a distributor);
- \- Pre-paid cards: contain a fixed, pre-paid amount which is used for making telephone calls.

	2001	2002	2003	2004	Growth (%)
Fixed telephony card revenues (million euros)	251	217	244	214	-12.3%
Million minutes generated by cards	1,903	1,380	1,741	1,738	-0.2%
Number of pre-paid cards sold	25,577,378	15,935,134	23,021,764	13,492,220	-41.4%

Source : ART

Data on fixed telephony cards concerns only those operators declared with ART. They do not, therefore, encompass the entire market.

2) ART's actions

2.1. Access and ancillary services

2.1.1. Numéris service access charges

On 3 February 2004, ART issued a negative Recommendation (n° 04-142) on France Telecom's tariff decision n° 2003-166 on changes to Numéris service access charges.

The goal of France Telecom's decision was to:

- Significantly increase (between 71% and 75%) the tariffs charged for installation of a Numéris service for those contracts carrying a minimum twelve-month subscription;
- Allow those customers who sign a minimum 3-year contract to enjoy a 40% reduction on the tariffs cited above, which would put these new tariffs in line with those currently being charged (+3% to +5% higher).

ART observed that the state of competition in this market had been evolving for more than a year thanks to the growing use of DSL technologies, via copper pair unbundling, which have enabled France Telecom's competitors to offer current users of the Numéris business service relatively comparable solutions. ART nevertheless stressed the fact that France Telecom still controlled a roughly 99% share of the local loop market as a whole. The regulator also indicated that, given these newly proposed tariffs, business customers ordering new Numéris connections would have a powerful incentive, or may feel forced to opt for a 36-month contract instead of a 12-month one. ART therefore felt that, by pushing consumers to subscribe to contracts that are significantly longer than those currently in application, a danger was being created of hampering competition in the access market, which runs contrary to consumer rights.

Furthermore, the elements that France Telecom submitted in its provisional operating accounts for corporate Numéris access did not justify a rise in tariffs.

2.1.2. Caller display

On 25 March 2004, ART handed down an unfavourable Recommendation (n° 04-306) on France Telecom's tariff decision n° 2004017 relating to modifications to the "Caller display" offer tariffs. This tariff decision involved increasing the price of this service from 1.25 euros (excl. VAT) to 1.67 euros (excl. VAT), in Metropolitan France and in the overseas départements and territories, for "Main subscription" contracts and "Business" contracts. The information supplied by France Telecom made it possible to estimate that the current mark-up on this service was over 50%. Under these conditions, and in the absence of competition, ART estimated that the over 33% increase planned for by France Telecom ran counter to consumer interest.

2.1.3. Call barring offer

On 4 November 2004, ART gave a negative Recommendation (n° 04-951) on France Telecom's tariff decision n° 2004146 concerning marketing of the "Permanent Adapted Call Selection" ("Sélection Permanente d'Appel Adaptée") offer. Call barring services make it possible to restrict the use of one's telephone line by forbidding certain outbound calls.

ART pointed out that the universal service Directive had been transposed into French Law, even if when the recommendation was issued not all of the decrees of implementation concerning this new legal mechanism had yet been published. The new regulatory framework specifies that operators in charge of universal service must supply selective call barring for outgoing calls[1], free of charge. Furthermore, up until 31 December 2004, France Telecom continued to be bound by its public service mandates. In light of these facts, ART ruled that it would be contrary to the "universal service" Directive for the operator in charge of the universal service telephone component to charge for an outgoing call barring service.

2.1.4. Business subscriptions

On 25 March 2004, ART issued a favourable Recommendation (n° 04-307) on the creation of the "Pro Services Plus" offer for business users. This is an optional service, billed at a tariff which corresponds to the highest tariff charged for existing analogue line offers. Users of this service benefit from a subscription coupled with existing related services. The cost of this bundled offer is lower than the cost of subscribing to each service separately. Turnover for the services included in the "Pro Services Plus" contract, which are not included in the "Business" contract, totals 4.96 euros (excl. VAT) a month if taken separately[2], in other words an additional 3.70 euros (excl. VAT) over and above the subscription supplement.

1) "In other words, the free additional service that allows subscribers who so request to have their telephone service provider fiilter outgoing messages of a particular kind, or those going to certain categories of phone numbers."

2) This amount does not include existing discounts for subscriptions to several service offerings.

2.2. Calls

2.2.1. Fixed-to-mobile calls

ART is pursuing its analysis of fixed-to-mobile calls in two areas in particular:

- In cases where call termination costs on a mobile operator's network drop, it is seeking to ensure that these savings are passed on in the basic tariffs charged to end customers;
- Second, as with other types of calls, it is also seeking to verify that the best tariffs are likely to be replicated by an efficient alternative operator making use of France Telecom's interconnection offers.

In its Recommendation n° 04-198, dated 19 February 2004, ART noted that France Telecom was passing on only a portion of the savings generated by the drop in call termination charges planned by Bouygues Telecom. Nevertheless, to avoid delaying the reduction in fixed-to-mobile calling tariffs, and the ensuing benefits to consumers, ART did not oppose implementation of the measures planned for in tariff decisions n° 2004011 and 2004012.

On 30 March 2004, ART announced itself in favour of France Telecom's tariff decisions n° 2004029 and 2004030, in its Recommendation n° 04-309. The object of these two tariff decisions is to create tariffs for calls to operator Outremer Telecom's mobiles – the operator having announced plans to open a service in Guyana, and therefore set the price of call termination on its network.
France Telecom elected to extend the single tariff that is currently charged for calls from Metropolitan France to mobiles in the overseas départements, to calls placed to Outremer Telecom users in Guyana. The difference in mobile operators' call termination tariffs are such that France Telecom's net revenues on call termination payments, or for an operator using France Telecom's call termination services, are much lower for calls to Outremer Telecom than for calls to other mobile operators. Nonetheless, Outremer Telecom is launching a new operation, and it does not seem relevant in the trial stage to talk of a price squeeze only on calls to these mobiles. For the same reason, as part of a test on traffic being conveyed to all mobile operators in Guyana, the effect of this new traffic on a new entrant operator's costs will be minimal at first. Since tariffs are identical, this new traffic will have no impact on gross revenues. ART therefore ruled that, given these particular market conditions, the proposed tariffs would have no significant adverse effect on competition.

Since France Telecom is proposing specific tariffs for calls to Outremer Telecom customers, ART sought to ensure that, in the various case scenarios, net turnover, in other words gross turnover minus call termination payments to the mobile operator, were comparable to those charged for calls to other mobile operators.

This recommendation was completed by Recommendation n° 04-426 on tariff decision n° 2004071 concerning the price of calls made from public payphones to Outremer Telecom mobiles in Guyana, which proposed charging the same tariff as the one currently applied to calls from public payphones in Guyana to other mobile networks in that département. The favourable recommendation was reached based on reasoning similar to the one applied to the ruling on calls from Metropolitan France.

On 1 July 2004, in its Recommendation n° 04-561 on France Telecom's tariff decision n° 2004033 relating to marketing of the mobile VPN "Atout RPV Mobiles 4" offer, ART specified that it considered that the maximum reduction rates that can be extended to fixed-to-mobile calls, compared to the "Tarif Equilibre", were between 19% and 21%, depending on the size of the sites. As concerns the total discount rates that it was able to evaluate for the business and corporate market, ART ruled that the "Atout RPV Mobiles 4" offer created a price squeeze on third-party operator tariffs, and so issued an unfavourable recommendation.
ART rules on mobile operators' wholesale call termination market. It is particularly concerned with ensuring that these savings are passed on to end users.

On 2 November 2004, ART notified the European Commission and subjected its draft decision on voice call termination on mobile networks in Metropolitan France to public consultation. Among other obligations, this decision includes imposition of a tariff framework on Metropolitan France's three mobile operators, which includes an initial price reduction coming into effect on 1 January 2005. SFR, Orange France and Bouygues Telecom thus issued the call termination tariffs they would be charging fixed-line operators starting on 1 January 2005, and whose implementation was contingent on ART's final decisions being in accordance with the draft decisions indicated above. On 8 December 2004, France Telecom filed tariff decisions n° 2004166 and 2004167 concerning changes to tariffs on calls from fixed lines to Orange France, SFR and Bouygues Telecom mobiles, for residential, business and corporate customers, contingent on the implementation of the call termination tariffs cited above. On 9 December, ART adopted:

- decisions n° 04-937, 04-938 and 04-939 which impose a tariff framework on the three mobile operators, in accordance with the draft decisions notified to the European Commission on 2 November 2004;
- Recommendation n° 04-1074 on France Telecom's above-mentioned tariff decisions.

ART noted that France Telecom's income did not increase when call termination charges were reduced, and this in both the residential market and in the business and corporate markets. ART was pleased that France Telecom had fully passed on the reduction in its retail tariffs' external costs to its customers.

Without giving official approval at this stage, ART retained the consumption hypotheses supplied by France Telecom. To take the uncertain relevance of these hypotheses into account, France Telecom agreed to ART's request that it:

- communicate to ART the number of offers marketed per month during 2005;
- provide verified call statistics (length of calls and number of calls, notably before and after subscription to an offer), and a breakdown of the base of selected numbers by mobile operator for each of the three offers, as of the following dates: 1 June 2005, 1 October 2005, one month after having reached the 50,000 offers threshold in cases where this threshold is reached before 1 May 2005, and one month after marketing the 100,000 offers which were made available;
- alter the offer's tariff structure for 1 January 2006 if predatory pricing or a price squeeze has been noted by the Authority, based on the statistics supplied.

ART considers that the "Mes Illimités vers mobiles" (Unmetered calls to mobiles) offer can meet consumers' expectations and, given France Telecom's commitments, does not represent a significant threat to competition.

ART examined the dangers of a tariff squeeze which would limit effective competition. It noted that no changes to options and flat rates that included calls to mobiles was, in theory, likely to produce such an effect. These tariff decisions also included the creation of "Forfait service entreprises France" (Business service flat rates for France) which applies to fixed-to-fixed calls (cf. 2.4. Flat rates). ART issued a favourable recommendation on those portions of the tariff decisions that concerned fixed-to-mobile calls.

2.2.2. Calls to 087B numbers

These numbers are reserved for person-to-person services. They started being used in 2003 for the creation of Voice over IP services. Since 087B numbers were non-geographic numbers, unlike classic person-to-person calls, the traffic is delivered by France Telecom to the alternative operator closest to the subscriber placing the call. In addition, calls to these numbers are not open to carrier selection, which means that the only competition that exists in this market is the one between other fixed-line local loop operators, which is still extremely limited. Furthermore, given the absence of geographical positioning based on the number, the tariff for calls made to these numbers is distance agnostic.

On 24 July 2003, the technical and interconnection tariff conditions for routing calls made from France Telecom's network to Free Telecom's 087B numbers were set temporarily by ART's dispute settlement decision n° 03-905. In relation to France Telecom's retail tariffs, the goal of France Telecom's tariff decision n° 2003115 was therefore to take into account the call termination tariffs proposed by Free Telecom as part of a long-term direct interconnection system.

In its analysis, ART endeavoured first to assess the clarity of the tariffs being proposed. From a structural standpoint, they were substantially different from the temporary tariffs, and did not correspond to any of the France Telecom tariffs for person-to-person calls that were currently in effect. Nor did they fit in with the flat rates being put forth increasingly by France Telecom. The impact of this lack of clarity is all the more detrimental to the market given that Free's telephone service involves an innovative feature, namely the use of personal and universal numbers (087B), and that, during this service's launch phase, the clarity of the tariffs being charged for calls to these numbers was an important factor in providing an incentive for increased use of the service.

Next, ART sought to evaluate the mark-up[3] that France Telecom could apply when implementing a direct interconnection system. The mark-up applied by France Telecom on these calls was compared to the mark-up that it would earn if it maintained the temporary tariff level, under a direct interconnection system, and to the mark-up on its reference offer for national person-to-person calls. In the particular case of tariffs charged to business customers, France Telecom's application of the proposed tariffs would have led to even higher mark-ups than the existing ones.

3) The difference between average communications revenues, on the one hand, and payment for the call termination service to Free Telecom and France Telecom's own costs on the other.

It was for these two reasons that ART issued an unfavourable recommendation. Consequently, France Telecom modified its tariff offer for calls to Free's 087B numbers. In addition to the time credit offered to business users, the per-minute calling tariff dropped by 20%. Furthermore, France Telecom incorporated these calls into the group of calls that were eligible for flat rates: "Les Heures France" for residential users, and the "France Pro/SME" flat rates for business users. This modified offer was approved by the Minister on 30 June 2004.

On 6 July 2004, France Telecom submitted a tariff decision that aimed to extend this tariff to Wanadoo. It seems reasonable to extend the tariff charged for calls to Free Telecom's 087B numbers to Wanadoo's 087B numbers as well. The mark-up on calls to Wanadoo's 087B numbers is in fact comparable, albeit slightly lower than for calls to Free Telecom. This results in call termination charges set by Wanadoo which are slightly higher than Free Telecom's. Furthermore, the existence of a single tariff for all of these calls would increase the clarity of the tariffs for end users. ART therefore issued a favourable recommendation on the matter.

Finally, on 26 November 2004, France Telecom submitted two tariff decisions that sought to extend these tariffs to Cegetel, on the one hand, and to Azurtel on the other. According to France Telecom, for calls to Cegetel, Azurtel, Free Telecom and Wanadoo's 087B numbers, economic studies revealed that, under identical retail market and tariff conditions, the call termination tariffs agreed upon with

Cegetel and Azurtel on the one hand, and with Free Telecom and Wanadoo on the other, led to comparable mark-ups in both the residential and business markets.

Once operational, the existence of a single tariff for all calls to non-geographic 087B numbers would increase the clarity of the tariffs for end users. In light of this, and of previous observations, ART handed down a favourable recommendation.

2.3. High volume offers

These offers were introduced in 2003. While they carry the obvious appeal of increasing consumption on fixed-line networks, their specific nature also carries certain risks. Initially launched on a trial basis, these unmetered offers, along with an innovative *a posteriori* control mechanism, were approved by ART in 2004, in its Recommendation n° 04-500, dated 8 June 2004. This recommendation was completed by Recommendation n° 04-634 regarding a tariff decision on a new unmetered offer for businesses and SMEs, and Recommendation n° 04-772 relating to a tariff decision on the marketing of unmetered ("Les Illimités") offers in the overseas départements(Guadeloupe, Martinique, Reunion, Guyana).

On 25 March 2004, however, ART issued an unfavourable Recommendation (n° 04-305) on France Telecom's tariff decision n° 2004014 concerning large-scale deployment of the single tariff calling ("Appel à prix unique") offer. ART ruled that the tariffs proposed for this large-scale deployment were too low. On the flip side, ART ruled that, given the flexibility indicated by France Telecom, the one-euro decrease in the subscription price (including VAT) in exchange for the splitting up of the "Option Plus" offer did not appear to create any competition issues. Based on this new subscription price, a tariff of 0.13 euros (including VAT) per call (compared to the price of 0.15 euros during the trial stage, and the price of 0.11 proposed for the large-scale deployment) would have enabled a third-party operator marketing an equivalent service to generate a modest margin, and therefore been satisfactory to ART. In the end, France Telecom modified its tariffs, and its offer was approved by the Minister, in accordance with ART's recommendation.

2.4. Flat rates

As concerns tariff options, France Telecom has placed particular emphasis on its flat rates, having submitted 14 tariff decisions which led to 12 recommendations from ART.

Following ART's favourable recommendations, and the Minister's approval, France Telecom:

- created a new line of flat rates for residential customers,
- expanded the line of flat rates for calls to mobiles,
- created flat rates for calls to Europe and North America, and another for calls to Maghreb,
- introduced a promotional offer on the unused minutes carry-forward option for Business users.

ART also issued several unfavourable recommendations, however – in each case because of the danger of a tariff squeeze. Most notably, ART felt that the national flat rates offered to business users and SMEs were being sold at a tariff that was too close to the theoretical squeeze thresholds.
So it was that on 6 May 2004, in its Recommendation n° 04-408, the Authority announced itself in favour of a reduction of the monthly price of the "Pro/SME France and Mobiles" flat rates ("Forfait Pro/PME France et Mobiles") for businesses, planned for in France Telecom's tariff decision n° 2004025. ART nevertheless issued an unfavourable recommendation on the creation of a "Bonus Time" offer as part of the "Pro/SME France and Mobiles" flat rates, which was included in the same France Telecom tariff decision.

On 13 July 2004, ART handed down an unfavourable Recommendation (n° 04-593) on the creation of a bulk flat rate sales offer. The goal of tariff decision n° 2004064, to which the recommendation related, was to offer free calling minutes as part of the bulk sale of Pro/SME flat rate packages to customers, in exchange for a commitment to purchase at least 100 Pro/SME flat rate subscriptions, as part of a framework agreement. ART ruled that, ultimately, this offer would lead to a drop in the price of the calls included in the flat rates, the per-minute price being reduced by the extension of the length of the calls proposed at a given tariff.
In the same vein, on 7 September 2004 ART opposed the creation of a customer loyalty system in its Recommendation n° 04-732 on tariff decision n° 2004091, for the 10% and 15% tiers. ART did, however, hand down a favourable Recommendation (n° 04-736) that same day on France Telecom's tariff decision n° 2004118 concerning changes to the "Pro/SME France and Mobiles" flat rate, consisting of a 5% increase in the number of mobile minutes included in the flat rates.

ART ruled twice on the creation of the "Business Service Flat Rates" offer for France ("Forfait Service Entreprises France"). This offer appeared first in France Telecom's tariff decision n° 2004125 on which ART ruled on 28 October 2004 in its Recommendation n° 04-773. This option targeted chiefly single-site companies. The goal was to offer customers a flat rate that included:

- a given volume of calling hours for local, regional and long distance calls, ranging from 550 to 8,000 hours a month;

- a dedicated tariff for flat rate overage calls;
- provision of the "Traffic Analysis" service, in the form of a CD-Rom.

The companies that were likely to subscribe to the new "Business Service Flat Rates" offer represented a sizeable portion (over 10%) of the targeted revenues.

ART noted that under this new offer, for each of the flat rates proposed, the tariff set for flat rate overage calls was more advantageous than the one charged for calls included in the flat rates, under a scenario of 100% consumption. It was therefore reasonable to presume, in this particular case, that customers would subscribe to flat rates that were slightly under their average consumption level to optimise their consumption rate, particularly in the case of entry level flat rates (550 hours and 800 hours).

Upon completion of its analysis, ART ruled that, in theory, the new "Business Service Flat Rates" produced a tariff squeeze on third-party operators for each of the flat rates that make up the offer, with the exception of the 550-hour and 800-hour flat rates.
ART was called upon to rule a second time in its Recommendation n° 04-1074 which dealt essentially with fixed-to-mobile calls (Cf. Paragraph 2.1.4). France Telecom had in fact submitted a new version of the "Business Service Flat Rates." The incumbent had altered its proposal by keeping the 550 and 800-hour flat rates, and increased the price of the 1,000-hour flat rate. ART ruled that this increase was not enough to abolish the price squeeze. The 550 and 800-hour flat rates were introduced in the market on 17 January 2005.

2.5. Other recommendations

ART's 20 other recommendations essentially concerned calling tariff options. Only one tariff decision on the creation of tariff options for businesses led to an unfavourable recommendation, due to the risks of creating a tariff squeeze. Here it is important to recall that France Telecom's interconnection tariffs decreased by only 1.6% on average in 2004, compared to the previous year, which leaves alternative operators' economic conditions virtually unchanged.

3) Interconnection catalogue

In November 2004[4] ART approved the technical and tariff conditions of France Telecom's so-called interconnection catalogue, for operators of networks open to the public and suppliers of electronic communications services to the public, which took effect on 1 January 2005.
This catalogue, which describes the wholesale services that France Telecom must offer its competitors, upholds all of the technical and tariff conditions in application in 2004. ART in fact deemed that the exceptional and temporary upholding of this

4) ART decision n° 04-1000 dated 23 November 2004, approving France Telecom's interconnection catalogue for 2005.

2004 interconnection offer represented a pragmatic solution, and a fair measure that ensured a clarity for the entire sector.
This catalogue is valid for the current period, at least until the conditions defined in the new regulatory framework – as defined in the Act dated 9 July 2004 on electronic communications and audiovisual communication services – come into effect.

This new regulatory framework profoundly alters the means of regulating operators with significant market power in the electronic communications sector.

The old system automatically imposed on those operators, deemed to have significant power in the relevant predetermined markets, a certain number of obligations, notably in terms of interconnection. So it was that all SMP operators in the fixed-line or leased line public telephone markets were obliged to publish a technical and tariff interconnection offer which had received ART's prior approval. In its capacity of SMP operator in the fixed and leased line telephony markets, France Telecom was therefore obligated to publish a "catalogue."

The new framework, on the other hand, states that it is ART's responsibility to define the relevant markets in the electronic communications sector, to designate, if applicable, those operators that enjoy significant power in each of these markets and, lastly, to impose access and interconnection obligations on them, in a fair and proportionate manner. An SMP operator can therefore be obliged to publish the technical and tariff conditions of its interconnection and access offer, known as its "reference offer."

It also provides for ART's re-examination of the obligations previously imposed on France Telecom in all electronic communications markets, through a market analysis procedure.

Upon completion of these market analyses – which is expected to be some time in 2005 – the offers and their conditions, contained in the temporary catalogue which was approved by ART, will be reviewed in light of the obligations which will be imposed on France Telecom, if necessary.

II. BROADBAND

1) Broadband market figures

1.1. Growth of turnover

(million euros	2001	2002	2003	2004	Growth (%)
Broadband Internet revenues	182	417	622	1,389	+123.3%

Source: ART/Market Observatory

Revenues for 2004 were pre-estimated at constant scope, in other words not incorporating Wanadoo figures in the responses.

1.2. Growth of the user base

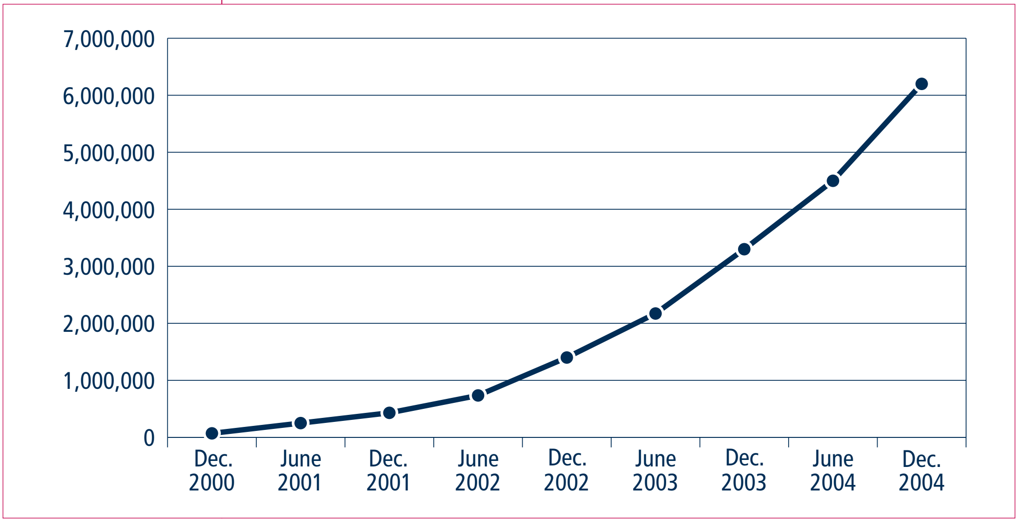
(in units)	31/12/01	31/12/02	31/12/03	31/12/04	Growth (%)
Number of broadband Internet subscribers	**602,003**	**1,654,887**	**3,569,381**	**6,529,997**	**+82.9%**
- of which xDSL	408,386	1,368,048	3,172,013	6,072,723	+91.4%
- of which Cable	190,322	282,992	393,854	454,035	+15.3%
- of which other technologies	3,295	3,847	3,514	3,239	-7.8%

Source: ART/Market Observatory

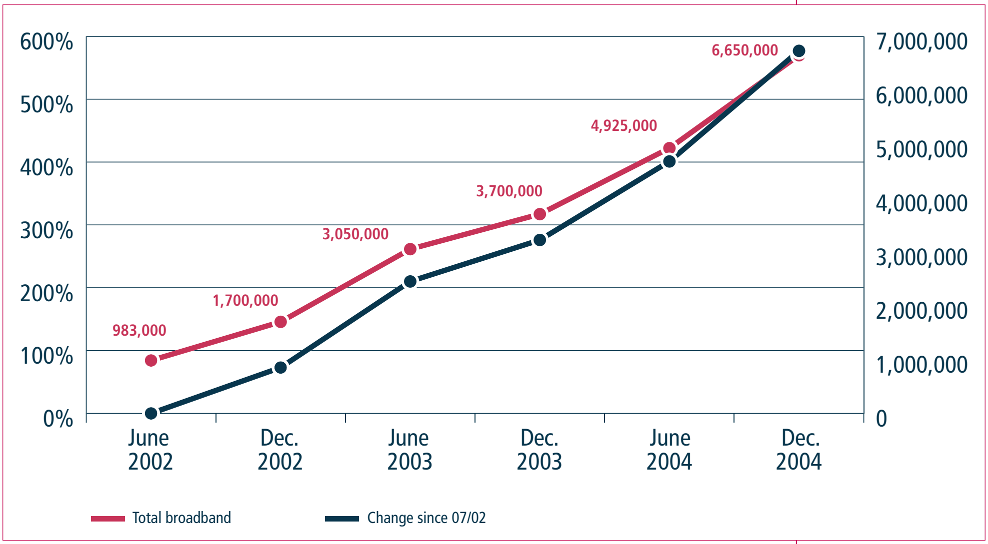
The Internet market in 2004 was greatly affected by the growth of broadband connections, which more than doubled last year. At the end of 2004, they totalled 6.5 million, for a total base of 11.9 million Internet users.

Source : ART

Growth of DSL in France since 2001



Total broadband fixed-line connections



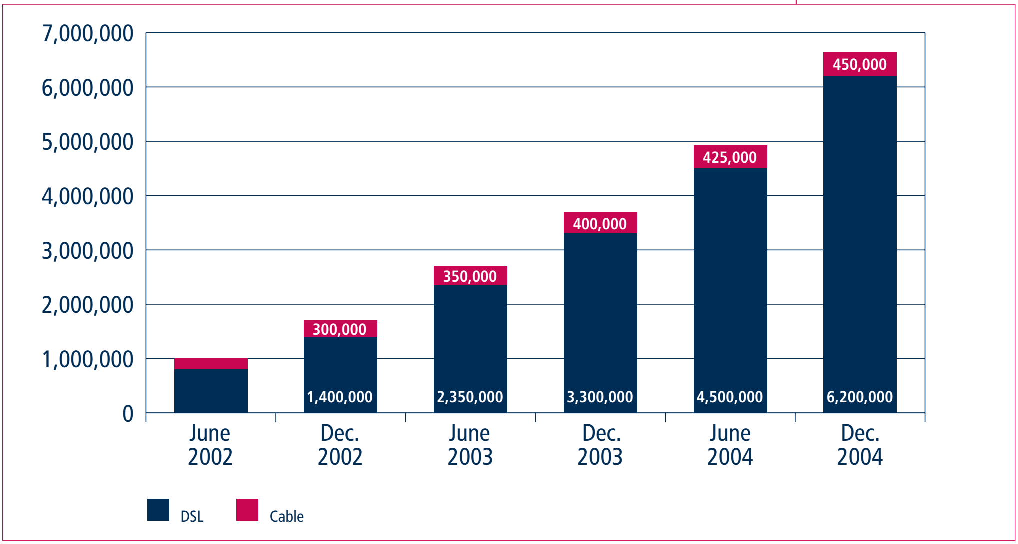
Source : ART

Figures on unbundling of France Telecom's local loop

	15/12/02	31/12/03	31/12/04	4/04/05
Number of unbundled lines	2,700	273,255	1,590,707	2,036,668
-of which partial unbundling	1,500	269,460	1,495,517	1,884,479
-of which full unbundling	1,200	3,795	95,190	152,189

Source: ART,
Unbundling report

Breakdown of the different fixed-line broadband technologies



1.3. Quarterly growth of broadband subscriptions and revenues in 2004

Broadband market figures in 2004

The data presented below are drawn from the Internet Market Observatory that the Authority set up in early 2004.
According to the data provided by ISPs, broadband revenues for 2004 totalled 1,648 million euros. This figure differs from the one established by the operators' survey (1,389 million euros) which does not incorporate ISPs' value-added in the end customer market.

Other discrepancies too can be found, notably in the case of xDSL, where the values differ from the figures published by France Telecom. There are several reasons for this:

- Small discrepancies can derive first from non-exhaustive coverage;
- More fundamentally, the figures published by this observatory correspond to the offers actually sold in the end market, whereas France Telecom's figures refer chiefly to the intermediary markets, unbundling or options 3 and 5. In a time of high growth, these different definitions can have a sizeable impact;
- And, finally, France Telecom includes Internet access via Turbo-DSL in its figures, whereas only a portion of it is resold by ISPs in the end market in the form of Internet access.

(in units)	31/12/03	31/03/04	30/06/04	30/09/04	31/12/04
Number of broadband Internet subscribers	3,569,381	4,401,446	4,911,413	5,497,695	6,529,997
- of which xDSL	3,172,013	3,978,077	4,482,948	5,061,779	6,072,723
- of which Cable	393,854	419,779	424,978	432,500	454,035
- of which other technologies	3,514	3,590	3,487	3,416	3,239

Source: ART

(million euros)	31/12/03	31/03/04	30/06/04	30/09/04	31/12/04
Broadband Internet revenues	na	370	409	424	445
- of which xDSL	na	323	361	378	399
- of which Cable	na	30	30	30	30
- of which other technologies	na	17	17	17	16

Source: ART

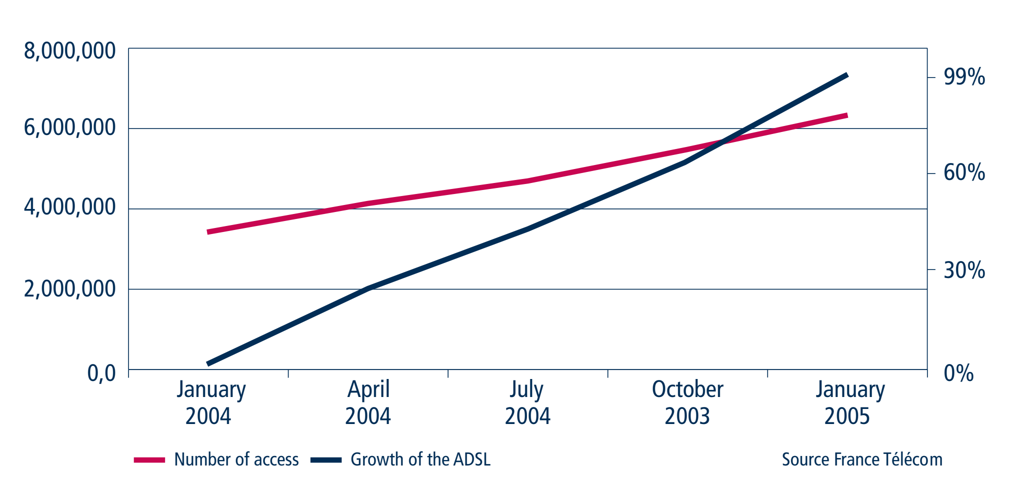
The growth of broadband in France (in other words of broadband connection offers supplying bitrates of at least 128 kbit/s) was particularly high in 2004, and places France in sixth place among Europe's 25 countries in terms of broadband penetration rates per inhabitant.
Broadband users' consumption has risen sharply as well, both in the consumer and the business segment. At the end of 2004, the Institut Médiamétrie reported that an Internet user equipped with a broadband connection spent an average 16 hours and 9 minutes a month surfing the Internet, compared to 6 hours and 59 minutes a month for those equipped with a narrowband connection.
This increase in broadband use is due in large part to France Telecom's accelerated DSL deployment, and to the extension of local loop unbundling (LLU) by alternative operators, in a situation of overall market growth combined with heightened competition.

2) The retail market

At the end of 2004, the residential broadband market was broken down as follows: 92% of connections via ADSL and roughly 8% via cable – alternative technologies (satellite, WLL and Wi-Fi) did not experience any significant growth.

ADSL use grew steadily in 2004. The number of DSL subscribers increased by 90%, rising from 3.3 million at the start of 2004 to 6.3 million (residential and business) at the start of 2005 (source: France Telecom). According to AFORM, the number of cable Internet subscribers totalled around 425,000 in June 2004. Broadband's penetration rate (including cable) in French households had reached around 25%, as of 1 January 2005.

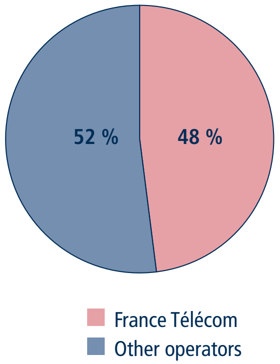
Growth of the ADSL base in 2004



2.1. A lively competition dynamic

The broadband retail market was marked by a powerful competition dynamic. Some one dozen players (Wanadoo, Free, Neuf Telecom, Tiscali, Cegetel, Club-Internet, AOL, Tele2, Telecom Italia) were operating in the national residential market. At the start of 2005, alternative operators had a 52% share of the residential ADSL access base, compared to 45% at the start of 2004.

Breakdown of ADSL access in the residential retail market



Source : ART

2.2. Three underlying trends

In 2004, broadband's growth was shaped by three underlying trends. First, overall, tariffs have dropped by a factor of 2.5 in two years in the residential segment (reference tariffs without pre-selection decreased from 45 in 2003 to around 20 in 2004). The "8 Méga Max" calling offers marketed by ISPs were introduced at an average price of between 20 for Internet access (15 the first year) and 30 when combined with telephony.

The second underlying trend is the rise in bitrates. While the most commonly used bitrate in 2004 was 512 kbit/s, advertisements aimed at new residential subscribers in March 2005 focused on bitrates of up to 8 Mbit/s, whereas maximum bitrates in 2003 were under 1 Mbit/s. In addition, DSL's technological evolution, including the introduction of the ADSL 2+ protocol, which was approved in October 2004 by the expert committee on introducing new technologies to the local loop, enabled the launch of DSL offers supplying bitrates of up to 16 Mbit/s.

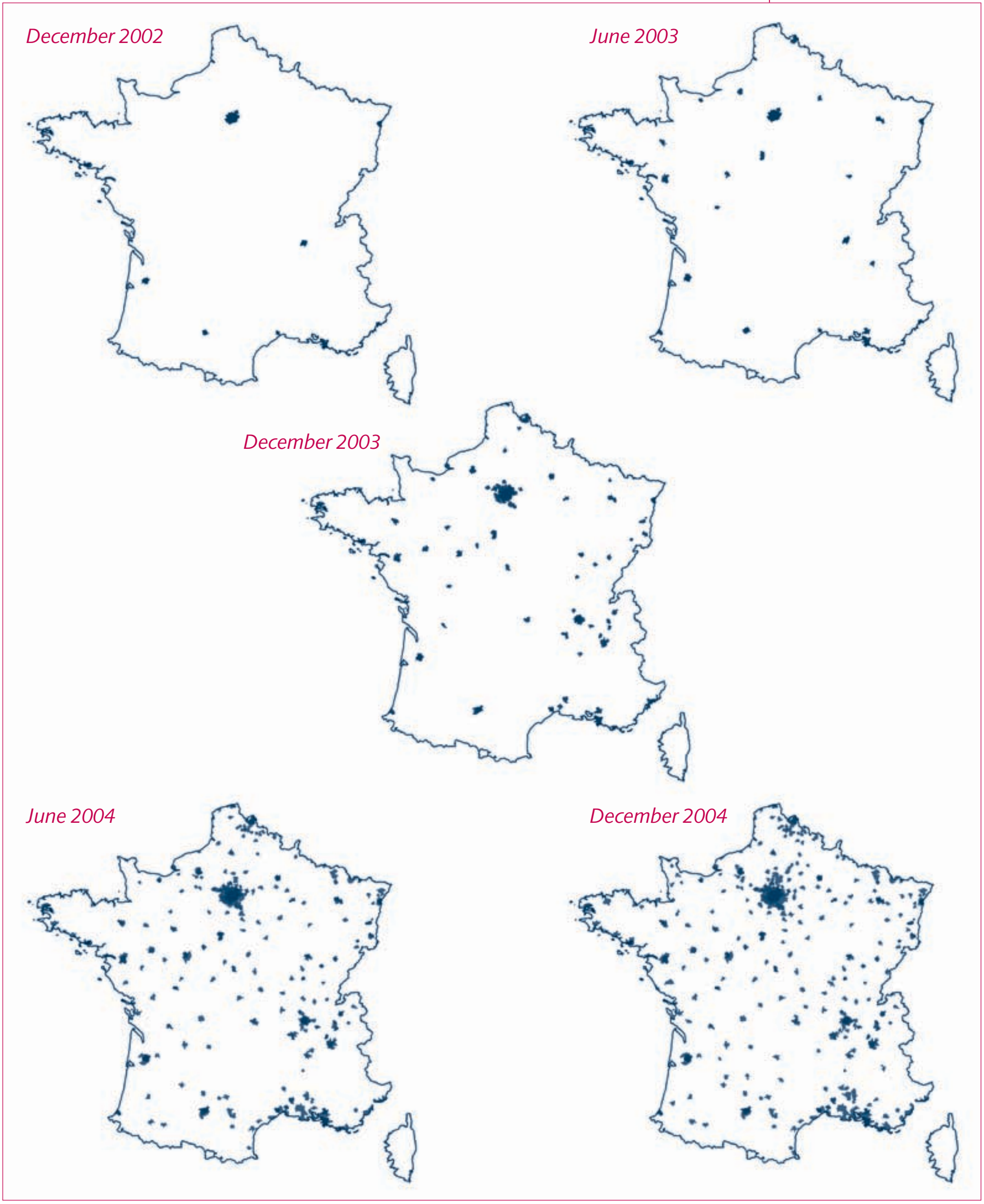
And, finally, 2004 was also marked by a diversification of services, and notably the large-scale development of bundled offers, combining Internet access and voice, Internet access and TV, Internet access, voice and TV, Internet access and videophony. This development heralds the growth of IP telephony in the coming years, with a usage rate amongst ADSL subscribers estimated at 14% in 2004, based on figures supplied by ISPs. At the start of 2005, there were an estimated 300,000 ADSL TV subscribers in France, with a growth rate of some 35,000 new subscribers a month.

2.3. Closing the regional divide

2.3.1. Swift increase of DSL coverage rates

2004 was also the stage for a considerable expansion of the regions covered by operators, both France Telecom and alternative LLU operators. France Telecom announced 90% coverage of the population at the end of 2004, and projected a rate of 96% by the end of 2005.

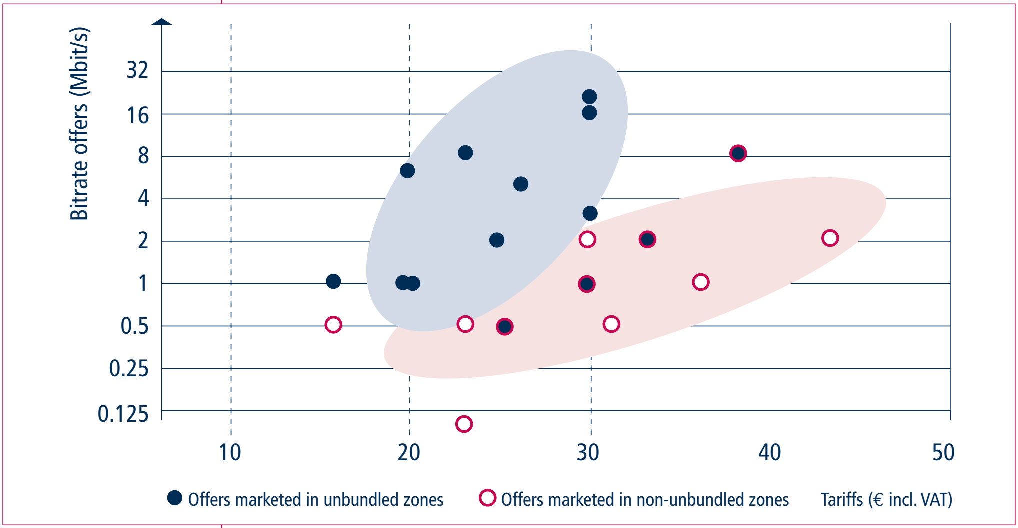
A visual representation of the progress made in DSL coverage



2.3.2. Comparison of the offers

Inside those zones covered by DSL in 2004 disparities were found between the offers available to consumers in unbundled zones, and those available in less densely populated areas. In the competition zones where unbundling had taken effect (dark oval), which accounts for roughly 50% of main lines (or 12 million households), more diversified and innovative offers were available, and at particularly attractive prices. The tariffs and bitrates of the offers marketed in those zones where only France Telecom operated a DSL network, and where it resold access to other operators (light oval) were less appealing.

Residential retail broadband tariffs, on 1 January 2005



Source: ISP websites

With this in mind, ART was keen to develop France Telecom's wholesale offers, particularly by improving the economic balance of access and collection offers at the regional level in order to enable ISPs to market vastly improved national offers.

2.4. Alternatives to DSL technology

Cable, which is currently the main alternative local loop to copper pair, is less developed in France than in the countries of Northern Europe, in particular. In 2004, it accounted for only 8% of total broadband connections. Other alternative technologies (satellite, WLL, Wi-Fi) did not develop to any significant degree, with their user base totalling only a few thousand broadband subscriptions in 2004.

2.4.1. Cable

In 2004, France's cable sector began a period of deep-seated change. The Act of 31 December 2003, on telecommunications public service obligations and France Telecom's status, removed the 8 million inhabitants' threshold applying to zones that a cable operator can serve. Despite expectations of massive sector consolidation, up until then this rule had blocked any possible mergers between operators, and limited the possibilities of rationalising access points through network swaps.

Following this regulatory change, different players became involved in two major consolidation trends. In early July 2004, the merger of Noos and UPC came into effect, after having received the European Commission's approval. In late 2004, agreements shaping investment fund Cinven and cable operator Altices's takeover of the two cable operators, NC Numéricâble and France Telecom Cable (and their cable networks), were finalised. This concentration trend marks France Telecom's commitment to withdrawing from the cable business. 2005 is expected to be the stage for the widespread deployment of triple play offers on cable, offering combined TV, Internet access and telephony.

2.4.2. Other technologies

In addition to classic access to end users via copper pair or cable, a range of alternative technologies now offer consumers broadband access over radio channel. Satellite access is particularly well-suited to sparsely populated rural zones, and zones such as mountainous regions that are difficult to access, and inaccessible to other types of infrastructure. Its drawbacks still include the high cost of the service and of the terminal equipment.

The wireless local loop (WLL), introduced in France through a call for submissions for wireless frequency allocations, is a wireless technology that involves connecting fixed-line subscribers, equipped with an antenna, to an Internet access point via terrestrial network. Currently available offers deliver bitrates ranging from 64 kbit/s to 34 Mbit/s. These solutions are largely suited to the needs of the business clientele.

At the end of 2004 there were several thousand WLL customers, most of which were businesses. The introduction of new standards, such as the ones being promoted by the WiMAX forum, could enable operators to build lower price service offers, and thus to target a broader clientele. Some technical solutions also supply a broadband roaming component, which could enable the launch of innovative offers in densely populated areas.

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Wireless local area networks (WLAN) provide point-to-point and point-to-multipoint connections, and enable wireless broadband communication between users. Composed of micro-cells, these networks, commonly referred to as Wi-Fi, make it possible to provide broadband access to the Internet in high traffic public spaces (i.e. hotspots), such as railway stations, airports, hotels, etc. They can also be used for connecting isolated regions. Bitrates vary depending on the WLAN technology used, and can reach several dozen Mbit/s, which are shared by the micro-cell's users.

3) The wholesale market

Broadband's leading players have taken up different positions in the market:

- Integrated operators purchase unbundled access and broadband access from France Telecom at the regional level, to then market them in the retail market under their own brand;
- Other operators also act as wholesale operators, competing with France Telecom, by reselling unbundled access to Internet service providers (ISP);
- And, lastly, ISPs which do not have a dense enough network buy broadband access in the wholesale market, delivered at the national level, from France Telecom and from unbundled operators positioned in this same wholesale market.

This is how a wholesale DSL market was created, occupied primarily by France Telecom, but also by competing players such as Cegetel and Neuf Telecom which resell other ISPs broadband traffic which they have collected, chiefly through unbundling.

4) ART's actions

4.1. Unbundling

4.1.1. Definitions

Unbundling of the local loop, in other words the portion of the telecommunications network that is situated between the end users' telephone jack and the local exchange, allows operators to use France Telecom's local network, in exchange for fair remuneration, to thus gain direct access to their subscribers.

There are two types of unbundling:

- "Full" unbundling, or fully unbundled access to the local loop, which involves making all of the copper pair's frequency bands available. This means that end users are not connected to France Telecom's network, but rather to the new entrant operator's.

- "Partial" unbundling, or shared access to the local loop, which involves making the copper pair's "high" frequency bands available to third-party operators, on which they can then build an ADSL service, for instance. The low frequency bands (those traditionally used for telephony) continue to be managed by France Telecom, which continues to supply its subscribers with the telephone service.

4.1.2. Ordering and delivery procedures working group

Upon ART's initiative, once a month a multilateral working group ("Processus de commandes livraison"), composed of France Telecom and the other unbundling operators, comes together to debate operational issues related to unbundling. In 2004, the work performed by this group, which is chaired by ART, focused chiefly on ensuring successful full unbundling procedures for the business and residential clientele, on ensuring that the quality of the unbundling service is equal to that of France Telecom's other offers, notably broadband, and on automating the ordering process.

The work done by this group allowed concrete, operational progress to be made, including the implementation of a process of reciprocal revenues upon delivery for newly created pairs, delivered for full unbundling in the business segment, and the creation of a signalling management platform (WebSAV) when disruptions occur on an unbundled line, which improves trouble ticket tracking. Progress has been reported as well in the evolution of the eligibility server, notably with respect to taking fully unbundled pairs into account. It is now also possible to order full unbundling for a line that is not attached to a France Telecom telephone subscription; and the rules for transmitting full unbundling authorisations have been made more flexible. In addition, the partial unbundling ordering process has been automated. Finally, a system of resale rights that manages reimbursement between operators for co-location services (energy, gear location, air conditioning, etc.) has been put into place.

The goal of the "ordering and delivery process" working group for the first half of 2005 was to effectively implement the penalty system introduced in 2004 in the unbundling agreement, and to automate the full unbundling ordering process, notably with synchronisation between full unbundling and portability when requested.

4.1.3. Work of the Expert Committee

The Expert Committee in charge of introducing new techniques in the local loop, formed by ART in September 2002[5], and composed of experts from France Telecom, unbundled operators and other concerned industry players, on 22 March 2004 issued a recommendation on the use of ADSL 2+ techniques at the main

5 ART decision n° 02-752, dated 19 September 2002, on creating an expert committee focused on the introduction of new technologies to the local loop.

distribution frame (MDF) and cross-connection point, and of Re-ADSL at the main distribution frame level. Re-ADSL (Reach Extended ADSL) enables a significant increase in broadband's geographical coverage from the MDF. In its recommendation, the Committee stated that it was in favour of introducing these new technologies, provided trials were run first.

On 23 March 2004, the Committee issued an opinion on people's safety with respect to accessing the sub-loop. In its opinion, it listed the applicable standards in terms of electrical safety in the cross-connection point's physical environment.

On 7 October 2004, the Committee authorised use of ADSL 2+ at the main distribution frame. ADSL+ was thus rapidly deployed by some operators, notably Free and later France Telecom.

In the last quarter of 2004, the Committee's work centred primarily on Re-ADSL at the MDF (monitoring trials on a captive network) and VDSL (Very High Bit Rate DSL, very high-speed digital subscriber line), systems which are on the Committee's agenda for 2005.

4.1.4. Recommendation to the Competition Council, following a request from SIPPEREC

On 23 July 2004, in accordance with Article L.462-1 of the Commercial Code, a request for opinion was submitted to the Competition Council by SIPPEREC – the Inter-communal association of suburban Paris for electricity and communication networks (Syndicat intercommunal de la périphérie de Paris pour l'électricité et les réseaux de communication). SIPPEREC requested that the Council provide an opinion on the conditions for accessing the local sub-loop (France Telecom's secondary cross-connect points).

It was SIPPEREC's view that the technical, financial and commercial mechanisms in place for accessing France Telecom's secondary cross-connect points did not create fair conditions for fostering competition in the VDSL market, and did not allow consumers to benefit from diversified broadband offers.

Having received a request from the Competition Council on this issue, on 12 October 2004, ART issued a recommendation[6] specifying the circumstances under which conditions applying to access to the local sub-loop needed to be understood. First, it was specified that, at the time of the request, no technology for use at secondary cross-connect points had received the the Expert Committee's approval. The question of introducing VDSL, which was the object of SIPPEREC's request, needed to be examined in accordance with unbundling operators' requests, as part of the Expert Committee. Furthermore, the Authority noted that

6) ART Recommendation n° 04-861, dated 12 October 2004, on a request for opinion from the Competition Council concerning SIPPEREC's request for a recommendation on the technical, pricing and commercial terms of France Telecom's reference local sub-loop access offer.

the operational implementation of unbundling at the secondary cross-connect point level had to be subjected to debate and specific developments – the operational processes for local loop unbundling that were currently in place being only partially transposable to sub-loop unbundling.

On 20 December 2004, the Competition Council issued its recommendation. In its recommendation, it concluded that ART had taken the issue of local sub-loop unbundling into account, and that the work performed by the Expert Committee fulfilled the conditions of objectivity and transparency.

4.2. Wholesale bitstream offers

4.2.1. Evolution of the Turbo DSL offer

France Telecom's "Turbo DSL" offer is a commercial DSL access offer over copper pair, aimed at the business segment. It is an "operators'" offer which is part of the range of wholesale DSL access offers delivered at the regional level. Operators buy Turbo DSL access from France Telecom in the wholesale market, and complete it in view of selling complete solutions that include Internet access, guaranteed bitrates, virtual private networks, etc., to their customers, businesses and local governments, in the retail market. The Turbo DSL offer encompasses a very wide range of products, some of which are similar to those marketed to residential customers (608 kbit/s downstream and 160 kbit/s upstream, with a guaranteed bitrate of 75 kbit/s) and others which are designed specifically for the business market (symmetrical 4096 kbit/s with a guaranteed bitrate).

In 2004, the Authority was called upon to issue recommendations on three of France Telecom's tariff decisions on its Turbo DSL offer.

In February 2004, ART handed down a favourable recommendation on the first tariff decision[7] regarding an overall decrease, of around 10%, in the price of services, and on the evolution of its offer's architecture, provided that France Telecom consult with the sector's various players upon making any changes to the said architecture. The Authority also issued a favourable recommendation on the second tariff decision concerning the introduction of an express delivery option.

In September 2004, the Authority handed down a favourable recommendation[8] on the introduction of a class of service (CoS) management option, allowing customers to order two virtual circuits (VC), with different guaranteed bitrates if requested, for the same connection, thereby enabling double play offers.

4.2.2. Evolution of the ADSL Connect ATM offer

"ADSL Connect ATM" is a wholesale broadband ATM service supplied at the regional level by France Telecom. This offer allows operators using it to be present

7) ART Recommendation n° 04-162, dated 10 February 2004, on France Telecom's tariff decisions n° 2004160 and 2004161 concerning changes to the Turbo DSL offer and the "Express Delivery" option.

8) ART Recommendation n° 04-774, dated 16 September 2004, on France Telecom's tariff decision n° 2004108 concerning the Turbo DSL offer's "CoS management" option.

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in the residential market. The alternative operators collect traffic at the ATM regional points, then use their own transport infrastructures to deliver traffic at the national level.
This offer, which is part of the wholesale bitstream market, is used chiefly by unbundled operators as a complement to unbundling, in other words to collect traffic from intermediate points where they have not yet deployed their own equipment.
In early 2004, France Telecom made some significant changes to the pricing structure of its ADSL Connect ATM offer, which led to a price decrease for equal deployment, in other words for the same number of connected regional ATM cross-connection points. At the same time, France Telecom also increased available bitrates without a price hike.

4.2.3. Introduction of the ATM and IP Bitstream offers

In October 2004, France Telecom presented ART with a new wholesale offer called “Bitstream ATM”, thus expanding the regionally-distributed wholesale broadband access (i.e. bitstream) offer. This wholesale offer is similar to “ADSL Connect ATM,” distinguishing itself in that it is now possible for the same end subscriber to have two virtual circuits (VC). This means that alternative operators can market double play offers in the residential retail market.

Next, in December 2004, France Telecom committed to offering this same service delivered in IP, under the name “Bitstream IP,” to operators connected to its BAS (broadband access server: equipment that manages the transport of data coming from several alternative operators’ DSLAMs, installed in France Telecom’s MDF, in ATM or over IP).

4.2.4. Evolution of the IP/ADSL regional collection offer

The regional IP/ADSL collection option, which was introduced by France Telecom in late 2003, is part of the regional bitstream offer. The changes made to it over the course of 2004 are described in the following section.

4.3. Wholesale DSL offers delivered to a national point

4.3.1. Evolution of the IP/ADSL offer delivered to a national point

France Telecom’s IP/ADSL offer involves delivering an ISP the IP traffic come from all of its customers’ connections across the country to a single national point. This offer, referred to as option 5, dates back to 1999, and allowed ISPs to market “broadband packages” to their customers. It avoided customers having to buy, on the one hand, an access service from France Telecom and, on the other, an Internet collection and connectivity offer from an access provider.

The tariffs charged for the IP/ADSL offer are subject to approval by the Ministers in charge of Telecommunications and the Economy, following ART's recommendation, until such time as obligations are implemented, based on an analysis of broadband markets.

In late 2003, France Telecom introduced a regional collection offer for IP/ADSL. This evolution allowed ISPs, particularly those which had deployed a regional infrastructure, to enjoy lower collection tariffs.

A differentiation of the "access" component's tariffs, depending on the size of the associated distribution frame, had been introduced in late 2003, distinguishing two zones: zone A made up of distribution frames of over 20,000 lines and zone B made up of distribution frames of less than 20,000 lines.

In 2004, ART was called upon to make several recommendations following tariff decisions on the wholesale IP/ADSL offer submitted by France Telecom.

- In April 2004, the Authority issued a favourable recommendation[9] on incorporating a 2048 kbit/s connection into the IP/ADSL offer.
- In July 2004, France Telecom proposed a decrease in IP/ADSL tariffs. Here, ART made an unfavourable recommendation[10] both on the proposed decrease in collection tariffs, which would have put a halt to unbundling's geographical expansion, and on the decrease in access tariffs which did not allow unbundling operators to compete with the IP/ADSL offer's tariffs. At the same time, ART expressed its desire to see the tariffs charged for 2048 kbit/s access come more in line with those charged for 1048 kbit/s access. Following this recommendation, the Minister approved only the decrease in certain access tariffs.
- In September 2004, the Authority issued two favourable recommendations[11] on changes proposed by France Telecom to enhance the IP/ADSL line with two new peak bitrates. Here, France Telecom proposed a peak bitrate of 2048 kbit/s for business users, ensuring an upstream rate of 256 kbit/s, or double the 128 kbit/s rate offered to residential users. Furthermore, depending on the line's technical properties, ART approved a bitrate of up to 8 Mbit/s under optimal conditions ("IP/ADSL Max"), provided that France Telecom upgrade its "ADSL Connect ATM" offer so that operators are able to replicate the incumbent's new offer, under economically viable conditions. These changes correspond to a general trend of increasing bitrates in retail offers, without any significant increase in price for customers.
- In early 2005, France Telecom proposed a new major change to the IP/ADSL offer. The incumbent is seeking to "streamline" access tariffs in view of introducing a generic tariff for each zone (regardless of the peak bitrate

9) ART Recommendation n° 04-373, dated 27 April 2004, on incorporating a new 2048/128 kbit/s offer in the IP/ADSL product line.

10) ART Recommendation n° 04-615, dated 20 July 2004, on France Telecom's tariff decisions n° 2004098 and 2004099 on changes to the tariffs charged for the IP/ADSL access and IP/ADSL collection offers.

11) ART Recommendation n° 04-793, dated 30 September 2004, on France Telecom's tariff decision n° 2004119 concerning the marketing of a new 2048/256 kbit/s offer for business users, and ART Recommendation n° 04-794, dated 30 September 2004, on France Telecom's tariff decision n° 2004141 on marketing a new IP/ADSL Max offer.

offered to end users), for all of its broadband delivery offers. Nevertheless, no change in collection tariffs was planned for at that time. ART issued a favourable recommendation on this tariff decision[12].

12) ART Recommendation n° 05-0089, dated 8 February 2005, on France Telecom's tariff decision n° 2005013 concerning changes to access tariffs for the IP/ADSL offers.

4.3.2. Summary tables

Change in tariffs for IP ADSL access sold to ISPs (€ ex.VAT/month)

Access (kbits)		Dec-01	Dec-02	Dec-03	Dec-04	March-05
128	zone A		11.6	11.6	11.6	11.6
	zone B					
512	zone A	21.3	15.5	13	13	13
	zone B			15.5	15.5	15.5
1024R	zone A		37.1	13	13	13
	zone B			20	18	17
2048R	zone A				13	13
	zone B				20	17
1024Pro	zone A	76.5	58.2	35	35	13
	zone B			45	45	17
2048Pro	zone A				35	13
	zone B				45	17
Max	zone A				15	13
	zone B				23	17

Source : ART

Collection tariffs remained unchanged in 2004. They are as follows:

National collection	
Bitrate class (Mbit/s)	**Monthly tariff (€ ex. VAT)**
0 à 30	417
30 à 100	394
100 à 300	375
300 à 1 000	357
1 000 à 2 000	343
2 000 et plus	330

Reginal collection	
Bitrate class (Mbit/s)	**Monthly tariff (€ ex. VAT)**
0 à 10	329
10 à 30	310
30 à 80	295
80 à 150	281
150 à 300	200
300 et plus	260

Overseas territory collection conveyance to Metr. France	
Bitrate class (Mbit/s)	**Monthly tariff (€ ex. VAT)**
0 à 20	3182
20 à 50	3016
50 et plus	2869

Source : ART

Service access fees are still set at €53 (excl. VAT); connection tariffs too remain the same.

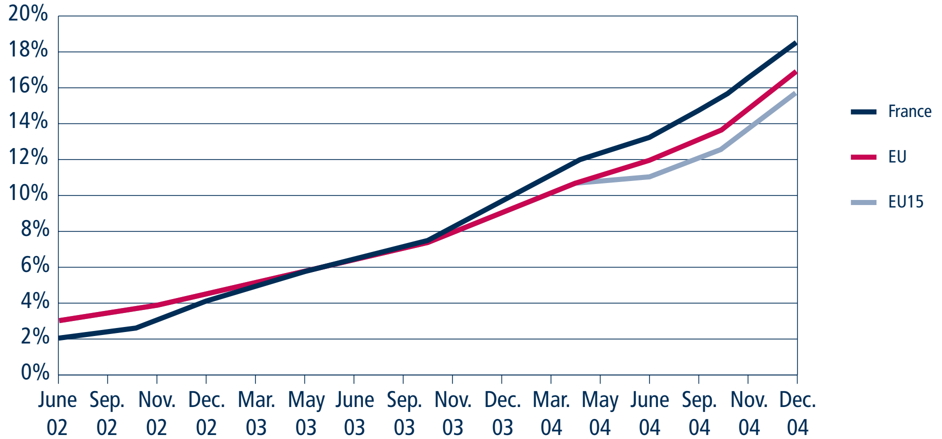
4.4. Alternatives to France Telecom's wholesale offer

Thanks to unbundling, national wholesale offers providing an alternative to France Telecom's offers have developed in recent times. France Telecom's competitors in the wholesale market are operators with their own extensive networks. They buy unbundled or bitstream access from France Telecom, then resell capacity to third-parties, notably to ISPs that do not have a national network, and to other operators who are not present throughout the country.

5. European comparisons

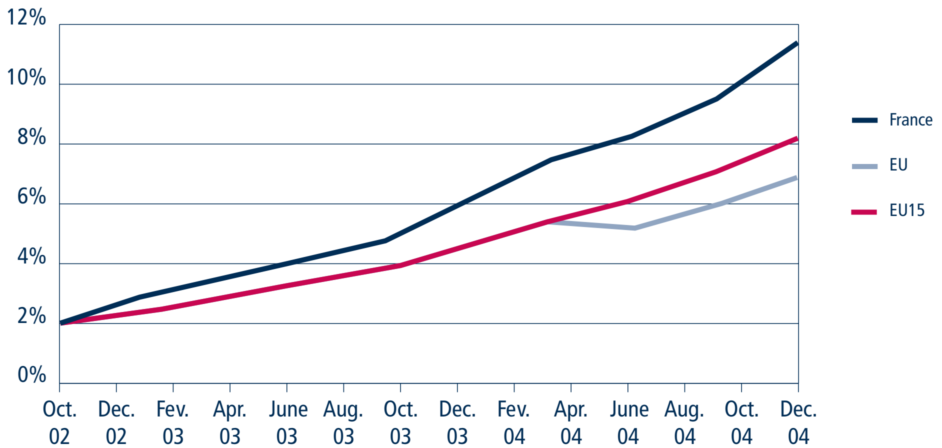
5.1. The retail market

DSL penetration rate, compared to the number of telephone lines



Source : ECTA

Broadband penetration rate amongst the total population



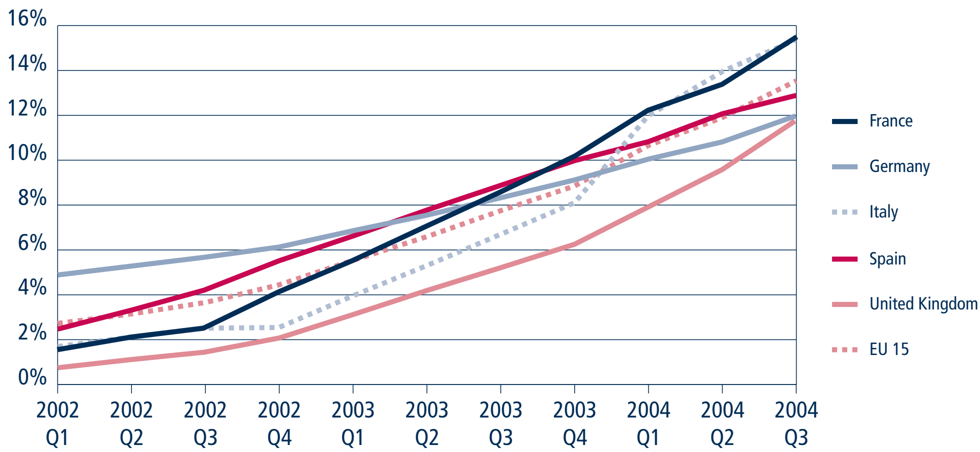
Source : ECTA

Growth of the DSL penetration rate in Europe

The DSL penetration rate in France has nearly doubled in a single year. It is now above the European average.

Sept 2002		Sept 2003		Sept 2004	
Belgium:	9 %	Danmark:	16 %	Danmark:	28 %
Danmark:	8 %	Belgium:	15 %	Pays-Bas:	22 %
Sweden:	7 %	Netherlands:	11 %	Belgium:	22 %
Germany:	6 %	Finland:	10 %	**France:**	**16 %**
Austria:	5 %	Sweden:	9 %	Italy:	15 %
Spain:	4 %	Spain:	9 %	Finland:	15 %
Finland:	4 %	**France:**	**9 %**	Sweden:	14 %
EU 15:	4 %	Germany:	8 %	EU 15:	14 %
Netherlands:	3 %	Austria:	8 %	Austria:	13 %
France:	**3 %**	EU 15:	8 %	Spain:	13 %
Italy:	3 %	Italy:	7 %	Germany:	12 %
United Kingdom:	1 %	United Kingdom:	5 %	United Kingdom:	12 %
Luxemburg:	1 %	Portugal:	4 %	Portugal:	9 %
Portugal:	0 %	Luxemburg:	4 %	Luxemburg:	7 %
Ireland:	0 %	Ireland:	1 %	Ireland:	5 %
Greece:	0 %	Greece:	0 %	Greece:	1 %

The DSL penetration rate



Source : ECTA

Technologies used

DSL technologies account for a growing share of broadband connections. In 2004, they represented 77.7% of the total number of connections in the EU-25, versus 73% in 2003 in the EU-15, according to the 10th European Commission Report, which also reveals that broadband cable has lost a 4.6% share over the course of the year, now accounting for 19.6% of all connections.

The situation in France is more "extreme" than the European average, with DSL accounting for close to 95% of broadband access.

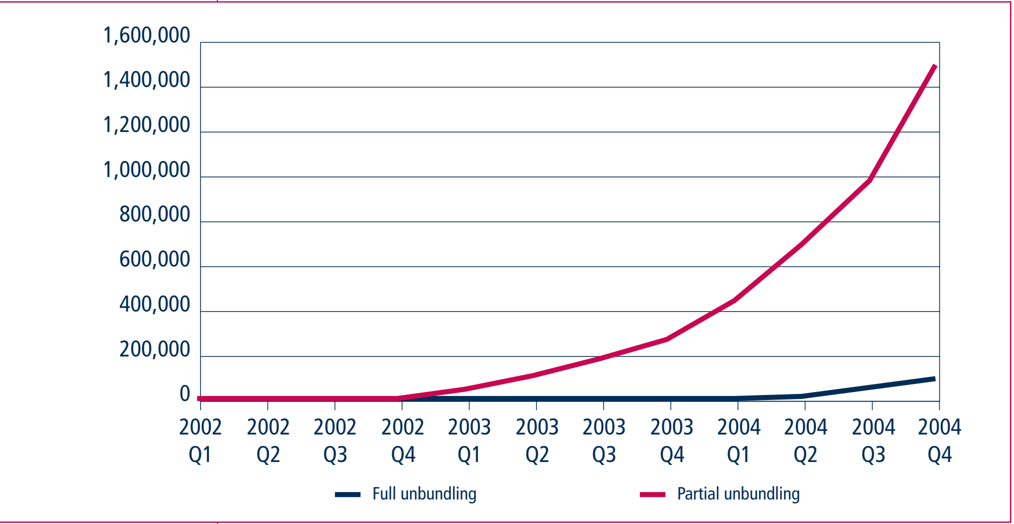
5.2. Wholesale markets

On 1 January 2005, there were 1,590,707 unbundled lines in France, of which 1,495,517 partially unbundled lines. France ranks second in Europe in number of unbundled lines, second only to Germany. France is, however, in first place when restricting the comparison to the number of unbundled lines used to supply broadband access to the Internet.

With a base of unbundled lines that on 1 January 2005 was six times its size on 1 January 2004 (270,000 unbundled lines), France is making a substantial contribution to the growth of unbundling in Europe.

Sept 2002	Sept 2003		Sept 2004	
Partial + Full	Partial	Full	Partial	Full
Danmark: 21 %	Netherlands: 15 %	Finland: 17 %	Netherlands: 21 %	Finland: 16 %
Finland: 13 %	**France: 7 %**	Danmark: 12 %	**France: 19 %**	Germany: 13 %
Netherlands: 11 %	Sweden: 7 %	Italy: 11 %	Sweden: 15 %	Austria: 12 %
Ireland: 10 %	Finland: 6 %	Germany: 9 %	Finland: 8 %	Italy: 10 %
Italy: 7 %	Ireland: 5 %	Greece: 8 %	UE 15: 16 %	Danmark: 9 %
Germany: 7 %	Danmark: 3 %	Austria: 6 %	Danmark: 5 %	UE 15: 6 %
UE 15: 5 %	UE 15: 3 %	UE 15: 5 %	Ireland: 2 %	Greece: 4 %
Austria: 3 %	Belgium: 0 %	Netherlands: 4 %	Greece: 2 %	Luxemburg: 4 %
Sweden: 1 %	United Kingdom: 0 %	Spain: 3 %	Spain: 1 %	Netherlands: 3 %
Luxemburg: 1 %	Greece: 0 %	Luxemburg: 3 %	United Kingdom: 0 %	Spain: 33 %
Belgium: 0 %	Italy: 0 %	Ireland: 1 %	Belgium: 0 %	Sweden: 2 %
United Kingdom: 0 %	Germany: 0 %	Sweden: 1 %	Italy: 0 %	Portugal: 2 %
Portugal: 0 %	Spain: 0 %	Portugal: 1 %	Austria: 0 %	**France: 1 %**
France: 0 %	Austria: 0 %	Belgium: 0 %	Portugal: 0 %	Belgium: 1 %
Spain: 0 %	Luxemburg: 0 %	United Kingdom: 0 %	Germany: 0 %	Ireland: 0 %
Greece: 0 %	Portugal: 0 %	**France: 0 %**	Luxemburg: 0 %	United Kingdom: 0 %

Number of unbundled lines in France



Source : Operators and ECTA

III. MOBILE

1) GSM

1.1. The market

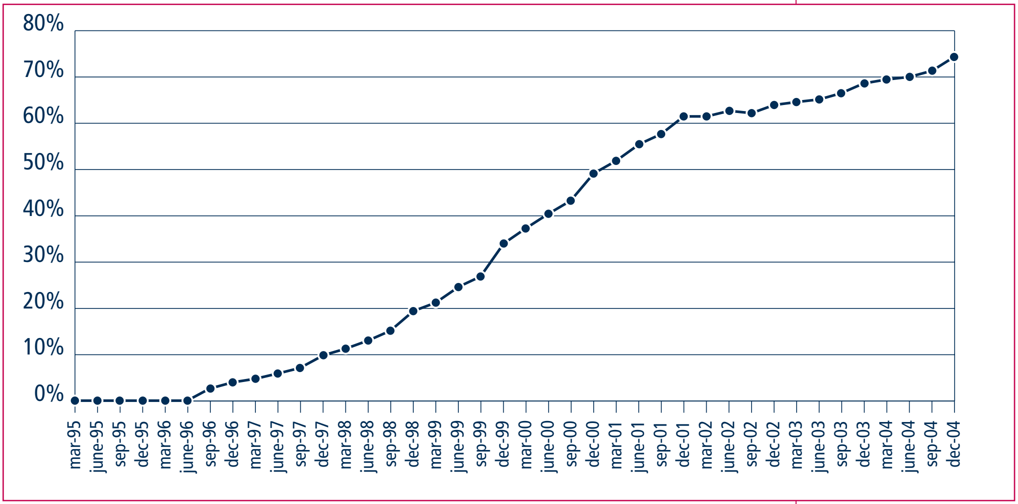
1.1.1. Number of customers, and breakdown of flat rate vs. pre-paid services

	2000	2001	2002	2003	2004	Growth in 2004
Number of clients (*)	29,681,300	36,997,400	38,592,777,	41,683,598	44,551,800	+ 6.9%
Of which flat rates	16,403,700	18,936,800	21,485,188	24,536,549	27,420,000	+ 11.8%
Of which pre-paid cards	13,277,600	18,060,600	17,107,589	17,147,049	17,131,800	- 0.1%
Penetration rate	49.3%	61.5%	64%	69.1%	73.9%	+ 6.9%

(*) A customer is anyone with a SIM card, or anyone with a pre-paid card having made at least one call, and who has not exceeded the date after which it is contractually impossible to receive calls, and registered with the operator's Home Location Register (HLR).

Source : ART

Mobile Telephony penetration rate in France



On 31 December 2004, there were 44.5 million mobile telephony customers, of which 27.4 million were subscribing to a flat rate offer. The mobile telephony customer base increased by 2.9 million during the year, representing a net annual gain of 6.9%. Since 2001, the bulk of growth has been among flat rate users, while the base of pre-paid formula users has remained relatively unchanged. This latter group accounted for 38.8% of the total base. The mobile penetration rate had reached 73.9% by 31 December, versus 69.1% one year earlier.

Orange France, SFR and Bouygues Telecom's share of Metropolitan France's mobile market remained essentially the same as it was one year earlier, totalling 47.7%, 35.5% and 16.8%, respectively.

Operators in France's overseas départements and territories, and their customer base

	Dec. 2003	Dec. 2004
Total Martinique	294,500	302,700
Orange Caraïbes	238,800	240,500
Bouygues Télécom Caraïbes	55,700	62,200
Total Guadeloupe	309,300	324,800
Orange Caraïbes	253,900	259,400
Bouygues Télécom Caraïbes	55,400	60,400
Dauphin Télécom	-	5,000
Total Guyane	87,100	108,600
Orange Caraïbes	82,100	93,500
Bouygues Télécom Caraïbes	5,000	8,300
Outremer Télécom	-	6,800
Total Réunion	564,900	621,200
Orange Réunion	158,800	177,000
SRR	406,100	444,200
Total Mayotte	36,000	51,900
SRR (Mayotte Télécom Mobile)	36,000	51,900
Total Saint Pierre et Miquelon	2,300	2,600
SAS SPM	2,300	2,600
Grand total	**1,294,100**	**1,411,800**

Source : ART

In France's overseas départements and territories, Mayotte and Saint Pierre-et-Miquelon, the mobile telephony base totalled 1.4 million users, with net annual growth of 9%. Half of the customers had subscribed to a flat rate offer, as of 31 December 2004. The penetration rate in the overseas départements, Mayotte and Saint Pierre-et-Miquelon had reached 78.2% of the population on 31 December 2004.

It should be noted that some licensed operators had not yet opened their GSM network commercially as of 31 December 2004: Outremer Telecom in the Antilles and the Reunion, along with Saint-Martin & Saint-Barthélémy, TelCell in St-Martin and St-Barthélémy and Oceanic Digital FW1 in the Antilles.

1.1.2. Growth of turnover and volume

a) Growth of turnover

(million euros)	2000	2001	2002	2003	2004	Growth in 2004
Mobile telephony (*)	7,761	10,000	11,768	13,231	14,661	+ 10.8%
of which flat rates	6,851	8,360	9,636	10,963	12,134	+ 10.7%
of which pre-paid cards	91	1,640	2,132	2,268	2,527	+ 11.4%

Source : ART

(*) including data transport on mobile networks

The increase in operators' revenues was due chiefly to flat rates; pre-paid formulas accounting for only 16.6% of total turnover.

(million euros)	2001	2002	2003	2004	Growth in 2004
Mobile services	10,000	11,768	13,231	14,661	+ 10.8%
- of which telephony	9,595	11,093	12,125	13,350	+ 10.1%
- of which international calls	323	424	437	424	- 3.0%
- of which data transport	405	676	1,106	1,311	+ 18.5%

Source : ART

b) Volume growth

(millions minutes)	2000	2001	2002	2003	2004	Growth in 2004
Mobile telephony *	35,437	44,419	51,844	63,469	74,336	+ 17.1%
of which flat rates	31,945	39,775	46,646	57,378	65,802	+ 14.7%
of which pre-paid cards	3,492	4,644	5,197	6,091	8,534	+ 40.1%

(*) excluding data transport

Source : ART

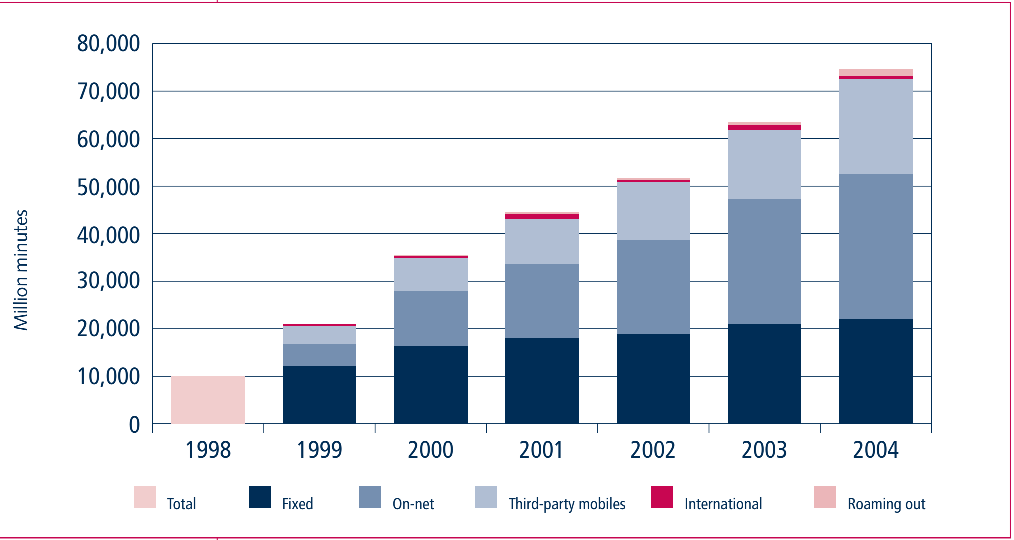
(millions minutes)	2000	2001	2002	2003	2004	Growth in 2004
Mobile telephony *	35,437	44,419	51,844	63,469	74,336	+ 17.1%
of which mobile-to-fixed calls	16,269	17,665	18,710	20,839	22,015	+ 5.6%
of which on-net mobile calls	11,715	16,157	19,939	25,968	30,286	+16.6%
of which off-net mobile calls	6,840	9,521	11,973	15,202	19,945	+31.2%
of which international mobile calls	498	692	713	805	1,109	+37.8%
of which calls on a foreign network (roaming out)	318	385	509	655	980	+49.7%

(*) excluding data transport

Source : ART

The high increase in roaming out calls reveals that users are becoming less and less reluctant to use their mobiles when travelling abroad.

Volume growth from mobiles



Source : ART

1.1.3. Data transport

(million euros)	2001	2002	2003	2004	Growth in 2004
Data transport	405	676	1,106	1,311	+ 18.5%
of which SMS	395	639	915	1,093	+ 19.5%

Source : ART

(million units)	2001	2002	2003	2004	Growth
SMS	3,508	5,523	8,188	10,818	+ 32.1 %

Source : ART

SMS is still the primary driving force behind growing data revenues on mobile networks, accounting for 83.5% of earnings. Following through from 2003, the popularity of SMS has been holding steady, with the volume of sent text messages having risen by more than 50%.

1.1.4. The active multimedia base in Metropolitan France

The base of active multimedia users refers to the number of customers who have used a multimedia service, such as WAP, i-mode or MMS, or who have sent a mobile e-mail within the past 30 days. In December 2004, 10.3 million customers in Metropolitan France used these services, or just over 2.2 million more than in September 2004. Close to one out of four subscribers now use these services.

	31/03/04	30/06/04	30/09/04	31/12/04
Active mobile multimedia base	6,678,500	7,548,600	8,062,500	10,306,800
Active mobile multimedia base as a % of Metropolitan France's total active base	16.7%	18.7%	19.7%	24.3%

Source : ART

1.1.5. Average monthly invoice per customer

Average monthly consumption, per customer

	2000	2001	2002	2003	2004	Growth
Average monthly invoice, per customer* (€)	25.7	25.1	26.0	27.5	29.4	+ 7.0%
Average monthly MoU, per customer**	117.7	111.3	114.5	131.8	149	+ 13.0%
Average number of SMS sent monthly, per customer	4.9	8.8	12.2	17.0	21.7	+ 27.6%

Source : ART

** The average monthly invoice per subscriber is calculated based on mobile telephony turnover, including data transport, applied to the average annual base. Revenues generated by interconnection (incoming calls) are not factored in.*
*** Calculation of the average monthly minutes of use per customer is based solely on voice traffic.*

Flat rate customers' average monthly consumption

	2000	2001	2002	2003	2004	Growth
Average monthly invoice per customer subscribing to a flat rate (€)	39.2	40.2	39.8	39.7	41.4	+ 4.2%
Average monthly MoU per customer subscribing to a flat rate	183	191.3	192.8	207.9	224.3	+ 7.9%

Source : ART

Average monthly consumption per pre-paid customer

	2000	2001	2002	2003	2004	Growth (%)
Average monthly invoice per customer using a pre-paid formula (€)	8.2	8.6	10.1	11	12.3	+ 11.5%
Average monthly MoU per customer using a pre-paid formula	27.6	24.2	24.7	29.6	41.5	+ 40.1%

Source : ART

1.1.6. Mobile operator interconnection

Interconnection between the different telecommunications networks (fixed-fixed, mobile-fixed, mobile-mobile) is one of the essential technical conditions for enabling competition in the electronic communications market.

(million euros)	2001	2002	2003	2004	Growth (%)
Interconnection service revenues	3,484	3,290	2,949	2,845	-3.5%
of which incoming international traffic	302	233	212	162	-23.2%

Source : ART

(million minutes)	2001	2002	2003	2004	Growth (%)
Volume of interconnection services	21,288	24,751	27,680	29,965	+ 8.3%
of which incoming international traffic	1,592	1,207	985	1,030	+4.5%

Source : ART

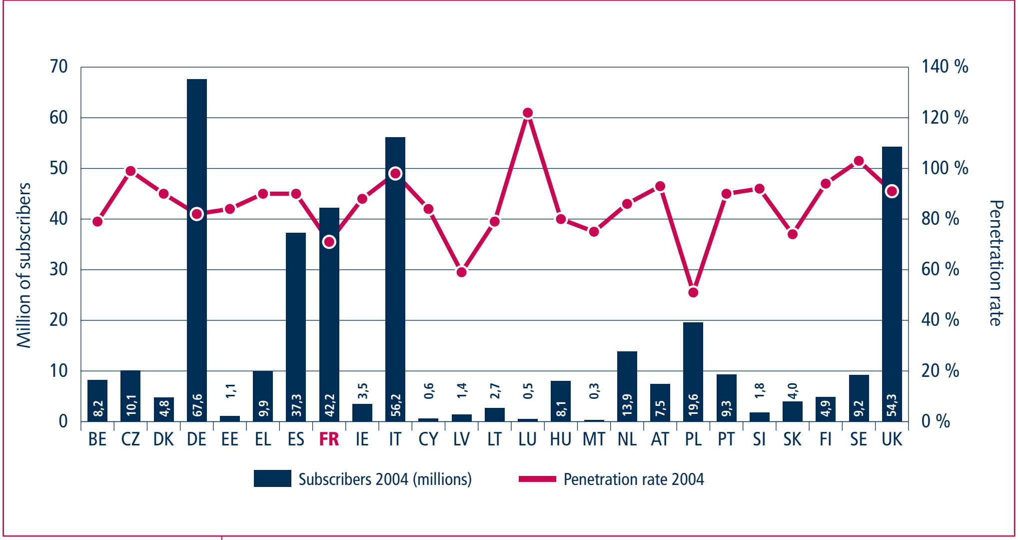
Mobile operators' interconnection service revenues report a 3.5% decrease, due in part to a drop in the price of fixed-to-mobile call termination prices.

1.2. European comparisons

Mobile telephony is clearly a European success story, as growth rates in 2004 continued to reveal: reaching 7% in value, for a total 122 billion euros in the EU-25, according to the 10th European Commission's Report. While voice still accounts for the largest portion of revenues, value-added data services now account for between 13% and 22% of operators' earnings. The average penetration rate totalled 83%, for a market of 379 million customers. Four countries in the EU-15 experienced a rise in penetration rates of over 10%: Greece, Luxembourg, the Netherlands and Finland. Amongst Europe's new Member States it was the Baltic states which enjoyed the highest growth rates (between 16% and 25%).

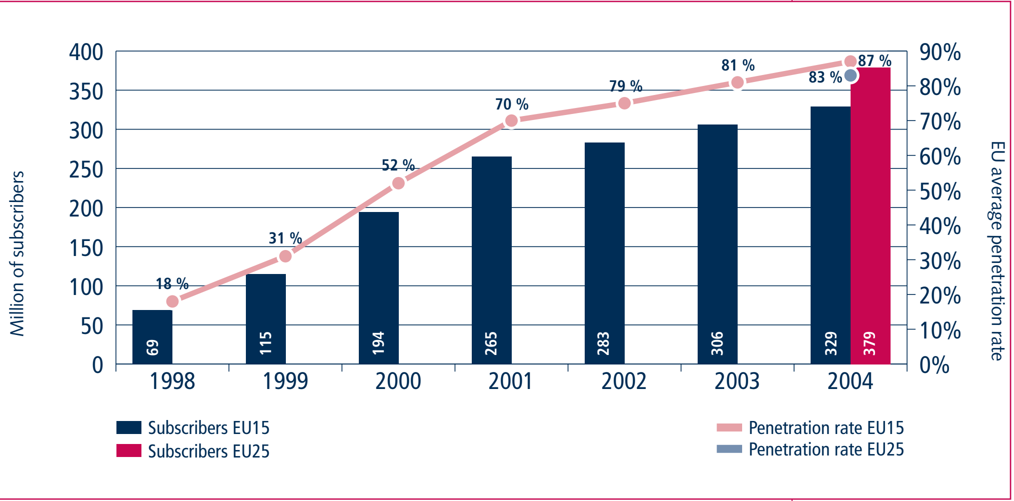
The countries with the lowest levels of mobile equipment, Poland and Latvia, are nevertheless home to penetration rates of between 50% and 60%. Of particular note is Luxembourg's 122% penetration rate, calculated on the basis of the population. When including cross-border workers, this rate "falls" to 98%.

Mobile subscribers and penetration rate, June 2004



Source: 10th European Commission Report

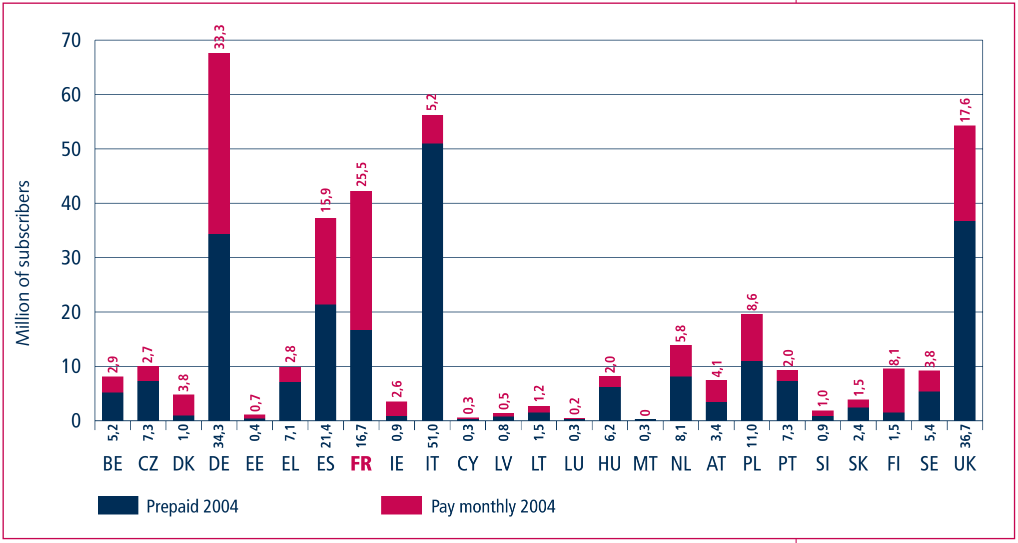
Mobile subscribers and average penetration in EU25 & EU15 (1998-2004)



Source: 10th European Commission Report

France appears to constitute an exception in the EU-25. It is the country where subscriptions are more popular than pre-paid formulas, contrary to Italy. In all, pre-paid accounted for roughly 60% of all forms of mobile usage in Europe.

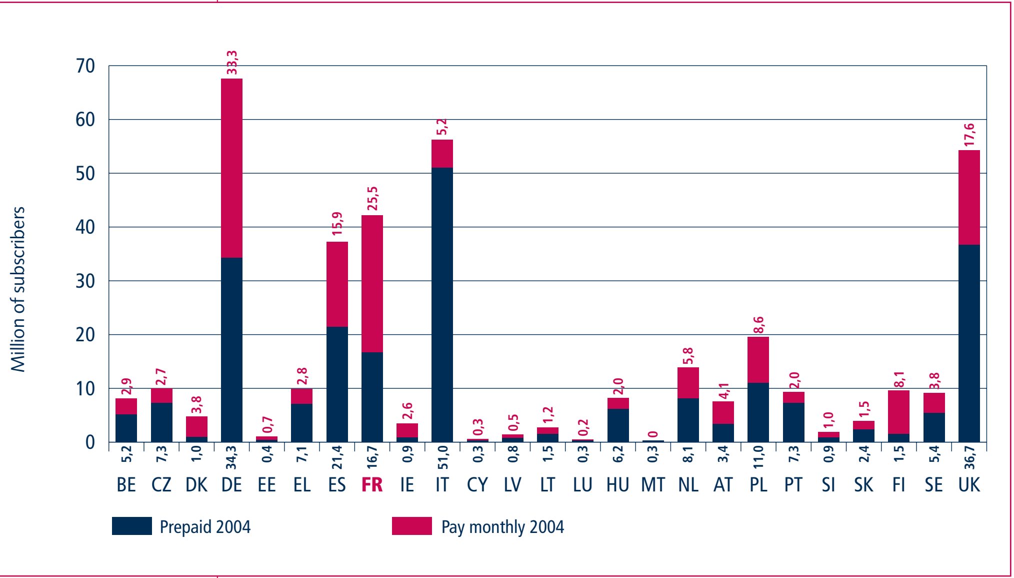
Mobile subsribers in EU25 (prepaid and pay monthly), June 2004



Source: 10th European Commission Report

With the exception of 9 countries (Ireland, Luxembourg, the UK, Hungary, Latvia, Lithuania, Malta, Poland and Slovakia), the largest 2G operators are still incumbent carriers or their mobile subsidiaries.

Digital mobile market share based on customers, June 2004



Source: 10th European Commission Report

1.3. ART's actions

1.3.1. Renewal of GSM licences

a) in Metropolitan France

Since the start of 2003, and in concert with the sector, ART has been overseeing the process of preparing the terms for the renewal of Orange France and SFR's[13] GSM licences, awarded for a 15-year period and which will expire on 25 March 2006. Reviewing the licence awarded to Bouygues Telecom, which expires on 8 December 2009, will take place by December 2007 at the latest. A public consultation was launched on the subject in July 2003, whose summary was published on 12 January 2004[14] . Note that no new player has applied for GSM frequencies to deploy and operate a network in Metropolitan France.

At the outcome of this process, on 24 March 2004, the Authority transmitted its decision to the Minister responsible for telecommunications, proposing the terms for renewal of Orange France and SFR's GSM licences, in view of operator notification two years before the expiry date, as provided for by Law. This decision takes into account the licensing scheme announced on 19 March 2004 by the Minister of the Economy, Finance and Industry.

In accordance with the Law on transposition of the telecoms package" Directives, new measures were introduced. Operators must therefore now adhere to the terms of general authorisation. Here, in addition to those obligations that apply to

13) Respectively, order dated 25 March 1991 modifiied, on authorising extension of a public wireless telephony network for operation of a digital pan-European GSM F1 service to the 900 MHz band, and order dated 25 March 1991 modifiied, concerning extension of a public wireless telephony network for operation of a digital pan-European GSM F2 service to the 900 MHz band.

14) Available for download in the Publications section of ART's website: www.art-telecom.fr

all operators, as defined by decree, GSM and UMTS mobile operators are also subject to new specific obligations.

Among other things, each year they must prove better adaptation and improved accessibility to mobile telephony for disabled users, and produce product information documents that indicate which handsets and services are best suited to users with different disabilities.

They must also limit handset locking (SIM lock). Operators are obligated to inform subscribers of the code that unlocks their handset, systematically and free of charge, upon expiry of the subscribers' contract, within a maximum of six months. Customers subscribing to commitment-free (pre-paid) offers can therefore be informed of their code immediately. Furthermore, operators must facilitate customers' access to service providers by allowing full configuration of their handset.

Operators are subject to certain environmental protection obligations as well. They must make a list available to the public of their network's microwave radio sites, and transmit to all mayors who so request, complete information on the antennae installed in their municipality.

And, finally, handset theft-prevention measures have been strengthened. Operators in Metropolitan France must supply data to the IMEI database that inventories mobile equipment ID numbers. When a theft is reported, they must block the registered handsets.

Mobile operators must also adhere to the terms of individual authorisations they have been awarded by ART to operate frequencies. These obligations will come into effect in March 2006. GSM operators in Metropolitan France must shoulder the cost of covering "dead zones" identified during the second phase of the agreement of 15 July 2003. Taking into account their obligations in dead zones, Orange France and SFR must cover 99% of Metropolitan France's population, compared to the current 90%, in addition to the main, priority transportation axes. With respect to the general public, they also have an obligation to be transparent about their network's coverage, notably with the annual publication of national coverage data that is sufficiently precise to be able to measure geographical and demographic disparities.

And, finally, in addition to the telephone service, operators must provide at least one person-to-person messaging (SMS, MMS, e-mail, etc.) and packet mode data transfer (e.g. GPRS) service, while fulfilling quality of service obligations. Furthermore, they must provide at least one user positioning service.

b) In the Overseas Départements

ART also submitted its decision dated 24 March 2004 to the Minister of Industry regarding the terms of renewal for Orange Reunion's GSM licence, which expires at the end of March 2006. As with Metropolitan France, the operator's obligations and objectives have been reinforced, particularly with respect to service access for disabled users, terminal unlocking, full access to service suppliers, environmental protection and anti-theft measures. Coverage targets for Orange Reunion, tied to its individual frequency usage authorisation, have increased from 90% of the population to 95%.

1.3.2. SMP operators and price caps

The analysis of Metropolitan France's call termination market, which received the European Commission's approval on 1 December 2004 (Cf. Part 4 of this report), led ART to designate Metropolitan France's three mobile operators as having significant market power, and to impose on them a multiannual decrease of fixed-to-mobile wholesale tariffs, in line with the former price cap (decrease of around 37% between 2002 and 2004). Orange France and SFR's tariffs will therefore need to drop by 16.3% in 2005 and by 24% in 2006, or to 12.50 euro cents/min, excl. VAT, in 2005 and to 9.50 euro cents/min, excl. VAT, in 2006 versus 14.94 euro cents/min, excl. VAT, in 2004.

As to Bouygues Telecom, whose call termination charge in 2004 totalled 17.89 euro cents/min, excl. VAT, the Authority has taken into account both the fact that this operator does not enjoy the same economies of scale as its competitors, and the need to gradually reduce the gap between its call termination prices and those charged by Orange France and SFR. The price decreases for Bouygues will therefore be 17.3% in 2005 and 24% in 2006, to reach a level of 14.79 euro cents/min, excl. VAT, in 2005 and of 11.24 euro cents/min, excl. VAT, in 2006, narrowing the difference in price with the other two operators from 2.95 euro cents/min, excl. VAT, in 2004, to 2.29 euro cents/min, excl. VAT, in 2005 and to 1.74 euro cents/min, excl. VAT, in 2006.

A third price reduction is already planned for 1 January 2007; its precise level will be determined in 2006.

	Call termination charge for national calls Estimated average price in € cents/min, excl. VAT (*)		
	2004	2005	2006
Orange/SFR	14.94	12.50	9.50
Bouygues Telecom	17.89	14.79	11.24

(*) consumption profile: 75% peak hours and 25% off-peak hours; "intra-ZA" (calling zone) service .

Source : ART

The reduction in wholesale call termination tariffs – which account for two-thirds of the price of a fixed-to-mobile call – must lead to a corresponding drop in the retail cost of fixed-to-mobile calls, benefiting fixed-line customers, of roughly 11% in 2005 and 15% in 2006, provided that mobile operators pass on the whole of this reduction to retail prices.

These decisions are particularly important for fixed-line customers, both consumers and businesses. ART in fact projects that the drop in wholesale tariffs imposed on mobile operators will generate total customer savings of 250 M€ in 2005, and of 560 M€ in 2006.

In the overseas départements too, each of the mobile operators was designated as having SMP. The two largest operators, Orange Caraïbe and SRR (with an 83% and 72% share, respectively, of the retail market) were ordered to reduce their wholesale tariffs by 20% as of 1 April 2005. Further 20% decreases will be rolled out on 1 January 2006 and 1 January 2007, leading to a total 49% reduction in three years.

	Call termination charge Estimated average price in € cents/min, excl. VAT (*)			
	2004	2005	2006	2007
SRR	24.56	19.65	15.72	12.58
Orange Caraïbe	25.69	20.56	16.44	13.16

(*) consumption profile: 75% peak hours and 25% off-peak hours (excl. PDB)

Source : ART

ART has ordered the other, smaller operators not to charge excessive wholesale prices, particularly in view of resulting costs and market effects, which should also lead to substantial price decreases.

The decline in wholesale call termination tariffs – which account for three quarters of the price of a fixed-to-mobile call – must lead to a corresponding decrease in the retail price of fixed-to-mobile calls in the overseas départements, benefiting fixed-line customers, of around 16% in 2005, 15% in 2006 and 14% in 2007, or a total 38% in three years, provided that they are fully passed on to the retail prices charged by fixed telephony operators.

In 2004, the fixed-to-mobile voice call termination market represented a traffic volume of 11.8 billion minutes, generating a turnover of 2.5 billion euros, or an average price of 30 euro cents, excl. VAT, per minute. Mobile to third-party mobile termination, which represented a volume of 17.5 billion minutes in 2004, was not billed in Metropolitan France (a compensation system between operators known as "bill and keep").

1.3.3. Quality of the GSM service

For the 8th consecutive year, ART carried out a survey in 2004 to assess the quality of service offered by second-generation mobile networks in Metropolitan France, as perceived by daily users of the three operators' networks. Apart from service availability, the survey also sought to assess the continuity of the quality of the services offered by the operators, and particularly:

- The audio quality of telephone communications,
- The short messaging service (SMS) since 2001,
- The multimedia messaging service (MMS), and, experimentally this year, the equivalent i-mode mail service,
- Data transfer in packet mode, since 2003,
- lMobile Internet browsing (WAP and i-mode), also as an experimental measure this year.

The 2003-2004 survey, whose results were published in July 2004, revealed a good overall quality of mobile networks, and further substantiated the trend observed since 2002 of reduced network saturation problems during peak calling times. Worth noting is the fact that the first GPRS measures, undertaken experimentally for this survey, revealed a good quality of service. The successful connection rate on GPRS networks totalled 97%, with an average connection time of around 8 seconds, thus indicating a good availability level for GPRS. The rate of error-free file downloads reported was 93% for both 10 Kb files and 100 Kb files. It was revealed, however, that the quality of the mobile network service inside the TGV (France's high-speed train service) and commuter trains was still below quality levels in other situations.

A new survey was launched in November 2004. It will be conducted over a six-month period, and 12,000 measurement criteria will be gauged on each of the three operators' networks, in order to gain a better understanding of variations in usage over a long period of time. Market research firm Directique was selected to conduct the 2004-2005 survey, using a methodology and specifications defined by a working group made up of mobile operators, and user and consumer associations. For the first time, quality indicators for MMS and i-mode mail will be measured in urban zones with over 400,000 inhabitants, and packet mode data services too will be evaluated. The results will be published in mid-June 2005.

1.3.4. Freeing up EGSM frequencies in the overseas départements

ART obtained the release of EGSM frequencies (extended GSM) throughout the overseas départements from the armed forces, starting in August 2004. These additional frequencies make 49 GSM 900 channels available in the whole of the overseas départements. Operators have already expressed their interest to ART in operating these channels in certain overseas départements.

2) UMTS

2.1. The players

In Metropolitan France, three UMTS operators were authorised to deploy and operate third-generation mobile networks. Following a call for candidates for four licences, launched on 18 August 2000, two licences were awarded by order of the Minister responsible for telecommunications on 18 July 2001 to Orange France and to SFR, pursuant to ART's decision of 30 May 2001. In October 2001, after the government amended the financial conditions of the licences, and extended the licences' lifespan from 15 to 20 years, a second call for candidates for the remaining two licences was launched in late December 2001. The only candidate to respond to the call, Bouygues Telecom's application received the Minister's approval on 3 December 2002.
2004 was marked by the commercial launch of UMTS technology in the French market by operators SFR and Orange France.

2.2. ART's actions

During the verification of the first two UMTS licence-holders' obligations, the Authority noted that the existing technico-economic circumstances, such as command of the technology, along with the financial situation and the operational problems encountered during deployment, would not allow Orange France and SFR to meet their deployment obligations for 2002 and 2003. These outside factors, which exist across Europe, led to a delay of an estimated 24 to 30 months for developing and deploying UMTS. This in turn led ART to issue a communiqué on 9 March 2004[15] calling for revisions to 3G network deployment obligations for both operators, and the proposal of a new timetable.

15) http://www.art-telecom.fr/communiques/communiques/2004/c090304

The commercial launch obligation for both operators was therefore postponed to 31 December 2004. SFR and Orange France both launched their service commercially that year: in May and December, respectively, providing business customers with PCMCIA cards enabling Internet access on their respective UMTS network. Consumer services, available to those equipped with a 3G phone, followed in November for SFR and in December for Orange France. At the time, the zones covered by these operators' networks represented over 35% of the French population. At the end of 2004, the two operators had therefore upheld their obligation to cover the twelve largest urban areas in Metropolitan France.

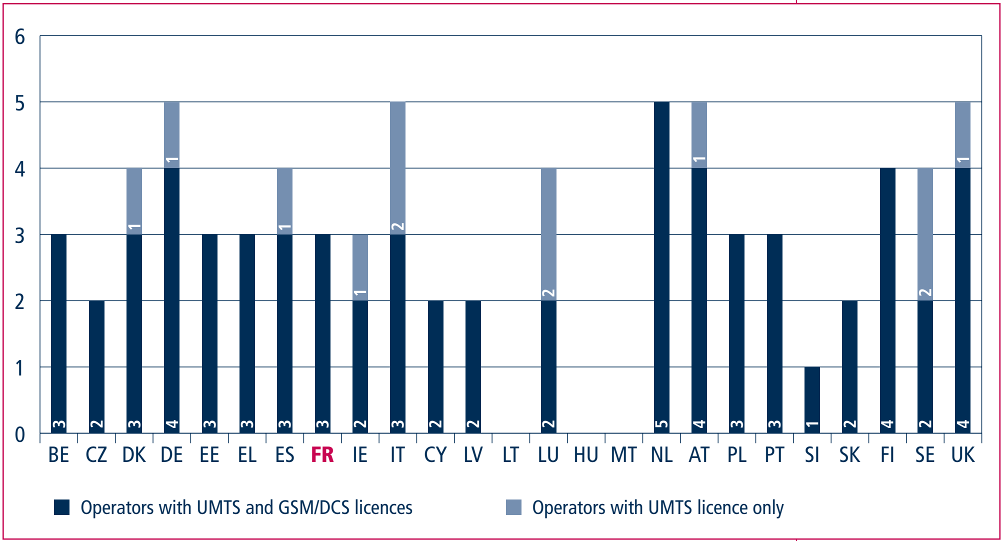
Thanks to UMTS, the French population was able to discover new mobile services that pave the way for the development of mobile multimedia and broadband. Videophony, which allows users to see the person they are calling, and access to the mobile network at 384 kbit/s, are the first two major novelties offered by UMTS. Beyond that, the technology's inherent potential will allow operators to distinguish themselves with the wealth of features included in their offers.

The first deadline for the verification of UMTS coverage obligations for Orange France and SFR was extended by 28 months, and set for 31 December 2005. The maximum rate of coverage is expected to reach 58% of the population for both operators.

2.3. European comparisons

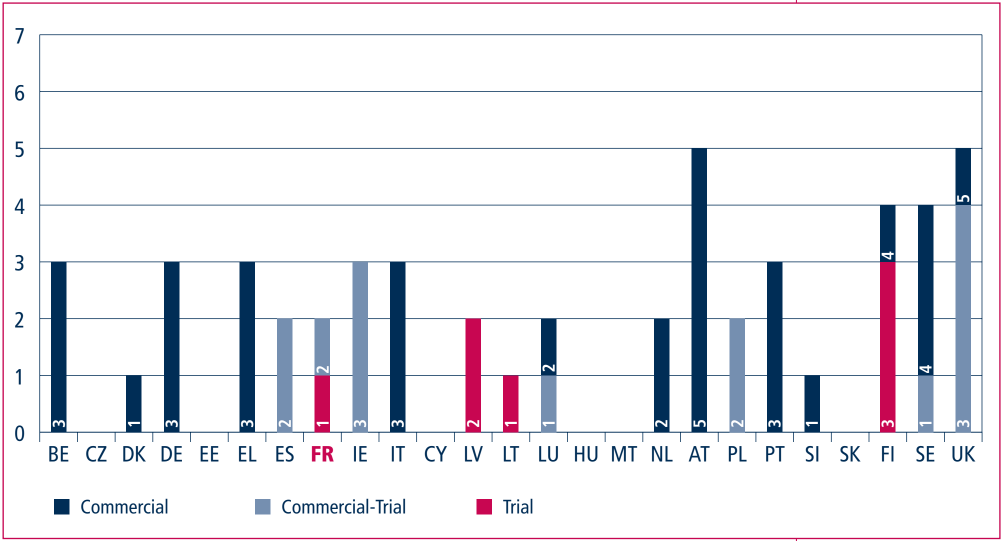
The launch of 3G services was stepped up in 2004. Of the 75 UMTS licences awarded in Europe, 30 operators have launched their service commercially, and 21 have rolled out a pre-commercial offer or are running technical trials. At the end of 2004, there were an estimated 2.6 million 3G subscribers, with 43% of the European population covered. The most advanced countries in this area are the United Kingdom and Italy.

UMTS licences, July 2004



Source: 10th European Commission Report

3G operators offering commercial services, September 2004



Source: 10th European Commission Report

3) Paging

Paging services make it possible to send messages in the form of beeps, or messages composed of alphanumerical characters, to users equipped with pocket receivers. Paging networks are particularly well-suited to sending instant messages to a group, notably in an emergency situation (e.g. when a natural disaster occurs). Since 2001, these features have led French paging operators to refocus operations on the business market, and to withdraw from the consumer market.

Two companies operate a paging network open to the public in France: e*Message and Infomobile. The first operates a network in the 466 MHz band, compliant with the POCSAG technical specifications and, for serving TDF, the operator network which uses FM radio broadcasting band sub-carriers. The second uses the ERMES pan-European standard.

Number of paging service users

	1998	1999	2000	2001	2002	2003	2004	Croissance
Customer base	2,400,000	1,900,000	1,800,000	191,950	159,960	155,640	80,916	- 48.0%

Source : ART

In 2004, Infomobile informed ART of its intention to put an end to its paging operations. This market is indeed experiencing major difficulties both in France and abroad, particularly because of the growing use of mobile telephony and SMS. These difficulties have led existing operators to either close down or sell their businesses. Consequently, ART decided to abrogate Infomobile's frequency authorisation, as of 1 July 2005, and noted that, from that date onwards, the company would no longer operate a network open to the public, or electronic communications services. The company was asked to give particular attention to the future of its network's users. They have been, or will be, switched over either to other applications, or to operator e*Message which continues to run its service.

IV. Other services

1) Value-added services (fixed and mobile)

These services, which are available to both fixed-line and mobile customers, include:

- advanced services, which include free calls for the calling party, shared-cost calls, calls to shared-revenue audio-kiosk or teletext services and special routing services;
- directory enquiry services;
- telephone and teletext terminal rental, sale and maintenance services.

1.1. Advanced services

The logic behind these services is to allow access to company-provided services via a fixed or mobile terminal. The company or administration wishing to provide the service can choose between:

- allowing the consumer to call free of charge or for a price lower than the normal call cost (or for free) with the company paying all or part of the actual cost (so-called free-phone or shared-cost services);
- allowing the operator to bill the subscriber at a cost that is higher than the normal call tariff and pass on part of the proceeds to the company (so-called shared-revenue numbers).

Turnover *(million euros)*	2001	2002	2003	2004	Growth (%)
Total, Advanced services - Fixed-line operators	1,451	1,494	1,353	1,226	-9.4%
Total, Advanced services - Mobile operators	359	368	463	496	+7.3%
Total, Advanced services	1,810	1,862	1,816	1,722	-5.1%

Source : ART

Volumes *(million minutes)*	2001	2002	2003	2004	Growth (%)
Total, Advanced services - Fixed-line operators	9,342	8,750	8,988	8,716	-3.0%
Total, Advanced services - Mobile operators	1,083	1,163	1,052	993	-5.6%
Total, Advanced services	10,425	9,913	10,040	9,709	-3.3%

Source : ART

Mobile operators' advanced services revenues continued to rise (+7.3%), totalling 496 million euros in 2004, whereas turnover for advanced services originating from fixed-line phones dropped by 9.4%.

1.2. Directory enquiry services

Turnover *(million euros)*	**2001**	**2002**	**2003**	**2004**	**Growth (%)**
Fixed-line operators (*)	287	279	287	196	-31.7%
Mobile operators (**)	55	64	71	81	+14.9%
Total directory services	342	343	358	277	-22.5%

Source : ART

(*) For fixed-line operators, turnover includes directory enquiry and directory services and related income.
(**) For mobile operators, turnover includes only revenues generated by directory enquiry services.

1.3. Terminal sales, rental and maintenance

Turnover *(million euros)*	**2001**	**2002**	**2003**	**2004**	**Growth (%)**
Fixed-line operators	809	633	624	693	+11.0%
Mobile operators	1,240	1,120	1,389	1,566	+12.7%
Total terminal sale, rental and maintenance	2,049	1,753	2,013	2,259	+12.2%

Source : ART

Totalling 1.5 billion euros, the revenues generated by the sale and rental of mobile terminals account for 70% of the sector's revenues. It must nevertheless be pointed out that only those operators declared with ART were questioned; a portion of the market's revenues are therefore not included in the above figures.

2) Leased lines and data transport

2.1. The leased line market

(million euros)	**2001**	**2002**	**2003**	**2004**	**Growth (%)**
Leased line revenues	2,328	2,261	2,343	2,212	- 5.6%

Source : ART

(in units)	**31/12/01**	**31/12/02**	**31/12/03**	**31/12/04**	**Growth (%)**
Leased line base	399,919	391,169	351,309	306,497	-12.8%

Source : ART

Data transport figures are drawn from a branch survey that has been conducted jointly by ART and INSEE since 2000.

2.2. The data transport market

(million euros)	**2001**	**2002**	**2003**	**2004**	**Growth (%)**
Data transport revenues	676	506	633	563	-11.2%

Source: ART

(en millions d'euros)	2000	2001	2002	2003
Data transport revenues	1,551.4	1,852.5	2,190.6	2,284.1
of which X25	869.3	1,077.7	1,395.4	1,419.7
of which Frame Relay	505.4	506.3	340.4	325.5
of which other revenues	176.7	268.5	454.8	538.8
% variation in data transport revenues	-	+19.4%	18.2%	4.3%

Source : ART/INSEE

2.3. ART's actions

Over the course of 2004, France Telecom presented six tariff decisions on leased line and capacity services with alternative interfaces[16]. Five of the decisions handed down by ART are significant.

2.3.1. Analogue and very low-speed digital leased lines

Analogue and very low-speed digital leased lines (bitrates under 64 kbit/s) are services that run on old technology. On the whole, they are on the decline (virtually no new orders, and a trend of migrating to more advanced services[17]), and France Telecom reports that they thus entail very high operating and maintenance costs on the network. Furthermore, given the overall rise in bitrates and network upgrades, these leased lines do not generate any particular gains in network usage[18].

From a commercial standpoint, over the past few years France Telecom has been tending to:

- - increase the price of analogue, 2-wire and 4-wire leased lines, as approved by ETSI and the ITU (mandatory services which are part of the minimum set), and the price of digital, very low-speed leased lines for which there is still a sizeable customer base. These tariff increases enable both improved coverage of costs and accelerated migration of the user base to more advanced services, by reducing the price gap between these services and the "new" services;
- - put an end to the marketing of and/or remove the leased lines whose provision is not mandatory, and which account for a small and steadily decreasing customer base.

As it was in 2003, France Telecom submitted a tariff decision proposing higher tariffs for analogue and very low-speed digital leased lines (whose tariffs up until now have been below operating costs), and the withdrawal of certain very-low speed digital lines at the end of 2004 (namely, 2.4 and 4.8 kbit/s leased lines). Finding these requests justified, ART issued a favourable recommendation[19].

16) Services with Ethernet or ATM interfaces, or data storage protocol (e.g. SAN or ESCON) interfaces.

17) As with higher bitrate leased lines (over 64 kbit/s) and capacity services with alternative interfaces, or even data transmission services directly, notably IP VPN.

18) E.g. an analogue leased line is generally digitised at 64 kbit/s in the network core.

19) ART Recommendation 04-369, dated 29 April 2004, on France Telecom's tariff decision n° 2004021 concerning changes to analogue and low-speed digital leased lines

2.3.2. Digital leased lines delivering between 64 kbit/s and 2048 kbit/s

a) Recommendations concerning all leased lines

The Authority addressed an important France Telecom tariff decision concerning digital leased line options. The operator was proposing five changes to the existing discount mechanisms in its retail catalogue for leased lines operating at under 2 Mbit/s.

In its recommendation[20], ART indicated that the discounts offered by France Telecom – the retail leased line market's SMP operator – had to be subjected to a thorough economic and competition analysis: the projected gains generated by customer discounts (generally price decreases) are compared to the potentially anti-competitive effects of these discounts. On the flip side, when this assessment leads to the conclusion that the gains are superior to the anti-competitive effects, the recommendation would be favourable; if the anti-competitive effects appear clear and well beyond gains for customers, the recommendation would be unfavourable.

20) ART Recommendation 04-632, dated 22 July 2004, on France Telecom's tariff decision n° 2004032 concerning changes to leased line options.

Four analytical criteria were selected for conducting this economic and competition assessment:

- justification of the discount in terms of the cost savings enjoyed by the operator (existence of cost savings and proportionality of the discount enabled by these savings);
- in cases where the discount was justified by cost savings generated on its retail leased line offers, ART systematically verified that, if these cost savings also existed in the wholesale partial leased line ("LPT") interconnection offer, the discount was also offered in the wholesale market, such that this new discount did not raise the entry barrier for new entrants to the retail market;
- the transparent nature of the discount, enabling customers and competitors to calculate the final price in such a way as to have competition between operators based on merit;
- absence of undue discrimination in the discount, favouring particularly new entrant operators' target clientele.

After conducting the analysis of France Telecom's five proposals based on these criteria, ART issued a favourable recommendation (discount justified by cost savings, and replicated in the wholesale offer), three unfavourable recommendations (the discount offered for the retail offer was not carried over to the wholesale offer even though cost savings were identical), and one partially favourable recommendation (the negative portion of the recommendation regarding an insufficiently justified discount compared to cost savings, combined with a high risk of unfair competition in terms of transparency of the tariffs and absence of undue discrimination).

b) Recommendations concerning leased lines between the overseas départements and Metropolitan France, and LL interconnecting the overseas départements

After having adopted the decision issued in the dispute settlement over operator tariffs for leased lines between Metropolitan France and the Reunion[21], ART handed down a favourable recommendation[22] on the tariff decision on leased lines between Metropolitan France and the overseas départements, and on leased lines between the overseas départements themselves, which enabled the introduction of a sizeable reduction in the price of these links (of around 20%).

c) Capacity services with alternative interfaces

For capacity services with alternative interfaces[23], as opposed to the standard interfaces used for leased lines, ART issued two similar, partially favourable recommendations.

The first[24] involved changes to the existing Ethernet-based multi-site LAN interconnection service " Réseau Intra-Cité ", which is aimed primarily at local governments. The second[25] concerned the launch of the " Pack Lan " offer, another Ethernet-based multi-site LAN interconnection service, aimed chiefly at businesses.

In both of these recommendations, ART issued a partially favourable recommendation for the portion of the service involving connections of under 4 Mbit/s via DSL, given France Telecom competitors' capacity to replicate these retail offers thanks to unbundling or to offers such as Turbo DSL.

ART handed down an unfavourable recommendation, however, on the portion of the service involving connections of over 10 Mbit/s via fibre optic since current leased line offers operating at 34 and 155 Mbit/s did not allow France Telecom's competitors to replicate the incumbent's retail offers.

In 1Q 2005, France Telecom announced that an Ethernet-based fibre optic wholesale offer, which would better enable new entrants to replicate the offer, could be introduced before the end of 2005.

21) ART decision n° 04-374, dated 27 April 2004, ruling on the dispute between the Regional Council of the Reunion and France Telecom, and ART decision n° 04-376, dated 4 May 2004, ruling on a dispute between Outremer Télécom and France Telecom.

22) ART Recommendation n° 04-633, dated 22 July 2004, on France Telecom's tariff decision n° 2004020 concerning changes to the price of leased lines running between Metropolitan France and the overseas départements, and between the overseas départements.

23) Services with Ethernet or ATM interfaces, or data storage protocol (e.g. SAN or ESCON) interfaces.

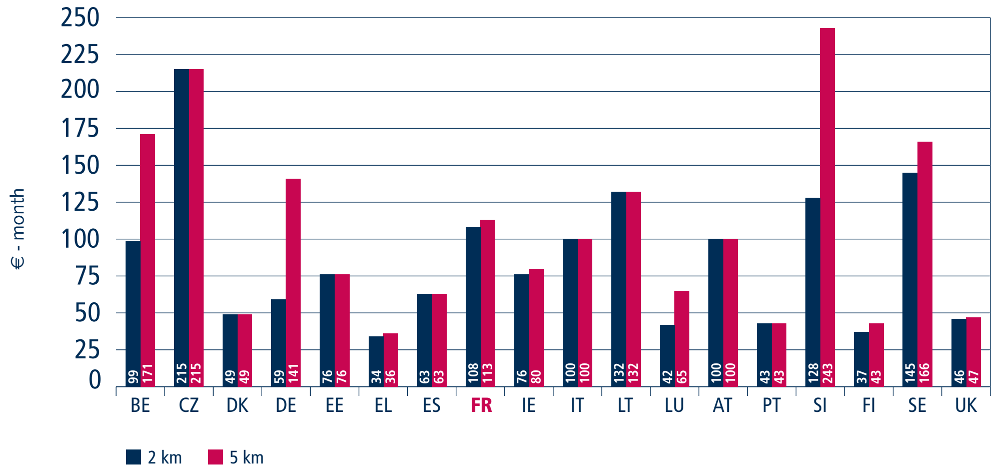
24) ART Recommendation n° 04-934, dated 4 November 2004, on France Telecom's tariff decision n° 2004109 concerning changes to the "Réseau Intra-Cité" intra-city network offer.

25) ART Recommendation n° 04-464, dated 19 May 2004, on France Telecom's tariff decision n° 2004002 concerning the creation of the "Pack Lan" service.

2.4. European comparisons

2.4.1. Price of interconnection leased lines

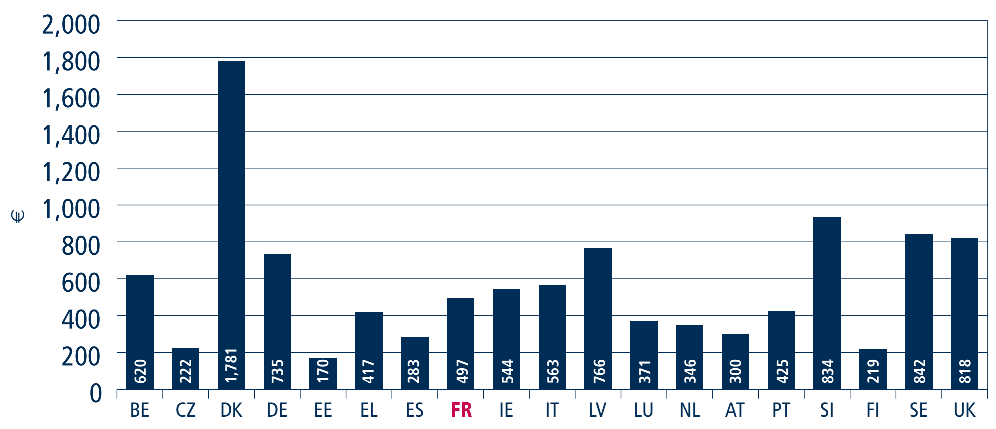
Monthly rental for leased line 64 Kbit/s par circuit, August 2004



Source: 10th European Commission Report

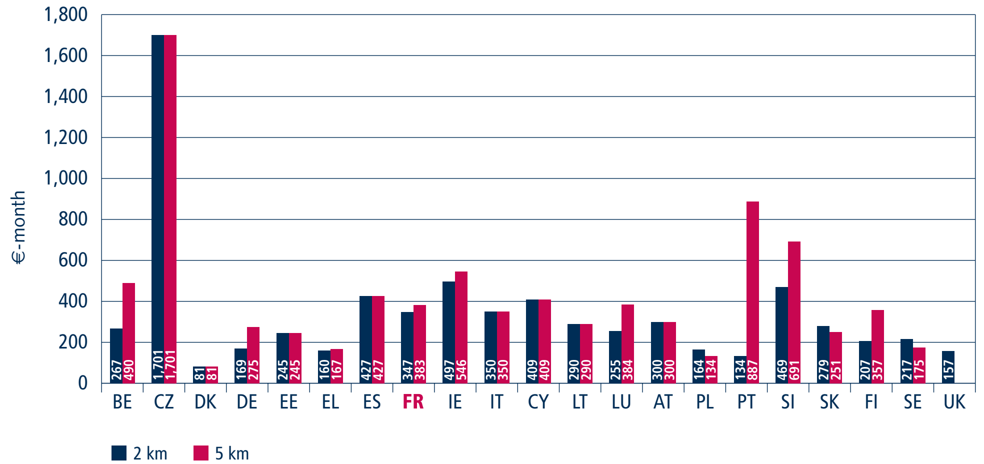
EU17 weighted average 2 Km: 75,33 €, 5 Km : 97,86 €
EU14 weighted average 2 Km: 74,50 €, 5 Km : 96,82 €

One-off charge for leased line 64 Kbit/s part circuit, August 2004



Source: 10th European Commission Report

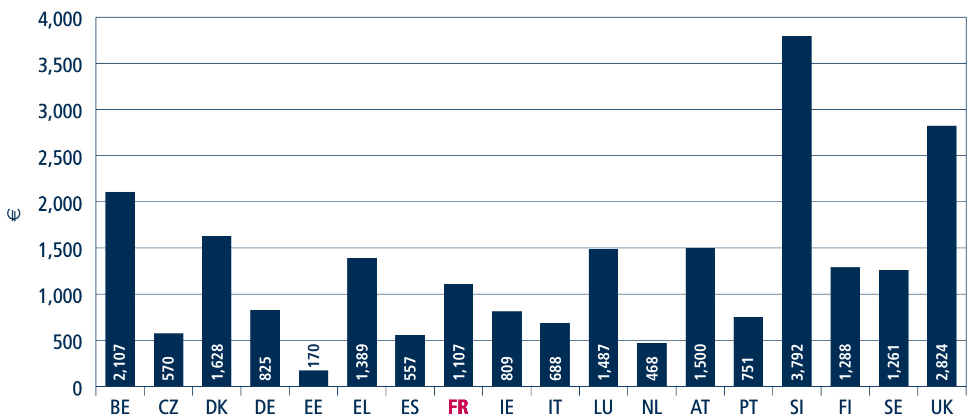
Monthly rental for leased line 2 Mbit/s par circuit, August 2004



EU21 weighted average 2 Km: 273,25 €, 5 km : 322,55 €
EU14 weighted average 2 Km: 262,59 €, 5 km : 306,64 €

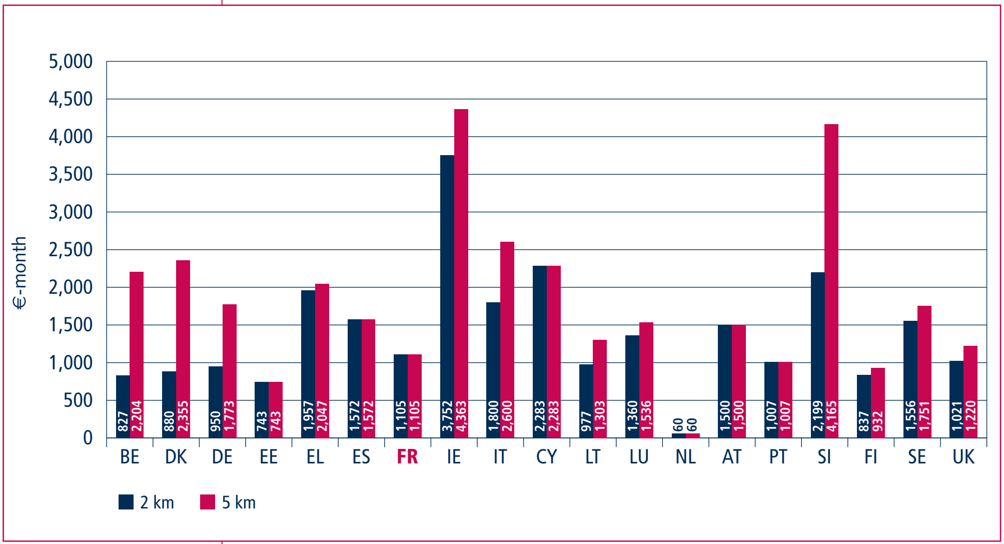
Source: 10th European Commission Report

One-off charge for leased line 2 Mbit/s par circuit, August 2004



Source: 10th European Commission Report

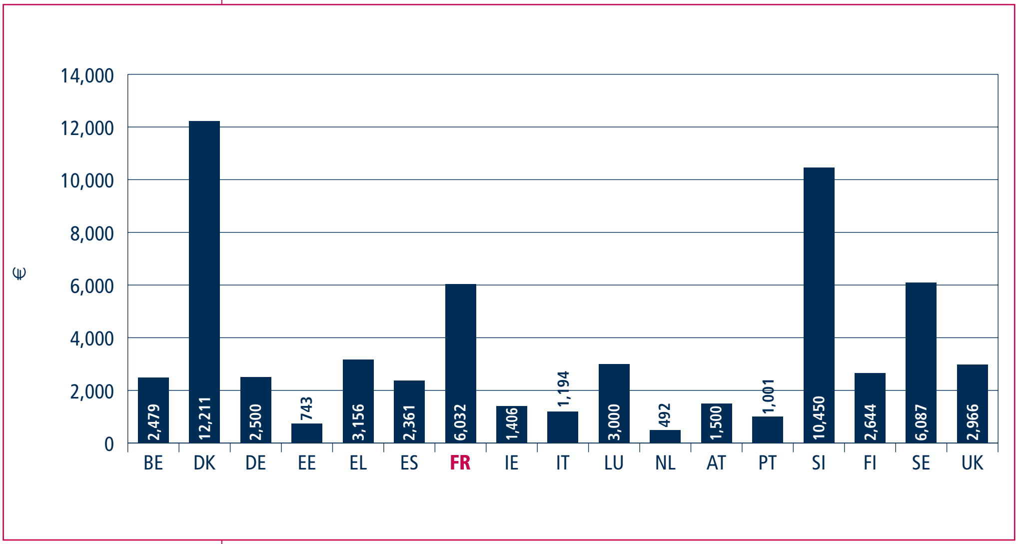
Monthly rental for leased line 34 Mbit/s part circuit, August 2004



Source: 10th European Commission Report.

EU19 weighted average 2 Km: 1224,3 €, 5 km : 1632,98 €
EU15 weighted average 2 Km: 1224 €, 5 km : 1627,5 €

One-off charge for leased line 34 Mbit/s part circuit, August 2004

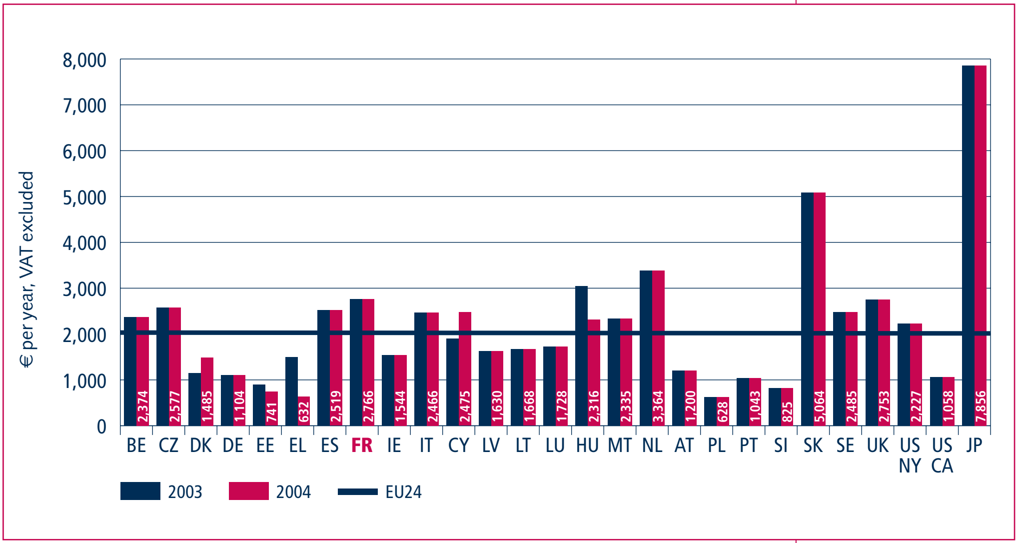


Source: 10th European Commission Report.

France is below the European average in the tariffs charged for access to 64 kbit/s and 2 Mbit/s interconnection leased lines. It is, however, above the ceiling recommended by the European Commission for variable subscription charges. The opposite is true for leased lines of over 34 Mbit/s.

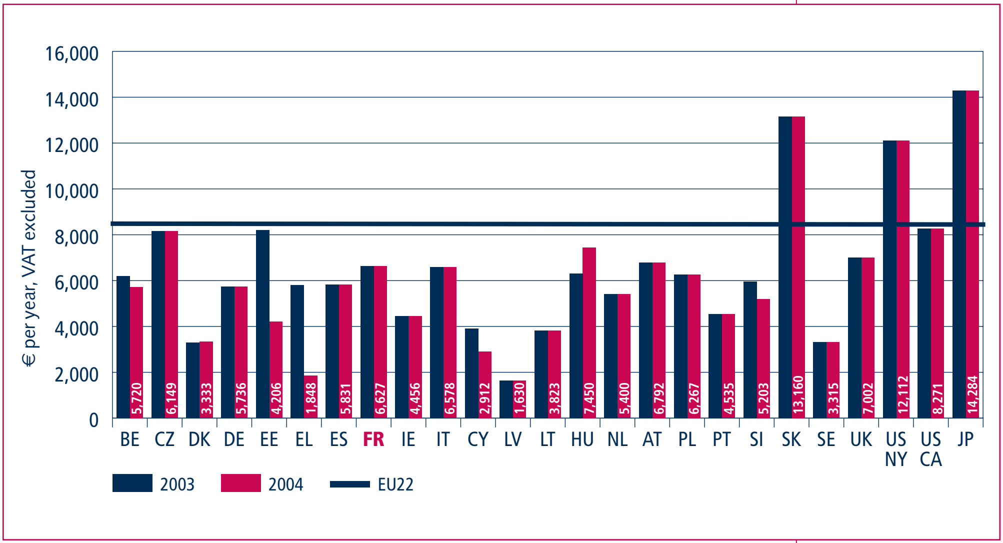
2.4.2. Retail price of leased lines

Retail price of 64 kbit/s leased lines (2 kilometres)



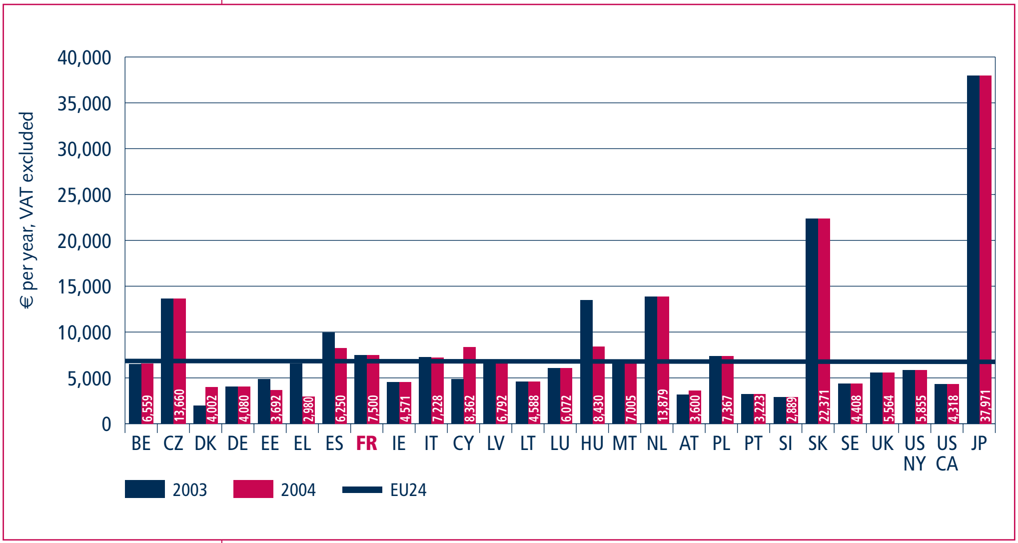
Source: 10th European Commission Report.

Retail price of 64 kbit/s leased lines (200 kilometres)



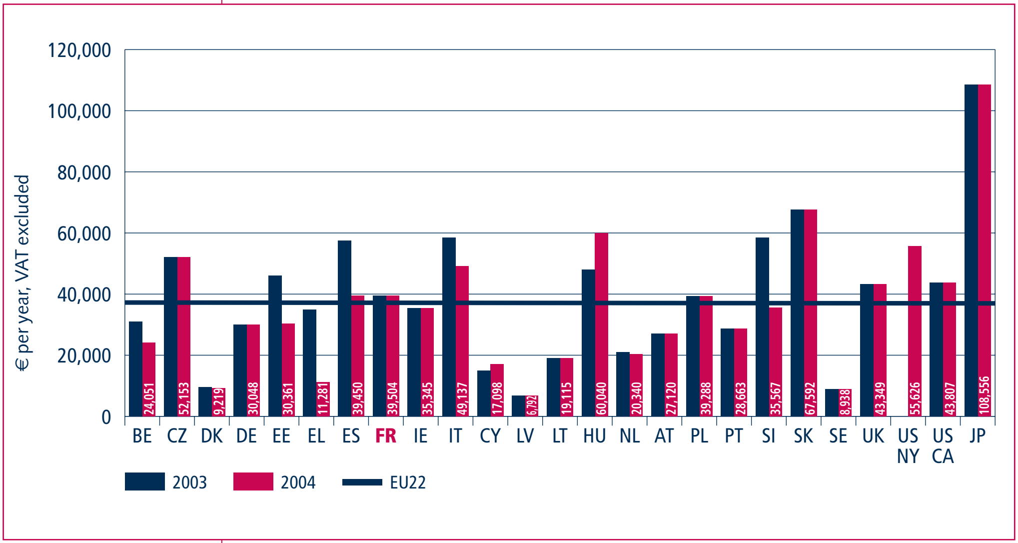
Source: 10th European Commission Report.

Retail price of 2 Mbit/s leased lines (2 kilometres)



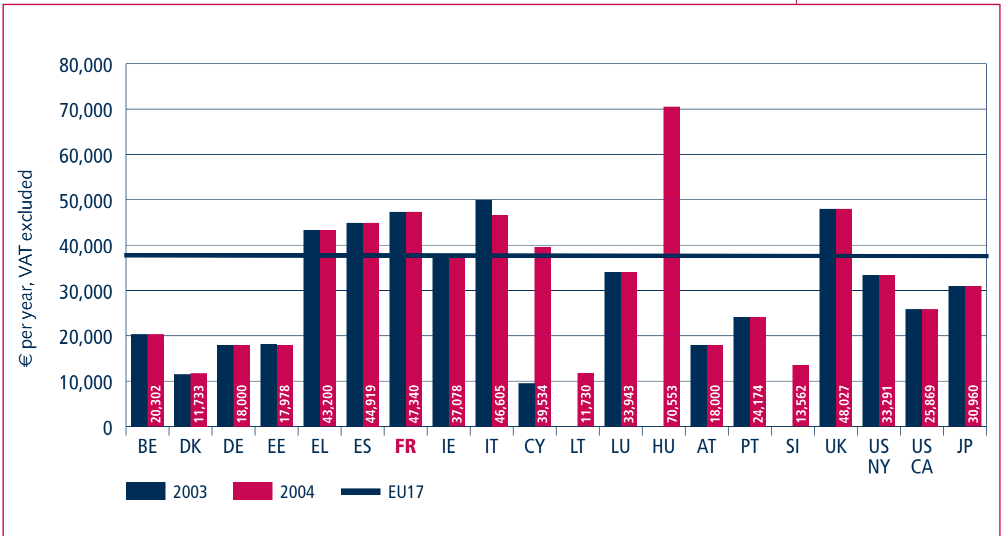
Source: 10th European Commission Report.

Retail price of 2 Mbit/s leased lines (200 kilometres)



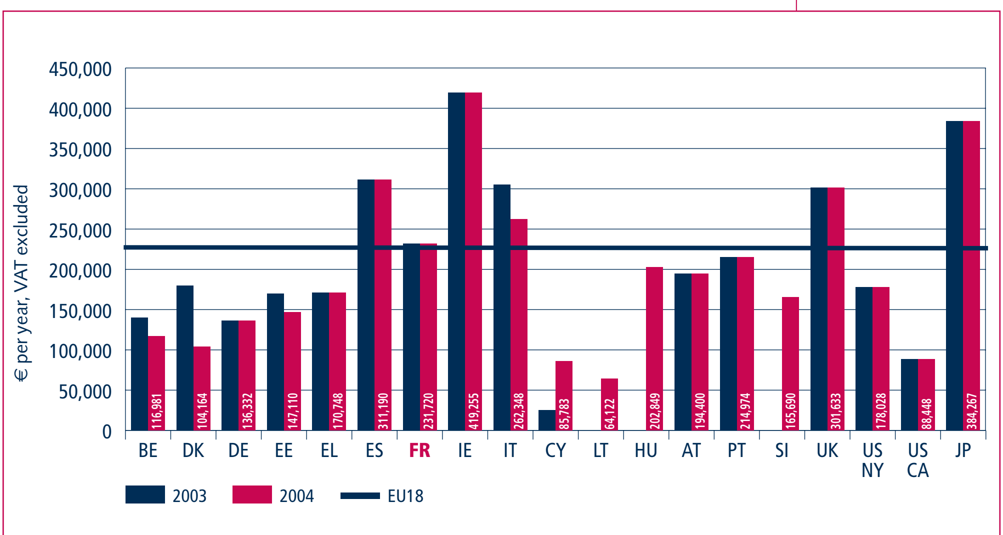
Source: 10th European Commission Report.

Retail price of 34 Mbit/s leased lines (2 kilometres)



Source: 10th European Commission Report.

Retail price of 34 Mbit/s leased lines (200 kilometres)



Source: 10th European Commission Report.

The retail price in France of 64 kbit/s, 2 Mbit/s and 34 Mbit/s leased lines was above the European average in 2004; for higher bitrates (2 Mbit/s and 34 Mbit/s compared to 64 kbit/s) and for longer distances (200 kilometres compared to 2 kilometres), France fares better.