

ELECTRONIC COMMUNICATIONS SERVICES IN FRANCE

4TH QUARTER 2017

ELECTRONIC COMMUNICATIONS MARKET OBSERVATORY

05 APRIL 2018

Synthesis

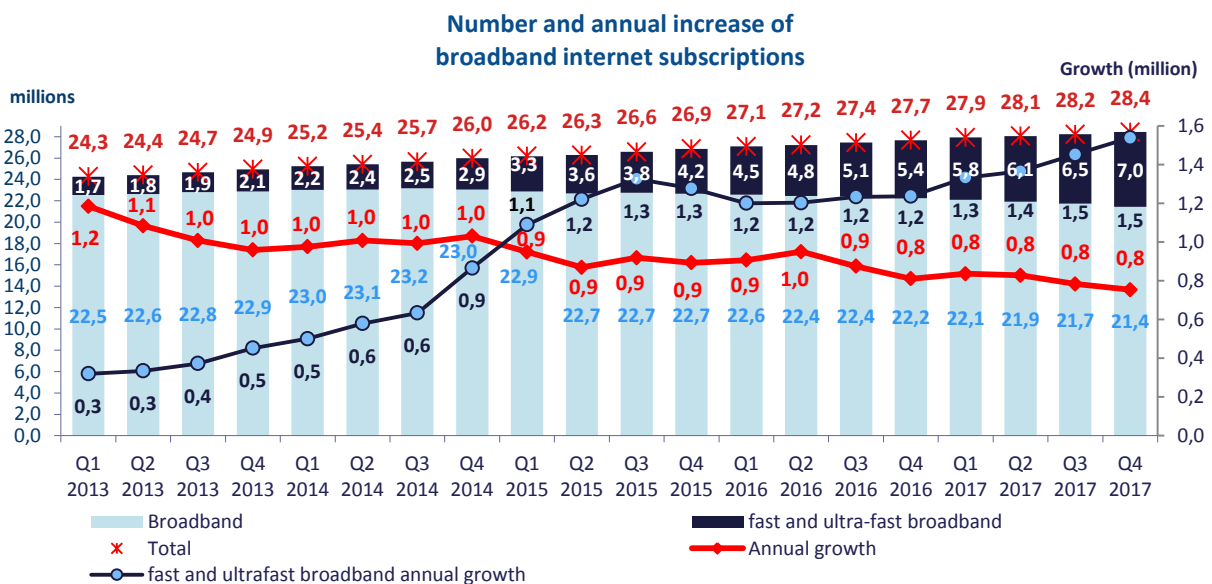
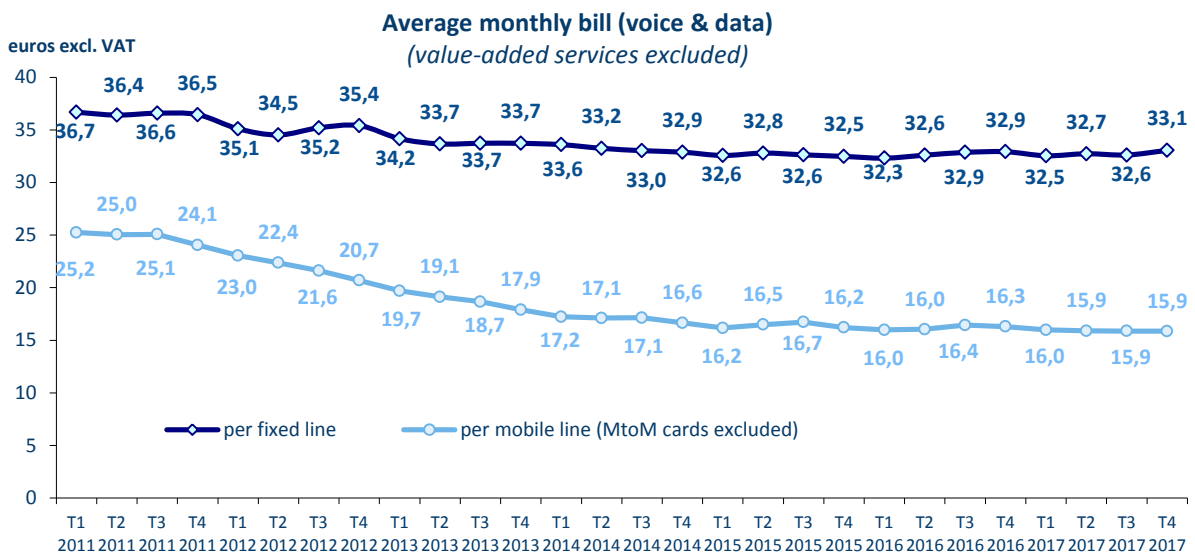
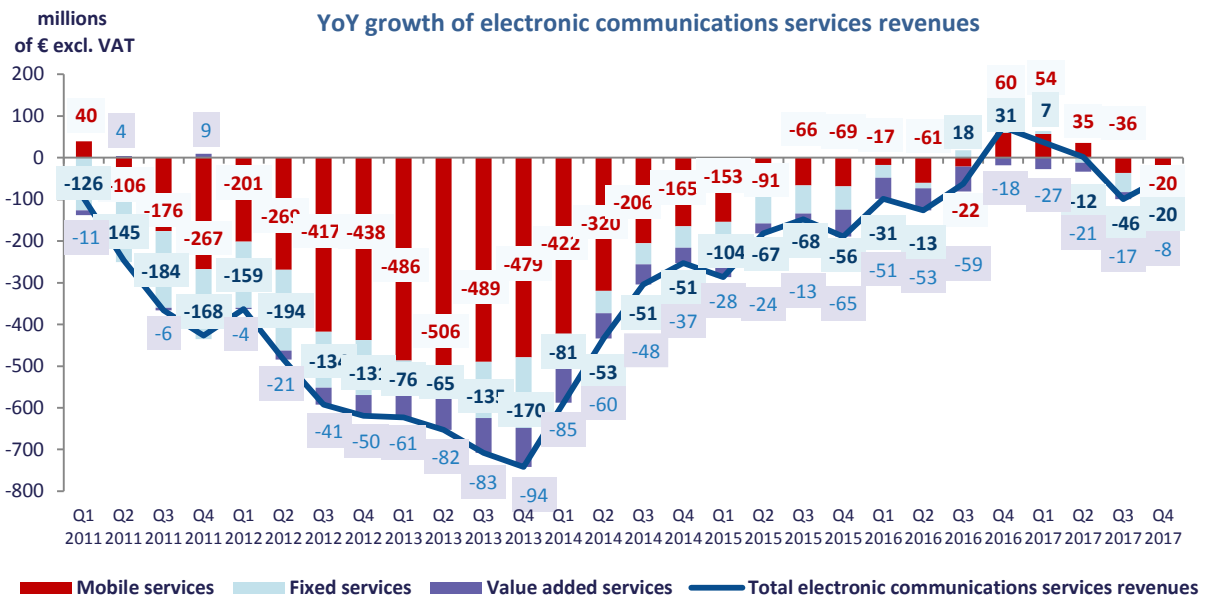
Revenue on the retail market (millions of euros excl.VAT)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Fixed services (including leased lines and data transport networks)	4 353	4 288	4 297	4 275	4 333	-0,5%
Mobile services (MtoM included)	3 585	3 530	3 522	3 549	3 565	-0,6%
Value-added services and directory services	285	277	270	271	277	-2,7%
Electronic communications services	8 222	8 095	8 089	8 095	8 175	-0,6%
Others revenues	1 069	835	850	922	1 134	6,1%
Overall market	9 292	8 930	8 939	9 018	9 309	0,2%

adjusted figures are in italics

Note: "Others revenues" are not, strictly speaking, part of the electronic communications services market. The contribution reported by the operators gives only a partial view of these market segments. This topic covers the income related to sale and rental of terminals and equipment (fixed, mobile and internet), hosting and management of call centres, paper directories, advertising and file transfer.

Notes :

- *Potential data revisions for one quarter from one publication to another are explained by corrections made by the operators in their declaration. The discrepancies that may exist between the annual growth in % and the posted levels are related to rounding.*
- *All revenues are exclusive of taxes. All comparisons are for Quarter N compared to the same quarter of the previous year, unless otherwise stated.*
- *Open data can be downloaded in Excel format on the ARCEP website [here](#) or on the site data.gouv.fr*



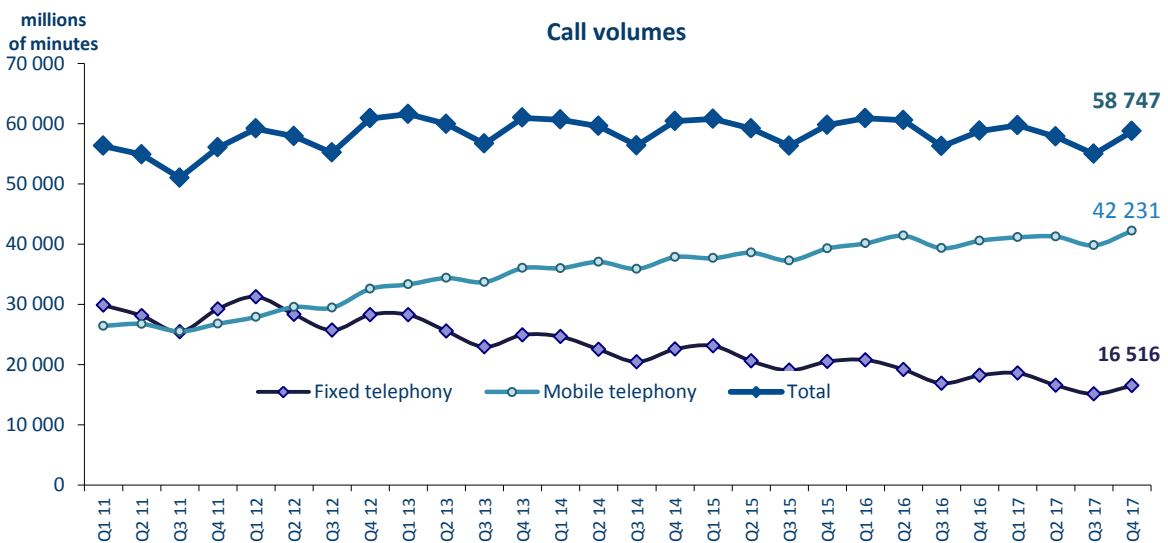
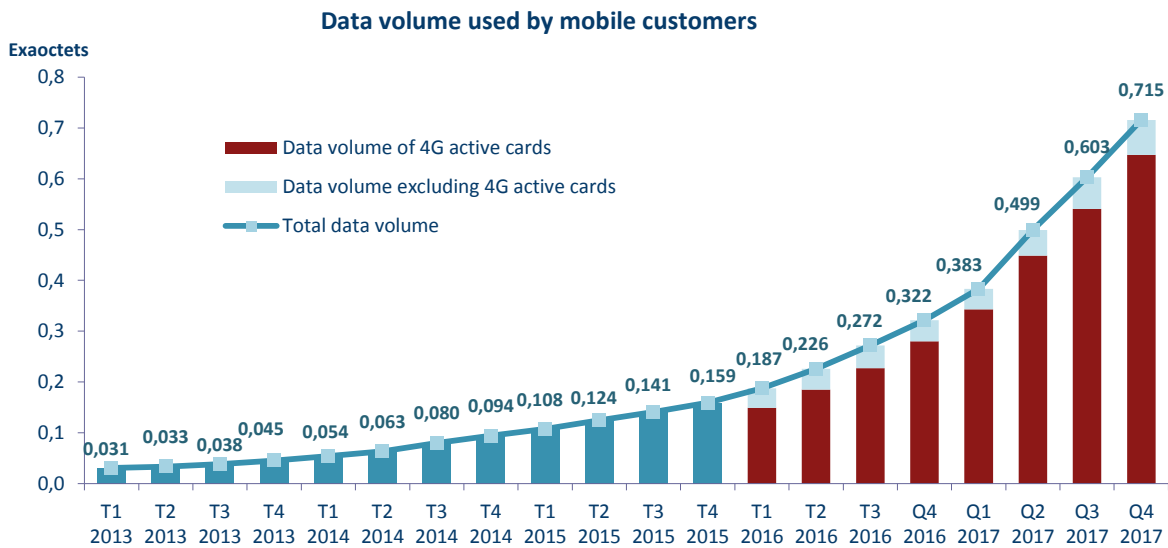
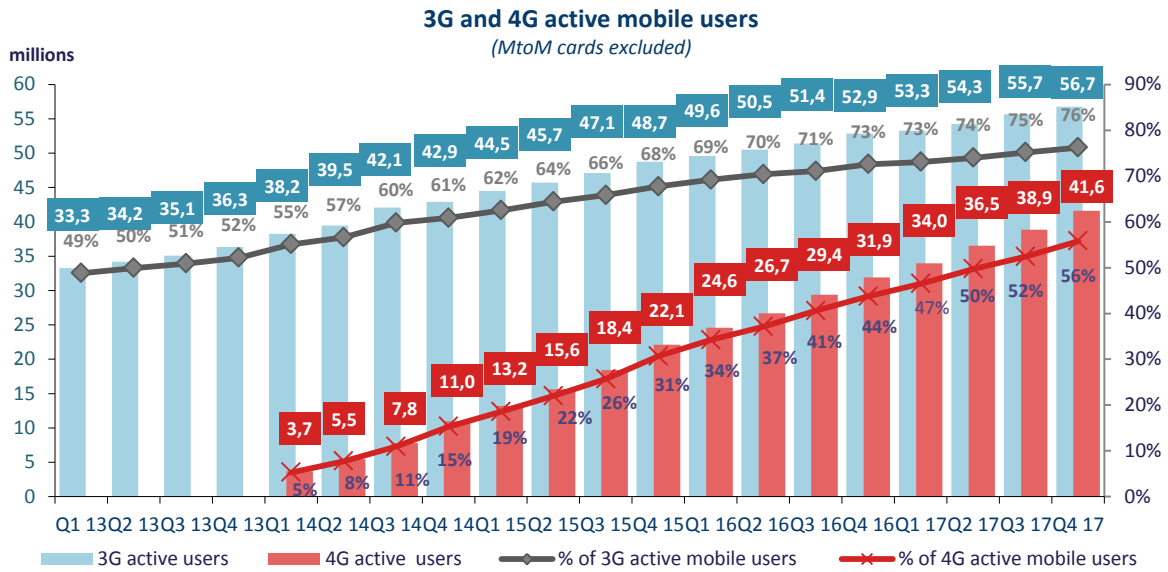


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1 Fixed networks services - retail market

1.1 Internet access and telephony services

1.1.1 Broadband, fast and ultra-fast broadband Internet access

Broadband subscriptions (millions of units)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Broadband	22,231	22,077	21,910	21,721	21,445	-3,5%
of which xDSL	21,705	21,553	21,376	21,201	20,909	-3,7%
of which other broadband accesses	0,526	0,524	0,533	0,521	0,536	1,8%
Fast and ultra-fast broadband	5,448	5,843	6,146	6,511	6,988	28,3%
of which with a speed equal or greater than 100 Mbit/s	3,448	3,716	3,972	4,262	4,617	33,9%
of which fiber to the home and fiber to the office	2,164	2,437	2,653	2,917	3,275	51,4%
of which fiber with coaxial cable termination	1,284	1,279	1,320	1,345	1,342	4,5%
of which with a speed ≥ 30 and < 100 Mbit/s (VDSL2 & coaxial cable, fixed 4G)	2,001	2,127	2,174	2,250	2,370	18,5%
Total number of broadband internet subscriptions	27,679	27,920	28,056	28,232	28,433	2,7%

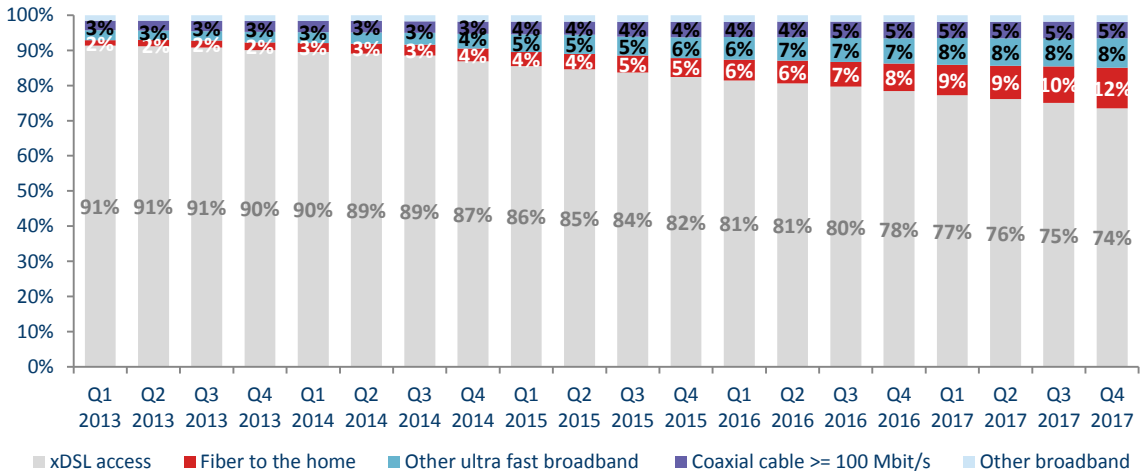
adjusted figures are in italics

Overseas broadband internet subscriptions (millions of units)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Total number of subscriptions	628	633	641	640	676	7,5%

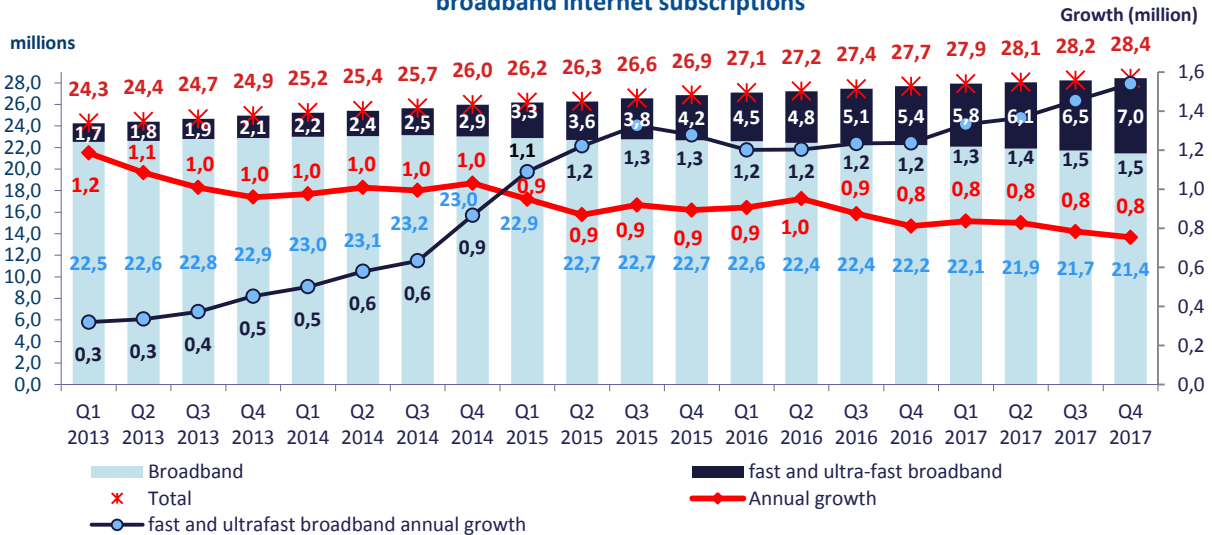
Notes :

- Broadband subscriptions are counted as fast broadband internet subscriptions when the download speed is greater than or equal to 30 Mbit/s. This category includes fiber to the home or to the office (FttH, FttO) subscriptions, "hybrid fiber coaxial cable" (HFC) subscriptions, fiber with coaxial cable termination (FttLA) subscriptions, and VDSL2 subscriptions with a download speed greater than or equal to 30 Mbit/s. Other subscriptions with a speed greater than or equal to 100 Mbit/s are also published.
- 4G SIM cards only dedicated to fixed internet usage are also counted in fast broadband accesses. These cards are used by the business customers (routers) and residential customers (4G box) and cannot be used in situation of mobility. These offers needs to be distinguished from other types of technologies, such as wireless networks deployed by some actors in order to provide fixed Internet access services, such as Wimax networks, wifi or, in the near future, fast broadband radio networks, which consists of more bandwidth from Wimax to LTE technology.
- There can be a delay between the delivery of an offer on the wholesale market (LLU or bitstream) and its inclusion in retail market figures. Data comparisons for these different markets may reflect this delay.
- VDSL2 is a technology used by operators since October 1st, 2013, whose access to the lines in indirect distribution opened October 27, 2014.

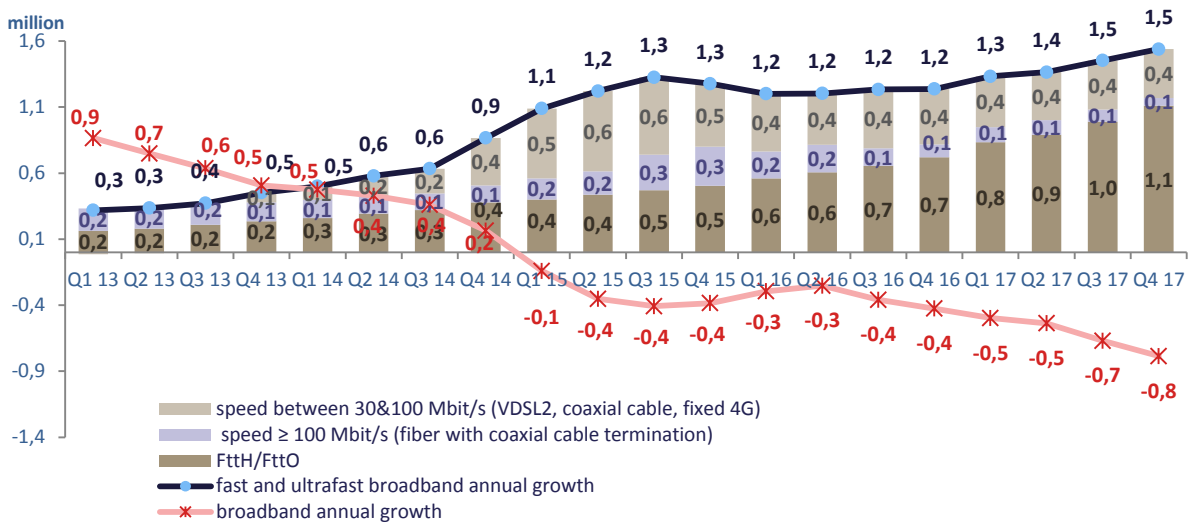
Breakdown of internet broadband subscriptions par flow rate and technology



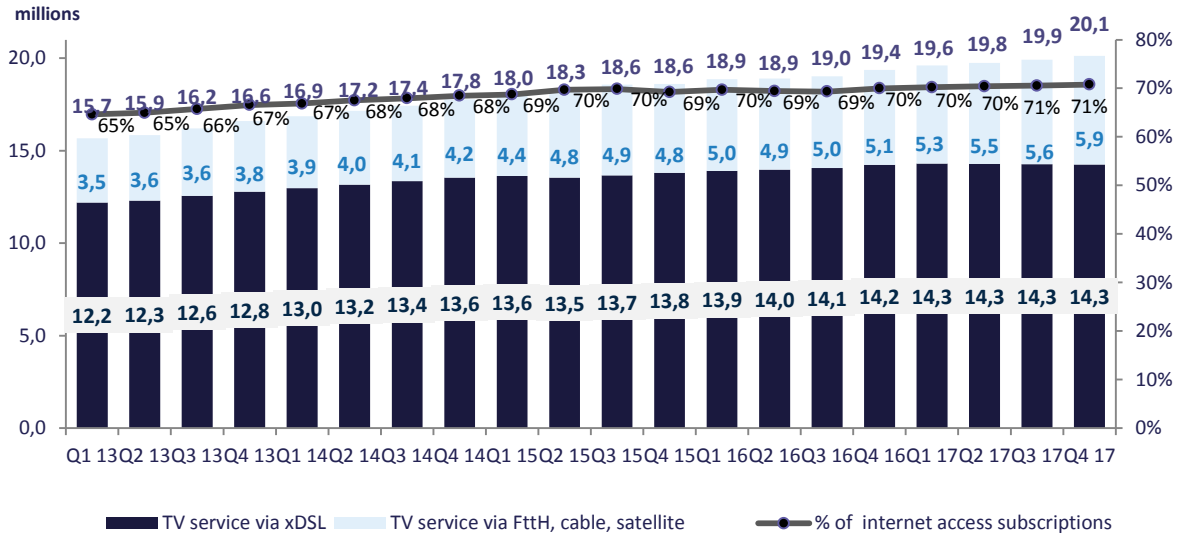
Number and annual increase of broadband internet subscriptions



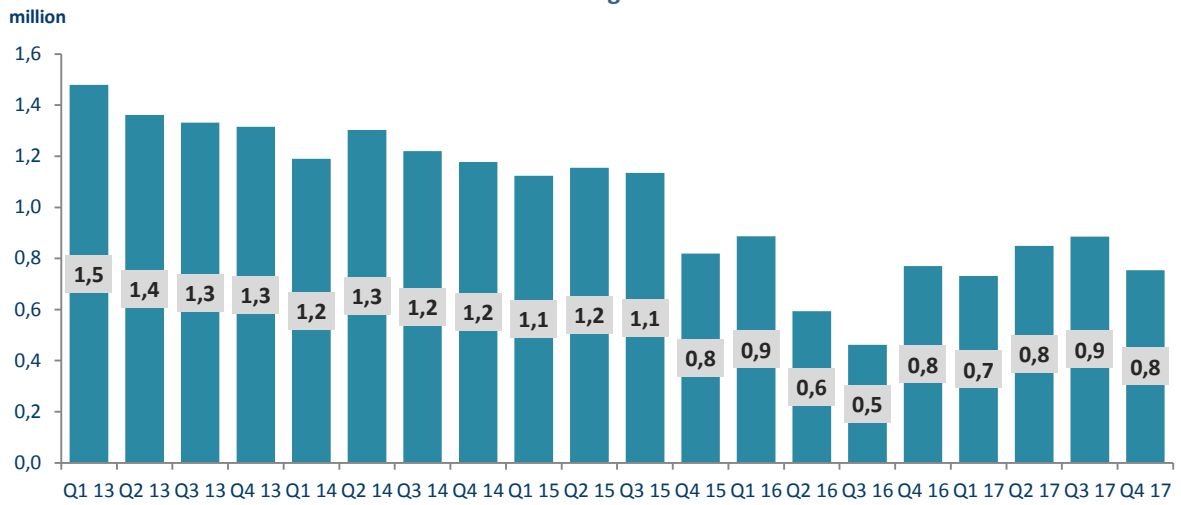
Annual increase of fast and ultra-fast broadband internet subscription



Subscriptions to television service tied to an internet access



Television service subscriptions tied to an internet access Annual growth



1.1.1 TV subscription tied to internet access

TV subscriptions tied to an internet access (millions)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
TV subscriptions tied to an internet access	19,370	19,607	19,752	19,913	20,124	3,9%
of which xDSL TV subscriptions	14,242	14,303	14,286	14,274	14,262	0,1%
% of subscriptions to television services	70,0%	70,2%	70,4%	70,5%	70,8%	+0,8 pt

adjusted figures are in italics

Note : are taken into account the subscriptions that have been subscribed separately or as part of a bundled offer that includes access to one or several other services aside from TV (internet, telephony).

A subscription to TV can be provided by another technology than internet access: for example, a subscription to TV via satellite tied to DSL internet access.

1.2 Telephone services on fixed lines (public payphones and telephone cards excluded)

1.2.1 Number of fixed lines

Number of fixed lines (millions of units)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Number of fixed lines	36,861	36,882	36,740	36,709	36,676	-0,5%
of which lines on a broadband access	25,373	25,753	25,888	26,077	26,312	3,7%
of which lines on a narrowband access	9,298	9,015	8,731	8,605	8,357	-10,1%
of which lines with two accesses (narrowband & broadband)	2,190	2,114	2,121	2,027	2,007	-8,3%

When offers are based on shared unbundling or bitstream accesses, the subscribers possess two landlines telephone subscriptions on the same physical line. The concept of lines refers here to the number of subscriptions without these double subscriptions by counting only one line for customers having both a narrowband telephone subscription and a VOB subscription.

By convention, in the case of ISDN lines, are counted as many fixed lines as telephone subscriptions paid by the company, i.e. 2 lines for a basic access and up to 30 lines for a primary access.

1.2.2 Number of subscriptions to a telephone service

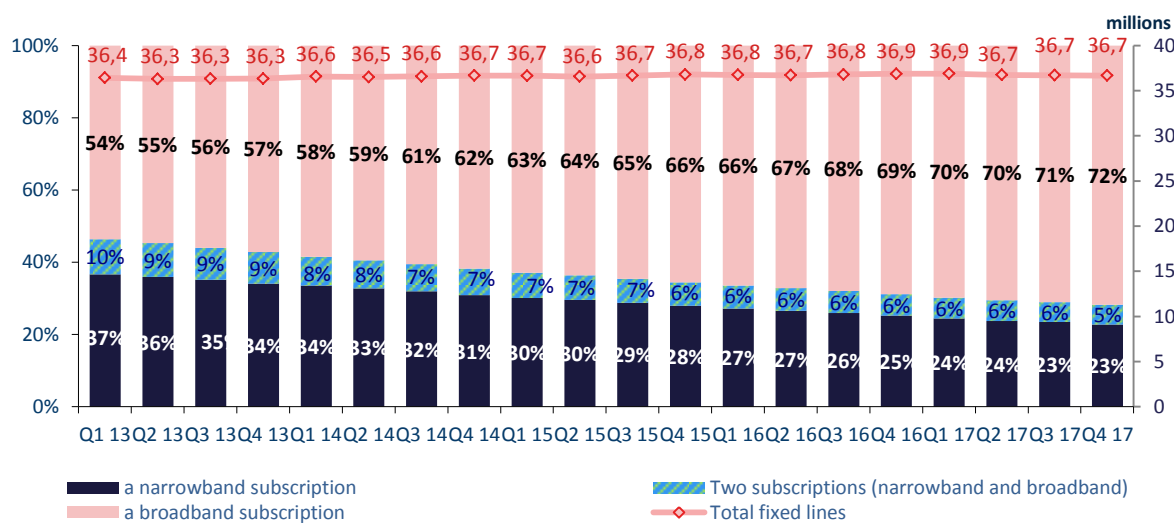
Number of telephone service subscriptions (millions of units)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Subscriptions on narrowband accesses	11,487	11,129	10,852	10,632	10,365	-9,8%
Access resales (VGAST)	1,499	1,456	1,433	1,418	1,404	-6,3%
Subscriptions on broadband accesses	27,563	27,867	28,009	28,104	28,319	2,7%
of which on DSL lines	23,298	23,341	23,266	23,107	22,953	-1,5%
of which DSL lines not tied to a narrowband subscription	21,109	21,227	21,145	21,080	20,946	-0,8%
of which on other technologies	4,264	4,526	4,743	4,997	5,366	25,8%
Total number of telephone service subscriptions	39,050	38,996	38,861	38,736	38,683	-0,9%

*Optic fiber to the home, optic fiber with coaxial cable termination, wireless technologies

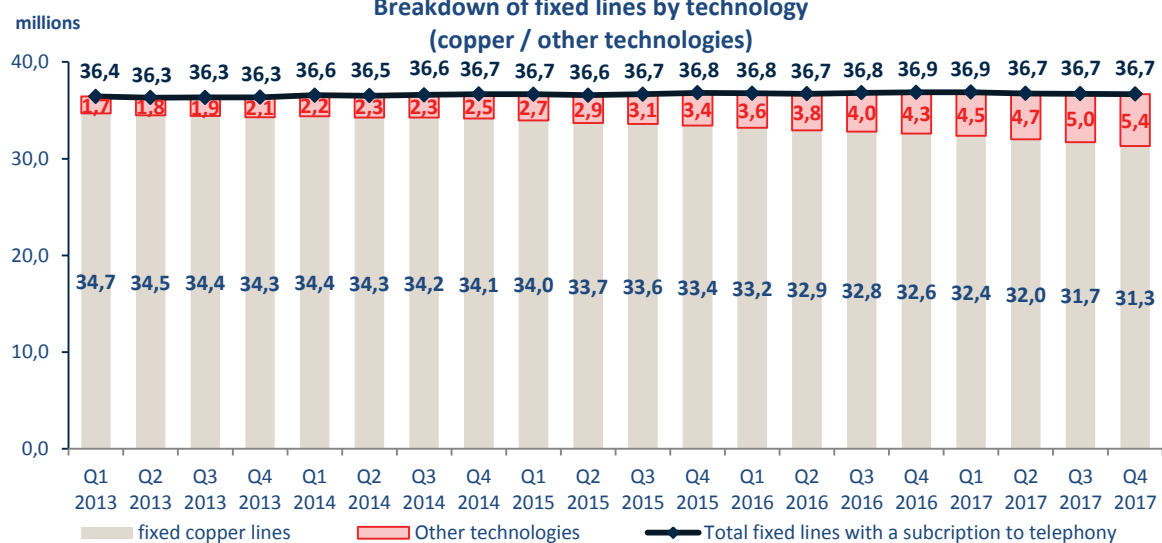
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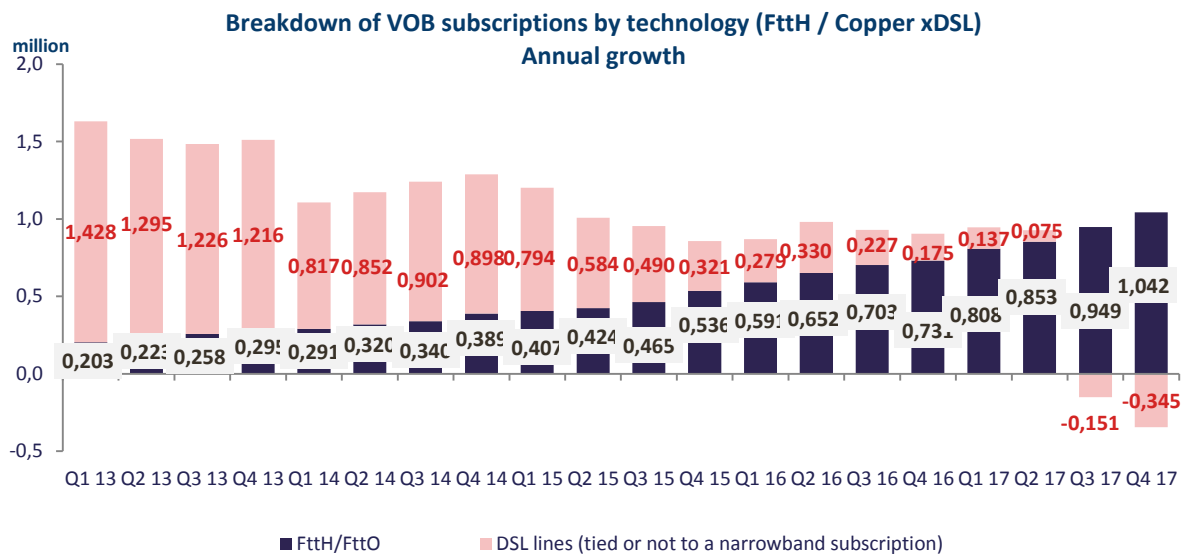
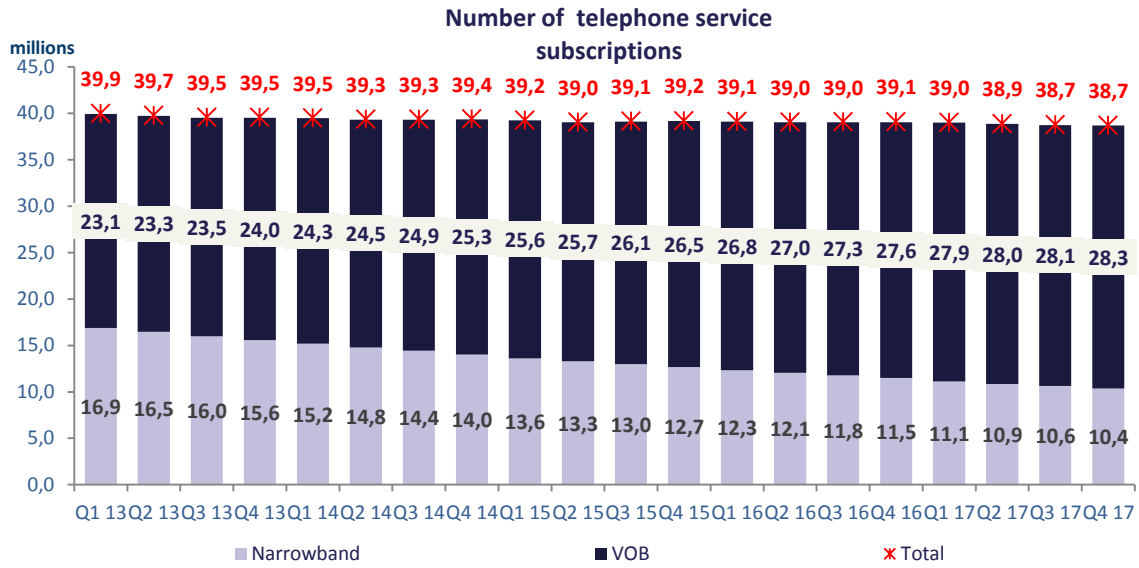
Note : a VOB subscription on xDSL technology without a narrowband subscription is a subscription on lines where low frequencies are not used as a voice service support (neither Orange nor an alternative operator). This is the case of voice-over-broadband service issued from full unbundling and naked DSL.

Breakdown of fixed lines by subscriptions to telephony services



Breakdown of fixed lines by technology (copper / other technologies)





1.2.3 Portability of fixed phones numbers

Portability (millions of units)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Number of fixed phone numbers ported during the quarter	710	600	540	604	660	-7,0%

1.2.4 Revenue and traffic of subscriptions and calls (narrowband internet, public payphones and calling cards excluded)

Narrowband access revenue (millions of euros excl. VAT)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Access fees, subscriptions and additional services	611	593	582	574	560	-8,4%

Note: in addition to income earned from providing access to a telephone service, access revenue includes income from IP telephony subscriptions and from additional services (caller ID, etc...).

Call Revenue from fixed lines (millions of euros excl.VAT)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
National calls	155	149	147	145	138	-11,1%
International calls	53	45	45	41	39	-26,3%
Calls to mobiles	102	95	92	82	88	-13,6%
Total calls from fixed lines	309	289	284	268	265	-14,5%
<i>Of which calls originating from narrowband networks</i>	197	188	181	170	169	-14,2%
<i>Of which calls originating from voice over broadband</i>	113	102	104	99	96	-14,4%

Note: although the volume of voice over broadband calls refers to all end-market traffic, the revenue covers only invoiced VOB traffic (e.g. over and above bundled service flat rates).

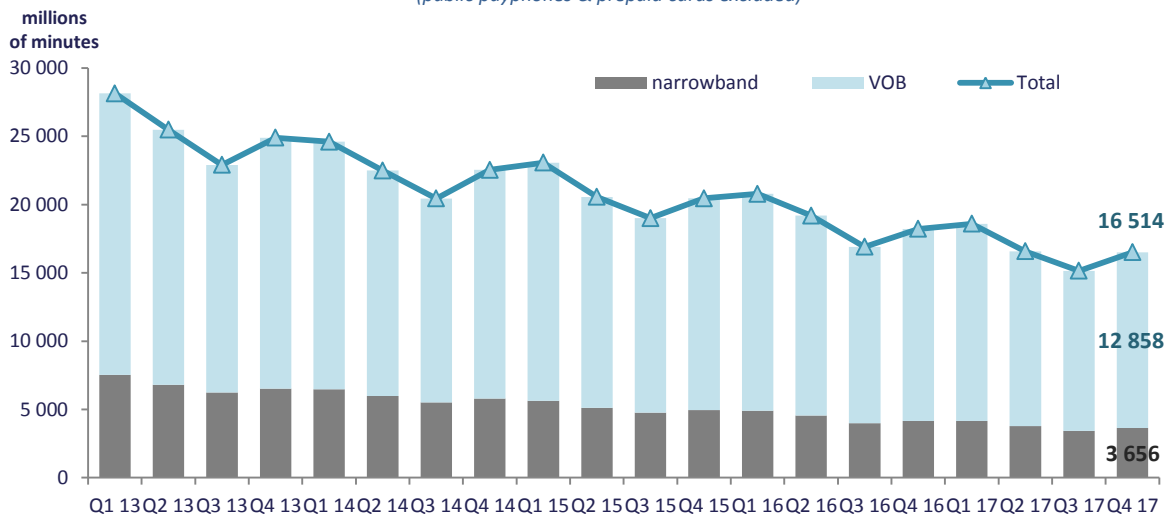
Call volumes from fixed lines (millions of minutes)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
National calls	12 260	12 613	10 994	10 013	11 114	-9,3%
International calls	1 946	1 887	1 731	1 521	1 581	-18,8%
Calls to mobiles	4 011	4 098	3 854	3 615	3 819	-4,8%
Total calls from fixed lines	18 217	18 598	16 578	15 149	16 514	-9,4%
<i>Of which calls originating from narrowband networks</i>	4 148	4 167	3 787	3 435	3 656	-11,9%
<i>Of which calls originating from voice over broadband</i>	14 070	14 431	12 791	11 714	12 858	-8,6%

adjusted figures are in italics

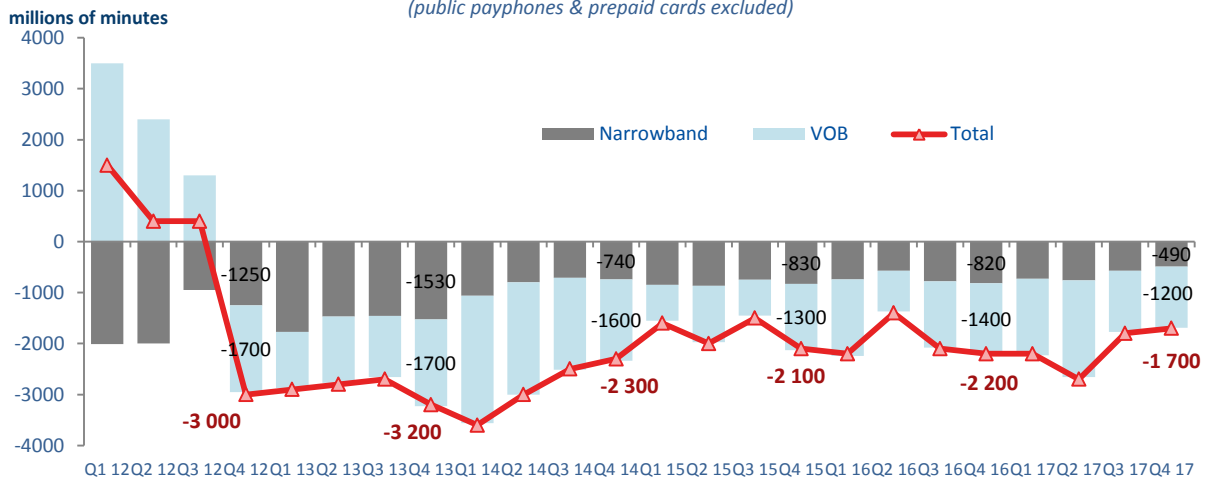
1.2.5 Public payphones and calling cards

Other fixed services - narrowband	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Revenue of public payphone & calling cards (millions of € excl.VAT)	7	4	3	1	1	-80,9%
Number of public payphones (units)	17 301	11 821	6 826	4 337	2 616	-84,9%

Call Volumes from fixed lines
(public payphones & prepaid cards excluded)



Call volumes from fixed lines - Annual growth
(public payphones & prepaid cards excluded)



1.3 Revenue of fixed services (retail leased lines and data networking included)

Revenue of fixed networks services (millions of euros excl.VAT)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Narrowband Revenue	814	784	765	745	730	-10,4%
Broadband Revenue	2 921	2 906	2 936	2 928	2 998	2,6%
Broadband Internet, VoB subs.and revenue from VoB calls	2 243	2 233	2 238	2 265	2 297	2,4%
Other Internet revenue	678	673	697	663	701	3,4%
Retail leased lines and data transport networks	617	597	597	602	605	-1,9%
Total revenue	4 353	4 288	4 297	4 275	4 333	-0,5%

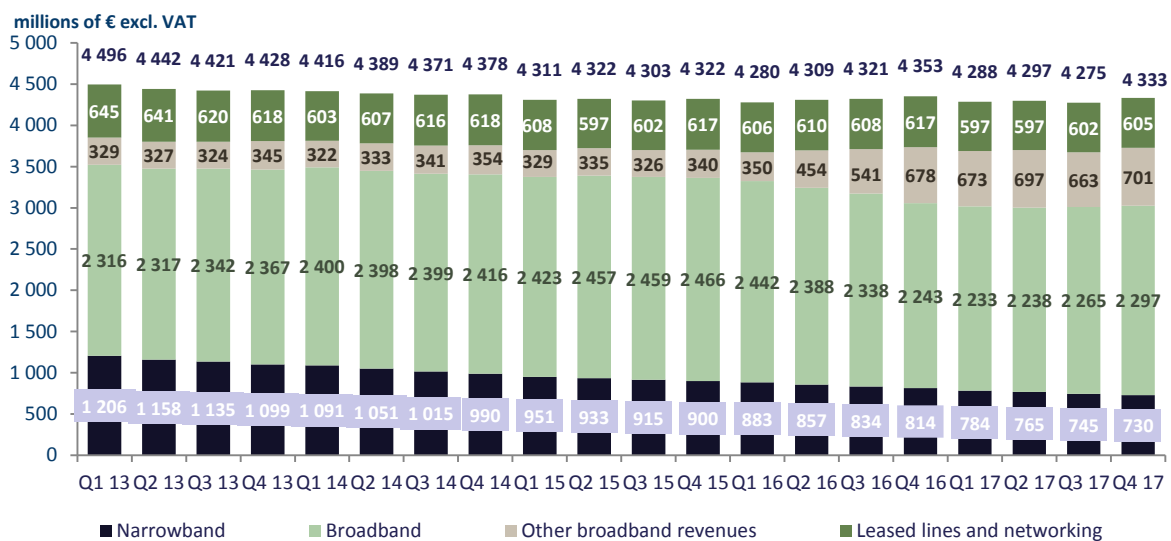
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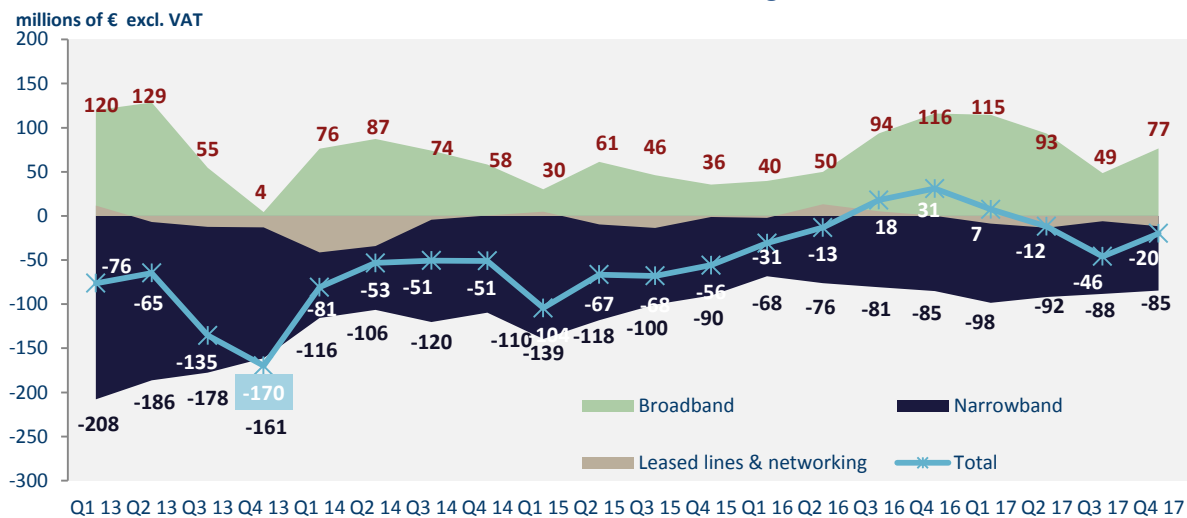
- "Other internet revenue" refers to related income earned by ISPs on services such as hosting and online advertising revenue. From now on, this line also includes revenues connected to a broadband internet access and billed by operators (subscriptions to à TV service, video and music downloading...). Revenue generated by terminal sales and rental is included under "fixed operator and ISP terminal sales and rental".

- For fiscal reasons, some operators have, since 2016, transferred a part of the revenue from multi-service subscriptions (previously fully declared in the "broadband internet revenue" section) to the "other internet revenues".

Fixed services revenue



Fixed services revenue - Annual growth



1.4 Average bill and traffic per user

Note : several subscriptions to the telephony service may be subscribed on the same fixed line.

1.4.1 Per fixed line

Average monthly bill and telephone calls (value added and directory services excluded)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Per fixed line : telephone access, calls and Internet access (€ VAT excl.)	32,9	32,5	32,7	32,6	33,1	0,4%
Per fixed lines (in hours)	2h44	2h48	2h30	2h17	2h30	-9,0%

adjusted figures are in italics

The average bill per fixed line now refers to what customers pay each month for their telephony and Internet services. It include therefore:

- Revenue generated by access to subscriptions and additional services;
- Revenue from calls originating on fixed lines, including IP traffic revenue billed over and above the bundled service flat rate;
- Narrowband and broadband Internet access revenue.

Revenues excluded are:

- Public payphone and prepaid card revenue;
- Revenue generated by other services tied to Internet access, e.g. ISPs' online ad revenue and commissions earned on e-commerce sales;
- VAS and directory assistance services revenue.

The average monthly volume of traffic per fixed line is calculated by dividing the volume of traffic (PSTN and IP) for quarter N by the estimated average number of fixed lines in existence for quarter N, and then by the number of months.

Average number of fixed lines for quarter N: $[(\text{total fixed lines on quarter N} + \text{total fixed lines on quarter N-1})/2]$

1.4.2 Per subscription to fixed services

Average monthly bill per customer (in euros -VAT excluded)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Per fixed narrowband telephone subscription	23,1	23,0	23,1	23,1	23,1	0,0%
Per fixed broadband access	34,2	33,8	34,0	33,7	34,2	0,0%

adjusted figures are in italics

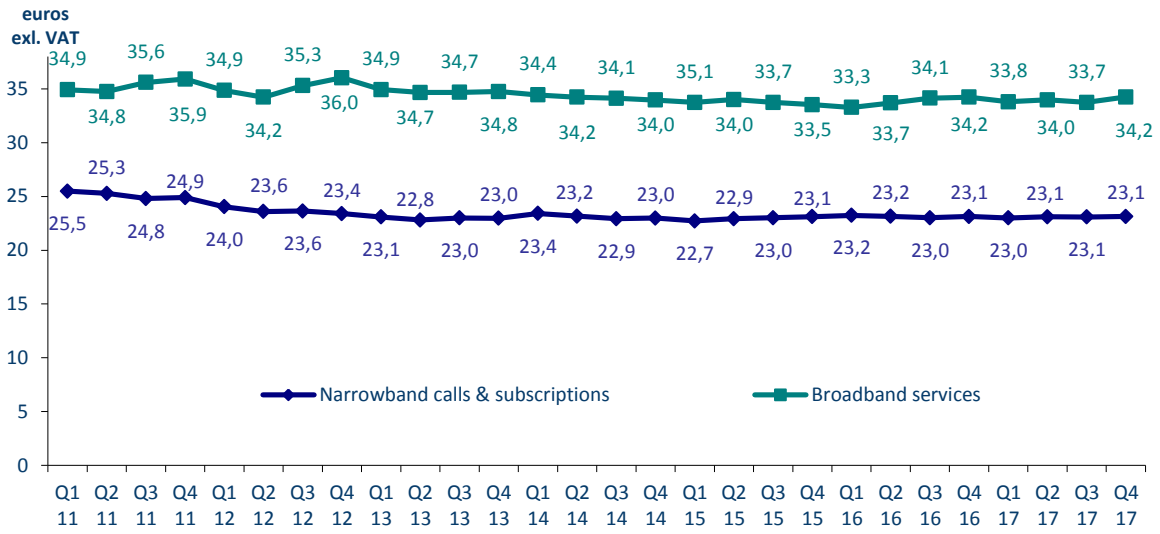
- The average monthly bill for a narrowband line is calculated by dividing the revenue earned on a PSTN based fixed line subscription and calls (i.e. excluding VOB) for Quarter Q by the estimated average customer base for Quarter Q, then dividing the result by three.

- The average monthly bill for a broadband or ultra-fast broadband access (Internet and telephony over broadband) is calculated by dividing the revenue earned on VOB calls made on a fixed line (billed over and above a service bundle flat rate) and the revenue earned on broadband subscription for Quarter Q by the estimated average customer base for Quarter Q, then dividing the result by three.

Average monthly volume per customer (in hours)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Per fixed narrowband telephone subscription	1h58	2h02	1h54	1h46	1h56	-2,3%
Per fixed VOB subscription	2h51	2h53	2h32	2h19	2h31	-11,2%

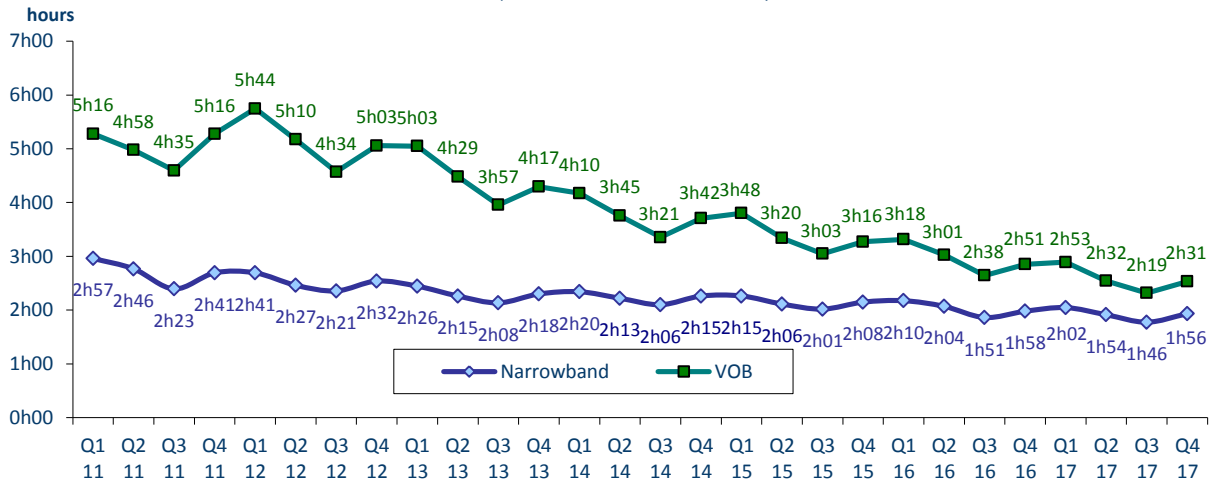
- The average monthly volume per fixed line is calculated by dividing the traffic earned on a PSTN or VOB based fixed line subscription and calls for quarter Q by the estimated average customer base for quarter Q, then dividing the result by three.

Average monthly bill per fixed subscription



Average monthly traffic per subscription to a fixed telephony service

(value-added services excluded)



2 Services on mobiles networks - retail market

2.1 Mobiles phone services

2.1.1 Number of SIM cards

Number of mobile lines (millions of units)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Post-pay subscriptions	61,587	62,161	62,674	63,467	64,328	4,5%
Pre-pay subscriptions	11,378	10,878	10,823	10,726	10,261	-9,8%
of which active prepaid cards	9,062	8,366	8,254	8,235	7,680	-15,3%
Total number of SIM cards	72,965	73,039	73,497	74,192	74,589	2,2%

- A prepaid card is considered active if the customer has made or received at least one call during the past three month. Incoming SMS are not included in the calculation.

- Are excluded dedicated active 4G cards for a fixed use (they cannot be use in mobility). These cards are included with fixed internet access.

2.1.2 Dedicated data cards

Dedicated data cards (millions of units)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Post-pay subscriptions	2,786	2,775	2,778	2,783	2,758	-1,0%
Pre-pay subscriptions	0,841	0,840	0,792	0,734	0,682	-19,0%
of which active prepaid cards *	0,287	0,235	0,235	0,293	0,271	-5,7%
Number of dedicated data cards	3,627	3,615	3,570	3,517	3,439	-5,2%
% in total number of SIM cards	5,0%	4,9%	4,9%	4,7%	4,6%	-0,4 Point

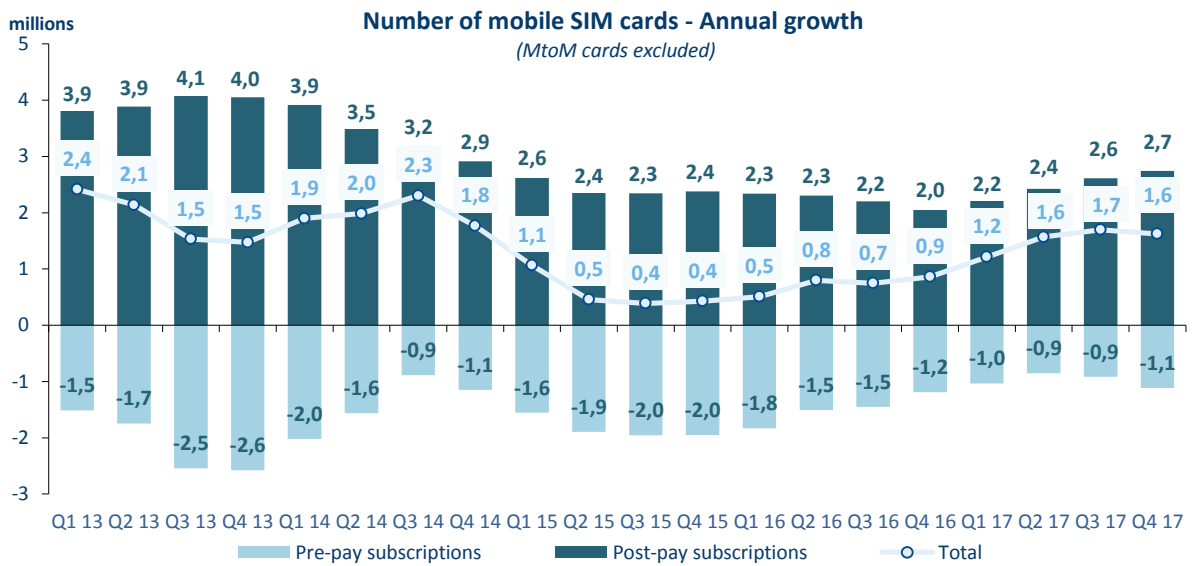
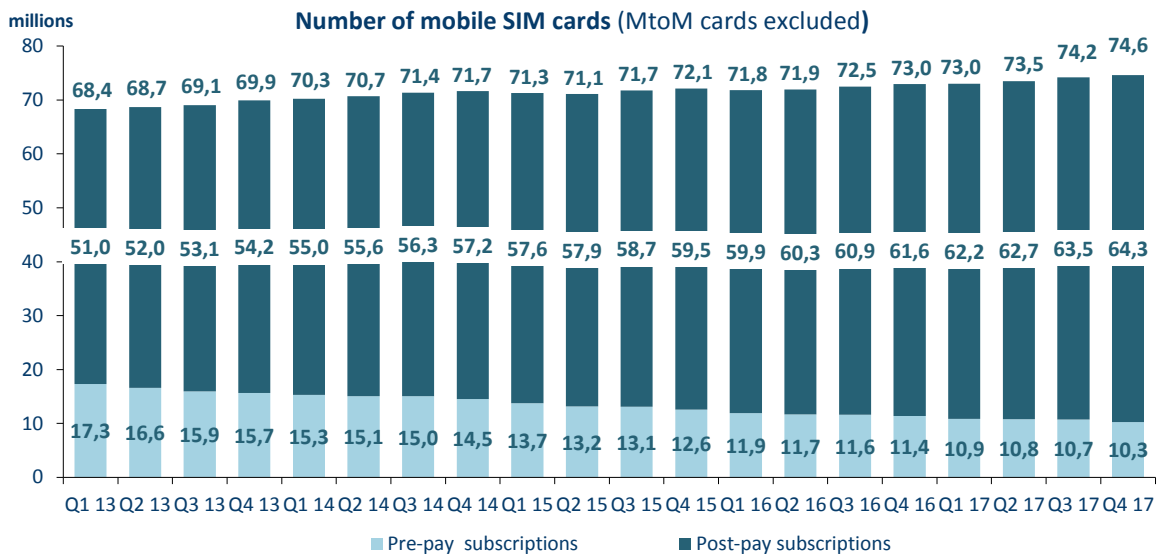
Note: the number of dedicated data cards is defined as the number of SIM cards sold by mobile operators (in the form of subscriptions, flat rates or prepaid cards), used exclusively for accessing the Internet (PCMCIA cards, 3G/4G USB keys). These cards cannot be used to make voice calls. Dedicated active 4G cards for a fixed use are excluded.

2.1.3 The fixed-mobile convergence

Bundles : mobile subscription tied to fixed services (millions of units)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Number of mobile subscriptions tied to at least one fixed service	19,898	20,459	20,585	19,647	19,687	-1,1%
% in total number of post-pay subscriptions	32%	33%	33%	31%	31%	-1,7 Point
% in total number of SIM cards	27%	28%	28%	26%	26%	-0,3 Point

Notes :

- Fixed-mobile convergence offers are commercialized by the operators by a package of services (several mobile contracts can be included) or by some price cutting applied to one or the others of the services. Several SIM cards can be tied to a fixed service subscription.



2.1.4 3G and 4G active cards

3G and 4G active users (millions of units)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
3G active users	52,863	53,274	54,271	55,660	56,746	7,3%
4G active users	31,901	33,966	36,531	38,865	41,626	30,5%

- The active 3G base is defined as the number of customers who have accessed a mobile service (voice, videophony, mobile TV, data transfer, etc.) that uses 3G radio access technology, sometime in the past three months (either transmission or reception). An active 3G card can also be active in 4G or in 2G.

- The 4G active users are defined as the number of customers who have accessed a mobile service (data transfer) that uses 4G radio access technology, at least once in the past three months (either transmission or reception). Only active customers are counted here, which therefore have both a 4G offer and a compatible terminal. This definition may differ from those of operator's financial publications, which can account, for example, some offers "4G marketed". A client can have such an offer, but not the suitable terminal, nor 4G coverage. A 4G active user may also use 2G or 3G technologies.

- Are excluded 4G active dedicated data cards for a fixed use (they cannot be use in mobility). These cards are included in fixed internet indicators.

2.1.5 Portability of mobile phone numbers

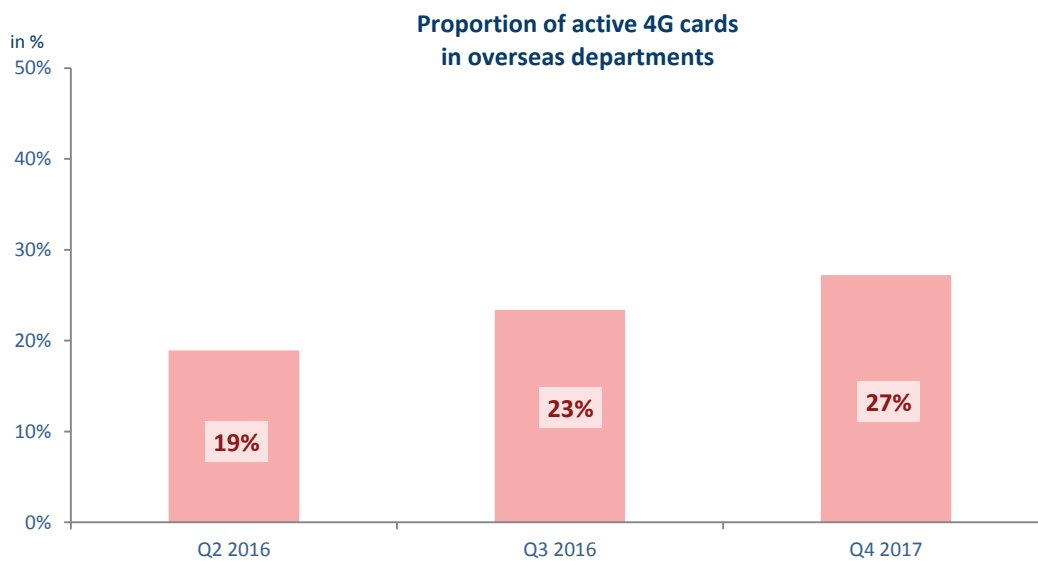
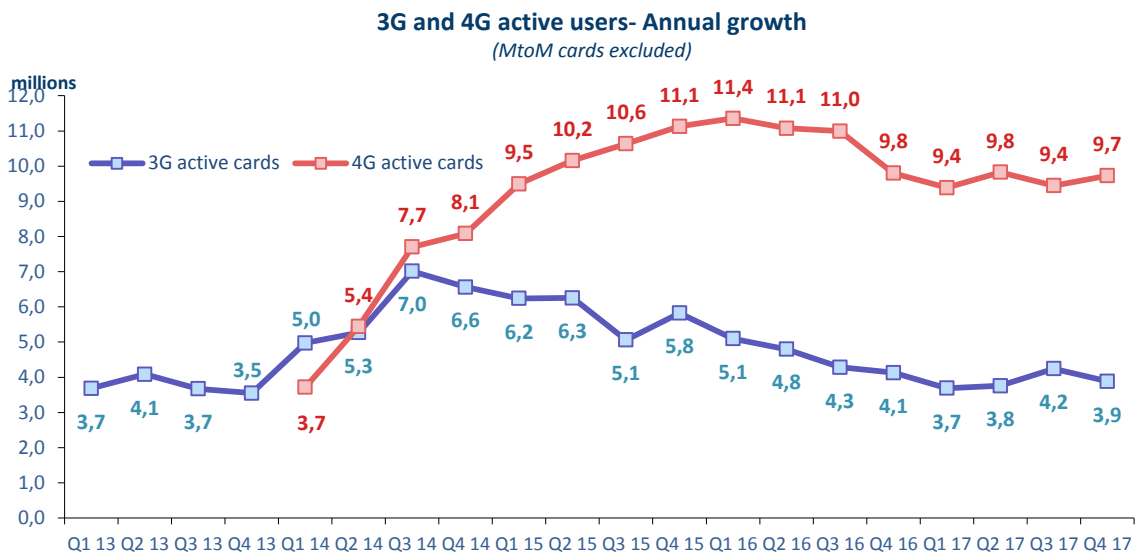
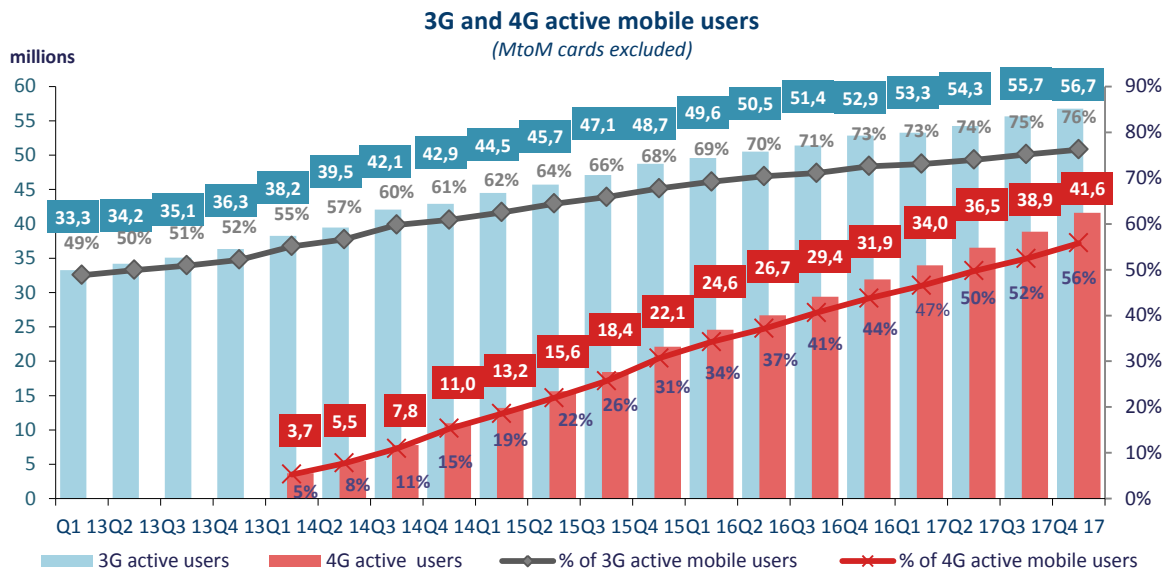
Number Portability (millions of units)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Number of transactions during the quarter	2,347	1,586	1,825	1,804	2,490	6,1%

Note: the figures for ported phone numbers refer to the number of at the finalized porting procedures (ported numbers activated by the recipient operator) during the quarter in question.

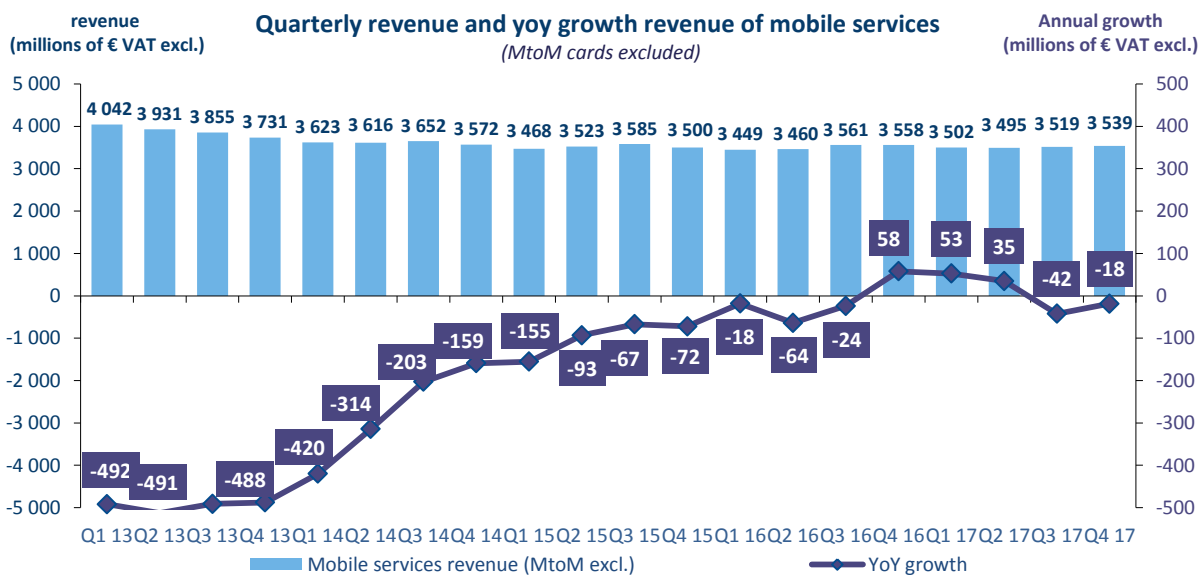
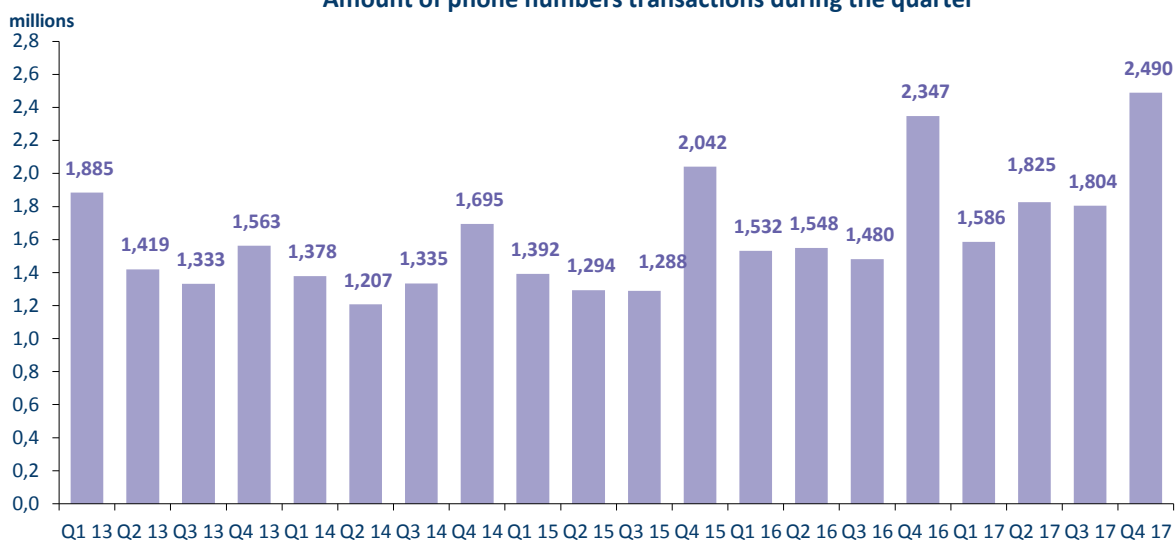
2.1.6 Mobile revenue on the retail market (value-added services excluded)

Revenue (millions of euros VAT excluded)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Post-pay subscriptions	3 361	3 320	3 321	3 339	3 374	0,4%
Pre-pay subscriptions	197	182	174	180	165	-16,1%
Total mobile services revenue (excluding MtoM revenue)	3 558	3 502	3 495	3 519	3 539	-0,5%

Note: this is about retail market revenue. Revenues from the market between operators (interconnection, wholesale) are not included. Also excluded is revenue from value-added retail services. In addition, with the development of contract subscribers without a contractual commitment and without the joint purchase of a mobile terminal, part of the revenue previously allocated to mobile services was de facto shifted to sales revenue and terminal leasing Mobile operators (see [section 4.2](#) of this publication) or specialized vendors (outside the scope of the study).



Amount of phone numbers transactions during the quarter



2.1.7 Volume of data consumed by mobile customers

Data volumes used by customers (in Exabytes)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Post-pay subscriptions	0,317	0,379	0,493	0,596	0,707	123,4%
Pre-pay subscriptions	0,005	0,005	0,006	0,007	0,008	55,4%
Total data volumes	0,322	0,383	0,499	0,603	0,715	122,3%
of which dedicated data SIM cards	0,013	0,012	0,013	0,015	0,018	37,0%
of which active 4G customers	0,280	0,343	0,449	0,541	0,647	131,1%

Note: the volume of data on mobile networks includes vocal communications and exchange of interpersonal messages via applications (wifi traffic excluded). It does not include the volume of 4G fixed boxes of the mobiles operators.

2.1.8 Mobile call volumes

Mobile call volumes (millions of minutes)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Post-pay subscriptions	38 287	38 962	39 143	37 708	40 161	4,9%
Pre-pay subscriptions	2 298	2 180	2 130	2 107	2 069	-9,9%
Total mobile call volumes	40 584	41 142	41 273	39 815	42 231	4,1%

Mobile call volumes (millions of minutes)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Calls to national fixed lines	6 734	7 005	6 752	6 488	6 840	1,6%
Calls to national mobile lines	31 902	32 281	32 485	30 824	33 206	4,1%
Outgoing internationals calls	1 344	1 270	1 316	1 263	1 290	-4,0%
Roaming out *	604	587	720	1 240	895	48,3%
Total mobile call volumes	40 584	41 142	41 273	39 815	42 231	4,1%

(*) Roaming-out : calls sent and received abroad by french mobile operators customers

2.1.9 Interpersonal messages (SMS, MMS)

Volumes of interpersonal messages (millions of units)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Number of SMS	49 092	48 151	47 101	44 878	44 281	-9,8%
of which from post-pay subscriptions	47 265	46 453	45 503	43 374	42 844	-9,4%
of which from pre-pay subscriptions	1 828	1 697	1 597	1 502	1 436	-21,5%
Number of MMS	1 165	1 134	1 260	1 307	1 264	8,5%
Total number of messages sent	50 258	49 284	48 361	46 185	45 544	-9,4%

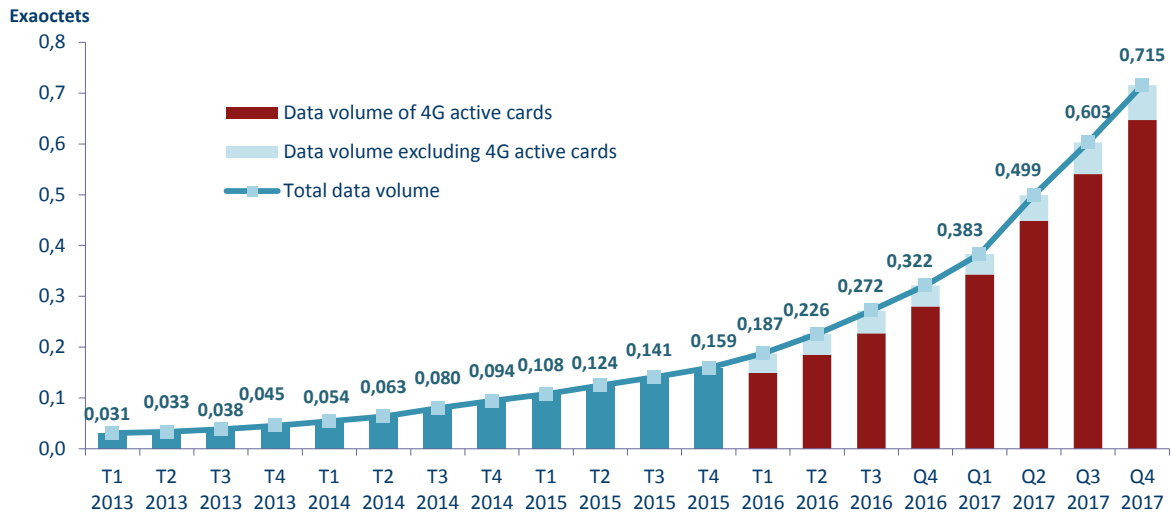
2.1.10 Roaming-out

Roaming-out	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Revenue (calls, SMS, data) (millions of euros)	196	181	189	181	146	-25,5%
Call volumes (millions of minutes)	604	587	720	1 240	895	48,3%
SMS volumes (millions)	310	292	391	810	452	45,6%
Data volumes (terabytes)	3 001	3 267	5 923	19 888	11 080	269,2%

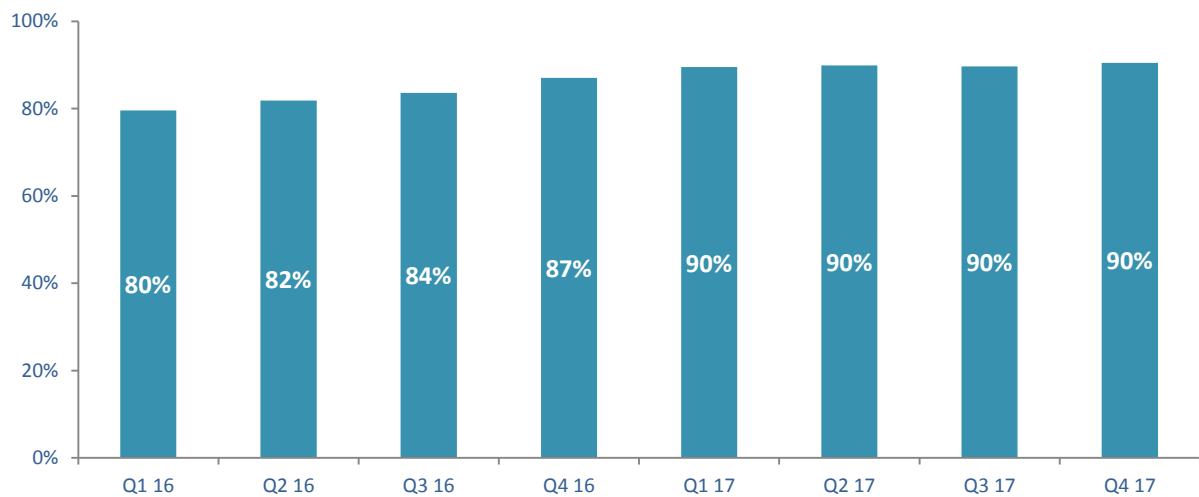
Note: roaming out corresponds to mobile services made abroad by customers of French mobile operators. For the revenue, only the services invoiced, specifically or above the fixed price, are counted to the operator's customers for the roaming services, whatever the service (incoming and outgoing voice calls, messaging services, the Internet). Since 15 June 2017, operators have been obliged to offer the national tariffs to their customers traveling within the European Union for calls

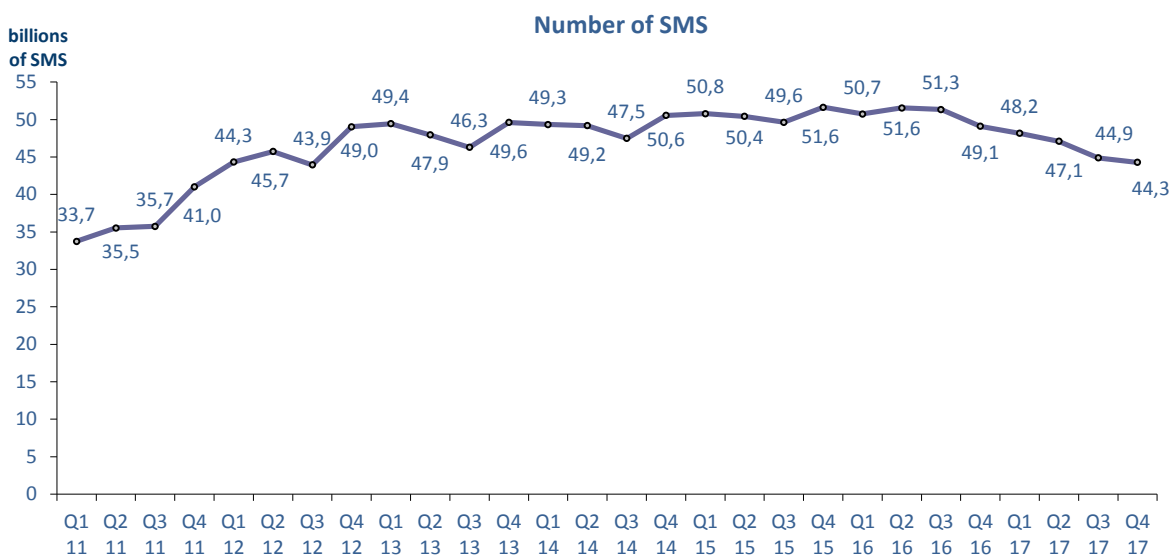
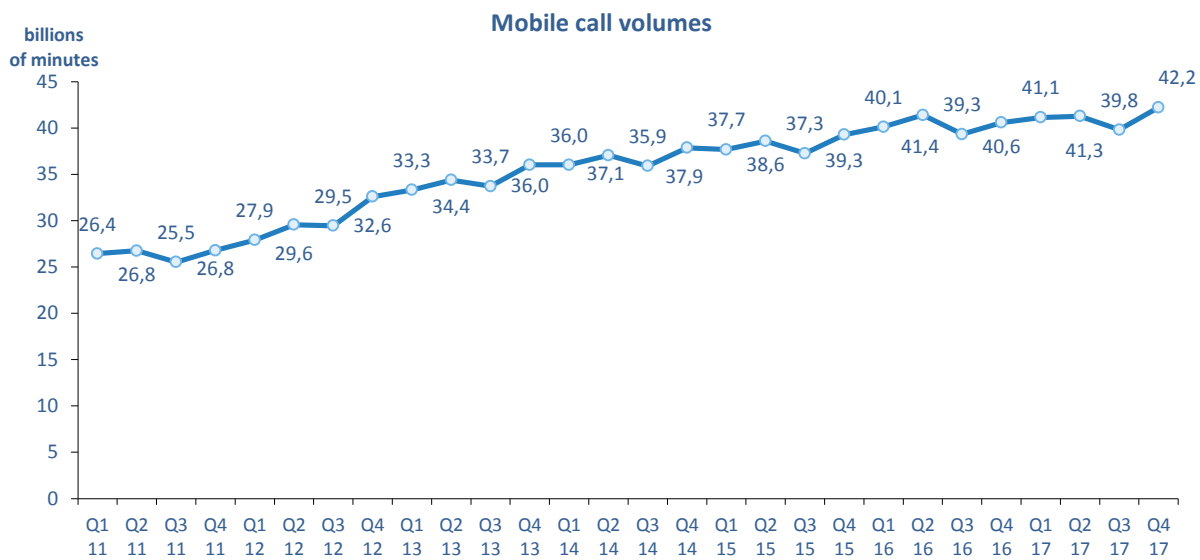
made or received from a mobile phone. For more information on the evolution of retail tariffs, see the Eurotariff note (section 5.2 of this publication).

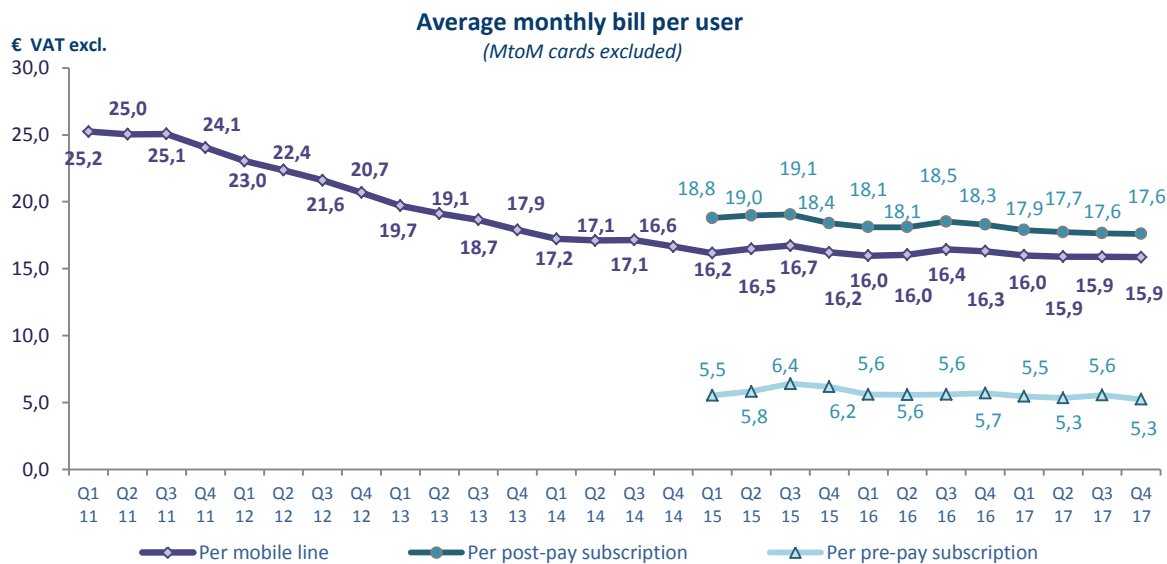
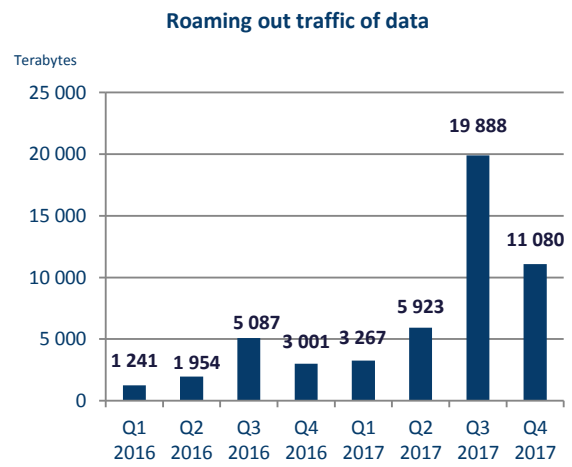
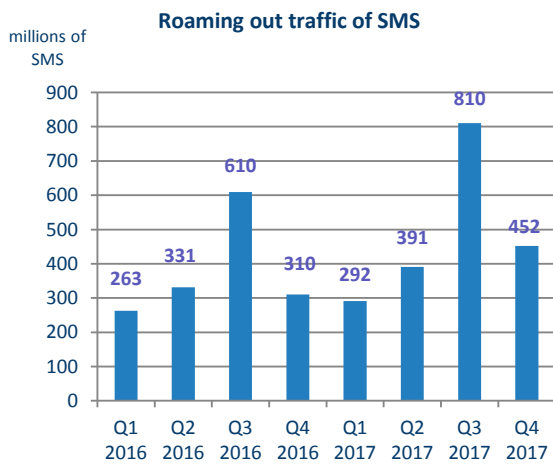
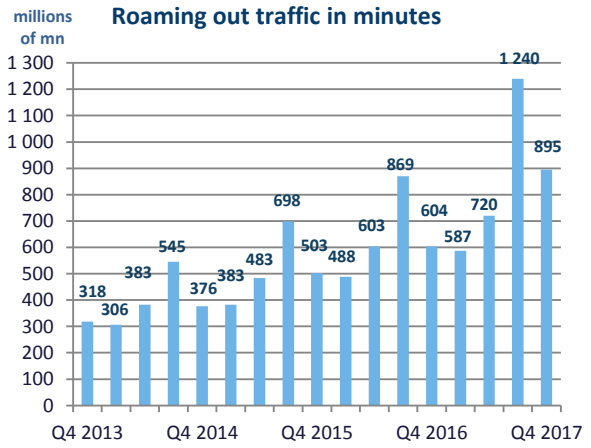
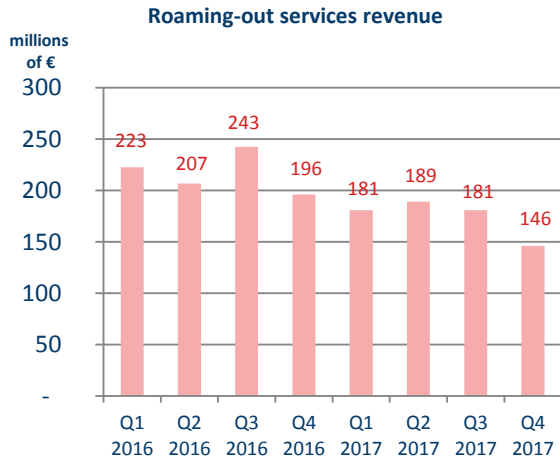
Data volume used by mobile customers



Proportion of volume from active 4G cards in total data volume







2.1.11 Average monthly bill and traffic per user (MtoM cards excluded)

Average monthly bill (value added services excluded) (in euros -VAT excluded)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Mobile telephony user	16,3	16,0	15,9	15,9	15,9	-2,7%
Post-pay subscriptions	18,3	17,9	17,7	17,6	17,6	-3,8%
Pre-pay subscriptions	5,7	5,5	5,3	5,6	5,3	-7,9%

adjusted figures are in italics

- The average monthly bill per mobile card customer is calculated by dividing the income from mobile telephony (voice and data revenue, including roaming-out, excluding revenue from incoming calls and MtoM SIM cards) for quarter N by the estimated average number of mobile cards for quarter N, and then by the number of months. This indicator, which does not include interconnection revenue, or those from value-added services, is not the same as the traditional Average Revenue Per User (ARPU) indicator.

- Average number of mobile cards for quarter N: $[(\text{number of mobile cards (MtoM cards excluded)} \text{ for quarter N}) + (\text{number of mobile cards for quarter N-1 (MtoM cards excluded)})] / 2$.

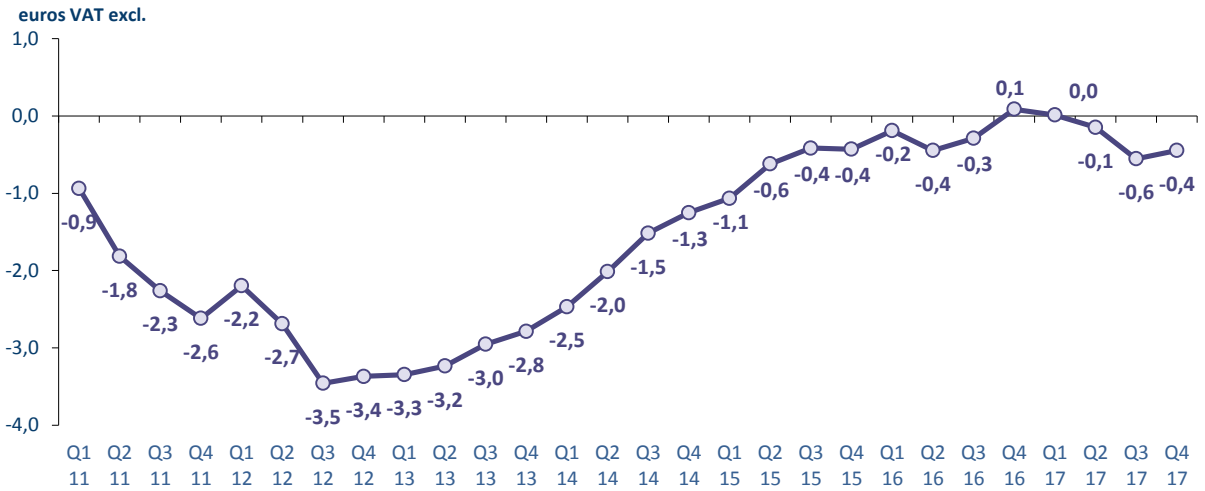
Average monthly traffics of data consumed on mobile networks (in gigabytes)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
of which post-pay subscriptions	1,9	2,2	2,8	3,4	4,0	114,1%
of which pre-pay subscriptions	0,2	0,2	0,2	0,2	0,3	70,4%
per mobile operator customer	1,6	1,9	2,4	2,9	3,4	117,4%
Per active internet user	2,4	2,8	3,6	4,2	4,9	100,8%
Per 4G active user	3,3	3,7	4,6	5,1	5,8	76,0%

- The average monthly data volume used by mobile customer is calculated by dividing the volume of mobile telephony traffic of data for quarter N by the estimated average number of mobile cards for quarter N, and then by the number of months. SIM cards that can be used only for data (MtoM and data only cards) are not included in the calculations.

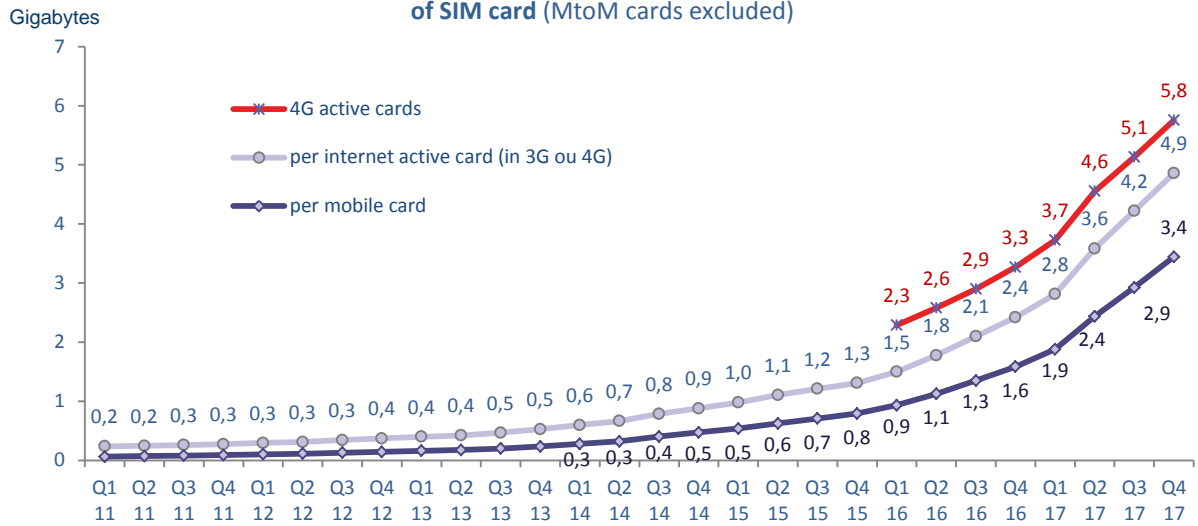
- Average number of active internet cards : Active internet cards that used a data service in the last three months via 3G or 4G networks.

- Active 4G cards: use of a 4G mobile network during the last three months.

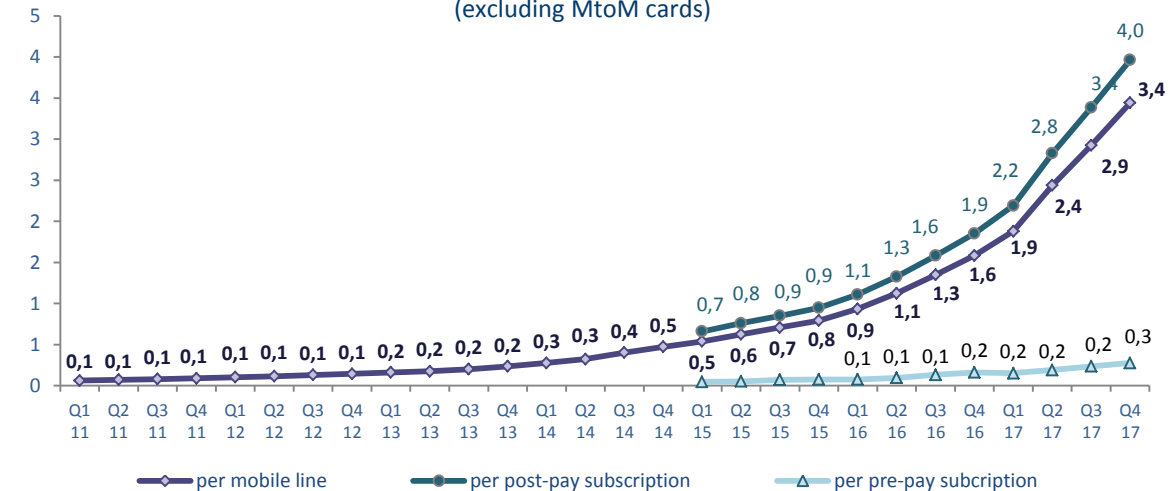
Average monthly mobile bill growth



Average monthly volume of data used by customers on mobile networks by category of SIM card (MtoM cards excluded)



Average monthly data volume per user (excluding MtoM cards)



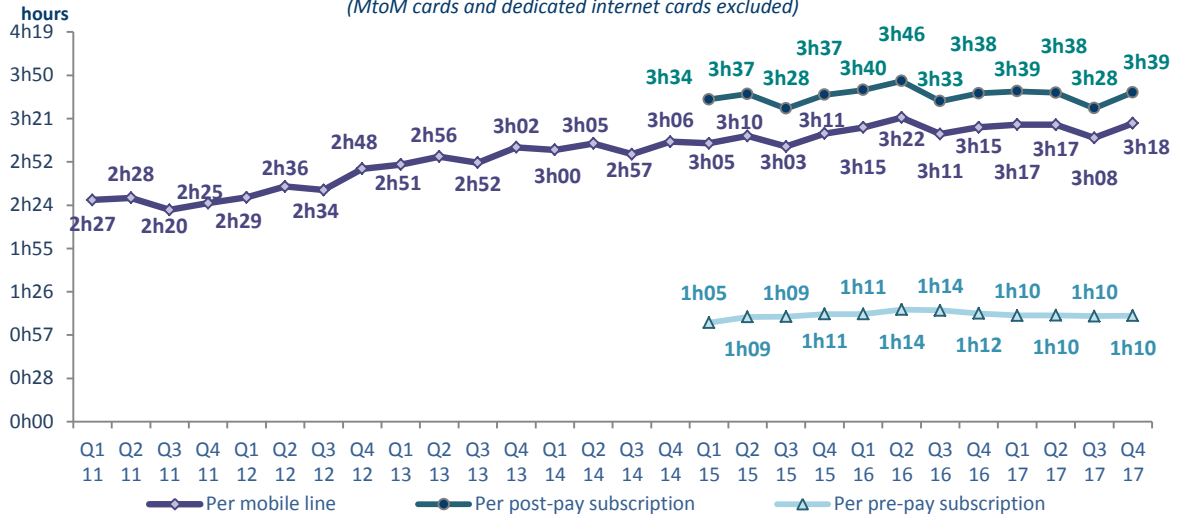
Average monthly outgoing volume (in hours)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Mobile telephony user	3h15	3h17	3h17	3h08	3h18	1,4%
Post-pay subscriptions	3h38	3h39	3h38	3h28	3h39	0,3%
Pre-pay subscriptions	1h12	1h10	1h10	1h10	1h10	-2,2%

Note: The average monthly volume of traffic per mobile card is calculated by dividing the volume of mobile telephony traffic (including roaming-out) for quarter N by the estimated average number of mobile cards for quarter N, and then by the number of months. SIM cards that can be used only for data (MtoM and data only cards) are not included in the calculations.

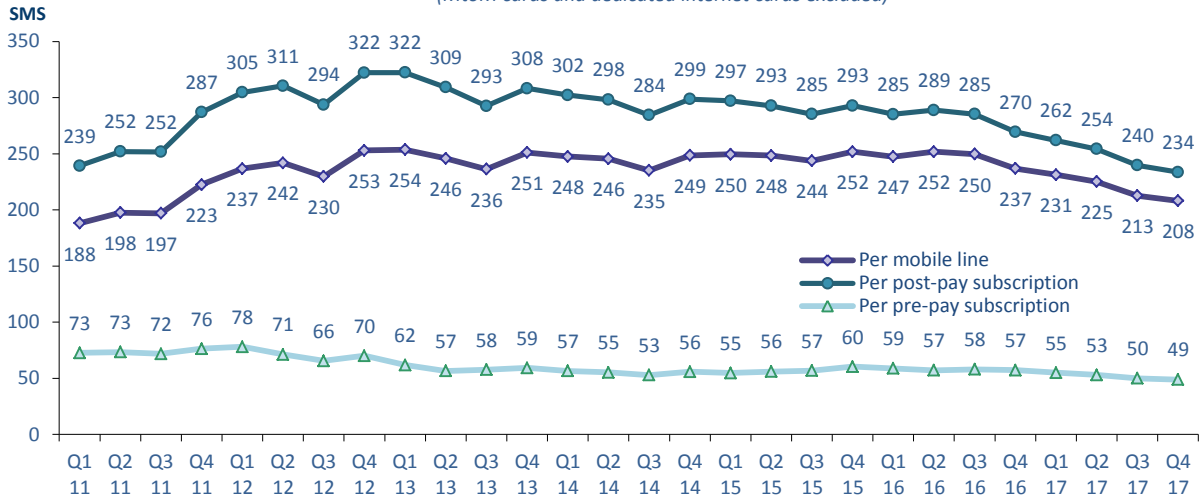
Number of interpersonal SMS sent per user (units)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Number of SMS sent per user during the quarter	237	231	225	213	208	-12,1%
Post-pay subscriptions	270	262	254	240	234	-13,3%
Pre-pay subscriptions	57	55	53	50	49	-14,7%
Number of MMS sent per user during the quarter	7	7	7	8	7	11,2%
Number of messages sent per user during the quarter	243	237	231	219	214	-11,7%

Note: The average number of SMS messages per card is calculated by dividing the number of SMS messages for quarter N by the estimated average number of cards for quarter N, and then by the number of months. MtoM and exclusive data cards are not taken into account. The number of messages does not include surcharged mini-messages (e.g. sent during a TV program), of which customers send an average of one a month.

Average monthly outgoing voice traffic by user
(MtoM cards and dedicated internet cards excluded)



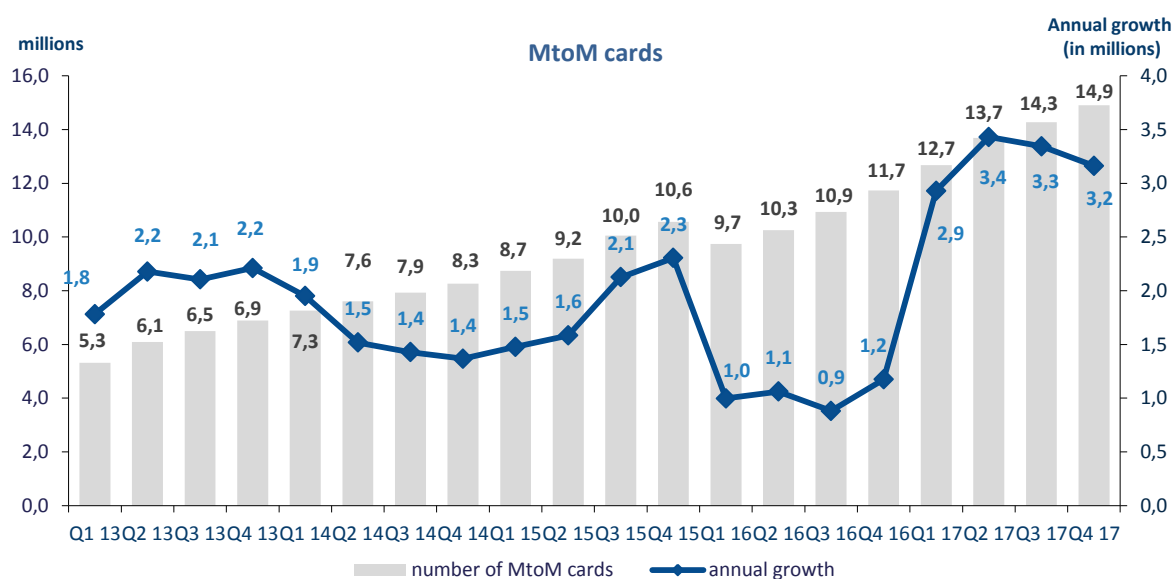
Average monthly number of SMS sent by card
(MtoM cards and dedicated internet cards excluded)



2.2 Internet of things : MtoM cards

MtoM cards	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Revenue of MtoM SIM cards (millions of € VAT excl.)	27	28	27	31	25	-6,8%
Number of MtoM SIM cards (units)	11,737	12,669	13,684	14,272	14,899	26,9%

Note: the number of dedicated machine-to-machine cards (MtoM cards) is defined as the number of SIM cards employed solely for remote machine-to-machine communications (remote management of equipment, terminals and servers, fixed or mobile). These cards are used mainly on the business sector.



3 Value-added services

Value-added services revenue (millions of euros excl.VAT)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Value-added voice services	181	170	168	165	169	-7,0%
From fixed networks	110	104	104	96	99	-10,1%
From mobile networks	71	65	65	69	69	-2,2%
Value-added data services	73	80	76	77	82	12,4%
Directory services	30	28	25	29	26	-13,6%
Value-added services	285	277	270	271	277	-2,7%

Notes :

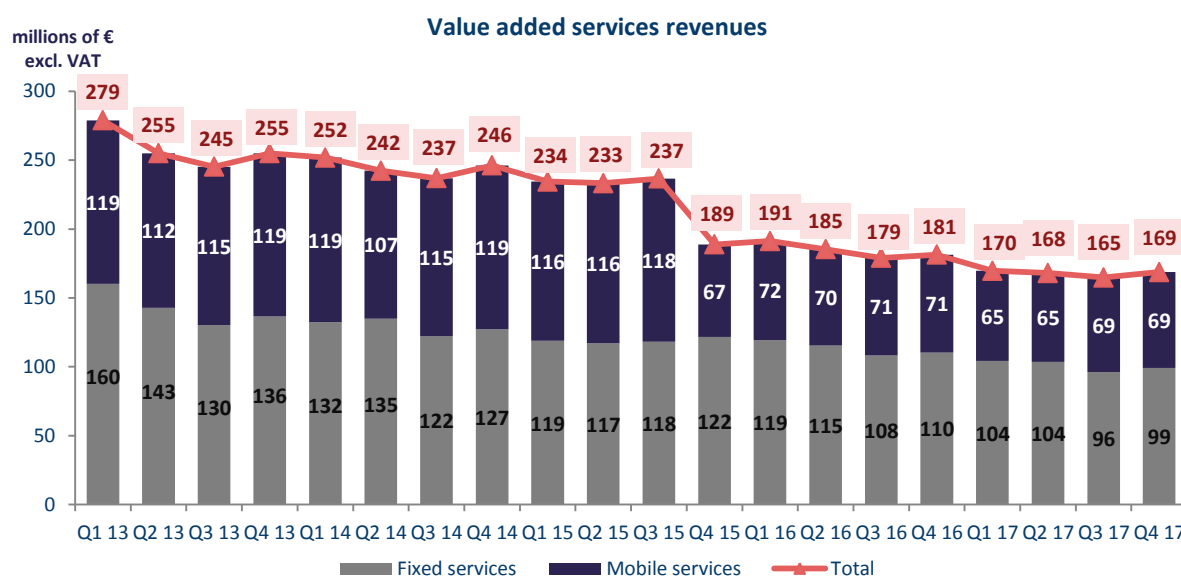
- The pricing reform of calls to value added services, since 1st October 2015, led to distinguish the price of communication (paying the operator) from the price of service (paying the service provider). As a result of this reform, the price of many calls to the SVA is now "unmarked" and the communications part of these calls, previously charged and included in the SVA's revenue, is now directly taken from mobile packages.

- This reform led to a decrease of the revenue since the fourth quarter (approximately -40% in annual evolution between the fourth quarter of 2015 and the third quarter of 2016).

Value-added voice services volumes (millions of minutes)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Calls from fixed network	920	929	850	840	835	-9,3%
Calls from mobile network	463	417	411	445	467	0,8%
Total call volumes	1 384	1 346	1 260	1 285	1 302	-5,9%

Number of calls from directory services (millions)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Number of calls (millions of units)	5	5	5	5	5	-9,5%

Note: are considered as directory services numbers: 118xyz numbers and short numbers giving access to directory services (3288, 3217, 3200, 3212).



4 Other operators revenue

4.1 Hosting and call center management services

Revenue (millions of euros excl.VAT)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Hosting and call center management	89	87	88	85	85	-4,8%

4.2 Terminals and equipments

Revenue from terminals and equipment (millions of euros excl.VAT)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
linked to fixed telephony & Internet services	233	235	235	240	253	8,6%
linked to mobile services	709	488	492	570	770	8,5%
Terminals and equipment	942	723	727	810	1 022	8,6%

adjusted figures are in italics

Notes:

Income related to fixed telephony and internet activities has been revised upward on several quarters as a result of a better accounting of this income by an operator.

The revenue includes commissions paid to distributors

5 The intermediate market: interconnection and wholesale market

5.1 The overall market

Interconnection services Revenue (millions of euros)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Fixed operators	1 417	1 377	1 367	1 353	1 322	-6,7%
of which telephony services (incl VGA) *	551	500	501	486	461	-16,2%
of which broadband services	718	724	718	717	713	-0,7%
of which wholesale leased lines products	148	153	147	150	148	-0,1%
Mobile operators	648	638	659	709	661	2,0%
of which voice termination (national and international)	189	190	188	184	196	3,4%
of which SMS/MMS termination	381	372	378	369	363	-4,6%
Roaming in	78	76	92	156	102	31,0%
Revenue (millions of euros)	2 066	2 015	2 025	2 063	1 984	-4,0%

adjusted figures are in italics

Interconnection services volumes (millions of minutes)	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Fixed operators	24 371	24 088	23 266	21 325	22 825	-6,3%
Mobile operators	24 711	25 202	25 537	25 205	26 228	6,1%
Traffic	49 082	49 290	48 803	46 530	49 053	-0,1%
Incoming SMS (in millions)	31 486	30 659	30 491	29 176	28 851	-8,4%

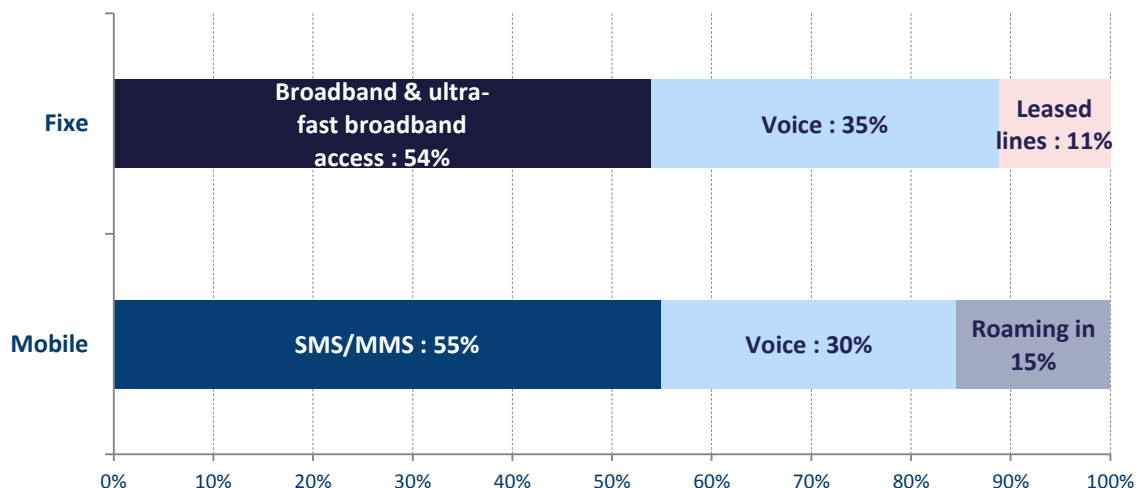
adjusted figures are in italics

Definitions and tariffs evolutions on the wholesale market

- Interconnection covers all the services provided by one carrier to another under the terms of an interconnection agreement. In cases of mergers or takeovers, some of the revenue streams between the telcos disappear, which might account for decreases in revenue from one quarter to the next.
- Interconnection income and traffic volumes are not calculated on the basis of the same criteria, making a comparison between the two indicators unsuitable for estimating average prices (interconnection income includes fixed income such as charges for connection links and intercarrier services).
- Note that the interconnection figures shown above might be counted twice, particularly in the case of fixed operators.
- From January 1st 2017, the price for call termination on fixed networks is set to 0.077c€/minute against 0.078c€/min since January 1st 2016.
- Broadband wholesale services include income from unbundling and bitstream or bitstream equivalent services. The tariff for total unbundling is set at €9.45 since March 1st 2017 against previously at €9.10 since March 1st 2016 (and 9.05€ in 2015, €9.02 in 2014). The tariff for partial unbundling is set to €1.77.
- Mobile operator's interconnection services include income from call termination (voice and SMS) and the roaming in. Are not included revenue from services to MVNO/full MVNO or operators in national roaming (about one billion of euros for the overall of year 2017).
- From January 1st 2017, the price for call termination on mobile networks is set to 0.074c€/minute for all the operators against 0.076c€/min since January 1st 2016.
- From July 1st 2013, the price for SMS termination is set to 1c€/SMS for all the operators (metropolitan and overseas operators).

For price details, see: <https://www.arcep.fr/index.php?id=8080>

Interconnection services revenue - Fourth quarter 2017



Unbundling <i>(millions of units)</i>	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Shared unbundled lines	0,540	0,517	0,499	0,480	0,459	-14,9%
Fully unbundled lines	11,594	11,588	11,536	11,481	11,393	-1,7%
Total number of unbundled lines	12,134	12,105	12,036	11,961	11,852	-2,3%

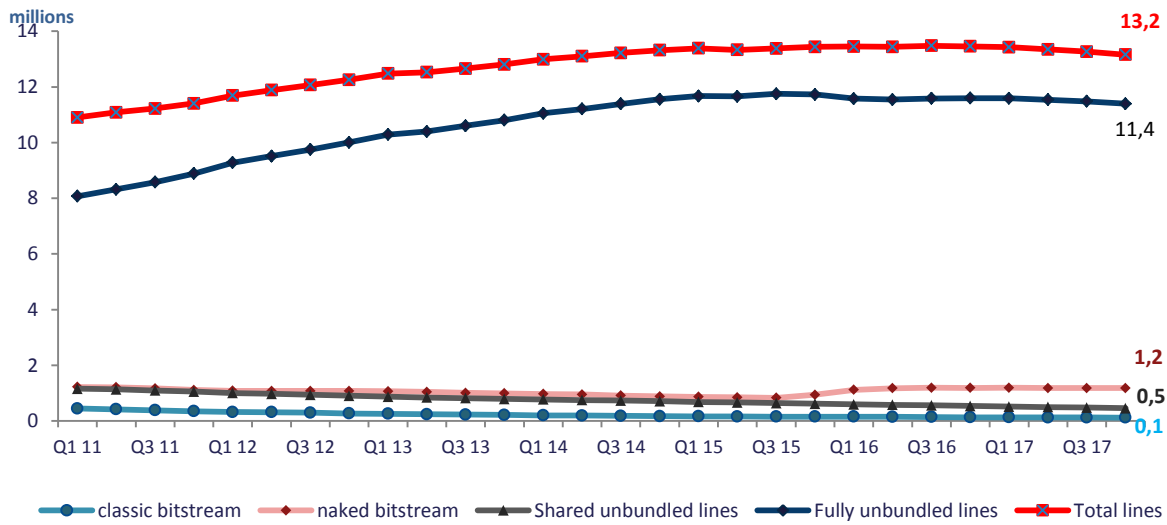
Bitstream lines (DSLE excluded) <i>(millions of units)</i>	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Naked bitstream	1,189	1,194	1,182	1,179	1,182	-0,6%
Classic bitstream	0,132	0,130	0,128	0,124	0,120	-9,2%
Total number of bitstream lines	1,321	1,324	1,310	1,302	1,302	-1,4%

Note: Bitstream is a wholesale solution marketed by the incumbent carrier that allows alternative operators to provide broadband access services to their customers who are located in areas where unbundling is not available, by connecting to one of the incumbent carrier's regional or national connection points.

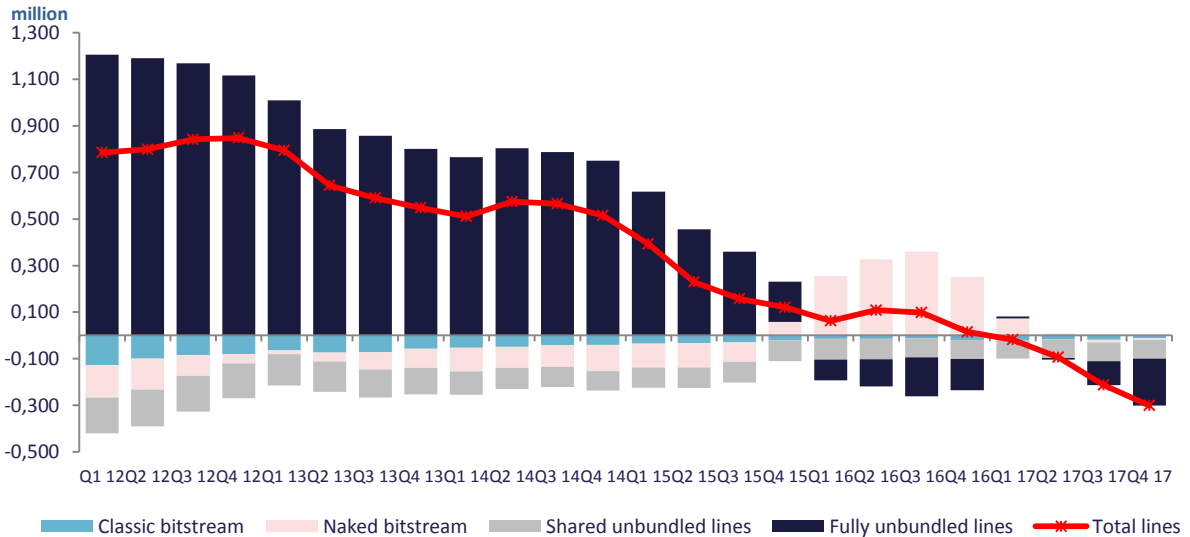
Number of FttH subscriptions via a wholesale offer <i>(in millions)</i>	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Subscriptions via a passive sharing offer	0,785	0,894	0,966	1,106	1,331	69,6%
Subscriptions via an active wholesale access product	0,049	0,054	0,058	0,054	0,062	26,5%
Total number of subscriptions via a wholesale offer	0,834	0,948	1,024	1,160	1,393	67,0%

For more information see: <https://www.arcep.fr/index.php?id=13876>

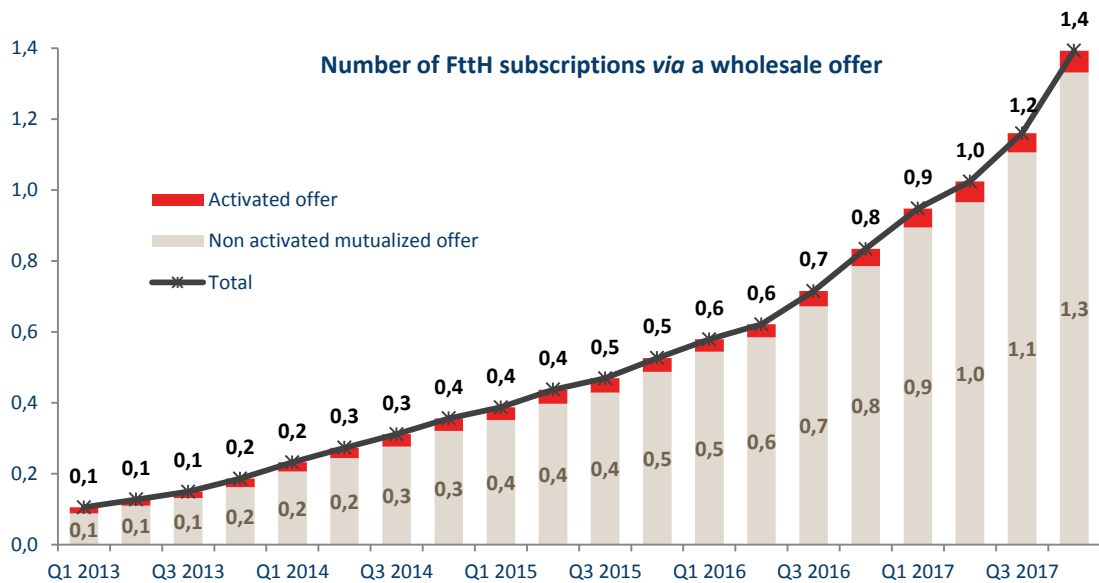
Number of unbundled and bitstream lines



Number of unbundled and bitstream lines - Annual growth



Number of FttH subscriptions via a wholesale offer



5.2 Mobile operators « Roaming-in »

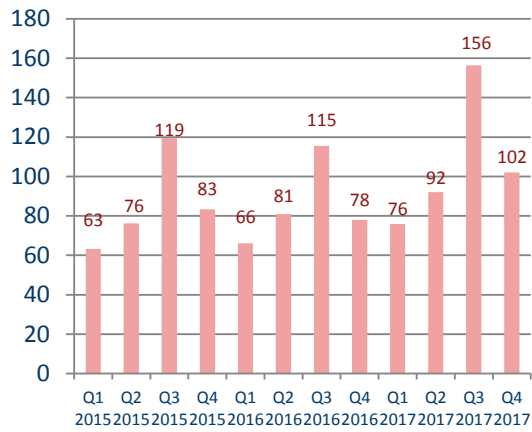
Roaming in	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	change Q417/Q416
Call volumes (millions of minutes)	813	851	1 039	1 509	1 266	55,8%
SMS volumes (millions)	161	169	207	392	197	22,7%
Data volumes (terabytes)	2 252	2 874	5 159	13 719	8 137	261,3%

Notes: this market segment is part of the overall market (cf. section 5.1).

- *Roaming-in refers to French mobile operators' handling of the incoming and outgoing calls made in France by customers of a foreign mobile operator. The revenue corresponds to the remuneration between the two operators. The relationship between call revenue/volume does not correspond to any set price, nor to any price that is billed to customers.*
- *Mobile operators have been subject to a ceiling on international roaming tariffs inside the EU since June 2007.*
- *From April 30, 2016, the ceiling of the retail price for roaming is done by comparison with the national rate, that is, the additional costs compared to national rates cannot exceed the thresholds fixed by the regulation. The maximum amounts of additional costs compared to national rates are: +5 c€ per minute for the calls made from abroad, +1,14 c€ per minute for calls received abroad, +2 c€ HT for SMS and +5 c€ /Mo for mobile internet.*
- *After June 15, 2017, prices of roaming in Europe will be aligned with national prices.*
- *On the wholesale market the tariffs have been set since 15 July 2017 to 1ct€ per message for SMS (against 2ct€ per message for the period from 1st July 2014 to 14 June 2017) ; to 3,2c€ per minute for voice calls (against 5ct€ per minute for the period from 1st July 2014 to 14 June 2017). The tariff is set to 7,7ct€ per Go for mobile internet from 15 July 2017 (against 5ct€/Mo for the period from 1st July 2014 to 14 June 2017).*
- More information at <http://www.arcep.fr/index.php?id=8710>.

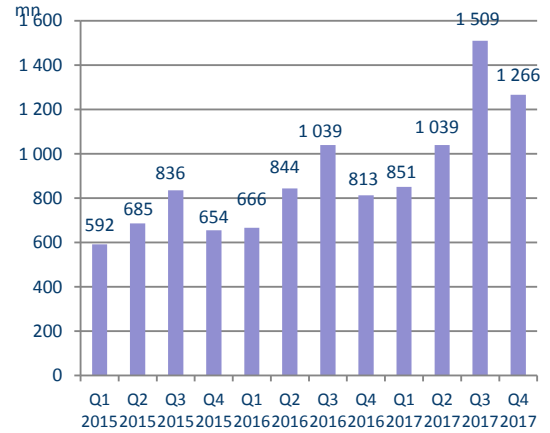
Roaming in services revenue

millions of €



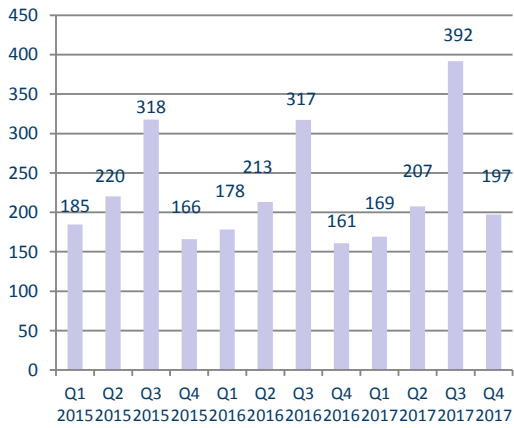
Roaming in traffic in minutes

millions of



Roaming in traffic of SMS

millions of SMS



Roaming in traffic of data

Terabytes

