

The Swedish Telecommunications Market 2013



The Swedish Telecommunications Market 2013

Report number

PTS-ER-2014:18

Reference number

14-51

ISSN

1650-9862

Authors

Andreas Wigren, Karin Fransén

The Swedish Post and Telecom Authority

Box 5398

102 49 Stockholm

Sweden

08-678 55 00

pts@pts.se

www.pts.se

Foreword

The market data collected by the Swedish Post and Telecom Authority (PTS) for the Swedish telecommunications market is one of the tools we use to monitor the rapid development of electronic communications. Information concerning market trends – in the form of volumes, revenues, etc. – among other things, forms the basis of our regulatory activities. This information is, for example, also used to make international comparisons.

In 2013, the rate at which data traffic in the mobile networks increased has eased off somewhat. The increase of over 50 per cent is still significant, but data traffic is increasing at a slower rate than previously. One explanation could be that the operators' new data traffic pricing has had an effect. It has become more expensive to use large amounts of data and the relatively cheap subscriptions for large-scale consumers have largely disappeared from the market. Another explanation may be that consumers increasingly connect their smartphones to wireless networks connected to fixed broadband connections, which decreases the load on mobile networks.

The results in the report for 2013 confirm the recent trend, with Swedish consumers increasingly demanding high-speed broadband via both fixed and mobile networks. There will soon be one million subscriptions capable of 100 Mbit/s or more, at the same time as use of the new 4G networks has begun in earnest. There are over five million 4G subscriptions, 1.5 million of which have used a 4G network.

Göran Marby

Director-General, Swedish Post and Telecom Authority

Contents

Foreword	3
Summary	7
Sammanfattning	8
1 Aim and method	12
1.1 Structure and implementation	12
1.2 Discrepancies and updates to data	13
1.3 Historical information and market shares	14
1.4 Definitions	14
2 Market development: Subscriptions	17
2.1 Fixed call services	17
2.2 Mobile call and data services	19
2.3 Number portability	21
2.4 Internet services	22
2.5 End-user data communication	28
2.6 Television services	28
2.7 Bundling	34
3 Usage – Traffic	37
3.1 Call traffic	37
3.2 Messaging services	38
3.3 Mobile data traffic	39
3.4 Traffic during international roaming	41
4 Market revenue	43
4.1 Revenue from fixed call services	43
4.2 Revenue from mobile call and data services	44
4.3 Revenue from interconnections on fixed and mobile networks	46
4.4 Revenue from telematics and roaming	46
4.5 Revenue from internet services	47
4.6 Revenue from data communication services	48
4.7 Revenue from television services	49
5 Market shares	51
5.1 Market shares – fixed call services	51
5.2 Market shares – mobile call and data services	52
5.3 Market shares – broadband subscriptions	53
5.4 Market shares – television services	55
Appendix 1 Report tables	58
Appendix 2 List of participants	59
Appendix 3 Quality declaration	64

Figures

Figure 1 Number of fixed call services subscriptions	17
Figure 2 Number of mobile call and data services subscriptions	19
Figure 3 Number of telematics subscriptions	21
Figure 4 Number of portings of fixed and mobile telephone numbers	22
Figure 5 Number of broadband and internet services subscriptions.....	23
Figure 6 Number of fixed internet services subscriptions.....	24
Figure 7 Transmission speeds for fixed broadband subscriptions – downstream	25
Figure 8 Transmission speeds for mobile broadband subscriptions – downstream.....	26
Figure 9 Transmission speeds for fixed broadband subscriptions – upstream	27
Figure 10 Number of television services subscriptions by method of distribution	30
Figure 11 Television subscriptions per method of distribution (unique users).....	31
Figure 12 Number of subscriptions for television via broadband	32
Figure 13 Television subscriptions by type of residence.....	34
Figure 14 Number of bundled subscriptions.....	35
Figure 15 Outgoing call minutes from fixed and mobile telephones.....	37
Figure 16 Total number of SMS sent and number of SMS per subscription and month.....	39
Figure 17 Volume of data transmitted on mobile networks	40
Figure 18 Call traffic, SMS and data traffic during international roaming	41
Figure 19 Revenue in the end-user market for electronic communications.....	43
Figure 20 Revenue from end-users for fixed call services	44
Figure 21 Revenue from end-users for mobile call and data services	45
Figure 22 Revenue from the end-user market for fixed internet services and mobile data	47
Figure 23 Revenue from the end-user market for data communication services	48
Figure 24 Revenue from television services	49
Figure 25 Market shares – fixed call services subscriptions.....	51
Figure 26 Market shares – mobile call and data services subscriptions	52

Figure 27 Market shares – broadband subscriptions (total).....	53
Figure 28 Market shares – fixed broadband subscriptions.....	54
Figure 29 Market shares – mobile broadband subscriptions	55
Figure 30 Market shares – analogue and digital television services subscriptions.....	56
Figure 31 Market shares – digital television services subscriptions	57

Summary

In 2013, the total revenue of the retail market for electronic communications was SEK 52.3 billion, which is on the same level as in 2012. Revenues from fixed call services decreased by 14 per cent, while revenues from mobile call and data services increased by 4 per cent and amounted to SEK 28.7 billion in 2013.

There were 3.9 million subscriptions for fixed telephony on 31 December 2013, a decrease by 6 per cent from the same date in 2012. At the same time, the number of subscriptions for mobile voice and data services increased by 2 per cent to 14.2 million. The number of mobile subscriptions using services in the 4G (LTE) networks increased considerably. By 31 December 2013, there were just over 1.5 million such subscriptions which was an increase of almost 1.3 million compared to the same date in 2012, and an increase of 678,000 subscriptions since 30 June 2013.

Data traffic continued to increase and in 2013, 270,300 Tbyte of data were transferred over the mobile networks. This is 54 per cent more than in 2012. Outgoing voice minutes from mobile networks increased by 4 per cent to almost 25.5 billion minutes in 2013. At the same time, the number of outgoing traffic minutes from the fixed networks decreased by 17 per cent, which meant that the total number of outgoing traffic minutes decreased by barely 4 per cent.

The number of subscriptions for broadband via fibre and fibre-LAN was nearly 1.2 million on 31 December 2013, an increase of 15 per cent or 157,000 subscriptions, compared to the same date in 2012. This increase meant that the number of fixed broadband subscriptions increased by 2 per cent.

The demand for high-speed broadband continued to grow. On 31 December 2013, there were 950,000 subscriptions with download speeds of 100 Mbit/s or more. Since 2012, the number of mobile broadband subscriptions with marketed speeds of 30 Mbit/s or more downstream have increased by 1.9 million to 3.6 million, which can be connected to strong growth in 4G subscriptions.

On 31 December 2013, the number of television subscriptions was at approximately the same level as one year earlier. IPTV via fibre was the only platform for traditional television services that increased, although the rate of growth was lower than previously.

On the statistics portal of PTS (www.statistik.pts.se), statistics from the report are available in tables, which include data from individual operators.

Sammanfattning

Under 2013 var de totala intäkterna på slutkundsmarknaden för elektronisk kommunikation 52,3 miljarder kronor, vilket är på samma nivå som 2012. Intäkterna från fasta samtals tjänster sjönk med 1,6 miljarder eller 14 procent, medan intäkterna från mobila samtals- och datatjänster ökade med 4 procent och uppgick till 28,7 miljarder kronor 2013.

Det fanns 3,9 miljoner abonnemang på fast telefoni den sista december 2013, en minskning med 6 procent sedan samma tidpunkt 2012. Samtidigt ökade abonnemangen på mobila samtals- och datatjänster med 2 procent till 14,2 miljoner. Antalet mobilabonnemang som använt tjänster i 4G (LTE)-nät ökade kraftigt. Den sista december 2013 fanns drygt 1,5 miljoner sådana abonnemang, vilket är en ökning med nästan 1,3 miljoner jämfört med samma tidpunkt 2012 och med 678 000 sedan sista juni 2013.

Datatrafiken fortsatte att öka och under 2013 överfördes 270 300 Tbyte data i mobilnäten. Detta är 54 procent mer än under 2012. Utgående samtalsminuter från mobilnäten ökade med 4 procent till nästan 25,5 miljarder minuter under 2013. Samtidigt minskade antalet utgående trafikminuter från fastnäten med 17 procent, vilket gjorde att det totala antalet utgående trafikminuter minskade med knappt 4 procent.

Antalet abonnemang på bredband via fiber och fiber-LAN uppgick till nära 1,2 miljoner den sista december 2013, en ökning med 15 procent eller 157 000 abonnemang jämfört med samma tidpunkt året innan. Denna uppgång gjorde att det totala antalet fasta bredbandsabonnemang ökade med 2 procent trots att abonnemangen på bredband via xDSL och kabel-tv minskade.

Efterfrågan på bredband med höga hastigheter fortsatte att växa. Den sista december 2013 fanns 950 000 abonnemang med nedladdningshastigheter på 100 Mbit/s eller mer. Sedan 2012 har antalet mobila bredbandsabonnemang med marknadsförda hastigheter på 30 Mbit/s eller mer nedströms ökat med 1,9 miljoner till 3,6 miljoner, vilket kan sättas i samband med den starka tillväxten av 4G-abonnemang.

Den sista december 2013 låg antalet tv-abonnemang på ungefär samma nivå som ett år tidigare. Iptv via fiber var den enda plattform för traditionella tv-tjänster som ökade, även om tillväxttakten var lägre än tidigare perioder.

På PTS statistikportal (www.statistik.pts.se) finns statistiken från rapporten publicerad i tabeller, där även data för enskilda aktörer är tillgänglig.

Key data - the market for electronic communications

	2013	2012	Change
Electronic communications			
Total retail revenues (SEKm)	52 351	52 366	0%
Revenues per month from one average household (excluding VAT) [1]	640	569	13%
Fixed call services			
Subscriptions for fixed telephony (thousands)	3 928	4 169	-6%
of which via IP-telephony (thousands)	1 573	1 437	10%
Outgoing traffic minutes (millions)	12 748	15 416	-17%
Private	6 693	8 597	-22%
Business	6 054	6 819	-11%
Revenues from fixed call services (SEKm)	9 808	11 447	-14%
Private	5 648	6 741	-16%
Business	4 159	4 706	-12%
Mobile call services and mobile data			
Mobile subscriptions (thousands)	14 199	13 948	2%
Private	10 951	10 764	2%
Business	3 248	3 183	2%
of which active UMTS/CDMA 2000 subscriptions	9 761	10 024	-3%
of which subscriptions which have used 4G (LTE)	1 546	252	514%
of which mobile broadband as a stand-alone service	2 185	2 097	4%
of which mobile broadband as an add-on service	5 589	4 906	14%
Outgoing traffic minutes (millions)	25 466	24 479	4%
Number of SMS sent (millions)	14 311	16 492	-13%
Number of MMS sent (millions)	307	241	28%
Traffic for mobile data services (Tbyte)	270 289	176 081	54%
Revenues from mobile subscriptions, SMS, MMS and mobile data traffic (SEKm)	28 700	27 591	4%
Private	19 175	18 147	6%
Business	9 525	9 444	1%

Subscriptions for telematics services	5 185	3 952	31%
Data communications services			
Revenues from data communications services to end-users (SEKm)	4 909	4 761	3%
Frame	0	7	-100%
IP VPN	3 005	2 936	2%
Network capacity	855	872	-2%
Dark fibre	531	406	31%
Wavelengths to end-users	53	41	29%
Other refined network services to end-users	465	499	-7%
Internet services			
Internet subscriptions (thousands)	10 983	10 182	8%
Dial-up subscriptions	92	108	-15%
Broadband subscriptions	3 118	3 070	2%
via cable television	573	586	-2%
via fiber and fiber-LAN	1 191	1 034	15%
via xDSL	1 340	1 437	-7%
Mobile broadband subscriptions	7 774	7 004	11%
of which mobile broadband as a stand-alone service	2 185	2 097	4%
of which mobile broadband as an add-on service	5 589	4 906	14%
Revenues from fixed Internet subscriptions (SEKm)	8 937	8 571	4%
Private	7 268	6 881	6%
Business	1 668	1 690	-1%
Television services			
Number of subscriptions per distribution platform (thousands)	4 575	4 561	0%
via cable television	2 388	2 414	-1%
via digital terrestrial television	578	594	-3%
via satellite	636	642	-1%
via iptv	722	638	13%
via fiber and fiber-LAN	444	354	26%
via xDSL	277	284	-3%
via SMATV	251	272	-8%
Bundled services			
Number of bundled subscriptions (thousands)	1 722	1 724	0%

Source: The Swedish Post and Telecom Authority, 11 June 2014.

[1] From 2013 register-based data on number of households is used, which means that revenue per household in 2013 is not entirely comparable with previous periods.

1 Aim and method

The aim of the “Swedish Telecommunications Market 2013” report is to survey the development of the Swedish end-user market for electronic communications.

PTS, the Swedish Post and Telecom Authority, has been tasked both with tracking developments on the electronic communications market and promoting competition on that same market. As a part of this task, PTS works with collecting market data and with market analyses. Apart from the internal needs of PTS for market data, it is also important that the general public, operators and other businesses and organisations have access to the statistics – which constitutes another incentive for PTS to publish market statistics.

The “Swedish Telecommunications Market” report should primarily be regarded as a PTS report on statistics for the electronic communications market, and the focus thus lies on reporting statistics that describe the market.

For the most part, the 2013 statistics were collected using a web-based survey. Information on roaming has been collected via an Excel form. Data on number porting is based on information acquired from SNPAC¹

1.1 Structure and implementation

The data collection that forms the foundation for “The Swedish Telecommunications Market” is covered by the obligation to reply, and has been so since 2003.

The collection for 2013 was distributed via a web-based questionnaire to a total of 493 telecommunications companies in January 2014. The data was collected from January to March 2014, and the initial dispatch was followed up with reminders via e-mail and post. A few businesses that did not respond were reminded via telephone. At the beginning of April, responses had come in from 449 companies, resulting in a response rate of 91 per cent. Operator data continues to be collected and adjusted even after the “Swedish Telecommunications Market” report has been published, however, which means that the PTS operator statistics database² is continually updated.

¹ Swedish Number Portability Administrative Center: www.snpac.se

² The PTS database is available at the PTS statistics portal statistik.pts.se

The telecommunications companies that took part indicated the areas in which they conducted operations during 2013 on the questionnaire. The number of companies that conducted operations within the different areas is shown in the table below. Note that a telecommunications company can operate in several areas.

Areas	2013
Fixed call services	112
Interconnection in fixed networks	32
Mobile call and data services	55
Interconnection in mobile networks	19
Internet subscriptions	162
Television services	72
Bundled subscriptions	30
Data communications services - wholesale	171
Data communications services – end-user	156
Broadband access - to operators and end-users	175
Total number consulted	493

For a complete list of which operators have responded within which areas, see the attached list of participants.

PTS has been commissioned by BEREC to collect data on international roaming twice a year. Data from this collection is used as the basis for this report.

The collection of roaming information for 2013 was distributed via e-mail and Excel forms that had a uniform design for all the EU countries. It was sent out to four telecommunications companies³ and the latest responses came in during May 2014.

1.2 Discrepancies and updates to data

Measurement errors arise for different reasons during the data collection process, which is due to a number of sources such as:

³ The participating companies are TeliaSoneraAB, Tele2 Sverige AB, Telenor Sverige AB and Hi3G Access AB

- Those consulted did not answer all the questions on the survey
- Not all operators on the market responded to the survey
- The responses were misleading due to the fact that it was not possible to produce an exact value from the company's accounting, the instructions were misunderstood or inadequate, or incorrect information was submitted

The measurement errors are not regarded as being significant and can often be compensated by starting from previously collected data or by estimating based on related questions on the survey.

As the information reported in per cent figures has been rounded off, the sum of the parts is not always 100 per cent.

The historical statistics are revised as PTS obtains corrections and further information. For that reason, the statistics for one and the same year can differ between annual editions of the report. The latest updated database is available on the PTS web-based statistics portal (www.statistik.pts.se).

For a more detailed description of measurement errors and loss, see the attached declaration of quality, Appendix 2.

1.3 Historical information and market shares



The development of the market is reported using statistics that, in some cases, reach back to 1992. Beginning in 2006, PTS has also published market shares for variables at the end-user level for every collection period. Market shares for a number of different variables are included in the report, but significantly more information is published on the web-based statistics portal. The variables judged to be inadequate or which are misleading in another way are not published on the statistics portal.

1.4 Definitions

Definitions that form the basis for the reports are used on the questionnaire, and these definitions are continually revised so that they are in sync with developments on the market. The segmentation of the individual sub-markets can also change from year to year. Since 2003, PTS has also considered the need for information in order to conduct market analyses and to decide whether any operator has significant market influence. Despite these changes, it is still possible to compare the information with previous reports to a great extent.

Types of internet connections

As regards the sub-market for internet connections, mixing up expressions such as “fixed connection”, “broadband connection”, “wireless connection”, “mobile connection”, “broadband”, and so on is common as there are no common definitions. On the Swedish telecommunications market, the terms are defined according to the list below.

Dial-up connection	PSTN, ISDN
Fixed connection	PSTN, ISDN, fixed radio, satellite, xDSL, cable television, fibre, fibre LAN,
Mobile connection	LTE, HSPA, CDMA 2000, UMTS, EDGE
Wireless connection	fixed radio, satellite, LTE, HSPA, CDMA 2000, UMTS, EDGE
Wired connection	PSTN, ISDN, xDSL, cable television, fibre, fibre LAN
Broadband connection	fixed radio, satellite, xDSL, cable television, fibre, fibre LAN, LTE, HSPA, CDMA 2000
Mobile broadband	In this report, mobile broadband refers to subscriptions to mobile packet data when it is purchased both as a stand-alone service and as an add-on service
Mobile broadband as a stand-alone service	 <p>Subscriptions primarily used for mobile packet data, and where data access was used at least once during the latest quarter of the period, or where subscription fees were paid during the latest quarter of the period. The subscription must not have generated any voice traffic minutes during the latest quarter of the period.</p>
Mobile broadband as an add-on service	 <p>Refers to bundling products where the subscriber purchases at least 1 GB of data traffic per month, either as an add-on service or included in the subscription.</p> <p>In practice, this means smart phones used for both calls and mobile broadband.</p>

The terms “private customer” and “business customer”

In a number of cases, the statistics reported are divided between private and business customers respectively. The definitions of private and business customers are based on who pays for the services, not who the user is. The criterion for the party paying being designated a business customer (including organisations that are not businesses) is that it has a corporate tax ID number. The remainder are designated as private customers. This means, however, that

businesses and organisations registered under a personal ID number are counted under the category of private customer.

Households

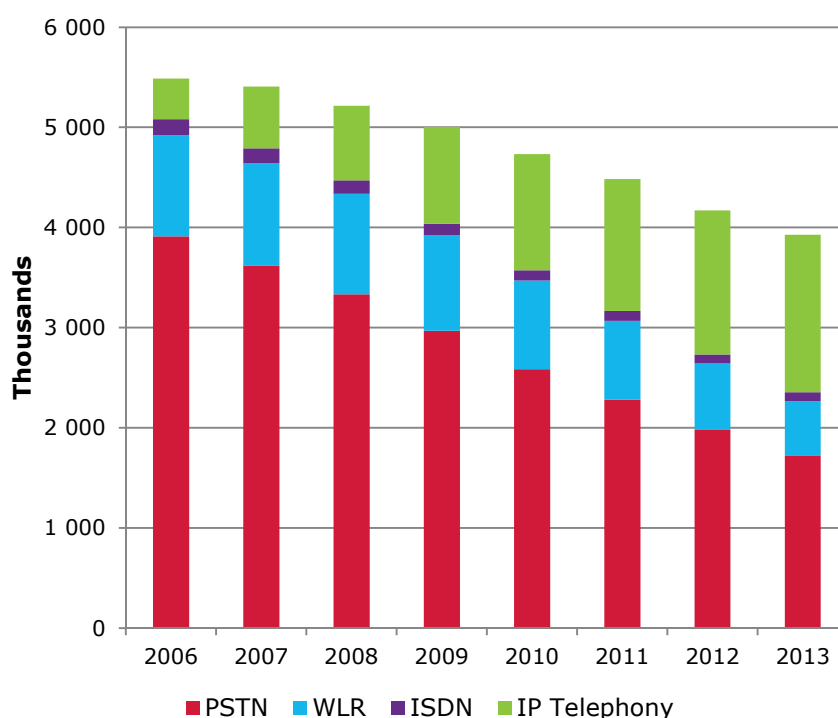
From 2013 onwards, Statistics Sweden (*Statistiska Centralbyrån*; SCB) has changed the method it uses to gather statistics on households, with these now being based entirely on information from registries. Accordingly, PTS has chosen to use the new household data that have become available, beginning in 2013. This means that statistics related to the number of households in this report are not completely comparable to the corresponding statistics from previous editions of *The Swedish Telecommunications Market*, where the data concerning households was based upon replies from private individuals and property owners.

2 Market development: Subscriptions

2.1 Fixed call services

In December 2013 there were 3.9 million fixed telephony subscriptions in Sweden, which can be compared to December 2012, when there were just under 4.2 million. This corresponds to a decrease of 6 per cent.

Figure 1 Number of fixed call services subscriptions



Of the fixed subscriptions, approximately 2.9 million were private, which, if viewed in relation to the just under 4.2 million households in Sweden⁴, means that approximately 70 per cent of Swedish households had a fixed subscription.

As in previous years, the number of PSTN⁵ and ISDN⁶ subscriptions declined, while the number of IP subscriptions increased. There were 1,573,000 IP

⁴ SCB: The number of households in Sweden was 4,176,000 as of 31 December 2012. Note that this number is not fully comparable to the information concerning the number of households used in previous issues of Swedish Telecommunications Market. For more information, see Section 1.4.

⁵The public switched telephone network (PSTN) is the traditional, circuit-switched public telephone network.

telephony subscriptions on 31 December 2013, which is an increase of approximately 10 per cent, or 137,000 subscriptions, compared to a year earlier. The increase took place through the access technologies xDSL⁷ and fibre LAN. Of all subscriptions for IP telephony, 38 per cent were for xDSL and 29 per cent were for subscriptions via fibre LAN. Subscriptions for IP telephony made up 40 per cent of the fixed telephony subscriptions at the end of 2013.

The number of subscriptions via WLR⁸ continued to decline in 2013. On 31 December 2013 there were 547,000 such subscriptions, compared with 658,000 on the same date in 2012. This corresponds to a reduction of 111,000 subscriptions, or 17 per cent.

There were 99,000 pre-selection customers at the end of 2013, a decrease of 39,000 on the figure from the end of 2012.

In addition to traditional switched telephony, operators also offer VoIP (call over IP, also known as broadband telephony). This is done through a connection to the IP network over which the operator itself has control, in contrast to what we call the internet. Such IP telephony has services and quality that correspond to those of traditional circuit-switched technology. Session Initiation Protocol (SIP) is used to establish, modify and terminate IP telephony calls.

Businesses and public authorities that make use of IP telephony in their internal network often connect their local IP-based subscriber switchboard to the traditional circuit-switched telephone network (PSTN) via a local gateway, located on the customer's premises. To do this, it is necessary to have two different connections; a separate external connection based on ISDN in addition the ordinary IP-based external connection to the internet. Many service providers now offer a modern alternative to this, with *the same* external IP-based connection being used for both data and call via what is known as a SIP trunk and the PSTN being reached via a central operator-located gateway. At the end of 2013, there were just under 13,000 subscriptions for SIP trunks, which represents an increase of 25 per cent on the same date one year

⁶ Integrated Services Digital Network (ISDN) is a standard for digital telephony that involved an upgrade to the traditional copper wire network providing two channels per subscriber line.

⁷ Digital subscriber line (xDSL) is an umbrella term for a family of technologies which involve digital modems being used over ordinary telephone wires. Examples of such technologies are ADSL (asymmetric digital subscriber line) and VDSL (very-high-bit-rate digital subscriber line).

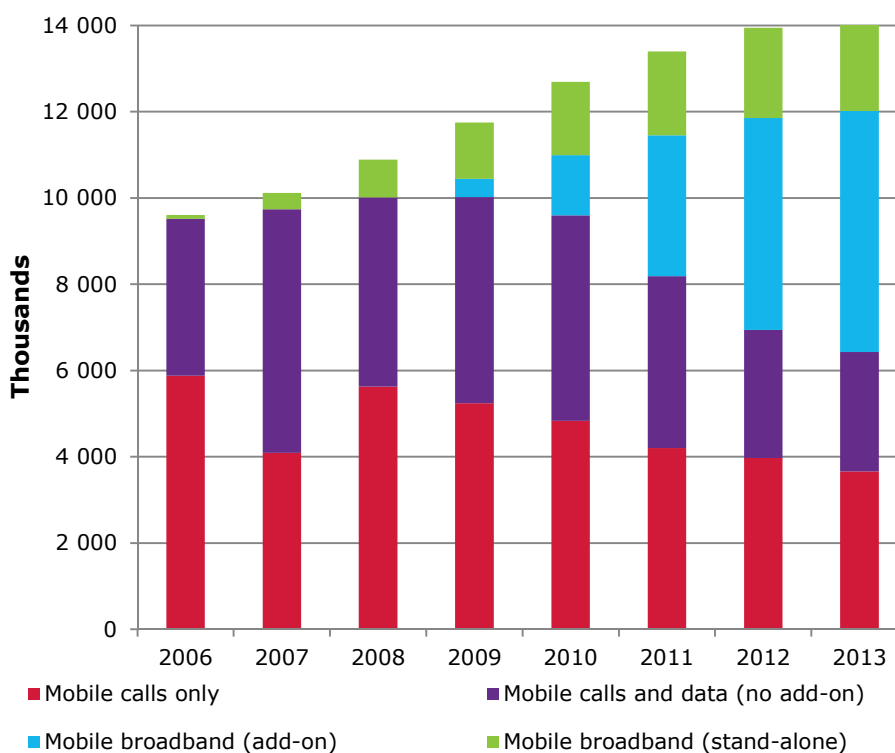
⁸ Wholesale Line Rental (WLR) means that the subscriber can pay both the subscription and call charges to an operator other than TeliaSonera. Before WLR was introduced in 2004, many subscribers paid a subscription charge to TeliaSonera and a traffic bill to another company (known as 'pre-selection telephony').

previously, when there were 10,000. At the same time there were 143,000 SIP addresses, i.e. active user accounts for telephony. TelaVox had half of the subscriptions for active addresses on 31 December 2013.

2.2 Mobile call and data services

The number of subscriptions for mobile call and data services continued to grow in 2013. On 31 December 2013 there were a total of 14.2 million mobile subscriptions in Sweden, which is 252,000 more than on the same date the previous year.

Figure 2 Number of mobile call and data services subscriptions



On 31 December 2013 there were 7.8 million subscriptions for mobile broadband, an increase of 770,000, or 11 per cent, on the figure for the same date in 2012. Mobile broadband as an add-on service continued to account for the greatest increase, although the rate of increase has flagged compared to the year before. On 31 December 2013 there were 5.6 million such subscriptions, compared 4.9 million on the same date in 2012. This corresponds to an increase of 683,000 subscriptions, or 14 per cent. Subscriptions for mobile

broadband as a stand-alone service amounted to 2.2 million and have thus increased by 87,000 subscriptions, or 4 per cent, compared to the year before. The number of subscriptions of call and data services without mobile broadband as an add-on service (i.e. with less than 1 GB of data) amounted to 2.7 million by 31 December 2013, which is a decrease of approximately 7 per cent in one year.

The number of mobile subscriptions using 4G (LTE) network services has increased considerably. On 31 December 2013 there were just over 1.5 million such subscriptions, compared to 252,000 on the same time the previous year. This is an increase of almost 1.3 million subscriptions. The number of subscriptions using 4G had increased by 678,000 subscriptions since 30 June 2013.

Between 31 December 2012 and 31 December 2013, the number of subscriptions capable of using 4G (LTE) network services grew from 2.4 million to over 5.2 million⁹.

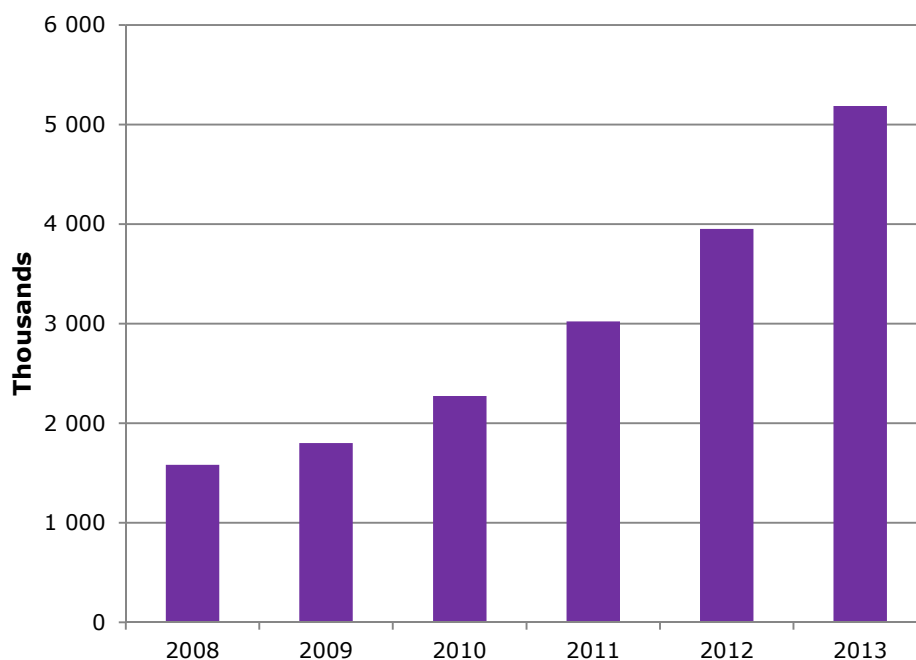
Telematics

Subscriptions for telematics, also known as *machine to machine* (M2M), are not included in the subscription statistics presented above. On 31 December 2013, there were 5,185,000 telematics subscriptions, an increase of 1.2 million, or 31 per cent on the figure from 31 December 2012.

Telenor Connexion had 76 per cent of all telematics subscriptions in the Swedish market at the end of 2013.

⁹ In order for a subscription to be able to use LTE network services, both the SIM card and the terminal must support LTE.

Figure 3 Number of telematics subscriptions

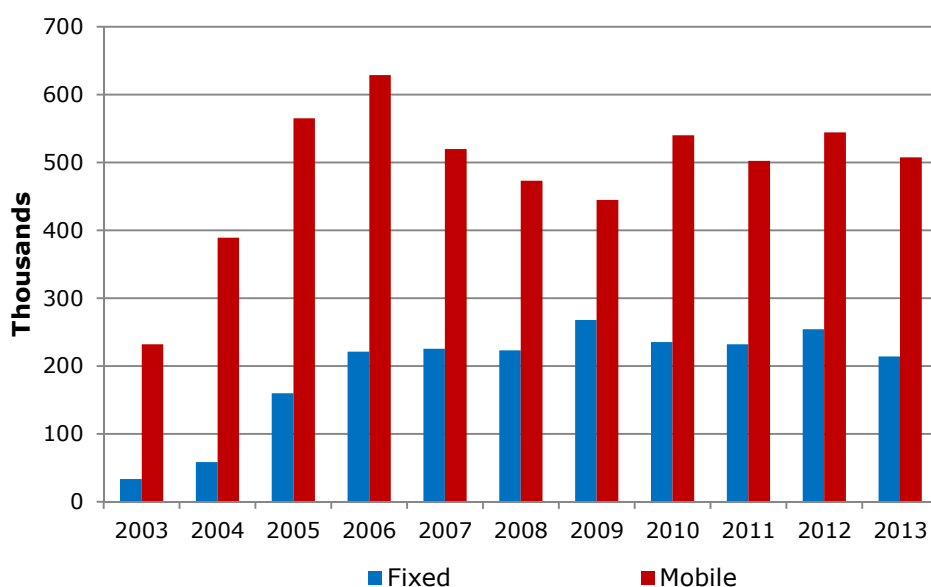


2.3 Number portability

Number porting is when a telephone number is moved from one operator to another. SNPAC¹⁰ compiles and publishes statistics on the number of portings in Sweden.

Since 2003 close to 7.5 million telephone numbers have been ported in Sweden. Of these, just under 2.1 million numbers were for fixed telephony and 5.3 million numbers for mobile telephony.

¹⁰ www.snpac.se

Figure 4 Number of portings of fixed and mobile telephone numbers

In 2013, 214,000 fixed numbers and 507,000 mobile numbers were ported in Sweden. Compared to 2012, this is a decrease of 16 and 7 per cent, respectively.

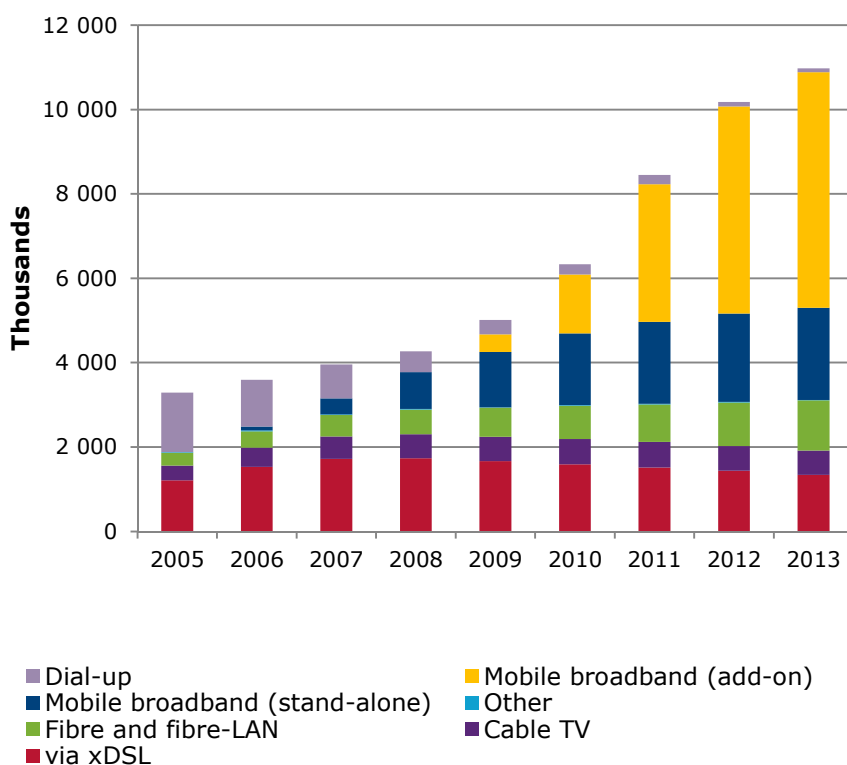
The ported numbers made up 5.5 per cent of the total number of subscriptions for fixed telephony 2013, while the ported mobile numbers made up 4.2 per cent of the total number of subscriptions for mobile telephony (excluding mobile broadband as a stand-alone service and telematics) in the same period.

In 2013, the proportion of the ported numbers that were fixed was 30 per cent and 70 per cent were mobile numbers. The distribution between fixed and mobile ported numbers has been relatively stable over recent years.

2.4 Internet services

At the end of 2013, the total number of internet subscriptions was almost 11 million. This is an increase of 801,000 subscriptions, or 8 per cent, since the end of 2012.

Figure 5 Number of broadband and internet services subscriptions



Of the almost 11 million internet subscriptions in December 2013, just below 10.9 million were subscriptions for broadband. The remainder were subscriptions for dial-up internet, which does not fall under the definition of broadband¹¹.

Fixed internet

There were just over 3.1 million subscriptions for fixed internet on 31 December 2013, which was 47,000 more than at the same time the previous year.

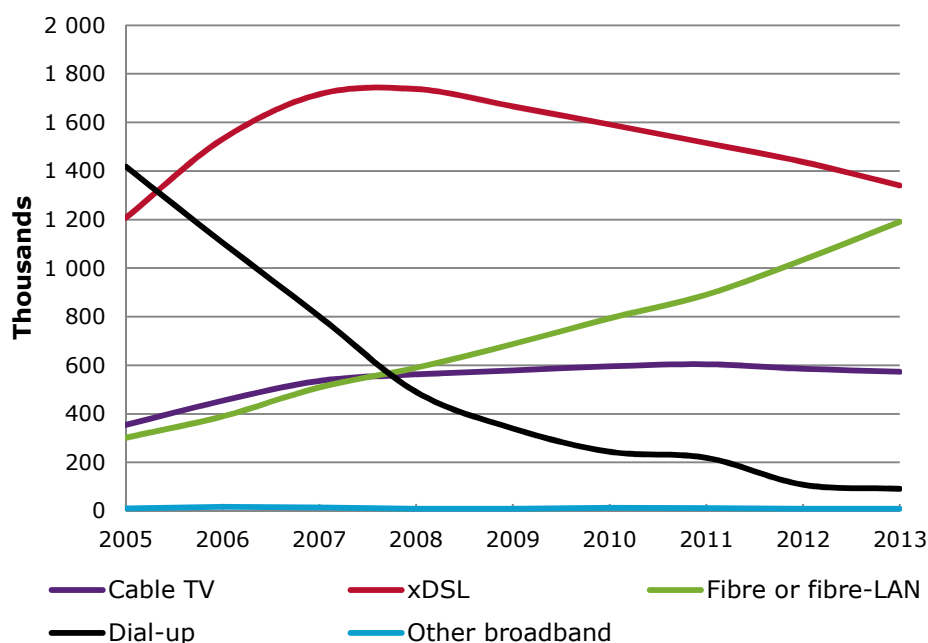
There were 1,191,000 subscriptions for broadband via fibre and fibre LAN on 31 December 2013, which is an increase of 157,000 subscriptions, or 15 per cent, compared to the year before. Fibre and fibre LAN, as in the previous year, accounted for the entire increase in the number of broadband subscriptions. The number of broadband subscriptions via xDSL was

¹¹ Broadband is defined in Section 1.4.

1,340,000 on 31 December 2013. This is a decrease of 97,000 subscriptions, or 7 per cent, since the end of 2012. Subscriptions for broadband via cable television decreased by 13,000 compared to the previous year, amounting to 573,000 subscriptions at the end of 2013.

The number of subscriptions for dial-up internet decreased, continuing a trend which has lasted for more than ten years. At the end of 2013, there were 92,000 such subscriptions, which is a decrease of 15 per cent in one year.

Figure 6 Number of fixed internet services subscriptions



Until 2008, xDSL subscriptions accounted for a large portion of the growth in the Swedish market for fixed broadband. However, since the first half of 2008, fibre and fibre LAN have been responsible for the continued growth, as is evident in the figure above.

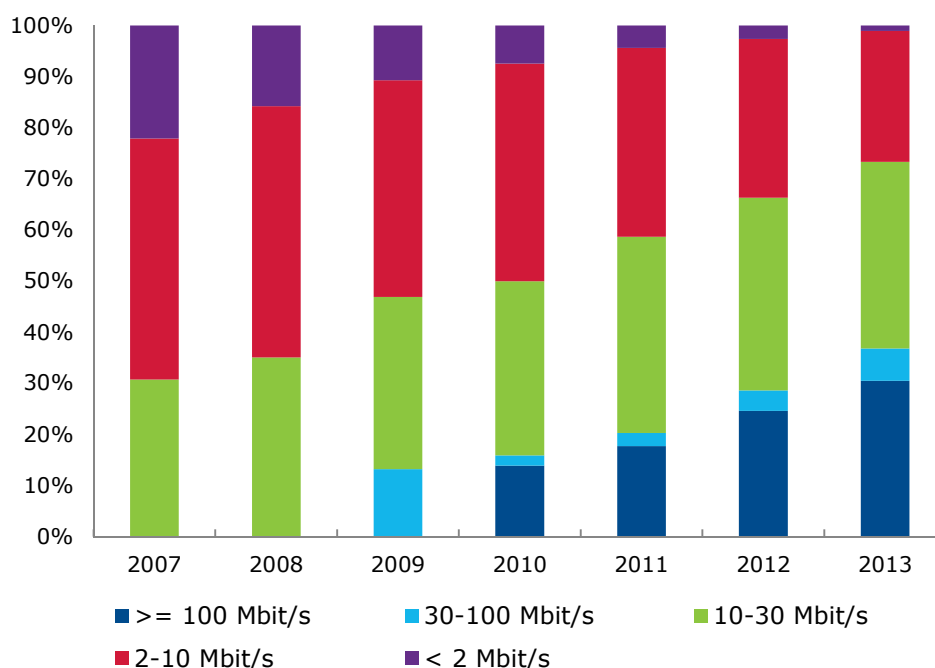
Mobile broadband

The number of subscriptions for mobile broadband amounted to almost 7.8 million at the end of 2013, which is an increase of 770,000 subscriptions, or 11 per cent, since 2012. Of these subscriptions, 28 per cent were for mobile broadband as a stand-alone service and 72 per cent were for mobile broadband as an add-on service.

Transmission capacity for broadband subscriptions

Internet and broadband services are often asymmetrical, i.e. they do not have the same transmission speed for downloaded data (received data) as for uploaded data (sent data). Operators most often offer a higher speed for downloaded data than for uploaded data. Currently, subscriptions for broadband via fibre and cable television networks that have been upgraded to DOCSIS 3.0¹² are technically capable of handling downstream transmission capacities of at least 100 Mbit/s. However, the speed a technology is capable of, the speed that a consumer subscribes to from their broadband provider and the speed that the consumer actually receives may differ considerably. Reference is made in this report to the speed subscribed to by a customer. The actual speed the consumer receives may be lower, especially where broadband services in the mobile networks are concerned.

Figure 7 Transmission speeds¹³ for fixed broadband subscriptions – downstream



The number of subscriptions for fixed broadband with high transmission capacities continued to grow in 2013. At the end of 2013 there were 950,000

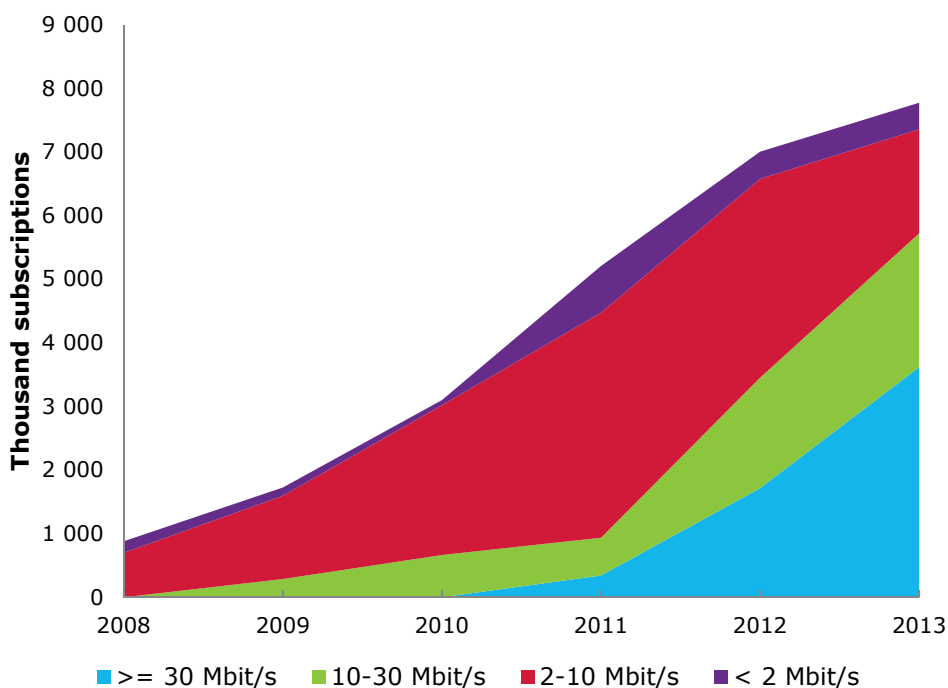
¹² A standard for configuring cable television networks to transmit data in both directions in order to make broadband access possible.

¹³ Marketed speed

subscriptions with a speed of 100 Mbit/s or more, a year-on-year increase of 26 per cent, or 195,000 subscriptions. Of these, almost 14,000 had a speed of 1 Gbit/s or more. At the same time, there were 198,000 subscriptions with speeds of 30 to 100 Mbit/s, which is an increase of 60 per cent. Just over 1.1 million subscriptions had speeds of 10 to 30 Mbit/s, which is a reduction by 1 per cent from the previous year. Subscriptions with speeds of between 2 and 10 Mbit/s decreased by 16 per cent. Subscriptions with the lowest speeds, i.e. under 2 Mbit/s, saw the greatest decrease. There were 34,000 of these subscriptions at the end of 2013, which is less than half the number at the same time in 2012, when there were 81,000 subscriptions.

Of the 1,191,000 total subscriptions for fixed broadband via fibre, 779,000, or almost two thirds, had a speed of 100 Mbit/s or more at the end 2013.

Figure 8 Transmission speeds¹⁴ for mobile broadband subscriptions – downstream



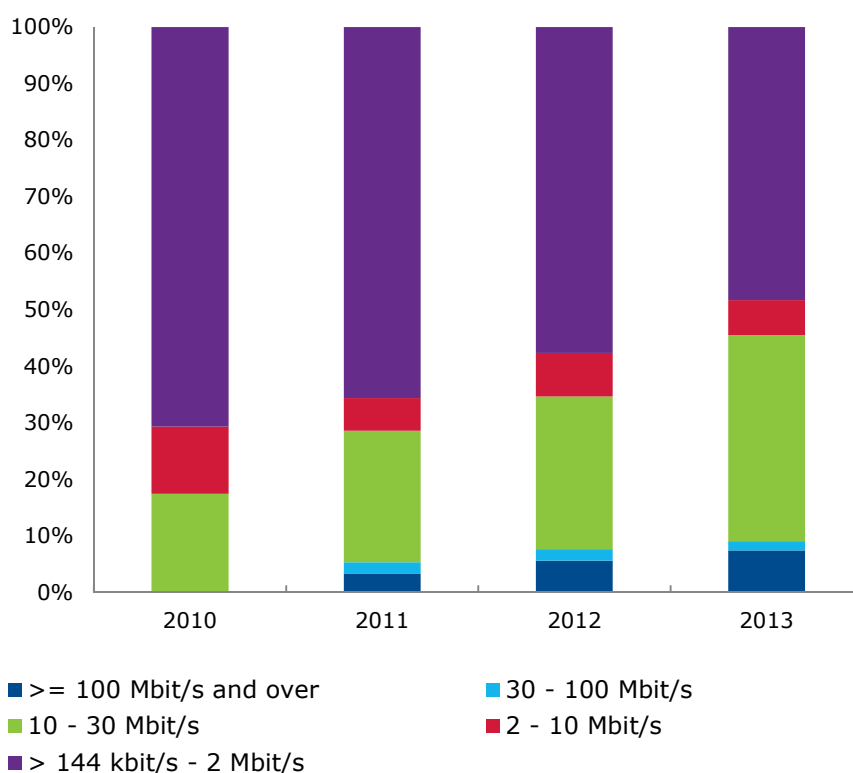
There has also been a significant growth in the number of subscriptions for high-speed mobile broadband. The number of subscriptions with speeds of 30

¹⁴ Marketed speed

Mbit/s or more was 3.6 million at the end of 3013, which is an increase of 1.9 million compared to the end of December 2012, when there were 1.7 million subscriptions. This development goes along with the significant increase in 4G subscriptions over the period in question.

Between December 2012 and December 2013 the number of mobile subscriptions with speeds of 10 to 30 Mbit/s increased by 21 per cent, to 2.1 million. At the same time, subscriptions with speeds of 2 to 10 Mbit/s decreased by 48 per cent, to 1.6 million. The number of subscriptions with speeds under 2 Mbit/s also decreased, in this case by 2 per cent, to approximately 417,000.

Figure 9 Transmission speeds¹⁵ for fixed broadband subscriptions – upstream



Subscriptions with a marketed upload speed of between 144 kbit/s and 2 Mbit/s made up the largest proportion, 44 per cent, of all fixed broadband subscriptions. There were approximately 1.4 million subscriptions in this speed

¹⁵ Marketed speed

interval at the end of 2013, which was a decrease of 12 per cent compared to one year previously. The number of fixed broadband subscriptions with upload speeds of between 10 and 30 Mbit/s increased by 42 per cent to almost 1.1 million, as of 31 December 2013. These subscriptions thereby made up a third of the totality of fixed broadband subscriptions. The number of fixed broadband subscriptions with upload speeds of between 30 and 100 Mbit/s amounted to 46,000, a decrease by 18 per cent compared to the end of 2012. Fixed broadband subscriptions with upload speeds of 100 Mbit/s and above made up just under 7 per cent of the total. It is notable that 30 per cent of the total number of fixed broadband subscriptions had the same speed interval (100 Mbit/s and above) for downloading.

2.5 End-user data communication¹⁶

The number of connections and ports for data communication to end-users amounted to 236,000 in December 2013. This is a reduction of 17 per cent since 2012, when there were 284,000 connections. Of these connections, 96,000 were IP-VPN¹⁷ and 159,000 were capacity services to the end-user.

2.6 Television services

This section discusses the changes to the number of subscriptions for traditional, linear television that follows a set schedule. Traditional television is supplied to the consumer using various broadcasting technologies such as cable, satellite, the terrestrial network and broadband. The distribution platform is the physical infrastructure that is used for the electronic transfer of picture and sound to a receiver. Television broadcasts can be both analogue and digital. The access technologies for television via broadband are fibre, fibre LAN and xDSL. Television channels such as SVT1, TV3 and Eurosport are packaged to be offered to end-users in the form of different subscriptions. In order for the channels' content to reach the end-user, it is necessary to have a programme broadcast service which is supplied by a network operator.

Traditional television viewing is declining. The decrease in 2013 was 3 per cent compared to 2012, according to MMS, an organisation that measures viewing figures in Sweden. This is the lowest level measured since 2007.¹⁸

Other ways of viewing television or moving images, aside from traditional television, are video-on-demand and play services where the consumers themselves choose what to consume and at what time. A number of new

¹⁶ A data communication service refers to a leased connection used by businesses and that may, for example, connect offices or different IP-based systems.

¹⁷ IP-VPN refers to the following standards: IP Sec VPN, IP MPLS VPN, IP SSL VPN.

¹⁸ Mediavision: Swedish streaming market becoming a billion industry in 2014 and MMS

television services have been launched onto the Swedish market in the past year, both over-the-top (OTT) services¹⁹ and services that bring together TV programming from different broadcasting companies in one place. The number of people who had access to subscription video-on-demand at home amounted to just under 2 million.²⁰ There are just over 800,000 subscribers, with the largest of the service providers being Netflix, which has approximately 600,000 paying customers.²¹

The number of television subscriptions amounted to 5.2 million at the end of 2013, which represents a decrease of just under 1 per cent (36,000 subscriptions) compared to the same point in time the previous year.

The number of subscriptions for television services is greater than the number of households as some households have more than one subscription, either on one or a number of different distribution platforms.¹ For example, a household with a cable television connection can frequently have an analogue basic subscription via the property owner and may also have taken out an individual digital subscription. Consequently, to estimate the number of households that use cable television, the number of analogue and digital cable television subscriptions should not be added together. PTS estimates that the number of households that have one or more subscriptions for cable television services is about 2.4 million, which is about the same as the previous year. There are also cases of the same household having subscriptions from several different platforms, e.g. the terrestrial network and satellite.

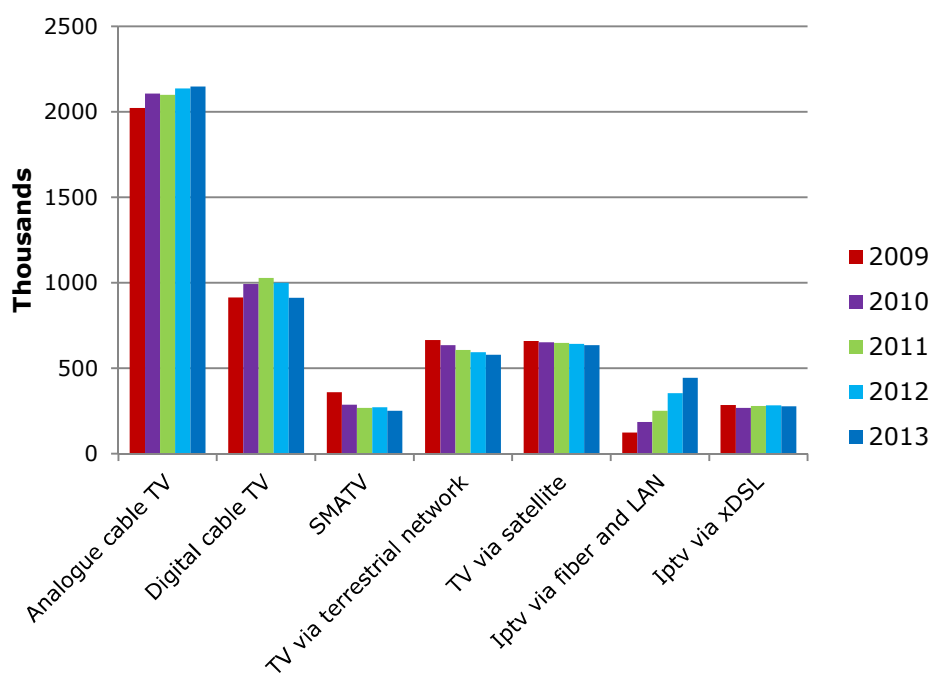
Figure 10 shows the number of subscriptions for television services by distribution method; all subscriptions are included. Figure 11 shows the proportion of subscriptions by distribution method, with households with two or more subscriptions for television services only counted once. Figure 10 shows that only subscriptions via fibre and fibre LAN increase, with all other distribution platforms at the same level as previous year or decreasing.

More than half (54 per cent) of the television subscriptions are distributed via digital technologies, such as the terrestrial network, digital cable television, satellite and IPTV (fibre, fibre LAN or xDSL), and the remainder (46 per cent) via analogue cable television. This distribution has remained relatively constant since 2009.

¹⁹ Content owners or content firms transmit their services direct to consumers via the internet.

²⁰ MMS: MMS SVOD-topp Q1 2014: *Fler har tillgång, men tittar inte lika ofta* [More people have access, but we do not watch as often]

²¹ Mediavision

Figure 10 Number of television services subscriptions by method of distribution

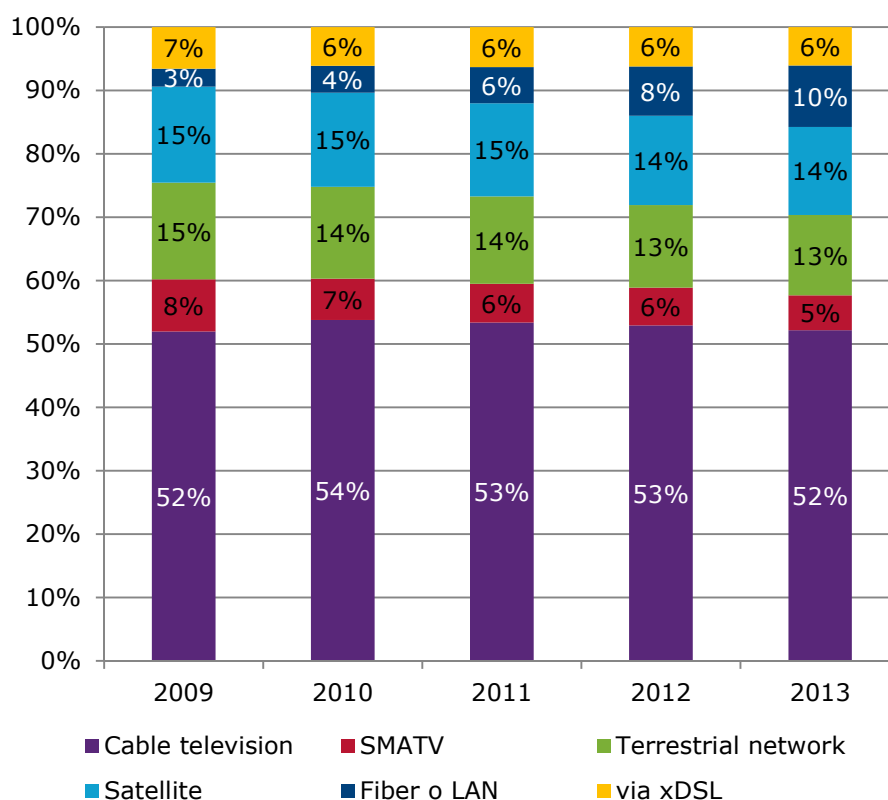
Cable television

Cable television is the most common television distribution method in Sweden. There were 911,000 digital cable television subscriptions on 31 December 2013, which is a decrease of 87,000 subscriptions, or 9 per cent, from the same date in 2012. The number of digital cable television subscriptions has now decreased for three periods in a row and digital cable is now the platform that has declined the most both in percentage terms and in the number of subscriptions. The majority (74 per cent) of digital cable television subscriptions are via contracts with the end-users and the remaining 26 per cent are via contracts with property owners.

The total number of analogue cable television subscriptions, including SMATV²², has been relatively stable at 2.4 million subscriptions since 2006. The analogue cable television platform is not increasing, as there is hardly any expansion of the cable television network taking place.

²² Satellite Master Antenna Television (SMATV) is a stand-alone cable television network in which several households share a receiver.

Figure 11 Television subscriptions per method of distribution (unique users)



A proportion of analogue cable television subscriptions are subscriptions via large television operators (Com Hem, Canal Digital Kabel, Sappa, Telia and Tele2). This type of subscription amounted to 2.15 million, which means an increase of around 10,000 subscriptions compared to 2012. The remaining 250,000 subscriptions have been estimated based on the number of households with subscriptions via a SMATV network. The increase in the number of analogue cable television subscriptions is due to SMATV networks being taken over by cable television operators, as this means they are then reported as analogue cable television rather than SMATV.

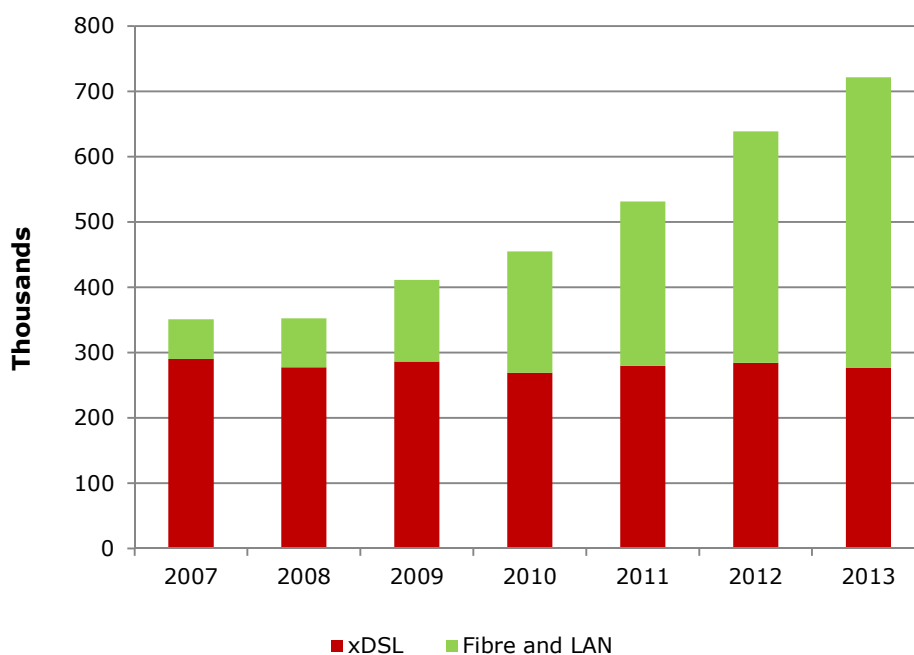
Of the analogue cable television subscriptions, all were entered into indirectly via contracts with property owners, a situation which has remained unchanged since measurements commenced in 2009.

Television via broadband

The number of subscriptions for television via broadband, known as IPTV, continued to increase in 2013, and this was the only platform that saw growth between the end of December 2012 and the end of December 2013, though this growth has slowed when compared with previous periods. The number of subscriptions for IPTV amounted to 722,000 on 31 December 2013, which is an increase of 13 per cent compared with the same time one year before. The increase in the number of subscriptions via IPTV is a result of a greater number of subscriptions via fibre and fibre LAN.

The number of subscriptions for television via fibre was 444,000 at the end of December 2013, which represents an increase of 26 per cent (90,000 subscriptions), compared with one year earlier. This can be compared with the increase of 41 per cent (103,000 subscriptions) between the end of December 2011 and the same point in 2012. The number of subscriptions for television via xDSL decreased by 3 per cent to 277,000 subscriptions.

Figure 12 Number of subscriptions for television via broadband



Television via satellite and terrestrial networks

The number of subscriptions for television via satellite continues to decline somewhat, amounting to 636,000 at the end of December 2013. This corresponds to a year-on-year decrease of 6,000 subscriptions, or 1 per cent.

On 31 December 2013 there were 578,000 subscriptions for television services via the digital terrestrial network, which is a reduction of 3 per cent, or 15,000 subscriptions, from the same time one year before.

The households that receive only free television²³ via the digital terrestrial network are not included in the statistics. As free television viewers do not take out a subscription contract in order to gain access to the service, it is uncertain exactly how many households receive free television. According to a survey commissioned by PTS²⁴, approximately 8 per cent of households have free television as the sole method for receiving television in their permanent home. This is the same level as in the surveys from 2011–2012 and corresponds to approximately 334,000.

Television subscriptions by type of residence

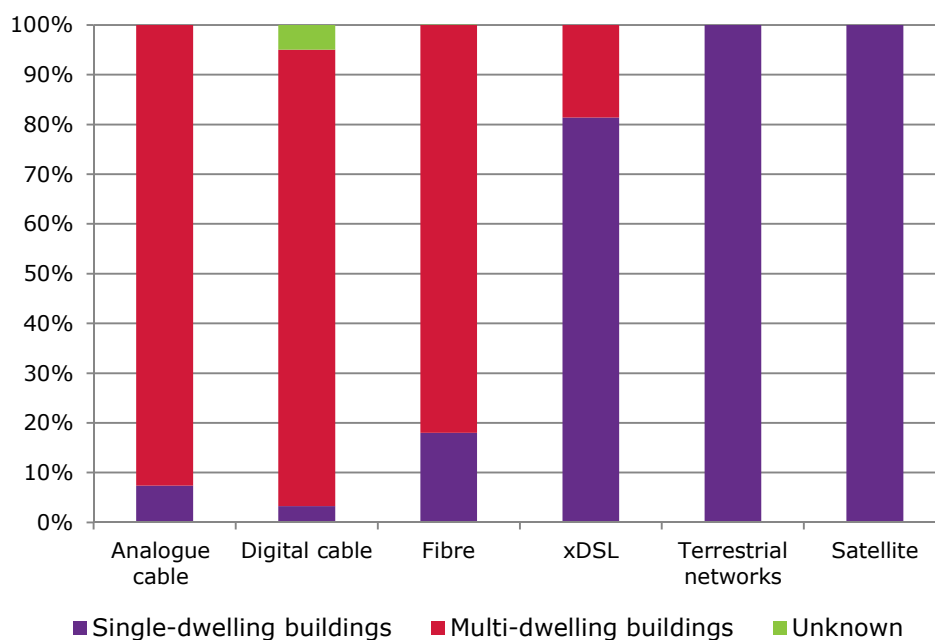
The greatest change is that the proportion of households receiving television services via fibre who live in detached houses, terraced houses or semi-detached houses increased from 11 to 17 per cent between 2012 and 2013. The households receiving analogue or digital cable television are mainly in multi-dwelling buildings (93 per cent). Households with subscriptions for television via fibre also live mainly in multi-dwelling buildings (83 per cent), while households receiving television via xDSL, the terrestrial network and satellite mainly live in detached houses, terraced houses, and semi-detached houses (81, 100 and 100 per cent, respectively)²⁵.

²³ The PTS definition of free television is television that can be received unencrypted and free of charge by the end-user without requiring a subscription or equivalent. Free television is only available via the terrestrial network, where the broadcasters purchase the transmission service directly from Teracom, which transmits the channels unencrypted.

²⁴ Sweco was commissioned by PTS to conduct a survey of households' use of free television in 2013. Previous surveys for 2011 and 2012 were carried out by TNS SIFO.

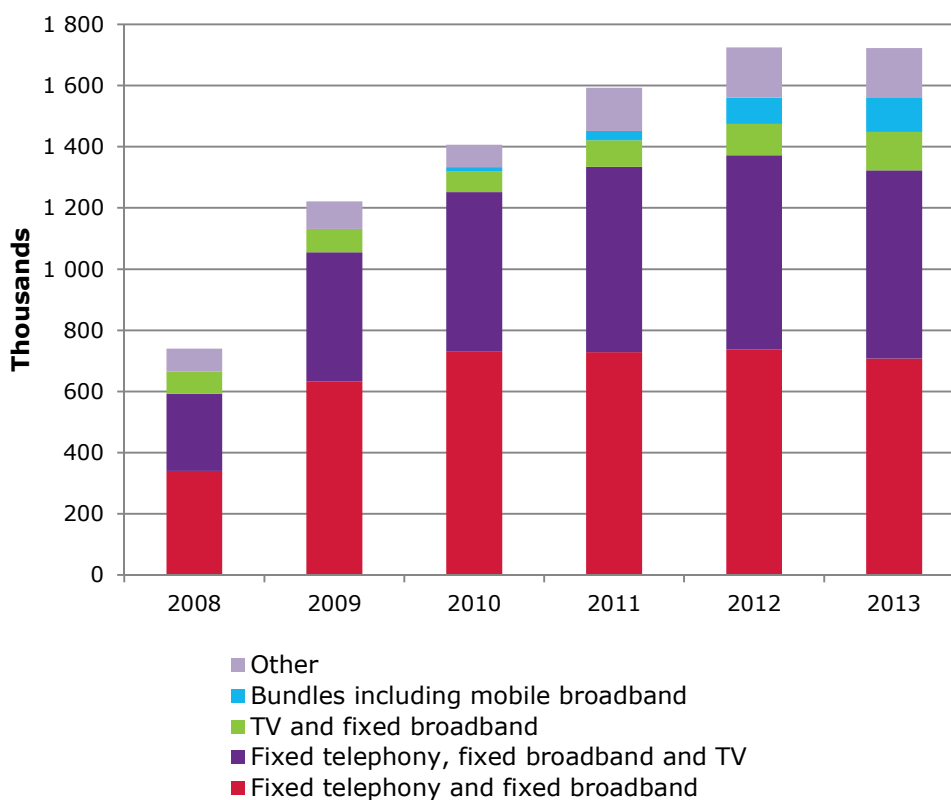
²⁵ Data concerning the type of residence is estimated by the operators due to exact figures not being available.

Figure 13 Television subscriptions by type of residence



2.7 Bundling

Bundling refers to offers that contain several services that are provided and marketed in the same offer or with a common price list. The most common offers on the market include different combinations of telephony, television and broadband.

Figure 14 Number of bundled subscriptions

On 31 December 2013, the number of bundled subscriptions was 1,722,000, which corresponds to approximately the same as the year before. The most common form of bundling was fixed telephony and fixed broadband, which is the same as the previous year. There were 708,000 such subscriptions at the end of 2013, representing 41 per cent of all bundled subscriptions. The second most common bundled subscription, with 637,000 subscriptions, or 37 per cent of all bundled subscriptions, was for fixed telephony, fixed broadband and television. The third most common form of bundling was television and fixed broadband, amounting to 125,000 subscriptions as of 31 December 2013. This form of bundling represented 7 per cent of all bundled subscriptions.

While the two most common forms of bundling decreased compared to the previous year, television and fixed broadband bundles increased by 21 per cent.

Different forms of bundling with mobile broadband²⁶ increased in 2013, from 85,000 on 31 December 2012 to 111,000.

Fixed broadband was included in 1,487,000 of the bundled subscriptions, corresponding to 47 per cent of all subscriptions for fixed broadband. On the other hand, bundles that included mobile broadband corresponded to only around 2 per cent of all subscriptions for mobile broadband.

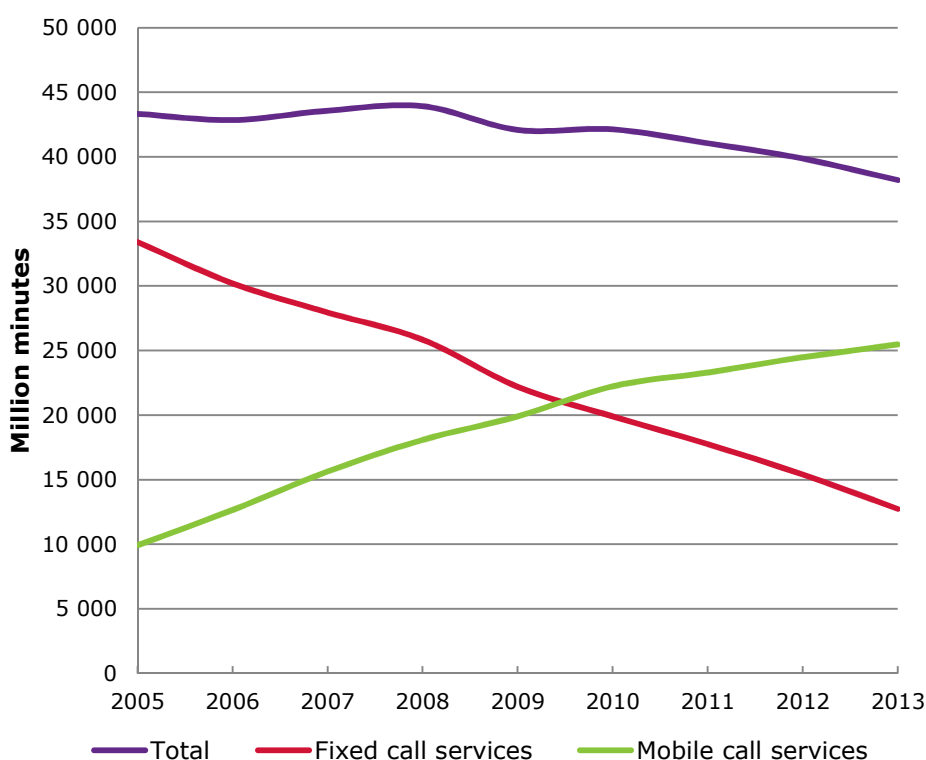
²⁶ Bundles containing mobile broadband include those combining this with fixed broadband, mobile telephony or fixed telephony and also those combining this with fixed-broadband and telephony (fixed or mobile).

3 Usage – Traffic

3.1 Call traffic

The number of call minutes from mobile networks made up 66 per cent of all outgoing traffic in 2013, compared to 61 per cent the previous year. The total number of outgoing traffic minutes decreased during the same period from 39.9 billion to 38.2 billion.

Figure 15 Outgoing call minutes from fixed and mobile telephones



The number of outgoing call minutes from fixed networks amounted to 12.7 billion minutes in 2013, which is a decrease of 17 per cent compared to 2012, when they amounted to 15.4 billion. The average number of call minutes per month from a fixed subscription also dropped, from 297 minutes per month in 2012 to 262 minutes per month in 2013.

The number of outgoing traffic minutes from IP telephony decreased in 2013. At the end of 2012 they were 2.9 billion and one year later just under 2.7 billion, which corresponds to a reduction of 8 per cent.

Outgoing call minutes from mobile phones increased from just under 24.5 billion in 2012 to almost 25.5 billion in 2013, corresponding to an increase of 4 per cent. The average number of minutes per month from a fixed subscription also increased somewhat in the same period, from 175 minutes per month in 2012 to 178 minutes per month in 2013.

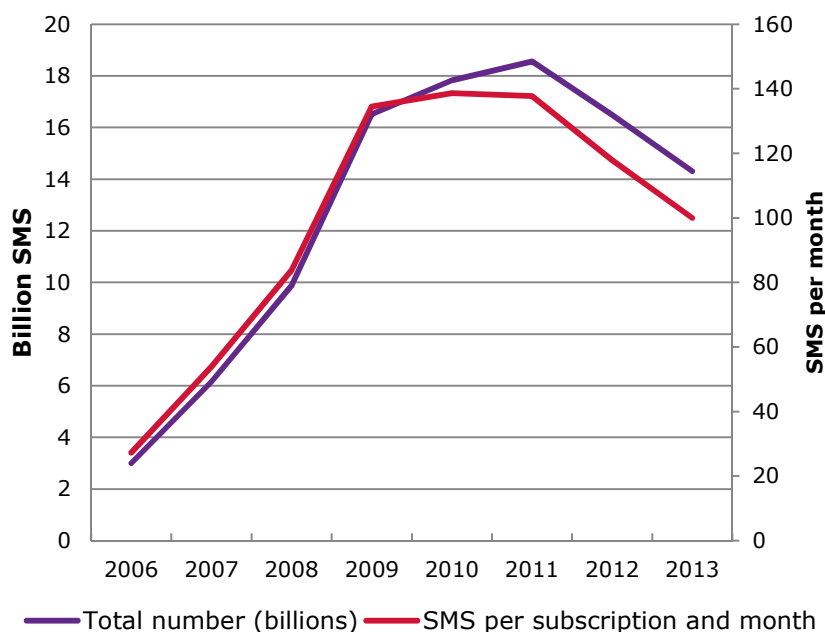
The number of calls from fixed and mobile networks decreased from 13.3 billion in 2012 to just under 12.8 billion in 2013. The number of calls from fixed network subscriptions decreased, from 4.1 billion in 2012 to 3.5 billion in 2013. Calls from mobile networks increased by 9.2 billion in 2012 to 9.3 billion in 2013, making up 73 per cent of all telephone calls in 2013.

The average length of calls from fixed networks of 3.7 minutes in 2013 was unchanged from 2012. The average length of calls from mobile networks was 2.7 minutes and this too was unchanged from 2012.

3.2 Messaging services

SMS

In 2013, 14.3 billion SMS messages were sent from mobile telephones, which is an increase of 13 per cent compared to 2012. In 2013, the number of SMS messages per subscription per month amounted to 100. Compared to 2012, when the number was 118, this is a decrease of 15 per cent. It is likely that the reduction in SMS volumes observed in recent years is connected to there now being a number of other messaging services capable of acting as substitutes for SMS, for example Facebook Messenger, iMessage and WhatsApp. However, PTS does not gather statistics on such services.

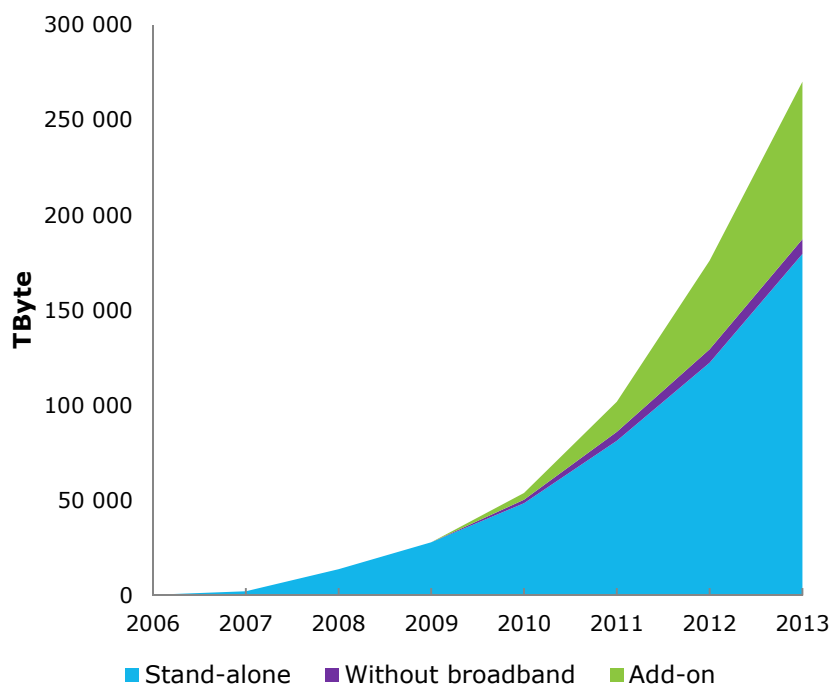
Figure 16 Total number of SMS sent and number of SMS per subscription and month**MMS**

The number of MMS messages sent increased from 241 million in 2012 to 307 million in 2013, which is an increase of 28 per cent. The average number of MMS sent per subscription per month increased from 1.7 to 2.1 for the same period.

3.3 Mobile data traffic

In 2013, data traffic on mobile networks continued to increase at a high rate, although the percentage increase was not as large as that of the previous year. 270,300 TByte were sent and received on mobile networks in 2013, compared to 176,000 TByte in 2012. This corresponds to an increase of 54 per cent. For comparison, consider the increase of 75 per cent between 2011 and 2012.

Figure 17 Volume of data transmitted on mobile networks



Data traffic can be subdivided according to different types for mobile data subscription. The greatest volume of data was generated by subscriptions for mobile broadband as a stand-alone service, corresponding to approximately 179,600 TByte or two thirds of all data transmitted in 2013. At the same time, subscriptions for mobile broadband as an add-on service (which in practice means smartphones) generated 82,900 TByte, or just over 30 per cent of all mobile data.

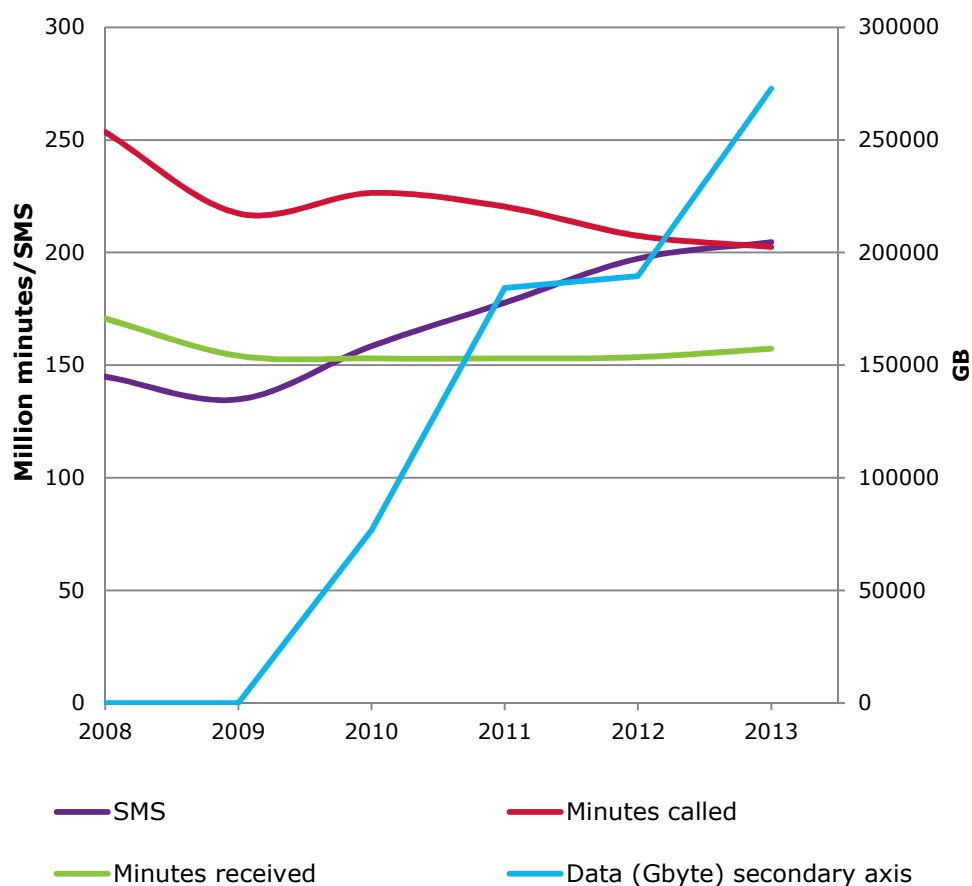
The average use per month for different types of subscription can be divided up according to the table below.

Form of subscription	Data volume per month
Mobile broadband as a stand-alone service	7.0 GByte
Mobile broadband as an add-on service	1.3 GByte
Subscriptions for both call and data, but without add-on service for broadband	0.2 GByte

3.4 Traffic during international roaming

Call traffic using roaming has been relatively stable in recent years, while the number of SMS messages sent and volumes of data transferred have increased. These trends continued in 2013, which is apparent from Figure 18.

Figure 18 Call traffic, SMS and data traffic during international roaming



In 2013, Swedish subscribers conducted 202 million minutes of calls from abroad, of which 172 million minutes were within the EU/EEA, which is about the same as the previous year.

The number of call minutes received by Swedish subscribers abroad amounted to 157 million in 2013, of which 140 million were received within the EU/EEA. This also corresponds to the same level as the equivalent period one year previously.

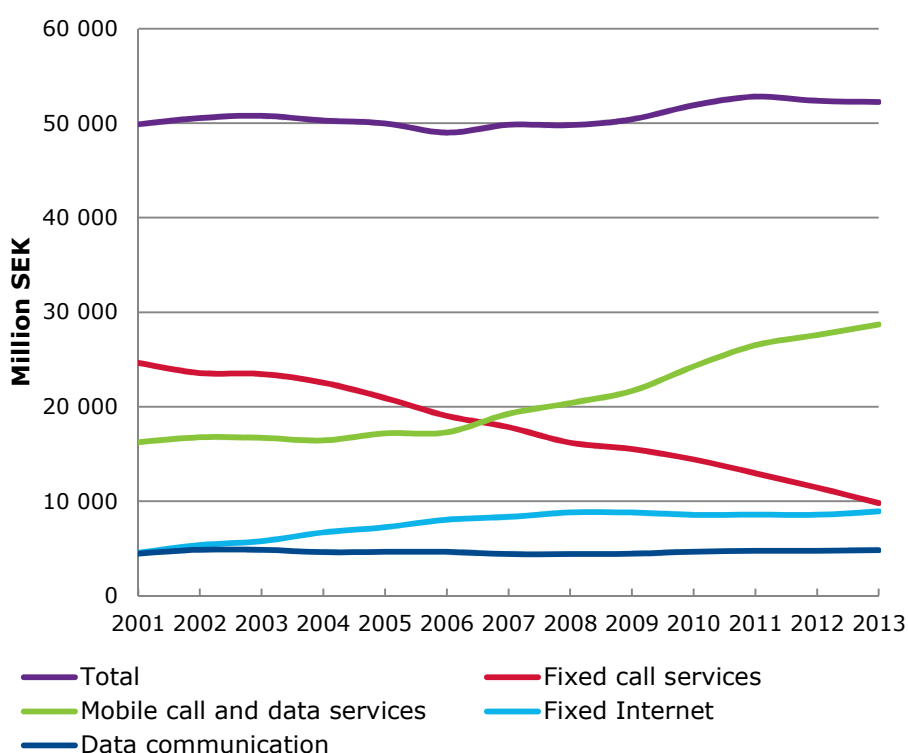
In 2013, Swedish subscribers sent 205 million SMS messages while abroad, of which 160 million within EU/EEA. This is an increase of 7 per cent compared to 2012, when 197 million SMS messages were sent, of which 150 million within EU/EEA.

Swedish subscribers abroad consumed 173 TByte of mobile data in 2013. This corresponds to an increase of 44 per cent compared to 2012, when subscribers consumed 190 TByte. Almost all data roaming, 269 TByte, took place within the EU/EEA. At the same time, foreign subscribers in Sweden consumed 344 TByte mobile data, which is an increase of 175 per cent compared to 2012, when only 124 TByte were consumed.

4 Market revenue

In 2013, revenue in the end-user market for electronic communications amounted to just over SEK 52.3 billion, which is on the same level as in 2012.

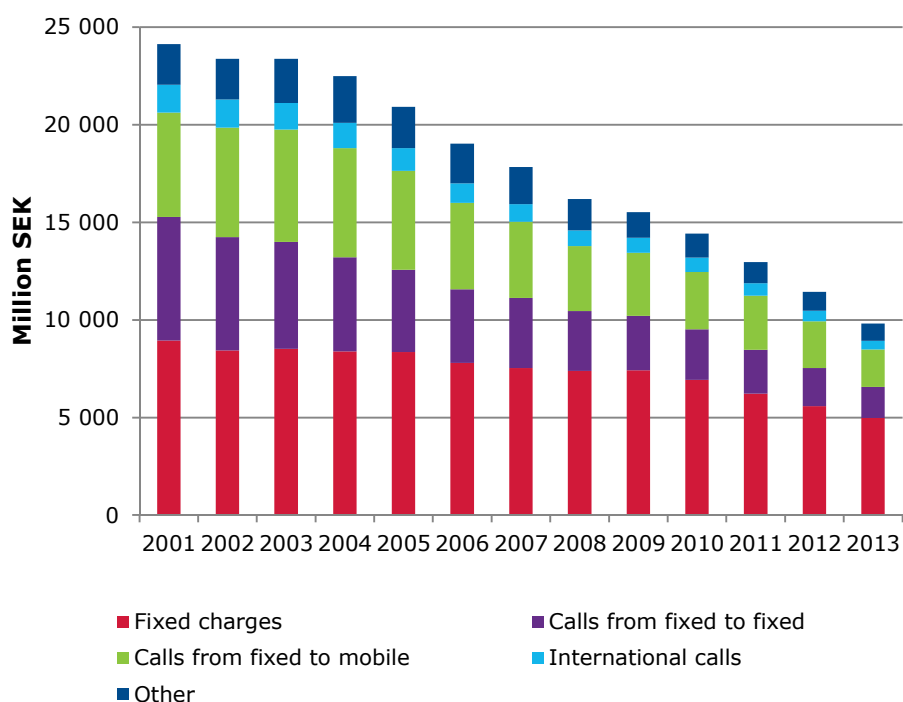
Figure 19 Revenue in the end-user market for electronic communications



The average revenue per month generated by a household in 2013 was SEK 640. This figure is not immediately comparable to the average monthly revenue of SEK 568 for 2012, due to PTS having chosen to make use of SCB's new registry-based household information in the calculations from 2013 (see Section 1.4).

4.1 Revenue from fixed call services

The annual revenue from fixed call services (excluding revenue from dial-up internet) decreased from 11.4 billion in 2012 to 9.8 billion in 2013. This corresponds to a reduction of 14 per cent.

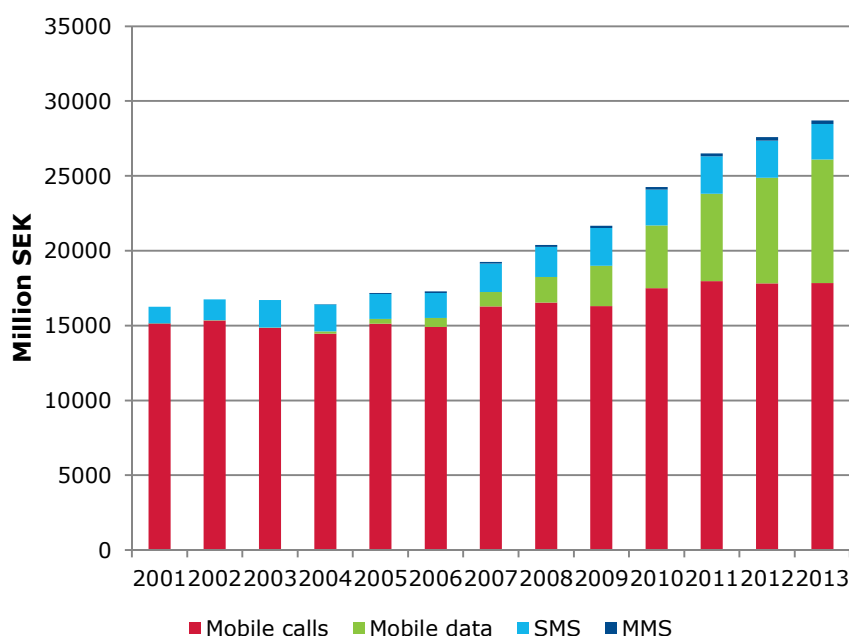
Figure 20 Revenue from end-users for fixed call services

The proportion of the revenue made up of fixed charges increased from 49 per cent in 2012 to 50 per cent in 2013. The proportion of IP telephony revenue from calls continues to rise, from 14 per cent in 2012 to 16 per cent in 2013. However, in absolute terms, the revenue from IP telephony decreased somewhat in 2013, amounting to SEK 1.56 billion for the year.

The average monthly revenue from a fixed subscription in 2013 was SEK 202, a decrease of SEK 19 compared to 2012.

4.2 Revenue from mobile call and data services

Revenue from mobile call and data services increased from 27.6 billion in 2012 to 28.7 billion in 2013, which is an increase of 4 per cent. The increase is somewhat lower than in the period from 2011 to 2012.

Figure 21 Revenue from end-users for mobile call and data services

Revenue from mobile data traffic increased by 17 per cent in 2013, from 7.0 to just under 8.6 billion, and revenue from mobile data thus stood for 29 per cent of total revenue from mobile call and data services. The corresponding figure for 2012 was just under 26 per cent. Revenue from mobile call services increased marginally, while revenue from SMS messages fell by 5 per cent in 2013. Revenue from MMS messages increased by just over 1 per cent, and continues to constitute only a very small proportion of total revenue from mobile call and data services.

The average monthly revenue from a mobile subscription in 2013 was SEK 170, an increase of SEK 2 compared to 2012.

Revenue from subscription fees amounted to SEK 17.2 billion, an increase of 22 per cent since 2012. For the same period, the proportion of revenue from mobile call and data services generated by fixed charges increased from 51 to 60 per cent. The reason for this is that operators are increasingly switching over from subscriptions with variable charges for calls, SMS, MMS and data to subscriptions where the client pays a fixed price regardless of consumption. In connection with this report, PTS collected data from the operators concerning

the number of fixed-rate subscriptions for the very first time²⁷. On 31 December 2013, there were just under 3.4 million such subscriptions, corresponding to 28 per cent of all mobile subscriptions (excluding mobile broadband as a stand-alone service and telematics).

4.3 Revenue from interconnections on fixed and mobile networks

Interconnection means that a call is made from one fixed or mobile network and terminates in another fixed or mobile network. Calls made within the same network are not considered interconnections. For that reason, the total number of interconnection minutes is lower than the total number of outgoing traffic minutes.

In 2013, 13.9 billion minutes terminated in fixed networks, which is a decrease of 12 per cent on the figure for 2012 (15.8 billion).

In 2013, revenue from interconnections from fixed telephony amounted to SEK 312 million, which is a decrease by 25 per cent, or SEK 105 million, since 2012.

The average revenue per minute for the termination of incoming fixed traffic from the networks of national operators was 2.2 öre, which is a decrease of 0.4 öre from 2012, when it was 2.6 öre.

In 2013, 11.6 billion minutes were terminated in mobile networks, which is a decrease of approximately 6 per cent on the figure for 2012 (10.9 billion). In 2013, interconnection revenue from mobile telephony amounted to SEK 1.35 billion, which is a decrease by SEK 604 million since 2012.

The average revenue per minute for the termination of incoming mobile traffic from the networks of national operators was 11.7 öre, a decrease of approximately 6 öre compared to 2012.

4.4 Revenue from telematics and roaming

Revenue from telematics services are not included in information on revenue from mobile call and data services presented above. In 2013, revenue from telematics amounted to SEK 633 million, which is an increase of just under 16 per cent from 2012, when this revenue was SEK 548 million.

²⁷ Fixed-rate subscription is here defined as a mobile subscription where fixed-rates for calls and SMS are included in the offer. This includes offers in which other services are included in addition to calls and SMS, for example “free calls, SMS, MMS and 1 GByte data”. However, subscriptions where fixed prices only apply to calls and SMS messages to other customers using the same operator are not included.

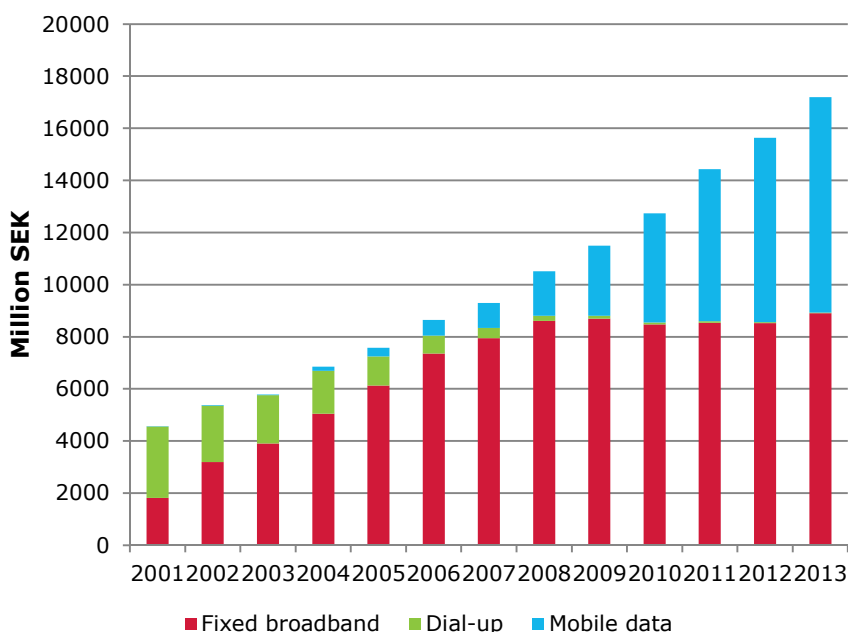
Total revenue from all mobile data, SMS and call traffic from Swedish subscribers abroad amounted to SEK 1.9 billion by the end of 2013. This constitutes a decrease of 13 per cent, or 277 million from the end of 2012, at which time revenue was 2.2 billion.

In 2013, revenue from mobile data abroad decreased by approximately 6 per cent, from SEK 564 million to SEK 603 million.

4.5 Revenue from internet services

The following section is mainly a presentation of revenue from fixed internet services, but revenue from mobile data (covered in Section 4.2) is also considered.

Figure 22 Revenue from the end-user market for fixed internet services and mobile data



Revenue from fixed internet subscriptions amounted to 8.9 billion for 2013, which is an increase of 4 per cent compared to 2012, when it amounted to 8.6 billion. Revenue from fixed broadband connections made up 99.7 per cent of revenue from internet services, with the other 0.3 per cent being revenue from dial-up connections.

Of the revenue from fixed broadband connections in 2013, half came from xDSL subscriptions, 31 per cent from fibre subscriptions, and 16 per cent from broadband subscriptions via cable television. Compared to the previous year, the proportion of revenue from broadband via fibre has increased, while the proportions from broadband via xDSL and cable television have decreased.

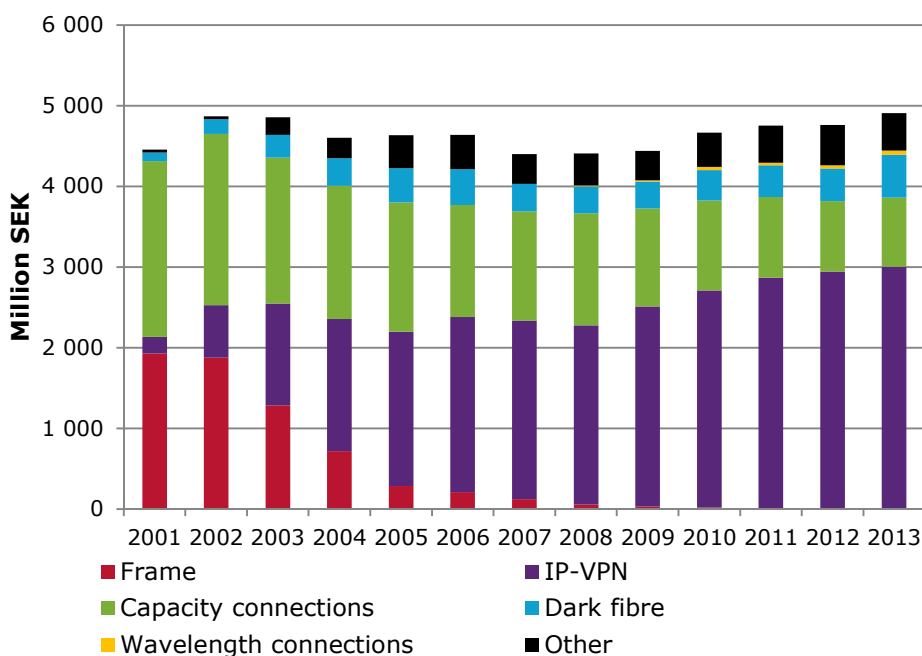
Revenue from subscriptions for mobile broadband amounted to just over 8.2 billion in 2013, an increase of 17 per cent compared to the previous year.

In 2013, the average monthly revenue from a fixed broadband subscription was SEK 239, which is an increase by SEK 5 from 2012. The average monthly revenue for a subscription for mobile data in 2013 was SEK 67, an increase of SEK 6 compared to 2012.

4.6 Revenue from data communication services

In 2013, the total revenue from data communication to the end-user was SEK 4.9 billion. In comparison with 2012, this is an increase of 3 per cent.

Figure 23 Revenue from the end-user market for data communication services

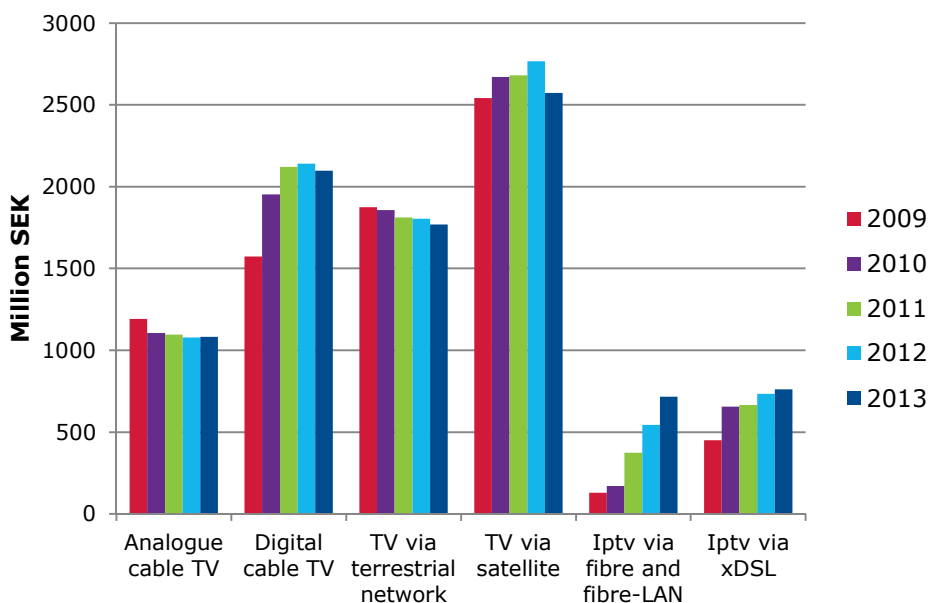


The revenue from IP-VPN, making up 61 per cent of the total revenue from the market in 2013, increased by 2 per cent to SEK 3.0 billion. The next biggest data communications service, digital and analogue capacity connections, saw a decrease in revenue of 2 per cent, from SEK 872 million in 2012 to SEK 855 million in 2013. In 2013, revenue from wavelength connections increased by 29 per cent over the same period and amounted to SEK 53 million. Meanwhile, revenue from the end-user market for dark fibre increased by 31 per cent, from SEK 406 million in 2012 to SEK 531 million in 2013.

4.7 Revenue from television services

Revenue from television services concerns revenue from basic and add-on subscriptions.²⁸ All revenue traceable to end-user purchases of basic or add-on packages is included. Revenue from VOD (video-on-demand) are also included, even if they are not counted in the number of subscriptions. Revenue from OTT services such as Netflix, HBO etc., are not included.

Figure 24 Revenue from television services



Revenue from television services amounted to SEK 9 billion in 2013, which is a decrease by 1 per cent compared to 2012, when it amounted to SEK 9.1

²⁸ In previous years, revenue from “smaller cable television networks and property owners” that was reported has been included in revenue for analogue and digital cable television subscriptions. From 2012 onwards these items of revenue are not included.

billion. This is the first time since measuring commenced that revenue has decreased.

Revenue from cable television amounted to SEK 3.2 billion, of which SEK 1.1 billion came from analogue cable television subscriptions and SEK 2.1 billion came from digital cable television subscriptions. Revenue from analogue subscriptions stayed at the same level as the previous year, while revenue from digital subscriptions decreased by 2 per cent, from SEK 2.14 billion to SEK 2.10 billion. Revenue from television subscriptions via the terrestrial network decreased by 2 per cent to SEK 1.8 billion in 2013. Revenue from television services via satellite decreased by 7 per cent compared to the previous year and amounted to SEK 2.6 billion.

Revenue from television via fibre saw the greatest increase, by 31 per cent, to SEK 716 million. Revenue from television via xDSL increased by 4 per cent to SEK 761 million. In total, revenue from IPTV increased by 15 per cent to SEK 1.5 billion. The rate of increase was lower than in 2012, when it was 23 per cent.

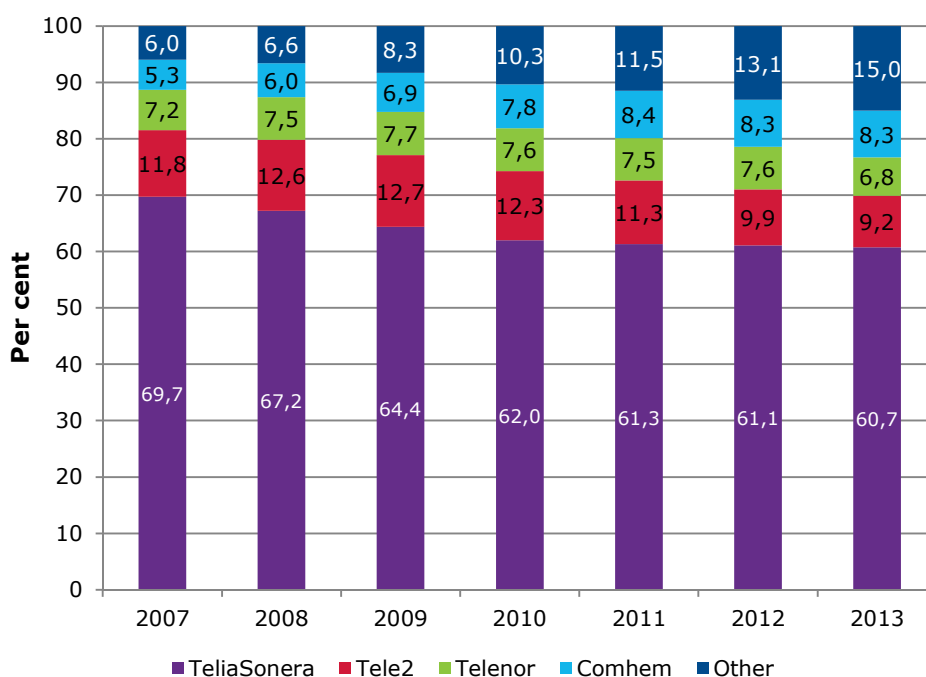
5 Market shares

You can view the market share figures for all of the telecommunications companies consulted on PTS' statistics portal (http://statistik.pts.se/start_en/), under the tab "Swedish Telecommunications Market". Full-year figures for market share by revenue, traffic and subscriptions for the years 2006-2013 are available. The half-year figures for the same period include market shares for traffic and subscriptions only.

5.1 Market shares – fixed call services

Market share figures for fixed call services do not include pre-selection and prefix subscriptions.

Figure 25 Market shares – fixed call services subscriptions

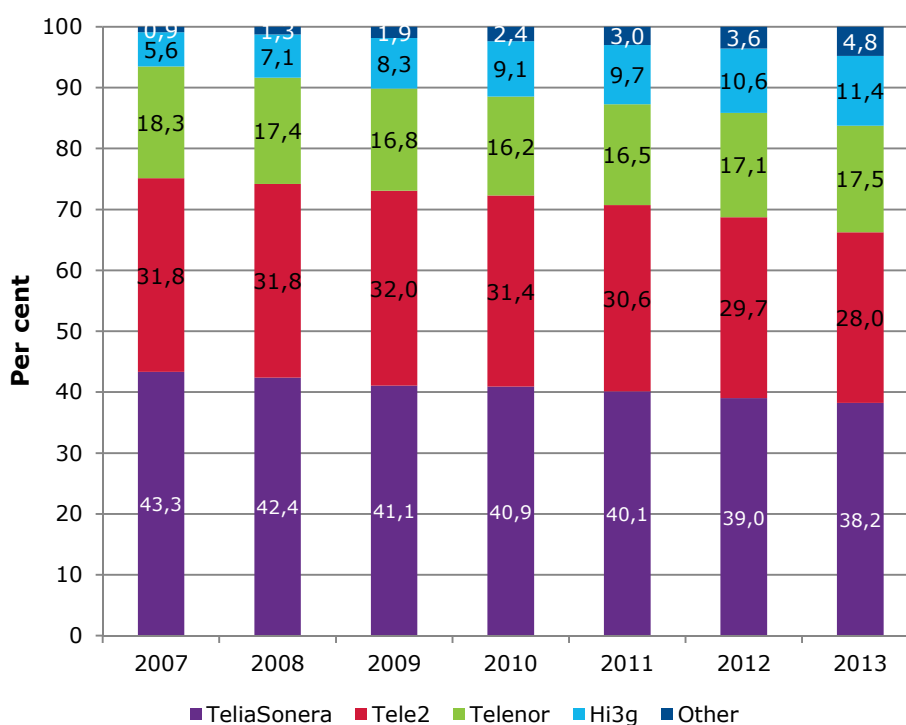


Between 31 December 2012 and 31 December 2013, the market shares of TeliaSonera, Telenor and Tele2 decreased, while Com Hem's market share remained stable. At the same time, the combined market share of the other operators increased, from 13.1 to 15.0 per cent. With just under 4.3 per cent of the total number of subscriptions AllTele was the largest of these operators.

5.2 Market shares – mobile call and data services

Market share figures for mobile call and data services do not include subscriptions for telematics.

Figure 26 Market shares – mobile call and data services subscriptions²⁹



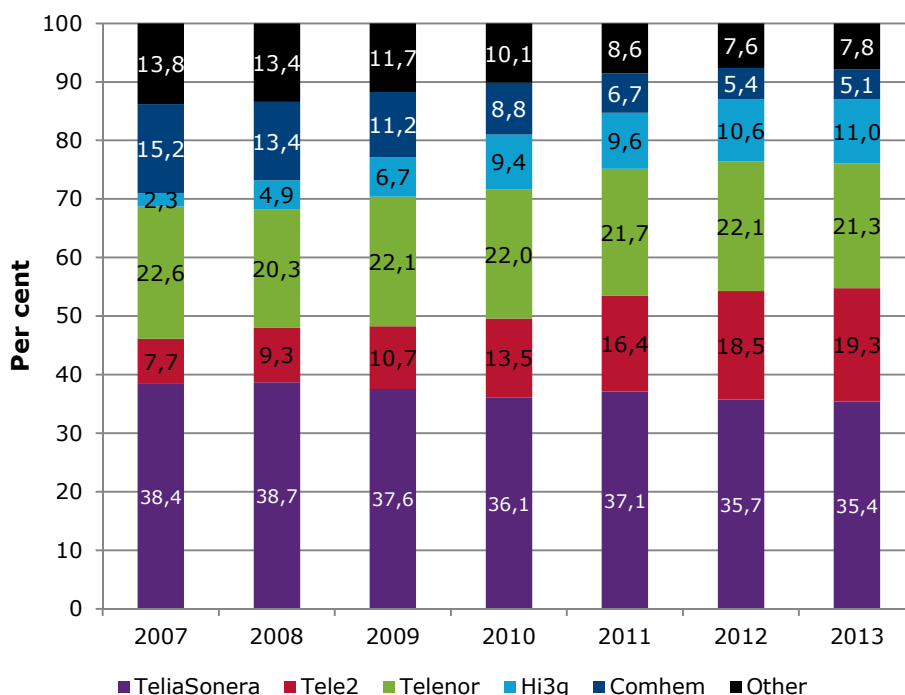
The four largest operators held a combined total of 95.2 per cent of the subscriptions in the market. Over the course of the period, Hi3G increased their market share from 10.6 to 11.4 per cent, while Telenor's market share increased from 17.1 to 17.5 per cent of subscriptions. At the same time, TeliaSonera's and Tele2's market shares decreased. At the same time, the combined market share of the other operators increased, from 3.6 per cent in 2012 to 4.8 per cent in 2013. Of these Lycamobile was largest, with just under 2.5 per cent of subscriptions in the market.

²⁹ In the figure above, the market shares of service providers at least 50 per cent owned by a network operator have been added to that network operators market share. Subscriptions for mobile broadband are included in both Figure 26, which shows the proportion of mobile call and data services, and in Figure 29, which shows the proportion of mobile broadband.

5.3 Market shares – broadband subscriptions

Market share figures for broadband subscriptions are presented both in total, as well as distributed by fixed and mobile broadband subscriptions.

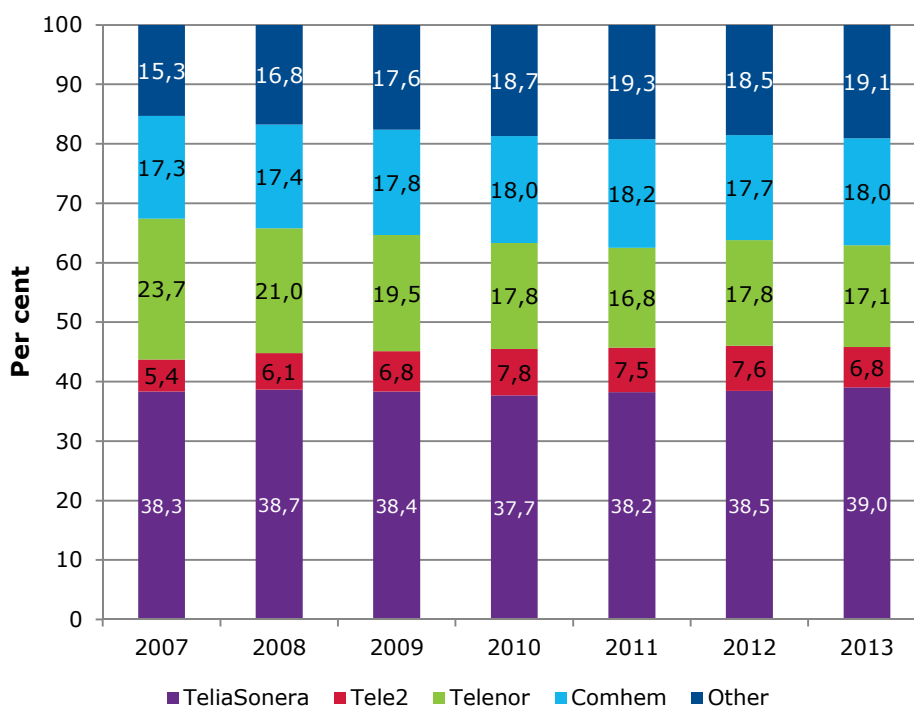
Figure 27 Market shares – broadband subscriptions (total)



The five largest operators accounted for a combined 92.2 per cent of total broadband subscriptions. On 31 December, TeliaSonera had 35.4 per cent which is a small decrease compared to a year before, when its market share was 35.7 per cent. At the same time, Tele2's market share increased from 18.5 per cent to 19.3 per cent. Hi3G's market share also increased somewhat, while the market shares of Telenor and Com Hem decreased over the period in question. The downward trend for the other operators was broken, with their combined market share increasing from 7.6 per cent at the end of 2012 to 7.8 per cent at the end of 2013.

Fixed broadband

In terms of the number of subscriptions, the four largest operators, TeliaSonera, Tele2, Telenor and Com Hem, held a combined 80.9 per cent of the total market for fixed broadband by the end of 2013.

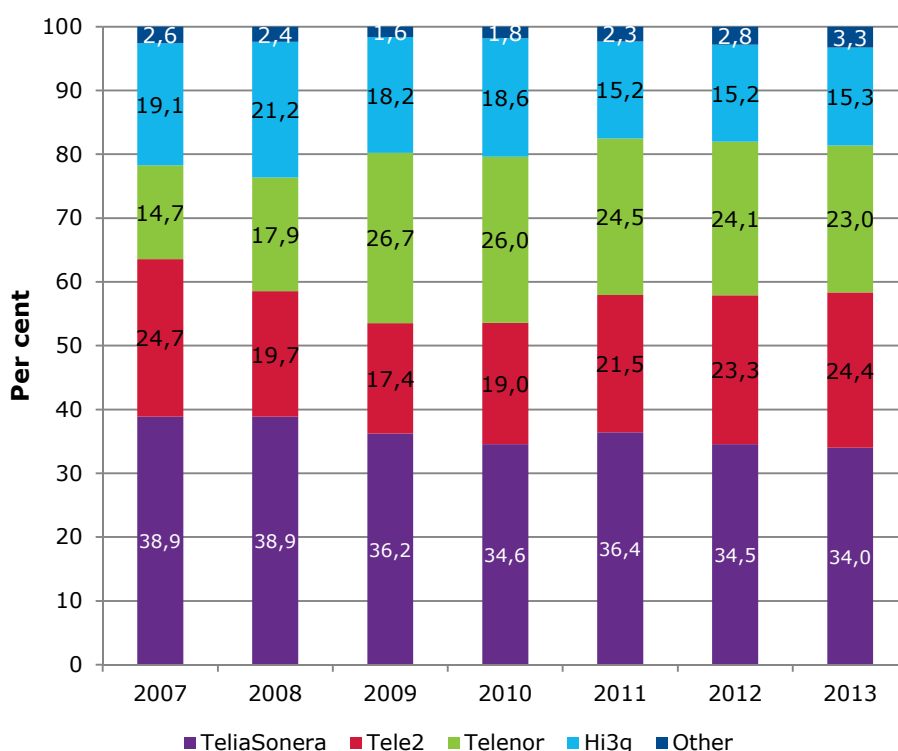
Figure 28 Market shares – fixed broadband subscriptions

Com Hem's market share increased from 17.7 to 18 per cent, making Com Hem the second largest operator in the market. TeliaSonera's market share also increased somewhat, from 38.5 per cent in 2012, to 39 per cent in 2013, while Tele2 and Telenor's³⁰ market shares decreased over the same period. The combined market share of the other operators increased and amounted to one fifth of subscriptions by 31 December 2013. Of these companies, Bredband2 was the largest with 3.8 per cent of subscriptions.

Mobile broadband

Market share figures for mobile broadband for the years 2007 and 2008 are based on those for mobile broadband as a stand-alone service. Starting from 2009, the figures are based on the total number of subscriptions for mobile broadband as a stand-alone service and mobile broadband as an add-on service. At the end of 2013, TeliaSonera, Tele2, Telenor and Hi3G had a combined 96.7 per cent of subscriptions for mobile broadband.

³⁰ Telenor Sverige acquired Tele2 Sweden's cable and fibre operations in the private market in 2013. Subscriptions were transferred to Telenor on 2 January 2014 and are thus not included in Telenor's market share.

Figure 29 Market shares – mobile broadband subscriptions

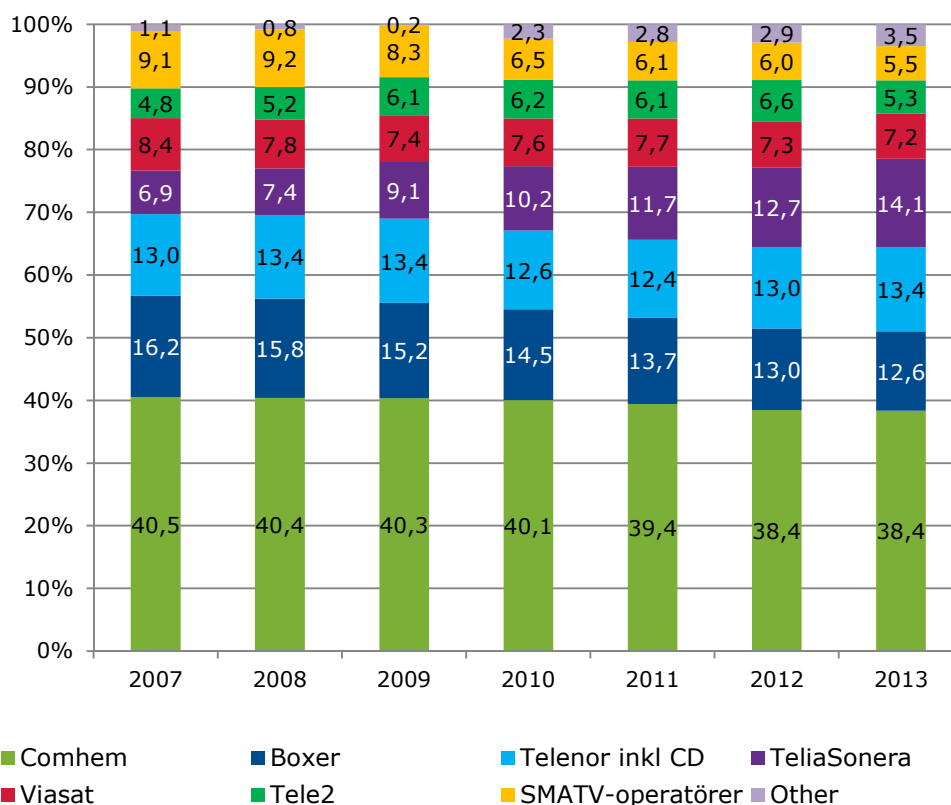
Tele2 increased their market share from 23.3 per cent on 31 December 2012 to 24.4 per cent as of 31 December 2013, and thereby became the second largest operator in the market for mobile broadband. Hi3G's market share also increased somewhat over the same period. TeliaSonera's and Telenor's market shares continued to decrease and fell from 34.5 to 34.0 per cent and from 24.1 to 23.0 per cent, respectively. The combined market share of the other operators increased from 2.8 to 3.3 per cent.

5.4 Market shares – television services

Analogue and digital television services

As of 31 December 2013 the largest operators for the distribution of television services were Com Hem, Boxer, TeliaSonera, Viasat, Tele2 and Telenor.

Figure 30 Market shares – analogue and digital television services subscriptions

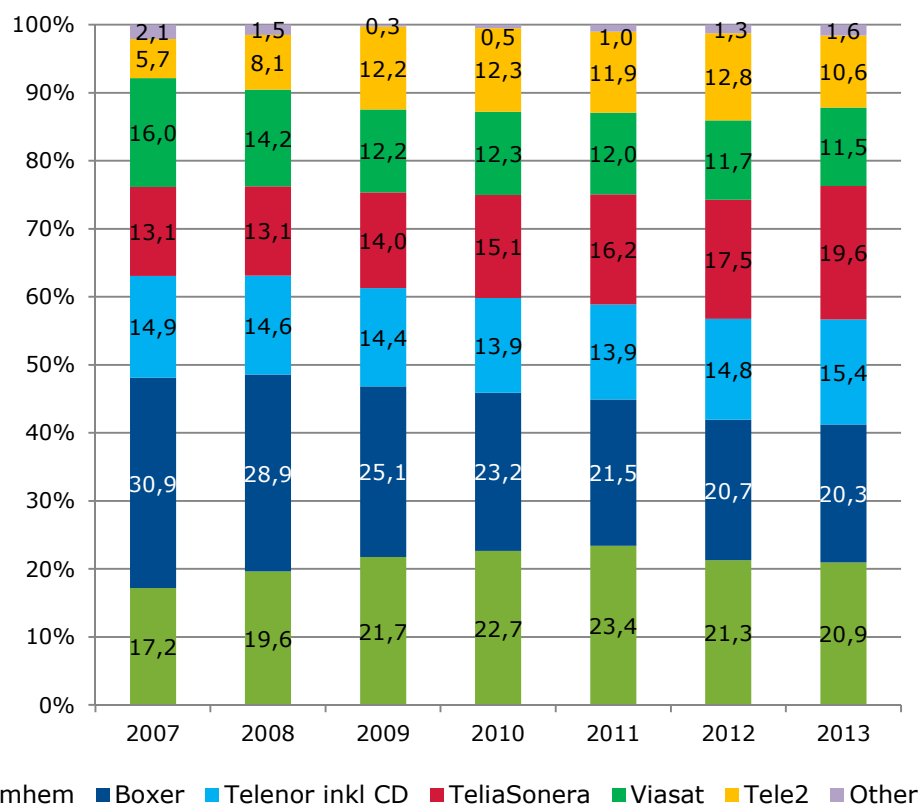


The most significant changes in market shares between 2012 and 2013 were that TeliaSonera increased its share from 12.7 to 14.1 per cent, while Tele2's share decreased from 6.6 to 5.3 per cent and the SMATV operators' combined share decreased from 6.0 to 5.5 per cent. Com Hem is still clearly the largest operator, with 38.4 per cent, followed by TeliaSonera, Telenor (including Canal Digital) and Boxer.

Digital television services

Com Hem, Boxer, TeliaSonera, Viasat, Tele2 and Telenor had the greatest number of subscriptions in the digital television market.

Figure 31 Market shares – digital television services subscriptions



Com Hem, Boxer and TeliaSonera each had around 20 per cent of the subscriptions in the market at the end of December 2013. The most significant changes were that TeliaSonera increased its market share by 2.1 per cent to 19.6 per cent, while Tele2's decreased by 2.2 per cent to 10.6 per cent.

Appendix 1 Report tables

Available as a separate document.

Appendix 2 List of participants

007 LTD
21st Century Mobile Solutions Svenska
2Bornot2B AB
31173 Services AB
42 Telecom AB
42 Telecom LTD
AB Borlänge Energi
AB Hallstahem
AB iP.1 internet till företag
AB PiteEnergi
AB Sappa
AB STOKAB
AB Strömstanet
AB Tierpsbyggen
ACN Communications Sweden AB
Action Direct
Add Logo Telecom AB
Advoco Software AB
Affärsverken Karlskrona AB
Alingsås Energi Nät AB
AllTele
AllTele LDA
Arjeplogs kommun
Arkaden Konsult AB
Arvidsjaurs kommun
Arvika Elnät AB
AT&T Global Network Services Sweden AB
Aurora Innovation AB
Avesta Kommun
Aviolinx Communication and Services AB
Bahnhof AB
Bahnhof Unipessoal LDA
Balder Tech AB
BearCom AB
Beepsend AB
Belgacom International Carrier Services
Bengtstors Energi Nät AB
Bengtstors kommun
Best 4 You
Bild AT Se AB
Bjurholms kommun
Bjäre Kraft Bredband AB
Bjärke Energi AB
Bodens Energi Nät AB
Bogal AB
Bollnäs Energi AB
Boor Communications OY
Borderlight AB
BoreNet AB
Borås Elnät AB
Botkyrka Stadsnät AB
Boxer TV Access AB
Bredband 2 AB
Bredband i Kristianstad AB
Bredband Östra Skaraborg
Bredbandsson AB
Bredbandsteknik 2000 i Karlshamn AB
Bredbandstelefon i Sverige AB
Bredbandstjänster i Dalarna
Brinet AB
BT Nordics Limited UK Filial
BygdaNet Ekonomisk Förening
Bålsta Kabel TV
C4 Elnät AB
Canal Digital Sverige AB
Canal Vision AB
Carlslids Bredband Ek. för.
CCD Communications Deutschland GmbH
Cell Mobile AB
Cellip AB
Challenger Mobile AB
Citynätet i Nässjö AB
CLX Networks AB
Colt Technology Services AB
Com Hem AB
Comne Work AB
Compatel Limited
Conect AB
Connectel AB
CoolTEL ApS
CRW Data AB
C-Sam AB
Cygate AB
Dala Energi AB
Daladatorer i Mora AB

Degerfors Energi
Devicom AB
Devicom Mobile AB
DGC Access AB
Dial It Communications B.V.
DIDWW Ireland Ltd
Digitel Mobile Srl
Direct2Internet AB
Dorotea kommun
Driftbolaget i Norden AB
EasyTelecom i Stockholm AB
Efttel AB
Eidsva bredband AS
Eksjö Energi Elit AB
Elverket I Vallentuna AB
Emmaboda Energi och Miljö AB
Engboms Network Solution AB
Eniro 118118 AB
EPM Data AB
Eskilstuna Energi & Miljö AB
EuTel AB
euNetworks Fiber UK Limited
Excedo Communications AB
Excellent Hosting Sweden AB
Falbygdens Bredband AB
Falbygdens Energi AB
Falu Elnät AB
Fastbit AB
Fiberstaden AB
Finspångs Stadsnät, Finet AB
First New Media Scandinavia AB
Fogg Mobile AB
Fogwise AB
Fortum Distribution AB
Fouredge AB
Freespee AB
Generic Mobile Systems Sweden AB
GleSYS Internet Services AB
Global Communication Management AB
Glooiip SärI
Gnesta Stadsnät AB
Gotlands Energi AB
Griffnet AB
Grästorps Energi Ekonomisk Förening
GrönTele AB
GTelecom Limited (B.V.I) - Filial
Gällivare kommun
Gästabudstaden AB
Gävle Energi AB
Götalandsnätet AB
Göteborgs Energi GothNet AB
Götene kommun
Habo Kraft AB
Hagfors kommun
Halmstad stadsnät AB
Hammarö kommun/stadsnät
Haparanda kommun
HebyNet AB
Herrljunga Elektriska AB
Hessleholm Network AB
HI3G Access AB
Hibernia Atlantic Cable System Limited
Hibernia Media (UK) Limited
Hjo Energi AB
Hofors kommun
Horisen AG
Hughes Network Systems Limited
HVE Balt-Com Fiber AB
Hylte kommun
HåboNet AB
Härjeåns Nät AB
Höganäs Energi AB
HögsbyNät AB
iCentrex Sweden AB
Icuri AB
Ide & resurscentrum i Ljungby AB
IDT Retail Europe Limited
Infogram System AB
Infonet Broadband Service Corporation
Infonett Røros AS
InformationsTeknik i Norrbotten AB
Infracom AB
InmarsatSolutions (Canada) Inc.
InnoTel AB
Insat Net AB
Intelecom Sverige AB
Interactive digital media GmbH
Interoute Communications Limited
Interoute Manged Service Sweden AB
IntJoors Sverige AB
Intraphone IT AB

Ipeer AB	Loxytel AB
IP-Only Networks AB	Lulebo AB
IT mästaren Mitt AB	Lunet AB
IT System i Dalarna AB	Lycamobile Sweden Limited
IT Åre AB	Lycksele kommun
IT4U Sweden AB	Lyssna & Njut AB
ITBO i Stockholm AB	LäNet Västerbotten Data och Tele AB
ITCONNECT AB	Macheen Limited
iTell AB	Malmö stad
ITTRE Sverige AB	Malungs Elnät AB
iTUX Communication AB	Malå kommun
Ivar Westberg Elektronikservice	Maritime Communications Partner AS
Jokkmokks kommun	Media Network i Halmstad AB
JT Tech	Mediateknik i Varberg AB
Junet AB	Mercury International Carrier Services
Jämtkraft Telecom AB	Micro Tec i Laholm AB
Järfälla Bredband AB	Mims Invest AB
Jönköping Energi AB	MKB Net AB
Kalix kommun	Mobil2 Sverige AB
Kalix Tele24 AB	Mobile Arts AB
Karlsborgs Energi AB	Mora kommun
Karlskoga Bredband AB	Motala kommun
Karlstad Elnät AB / Stadsnät	Mowic AB
Kiruna kommun	Multicom Security AB
KnivstaNet AB	Mälardalens Datorförening
Kommunicera i Umeå AB	Mönsterås kommun
KPN EuroRings BV	Net at Once Sweden AB
Kraft&Kultur i Sverige AB	Netett Sverige AB
Kraftringen Energi AB	Netnod Internet Exchange AB
Kungsbacka kommun	Netsize Internet Payment Exchange AB
Kungälv Energi AB	Netsize Sverige AB
Kävlinge Kommun	NextGen Mobile Ltd
Köpings Kabel TV	Nitma AB
LA Cable AB	Nordic Digit AB
Laholms Bredbandsbolag AB	NordiskaServercentralen AB
Lan Assistans & Konsulting AB	Nordmalings kommun
LandNet AB	Norrköping Vatten AB
Landskrona Energi AB	Norrskan AB
Level 3 Communications AB	Norrtälje Energi AB
Lidén Data Internetwork AB	Norrtälje Energi Försäljnings AB
Lidero Network AB	Nortech AB
Lindesbergs kommun/stadsnät	Nortech Telecom AB
Linx Networks Sweden AB	Nossebro Energi Försäljnings AB
Ljungby Energi AB	Nossebroortens energi ek. förening
Ljusnet AB	NTT Europe Ltd
LNS Kommunikation AB	Obduro Network AB

Olofströms Kabel-TV	Skellefteå Kraft AB
Olofströms Kraft AB	Skurups Kommun
Omnitor AB	Skype Communications S.A.R.L
Operator One SA	Skövde kommun
Orange Business Sweden AB	Smedjebacken Energi AB
Orsa kommun/stadsnät	Smålands Bredband AB
Oskarshamn Energi AB	Sollefteå Kommun
Oxelö-Energi AB	Sollentuna Energi AB
Oxieparabolen AB	Sorsele Kommun
Oyatel AS	Speaker Sweden Ltd
Pajala kommun	Spring Mobil AB
PCCW Global B.V.	Stadsnät i Svealand AB
PCCW Global (Sweden) AB	Stadsnät i Örebro AB
Perspektiv Bredband AB	Statnett SF
Peter Lindström Elektronik AB	Stockholm Colocation
Phonera AB	Stockholms Stadsnät AB
Phonzo AS	Storuman kommun
PirateISP AB	Straznet AB
Portane Networks AB	Sundbyberg Stadsnätsbolag AB
punktR AB	Sundbybergs Bredband AB
Pushtalk Group Communication AB	Suravision AB
Qall Telecom AB	Svea Billing Systems AB
Quadracom Wireless AB	Swedavia AB
QuickNet AB	SwedfoneNet AB
Radukum Telecom	Svensk Konsumentmobil AB
RebTel Networks AB	Svensk Växeltjänst AB
Region Gotland	Svenska IP-Telefonibolaget AB
Regionförbundet Gävleborg	Svenska Kraftnät
ReWiCom Scandinavia AB	Svenska UMTS-nät AB
Ricoh Sverige AB	Swoscom AB
Robertsfors Kommun	SYSteam Nät AB
Ronneby Miljö & Teknik AB	Säffle Kommunikation AB (SäKom)
Roslagen Broadband Network AB	Söderhamn NÄRA AB
Rätt Internetkapacitet i Sverige AB	Sölvesborgs Energi och Vatten AB
SalaNet AB	Tata Communications (Sweden AB)
Sandviken Energi AB	TDC Sverige AB
SAVMAN AB	Teknik i Media Datacenter Stockholm AB
SAVVIS Europe BV	Teknikbyrån i Sverige AB
Secure Transmission Sweden AB	Teknorama Data AB
ServaNet AB	TelaVox AB
Serverado AB	Tele2 Sverige AB
SEVAB Nät AB	Tele4u Sverige AB
Shyam Telecom UK Ltd	Telecom Express AB
Sigma IT Services AB	Telecom3 Sverige AB
SIHI Scandinavia AB	Teledigit Scandinavia AB
Skara Energi AB	Teleinfo 118 800 AB

Telen Sverige AB	Vetlanda Energi & Teknik AB
Tele-Man AB	Wexnet AB
Telemar Scandinavia AB	Via Europa i Lund AB
Telenor Connexion AB	Viasat AB
Telenor Sverige AB	Viatel Sweden AB
TeleProffs Sverige AB	Wifog AB
Teleservice Bredband Skåne AB	Viking Tech AB
Telesport AB	Vilhelmina kommun
Teletek 5060 AB	Vindelns kommun
Telge Nät AB	Virserums vandrarhem AB
TeliaSonera AB	Wireless Maingate Nordic AB
Teligoo AB	Vivalect AB
Teliofoni AB	Vodafone Enterprise Sweden AB
Telogic AB	Voice Integrate Nordic AB
Teloteket AB	Voicetech Sweden AB
TELSTRA LIMITED	Voxbone SA
Teracom AB	WX3 Telecom AB
The Cloud Networks Nordic AB	Väddö Media Information IS AB
Tibro Energi Försäljning AB	VänerEnergi AB
Tidaholms Energi AB	Vännäs kommun
Tierps Kommun/ KanalTierp	Värnamo Energi AB
Torsås kommun	Västerbergslagens Elnät AB
Trafikverket ICT	Västervik Miljö & Energi AB
Transaction Network Services TNS AB	Vökby Bredband AB
Transit Bredband AB	Ymex AB
TransTK (UK) Limited	Ystad Energi AB
Tranås kommun	Zedcom ISP AB
Trelleborgs Byakontakt Ek. förening	Zitius Service Delivery AB
Triangelbolaget D4 AB	Zodiac Wireless Systems AB
Trollhättan Energi AB	Åre Network AB
Trosa Fibernät AB	Åsele kommun
Tyfon Svenska AB	Åstorps kommun
Uddevalla Energi AB	Åtvidabergs Kommun
Ulricehamns Energi AB	Älmhults Näringsfastigheter AB
Umeå Energi UmeNet AB	Älvdalens kommun
Umeå kommun	Älvsbyns kommun
Unicorn Telecom AB	Örecom AB
UNO Telefoni AB	Öresundsbro konsortiet
Uppcom AB	ÖresundskraftAB
Utsikt Bredband AB	Österlens Kraft AB
Vaggeryd Energi AB	Östhammars kommun
Varberg Energi AB	Övertorneå kommun
Vattenfall Eldistribution AB	Övik Energi AB
Vellinge Stadsnät AB	
Vellinge Wireless AB	
Verizon Sweden AB	

Appendix 3 Quality declaration

B.0 Introduction

‘The Swedish Telecommunications Market’ represents a data compilation conducted twice annually. The results are presented on a statistics portal (www.statistik.pts.se) and also in summary form in a report.

B.1 Contents

1.1 Statistical target characteristics

The compilation gathers information about the number of subscriptions broken down by subscription type, traffic broken down according to kind of traffic and revenues from the retail and wholesale market in respect of the market for electronic communications. This information is reported in certain cases split between private and business, respectively.

1.2 Objects and population

The target population comprises all undertakings that have conducted operations within the market for electronic communications. The framework population comprises those undertakings that have given notice to PTS that they intend to conduct telecom operations according to Chapter 2, Section 1 of the Electronic Communications Act (LEK). Undertakings subject to a notification obligation are provided by PTS in a register. In addition to this, there are also a number of undertakings within the market for broadcasting and a number of public stakeholders.

1.3 Variables

Data collection is conducted by means of a web questionnaire. The compilation includes variables as regards:

- Subscriptions (number and type)
- Traffic volumes (number of minutes and calls broken down according to kind of traffic)
- Revenues (kronor and euro)
- Market shares (based on number of subscriptions)

1.4 Statistical measures

Data collected is reported as number, in SEK, in EUR, in bytes, in bytes per second, as an average per housekeeping unit, number per minute and as number per 1000 inhabitants.

1.7 Study domains

Data is presented in eight domains (groups): fixed call services, mobile call and data services, Internet services, interconnection in fixed and mobile networks respectively, data communications services, roaming in Sweden and abroad, television services and bundled subscriptions. There is a report broken down between private and business, similarly broken down by wholesale and retail market respectively.

1.6 Reference times

This data compilation relates to the calendar year 2011.

1.7 Comprehensiveness

The data compilation 'The Swedish Telecommunications Market' is an independent survey, but PTS also gathers in data annually concerning broadband access lines.

B.2 Accuracy

2.1 Overall accuracy

The Swedish Telecommunications Market is a comprehensive survey that does not have any measurement of uncertainty, though there is uncertainty; see 2.2. The data compilation has a high response frequency, 88% for the 2011 compilation. However, the framework population may be smaller than the target population, an uncertainty that is considered to be low as PTS's register quality is considered overall to be good.

Partial attrition is reduced in part by the inclusion of responses from previous years in the web questionnaires to assist the respondents when completing the questionnaire, and also by the incorporation of certain blocks that require the respondents to provide an explanation in the event of an excessive deviation from responses provided in previous years. Systematic errors occur, and are reduced partly by data for various sizes being checked against each other to identify deviating information.

2.2 Sources of inaccuracy

Despite the market being comprehensively surveyed, the results are influenced by a number of sources of error, for instance attrition, under and over coverage and various kinds of measurement error.

2.3 Estimating

No estimates are made for those stakeholders who have failed to answer. It is considered, however, that their share of the market does not comprise more than 3 per cent of any area of operations.

2.4 Measurement errors

Measurement errors arise when an undertaking answers the questionnaire but does not provide the true value. This may be the result of neglect, inadequate or misunderstood instructions or that it was not possible for any exact value to be established from the businesses' accounts. Several undertakings have, for instance, not had access to reliable documentation for reporting volume data.

2.5 Processing

The information gathered undergoes processing and if necessary correction, sometimes following supplementary information from undertakings.

B.3 Timelines

3.1 Frequency

The data collection is compiled twice annually, on a half-year and on a full-year basis. For the half-year compilation, the collection is made with fewer collection variables and is based on a selection of the framework population.

3.2 Production time

Four months; publication occurs approximately one month after data collection is concluded.

3.3 Punctuality

According to plan, 6 months after the end of the survey year.

B.4 Comparability and coherence

4.1 Comparability over time

For detailed information about breaks in time series, reformulated intervals, etc., see the tables published on the PTS statistics portal (www.statistik.pts.se).

4.2 Comparability between groups

Certain variables in the data presentation are also included in other statistics:

- Households. SCB annually publishes statistics concerning the number of households in Sweden
- Population of Sweden. SCB also publishes statistics concerning the population of Sweden on an annual basis.

4.3 Coherence with other statistics

In the report series ‘The Swedish Telecommunications Market’, the Swedish Post and Telecom Authority reports annually on the results of the questionnaire. Since 2003, PTS and SCB process statistics jointly, which results in the fact that the statistics reported by both PTS and Transport Analysis can be used jointly since 2003. For previous years there may be certain differences as a consequence of separate statistical processing having been conducted.

4.4 Availability and clarity

The results of the data collection are presented on a statistics portal in the form of tables. The results are also compiled in a report, ‘The Swedish Telecommunications Market’.

4.5 Forms of dissemination

Both the statistics portal and the report are publicly available on the web. All information is also published in English.

4.6 Documentation

This document represents the quality documentation prepared.

4.7 Access to primary material

All material is presented in the form of tables on the PTS statistics portal. Data in the form of raw material can usually be provided to researchers upon request.

4.8 Further information can be provided by

Andreas Wigren, PTS, telephone +46 (0)8-678 57 00, e-mail andreas.wigren@pts.se

or

Karin Fransén, PTS, telephone +46 (0)8-678 57 00, e-mail karin.fransen@pts.se