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The Swedish Telecommunications Market 2022

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Contents

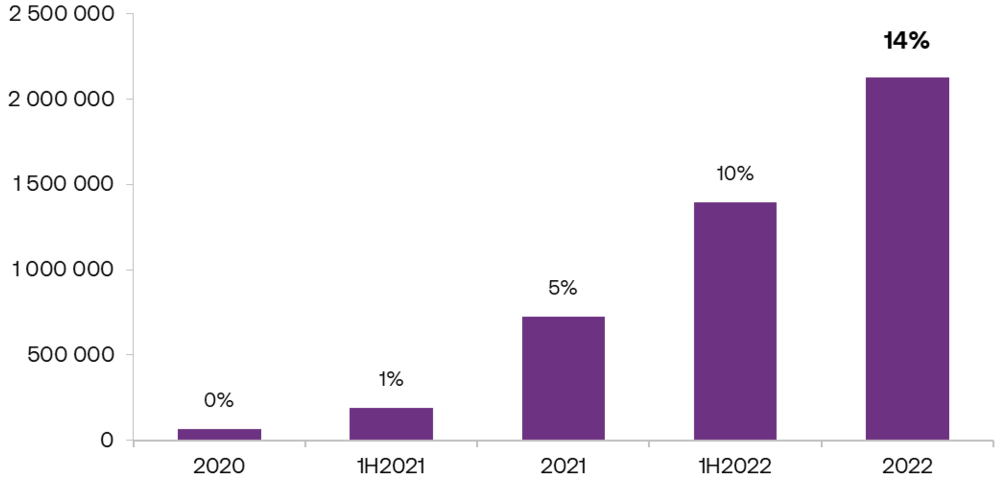
A selection of results

The development of the electronic communications market in 2022 is presented in Chapters 1 to 6. Below are some results that can be highlighted specifically for 2022.

5G

14 per cent of mobile subscriptions had used services in 5G networks in 2022. In 2021, the corresponding proportion was 5 per cent.

Figure 1 Number of mobile subscriptions that used services in 5G networks 2020–2022 (percentage of all mobile subscriptions)

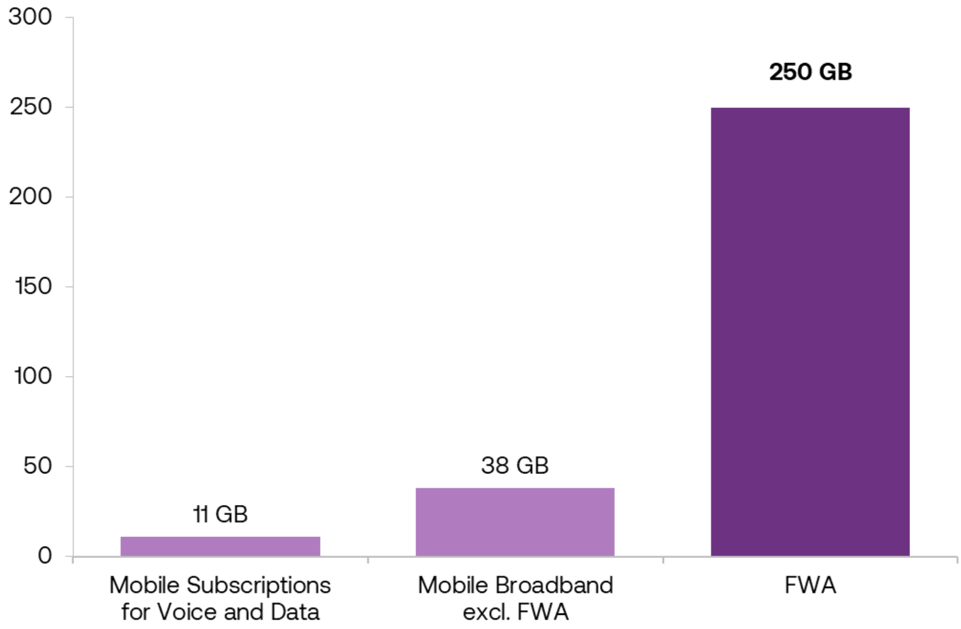


The 5G rollout in Sweden is increasingly visible in the collected statistics. By the end of 2022, more than 2 million subscribers had used 5G networks. This corresponds to about 14 per cent of all mobile subscriptions. This is a significant increase since the end of 2021, when 720,000 of the subscriptions used services in 5G networks. 5G is so far only used for data transmission. Mobile data traffic via 5G increased to 32,635 TBytes (+1062%), representing only 1 per cent of all mobile data.

FWA

Fixed Wireless Access – data transmission services provided over 4G and 5G networks. Subscriptions are sold to a fixed address, similar to fixed broadband services. Operators market the technology as mobile broadband. The solution is sold to a fixed address and typically uses an indoor or outdoor router for reception.

Figure 2 Average mobile data usage per subscription per month in 2022 (consumption reported by subscription category)



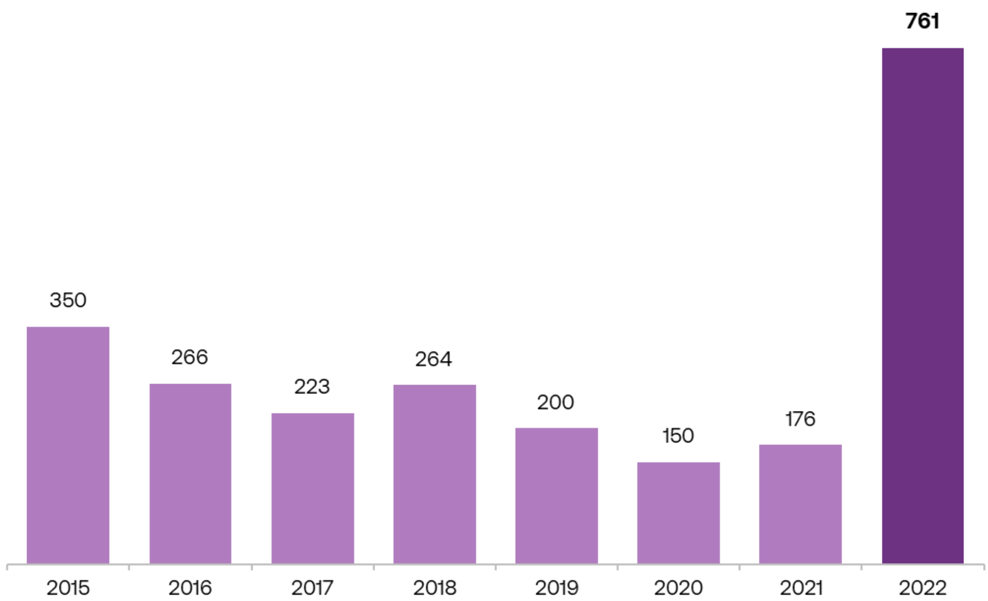
Operators market FWA technology as mobile broadband. The solution is sold to a fixed address and typically uses an indoor or outdoor router for reception. Approximately 280,000 subscriptions were reported in this category in 2022[1]. Data usage for FWA subscriptions accounted for 28 per cent of mobile data traffic in 2022. By way of comparison, an FWA subscription consumed an average of 250 GBytes per month, compared to 11 GBytes per month for a mobile voice and data subscription, and 38 GBytes/month for a mobile broadband subscription.

[1] The question definition for FWA has changed slightly for 2022, and is therefore not fully comparable with FWA statistics in previous collections of the Swedish telecommunications market.

Satellite broadband

Satellite broadband technology has evolved in recent years, as the number of low-flying satellites used for broadband has increased. Previously, only geostationary satellites were used to provide broadband.[2]

Figure 3 Number of satellite broadband subscriptions 2015–2022



While satellite broadband accounted for a small share of broadband subscriptions in 2022, it is worth noting the relative increase in satellite broadband, which grew by 330 per cent with the addition of around 600 subscriptions. According to the operators' reports, the majority of subscriptions have a download speed in excess of 100 Mbit/s and an upload speed in excess of 10 Mbit/s.

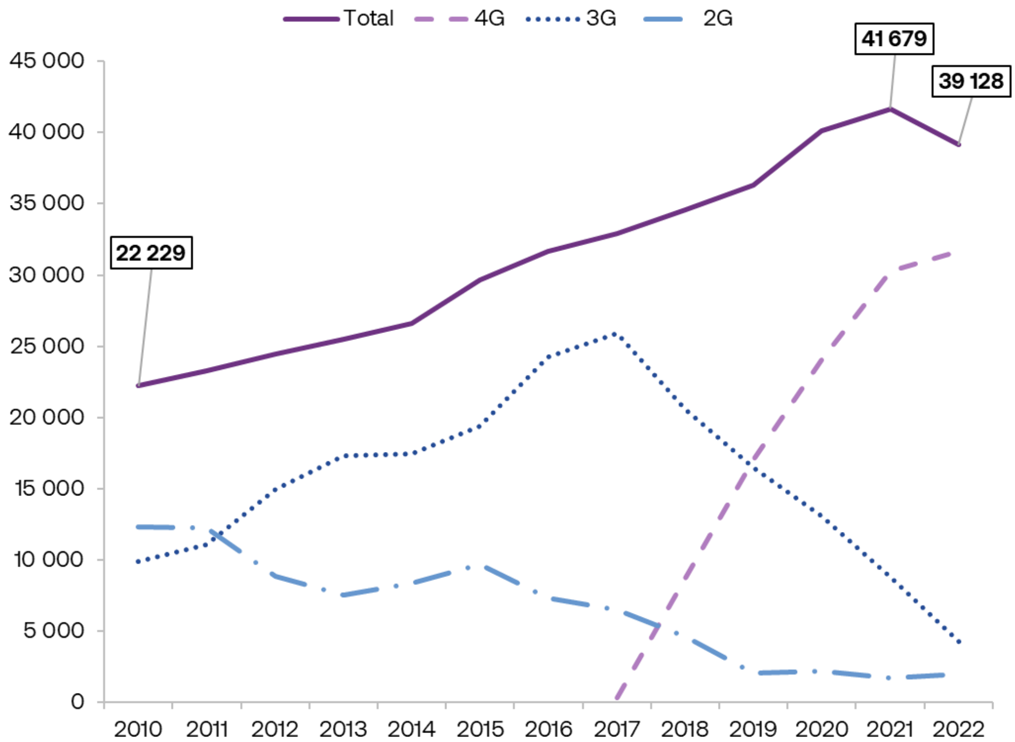
The number of satellite broadband subscriptions amounted to 761 on 31 December 2022.

[2] PTS (2022). *Satellit: en möjlighet till snabbt bredband 2025* [Satellite: an opportunity for fast broadband in 2025].

Mobile voice traffic

The number of mobile voice traffic minutes decreased by 6 per cent in 2022. This marks a change in trend, as mobile traffic minutes had been increasing over time.

Figure 4 Number of mobile traffic minutes 2010–2022, traffic volume by technology (millions of minutes)



The number of outgoing voice traffic minutes from mobile subscriptions amounted to 39 billion in 2022. This is a decrease of 6 per cent compared to the previous period, and is the first time since the survey began that the number of traffic minutes is decreasing overall. This break in the trend is explained by factors such as some voice traffic moving to communication apps, which instead results in increased data usage (see section on mobile data).

Another contributing factor is the decrease in voice traffic after COVID-19. In 2020 in particular, traffic minutes increased more than in previous years.

About the Swedish Telecommunications Market 2022

The Swedish Post and Telecom Authority (PTS) has been tasked with monitoring service developments in the market for electronic communication, promoting competition within this market and providing information aimed at consumers. As a part of this assignment, PTS annually collects and publishes market data in a report entitled The Swedish Telecommunications Market.

The Swedish Telecommunications Market is a descriptive report, without analysis. However, the statistics from the report are used in PTS's analyses conducted within the context of the agency's areas of responsibility. The statistics are also used by, inter alia, the Government Offices, various public authorities, Swedish industry, investigators, researchers, media, trade associations, individual companies and organisations, as well as the general public.

The Swedish Telecommunications Market is one of Sweden's most important operator surveys on subscriptions, revenues and data traffic in the fields of broadband (fixed and mobile), voice services (fixed-line and mobile) and traditional TV services. The survey also covers digital capacity services, dark fibre connections and more.

The survey is carried out twice a year, for the first half and the full year. This report is for the full year 2022 and, as in previous years, is based on PTS's own data collection.

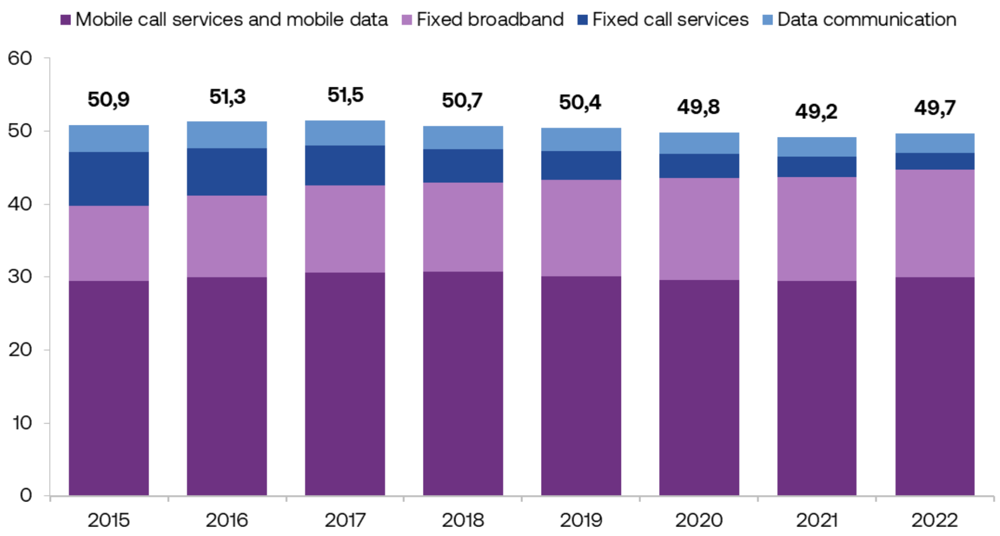
The statistics have been collected with the aid of an online questionnaire. The selection for the Swedish Telecommunications Market is based partly on the selection of organisations in previous years and partly on organisations of which PTS has been notified according to the Act (2022:482) regarding electronic communication (LEK).

The survey was sent out to 629 organisations (operators, municipalities and other organisations). 608 of these responded. This represents a response rate of 97 per cent, which is the same level as the previous year. All figures refer to the situation on 31 December 2022, and comparisons are made with the same date the previous year, unless otherwise stated. Revenue is expressed in nominal terms. For further information about the survey, please refer to the Quality Declaration (Kvalitetsdeklarationen).

On the PTS statistics portal (http://statistik.pts.se/), you can search for and sort statistics in the different areas. Data quantities and market shares for the individual operators are also available there.

1. Revenues

Figure 5 End user revenues 2015–2022 (SEK billion)



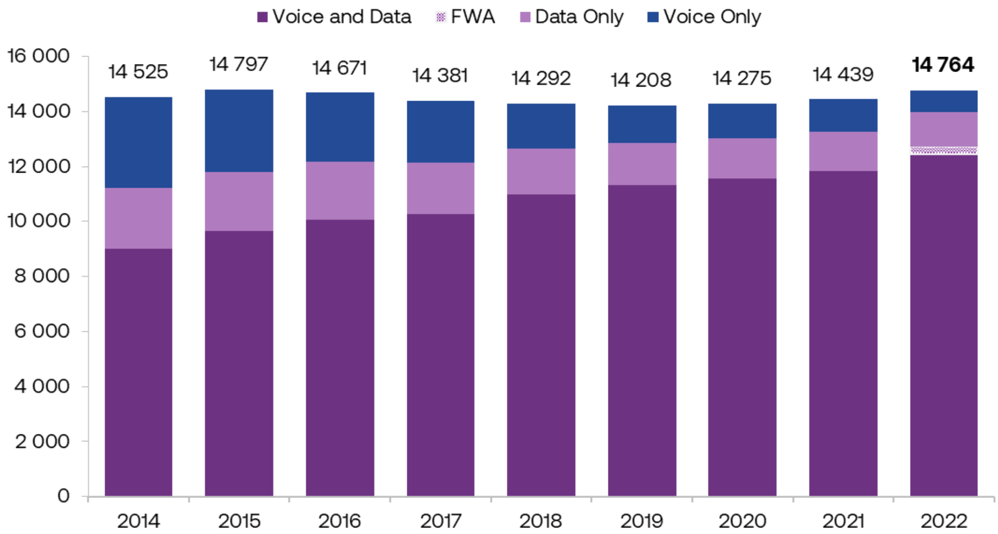
For the purposes of this report, "electronic communications" comprise mobile voice and data services, fixed internet services, fixed-line voice services and data communications services provided to end users. Revenues from e.g. TV subscriptions, roaming, apps, dark fibre and cloud services are not included here, nor are revenues from wholesale services. In 2022, telecommunications revenues from end customers totalled SEK 49.7 billion, which is 1 per cent higher than the previous year.

In 2022, the average revenue generated per household per month was SEK 597, which is the same level as in 2021. The average revenue per month includes fixed-line voice services, SEK 17, mobile voice and data services, SEK 371, and internet services (excluding mobile data), SEK 210.

2. Mobile

2.1 Subscriptions

Figure 6 Number of mobile voice and data subscriptions 2014–2022 (thousands of subscriptions)



There was a total of 14.8 million mobile subscriptions in Sweden on 31 December 2022, which was a 2 per cent increase compared to one year earlier. There were 12.4 million mobile subscriptions for both voice and data services (smartphones), an increase of 5 per cent compared to the previous year. The number of voice-only mobile subscriptions decreased by 32 per cent, to 800,000. The decrease is partly explained by the fact that some operators have included data in some subscriptions, thus changing the category. There were 1.5 million data-only subscriptions, which is a 7 per cent increase. This category also includes about 280,000 subscriptions via FWA technology (see section FWA). 82 per cent of the total number of mobile subscriptions were contract based, while the others were pay-as-you-go (cash cards).

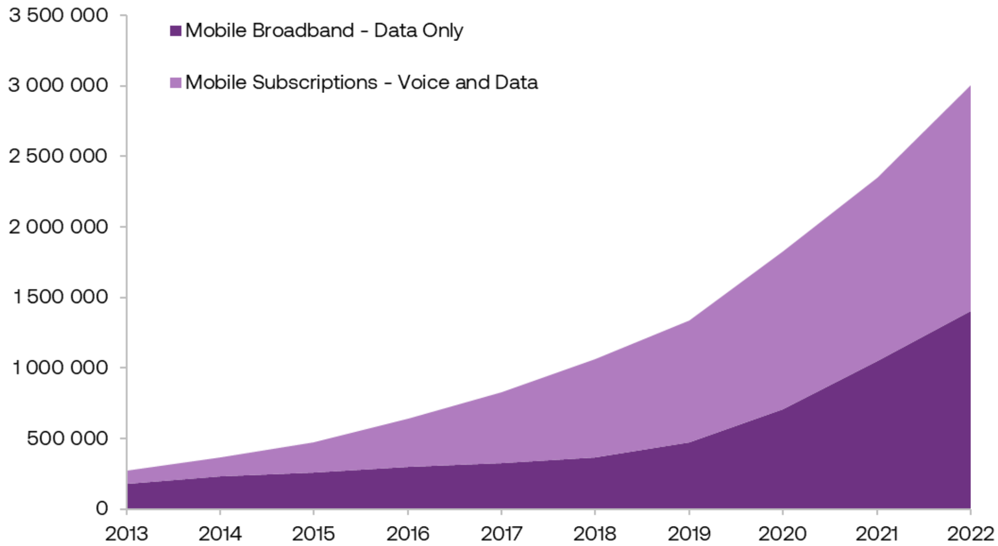
The average number of private mobile subscriptions per percent in recent years has been one subscription per person. The increase in the number of mobile subscriptions follows the increase in the population.

2.2 Mobile data

Data traffic in the mobile networks increased to 3,005 Pbytes in 2022, which was an increase of 28 per cent. Subscriptions for *voice and data* (smartphones) generated an average of 11 Gbytes per subscription and month (10 Gbytes in 2021). For *data-only* subscriptions, the monthly traffic was 77 Gbytes (69 Gbytes). Data-only includes data for FWA subscriptions for 2022. If data-only and FWA subscriptions are reported separately, the monthly data consumption amounts to 38 Gbytes for the former and 250 Gbytes for the latter (see section FWA).

The number of subscriptions using data services in 4G networks continued to increase and amounted to 12.7 million, or 88 per cent of all mobile subscriptions. Mobile data traffic in the 5G network increased by over 1,000 per cent, but only accounted for 1 per cent of the total traffic in 2022 (see the section 5G).

Figure 7 Data usage in mobile networks 2013–2022, by type of subscription (Tbytes)



Voice and data subscriptions accounted for 1,603 Pbytes of the total data usage in 2022. Data-only subscriptions generated a total of 1,402 Pbytes, of which 839 Pbytes was from FWA subscriptions.

2.3 Traffic minutes and messages

The number of outgoing voice traffic minutes from mobile subscriptions amounted to 39 billion in 2022. This is a decrease of 6 per cent compared to the previous period, and is the first time since the survey began that the number of traffic minutes is decreasing overall. This break in the trend is explained by factors such as some voice traffic moving to communication apps, which instead results in increased data usage (see section on mobile data).

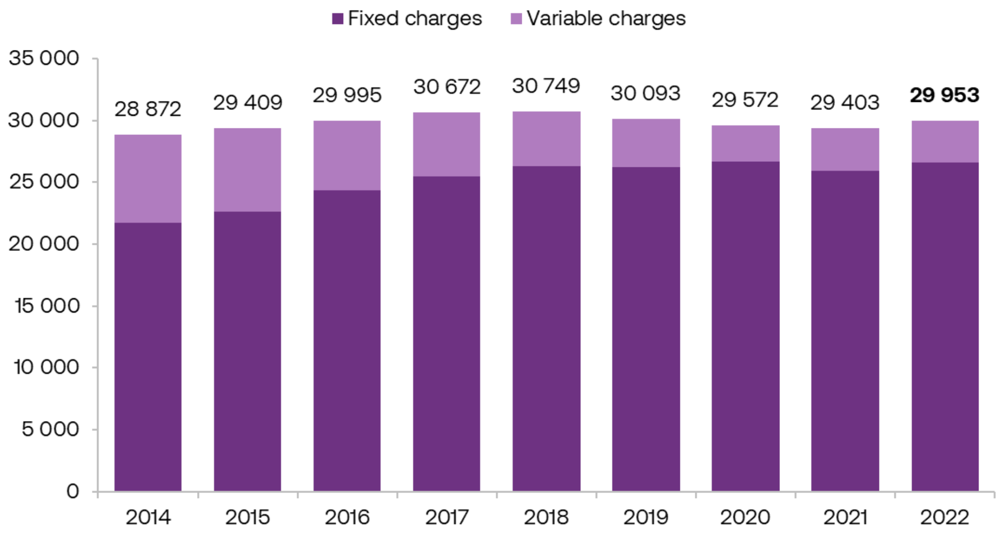
The number of call minutes via 4G networks (VoLTE) totalled 31.7 billion, which corresponds to 81 per cent of all mobile voice traffic. Voice traffic via 3G networks (UMTS) decreased by more than half, as operators are shutting down traffic on this network. As a result, traffic has been directed to 4G networks and to some extent to 2G networks (GSM), which increased by 14 per cent in 2022. No operator has yet reported any traffic minutes on 5G networks.

The number of text messages (SMS) sent between persons decreased marginally to 6.2 billion, which is in line with last year's result. Auto-generated (application-to-person) text messages have steadily increased in recent years, with this category reaching 5.2 billion in 2022 (an increase of 8 per cent). The number of multimedia messages (MMS) sent decreased by 3 per cent to 598 million. Much of the traffic for text and multimedia messages is shifting to other platforms and social media, affecting mobile data volumes.

2.4 Revenues

End user revenues from mobile subscriptions amounted to SEK 30 billion. This is an increase of 2 per cent, and marks the first time since 2018 that mobile revenues have increased.

Figure 8 Revenues for mobile services by fixed and variable charges 2014–2022 (SEK million).

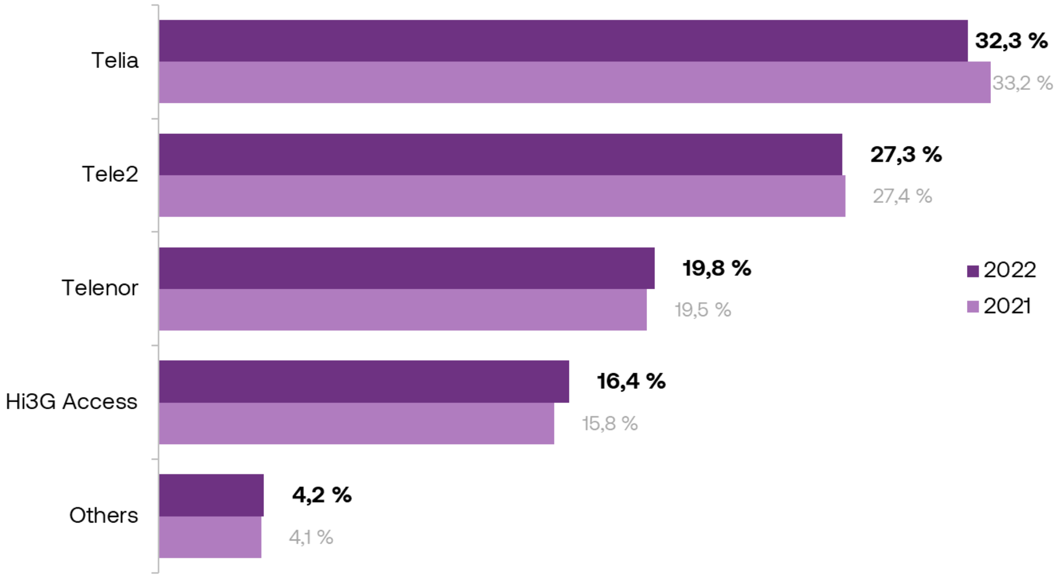


Of the revenues, 89 per cent were fixed charges (subscription charges) and the rest were variable charges. Revenues from fixed charges totalled SEK 26.6 billion, an increase of 3 per cent. Variable charges decreased by 3 per cent, to SEK 3.4 billion. Revenues from both the private and business markets increased to SEK 21.7 and 8.2 billion, respectively. On average, a private mobile phone subscription generated a monthly revenue of SEK 172 in 2022, an increase of SEK 2. For business subscriptions, the corresponding revenue was SEK 163, a decrease of SEK 7 compared to the previous year.

2.5 Market share

Market share for mobile subscriptions includes mobile subscriptions for voice and data, voice-only mobile subscriptions, and data-only mobile broadband. The four largest operators, Telia Company, Tele2, Telenor and Hi3G (Tre), had 96 per cent of all subscriptions on the market, which is the same level as the previous year.

Figure 9 Market share of mobile subscriptions per operator 2021–2022 (per cent)



2.6 M2M

There were 23.2 million SIM cards for M2M and IoT[3] in 2022, which is an increase of 16 per cent. Revenues for M2M increased to SEK 1.7 billion (14 per cent). Swedish M2M SIM cards are not necessarily used within Sweden, but also by customers abroad. Of the 23.2 million M2M SIM cards, 6.1 million were reported to be used in Sweden, with revenues for these amounting to SEK 650 million. The largest operator in M2M in Sweden, Telenor Connexion, has reported 1.6 million M2M SIM cards used in Sweden, which is about the same level as the previous year.

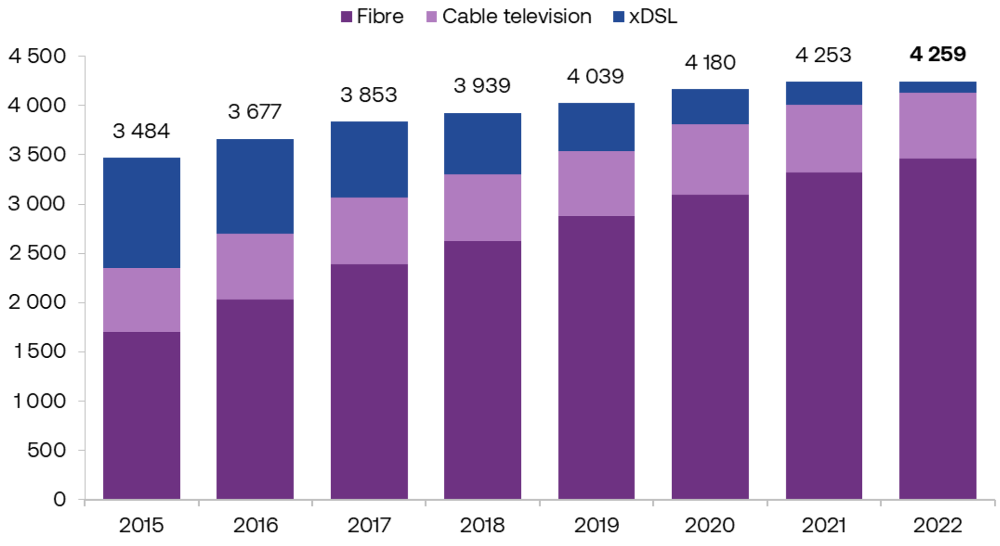
[3] Machine-to-machine (M2M) communication and the Internet of Things (IoT) are closely related, yet different. However, they are often used synonymously. M2M and IoT are data sharing technologies and data links that drive data transmission, but they are also different: IoT is a network of devices connected to the internet, while M2M is an automated communication process between two or more electronic systems (or machines/devices).

3. Fixed broadband

3.1 Subscriptions

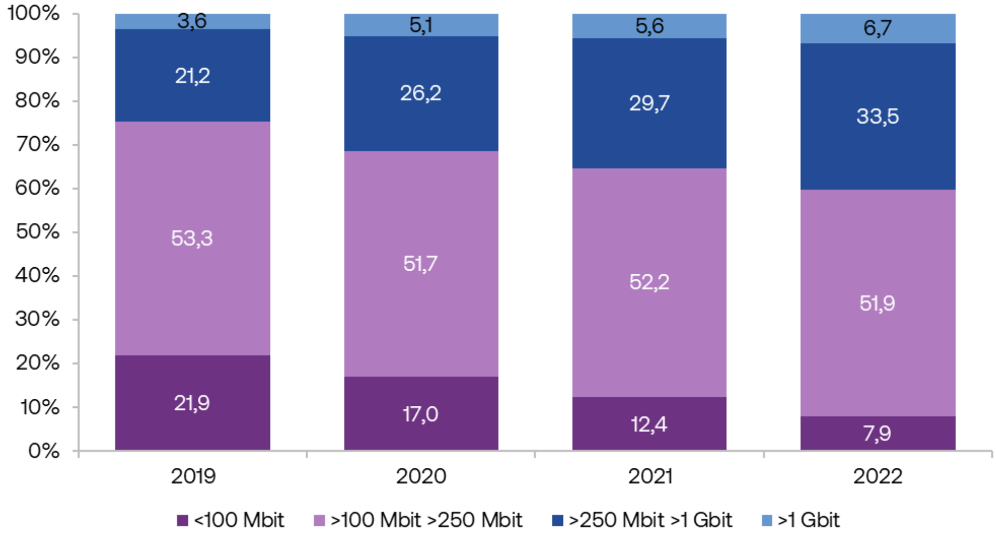
At the end of 2022, there were approximately 4.3 million fixed broadband subscriptions. The number is almost unchanged from that of the previous year. Looking at the different broadband technologies, the development has gone in different directions. Broadband via fibre increased by 4 per cent to 3.5 million subscriptions, which means that four out of five fixed broadband subscriptions are fibre. Cable TV decreased by 2 per cent to 674,000 subscriptions. The number of subscriptions via xDSL dropped by half, amounting to 110,000 at the end of 2022. The downward trend for xDSL is explained by the fact that the copper network is being phased out and replaced by other broadband technologies. In addition to the above-mentioned technologies, there were around 15,000 subscriptions via fixed radio, satellite and other access technologies.

Figure 10 Number of fixed broadband subscriptions 2015–2022 (thousands of subscriptions)



3.2 Speeds

Figure 11 Proportion of broadband subscriptions by download speed 2019–2022 (in per cent)



There were 3.9 million subscriptions with download speeds of 100 Mbit/s or more, an increase of 5 per cent. Of all subscriptions in Sweden, 92 per cent had a speed of 100 Mbit/s or more, an increase from 88 per cent. The number of subscriptions of 1 Gbit/s or more has also increased. These subscriptions were 21 per cent more than the previous year and amounted to 287,000.

Four out of five households had a subscription of 100 Mbit/s or more in 2022 (80 per cent), up from 77 per cent a year earlier. The proportion of households with a subscription of 1 Gbit/s or more was 6 per cent, compared with 5 per cent a year earlier. Demand for subscriptions with 100 Mbit/s continues to increase, while demand for 1 Gbit/s remains relatively low.

The number of fibre subscriptions with a download speed of 100 Mbit/s or more reached 3.3 million (an increase of 7 per cent), while subscriptions via cable TV networks with the same speed reached 610,000, which is the same level as a year earlier.

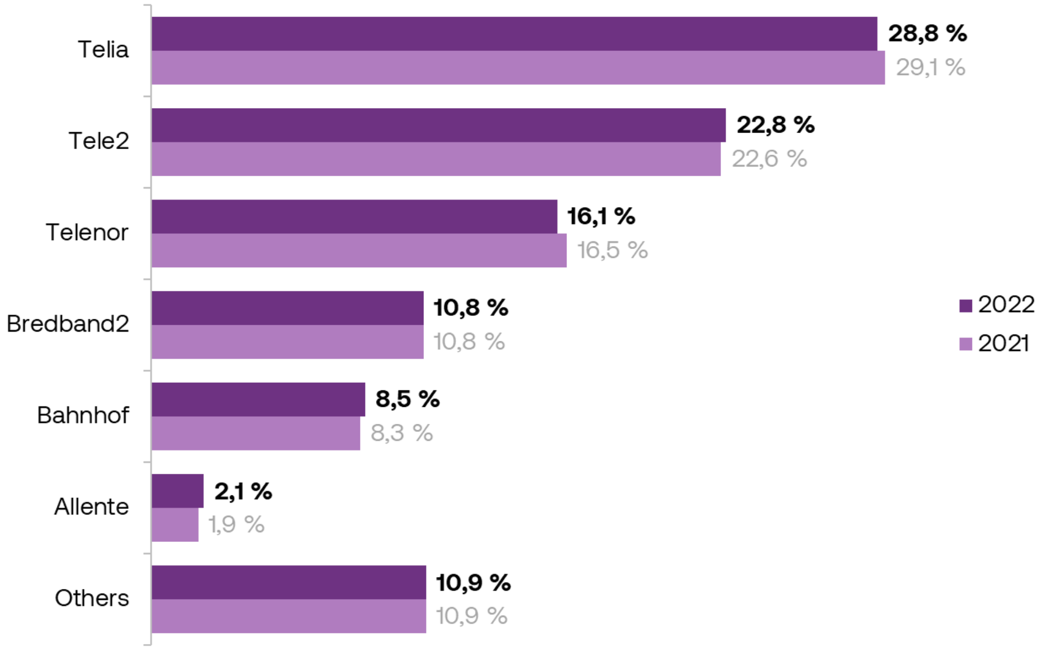
Upload speeds are also increasing for fixed broadband subscriptions. The number of fixed broadband subscriptions with an upload speed of 100 Mbit/s or more increased by 7 per cent to 3 million subscriptions, representing 70 per cent of all fixed broadband subscriptions.

A breakdown at the subscription level for fibre shows that 100/100 (symmetrical speed) was the most common subscription in 2022. There were 1.5 million subscriptions in this category, representing 43 per cent of fibre subscriptions.

3.3 Market share

The market share of fixed broadband subscriptions includes subscriptions to xDSL, cable TV, fibre, as well as technologies such as satellite and fixed radio/radio links. The six largest operators, Telia Company, Telenor, Tele2, Bredband2, Bahnhof and Allente, accounted between them for 89 per cent of fixed broadband subscriptions. The group Other, which includes about 190 operators, accounted for 10.9 per cent.

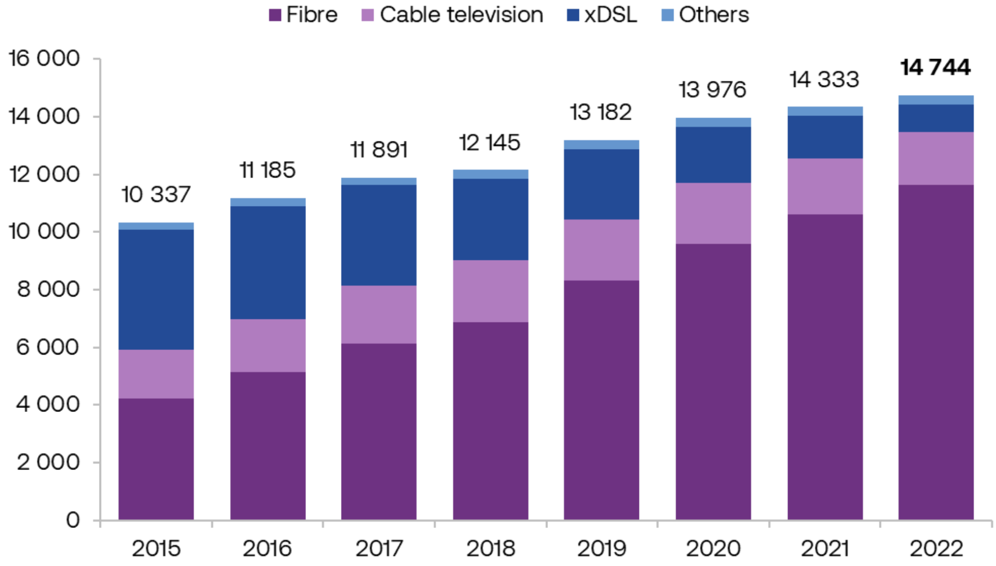
Figure 12 Market share of fixed broadband per operator 2021–2022 (per cent)



3.4 Revenues

Revenues for fixed broadband subscriptions totalled SEK 14.7 billion in 2022. This is 3 per cent more than the previous year. Revenues from fibre subscriptions increased by 10 per cent, to SEK 11.6 billion. Revenues from broadband subscriptions via cable TV decreased by 6 per cent to 1.8 billion, and revenues from xDSL subscriptions fell by 34 per cent to SEK 979 million. Revenues from subscriptions via other access technologies totalled SEK 309 million.

Figure 13 Revenues from fixed broadband 2015–2022, by technology (SEK million)



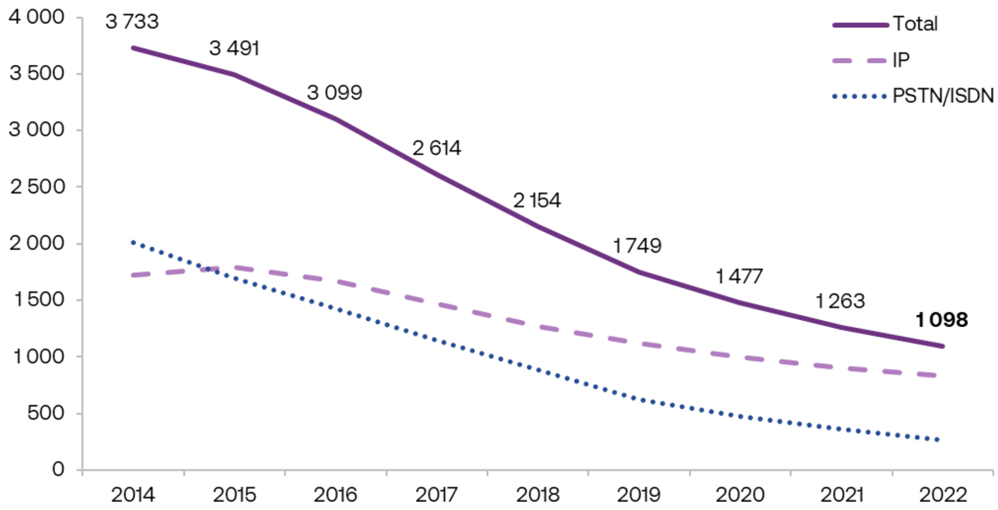
3.5 Collective connections

Approximately 1.2 million broadband subscriptions were reported to be collective connections, which is an increase of 7 per cent. Collective connections are private internet subscriptions negotiated between an operator and e.g. landlords, tenant-owners' associations, housing associations or local residents' associations instead of directly with the end customer. Of the total number of private fibre subscriptions, 29 per cent were collective connections.

4. Fixed-line telephony

4.1 Subscriptions

Figure 14 Number of fixed-line telephony subscriptions 2014–2022, by technology (thousands of subscriptions)



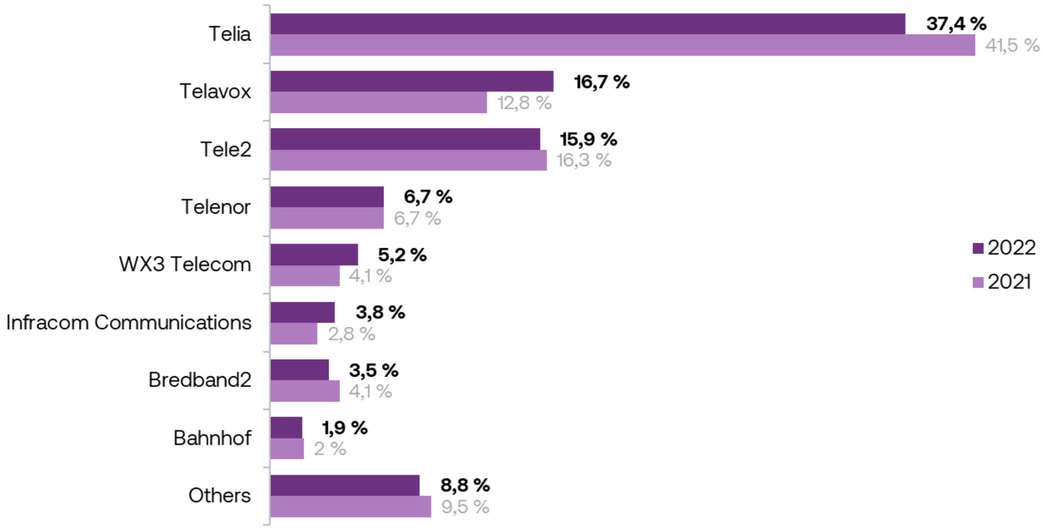
There were 1.1 million fixed-line telephony subscriptions, which was a decrease of 13 per cent. Of these, 835,000 (76 per cent) were IP telephony subscriptions. IP telephony refers to fixed-line telephony via xDSL, cable TV, LAN, other IP-based access. The proportion of households with fixed-line telephony subscriptions continues to decline, and was 12 per cent in 2022, compared to 15 per cent one year earlier. The proportion of households subscribing to fixed-line telephony via the copper network (PSTN) was 3 per cent.

The number of fixed-line telephony traffic minutes for companies decreased to 2.9 billion, representing a decrease of 12 per cent compared to the previous period.

4.2 Market share

Telia Company had the largest market share in terms of fixed-line telephony subscriptions, 37.5 per cent. The next largest was Telavox with 16.7 per cent, followed by Tele2 and Telenor, with 15.9 and 6.7 per cent, respectively. Other operators with a market share over 1 per cent were WX3 Telecom (5.2 per cent), Infracom Communications (3.8 per cent), Bredband2 (3.5 per cent) and Bahnhof (1.9 per cent). The group Other, which consists of almost 100 operators, totalled 8.8 per cent.

Figure 15 Market share in fixed-line telephony 2021–2022 (per cent)



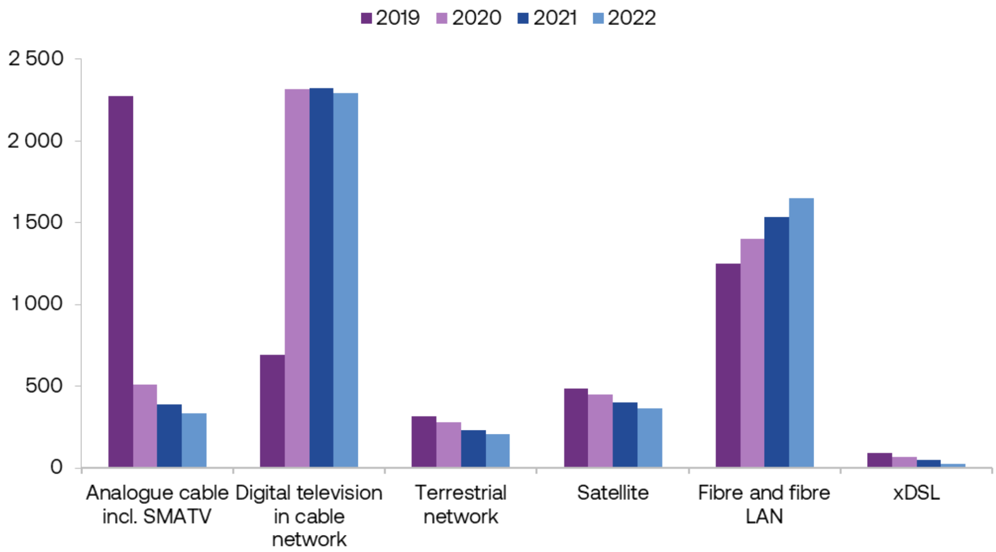
4.3 Revenues

Revenues from fixed-line voice services fell by 15 per cent to 2.4 billion in 2022. In 2022, fixed charges accounted for 81 per cent of revenues from fixed-line telephony.

5. TV

5.1 Subscriptions

Figure 16 Number of pay-TV subscriptions (thousands)



There were 4.1 million digital pay-TV subscriptions (via cable TV networks, satellite, terrestrial networks or broadband), the same as the previous year.

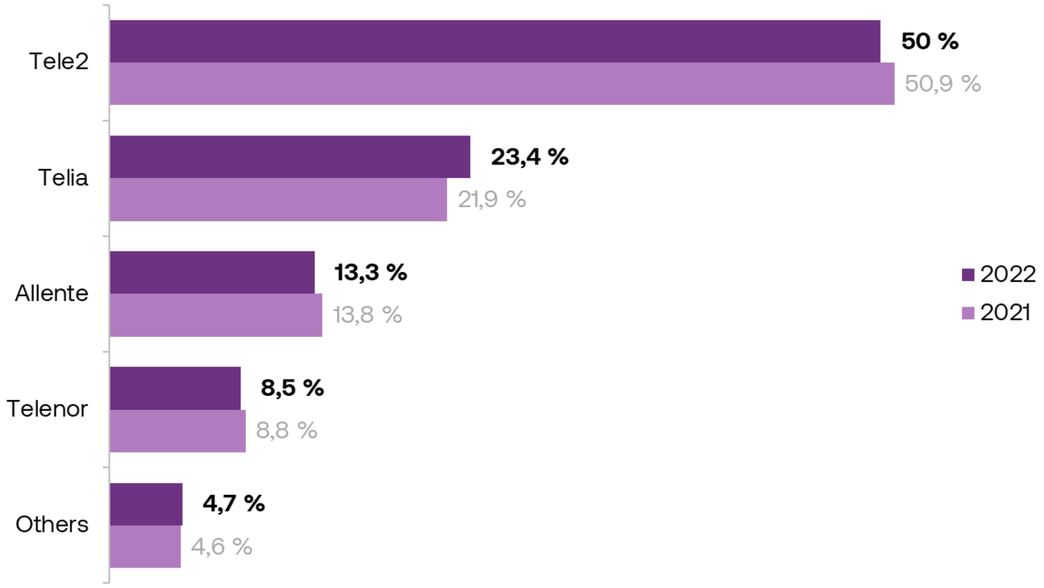
The number of subscriptions via digital cable TV networks totalled 1.8 million, which was the same level as a year earlier. Many households in multi-family residential buildings now have a digital connection via the property owner that is included in the rent, as well as a digital subscription with expanded channel offerings.

The number of subscriptions to TV via fibre increased by 7 per cent to 1.6 million. Subscriptions via terrestrial networks decreased by 10 per cent to 209,000, while satellite decreased by 10 per cent to 363,000. The number of TV subscriptions via xDSL continued to decline, reaching around 20,000, a decrease of 51 per cent. The number of analogue cable TV subscriptions was 213,000, which was a decrease of 24 per cent. Subscriptions via the SMATV network (via analogue or digital cable TV networks) were estimated at around 120,000.

5.2 Market share

The proportions for digital TV services are based on the number of pay-TV subscriptions broken down by digital distribution method. Between them, the four largest operators, Tele2, Telia Company, Telenor and Allente, accounted for 95.3 per cent of subscriptions. The largest operator, Tele2, decreased from 50.9 to 50.0 per cent, while Telia increased from 21.9 to 23.4 per cent.

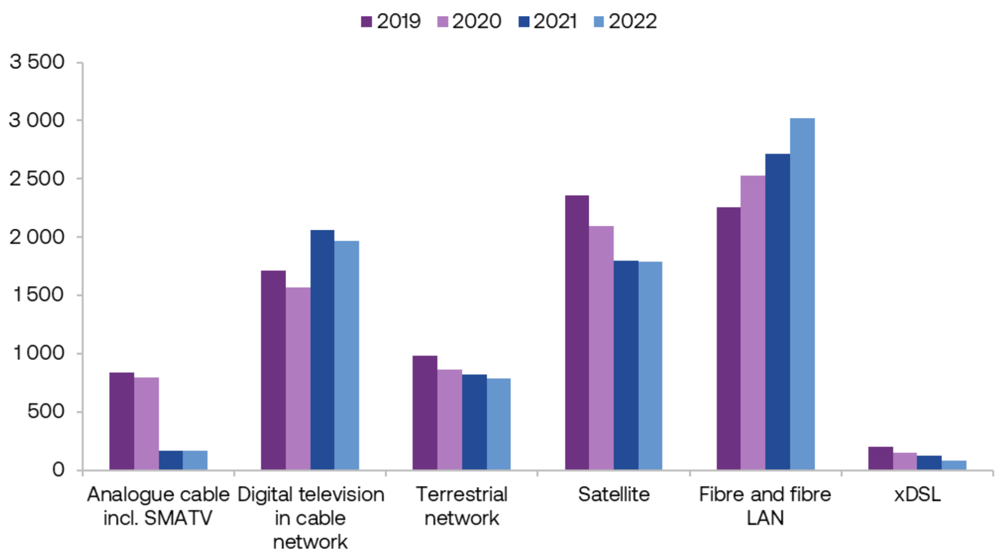
Figure 17 Proportion of digital pay-TV subscriptions per operator 2021–2022 (per cent)



5.3 Revenues

Revenues from basic package subscriptions related to pay-TV subscriptions amounted to SEK 7.8 billion, which was 2 per cent more than the previous year. The reported revenues from supplementary package subscriptions increased by 19 per cent and amounted to SEK 1.5 billion. The total revenues from TV services for basic and supplementary package subscriptions amounted to SEK 9.3 billion, which is an increase of 4 per cent compared to one year earlier. The revenue development per platform generally follows the development of subscriptions. In 2022, only IPTV via fibre increased its revenue, from SEK 2.7 to 3 billion. In other platforms, revenues decreased.

Figure 18 Revenues from traditional pay-TV subscriptions 2019–2022 (SEK million)



6. Other operational areas

6.1 Data communication services

In this context, “data communication services” refers to data services used e.g. to connect the working locations of companies and public authorities with various IP-based systems. In 2022, total revenues from data communication services to end customers amounted to approximately SEK 2.7 billion, a decrease of 2 per cent compared with 2021.

Table 1 Revenues from data communication services to end customers (SEK million)

	2019	2020	2021	2022
IP-VPN	2 737	2 411	2 168	2 099
Capacity services	468	585	553	581
Total	**3 205**	**2 996**	**2 722**	**2 680**

Between 2021 and 2022, revenues from IP-VPN services decreased by 3 per cent to SEK 2.1 billion, while revenues from capacity services to end customers increased by 5 per cent, to SEK 581 million. Revenues from the sale of capacity services to operators (wholesale customers) are not included in this data.

6.2 Dark fibre and wavelengths

Dark fibre refers to fibre cable rented out without electronic equipment. Dark fibre is usually sold to wholesale customers, but in some cases also to end customers, such as larger companies or public authorities. Between 2021 and 2022, revenues from dark fibre connections to end customers and wholesale customers increased by 9 per cent, from SEK 5.4 billion to SEK 5.8 billion.

The optical light in a fibre can be divided into wavelengths, so that each wavelength functions as a channel. As with dark fibre, wavelength connections are mainly purchased by wholesale customers. In 2022, revenues from wavelength connections to end customers and wholesale customers totalled SEK 254 million, an increase of 1 per cent compared to the previous year.

Table 2 Revenues from dark fibre and wavelength connections (SEK million)

	2019	2020	2021	2022
Wavelength connections	224	220	252	254
Dark fibre	4 685	5 060	5 353	5 831

6.3 Bundled subscriptions

In 2022, the number of bundled services decreased by 1 per cent to 1.5 million. Telia Company, Tele2, Telenor, Allente and Tre together accounted for 98 per cent of the bundled subscriptions. The figure below shows the most common combinations of bundled subscriptions for 2021 and 2022.

Figure 19 Bundled subscriptions 2021–2022 (thousands of subscriptions)