Annual Report 2014

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Foreword by the President

When you read this activity report you will not only learn what ComCom has done in the past year but also acquire a lot of useful information about the Swiss telecoms and communications market. In accordance with our mission, we concentrate on the providers of telecommunication services which are based in Switzerland.

Even though there were no spectacular decisions or stunning events in 2014, the numbers and reports nevertheless indicate that there has been a lot of activity in Switzerland. It is no accident that Switzerland is world leader in high-speed broadband provision and that we have the third-fastest mobile internet in the world. All the telecom providers have invested heavily in the past year. They have profited from excellent political and regulatory conditions and also, of course, from the prosperity in Switzerland.

The Swiss telecoms market is characterised by high quality. The negative side of this is that consumers have to dig deeper into their pockets than in the other European states. In absolute terms communication services are affordable, but in relative terms we are paying quite high prices. Roaming tariffs have only been reduced as a result of extreme political pressure. So we certainly do not have unfettered competition on prices in Switzerland. The telecoms companies therefore have money available for investments and innovations. Infrastructure competition is alive and well in Switzerland.

Stimulating competition in general is one of ComCom's tasks. However, it must be borne in mind that this competition increasingly has an international dimension. Global players who define our communications market have also been active here for a long time. In the case of search services the main competitor of the Swiss providers has for a long time been Google. Apple too influences our daily life with its technological successes. The Swiss and indeed the European telecoms industry has long disappeared. It is the Far East and the USA who call the tune.

We must regard these developments critically – they increasingly shape our economy and our society. ComCom is also seriously getting to grips with these global developments – at the international level, because in this area national solutions reach their limits.

In this report, however, we are concerned primarily with the national telecoms market - but we are always perfectly aware that this is increasingly being influenced by global interdependences.

I hope you have a good read!

Marc Furrer, President

March 2015

I. Overview of the telecoms market

The telecommunications sector is going through profound upheavals.

At the global level we are seeing a major consolidation cycle in the market, which has been characterised in the two last years by several acquisitions, mergers or strategic convergences.

These consolidations are driven by several trends. Faced with the intensity of competition and pressure on prices, operators are clearly seeking to rationalise costs and increase profitability. It is also a matter of facing up to the web giants (Google, Facebook, etc…) who for their part are also multiplying their acquisitions and becoming ever more active, particularly in relation to applications for smartphones and connected devices.

As different medias converge, along with the convergence of fixed and mobile, operators are finding it more and more difficult to exist in a single segment of the market and are being forced to become convergent operators.

This consolidation phase, which began in 2013 in the United States with the buy-back by Verizon of 45% of the shares which Vodafone held in its subsidiary company Verizon Wireless, also affected Switzerland's neighbouring countries in 2014: for example Germany, with the merger between O2 (a subsidiary of the Spanish company Telefonica) and E-Plus (the Dutch KPN brand), ranked three and four respectively in the German mobile market in the middle of the year, or France, with the buy-back of the second mobile operator SFR by the main cable operator Numericable at the end of 2014.

Switzerland is not immune from this development: the successive announcements of the buy-back of Swiss Orange by Xavier Niel in December 2014 and the Sunrise stock-market flotation in February 2015 are also part of this movement of consolidation in the telecommunications industry and also confirm the attractiveness of the Swiss market.

The notion that the telecommunications sector is in perpetual change is being confirmed ever more sharply. This relates both to the technological evolution of the fixed and mobile network infrastructures and to that of multifunction devices which are becoming more and more powerful. The requirements of customers and new usage possibilities mean that ever more data is consumed, in particular when on the move. This is forcing operators to construct fixed and mobile network infrastructures “tailored” for very high speeds.

In relation to fixed networks, telecommunications and cable operators are bringing optical fibre technology closer and closer to users (FTTH, FTTS). The networks are becoming full IP networks and traditional telephony over copper cable is increasingly migrating to VoIP.

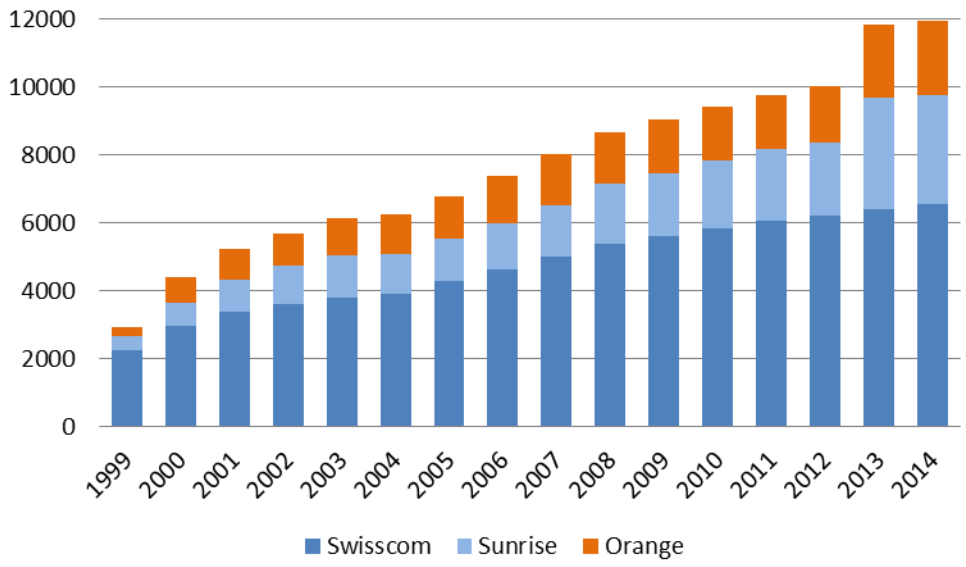
In the mobile networks, the roll-out of LTE technology is proceeding very quickly and by the end of 2014 the coverage of the networks had already reached between 85% and 94% of the population, depending on the operator. Operators have begun to introduce the successor to this technology, LTE-Advanced (LTE-A), which makes it possible to achieve theoretical speeds of 300 Mbit/s for data transmission.

On the basis of technological advancements, ComCom welcomes the publication at the end of November 2014 of the new Federal Council report entitled “Evolution of the Swiss telecommunications market”, which will lead to a revision of the Telecommunications Act and the adoption of a legal basis tailored to the recent technological developments. The Commission supports this undertaking by the Federal Council.

1. Evolution of mobile networks

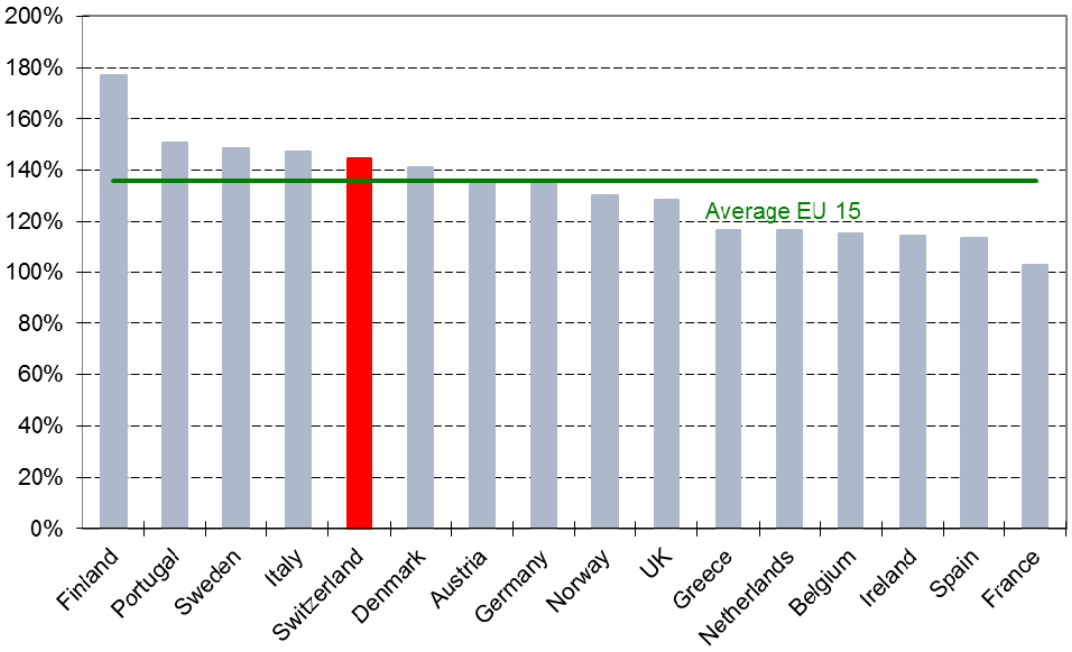
The Swiss mobile telephony market included nearly 12 million contracts at the end of 2014 (cf. Statistics, Fig. 1). For a total population of over 8.2 million inhabitants, the penetration rate was 145% at the end of December 2014 (cf. Fig. 2).

Fig. 1: Mobile phone connections in Switzerland [in 1'000]



Sources: Annual reports Swisscom, Sunrise, Orange

Fig. 2: Mobil Penetration in Europe & Switzerland, September 2014



Sources: Analysys Mason, ComCom

In an increasingly mature mobile market, the growth in the number of users in 2014 is, as in the two previous years, largely attributable to the increase in the number of smartphones.

Since the beginning of 2013, Orange has adopted Swisscom's method for calculating the number of customers and has been applying the 12-month rule, which records the pre-payment cards active on the network during the last twelve months. Sunrise also publishes figures based on this calculation method. For comparison purposes, we have applied this rule to the three operators of mobile telephone networks in Switzerland for the past two years.

On this new basis, **Orange** therefore numbers 2,166,000 customers and its market share was stable at 18.1% at the end of 2014.

With 3,232,000 customers, **Sunrise** saw its market share fall slightly to 27.1% at the end of 2014.

With a total of 6,540,000 customers, **Swisscom** saw its market share increase to 54.8% (cf. Fig. 3).

Fig. 3: Mobile market share in Switzerland

Sources: Annual reports Swisscom, Sunrise, Orange

Over the whole of the year 2014, the mobile operators acquired 111,000 new customers, bringing the total to 11,938,000 contracts, but whereas Swisscom acquired 133,000 new customers, Orange acquired only 20,000 and Sunrise lost 42,000 over the same period.

Apart from upc cablecom, which entered the mobile market in the spring of 2014 and which had 8800 customers at the end of 2014, the figures for the other MVNO providers and retailers have not been published.

There has been a major migration to contract-based products, to the detriment of prepaid offerings: in the contract segment, operators acquired 234,000 customers, while the pre-paid segment lost 123,000 customers.

The operators have all made progress in the contract segment, but only Swisscom and Orange achieved a net gain of customers. Swisscom acquired 146,000 contract customers for a loss of only 13,000 prepaid customers. Orange gained 26,000 contract customers, whereas it only lost 6,000 pre-paid customers, while Sunrise gained 62,000 contract customers though lost 104,000 pre-paid customers.

The growth in mobile data traffic

For several years now, the global mobile telephony landscape has been characterised by the extremely rapid adoption of smartphones by users, and this trend shows no sign of abating.

According to a study published at the beginning of December 2014 by the International Data Corporation (IDC), growth has even been stronger than envisaged. 1.3 billion smartphones were sold worldwide in 2014, up by more than 26% on 2013.

In its latest Mobility Report published in February 2015, the Ericsson company stated that smartphones currently represent 40% of all mobile contracts, and above all nearly 75% of the mobile telephones sold during the fourth quarter of 2014 (compared to 60% for the same period in 2013).

In Switzerland too, the proportion of smartphones in sales continues to increase. According to the operators, they represent between 65% and 95% of the devices sold in 2014.
For Orange for example, the proportion of customers with a smartphone increased to 69% at the end of June 2014. This is consistent with the nearly three quarters (74%) of the mobile telephones in use with Swisscom.

According to the JAMES study published by the Zurich University of Applied Sciences at the end of October 2014, for young people aged between 12 and 19, the proportion of smartphones was as high as 98% in 2014 (compared to 79% in 2012 and only 50% in 2010).

But the widespread use of these intelligent telephones also involves major changes in users' behaviour – they make ever more use of data exchanges, in particular of videos. We are therefore seeing enormous growth in data traffic on mobile networks. The increase in screen sizes and the higher screen resolutions of smartphones and tablets also play a role in the growth in data traffic. The Mobile Analytics Report published by the Citrix agency in February 2015 states, for example, that the iPhone 6 Plus would consume twice as much data as the smaller iPhone 6 model.

Mobile data traffic witnessed substantial growth in 2014, doubling on the Swisscom mobile network.

At the global level, again according to Ericsson, traffic generated by smartphones will increase eight-fold between 2014 and 2020, boosted in particular by strong growth in video traffic. Video is the segment which is developing the most, and the most rapidly: with growth of approximately 45% per year, it currently represents some 45% of current mobile traffic and in 2020 could represent more than 55% of all mobile data traffic.

Telecommunications service providers are investing considerable sums in their network infrastructures, in particular to cope with the substantial growth in data traffic on the mobile network.

In 2013 Swisscom was expecting to invest CHF 1.5 billion in the expansion of its mobile telephone network by 2017. Having already invested CHF 271 million in 2013, its investments in mobile telephony infrastructure amounted to CHF 235 million in 2014. Sunrise, for its part, invested more than a billion francs in the roll-out of its own network infrastructures over the last three years. In 2014, Sunrise invested CHF 356 million, including CHF 213 million on improving its mobile network infrastructure. Under the five-year investment programme started in 2010, Orange is investing more than CHF 700 million in the modernisation and future expansion of its mobile communications network. In 2014, Orange invested CHF 158 million in improvements to its LTE network.

The independent test published at the beginning of December 2014 by the German magazine Connect, which makes a comparative classification of mobile networks in Germany, Austria and Switzerland, confirms the very good quality of all the mobile networks in Switzerland. For the first time, in fact, the three mobile operators are ranked “very good”. They are also ranked among the four best networks over all three countries, with Swisscom at the top and Sunrise

and Orange just behind Deutsche Telekom. Swiss customers therefore have a choice between several high-quality networks for both voice and data transfer.

In Switzerland, mobile communications coverage is almost total. The GSM networks serve almost 100% of the population and cover approximately 90% of the territory. It is therefore possible to make calls from almost anywhere, even in the remotest areas.

As for UMTS/HSPA services, which provide mobile internet access, these cover up to 98% of the Swiss population, depending on the operator.

To meet the increasing demand for mobile communications during train journeys, Swiss Federal Railways provides free Wi-Fi internet access in approximately fifty stations, in order to reduce data traffic on the mobile networks during journeys.

But Swiss Federal Railways, in collaboration with the mobile communications operators, is also continuing to optimise reception of mobile services on trains. Grouped together within the InTrainCom consortium, Swiss Federal Railways and operators have already equipped more than 90% of trains with signal boosters on main lines. Collaboration also involves the Confederation and the cantons with a view to improving network coverage on regional trains, which is still rated inadequate. With investment estimated at over CHF 300 million, all regional rolling stock could therefore be equipped by 2020. The mobile communications operators are still improving the service by installing new antennas along the tracks.

Extension of LTE networks

2013 had been marked by a major evolution of the mobile telephony networks with the introduction of the new LTE (Long Term Evolution) technology by Sunrise and Orange. Swisscom had already launched its LTE network in 26 locations in late November 2012.

This mobile network standard also makes it possible to access mobile networks at very high speeds and appreciably improves the experience and convenience of internet access. This new generation of 4G/LTE networks makes it possible for users to access the mobile internet at theoretical speeds of up to 150 Mbit/s.

Coverage of the Swiss population by these new modern networks is progressing rapidly.

Sunrise's LTE network covered more than 85% of the population at the end of 2014. For its part, the Orange network could be accessed by 90% of the population, while Swisscom's already covered 94% of the population at the end of 2014.

Elsewhere in the world, the roll-out continues at an intensive pace. According to the latest figures published by GSMA Intelligence in February 2015, the 4G/LTE networks, whose coverage reached 26% of the world's population at the end of 2014, will cover more than one third (35%) by the end of 2015. However, there continue to be major disparities between the developed countries, where the coverage rate is up to 90% and the developing countries where this rate is only 15%.

By way of comparison, at the end of 2014 the LTE networks already covered 97% of the population in the United States and 63% of the population in Europe. Furthermore, , at the end of 2014, more than 40% of mobile calls in the United States were made on the LTE network, compared to 10% in Europe. According to GSMA, the growth of these networks as well as the increase in the number of registered calls make the roll-out of the 4G networks one of the fastest technological network migrations in history.

The success of a new technology depends not only on network coverage but also on the availability to users of compatible mobile devices. According to ABI Research, the number of LTE-compatible mobile telephones also continues to grow. Approximately 676 million are expected to be sold worldwide in 2015, i.e. three times more than in 2014.

Introduction of LTE-Advanced and VoLTE

In Switzerland, operators have already begun to roll out LTE-Advanced (LTE-A) technology on their networks, enabling speeds to increase up to 300 Mbit/s.

As of January 2014, Sunrise had started to test LTE-A as part of a pilot scheme, with the initial objective of a roll-out, envisaged initially in Zurich, in the third quarter of 2014.

In mid-December 2014 Orange announced the launch of LTE-A on its network in the city of Bern, initially enabling speeds to double, i.e. from 150 to 300 Mbit/s. Other cities will gradually be covered during 2015.

At the end of 2014, Swisscom, for its part, had rolled out its LTE-A network in several cities (Berne, Bienne, Lausanne, Zurich, Geneva, Lucerne, Lugano and Basle). And at the end of 2015, approximately 30% of the population will benefit from transmission speeds of up to 300 Mbit/s. Also, Swisscom began to test the future evolution of these networks, making it possible to attain speeds of up to 450 Mbit/s, thanks to the aggregation of multiple frequencies. Planned for the end of 2015, this evolution will also enable a larger number of customers to use a radiocommunication cell simultaneously. But in this case, customers will have to have a device capable of using several frequency bands simultaneously in order to be able to benefit from the maximum speeds.

In 2015, customers are also expected to be able to benefit from VoLTE (voice on LTE) technology, which makes it possible to enjoy better-quality calls on LTE networks. In addition, it permits faster connection to the network when making a call: until now, to make or receive a telephone call, the device has been connected automatically to the 2G or 3G network, because the 4G/LTE network is exclusively a data network. VoLTE is also of interest to operators since the telephone conversations transmitted as data packets require less network capacity. In addition, the 2G and 3G frequencies used to date to transmit calls can be reallocated to data; particularly since the allocation of frequencies to operators in 2012 in a “technologically neutral” manner. Finally, VoLTE technology could also enable operators to win the loyalty of those of their customers who tend to use the free voice services of OTT suppliers such as Viber or WhatsApp, with which it will be soon possible to make calls.

In Switzerland it is also the case that more and more customers are surfing like this using their mobile devices on the new networks.

Orange's share of active 4G/LTE devices on their network was 49% of all devices in autumn 2014. Some 90% of the smartphones sold by Swisscom were 4G/LTE compatible and 25% of Swisscom customers already had a compatible 4G/LTE device. The total data traffic on the Orange LTE network more than doubled (compared to the same period in 2013). Swisscom reported an increase of 92% in data traffic for the same period. Finally, Sunrise recorded a rise in data traffic of approximately 88% over one year.

Demand for broadband mobile services therefore also continues to grow. According to figures published by the OECD for the middle of the year 2014, the number of broadband contracts on mobile networks grew in Switzerland by more than 23% between June 2013 and June 2014 and reached 5.5 million units in mid-2014. The penetration rate of fast mobile broadband in Switzerland was 69.3% on that date (compared to 56.7% in June 2013), below the average for the OECD countries (78.2%), but above the average for the EU countries (667 %).

Mobile communication prices

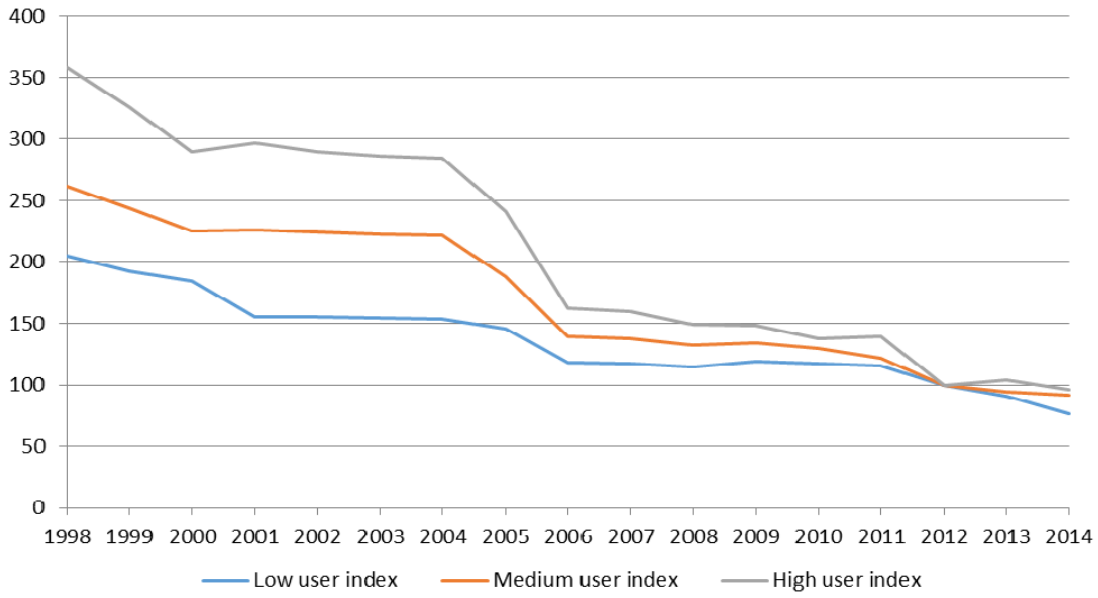
In 2014 Swiss consumers again benefitted from substantial reductions in the prices of communication services. Although this price drop varied according to the products concerned, all types of users benefitted in 2014. On average, prices of the cheapest products fell by 15.5% for a low user, 3.1% for a medium user and 8.0% for a high user (see Fig. 4).

However, this evolution of prices must be qualified according to market segments.

In a study on the retail prices of mobile communication services published by OFCOM for the year 2014, it is in fact clear that the reduction in prices was greater for low users with a contract; this was not the case in the preceding years. Otherwise, the reduction in prices was distinctly more marked for users with a prepaid card than for users with a contract.

Whereas since 2011 contracts have become ever more advantageous for medium and high users, operators also reduced their contract products aimed at low users, in order to ensure their loyalty and to migrate this type of customer from a prepaid card to contracts, often within the framework of bundled offerings including other services.

Fig. 4: Development of end-user prices on the Swiss mobile market 1998-2014
(index of costs according to user profile, 100 = 2012)



Source: OFCOM study "Costs of mobile phone services, 2014"

As for the telecommunications service resellers, prepaid cards remain the most advantageous segment.

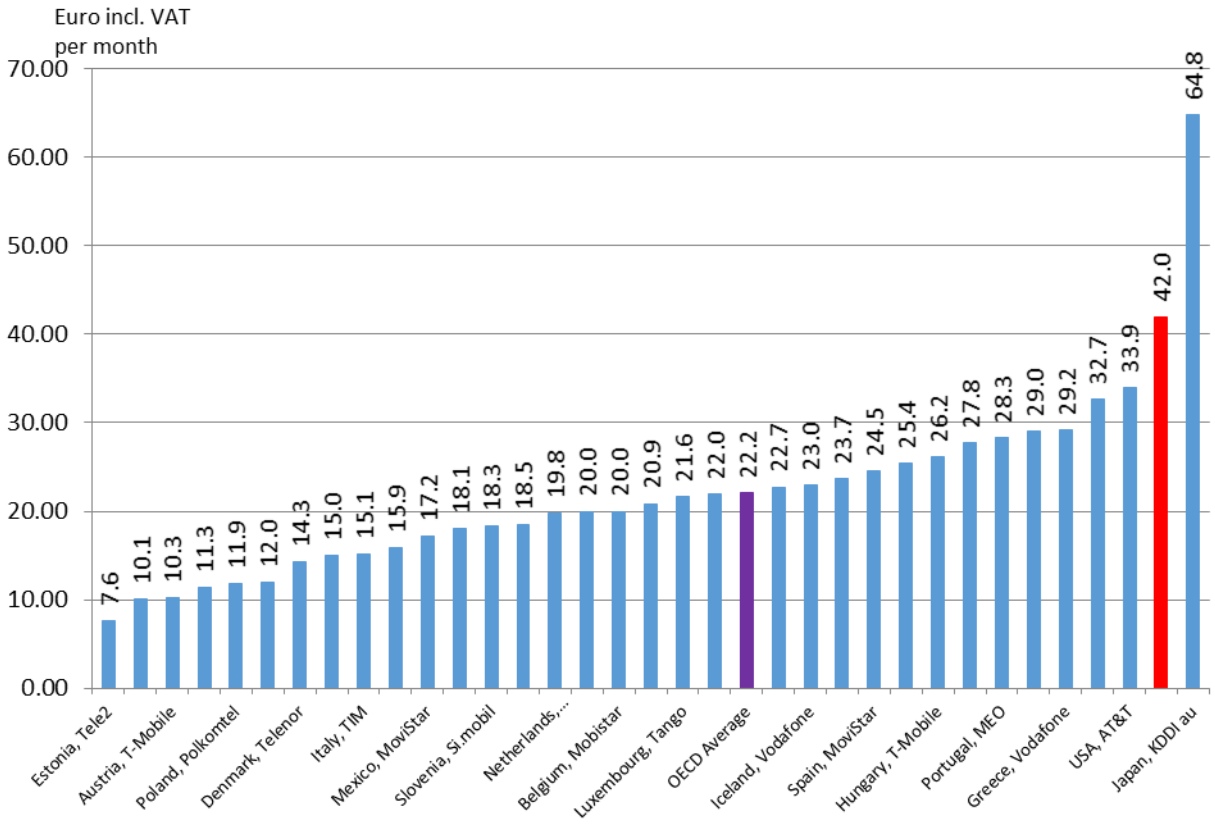
Despite the general price reductions in mobile telephony in Switzerland compared to other OECD countries, they are nevertheless still among the most expensive.

The Teligen price baskets published by Strategy Analytics and based on OECD's methods, which take into account the cheapest products marketed by the largest operators in each country, confirm this. For a basket including mobile voice only (100 calls), in mid-2014, a

medium user in Switzerland paid almost double the average price in the OECD countries (€ 32 compared to € 17). Although the bill of a high user (basket including 900 calls) fell slightly in Switzerland between 2013 and 2014, from € 45 to € 42, a Swiss user still paid € 7 more than the average for the OECD countries, where the cost for this Teligen basket has fallen from € 40 to € 35.

For an average basket including voice and data, a medium user in Switzerland (100 calls and 500 MB of data) paid € 20 more than the average for the OECD countries (€ 42 compared to € 22) and Switzerland is ranked next to last (cf. Fig. 5). The price which a high user (900 calls and 2 GB of data) pays also fell less in Switzerland than in the other OECD countries. The gap even widened between 2013 and 2014 and here too a Swiss consumer paid € 7 more than the average for the OECD countries (€ 49 compared to € 42).

Fig. 5: OECD Mobile Voice + Data basket, 100 calls + 500 MB
(Euro including VAT), lowest cost package by country, August 2014



Sources : Results from Teligen Price Benchmarking System. Copyright Strategy Analytics, UK

2. Evolution of fixed networks

The number of telephone connections on the fixed networks has been falling constantly for 10 years (-28% between 2004 and 2013). The continuous growth of mobile telephony is the cause, especially since the advent of the smartphone. The fall in the number of fixed telephony connections has in fact accelerated, of the order of 5% per annum since 2009, whereas it was on average 1 to 2% per annum in the early 2000s.

Likewise, the total number of calls made on the fixed network fell by 7.2%, and the total duration of calls made from the fixed network fell by 3.3% in 2013.

On the other hand there was considerable growth in voice telephony via VoIP on the fixed network. According to the official telecommunications statistics for 2013 published by OFCOM, the number of customers accessing telephony services on fixed networks from a VoIP access provided by the telecommunications service provider (DSL, cable, etc.) increased by 4.8% in 2013, amounting to 785,349 at the end of the year.

Though fixed telephony prices in Switzerland had risen very slightly in 2013, they increased considerably in 2014, though with variations according to the user profile. According to an OFCOM study of retail prices for fixed telephony services in 2014, the index for the cheapest offerings increased only very slightly, by 0.5% for a medium user, who benefits from the positioning of the contract products from operators in this niche market. On the other hand, the increase was 4.8% for low users and 5.1% for high users in 2014.

In an international comparison, fixed telephony prices in Switzerland are around the average for the OECD countries.

The distribution of fixed network market shares has changed little in recent years. Swisscom’s market share of almost 70% remains high, though it lost at the same time some 101,000 customers during 2014. Sunrise also lost customers and its market share continues to fall: serving less than 11% of users at the end of 2014, Sunrise is no longer Swisscom’s main competitor in this market segment.

For their part, the cable operators continue to make progress in fixed telephony, but at a slower rate than in previous years. Having acquired nearly 90,000 customers in 2012 and almost 69,000 customers in 2013, they gained only 23,300 customers during 2014 (+3.6% compared to the end of 2013). At the end of 2014, upc cablecom, the leading provider of cable telephony services, had 468,700 telephone subscribers and its market share reached 13%. The numerous other providers have marginal shares of the market.

It should be noted that rebilling for the subscriber connection by alternative operators, rather than Swisscom, continued to fall considerably, from 73,058 connections at the end of 2013 to 61,135 at the end of 2014, i.e. a drop of the order of 16%. This reduction – like the fall in the number of automatic carrier preselections (- 49,700 during 2014; see p. 29) – is explained by the increase in migrations of customers to the cable operators and the gains made by bundled offerings including VoIP telephony.

Because of technological developments and progressive migration towards IP telephony, the fixed network retains its importance and will not be replaced by the mobile network.

As data transfer on the fixed network in Switzerland doubles approximately every 16 months, it is therefore imperative that investment in very high-speed infrastructures continues.

The growth of the market for digital TV on DSL lines or the modernisation of networks and the roll-out of optical fibre also indicate a complementarity between fixed and mobile networks.

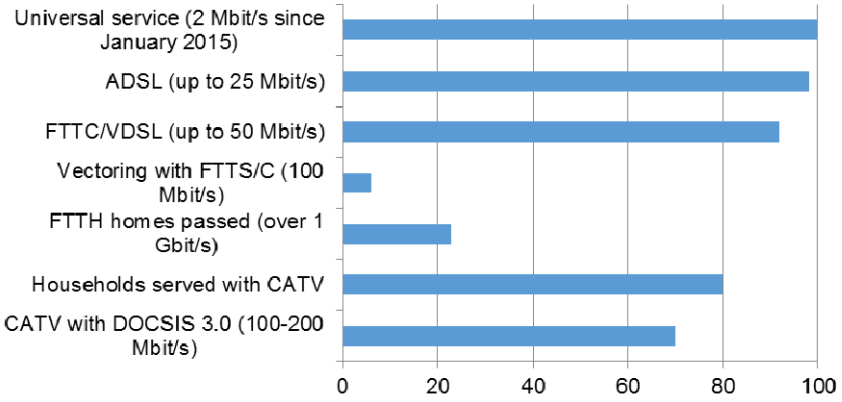
Thus in addition to the three mobile communications networks, Switzerland has several "backbone" networks and high-quality national networks. Swisscom's access network (2,778,000 connections at the end of 2014) covers the whole of the territory. Several cable television networks are also well established and offer subscriber connections, although with the exception of upc cablecom, most of these networks offer broadband and telephony services on a very localised basis.

Broadband on the fixed network

Thanks to the substantial investments approved for broadband development by the various players, Switzerland has very powerful high-speed telecommunications infrastructures (cf. Fig. 6).

Competition on infrastructures and services not only offers greater choice to consumers but also benefits the economy as a whole and the information society in Switzerland.

Fig. 6: Broadband access in Switzerland
in % of Swiss households

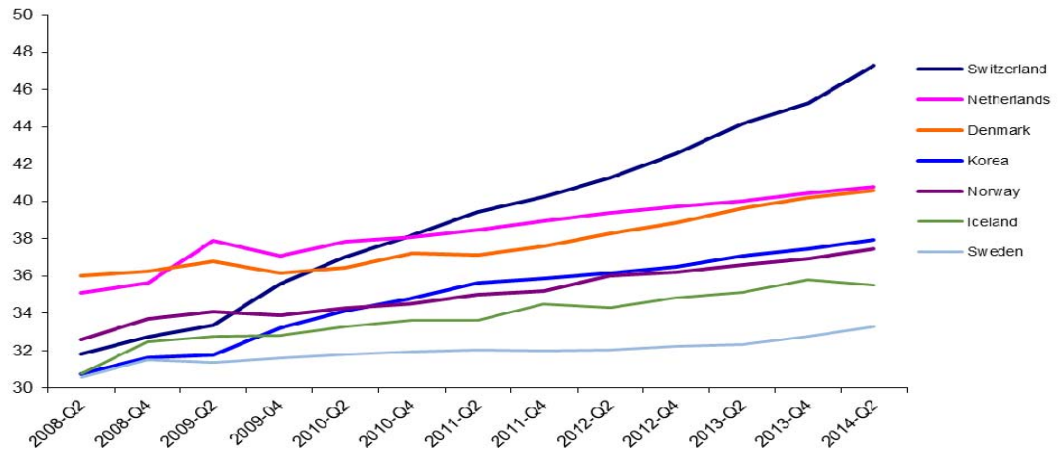


Sources: operators, Swisscable

For several years, therefore, Switzerland has been at the forefront in terms of high-speed access. Switzerland, one of the world leaders in terms of broadband penetration, has in fact recorded the highest growth for almost 3 years (+7% between 2013 and 2014).

With 47.3% of the population enjoying broadband internet access in mid-2014, Switzerland has improved its position at the top of the ranking of OECD countries (cf. Fig. 7), now outstripping the Netherlands (40.8%) and Denmark (40.6%). In the same period, the average for the OECD countries was 27.4% and the figure for the EU countries was 30.9%.

Fig. 7: Broadband penetration in OECD countries, June 2014 (per 100 inhabitants)



Source: OECD

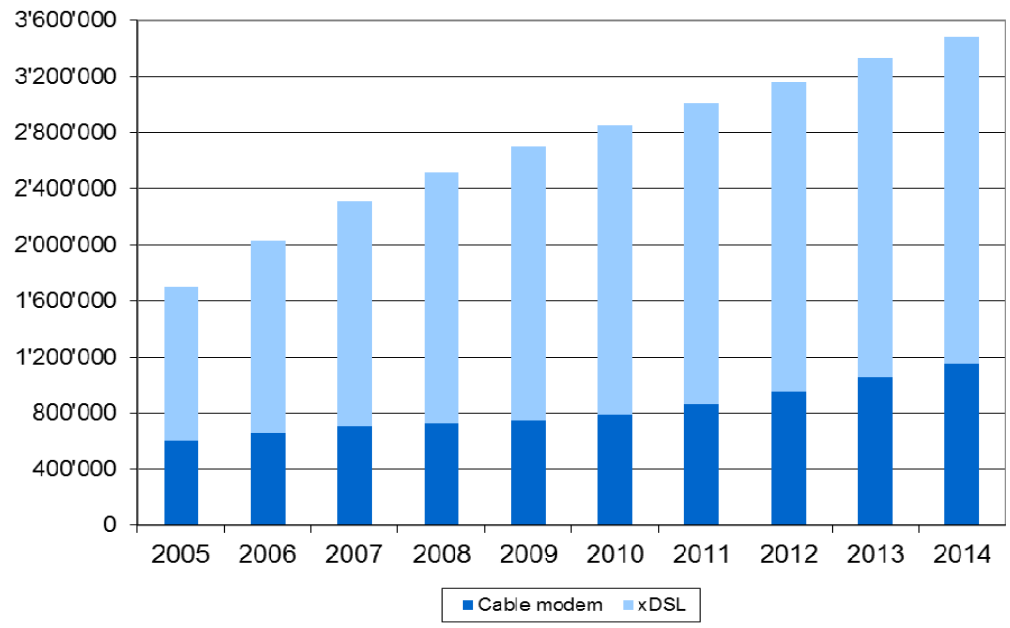
Switzerland has good broadband access and Swiss surfers are also enjoying higher and higher speeds. In an international comparison, Switzerland is therefore among the best connected countries. According to a study published at the beginning of January 2015 by Akamai Technologies (The State of Internet, 3rd Quarter 2014), in autumn 2014 some 93% of Swiss internet users had an internet connection faster than 4 Mbit/s (compared to 90% at the end of 2013); the worldwide average was 60%. Switzerland is therefore ranked 4th in this global table, with average speeds of approximately 14.5 Mbit/s, whereas the average connection speed worldwide is only 4.5 Mbit/s. It is also worth noting the very substantial increase in very high-speed connections: 54% of broadband connections in Switzerland are at least equivalent to 10 Mbit/s (compared to 39% in 2013, up 39%). Thirty percent of Swiss internet users even have a broadband connection of at least 15 Mbit/s (up 61%).

According to another study on retail prices of broadband services published by OFCOM, the increase in speeds has been accompanied by a very large reduction in prices in 2014. Thus the costs incurred by a medium user for broadband services fell by 18% between 2013 and 2014. For high users, this reduction was over 28%, whilst it was 7.6% for low users.

In Switzerland, the growth rate in the broadband access market was only slightly less in 2014 than in previous years. So the number of broadband connections grew by 4.4% in 2014 (compared to 5.5% in 2013, 5.1% in 2012 and 5.4% in 2011).

DSL access technology via a telephone line is still far ahead of cable for internet access: 67% of surfers therefore opted for DSL from a telecommunications provider (2,332,000 connections) and 33% for cable (1,150,000 connections), at the end of 2014 (cf. Fig. 8).

Fig. 8: Broadband access. xDSL vs. cable modem

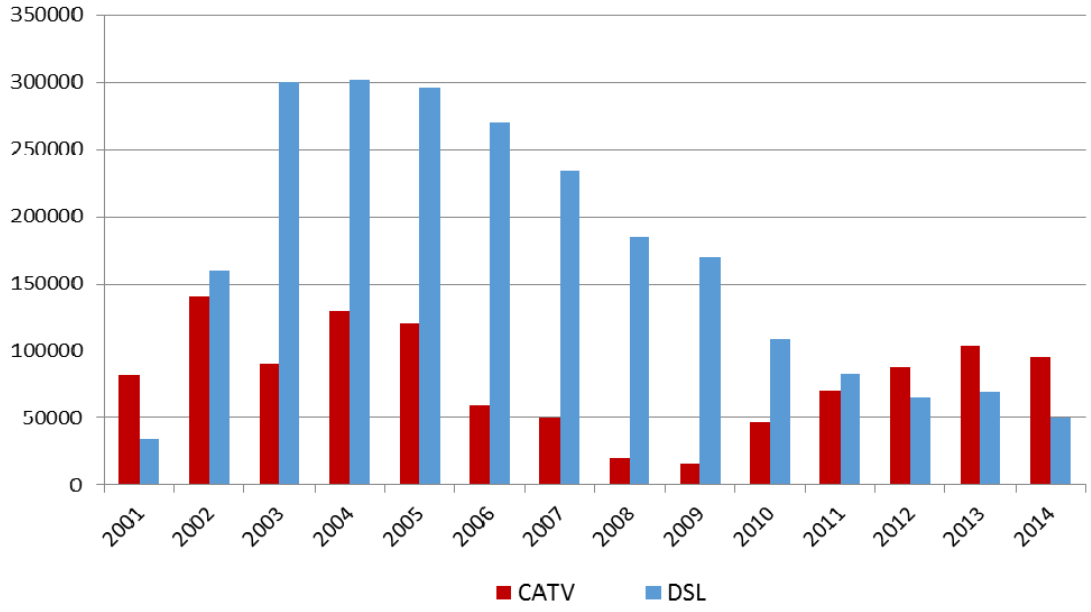


Sources: Swisscom, Swisscable

The number of new customers acquired by all internet service providers combined (CATV and DSL) in the year 2014 was 145,200 (compared to 173,300 in 2013), giving a total of 3,482,000 broadband connections in Switzerland.

For several years now, the cable operators have acquired more new customers than the providers of DSL services. In 2014, they again recruited 95,200 new internet customers, while the DSL providers acquired 50,000 (cf. Fig. 9).

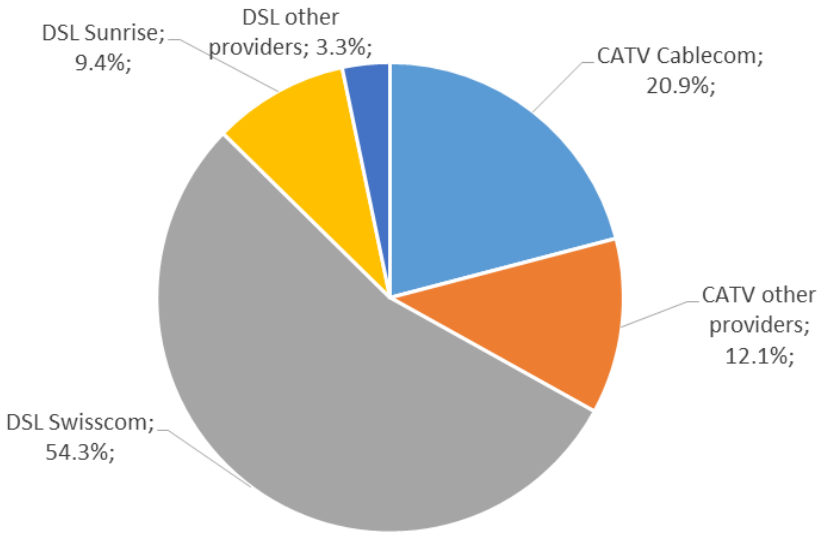
Fig. 9: Broadband market in Switzerland. New custumers per year by technologie, 2001-2014



Sources: Swisscom, Swisscable

Considering the entirety of high-speed internet service providers (CATV and DSL), the distribution of market shares still favours Swisscom (cf. Fig. 10). With a market share of 54.3% at the end of 2014, Swisscom is far ahead of its main competitors.

Fig. 10: Market shares of broadband connections in Switzerland, End of 2014

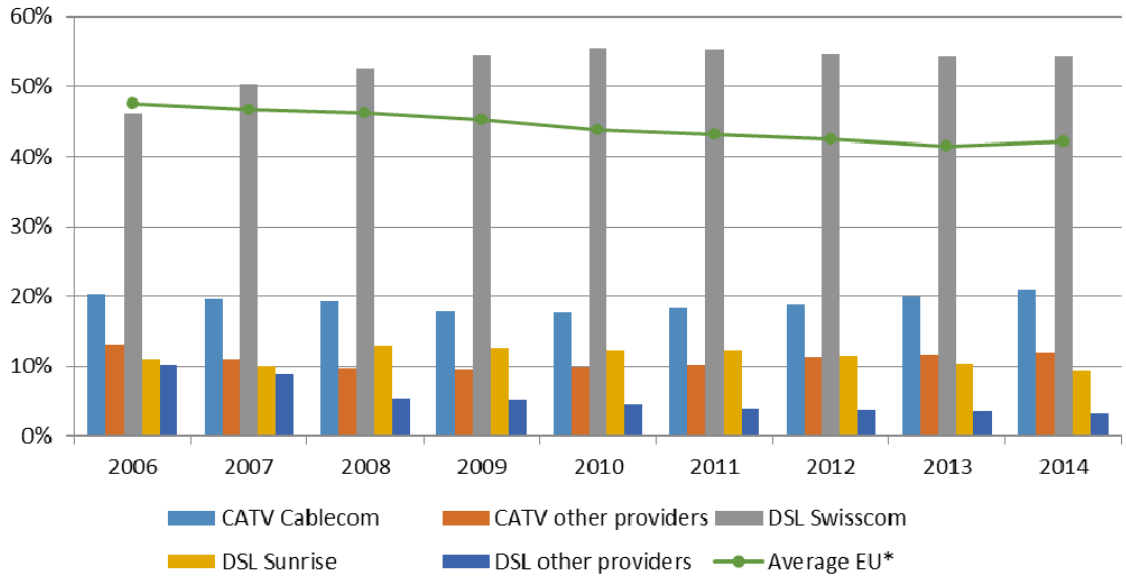


Sources: operators, Swisscable

The share of all the alternative DSL providers was down to 12.7%, compared to 14.1% at the end of 2013, including 9.4% for Sunrise. For the cable operators, upc cablecom's market share was 20.9% and that of the other CATV providers was 12.1%.

By way of comparison, the average market share of the historic operators in the European Union was around 42% in July 2014 (cf. Fig. 11).

Fig. 11: Market shares of broadband connections in Switzerland and in the EU, 2006-2014
* European Average of incumbent's market share of broadband lines



Sources: Operators, EU Commission

Considering just the DSL market alone, including unbundled lines, there has been an overall increase of 50,000 customers (compared to 69,000 customers between 2012 and 2013), i.e. an increase of 2.2% between and 2013 and 2014.

Swisscom is the only provider to record an increase in the number of customers, with growth of the order of 79,000 new customers during 2014. With 1,890,000 broadband connections, its market share is still growing and went from 79.4% at the end of 2013 to 81.0% of DSL lines at the end of 2014.

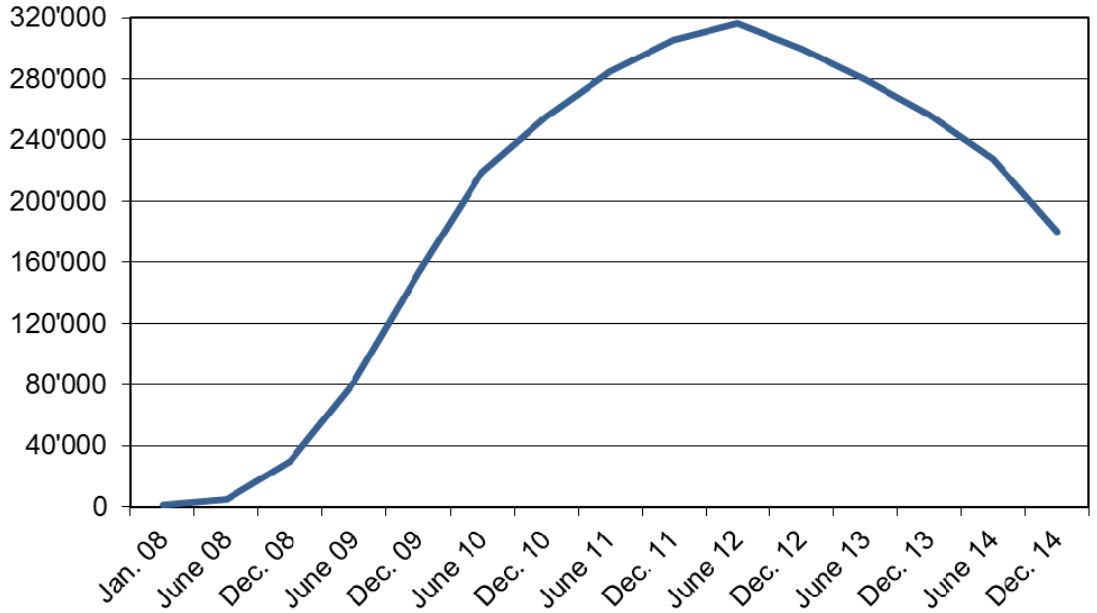
Sunrise, for its part, lost 19,000 customers over the same period. With 327,000 broadband customers, Sunrise's market share lost more than one percentage point and was 14.1% at the end of 2014 (compared to 15.2% in 2013). The operator recorded growth in the number of subscribers to its Sunrise TV offering (32,800 in 2014), launched at the beginning of 2012, but lost many unbundled customers. The number of unbundled customers fell by 67,000 from 211,000 at the end of 2013 to144,000 at the end of 2014.

The other operators who resell DSL services, who lost 24,900 customers between 2010 and 2012, lost some 9800 customers in 2014 whereas in 2013 they had gained 6000 customers. Their market share continued to fall, to 3.3% at the end of 2014 compared to 3.7% at the end of 2013.

Finally, unbundling suffered a very big fall for the second consecutive year. After having already lost 43,000 units in 2013, another 76,000 unbundled connections disappeared in 2014. The

number of unbundled lines, which reached 256,444 units at the end of 2013, amounted to no more than 180,160 at the end of 2014 (cf. Fig. 12).

Fig. 12: Unbundling progress in Switzerland, Dec. 2014



Source: Swisscom

On the one hand, the development of digital television on the fixed network partly explains this decline. ADSL technology is in fact insufficient for offering a high-quality TV product, especially in HD quality, via the telephone network. In Switzerland it is not possible to use VDSL technology on an unbundled line where only ADSL technology is available. In order to be able to offer television to their customers, the alternative providers are therefore obliged to request Swisscom's commercial resale offering for VDSL, which is not regulated in Switzerland.

Sunrise, which had undertaken by far the majority of all the unbundlings in Switzerland in recent years, concluded a deal worth CHF 74 million with Swisscom which gives it access to the Swisscom network and enables it to offer high-speed products and digital television throughout Switzerland with the most powerful technology.

Furthermore, the growing interest of customers for bundled offerings, combining telephony, internet and digital TV, disadvantages unbundling, which is no longer appropriate.

Finally, the products from the cable network operators and the increasing use of fibre connections are further strengthening competition at the level of infrastructures.

At the end of 2014, fully unbundled lines (full access) accounted for only 7.7% of all DSL lines and 5.2% of all broadband lines including CATV connections.

Rapid advance of very high-speed networks

Although Switzerland is in the lead in terms of broadband connections by DSL and CATV on the fixed networks, the demand for very high-speed connections using fibre is also increasing. At the end of 2013, Switzerland was for the first time ranked among the world leaders by the FTTH

Council Europe, which takes into account countries having at least 1% of homes connected to fibre.

With approximately 74,000 subscribers who are already using an optical fibre connection, i.e. 2% of households, Switzerland has seen considerable progress in the number of fibre users, of the order of 235% for 2013. By at the end of 2014, the penetration rate increased to 3.5%, i.e. approximately 130,000 subscribers. Switzerland is still certainly far behind the Asian countries (Hong Kong, South Korea, Japan) or some European countries like Lithuania (34%) or Sweden (26%), but this progress is very encouraging.

The roll-out of very high-speed networks, moreover, continued to make very rapid progress in Switzerland in 2014.

At the end of 2014, Swisscom and its co-operation partners had connected more than 920,000 households and businesses to optical fibre at least to the basement (fibre to the home, FTTH). This represents 26% of households (homes passed). Since 2013, Swisscom has also relied on a mix of technologies which makes it possible to exploit and appreciably increase the bandwidths of the existing copper lines.

The conjunction of two technological innovations makes it possible to attain bandwidths of several hundred Mbit/s and to bring very high speeds to a larger number of homes in Switzerland. The first innovation is vectorisation, which eliminates interference between DSL lines and makes it possible for each line to operate at its maximum speed, as much as doubling its previous capacity. The second innovation is G.fast technology, a standard validated by the ITU at the beginning of December 2014, which makes it possible to achieve speeds in the Gbit/s range on copper lines over short distances.

According to Swisscom, more than 1.4 million households and businesses had high-speed connections at the end of 2014. More than one third (34%) of Swiss households are therefore connected to optical fibre as far as the basement or at least close to the building. Swisscom will continue its investments in order to increase the number of homes and businesses with high-speed connections to 2.3 million by the end of 2015, with the goal of reaching 85% of homes and businesses by 2020.

The milestones defined by the FTTH round table jointly organised by ComCom and OFCOM between 2008 and 2012 continue to be passed. The expansion of the fibre networks is taking place in a coordinated manner, generally in the form of cooperation, thereby avoiding multiple optical fibre networks being installed in parallel. In addition, the multifibre model which took root following the round table discussions makes it possible for each investor to have its own optical fibre. It also allows the other providers to access the fibre network, and the consumers continue to be able to freely choose their telecommunications provider.

Where a cooperation agreement was not possible, Swisscom is investing on its own: this is the case in approximately thirty localities. Elsewhere, many cooperation agreements have been concluded between Swisscom and various municipalities or municipal utilities, in particular in the majority of the big cities such as Basle, Bellinzona, Berne, Lucerne, Geneva, etc.

The roll-out of fibre is not restricted to the major conurbations. In fact there are many projects in rural areas, on a regional scale, as in the Valais or within a canton such as Fribourg, with ftth fr, a joint venture uniting Groupe E, the State of Fribourg, Gruyère Energy and IB Murten.

Several providers offer services on the optical fibre networks of the utilities. Sunrise, for its part, concluded cooperation agreements with the utilities of several cities such as Zurich, Berne, Geneva or Basle and continues to develop its fibre offering in other towns.

This competition situation was further strengthened in 2013 with the arrival of Swiss Fibre Net (SFN) as a new market player. This entity, which brings together several municipal utilities as well as other partners, such as ftth fr, will make it possible to provide a fibre connection to more than 650,000 households. Via the common platform called ALEX, the development of which began within the framework of ComCom's round table, Swiss Fibre Net offers standardised fibre products to service providers throughout Switzerland.

The competition in the high-speed market on fixed networks is all the more intense as it is still necessary to take into account the presence of the CATV operators. In addition, the latter continue to invest in the modernisation of their networks, by gradually equipping all connections with DOCSIS 3.0 and soon DOCSIS 3.1. The majority of Swiss households with a CATV connection are therefore enjoying very high-speed broadband, with bandwidths up to 1 Gbit/s.

3. Outlook

In the future too, in the interests of the economy and consumers, ComCom's goals are to guarantee consumers a good universal service, to promote competition in the telecoms market and ensure efficient use of the frequency spectrum. ComCom is also committed to ensuring an investment-friendly environment and to promoting technological innovation in the telecommunications market.

In 2015, ComCom will be focussing on the following activities:

- **Access procedures:** The access procedures which are already pending will be expedited. 2015 will be characterised by the “Interconnect Peering” procedure, as well as the first-time implementation of the new regulations on price calculation methodology and the switch to fibre technology as a “modern equivalent asset" (MEA) (cf. the details below).

- **Number porting:** In 2015 ComCom will also address the question of how the time taken to port an existing telephone number to a new provider can be shortened.

- **The "digital dividend II" frequencies (694-790 MHz)**: The World Radiocommunication Conference (WRC) will take place in Geneva in November 2015. It is expected that a decision will be taken at this conference to reserve frequencies in the 700 MHz band primarily for use with mobile radio services. After the WRC, ComCom will decide how and when these frequencies might be assigned. It is a pre-condition for the interference-free use of these frequencies with mobile radio services that these frequencies are no longer used with DVB-T in Switzerland and in neighbouring countries.

- **Revision of the Telecommunications Act (TCA):** In autumn, the Federal Council published the 2014 Telecommunications Report. ComCom welcomes the Federal Council's intention, mentioned in the report, to initiate "a revision of the TCA during the current legislative period" along with the proposed phased implementation. In 2015, ComCom will reflect in greater detail on the areas in which, in its opinion, a revision of the legislation is particularly important.

- **International:** Together with OFCOM, ComCom monitors regulatory practice in other European countries. For this purpose, it participates in meetings of BEREC and is actively engaged in the European Independent Regulators Group (IRG). At the end of 2014, ComCom's president was chosen as the Vice Chairman of the IRG, so Marc Furrer is also taking a seat on the board of BEREC/IRG. In February 2015 ComCom, in conjunction with OFCOM, held a plenary session of BEREC and the IRG in Bern. In the autumn of 2015 the annual convention of the francophone regulatory authorities (FRATEL) is also scheduled to take place in Switzerland.

II. Commission and Secretariat

ComCom is an independent extraparliamentary commission with decision-making powers responsible for awarding licences and for regulation of the telecommunications market. It consists of seven members, all independent specialists, appointed by the Federal Council.

In 2014, the Commission consisted of the following members:

- **Marc Furrer, President,** Lawyer and notary
- **Dr. Monica Duca Widmer, Deputy President,** Dr. dipl. Chem. Ing. ETH, Ticino entrepreneur
- **Dr. Andreas Bühlmann,** Dr. rer. pol. Head of the Finance Office, Canton of Solothurn
- **Dr. Adrienne Corboud Fumagalli,** Dr. rer. pol. Vice President for Innovation and Technology Transfer, Swiss Federal Institute of Technology, Lausanne (EPFL)
- **Dr. Reiner Eichenberger,** Doctor of Economics, Professor of Economics at the University of Fribourg
- **Jean-Pierre Hubaux,** Electrical engineer, Professor at the Swiss Federal Institute of Technology, Lausanne (EPFL)
- **Dr. Stephan Netzle,** Doctor of Law, LL.M. Lawyer

The commission usually meets almost every month. Members also spend a significant amount of time on preparations for meetings and work by circulation. In 2014, it also met for an internal two-day training seminar, focussing on developments and evolution in telecommunication and information technologies.

The Commission is assisted by a secretariat, which is responsible for coordinating cases, organising Commission activities and carrying out communication tasks. The secretariat comprises three part-time employees who fill 2.4 posts (full-time equivalents).

III. Activities of the Commission

ComCom's activities are based on the Aim clause of the Telecommunications Act (Art. 1 TCA): The purpose of the Act is the reliable provision of diverse, affordable and high-quality telecommunications services to the population and the economy. In addition to ensuring the universal service (basic offering of telecommunications services) throughout Switzerland, this objective is to be achieved through effective competition.

According to the Telecommunications Act, ComCom's main tasks are:

- awarding licences for the use of the radio frequency spectrum (Art. 24a TCA),
- awarding the universal service licence (Art. 14 TCA),
- setting access prices and conditions if the providers cannot reach an agreement among themselves (Art. 11 and 11a TCA),
- the approval of the national numbering plans (Art. 28 TCA),
- the regulation of number portability and freedom of choice of service provider (Art. 28 TCA),
- decisions on measures and imposing sanctions in the event of infringement of the applicable law in the context of a licence awarded by ComCom (Art. 58 TCA).

As the independent Swiss licensing and regulatory authority in the telecommunications sector, ComCom is not subject in its decisions to any instructions from the Federal Council or the Department. In carrying out its duties, ComCom cooperates closely with OFCOM. On behalf of the Commission, OFCOM, with its specialist services, independently prepares most of the Commission's cases and then submits the cases to ComCom for a decision. The decisions of the Commission are implemented by its secretariat or by OFCOM.

The following sections provide an overview of ComCom's activities in 2014.

1. Access procedures

Since April 2007, the law (Art. 11 TCA) has provided for the following variants for accessing the infrastructure and services of a dominant provider:

1. fully unbundled access to the local loop,
2. fast bitstream access (for four years),
3. rebilling for fixed network local loop,
4. interconnection,
5. leased lines,
6. access to cable ducts, provided these have sufficient capacity.

At the beginning of 2014 an access procedure concerning interconnect peering was pending at ComCom. In the course of 2014 different companies submitted five new access applications which - apart from bitstream access - relate to all forms of network access listed in Article 11 of the TCA.

Objections to ComCom decisions can be lodged with the Federal Administrative Court. Since January 2014, an objection has been pending with the Court against ComCom's decision of 18 December 2013 concerning the 2012/2013 prices for interconnection, unbundled access,

access to cable ducts and billing of subscriber connections. Judgement is still awaited as of the end of 2014.

1.1. Developments in the calculation of access prices

With regard to regulated access prices, 2014 was primarily marked by adjustments by the Federal Council to the calculation methodology in the Ordinance on Telecommunication Services (OTS) and by a change in technology introduced by ComCom.

The Telecommunications Act (TCA) stipulates that a market-dominant provider must offer the forms of access listed in Article 11 at cost-based prices.

If an application for price fixing has been made, ComCom calculates it using the "Long Run Incremental Cost" (LRIC) method, which was defined by the Federal Council in Article 54 of the TSO.

The price calculation takes into account those costs which a new competitor would have to bear if they were to create a new network with modern technology – modern equivalent assets (MEA). In the Ordinance, the Federal Council has explicitly provided for the evaluation of the network at modern equivalent assets, and not, as often requested, based on the historical costs of the dominant provider.

As relevant costs the LRIC method also takes into account a portion of overhead costs and the weighted average capital costs (WACC) which are customary in the industry. Capital costs include both the costs for external capital and the expected returns of equity investors.

Fibre technology as a modern equivalent asset

When calculating regulated interconnection and access prices using the LRIC method described briefly above, traditional switching technology and copper technology has been used to date as a "modern" established technology (MEA).

In this case, however, a technology switchover is currently taking place because an efficient provider would construct a new telecommunications network with modern switching technology and optical fibre. In future this technological change must be taken into account when determining prices. In July 2012 ComCom had already announced a deferral of one year in the switch to the new technology, i.e. to 2014, to wait for the result of the Federal Council's revision of the TCA. This MEA change announced for 2014 is now being applied within the framework of the current access procedures.

New provisions in the TSO

After a lengthy evaluation, the Federal Council decided in March 2014, as part of the revision of the TSO, on various adjustments to the methodology for calculating regulated access prices (cf. the Federal Council media release dated 14.3.2014 and additional material on the OFCOM website www.bakom.ch). The Federal Council too is of the opinion that today fibre must be considered as the modern established technology (Modern Equivalent Asset - MEA) which an operator would use to construct a new fixed network.

With regard to the price calculation by ComCom, the following innovations in the TSO are of particular significance:

- **Unbundling:** With regard to unbundling of subscriber lines, the Federal Council has set out clear guidelines on how the value of the currently regulated copper connection is to

be defined using a fibre network as a modern reference technology. The computation of this so-called performance delta is therefore essential for calculating the price of unbundling because the performance of fibre networks is higher than the old copper networks.

- **Cable ducts:** Here the Federal Council has decided on a completely new procedure. In the future, the price calculation will no longer be based on model costs, but on the actual costs for the long-term maintenance and development of cable ducts. Therefore, in this case ComCom will use the actual expenditure of the companies concerned for the price calculation.
- **Preventing price discrimination:** Providers must be allowed to use network infrastructures under conditions which are the same as those available to Swisscom. The Federal Council has defined this uncontested requirement for non-discrimination in greater detail in the TSO: Swisscom must offer access products which permit an efficient provider to offer products at competitive prices on the end user market.
- **Lower price limit:** A lower limit guarantees that the price for the unbundled subscriber line in all cases covers at least the short-term costs of its provision.
- **Phased implementation of the changes:** In the case of interconnection and leased lines, the TSO envisages a staggered transition to the new price calculation rules over three years.

1.2. Pending access procedures

As mentioned in the introduction, since 2014 five new access applications in relation to interconnection, unbundling, leased lines, cable ducts and subscriber line billing have been pending with ComCom; this is also to do with the revision of the Ordinance by the Federal Council. Also, one procedure on interconnect peering continues.

The investigation for the various procedures is being undertaken within OFCOM at full speed. The first-time application of the new provisions of the Ordinance in the current procedures considerably increases the time and personnel required.

Interconnect Peering

Finally, some information on the access procedures current since 2013 concerning “interconnect peering”: the Init7 (Switzerland) company applied to oblige Swisscom to grant it free-of-charge peering.

The background to this procedure is the conclusion of the peering agreement between the two parties and the change required by Swisscom from free-of-charge peering to paid peering.

In June 2013, ComCom requested the proposed precautionary measure. The provisional measure restored the old contractual relationship between the parties: This means that Init7 can use the existing data connections free of charge for the duration of the access procedure. For the duration of the procedure, this therefore ensures that Init7 suffers no disadvantage which would prove difficult to resolve afterwards. ComCom rejected the security requested by Swisscom. Swisscom's objection to this decision by ComCom was rejected by the Federal Administrative Court on 13 November 2013; the judgement was published on the internet (www.bvger.ch).

After the exchange of correspondence in 2014, a very extensive market survey was conducted by OFCOM and the Competition Commission (ComCo) was consulted regarding the question of market dominance.

2. Licences

In accordance with the Telecommunications Act (TCA), ComCom awards radio licences and the universal service licence.

ComCom has delegated to OFCOM the award of those radio licences which are not the subject of a public invitation to tender (e.g. licences for amateur radio operators or for professional mobile radio) and which are wholly or primarily intended for the broadcasting of access-authorised radio and television programme services.

The following overview deals only with those licences awarded by ComCom itself.

2.1. Universal service

The universal service includes a basic range of telecom services which must be offered throughout the country to all sections of the population in good quality and at an affordable price. The basic services should enable the population throughout the whole of Switzerland full social and economic participation.

The Federal Council periodically adapts the content of the universal service to social and economic requirements and to the state of technology. ComCom in turn is responsible together with OFCOM for tendering and awarding the universal service licence.

The universal service includes voice telephony, fax, landlines and broadband internet access. Furthermore, an adequate provision of telephone boxes and access to emergency services and subscriber directories must be guaranteed. There are additionally various special services (such as a transcription service and switching services) to facilitate communication for the hearing and visually impaired.

Since 2008, in addition to the normal telephone connection, the universal service has also included a broadband internet connection. The minimum transmission rate of this broadband connection was increased by the Federal Council to 2000/200 kbit/s as of 1 January 2015. The Federal Council set the upper price limit for this internet connection at CHF 55 per month (excl. VAT).

Universal service licence

The current universal service licence was awarded in 2008 and runs until the end of 2017. It has been held by Swisscom since it was first awarded in 2003. Swisscom again complied with the quality criteria laid down by the Federal Council in the reporting year, as the inspection of the quality of the universal service by OFCOM indicated.

The universal service, providing the population with high-quality and affordable basic offerings of telecom services, is therefore assured throughout Switzerland.

Public telephones

In an international comparison, Switzerland has a good provision of public telephones and call boxes. However, telephone boxes have been used less and less in recent years, since most residents and visitors have a mobile telephone.

With the award of the universal service licence, the minimum number of public telephones for each municipality was originally specified (taking the historical context into account). Consideration was given to the number of residents and the surface area of the municipality.

However, municipalities can also opt to do without public telephones. In the case of many rarely used public telephones, in recent years the competent municipalities together with Swisscom often came to the conclusion that a specific telephone was unnecessary.

If a municipality agrees to the removal of a pay phone, Swisscom applies to ComCom for its removal. In 2014 – as a result of waivers by municipalities – ComCom approved the removal of a total of 202 payphones; hence there were approximately as many public call boxes decommissioned as in 2013 (207), but distinctly fewer than in 2012 when 544 call boxes were removed. At the end of 2014, there were 3105 public telephones ('Publifons') in Switzerland which are part of the universal service.

Outside the universal service, Swisscom operates well over 1000 additional public telephones on a voluntary basis.

2.2. GSM licences

At the beginning of the liberalisation of the telecommunications market in 1998, ComCom awarded three GSM licences to Orange, Diax and Swisscom. As the result of a merger with Diax, Sunrise became a GSM licensee in 2000.

These three licences expired at the end of 2013. The GSM licences included frequencies in the 900 MHz and 1800 MHz range. During the auction of all mobile phone frequencies in February 2012, these frequency bands were then awarded to the three operators Orange, Sunrise and Swisscom for use from 2014 to 2028

However, the end of the GSM licences is not synonymous with the end of GSM technology: this highly successful mobile phone technology will continue to operate in parallel with UMTS and LTE provisionally for several years, primarily for telephone calls and services using smaller data volumes (e.g. SMS). Currently almost 100% of the population and approximately 90% of the land area are covered by GSM and EDGE.

2.3. UMTS licences

Four UMTS licences were auctioned in 2000. These licences will run until the end of 2016.

Currently, one UMTS licence is being used by Orange, Sunrise and Swisscom respectively. The unused fourth UMTS license was revoked from 3G Mobile in 2006. The frequencies released at that time were auctioned within the framework of the auction of all mobile radio frequencies in February 2012 and are now part of the technology-neutral mobile radio licences.

All three operators are complying with their licence conditions. According to information from operators, population coverage for UMTS services is up to 98%. Especially in rural areas where LTE coverage is more limited, the UMTS extension HSPA+ enables mobile broadband coverage at up to 42 Mbit/s.

2.4. Technology-neutral mobile radio licences

In February 2012, all mobile radio frequencies currently available in Switzerland were awarded anew. The frequencies in the 800 MHz, 900 MHz, 1800 MHz, 2100 MHz and 2600 MHz were auctioned. In June 2012, the new licences, with a term extending to 2028, were awarded. This gives mobile operators long-term planning security, because they know exactly which frequencies they can use until 2028.

All three mobile operators – Orange, Sunrise and Swisscom – acquired a much larger, future-proof frequency entitlement in the auction. This ensures that the operators have sufficient spectrum to meet the rapidly growing demand for mobile broadband services even in the long term.

Thanks to the technology-neutral assignment of the frequencies, the operators themselves can decide which technologies they wish to use in which frequency bands. LTE is currently the new technology in which all three mobile radio operators invested heavily after the auction. Just three years after the auction, the operators are achieving very high LTE coverage rates of 85-95% of the population.

Switch of frequencies in summer 2014

Because of the auction in 2012, some mobile radio frequencies were assigned to a different operator. This resulted in frequency refarming in the 900 MHz and 1800 MHz bands.

This necessary switching of mobile radio frequencies was accomplished by the operators in summer 2014, in close co-operation with OFCOM. The mobile radio providers were able to implement these exchanges as planned and without any incidents. Only at night-time during the restart of some network components were there isolated cases of local short-term loss of coverage.

3. Free choice of service provider

Free choice of provider is an important instrument which was introduced at the time of liberalisation of the market in order to stimulate competition. Consumers must be able to choose their provider freely, without any constraints.

In mobile telephony, consumers have a choice between three network operators and various providers which have entered into commercial partnerships with operators.

On the fixed network, in addition to Swisscom's traditional telephone connection, several telephony service providers and some cable operators offer a high-speed internet connection in addition to telephony services. Finally, the roll-out of fibre by the urban public services offers an additional choice to consumers via this third network infrastructure.

In order to make it as easy as possible to switch providers on the fixed telephone network, manual selection of the provider for each call (carrier selection call-by-call) and automatic preselection (carrier pre-selection) were introduced in 1999.

Although carrier preselection initially made a large contribution to stimulating competition, reaching 1.37 million connections in 2002, corresponding to one third of all connections, this number has since fallen continuously. At the end of 2014, it was 230,353, i.e. a fall of 49,703 preselections over one year. Thus in 2014, preselection affected hardly more than 8% of

connections. The net decline in the number of connections with carrier preselection is due to the fact that customers are opting for cable networks or bundled products including VoIP telephony.

Consumer protection

To provide consumers with better protection against an unwanted change of provider, in 2007 ComCom strengthened the practical steps for automatic preselection (annex 2 of the ComCom ordinance). Preselection orders placed by telephone must, for example, be recorded and verified by a recognised third-party organisation (Third Party Verification). When registering, customers must in no case be influenced and must give their explicit consent to the oral conclusion of the contract. The entire sales conversation preceding the actual preselection application must also be recorded. In the event of a dispute, the customer can request this recording.

ComCom is also delighted at the easing of certain conditions concerning cancellation of contracts implemented by the operators in 2014.

The term of contracts and the cancellation periods are in fact governed by the providers' general terms and conditions. If the customer has entered into a contract for a minimum period of 12 or 24 months including a mobile device, they cannot in principle terminate it without an additional charge (a one-off fee or the remaining contract period) before the end of the contract.

However, whilst Swisscom had ceased the practice in 2011, Sunrise and Orange have also put an end to the practice of tacit extension for one year of the contract. At the end of its initial term the contract can now be terminated each month within a period of one or two months depending on the operator. In spring 2014, Sunrise even launched new mobile contracts without a minimum term which can be cancelled from month to month.

In addition, customers now also have the option of terminating their contract at no additional cost in the event of a unilateral change by their operator deemed to be unfavourable to a term of the contract, such as price, speed, etc.

4. Number portability

Since 2000, it has been possible to transfer one's telephone number when changing operator.

According to the Teldas company, which operates the central database on portability in Switzerland, some 230,000 numbers were transferred in the mobile network during 2014, which is barely 2% of mobile users. There was also a considerable increase (+30% compared to 2013) in numbers ported in the contract segment.

On the fixed network, the number is transferred only when the customer switches the connection operator, for example by choosing the cable network, a VoIP service provider or another operator within the unbundling framework. Some 120,000 numbers were transferred to another operator in 2014 (-13% compared to 2013), which represents approximately 3% of fixed subscribers’ connections.

Since 2002, fixed telephony operators have been able to offer geographical portability of numbers throughout Switzerland: if customers move house, they can therefore also take their telephone number to other dialling code areas, as long as their service provider offers this option.

IV. Finances

Regulators from various infrastructure sectors are administratively attached to the Federal Department of the Environment, Transport, Energy and Communications (DETEC). Together with the Federal Electricity Commission (ElCom), the Post Commission (PostCom), the Railways Arbitration Commission (RACO) and the Independent Complaints Authority for Radio and Television (UBI), in 2012 ComCom became part of the "Infrastructure Regulation Authorities" (RegInfra) administrative unit. The DETEC General Secretariat provides services to the RegInfra unit in the administrative areas of logistics, information technology, human resources, translations, budgeting and accounting.

The independence of ComCom in its activities continues to be guaranteed. Naturally, a very close practical cooperation continues to exist with OFCOM, which prepares most of ComCom's cases and produces propositions for legal decisions. If one wishes to represent the revenue and expenditure of the telecoms regulator as a whole, the costs and revenues of OFCOM must also be included.

OFCOM's expenditure within the framework of its various activities for ComCom amounted to a total of CHF 3.2 million in 2014. Within the framework of procedures before ComCom, OFCOM received administrative fees amounting to CHF 0.23 million.

The expenditure of the Commission and its administrative secretariat were the same in 2014 as in the previous year. They again amounted to CHF 1.32 million (more detailed information is published in the estimates and governmental accounts of the Confederation; cf. www.efv.admin.ch).

Annual fees for the use of radio licences, issued by ComCom, also resulted in additional revenue for the Federal Treasury. Because of the expired GSM licences, the revenue from licence fees fell from CHF 12.7 million in 2013 to CHF 1.2 million for the reporting year.

Table 1: **OFCOM costs and revenues on behalf of ComCom in 2014**

Product	Cost [in CHF]	Administrative fees received [in CHF]	Cost coverage ratio [in %]
General regulatory principles	1,934,119	0	0
Universal service	591,756	211,340	36
Access procedures	666,910	5,040	1
Radiocommunication licences: tender procedure and award	442		0
Supervisory measures	10,422	13,100	126
Total	**3,203,649**	**229,480**	**7**

Abbreviations

ADSL = Asymmetric Digital Subscriber Line
BEREC = Body of European Regulators for Electronic Communications
CATV = Cable Television
COMCO = Competition Commission
ComCom = Federal Communications Commission
DETEC = Federal Department of the Environment, Transport, Energy and Communications
DVB-H = Digital Video Broadcasting for Handheld Terminals
EDGE = Enhanced Data rates for GSM Evolution (GSM Technology)
FAC = Federal Administrative Court
FDD = Frequency Division Duplex (two radio channels are used for one connection)
FTTB = Fibre to the Building
FTTC = Fibre to the Cabinet
FTTH = Fibre to the Home
FTTS = Fibre to the Street
GPRS = General Packet Radio Services (GSM technology)
GSM = Global System for Mobile Communications (standard for second-generation mobile radio networks)
HDTV = High-definition television
HSDPA = High Speed Downlink Packet Access (UMTS technology)
IC = Interconnection
IP = Internet Protocol
IPTV = Internet Protocol Television
ISP = Internet Service Provider
LRIC = Long Run Incremental Costs (model for calculation of interconnection prices)
LTE = Long Term Evolution (standard for fourth-generation mobile networks/3.9G standard)
LTE-A = LTE-Advanced (Standard for fourth-generation mobile radio networks)
MEA = Modern Equivalent Asset
MMS = Multimedia Messaging System
NGA = Next Generation Access Network
OFCOM = Federal Office of Communications
PSTN = Public Switched Telephone Network (traditional telephone network)
RTVA = Radio and Television Act (SR 784.40)
SMS = Short Message System
TCA = Telecommunications Act (SR 784.10)
TDD = Time Division Duplex (bidirectional communication via only one radio channel)
TSO = Telecommunications Services Ordinance (SR 784.101.1)
UMTS = Universal Mobile Telecommunications System (standard for third-generation mobile radio networks)
VoD = Video on Demand
VoIP = Voice over IP
WACC = Weighted Average Cost of Capital
Wi-Fi = Wireless Fidelity