Activity Report 2009

by the Federal Communications Commission (ComCom)

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Preface of the President

Reading this annual report you will quickly realise that certain trends in the telecoms market continued in 2009: For example, Swisscom is maintaining its strong market position; indeed in some areas it is heading towards domination of the market. Competition between participants in the market is anything but dynamic. All this results in relatively high prices, but at the same time to a good quality of service and comprehensive provision extending right into the most remote valleys. From the consumer's viewpoint, this snapshot of the telecoms market may still be a satisfactory one – for the time being. But if this trend should continue, prices and innovation will no longer be determined by competition but by the unchallenged market leader, with its smaller competitors positioning themselves in niche markets.

In other words: Swisscom certainly cannot be blamed for the fact that it has such a strong position in the market. But it is also precisely in the company's interests for competition in the telecoms market to be lively. Only if it is challenged in tough competition can it show its genuine strengths. A "pseudo-market" does not benefit consumers or Swisscom and the other providers. The time has come for the legislature to reconsider the general conditions of competition and hence also the regulatory possibilities within the telecoms market.

To avoid this, ComCom remains vigilant, opts for fair access to the market in disputed cases and, as far as it is within its power to do so, actively promotes innovations which are important for Switzerland, such as the expansion of optical fibre in the fixed network or the new LTE broadband technology in mobile telephony. Modern, low-cost telecoms networks are actually the life blood of our economy.

Marc Furrer, President
June 2010

I. Summary and outlook

Switzerland is in the leading group worldwide in terms of information and communication technologies (ICT). In the “ICT Development Index” of the International Telecommunication Union (ITU), Switzerland is placed seventh, behind Sweden, Luxemburg, South Korea, Denmark, Holland and Iceland. Overall, Europe is the leading region of the world in terms of the continuing development of ICT infrastructures. Only two non-European countries (South Korea and Japan) are among the top-ten countries in the ITU index.

For Switzerland, with a service economy, it is of key importance that communication infrastructures are continuously evolving and brought up to the latest technological level.

2009 was an important year for the further development of infrastructures: the constantly increasing volume of data traffic on mobile networks clearly indicated that the mobile radio operators will be upgrading their networks in the medium term to the next mobile radio standard LTE (Long Term Evolution) and will have to dig deep into their pockets to do this.

In the fixed network, 2009 was characterised – apart from the favourable developments in unbundling – by reports of the successes of optical fibre networks to households (Fibre To The Home – FTTH). Here too, several billion Swiss francs will be invested over the next few years.

In 2009 a whole series of Swiss towns and some cantons decided to connect households and businesses in their municipalities via the local electricity provider, using fibre-optic cable. It is noteworthy that such projects are being announced not only by the large cities but also by smaller and peripheral municipalities.

ComCom seized the initiative as early as 2008 and set up a discussion and coordination platform for the industry in the form of the “FTTH Round Table”. In October 2009 the participants in the round table agreed on a number of important principles: to avoid the construction of parallel networks, network-construction must take place in a coordinated manner and multiple fibres will be laid. Moreover, all providers must have access under the same conditions and at different network levels to the optical fibre network. This will ensure competition and consumers can continue to choose their telecommunications provider freely. At the technical level, the industry also agreed on uniform standards for domestic installations and network access with services.

In order to coordinate the construction of fibre networks, in several localities partnerships were also set up between local electricity companies and Swisscom.

To maintain the attractiveness of Switzerland as business location sustained competition and internationally competitive prices are indispensable. However, the dynamic of competition in our country – this not at least because of Swisscom’s overall strong position – is rather weak. Furthermore, the prices for most telecommunication services are above the European average. Customers have to sustain therefore the highest per capita expenses for telecoms within Europe. The authorities often don’t have the possibility to stimulate competition on the wholesale level for lack of adequate regulatory instruments.

1. Essential revision of the Telecommunications Act

The consumer must also be king in the realm of telecommunications. In ComCom’s opinion, a partial revision of the Telecommunications Act (TCA) is therefore absolutely essential.

In the interests of consumers and competition there is a need for more customer-friendly contract terms and more flexible options in relation to switching providers.

The current model which features ex-post regulation has various weaknesses: ComCom cannot take action independently, but only at the request of a provider. When a provider effectively initiates a procedure, prices or access conditions can only be fixed retroactively, which may lead to undesirable uncertainties in the market and stifled investment.

Furthermore, the flexibility which is essential in a very dynamic technological environment is lacking. At present, the TCA defines precisely the six cases in which intervention in the market is permissible – and changes are possible only by means of protracted amendments to the legislation.

ComCom is in favour of the introduction of flexible regulatory instruments which would allow “official” intervention in the event of a failure of the market.

There is a need for an open, future-proof regulatory framework which can be applied to different technologies. Only a technologically-neutral formulation of the law would guarantee that flexible and timely intervention on the part of the regulator is possible if new monopolies or bottlenecks threaten competition when new technologies are introduced.

In the case of expansion of optical fibre, in ComCom’s view the market should be given a chance and interventions in the market should not be made for the time being. However, the legislature should at an early stage provide instruments so that if necessary, for example, access to the market for all providers is possible.

2. Outlook

The most important guideline for ComCom’s activity is the defining clause in the Telecommunications Act (Art. 1 TCA) which states that the purpose of the TCA “is to ensure that a range of cost-effective, high quality, and nationally and internationally competitive telecommunications services is available to private individuals and the business community." This is to be achieved in particular by means of a reliable, affordable universal service throughout Switzerland and by effective competition.

Through its decisions, ComCom seeks in the interest of consumers to promote sustainable competition between providers and the efficient utilisation of the frequency spectrum. Furthermore, it continues to strive to stimulate an investment-friendly environment and technological innovation in the telecommunications market.

The following are the major activities in 2010:

- **Award of licences:** Preparation of the coordinated re-allocation of all mobile radio frequencies which are free or which will become free at the end of 2013 or 2016 is being expedited. It is planned to launch the invitation to tender for the mobile radio frequencies during the course of 2010 and subsequently to award the frequencies by auction.
- **Round table on fibre to the home (FTTH):** After substantial results were achieved at the round table initiated by ComCom in autumn 2009, this process is to continue in 2010. The key task now is to implement the jointly agreed principles on the expansion of FTTH.
- **Internationally:** Together with OFCOM, ComCom is monitoring regulatory practice in the other European states. To this end it is taking part as an observer in meetings of the BEREC and is actively involved in the Independent European Regulators’ Group (IRG). In 2010 the president of ComCom was elected to the board of the IRG; this allows direct involvement in decisions relating to European telecoms policy.

3. The mobile telephony market

In Switzerland, mobile telephone coverage is almost complete – telephone calls can be made even throughout Alpine regions. GSM mobile telephony coverage in Switzerland is nearly 100% of the population and 90% of the national surface area.

Although there have been more mobile terminals than inhabitants in Switzerland since 2007, growth in customer numbers also continued unchecked in 2009. Many users have more than one mobile device with a mobile radio connection – e.g. notebook or smartphone for work – in addition to their mobile phone. The mobile phone penetration rate of about 116% at the end of 2009 positions Switzerland at the average European level.

Customer numbers continued to rise for all three operators of national GSM networks (cf. fig. 1). In 2009 a total of 346,000 new mobile customers were acquired. With 240,000 new customers, Swisscom accounted for almost 70% of this growth in customers. Swisscom was able to slightly increase its market share to 62.1% - which is high compared to other countries. In the EU, the average market share of the strongest player in the market is about 38%.

Sunrise was able to win 90,000 new customers in 2009 and also increased its market share slightly, to 20.6%. With only 16,000 new customers, Orange's market share fell by half a percent to 17.3%.

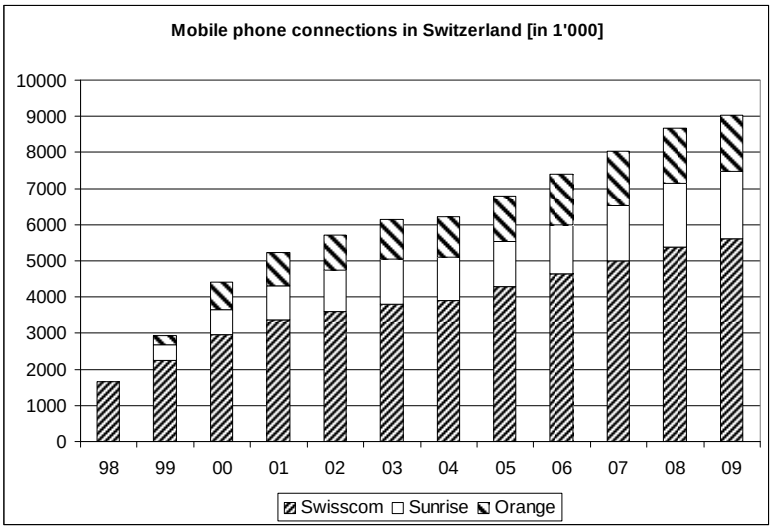

Fig. 1: Mobile phone connections in Switzerland [in 1000]
Sources: Swisscom, Sunrise, Orange

In terms of price trends in mobile telephony, an OFCOM study conducted in mid-2009 produced a mixed picture: whilst mobile customers with a contract paid somewhat less to make calls, the costs for pre-pay customers increased slightly between 2008 and 2009. However, pre-paid products offer considerable potential savings for people with low or average mobile use.

The lowest-priced pre-payment cards are the products from Yallo, Aldi, Lycamobile and Orange. For contracts, offerings from Sunrise and Mobilzone are the best value.

Finally, the costs for mobile telephony hardly changed between 2008 and 2009 (fig. 2). For mobile telephony, Switzerland continues to be an island of high prices.

In this context, mobile termination charges are one factor in the calculation of end-user prices. This charge for the use of another network is set between the operators. Mobile termination charges in Switzerland are the highest in the whole of Europe and are almost 60% above the European average. Today's *ex post* regulation, however, does not allow ComCom to intervene in the interest of customers.

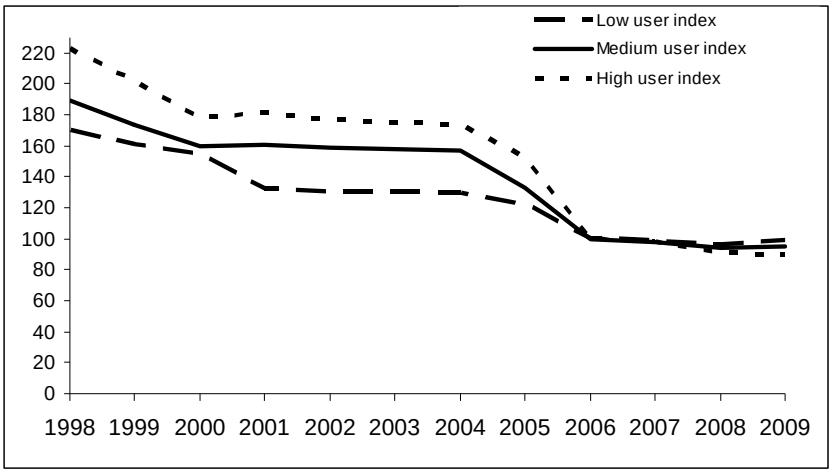

Fig. 2: Development of end-user prices on the Swiss mobile market
[index of costs according to user profile, 100 = 2006]
Source: OFCOM, Kosten der Mobilfunkdienste, Nov. 2009

Mobile data traffic takes off

In order to increase the attractiveness of mobile broadband access and to handle the steep increases in data volumes in this sector, all three national operators have invested heavily in modernising the mobile telephone networks in recent years. One the one hand, the area covered by the UMTS networks has been further extended. Population coverage for UMTS services is between 60% and more than 90%, depending on the provider.

On the other hand, the networks' transmission capacities are being continuously increased. To this end all operators have largely upgraded their UMTS network with HSPA technology. This allows transmission speeds of 3.6 to 7.2 Mbit/s (download) and up to 1.4 Mbit/s (upload).

Thanks to the combination of second- and third-generation mobile telephone technologies, operators can offer mobile internet access almost everywhere. Where HSPA is available, a mobile surfing experience close to the one provided by a current ADSL connection on the fixed network is possible.

Both data traffic in mobile telephony and revenue from mobile data services increased greatly for all operators in 2009.

As in the fixed network, convergence in the mobile network is an engine for development: More and more players and offerings from the internet, computing and the media are flooding into the mobile market. The telecoms industry for years sought a 'killer application' which would help mobile data traffic make a breakthrough. Significantly, this initial spark – "apps" for the iPhone – came from outside the telecoms industry. The applications are also provided by many small enterprises and individuals, as it is also the case for the social networks on the internet.

As a reaction to the Apple and Google proprietary online stores, major international mobile telephone operators founded the "Wholesale Applications Community", with the aim of creating an open applications platform for all devices.

To handle the increasing in data volumes it is therefore predictable that in the next few years the Swiss operators will have to invest large amounts in the next mobile telephone technology (Long Term Evolution of UMTS). For relatively low network costs, LTE promises considerably better

network efficiency than HSDPA. LTE also enables much faster broadband data transmission (up to 100 Mbit/s on the downlink and 50 Mbit/s on the uplink).

At the end of 2009, the telecoms provider TeliaSonera commissioned the first two LTE networks in Europe in Stockholm and Oslo. After a test phase in 2010 numerous LTE networks will go into service worldwide in the next few years. Swiss operators, or their parent companies, are conducting initial tests with LTE.

With regard to mobile telephony, in ComCom's view the reporting year was characterised mainly by decisions in principle concerning the re-allocation of mobile radio frequencies (cf. below). After a public consultation, ComCom decided to award the frequencies by auction and to launch the corresponding invitation to tender in the course of 2010.

4. Telephony in the fixed network

Switzerland possesses a high-quality, nationwide fixed network (Swisscom). In addition, for some years many cable television networks have been offering telephone services. However, the number of calls from landline telephones has fallen considerably over the last 10 years. In 2008, for the first time, more calls were initiated by the more than 9 million mobile telephones (52% of calls) than by the 3.6 million fixed-network connections (48%).

Overall, since the liberalisation of telecommunications in 1998, consumers have made calls more frequently. The lower-cost fixed network continues to be preferred for longer calls. Average call duration in 2008 was almost 3.5 minutes on the fixed network and 2 minutes on mobiles.

Costs for calls on the fixed network fell dramatically, especially in an initial phase up to 2002 (by 40 to 60%, depending on usage behaviour). Since then, the costs for low-usage users have fallen only moderately. High-usage customers benefited – according to an OFCOM study – from further price reductions in the years from 2005 to 2008. Because of increases in call connection charges, fixed-network telephony even became slightly more expensive between 2008 and 2009. With the exception of Cablecom, which offers the lowest fixed-network tariffs, the price differences between the service providers included in the study are small.

Quite unlike the mobile telephony situation, it has to be stated that fixed-network tariffs in Switzerland – measured using the OECD consumer baskets for telephony – are at the average European level. Charges for international calls are very competitive internationally; they are well below the European average.

The interconnection prices set by ComCom, which are paid by the alternative providers for co-use of the Swisscom network, are among the lowest in Europe.

Swisscom's market share in fixed-network telephony is consistently high, at more than two thirds of customers. Furthermore, some 16% of customers make their calls via a connection which is operated by Swisscom. However, the calls from these customers are permanently routed via a different provider using a preselection code and charged to the customer directly by that provider.

Sunrise, as the major competitor, had 630,000 fixed-network customers at the end of 2009 and therefore has a market share of approximately 16%.

At the end of 2009, Cablecom had 304,000 telephone customers, losing 5,000 customers in comparison with the previous year. Cablecom's share of the market is therefore 8%. The numerous cable network operators which offer digital telephony together serve about two percent of fixed-network customers, with the other, smaller telecoms providers accounting for a little over two percent.

Furthermore, voice telephony based on the internet protocol (VoIP) continues to boom, particularly with business customers. However, this development cannot be measured accurately, in particular for calls from PC to PC over the internet, which are excluded from the statistics. According to these, there were 471,200 VoIP connections in Switzerland at the end of 2008. In the longer term, this technology undoubtedly represents the future, as the future telecommunications networks will be IP-based.

5. Broadband market

With a broadband internet access penetration rate of nearly 34% of the population in mid-2009, Switzerland was still in fourth position among the OECD countries, just behind the Netherlands (38.1%), Denmark (37%) and Norway (34.5%). The average for the OECD countries is 22.8% (cf. Figure 3) and the figure for the EU is 23.9%.

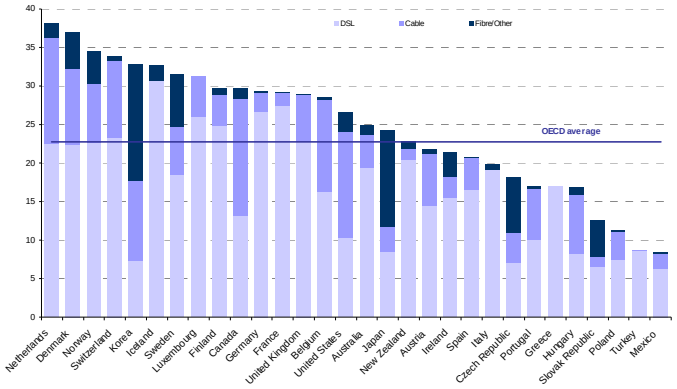

Fig. 3: OECD broadband penetration, June 2009 (as % of population)
Source: OECD

In Switzerland, surfers continue to prefer xDSL access technology via the telephone line, which is forging ahead of internet access by cable TV (CATV). Market shares were 72.4% for xDSL (1,956,000 connections at the end of 2009) and 27.6% for cable (746,000 connections at the end of 2009; cf. fig. 4).

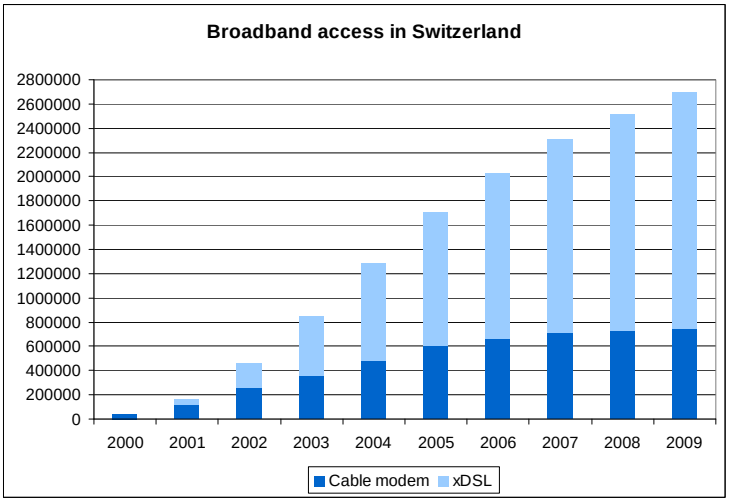

Fig. 4: Split of broadband technologies in Switzerland, December 2009
Sources: Swisscom, Swisscable

The distribution of market shares among high-speed internet service providers continues to evolve in favour of Swisscom (cf. fig. 5), which at 54.5% at the end of 2009 (compared to 52.6% a year earlier) is way ahead of its main competitors. This proportion now represents almost double that of the cable operators (27.6%) and three times that of all the alternative DSL providers combined (17.9%). By way of comparison, the average market share of the historic operators in the European Union has fallen continuously and has now stabilised at around 45%.

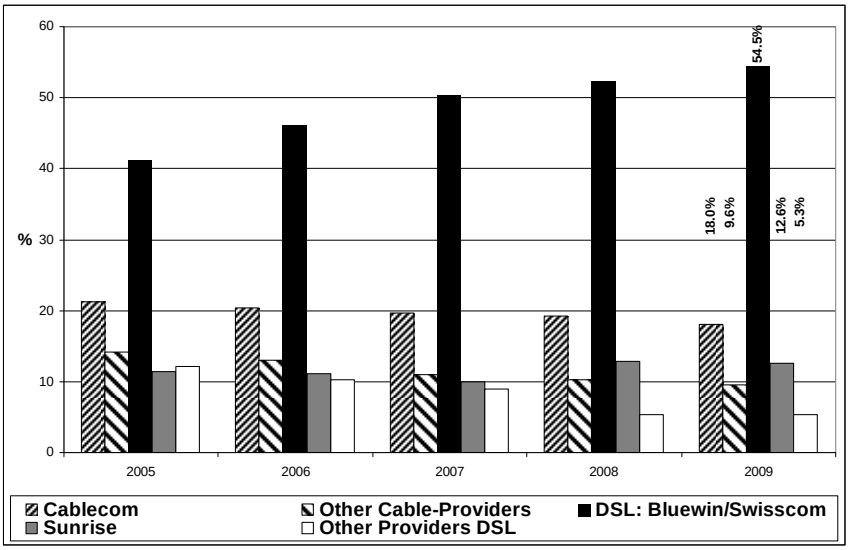

Fig. 5: Market shares of broadband connections in Switzerland and in the EU, December 2009
Sources: operators, European Commission

The DSL market in Switzerland

In the DSL market alone, there has been an overall increase of 170,000 customers, i.e. an increase of 9.5% between the end of 2008 and the end of 2009 (fig. 6). It is worth noting that the high-speed internet market as a whole (DSL & CATV) grew by about 7% in 2009, compared with 10% in 2008.

Although growth continues to slow down, Swisscom is still reporting the highest increase in the number of customers, with growth of the order of 147,000 customers during 2009. Its market share consequently rose from 74.1% at the end of 2008 to 75.3% at the end of 2009.

With 340,000 high-speed customers at the end of 2009, including 133,000 unbundled customers, Sunrise is the most important competitor in the DSL market. However, its customer base only increased by 15,000 units and its market share dropped to 17.4% at the end of 2009 (compared to 18.2% at the end of 2008).

The other operators who are resellers of DSL services by Swisscom have again won some 7000 customers, but their market shares are also continuing to fall, amounting to 7.4% at the end of 2009.

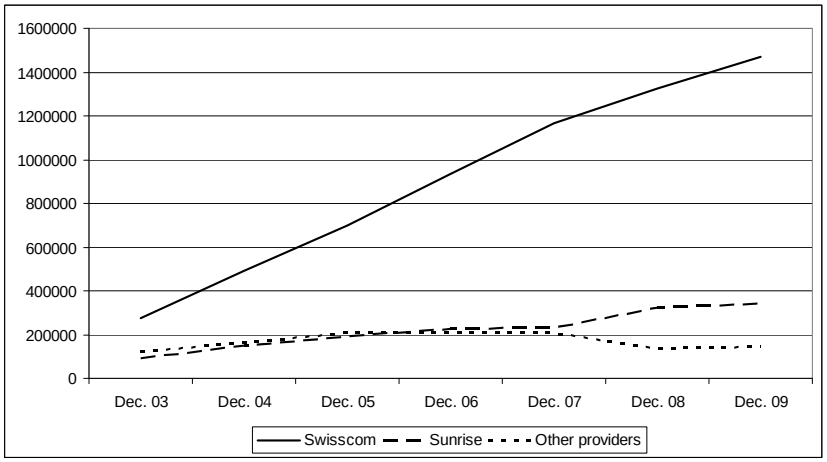

Fig. 6: xDSL connections in Switzerland (including unbundling), Dec. 2009
Sources: Swisscom, Sunrise

Significant growth in full unbundling

Once again the number of fully unbundled lines grew considerably in the reporting year. Three years after the entry into force of the amended Telecommunications Act, which enabled the effective launch of unbundling in Switzerland, the growth in this market segment continues, with the number of unbundled lines increasing from 31,000 at the end of 2008 to 153,000 at the end of 2009. The acquisition of new customers, however, is not consistent, as the number of wholesale lines (resale of DSL products by Swisscom) registered a marked decrease of the order of 68,000 connections.

After a slow start during 2007 (less than 300 unbundled lines) and a growth already considered exceptional – in international terms – in 2008 (31,000 unbundled lines), the number of fully unbundled customers (full access) thus grew five-fold during 2009, reaching over 30% of the DSL lines of the alternative operators.

However, Switzerland is still far from achieving the unbundling figures for the European Union countries, where more than 50% of the DSL lines of the alternative operators are fully unbundled (Full ULL), not to mention the 17% for high-speed access (bitstream access), the proportion of which fell by half between 2002 and 2009 as the proportion of fully unbundled lines doubled over the same period (fig. 7).

In the majority of European countries, in an initial launch period, bitstream offerings have in fact enabled the alternative operators to take a first step towards unbundling before investing progressively in full unbundling.

After two years of procedures, following the decision of the Federal Administrative Court, Swisscom finally submitted a basic high-speed access offering at the beginning of June 2009 (see below).

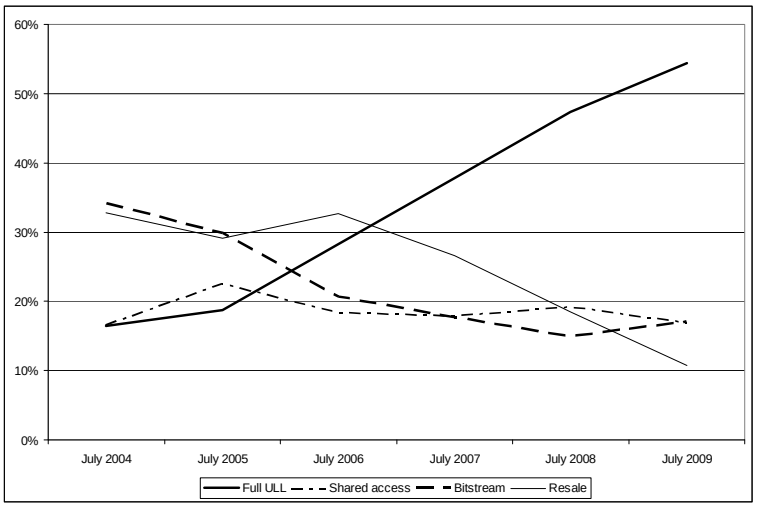

Fig. 7: Evolution of unbundling in Europe (EU15) according to type, as percentages of alternative operators' total number of DSL lines
Source**:** European Commission. Broadband access in the EU. 18 Nov. 2009

Increases in speeds

However, despite Swisscom's position which continues to strengthen and thanks to the role played by the cable operators or through unbundling, competition at the infrastructure level is progressing; moreover, the development of technologies allowing ever faster speeds is stimulating competition at the level of services. In the reporting year, Swiss consumers were able to benefit from major increases in speeds and also from new and attractive products.

Whether within the framework of unbundling or on the cable networks, surfers can enjoy speeds of up to 25 Mbit/s. At the end of 2008, Sunrise, for example, launched combined telephone and internet products with up to 15 Mbit/s in an unbundled area, whilst Cablecom doubled the speeds of its internet offerings in January 2009, with connection speeds of 10 Mbit/s and 25 Mbit/s. However, the majority of users opted for standard products offering speeds of around 5 Mbit/s.

As shown by a study published by OFCOM in November 2009[1], the speed increases are accompanied by a significant reduction in prices; the price index per Mbit/s thus fell by more than 20% compared with the previous year, whilst the speed for an average user rose on average to 4 Mbit/s. Another study published by Akamai Technologies[2] also confirms the progress achieved in this area: 31% of Swiss surfers have an internet connection faster than 5 Mbit/s (the average worldwide is 19%), and 91% of broadband connections are equivalent to over 2 Mbit/s.

The demand for increase in speeds is accompanied by changes in usage and the introduction of new and innovative products. For example, it is worth noting the increase in use of IPTV services, which make it possible to watch TV on a computer. The Zattoo service, launched in June 2006, has 1 million registered users, whilst Wilmaa counted some 350,000 registered users within just one year of launch. For its part, Switzerland TV has over 230,000 customers.

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[1] OFCOM. Broadband costs and services (DSL and cable modem): comparison and evolution. Bienne, Nov. 2009.

[2] Akamai. The State of Internet, 3rd Quarter 2009.

The optical fibre race

Optical fibre, for a long time in successful use in the core networks already, is the undisputed technology of tomorrow's networks. We have seen that in Switzerland there are currently two parallel infrastructures which are based on two different network technologies.

On the one hand, the cable networks cover 85% of the territory; almost 95% of connections are bidirectional, i.e. compatible with telecommunications services. Quite a part of the CATV networks are already hybrid fibre-coaxial networks (HFC) which are combining optical fiber and coaxial cable on the last network section until the building. Numerous CATV operators are investing in DOCSIS 3.0, which enables them to offer speeds of up to 100 Mbit/s. For instance, Cablecom has launched the DOCSIS 3.0 based "Fiber Power" product in several Swiss cities.

Other CATV operators have integrated the roll-out of a FTTH network into their business strategy. The pioneer in this area is Sierre Energie, which is building a fiber-only network and offering multimedia services since 2007.

On the other hand, the DSL network, with ADSL, now covers 99% of the households, whilst VDSL has already achieved a 75% coverage rate. Current VDSL, moreover, approximates to what is termed "Fibre To The Curb", as data is carried on a fibre-optic network as far as street cabinet before switching over to the traditional copper cable until as far as the end user.

Optical fibre has therefore long been a proven method of high-speed transmission. But the evolution of future user needs, necessitating ever larger bandwidths for users' internet applications (high-definition television, VOD, video or audio streaming etc.), creates a medium-term need to adapt access networks by taking optical fibre right to the user's home.

The optical fibre race therefore began last year, under the impetus of the utility companies in several Swiss conurbations and of local cable operators who had decided or begun to invest in the deployment of this new network. But not only in bigger cities, but also – and this is the original feature – in less densely populated regions and in smaller municipalities, fibre-optic networks are projected or already under construction.

Responding to this stimulus, in December 2008 Swisscom announced that it wanted to invest about CHF 3 billion in the deployment of the fibre-optic network over the next six years. In 2009, moreover, it concluded several partnership agreements with electricity service providers in a number of major conurbations, such as Saint-Gall, Lausanne and Bern; an initial commercial product has already seen the light of day in Zurich.

Swisscom has also entered into partnership with Groupe E, which interestingly is planning to deploy a fibre-optic network in the whole canton Fribourg and whose pilot project was launched before the end of 2009.

Telecommunications service providers such as VTX, Sunrise and Orange are multiplying their experience in this area and are preparing to offer services to their customers when the latter have a fibre connection available. Also some CATV operators (e.g. GGA Maur, Finecom) are extending their footprint offering services on the fiber networks of the utilities.

ComCom seized the initiative as early as 2008 and set up a discussion and coordination platform for the industry in the form of the "FTTH Round Table". The participants are telecommunications service providers, electricity utilities and cable network operators.

In October 2009 the participants in the fourth round table agreed on a number of important principles: to avoid the construction of parallel networks, network-construction must take place in a coordinated manner and multiple fibres will be laid. Moreover, all providers must have access under the same conditions and at different network levels to the optical fibre network. This will ensure competition and consumers can continue to choose their telecoms provider freely. At the technical level, the industry working groups organised by the OFCOM also agreed on uniform standards for domestic installations and network access with services.

Internationally, according to the OECD, Switzerland had less than 1% of households or businesses connected by optical fibre at the end of June 2009 and was 13th in a league table of global optical fibre penetration (FTTH and FTTB). The average for the OECD countries is 9%, but the figures are skewed by the results of countries such as Japan (51%) or South Korea (46%), which opted for fibre at a very early stage and have benefited from an aggressive policy in this area.

But if Swiss players maintain the level of investment in fibre-optic networks which they have set themselves, Switzerland will in future probably have a rate of investment per inhabitant among the highest in the world.

6. Revision of the regulatory framework in the EU

At the end of November 2009, the European Parliament approved the revision of the regulatory framework for electronic communications proposed by the European Commission. This reform of the Telecoms Package, envisaged since its inception in 2002 and for which the Commission submitted its revision proposal in late 2007, entered into force on 19 December 2009; it is based on a number of directives that member states must transpose into their national legislation before the end of May 2011.

One of the most discussed aspects – which also put back the deadline – concerned amendment 138, which lays down the conditions under which internet access by an EU citizen must be guaranteed. It was France’s Creation and Internet law (the Hadopi law), intended to combat illegal downloading and copyright infringement, which dominated the debates concerning the introduction of the "graduated response". This response authorises intervention extending as far as disconnection of internet access. The European Parliament has finally opted for a compromise, according to which "national authorities may not restrict access to the internet [...] unless there is a prior fair and impartial procedure".

Internet access is therefore an integral part of the "fundamental rights and freedoms" which the new regulatory framework is intended to strengthen. The new legislative proposals therefore introduce a number of important reforms in the area of consumer protection, including the possibility of changing one's fixed or mobile operator within one working day, being better informed about services to which a user subscribes or concluding a contract with a maximum term not exceeding 12 months.

For the rest, it should be noted that the regulatory system applicable within the EU remains largely unchanged. The European regulatory framework continues to be based on the principle of *ex ante* regulation applicable to each market segment – the so-called relevant markets. These markets, currently seven in number, are recommended by the European Commission, with responsibility for analysis and decisions on them resting with the national regulatory authorities.

The new European regulatory framework also reaffirms the principle of technological neutrality. This principle allows the application of the same regulatory regime regardless of the technology

– present and future. This situation therefore offers greater flexibility the context of more and more converging markets and quickly evolving technologies.

One of the major innovations of the European legislative framework is the introduction of functional separation as an exceptional remedy in cases of distortion of competition. This measure has to be applied as last remedy when less comprehensive interventions have failed. There are experiences with this measure in United Kingdom, since with "Openreach" the national access network has been functionally separated from the BT Group in 2006.

Finally, the regulatory framework establishes a new body of European regulators for electronic communications (BEREC), which replaces the ERG (the European Regulators Group). The new body is responsible for strengthening the single market for telecommunications and for ensuring competition in this single market. It will assist the national regulators and the European Commission in the establishment of rules and conditions for fair competition throughout the EU. It will also be able to exercise powers of control over measures taken by the national regulatory authorities (e.g. conditions for network access or termination charges for fixed or mobile calls).

II. The Commission and its Secretariat

ComCom is an independent extraparliamentary official commission which is responsible for licensing and market regulation in the telecommunications sector. The Commission consists of seven independent experts, nominated by the Federal Council.

In 2009 the Commission consisted of the following members:

- Marc Furrer, President, Attorney and notary
- Christian Bovet, Deputy President, Dr. iur., Professor of Law at the University of Geneva
- Andreas Bühlmann, Dr. rer. pol., Head of the Office of Finance in the Canton Solothurn
- Monica Duca Widmer, Dr., dipl. Chem. Ing. ETH, entrepreneur with SME in the environment sector
- Reiner Eichenberger, Dr. oec. publ., Professor of Economics at the University of Fribourg
- Jean-Pierre Hubaux, electrical engineer, Prof. EPFL Lausanne
- Stephan Netzle, Dr. iur., LL.M., Attorney

In 2009 the Commission met for a total of 12 days of sessions. In addition, the Commission's members spent more than 30 days on the time-consuming preparations for the sessions and on numerous decisions taken by circulating members. In the rapidly evolving world of telecommunications it is important to be continuously informed internationally about events in the market and about ongoing technological developments: in summer 2009 ComCom therefore met equipment and infrastructure manufacturers, as well as various telecommunications providers, in Sweden and Finland. The latest developments in the areas of fibre-optic networks, mobile radio and green IT were discussed.

The Commission has its own secretariat, which is responsible for co-ordinating affairs, organising the activities of the Commission and providing the public with information.

The Secretariat comprises the secretary general of the Commission (Peter Bär, 100%), a scientific officer and webmaster (Pierre Zinck, 70%) and an administrative assistant (Maya Stampfli, 70%).

III. Activities of the Commission

ComCom is the Swiss licensing and regulatory authority for the telecommunications sector. As an independent official commission it is not subject in its decisions to any instructions from the Federal Council or the Department.

The purpose of the Telecommunications Act (Art. 1 TCA) is to provide guidelines for the Commission's decisions: the objective is to reliably provide the population and businesses with a wide range of high-quality, affordable telecommunications services. Apart from the universal service which provides the whole of Switzerland with telecommunications services, these goals are to be achieved by means of effective competition.

ComCom's most important tasks according to the Telecommunications Act are:

- granting radio licences for use of the frequency spectrum (art. 24a TCA),
- awarding the universal service licence (art. 14 TCA),
- laying down the access conditions and prices when service providers fail to reach an agreement (art. 11 and 11a TCA),
- approving the national numbering plans (art. 28 TCA),
- fixing the terms of application for number portability and the free choice of provider (art. 28 TCA),
- taking measures and sanctions in the event of violation of the applicable law and, where appropriate, revoking the licence (art. 58 TCA).

In fulfilling its tasks ComCom works closely with the Federal Office of Communications (OFCOM). On behalf of ComCom, OFCOM with its technical services prepares the business of the Commission. The Commission's decisions are implemented by the secretariat or OFCOM.

The following sections provide an overview of ComCom's activities in 2009.

1. Access procedures

Since April 2007, the law (art. 11 TCA) has provided for the following access variants to the infrastructure and services of a market-dominant provider:

1. Full unbundling of the local loop
2. Bitstream access (for four years)
3. Billing for fixed network subscriber connections
4. Interconnection
5. Leased lines
6. Access to cable ducts, in so far as these have sufficient capacity

At the end of 2009, six access procedures were in hand at ComCom. In two cases they concerned the issue of the conditions and prices at which Swisscom must provide access to leased lines. In addition, after unsuccessful negotiations, in April/May 2009 three applications were submitted for setting interconnection and unbundling prices for 2009. In December 2009 a new application for the fixing of mobile termination prices was submitted.

One other procedure has been suspended until the Federal Administrative Court decides on individual disputed points which were filed within the framework of the appeals against ComCom’s unbundling and interconnection decisions of September 2008.

1.1. Bitstream access

In November 2007, ComCom decided that Swisscom was market-dominant in fast bitstream access after this had been contested in an access procedure. Swisscom appealed against this decision.

The Federal Administrative Court, as the sole appeal authority, rejected this appeal in February 2009, thereby upholding ComCom's decision. Swisscom is therefore also dominant in the fast bitstream access market and was required by OFCOM as the instructing authority to submit a basic offer by 2 June 2009.

Within this timeframe, at the beginning of June, Swisscom published a bitstream offering for CHF 11.40 per month with a maximum transmission capacity of 5000/500 Kbit/s; for 2010 the price is CHF 10.90. After this, technical implementation took some time. The bitstream offering has been available since November 2009.

At the request of both parties, the procedure still in progress at ComCom was suspended in July 2009, so that Swisscom and Sunrise could conduct negotiations.

1.2. Full unbundling and interconnection

In September 2008 ComCom set the price for full unbundling and colocation for the first time. The monthly price for the unbundled subscriber lines was set at CHF 18.18 for 2008. The prices for installation and operation of equipment in Swisscom exchanges (colocation) were also greatly reduced.

In decisions taken at the same time, ComCom additionally reduced interconnection prices for 2007 and 2008 by up to 30%.

Swisscom had largely accepted the prices set by ComCom, and this led to clarity concerning the level of costs. As a result, interconnection prices are distinctly lower than in most EU countries and the monthly unbundling price is only a little above the European average.

Individual points from the ComCom decisions were contested by Swisscom in November 2008 in the Federal Administrative Court. Probably the most important disputed point is the issue of the third-party effect of ComCom decisions. On the basis of the ban on discrimination in the Telecommunications Act, ComCom was of the view that the decreed prices would apply automatically to all providers, i.e. including those who did not appeal.

The Federal Administrative Court did in fact reject this direct third-party effect in February 2010, but at the same time stated that the non-discriminatory offering did apply – including retroactively. This means that the providers have to lodge claims in a civil court.

On all other points disputed by Swisscom, the Federal Administrative Court confirmed ComCom’s decisions, including, for example, payment of interest on repayments.

Unbundling and interconnection prices 2009

In 2009, Swisscom set the price for an unbundled subscriber line at CHF 18.80. Compared to the regulated price of CHF 18.18, this amounts to a 3.4% increase. For 2010 Swisscom's unbundling price was again reduced to CHF 18.40.

Three access procedures are underway against the unbundling and interconnection prices offered by Swisscom for 2009. ComCom will set the prices in the course of 2010.

Spectrum management on the access network

To ensure that transmission on the copper-based access network functions without interference, the utilisation of the frequency spectrum in copper cable must be regulated by the network operator. This so-called spectrum management also includes checking new transmission technologies for their network compatibility, so that parallel technologies do not cause reciprocal interference.

Within the framework of unbundling, Swisscom also reserves the right to say which technologies can be used on the access network. From the viewpoint of the companies which wish to invest in unbundling, it is important to know as early as possible which technologies they can focus on. Therefore the Telecommunication Services Ordinance (Art. 58 para. 2 TSO) decrees that a market-dominant provider must continuously check internationally standardised technologies, which correspond to the state of the art, for network compatibility.

In an access procedure, the issue of whether Swisscom was entitled in the case of a new technology to bill the costs of verification of network compatibility to another provider was disputed. In this regard, ComCom stated in a partial decision that it was not in accordance with the law for Swisscom to check new technologies only on request. In addition, the costs for checking new technologies for network compatibility cannot be charged to the first provider making the request, but must be paid in a non-discriminatory manner via the payment for the provision of the subscriber lines.

1.3. Cable ducts

In December 2009, for the first time, ComCom took a decision on access to Swisscom's cable ducts. Within the framework of three procedures outstanding since 2007, not only prices but also other aspects of co-use of cable ducts were to be determined.

On the disputed issue of market dominance, ComCom was able to apply a decision by the Competition Commission: the alternative telecommunications service providers are basically dependent on the network typology of the party contesting the application, as they have to be present at the "Points of Interconnection" (POI) and also in Swisscom's local exchanges. For providers there is no direct alternative to Swisscom's cable ducts without carrying out costly construction work. Swisscom is therefore, according to ComCom's decision, market-dominant for all cable duct routes in which the start or end point is located within a Swisscom site. This virtually means that the opponent of the application must offer its entire cable duct network for co-use under cost-based conditions in so far as there is free capacity for additional cables.

Prices considerably reduced

ComCom reduced the 2007 and 2008 monthly prices for co-use of cable ducts to 17.8 and 20.6 centimes respectively, per meter and per cable. This corresponds to a price reduction of about

50%. The price submitted by Swisscom for 2010 also amounts to 20.6 centimes per metre per cable.

Furthermore, ComCom has also examined and redefined the prices charged by Swisscom for services which are related to the joint use of cable ducts. It has, for example, reduced the hourly rates for feasibility studies, project planning and other service processes by between 3% and 8% and has made adjustments in respect of billing for these processes. In particular, it has forbidden Swisscom from charging for certain services at cost or from billing them at all.

Online information about existing capacities

Finally, from 2011 Swisscom will be obliged to offer its competitors online access to a system providing information on free capacities in the cable duct network. This obligation is provided for in the Telecommunications Services Ordinance (Article 63 TSO). Swisscom has objected to this obligation being imposed upon it. ComCom has decided that the principle of non-discrimination demands that the competition should have the same access to the available information on cable ducts as Swisscom itself.

Sub-leasing of laid fibres

Anyone laying cable in Swisscom's ducts can also, in ComCom's view, lay a certain reserve amount of cable. The owner of these cables can either use this reserve at a later date or sub-lease it to third parties.

As can be seen from the report on progress with unbundling which is published regularly by Swisscom, in September 2009 cable ducts with a total length of 100,616 metres were jointly used by telecommunications service providers in 340 cases. The decreed price reductions are not therefore leading to major repayments. The significance of the decision lies more in the definition of a cost-based price level as a guideline for the future.

Swisscom appealed before the Federal Administrative Court against the access to the information system on the cable duct network, but not to the remaining content of the ComCom decision. Sunrise, for its part, is submitting objections because it is of the view that historic costs should be incorporated in the price calculation. ComCom's many years of experience rely on the LRIC method, as clearly laid down by the Federal Council in article 54 of the Telecommunications Services Ordinance (TSO). In the calculation of the costs of an efficient provider, ComCom must start out from the current replacement costs, in accordance with the Ordinance.

How is an access procedure carried out?

The primacy of negotiations is laid down in the LTC. Before the Commission can decide on the prices and conditions for interconnection or access, the providers must first attempt to reach an agreement via negotiations. If no access agreement can be reached within three months, the provider may lodge a request with the Commission for an access decision to be taken.

The matter is then investigated by OFCOM. When there is a question as to whether one provider occupies a dominant position in the market, it is necessary to consult the **Competition Commission** (ComCo). Before ComCom lays down access/interconnection prices and conditions, the parties to the procedure have another chance to reach an amicable agreement within the framework of **conciliation negotiations** (cf. LTC Art. 11a and DTS Art. 64-74).

This procedure is also known as “ex-post regulation”. In contrast, “ex-ante regulation”, which does not recognise the primacy of negotiation, is practised in the EU. The regulatory authorities in the EU countries can intervene independently and at an early stage in markets in which competition is not effective.

2. Licences

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

However, ComCom has delegated to OFCOM the task of awarding radio communication licences for telecommunication services which are not subject to a tender procedure (for example, licences for radio amateurs or company radio) and licences which are intended to be fully used for the transmission of radio and television programme services.

Below you will find an overview over the licences issued by ComCom.

What is the universal service?

The universal service consists of a basic offering of telecommunications services which, according to the Telecommunications Act (TCA of 30.4.1997), must be provided nationally to all sectors of the population, in good quality and at a reasonable price. The universal service therefore ensures from the outset that any possible regional or social disadvantage does not prevent access to the most fundamental means of social communication.

It is within the remit of the Federal Council to adapt the content of the universal service periodically to social and economic needs as well as to technological developments. ComCom is obliged by the TCA to periodically put the licence for universal service in telecommunications out to tender and to award it on the basis of a competition based on criteria.

The universal service includes the public telephone service and the right to a fixed-network connection, and now it also includes a broadband internet connection. In addition, adequate coverage by telephone boxes and access to emergency call services and subscriber directories must be guaranteed. To facilitate communication for the hearing-impaired and visually-impaired, there are additional special services (such as a transcription service and switching services).

2.1. Universal service

According to Article 14 para. 1 of the TCA, the legal obligation reads as follows: “The Commission shall ensure that the universal service is guaranteed for all sections of the population in all parts of the country. To this end, it shall periodically grant one or more universal service licences.”

The universal service licence was awarded to Swisscom for the years 2008-2017. The quality audit of the universal service by OFCOM has shown that the quality criteria imposed by the Federal Council were also complied with by Swisscom in 2009.

Providing the population with a high-quality, reasonably-priced basic offering of telecommunications services is therefore guaranteed everywhere in Switzerland.

Switzerland was the first country in the world to include broadband access in the universal service – although just with a moderate transmission speed of 600/100 kbit/s.

As the universal service licensee, Swisscom has been offering a broadband connection to those households which were previously unable to make use of an ADSL offering for technical

reasons since 2008. However, the technology to be used to provide this service is not specified. This enables Swisscom to provide the broadband connection via satellite or via a mobile radio solution.

Public call boxes

As of the end of 2009, the universal service also included a total of 4843 public telephone kiosks. With the agreement of the municipality concerned, Swisscom applied in 2009 to remove a total of 20 public call boxes. This reduction in call boxes was approved by ComCom at the end of 2009. There remains at least one public call-box in all these municipalities. Outside of the universal service, there are also some 3500 additional public telephones located in profitable locations in Switzerland. Compared to other countries, Switzerland continues to have one of the densest networks of public telephones. However, these are actually being used less and less, as most residents have a mobile telephone.

2.2. GSM licences

In 1998, ComCom awarded two GSM licences for a ten-year term within the framework of a criteria-based competition to Orange and Diax (the Diax licence was transferred to Sunrise in 2001 as a result of a merger). Another licence with the same term had already been granted to Swisscom under the Telecommunications Act of 1997.

In December 2003, ComCom had awarded a GSM licence to Tele2 and In&Phone respectively. The Tele2 licence was returned to ComCom when the company was taken over by Sunrise in autumn 2008; In&Phone's licence expires at the end of 2013. There are therefore currently 4 GSM licences (with different amounts of 900MHz and/or 1800MHz frequencies) used in Switzerland.

GSM coverage

The three national network operators are able to provide GSM coverage which goes way beyond the coverage provisions in their licences: virtually 100% of the population and about 90% of the territory are covered by GSM. A few years ago, to speed up data transmission, the operators deployed an enhancement of the GSM standard (such as GPRS or EDGE) on their networks.

Renewal of three GSM licences

Since the renewal of licences decided upon in 2007 led to unexpected delays, ComCom provisionally extended the licences of Orange, Sunrise and Swisscom which expired at the end of May 2008.

Once the Federal Administrative Court had also decided at the beginning of 2009 on two objections against the provisional extension of the licences, ComCom was able to implement the planned renewal of the GSM licences.

The GSM licences were renewed by ComCom up to the end of 2013. This means that all GSM licences will expire at the same time. This gives ComCom an opportunity to implement a comprehensive reallocation of all the mobile telephony frequencies which are free today or which will become free in 2013 or 2016 (cf. below).

The renewal of the licences was accompanied by two important innovations:

1) **Technology-neutral allocation of frequencies:** ComCom is allocating the frequencies which have to date been reserved exclusively for GSM on a technology-neutral basis, i.e. the licensees will in future also be allowed to operate UMTS systems in the allocated GSM spectrum. In this way, ComCom is promoting the switch to advanced mobile radio technologies and is countering possible bottlenecks in the event of large increases in mobile data traffic.
2) **Minor reallocation of frequencies:** In order to increase competition, ComCom wanted to make it possible for all three licensees to also be able to deploy UMTS in the 900 MHz frequency range, which is beneficial in terms of frequency technology. A minor reallocation of frequencies was necessary to achieve this: Orange, which owned too few 900 MHz frequencies to operate a UMTS system, received additional 900 MHz frequencies from Sunrise and Swisscom. This was offset in the 1800 MHz frequency range, where Orange had to give up frequencies to Sunrise and Swisscom. The 900 MHz frequencies are attractive to operators because they allow larger radio cells and better coverage inside buildings.

In December 2006, the European Conference of Postal and Telecommunications Administrations (CEPT) established the necessary general conditions for operation of UMTS systems in the GSM frequency spectrum. In October 2009 the GSM Directive was amended by the EU in such a way that third-generation (3G) mobile radio systems can be used in the 900 MHz band. Since it is therefore easier to implement mobile broadband coverage, the EU Commission expects considerable savings on investment in network expansion.

2.3. UMTS licences

Currently three UMTS licences are in use in Switzerland; they expire at the end of 2016. The fourth UMTS licence awarded in 2000 was revoked without compensation from the 3G Mobile licensee due to a lack of activity.

As is the case with GSM, all three UMTS network operators are complying with their licence conditions. Population coverage for UMTS services is between 60% and 90% or more, depending on the provider.

In order to increase the attractiveness of mobile broadband access and to handle the large increases in data volumes in this sector, all three national operators have invested heavily in the UMTS network in recent years. For example, the area coverage of the UMTS networks was extended and above all the transmission capacities of the networks are continuously being increased. To this end all operators have largely equipped their UMTS network with the HSPA technological extension. This allows transmission speeds of 3.6 to 7.2 Mbit/s (download) and up to 1.4 Mbit/s (upload). In the ideal case, HSPA therefore provides a mobile surfing experience which is close to that provided by a current ADSL connection on the fixed network.

2.4. Re-allocation of mobile radio frequencies

Allocation of frequencies is the most important instrument enabling ComCom to intervene in the mobile radio market to promote competition. Since mobile radio frequencies are currently unused in various bands and will become free over the next few years, in 2009 ComCom addressed the objectives of a frequency allocation and the various procedural variants. In particular, there was the question of the timing and the most appropriate procedure for allocating frequencies. On behalf of ComCom, OFCOM carried out a public consultation on this question in the spring of 2009.

Preparations are being made to allocate the following frequencies:

- 790 to 862 MHz: thanks to the so-called “digital dividend”, frequencies in the 790 to 862 MHz band are becoming available; these will be available for mobile services from about 2014. The “digital dividend” means that as a result of more efficient transmission of TV programme services, not all UHF frequencies (470-862 MHz) are now needed for broadcasting and some of the frequencies can therefore be used for other purposes. However, this change-over must take place throughout Europe on a coordinated basis.
- GSM 900 MHz: all frequencies have been allocated to Orange, Sunrise and Swisscom until the end of 2013.
- GSM 1800 MHz: the majority of the frequencies have been allocated to In&Phone, Orange, Sunrise and Swisscom until the end of 2013; the frequencies surrendered by Tele2 are currently free.
- UMTS core band 2100 MHz: Orange, Sunrise and Swisscom each have a UMTS licence in this band until the end of 2016; the frequencies revoked from 3G Mobile are currently free.
- UMTS expansion band 2600 MHz: frequencies with a bandwidth of the order of 190 MHz are currently free.

ComCom’s supreme objective has always been to strengthen competition in mobile radio. In addition, it should be possible for the mobile radio operators to use the technologies which are most advanced at any point in time. In the interests of consumers, any reallocation of frequencies must also ensure that today’s first-class provision in terms of mobile radio services operates without interference.

Given the currently high level of prices in the Swiss mobile radio market, ComCom took into consideration the possibility of stimulating the mobile radio market by means of the preferential allocation of a licence to a new network operator. At the beginning of 2009, it rated the prospects of success of such a scenario in the prevailing market as only slight: considerations of a technical, commercial and legal nature gave rise to the estimation that even with special promotion, the introduction of an additional service provider with no customer base and who would have to construct their own infrastructure would have little chance of success.

In spring 2009, within the framework of a public consultation, OFCOM gathered the opinions of interested parties on the planned reallocation of mobile radio frequencies. This resulted in the following picture: GMS technology will remain in operation for a few years yet (possibly until 2020). Regarding a future technology which will be able to handle the rapid increase in data traffic efficiently, the focus is on LTE from about 2012 onwards. The free choice of technology is therefore welcomed.

On the occasion of this consultation, a reallocation by auction was favoured in many quarters. The operators and industry associations are indeed in favour of auctioning off the frequencies which are currently free, but for the frequencies currently in use they support an extension of licences. The cable network industry fears that the use of the digital dividend for mobile radio could interfere with data transmission on CATV networks. OFCOM is looking into these concerns.

With regard to the number of market players, the consultation revealed that the entry of a fourth national operator into the market – without an existing customer base – is deemed to be rather unlikely, and evolution might even move in the direction of consolidation of the market.

In November 2009, ComCom commissioned OFCOM to begin preparatory work for the public auction of the mobile radio frequencies. Consequently it is expected that all the above-

mentioned frequencies will be put out to tender and allocated at once. With an early allocation of these frequencies, players in the market will be offered a long-term perspective for planning.

The re-allocation of all these frequencies will take place by auction, thereby conforming to the principles of transparency and equal treatment of all interested parties. The proposed procedure is intended on the one hand to enable any new operators to acquire mobile radio frequencies. On the other hand, existing operators will have the possibility of equipping themselves with sufficient frequencies for the future.

OFCOM will now prepare the tender documentation and the design of the auction for the attention of ComCom. On this basis, ComCom will decide on the next steps and is expected to launch the invitation to tender for the mobile radio frequencies in the course of 2010. The invitation to tender will be open to all interested companies.

2.5. BWA and WLL licences

In the 3.41–3.6 GHz frequency band, during 2006 and 2007, one BWA licence with a frequency allocation of 2 x 21 MHz was awarded to Swisscom and Callix (formerly Inquam Broadband) respectively. These also allow the use of WiMAX.

In the autumn of 2009, Swisscom, of its own volition and without compensation surrendered the BWA licence it had been awarded in 2006, as it clearly did not intend to offer any WiMAX services.

The second licensee, Callix, is still under an obligation to put into operation at least 120 transmission/reception units by the end of September 2010.

In the case of the WLL licences, there were no changes in 2009. As the supervisory authority, OFCOM as a rule regularly checks whether the licensees are complying with their operational obligations. If this is not the case, OFCOM initiates a supervisory procedure which may lead to the licence being revoked. The WLL licences expire at the end of May 2010.

2.6. Licences for mobile TV

Within the framework of a criteria-based competition, ComCom awarded the first national DVB-H licence to Swisscom Broadcast. The coverage provisions in the licence are being met, in that since the end of May 2008 some 44% of the population are covered.

3. Free choice of service provider

To enable competition to take place, consumers must be able to pick and choose freely from existing providers.

In the mobile radio sector, the choice is between three network operators and various service providers – such as Coop, Migros, Aldi, Mobilezone, Lebara, Lycamobile or Red Bull – which have entered into a partnership with an operator on a commercial basis. It is regrettable, from the regulator’s viewpoint, that certain obstacles in the area of contract law stand in the way of a simple change of provider.

On the fixed network, every household is provided with the customary telephone connection by Swisscom. In parallel, there is generally also a cable television connection, via which broadband internet and telephony services have been available for some years. As a result of the

liberalisation of the telecoms market it became possible for providers of telephony services to make joint use of Swisscom's network, in return for a fee.

In order to make changing one's provider as simple as possible, manual carrier selection (carrier selection call by call) and permanent preselection (carrier preselection) were introduced in 1999. In the case of carrier preselection, the change of provider is permanently fixed on the Swisscom network and the chosen provider charges its customer for telephone traffic directly. At the beginning of the liberalisation, carrier preselection was indeed a key instrument in promoting competition. By 2002 the number of connections on which carrier preselection was active had rapidly risen to 1.37 million, corresponding to one third of all connections. Since then the number has continuously fallen, to 577,097 at the end of 2009. According to Swisscom, in 2009 some 10,200 carrier preselections were activated and 7,730 were de-activated. The fact that the overall number of connections with preselections is nonetheless falling is attributable to the fact that telephone connections are being unbundled or cancelled.

4. Number porting

Since the year 2000, it has been possible for customers to transfer an existing telephone number to a new connection operator. In the mobile radio sector, between 150,000 and 170,000 customers have in recent years ported their number to a new provider. This corresponds to an annual "churn" of approximately 1.8% of all mobile radio customers.

On the fixed network, number porting takes place only in the case of a switch between operators of their own connections (e.g. in the case of a switch to a CATV operator or unbundling by a telecoms provider). In 2009, a total of 147,114 numbers were ported from Swisscom and 17,408 numbers were switched to Swisscom. According to the Teldas company, which operates the central porting database in Switzerland, porting of fixed network numbers has increased greatly since 2004. This is attributable to the introduction of telephone offering by the cable network operators and to unbundling.

IV. Finance

The Commission's costs are covered by administration fees – according to the "causer pays" principle as far as possible. The award of radiocommunications licences by ComCom also gives rise to substantial annual, or in the case of auctions one-off revenues for the Federal Treasury, in the form of radiocommunications licence fees. The GSM, UMTS and BWA licences generated CHF 17,273,503 of licence fees in 2009.

ComCom performs its tasks in close cooperation with OFCOM. A general overview of the revenue and expenditure of the Swiss telecommunications regulator must therefore also include the activities of OFCOM. Table 1 shows total expenditure in the form of various products. This also allows the corresponding revenues to be shown.

In 2009, ComCom's total costs including OFCOM's expenditure for the Commission amounted to CHF 4,076,525. This includes the expenditure of the Commission as a whole, with its secretariat, of CHF 1.1 million in total.

In the case of costs related to the universal service, access procedures and the award of radiocommunications licences, the revenue-to-cost ratio is generally high. Unfortunately, it is often not possible to bill expenditure in the same year as the one in which the costs were incurred, e.g. because of appeals or protracted procedures. Due to appeals pending before the Federal Administrative Court since 2007 against several decisions of ComCom, administration fees of over one million of Swiss francs could not be invoiced.

In addition, there were unavoidable activities which cannot be offset against any specific procedure: this is the case, for example, for the elaboration of economic or legal foundations, international exchanges of experiences or market development studies.

Product	**Costs (in CHF)**	**Administration fees (in CHF)**	**Coverage of costs (in %)**
General foundations	1'630'823	0	0
Universal service licence	458'610	226'460	49
Access procedures	963'655	557'415	58
Radiocommunications licences: tender procedure and award	989'744	0	0
Supervisory measures	33'693	8'180	24
ComCom total (OFCOM, Commission and secretariat)	**4'076'525**	**792'055**	**19**

Tab. 1: Costs, administration fees and coverage of costs of ComCom in 2009
(including ComCom's secretariat and OFCOM's activities for ComCom)

The most important activities at a glance

Access procedures

Bitstream Access	⇨ At the request of both parties, the procedure in progress at ComCom was suspended in July 2009.
Cable ducts	⇨ ComCom reduced the 2008 monthly prices for co-use of cable ducts to 20.6 centimes per meter and per cable.
Spectrum management on the access network	⇨ ComCom decrees that Swisscom must continuously check internationally standardised technologies, which correspond to the state of the art, for network compatibility.

Licences

Universal service	⇨ The universal service was also fully guaranteed nation-wide in 2009 in accordance with the provisions of the law.
GSM	⇨ The GSM licences were renewed by ComCom up to the end of 2013.
Mobile radio frequencies	⇨ The Commission has instructed OFCOM to prepare the allocation of mobile radio frequencies which are either currently free or which will become free in the foreseeable future. ComCom is expected to launch the public invitation to tender for these frequencies in 2010. The allocation of frequencies will take place by auction.

Abbreviations

ADSL = Asymmetric Digital Subscriber Line

BWA = Broadband Wireless Access (WiMAX/WLL)

CATV = Cable Television

ComCom = Swiss Federal Communications Commission

CSC = Carrier Selection Code

DTS = Decree on Telecommunications Services (SR 784.101.1)

DVB-H = Digital Video Broadcasting for Handheld Terminals

EDGE = Enhanced Data rates for GSM Evolution

ERG = European Regulators Group

FAC = Federal Administrative Court

FTTC = Fiber to the Cabinet

FTTH = Fiber to the Home

GPRS = General Packet Radio Services

GSM = Global System for Mobile Communications

HDTV = High-definition television

HSDPA = High Speed Downlink Packet Access

IC = Interconnection

IP = Internet Protocol

IPTV = Internet Protocol Television

ISDN = Integrated Services Digital Network

ISP = Internet Service Provider

LRIC = Long Run Incremental Costs

LRTV = Law on Radio and Television (SR 784.40)

LTC = Law on Telecommunications (SR 784.10)

MMS = Multimedia Messaging System

OFCOM = Swiss Federal Office of Communications

PSTN = Public Switched Telephone Network

SMS = Short Message System

UMTS = Universal Mobile Telecommunications System

VoD = Video on Demand

VoIP = Voice over IP

WiMAX = Worldwide Interoperability for Microwave Access (association of equipment and component manufacturers)

WLL = Wireless Local Loop