Activity Report 2003

of the

Federal Communications Commission

(ComCom)

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I. SUMMARY and OUTLOOK

In one respect everyone is in agreement: Swiss consumers, and therefore the Swiss economy as a whole, have benefited since the market was opened up in 1998. In many cases they have a choice of different providers, whether telephoning from home or on the move, surfing the internet or accessing data. Prices have fallen dramatically, especially in the first few years, and the variety of the range of service offerings continues to increase. And the universal service, supplying the whole of Switzerland with a basic range of telecoms services, is fully guaranteed. Therefore, all population groups can participate in this important form of social communication – and this is also ensured for the future.

From an economic point of view, the liberalisation of the market has had positive consequences for the Swiss telecoms market: investments by both new service providers and Swisscom, as well as the overall turnover of this sector have by far exceeded the expectations of six years ago.

However, it is true that the last few years which have been difficult for the economy have also left their mark on the telecoms sector, but the Swiss telecoms market has been able to continue growing in spite of this, as have those of the EU. The EU is also forecasting renewed market growth of 4% in electronic communications in 2003, which could clearly exceed the GDP growth in the EU.[1]

In spite of a generally rather negative mood amongst consumers, they are showing great interest in new information and communications technologies, with a broadband boom set to follow the mobile phone boom.

As a small country, Switzerland has a very attractive telecommunications market which, measured in terms of market volume, lies in seventh place behind the six EU countries with the largest populations.

The economic upturn that is now forecast will also give the telecoms sector a new impetus, therefore also promoting the development of the information society by means of further investment in infrastructure and new services.

1. Weak points in the current Law on Telecommunications (LTC)

In fact, the state should essentially intervene in the market as little as possible. In the interests of the public though, the Commission is of the view that state intervention is justified if it is a matter of achieving the following aims:

- Guaranteeing the universal service,
- Protecting the consumer,
- Promoting sustainable competition or
- The allocation and control of the scarce commodity, "frequencies".

The whole purpose of sector-specific regulation is to ensure that from the outset, when the market is opened up there are general conditions which make it easier for newcomers to enter the market and allow long-term competition to develop. If effective competition exists in a market, regulation becomes superfluous and should be superseded by general competition legislation.

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[1] Report on the Implementation of the EU Electronic Communications Regulatory Package ("9th EU Telecom Report"), COM(2003) 715, Brussels, 19 November 2003, p. 7f.

The above-mentioned positive results of market liberalisation indicate that on the one hand the current system of regulation has essentially proved successful. On the other hand, however, developments since 1998 have also revealed various weaknesses in the Swiss legislation on telecommunications. The Federal Council has recognised these shortcomings and reacted with the revision of the LTC which is currently in progress.

The Commission sees shortcomings in the following areas of the current telecommunications legislation:

a) Insufficient opening up of the market in the access network (lack of unbundling)
b) The continuing existence of barriers to market entry
c) A lack of flexibility regarding the regulatory instruments
d) Gaps in consumer and data protection

In the Commission's opinion, the following measures would be appropriate to eliminate these weaknesses and in the final analysis would lead to even more attractive telecommunication services and more sustainable competition – corresponding to the objectives of the Law on Telecommunications:

a) Unbundling the local loop: measures and effects

In order to achieve the actual competition required by the LTC, it is necessary to have competition at both infrastructure and service levels. However, with regard to access, Swisscom continues to be the only provider with a network covering the whole of Switzerland, and replicating this network would be economically inefficient. The Commission therefore argues in favour of unbundling the local loop.[2]

However, an obligation to unbundle only exists if a provider is in a market dominant position. The Competition Commission (Comco) determines whether or not this is the case.

In this context, it should be pointed out that unbundling in no way prejudices the universal service. The latter remains assured in its entirety.

The effects of unbundling:

- **Equal opportunities and challenge for all providers:** The aim of unbundling is not to unbundle as many lines as possible, but instead to create competitive pressure and give all providers fair development opportunities. If the broadband market were unbundled, Swisscom would also be one of the best placed in that market. Indeed, not only does it have the largest and a rather loyal customer base, but it also has much greater experience than the other providers. It will benefit most from the increasing volume in the broadband services market – as the development of mobile telecommunications has shown.
- **Pricing pressure, multifaceted offerings and quality competition in favour of the consumer:** With unbundling, alternative providers are no longer obliged to purchase a resale product from Swisscom. The providers would then be free to choose the transmission technology and to offer their customers either a full range of services or services tailored to customers' wishes. In this way, consumers would benefit from new possibilities of choice and lower prices. In fact, it's up to the consumer to decide whether a line should be unbundled or not.
  It must be emphasised that nothing will be "taken away" from the incumbent. It would merely

[2] About the different forms of access to the local loop see chapter III.1.1.

be obliged, at customers' request, to lease certain lines to its competitors at a reasonable price, which moreover, includes an element of profit.

- **Stimulating the market by competitive pressure at infrastructure and service levels:** Even the incumbent would not be immune from this competitive pressure and the stimulus to innovate and invest, because it will want to retain its customers. To survive in the marketplace, it will want to offer high quality products and services to its customers and must make the relevant investments to do this (as the example of ADSL shows).
- **Stimulate investment:** Unbundling will bring about investment not only in Swisscom, but also in alternative providers. Unbundling offers the alternative providers good opportunities for development, but those wanting to exploit these opportunities must also be prepared to make significant investments. If lines are unbundled, then costs arise, for example for the installation and hosting of various pieces of equipment in the local exchanges of the incumbent.
- **Effects on peripheral regions:** The dynamic created by unbundling would have positive repercussions on peripheral regions too. Of particular importance for peripheral regions is the bitstream access, as it facilitates new market entries. Unbundling will bring about more pressure on competition and on pricing, which in turn will lead to a gradual expansion of new offerings in peripheral regions that previously knew no such range of offerings.
  Peripheral regions would also benefit, if uniform prices for unbundled lines would be fixed for the whole country. In particular, SMEs in peripheral regions, which according to an INFRAS survey are still not making much use of broadband communications and the internet, will benefit from unbundling.

b) Reducing barriers to market entry

The following measures, for example, would lead to simplified market entry:

- The **removal of the licence obligation** for telecommunication services providers. On the other hand, radio licences and the universal service licence must be retained.
- An **openly formulated definition of access in the LTC**: Only an openly formulated access regime that is technology-neutral enables flexible, timely intervention if competition is not effective with regard to new technologies or markets.[3] Only a market-dominant provider can be obliged to guarantee access. If there is no dominant provider, then there should also be no need for regulation.

c) Lack of flexibility regarding regulatory instruments

The current, so-called "*ex post"* regulation leads to lengthy interconnection procedures and does not comply with the requirements of a dynamic market. At present, the authorities cannot act on their own initiative on questions linked to interconnection; they can intervene only at the request of a provider.

Moreover, the prices fixed by the regulator apply only to the applicant from the time at which the request was submitted. All the other players on the market only benefit from the prices laid down much later – from the time the decision enters into force.

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[3] The Law on Telecommunications (LTC) was adopted by the legislator in 1997 as a technology-neutral, open legal framework. As is generally known, the Federal Court countermanded this perception with the momentous Commcare decision of 3 October 2001 and therefore also restricted the options open to the Commission. See Activity Report 2001of the Commission.

According to the Commission, it is essential to apply a flexible regulatory model to markets which include a dominant provider, in order to guarantee every provider legal security as soon as possible and in order to ensure general stimulation of those markets where competition is lacking.

Advantages of *ex ante* regulation:

- It is true that *ex ante* regulation allows the regulator to be directly active in certain market sectors – but only when a provider occupies a dominant position in a specific market.
- Early intervention leads to equal outline conditions and prices for all providers from the outset and therefore stimulates competition.
- *Ex ante* regulation leads to faster, more efficient procedures and to greater legal and investment security, which is of benefit to Switzerland as a business location.

d) Improved consumer and data protection

The Commission considers the following measures to be of importance:

- An **arbitration body** for disputes between customers and providers should be set up by the telecoms sector itself or by the Federal administration. At the end of February 2004, the largest telecommunication services providers in Switzerland made it known they wanted to jointly set up such a body during 2004.[4]
- **Upper price limits for added-value numbers** (090x) could limit abuse.
- **Preventing unsolicited mass communications** ("spam" by e-mail, SMS, fax). Unsolicited communications may only be sent out with the approval of the customer, only when the correct sender is nominated and with an opt-out option.
- Clear regulation of the use of **location data** in mobile communications.

2. Current developments in the EU

The new legal framework for electronic communications has been in force in the European Union (EU) since 24 July 2003. This reform package consists of six directives[5], as well as a regulation on the unbundled access to the local loop. With this comprehensive reform package the EU wants to harmonise regulation and relax licensing conditions. With this, the EU takes also account of the actual trend of convergence – the increasingly blurred distinction between telecommunications, electronic media and the internet. The long-term aims of the EU with this reform are: simplified market access, more competition and less regulation. The legislation process for the implementation of the new legal framework has, however, not been finalised in all states as at the end of 2003.[6]

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4 SICTA press release dated 27 February 2004 (www.sicta.ch).

5 New EU legal framework: http://europa.eu.int/information_society/index_en.htm

6 The EU Commission has also launched an investigation into some states. EU Commission press release dated 17 December 2003 (IP/03/1750).

The following are some of the most important developments in the area of telecommunications in the EU:

- **Competencies of the national regulatory authorities (NRA):** According to the EU, regulatory authorities which have the necessary decision-making authority and the required independence to carry out their activities have now been established in virtually all countries. On the other hand, the EU has opted out of creating a central EU regulator. The European Regulators Group (ERG) was founded for the co-ordination of the activities of the NRAs at EU level.[7]
- **Access:** If a company dominates a particular market, then the NRA can impose various measures according to the access directive of the EU[8], such as, amongst others, an obligation to provide access to equipment and networks (such as the local loop, for instance).
  Before the NRAs take measures, they define the relevant markets (taking into account the recommendation of the EU Commission), analyse the competition situation in these markets and where appropriate determine the market-dominant provider.
- ***Ex ante* regulation:** Unlike Switzerland, ex ante regulation has been introduced in the EU and has already been practised by many countries for some time now. The ex ante regulation has the advantage that an NRA can take measures in good time if competition is not effective.[9] Ex ante regulation leads to faster procedures and consequently to greater legal and investment security in the market, because the companies involved know the outline conditions of a market from the outset. Furthermore, ex ante regulation prevents discrimination against smaller companies.
- **General approval instead of licences:** In order to simplify market access, in the EU there are only individual usage rights in the case of radio frequencies and numbers, otherwise all that is needed for the provision of networks and services is a general approval rather than a licence.
- **Data protection:** The Data Protection Directive prescribes EU-wide rules for the protection of the private sphere and for handling data relevant to individuals in electronic communications, inclusive of the internet. Therefore, unsolicited messages will be widely forbidden ("spam" by e-mail, fax or SMS). In addition, location data, which is generated in the context of mobile radio services, may only be further processed with the approval of the user (e.g. for location-related services) and the user must be able to refuse the installation of so-called "cookies" on a computer.
- **Security:** Furthermore, the EU has recognised that, in addition to data protection, network and information security are of crucial importance for the social acceptance and economic success of new information and communications technologies (ICT). Consequently the EU has created the European Network and Information Security Agency (ENISA) which starts work in 2004 and should be able to advise member states on matters of security.[10]
- **Active broadband strategy:** All member states are called upon to present a broadband strategy. In this respect, in the EU it is particularly the case that areas lacking broadband

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7 www.erg.eu.int

8 Access directive of the EU dated 7 March 2002 (Directive 2002/19/EG).

9 A summary of the advantages of ex ante regulation from the Commission's viewpoint can be found in the Activity Report for 2002: www.fedcomcom.ch

10 Cf. EU Commission press release dated 20 November 2003 (IP/03/1577).

infrastructures will be given support. Accordingly, within the context of the European growth initiative, immediate measures were announced to overcome the digital divide.[11]

3. Broadband market

In fact the rapid growth of the broadband market in the past two years represented the most significant development in the telecom sector.

Though the expansion of broadband technology was initially quite slow, the tempo has accelerated considerably over the last few years. In Switzerland, internet access via cable TV network (CATV) was first marketed in 1996 but its growth did not begin until 1999. ADSL via the telephone network was first launched in 2000. With the success of the ADSL technology in the last two years and the prospects with regard to the implementation of new services has therefore revived interest in the fixed telephone network.

In Switzerland, the number of broadband connections (ADSL and CATV) very nearly doubled between December 2002 and December 2003, and ADSL connections increased by a factor of 2.5. In Europe, the number of connections also doubled in the twelve months preceding October 2003.[12]

In international comparisons, Switzerland has one of the fastest growth rates for broadband access in Europe and is not far behind the leading countries (Denmark, Belgium, Netherlands and Sweden). However, despite a penetration rate of around 11.5% at the end of 2003, although Switzerland certainly has some of the best results in terms of high-speed development at European level, it is still way behind such countries as South Korea, Hong Kong, Canada and Taiwan.[13] Moreover, the data transfer rates (speeds) of basic ADSL service offerings in Switzerland in 2003 tended to lag behind the service offerings in many European countries and particularly those in some Asian countries.[14]

Between ADSL and CATV we are currently witnessing some competition in terms of network infrastructure. This situation nevertheless resembles a form of duopoly and does not really comply with the aims of the Law on Telecommunications (LTC).

In this respect, we should mention the inequality that exists between the two markets: on the one hand, the telephone network, which is wholly owned by the historic operator, covers virtually the entire country. On the other hand, in excess of 250 CATV providers are sharing the cable network, with Cablecom, the main provider, only in possession of a good half. Furthermore, even all the cable networks together do not serve the whole country and are only partially prepared for offering high-speed internet services.[15]

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[11] Communication from the EU Commission, Connecting Europe at high speed: recent developments in the sector of electronic communications, Com (2004) 61, Brussels, 3 February 2004, p. 11f.

[12] See note 11.

[13] Please see chapter "IV. Evolution of the market: Key figures and statistics".

[14] Arthur D. Little, Global Broadband Report, 2003, www.adl.com

[15] According to figures published at the beginning of 2003 in the media, Cablecom had some 500'000 lines equipped with bi-directional communication (vital for accessing the internet by cable), in other words 33%

Finally, on the telephone network, the historic operator which dominates the entire network is imposing conditions on transfer rates, prices and available services. Despite everything, the other providers have not wanted to miss the boat when it comes to dividing up the developing ADSL market and have also invested heavily in winning ADSL customers.

Whilst Cablecom is proposing a telephone service via its cable TV network (in 2003 still as trial offer), Swisscom announced its intention to offer TV channels using the DSL technology. These trails should begin in 2004.

According to the Commission, unbundling of the local loop is important as it would enable all operators to offer new services. Of particular relevance here is the growing tendency of telecom operators in other countries to propose not only "double play", but "triple play" offers, combining telephony, internet and TV channels. In France for example, in unbundled areas it is already possible to benefit from such "triple play" services. An example is the French operator "Free".

The planned deployment of ADSL 2 Plus and the development of new image compression standards (Mpeg 4 instead of the current Mpeg 2) will soon make it possible to watch a broadcast whilst simultaneously recording another to hard disk, or watching a film or programme at any desired time, thanks to the setting up of video on demand servers. Television by ADSL will also make it possible to offer interactive, original services (consultation of technical or biographical records, rewinding to a scene, slow motion, etc.).

Chargeable and legal offerings such as music downloads (including the protection of author's rights), also appear to have a promising future. Numerous distributors and other online sales platforms are actually already positioned in his niche and offering titles for less than one euro per unit. Some musicians have expressed their interest in such systems and put their compositions on the internet to counter pirating across illegal peer-to-peer networks.

of its 1.5 million lines. In the case of Swisscom, some 3.8 million telephone lines are ADSL-compatible, i.e. around 95% of all the telephone lines in Switzerland (see 17 February 2003 edition of the Basler Zeitung, p. 11, as well as Swisscom's press release dated 3 December 2002).

4. Mobile telephony market

Market penetration for mobile telephony in Switzerland was slightly below 84% at the end of 2003. However, this notable figure is no better than average in a comparison with the EU states. Typically, the growth in new mobile telephone users is now slowly flattening out. However, hardly ever has any technology been adopted so quickly and so permanently as mobile telephony (figure 1).

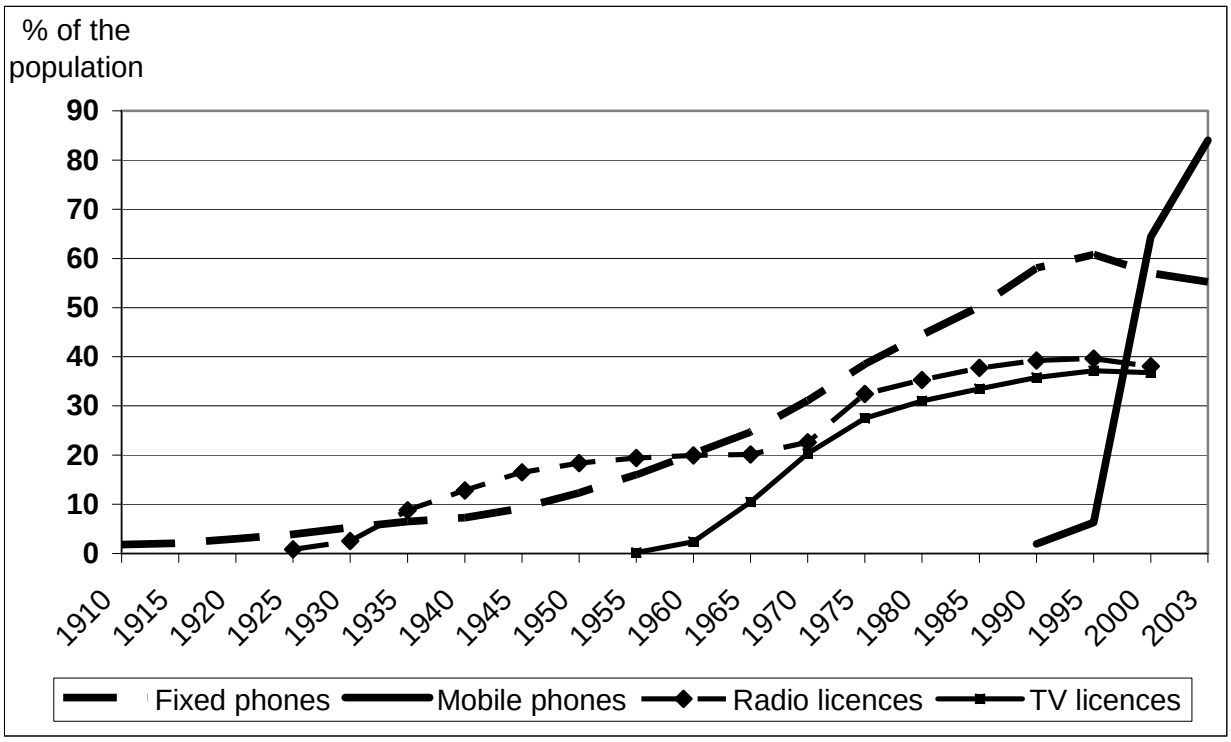

Fig. 1: Introduction of different communication technologies in Switzerland: telephone, radio, TV and mobile phone (penetration in % of the population) [16]

Despite a difficult economic environment, the mobile telephony market continued to develop positively in 2003 and it remains a motor for the growth of the telecommunications industry: For example, all three mobile operators were able to announce positive figures for the year 2003 – Swisscom Mobile even had an impressive EBITDA margin of around 48%.[17] Nonetheless, providers have not been able to rest on their laurels but are constantly investing heavily in new services and infrastructures.

From the private customer's point of view, however, it is a fact that prices of different types of subscriptions – according to a price analysis by OFCOM – have hardly changed over some

[16] Heiner Ritzmann (ed.), Historical statistics of Switzerland, Zurich 1996; SRG SSR idée Suisse, research section; OFCOM.

[17] Press releases from Swisscom AG dated 24 March 2004, Orange Communications SA dated 10 March 2004 and TDC Switzerland AG dated 1 March 2004.

considerable time.[18] However, consumers are benefiting from the fact that providers are heavily discounting some mobile telephones in order to win customers. On the other hand, the much sought-after business customer can count on flexible concessions on prices and products; however, the prices applicable here are not published.

The industry constantly comments that termination charges for calls from the fixed network to the mobile networks are too high in Switzerland. A comparison of the figures for 2002 does indeed show that these wholesale charges are among the highest in Europe.[19] One fixed network operator did submit two interconnection applications in this context, but these were withdrawn in March 2003. At the same time, Comco, the Competition Commission, opened an investigation into mobile termination charges in October 2002. However, this investigation was delayed, since two of the companies concerned (Swisscom Mobile and Orange) complained that Comco was not competent in this area.[20]

New GSM licences awarded to In&Phone and Tele2

In order to stimulate competition in the mobile telephony sector to the benefit of consumers, the Commission decided in the summer of 2003 to put additional GSM frequencies with a bandwidth of 2x15 MHz out to tender for innovative projects. These frequencies from the GSM 1800 MHz band were awarded from among the seven candidates by means of a competition based on criteria. In December 2003 the Commission decided to award one GSM licence respectively to In&Phone (2 x 5.8 MHz) and Tele2 (2 x 8.6 MHz). Both private and business customers will benefit from the expected market stimulus resulting from these two best projects. Competition will be strengthened by innovative offerings and favourable prices.

UMTS and multimedia services

2003 can be considered as a milestone in the European mobile market, since it marks the beginning of the new, third generation of mobile telephony: at least one UMTS network commenced commercial operation in four EU countries. The EU Commission is further assuming that by the end of 2004 more than 40 UMTS operators will be providing commercial services within the EU.[21] The EU Commission wishes to actively promote the further development of mobile telephone technology and the introduction of UMTS in order to maintain Europe's good position in this sector. This is certainly important when one considers – and this was striking at the Telecom World 2003 exhibition in Geneva – how dynamically mobile technology is developing in East Asia.

Preparations are under way in Switzerland for the market launch of UMTS. In contrast to the three existing GSM operators, no activities on constructing a UMTS network are discernible from 3G Mobile (Telefónica), as the parent company has halted network construction in Switzerland,

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[18] The calculations were based on a standard "basket of consumer goods" for mobile services, the "OECD National Mobile Basket". See OFCOM, Analyse der Preisentwicklung im schweizerischen Telekommunikationsmarkt seit 1998, Biel, August 2003.

[19] WIK-Consult (report commissioned by OFCOM), Der Schweizer TK-Markt im internationalen Vergleich. Extract from the 8th Implementation Report of the EU extended to include Switzerland, Bad Honnef, March 2003, p. 50.
"Charges in Sweden, Austria and even Finland are only half those in Switzerland" (Ebenda, p. 50).

[20] See Comco publication "Recht und Politik des Wettbewerbs", 2003/2, p. 387ff. See below, section 1.6.

[21] Cf. EU Commission press release dated 3 February 2004 (IP/04/154).

Germany, Austria and Italy for strategic reasons. According to the licence, operators must cover 50% of the Swiss population by the end of 2004. The first UMTS service offerings are expected in the course of 2004.

On the services side, lively development is also a feature in Switzerland's GSM market: on almost every public holiday "traditional" SMS messages establish a new record. On New Year's Eve 2003, for example, some 66 million SMS messages were sent in Switzerland. The French regulatory authority, ART, estimates that in 2002 more than 90 billion SMS messages were sent in Europe (i.e. approximately 235 SMS per inhabitant per year), generating sales of more than 12 billion euros.[22]

Now that a sufficient number of MMS-capable terminals (mostly with a built-in camera) have gradually been made available to consumers, MMS[23] is becoming a useful means of communication. Increased marketing effort in this sector was also apparent at the end of 2003. Acceptance of MMS within various groups of users should provide important indicators for the launch of the next generation of mobile telephones.

According to the French regulatory authority, operators' revenue from all data services combined is constantly rising, but still only accounts for between 10% and 20% of sales.

The continuing development of services and equipment goes hand in hand. With regard to terminals, the internal components are being minimised as far as possible and the power consumption is being improved; at the same time more memory and colour screens are being introduced. The main trends in terms of the new services can be summarised as "multimedia" and "convergence". The ever growing range of services already extends from internet access to downloading music, video clips or TV news, as well as games or navigation aids. The purchase of tickets via mobiles, already introduced in some places, marks the beginning of m-commerce.

WLAN: an uncertainty factor

WLAN technology[24] makes it possible to simply and rapidly set up local wireless networks in order to network stationary equipment and for fast internet access. Major advantages of a WLAN include the relatively low set-up costs and the high data rates of 11 to 54 Mbit/s.[25] The WLAN systems currently on offer work in two frequency ranges 2.4-GHz[26] and 5-GHz[27]. On the one hand these frequencies are freely available, so no radio licence is required to use them. On the other hand, however, there is no protection from interference by other WLANs.

It is not only private individuals and business which are making greater use of WLANS; new public WLANs are constantly being set up. Two Swiss mobile operators, Swisscom Mobile and

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22 Telecommunications Regulation Authority (ART), Analysis note No 5: SMS (Short message service), February 2004, p. 2.

23 MMS: Multimedia Messaging System ("multimedia SMS").

24 WLAN: Wireless Local Area Network (also termed WiFi).

25 The speed of internet access, however, does not depend on the WLAN itself but on the capacity of the line from the WLAN to the internet provider.

26 Frequency range available in Switzerland: 2400-2483.5 MHz; permissible EIRP transmission power max. 100 mW. Usual standards: IEEE 802.11b and IEEE 802.11g (plus Bluetooth for wireless data exchange between devices). For more detailed information see the OFCOM website www.ofcom.ch.

27 Available frequency range: 5150-5350 MHz (for in-house use only); permissible EIRP transmission power max. 200 mW. Possible standards: IEEE 802.11a/h, HiperLAN2.

Sunrise, are already offering – primarily to businesses – fast internet access at a number of "hotspots" (at highly-frequented locations such as stations, hotels, airports and conference centres). Swisscom even sees this area as an opportunity to expand into Europe: according to information it has provided, its subsidiary Swisscom Eurospot[28] was operating a network with some 1500 hotspots in several EU countries at the end of 2003, making it the most important WLAN provider in Europe. To date, as a technology for stationary use within a restricted area, WLAN does not represent a valid alternative to national mobile radio networks, yet the spread of such networks has led to a degree of uncertainty concerning the future of the next generation of mobile telephones. Operators now have to incorporate new trends in this sector into their business plans: under the name "Wireless Metropolitan Area Network" (IEEE 802.16a), a standard is being established for WLANs outside buildings and for greater ranges and with IEEE 802.20 it is planned to specify a form of mobile broadband wireless access (MBWA).[29]

Although equipment is expected for the 802.16a standard in the near future, their use in Switzerland and in most European countries is still uncertain. It will only be possible to use such equipment in Europe following frequency harmonisation. Even more uncertain is the availability of frequencies for the 802.20 standard, as this is envisaged for operation on frequencies below 3.5 GHz which are subject to licensing.

[28] Cf. www.swisscom-eurospot.com. Two other operators, Orange and Cablecom, announced their intention to offer public WLAN in 2004.

[29] IEEE 802.16: http://grouper.ieee.org/groups/802/16; IEEE 802.20: http://grouper.ieee.org/groups/802/20

II. THE COMMISSION AND ITS SECRETARIAT

1. The Commission

ComCom is an independent extraparliamentary commission which was established as the licensing authority and market regulation body for telecommunications by the Law on Telecommunications (LTC) of 30 April 1997.

The most important tasks of the Commission are:

- Granting licences for telecommunication services providers and licences for the use of radio communication frequencies.
- Laying down the conditions for interconnection when service providers fail to reach an agreement.
- Award of universal service licence.
- Approval of the national frequency allocation plan and national numbering plans.
- Fixing the terms of application for number portability and carrier selection.
- It also takes measures in the event of violation of the law in force and, where applicable, revokes the licence.

The Commission has delegated some of its tasks to OFCOM.

The Commission consists currently of seven members who must be independent experts, nominated by the Federal Council. There were no changes in the composition of the Commission in 2003.[30] In December, the Federal Council also re-elected the Commission for the 2004-2007 period of office.

In 2003 the Commission met for a total of ten days of sessions. The time spent by all the Commission members is considerable: to the Commission sessions must be added a whole series of decisions taken by way of circulation, which have to be carefully prepared. In addition, it is necessary to include the preparation time for the various sessions spent by the Commission members (1 to 2 days per session), as well as the time essential for ongoing training in an area which is constantly evolving.[31]

2. The Secretariat

The Commission has its own secretariat. This is managed by the Secretary of the Commission, assisted by an administrative secretary and a scientific officer. This year too there were no changes in personnel.[32]

The Secretariat is responsible for coordinating affairs, organising the work of the Commission and providing the public with information. In addition, it deals with a substantial number of queries and complaints. The complaints received clearly indicate that there is also a need in the

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[30] Cf. Appendix I: The members of the Commission

[31] You will find further information on the Commission's website: www.fedcomcom.ch

[32] Cf. Appendix II: The Secretariat employees

telecommunications sectors for a specialised arbitration body. Such an independent body is to be established as part of the current revision of the LTC, in accordance with the will of the Federal Council.

3. The Commission's website

The year 2002 was used as an opportunity to modernise the Commission's website. This new version, with a clearer general structure and a modern design, was intended to simplify browsing and access to information.

However, it had been designed without taking into account the recommendations of the W3C (World Wide Web Consortium) or those of the Federal Chancellery relating to accessibility.

The Commission therefore wished to improve the accessibility of its website for the handicapped, particular the visually impaired, in accordance with the criteria and recommendations for optimal use of a website by the handicapped.[33]

Our project, launched in spring 2003, consisted of an initial phase of analysis of the current situation of our site, followed by a phase involving harmonising the different elements of the site with a view to making it accessible to people with various handicaps or those using alternative browsing technologies.

In collaboration with the Quattromultimedia company, which had designed the new version of our site last year, a script (JavaScript) was produced in order to generate the html code content necessary to display adequately the content of requested pages on-the-fly and according to the type of technology.

At the end of 2003, we asked the Swiss foundation "Access for All"[34] to test the validity of the improvements which had been made before this new version goes live, which should be possible in spring 2004.

[33] In January 2004 came into force a new law about equality of handicapped persons. According to this law, services offered on Internet by federal authorities have to be accessible for visually handicapped persons.

[34] Swiss foundation for technology adapted to people with disabilities, see www.access-for-all.ch

III. ACTIVITIES OF THE COMMISSION

1. Interconnection (IC)

The term “interconnection” covers two levels.[35] On the one hand, it designates the interconnection of telecommunications networks with each other and on the other hand the resulting possibility of linking telecommunications services.

With regard to the obligation to guarantee interconnection, article 11 of the LTC makes a distinction between two approaches: On the one hand, the providers of services forming part of the universal service are obliged to provide interconnection in order to guarantee the possibility of communication between all users of these services. Thus, for example, it must be guaranteed that a customer of any provider can communicate with the customers of all other providers. This so-called interoperability of networks and services is an absolutely indispensable basic requirement in a market with multiple providers.

On the other hand the LTC also envisages interconnection as a central instrument for facilitating market access and therefore for establishing effective competition. A market-dominant provider can be obliged to offer interconnection to other providers in accordance with the principles of a transparent and cost-based pricing structure and in a non-discriminating way. The basic concept of this LTC instrument is the following: If a market is dominated by an established provider, the forces of competition cannot be deployed freely. In order to allow competition to develop, a degree of equality of opportunity for all providers is needed. This is achieved by obliging the market-dominant provider to guarantee interconnection for an economically appropriate charge. This remuneration must be cost-based, i.e. only the relevant costs are factored in, but with the interest on invested capital which is customary for the industry it also includes an element of profit in favour of the market-dominant provider. To calculate these charges, the Decree on Telecommunications Services (DTS) prescribes the “LRIC method” (cf. the following section). This method of calculation leads to prices which would apply in a functioning competitive environment. The interconnection obligation in the case of market domination thus makes it easier for new providers who do not have their own network, or have only an incomplete network, to gain market access, thereby stimulating competition.

The primacy of negotiations is laid down in the LTC. Before the Commission can decide on the prices and conditions for interconnection, the providers must first attempt to reach an agreement via negotiations. If no interconnection agreement can be reached within three months, the provider may lodge a request with the Commission for an interconnection 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 the Commission lays down interconnection prices and conditions, the parties to the procedure have another chance to reach an amicable agreement within the framework of conciliation negotiations. However, right from the start of the procedure the Commission may impose precautionary measures in order to guarantee interconnection during the procedure.[36]

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[35] LTC art. 3, letter e and art. 11.

[36] On the interconnection procedure, see art. 11, para. 3, LTC and art. 49-58 DTS.

1.1. Unbundling and leased lines as interconnection services

Following the public consultation procedure relating to revision of the LTC, the Federal Council came to the conclusion that the fastest possible unbundling, i.e. opening up the “last mile” to all providers, is important to stimulate competition. On 26 February 2003, therefore, it published a decision to the effect that all three forms of unbundling would immediately be placed under the interconnection regime, by way of an amendment to the decree – and it took the same decision in respect of leased lines. The corresponding amendment to the DTS entered into force on 1 April 2003.

The Federal Council clearly stated that it considered the legal basis for introducing unbundling by way of a decree to be adequate. According to the Federal Council, for political reasons Parliament should also be able to express itself explicitly on the question of unbundling as part of the LTC revision process. [37]

The three forms of access to the local loop differ in the following ways:

a) **Bitstream Access:** In the case of bitstream access, the incumbent itself establishes a broadband connection to the customer. It leases this connection to other telecommunication services provider (TSPs) for reselling to their end users.

b) **Shared Line Access:** With this form of access, the incumbent and another TSP share the use of the paired copper wires. The incumbent continues to offer the telephone service, whilst the new entrant provides fast data services over the same local loop using its own installed broadband technology. Telephone and data traffic are separated by a signal distributor (splitter).

c) **Full access to the local loop:** With this form of access the subscriber line is leased to an alternative provider for exclusive use. The lessee offers the end user a full range of voice and data services.

Unbundling gives all providers access to the so-called last mile (or local loop), i.e. to the line between the local exchange and the subscriber. As a result, alternative providers have greater freedom in configuring their service offerings and choosing the technology they use. Unbundling is a stimulus to greater competition in the broadband market, for the benefit of consumers. From data services through to entertainment content over the telephone, the customer expects a greater selection of new, low-cost products. Businesses in particular can be offered tailored solutions from a single source. Precisely for the future of Switzerland as a service economy, a dynamic broadband market is an important factor in choosing a location for business.

The Commission hopes that in the promising broadband market there is no repeat of events which occurred in the Swiss mobile telephone market: this market was opened up to competition late in comparison with other countries, and this is probably an important reason for the moderate size of the two subsequent market entrants. An excessive handicap at the beginning can be overcome only with difficulty. It would be desirable for several large, healthy providers to establish themselves in addition to niche providers and for them to have the resources in the future to invest in new technologies in good time, for the benefit of Switzerland.

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[37] Cf. Federal Council (DETEC) press release dated 26 February 2003.

Without access to the last mile for other providers, competition is not strong enough to encourage innovation and investment. This would slow or even block technological progress, since the incumbent's competitors would not be free to choose the technology they wish to use.

1.2. IC procedures: Unbundling the local loop

As a result of this explicit assimilation of leased lines and the three forms of unbundling as interconnection services in the DTS, it will henceforth be possible to require a market-dominant operator to provide these services at cost-based prices. As in any interconnection procedure, the primacy of negotiation applies: an interconnection application may be submitted to the Commission only after three months of discussions between the companies have not produced any agreement.

As the negotiations initiated in early April 2003 between TDC Switzerland ("Sunrise") and Swisscom had not led to an amicable solution, two interconnection applications were lodged by TDC at the end of July. One case refers to the introduction of both shared line access and full unbundling, the other to a guarantee of bitstream access by Swisscom. In the latter procedure, TDC also submitted an application for precautionary measures to be taken. OFCOM immediately initiated an official examination of the procedures.

The following requirements must be fulfilled cumulatively for the promulgation of precautionary measures: the prognosis of success in relation to the main issue must be favourable and the applicant must be subject to the threat of a disadvantage persisting throughout the duration of the procedure which cannot easily be offset. In addition, the measures must be urgent and satisfy the juridical principle of proportionality.

Following the Federal Council's amendment of the DTS at the beginning of 2003, the legal starting point has changed substantially compared with previous procedures. Thus the Commission came to a rather positive outcome in the prognosis on the main matter – in which context, for an application for precautionary measures, only a summary examination of the substantive and legal position is possible. The Commission assumed an adequate legal basis for placing the bitstream access under the interconnection regime and hardly anything would have changed in the assessment of market domination in the access network.

However, on the basis of the current practice of the Federal Court, the Commission has come to the conclusion that the other requirements for precautionary measures are substantially not fulfilled.[38] In particular proportionality does not exist. At the beginning of September 2003 the Federal Court confirmed clearly this practice in a decision within the framework of a dispute between Teleclub and Cablecom.[39]

For this reason, the Commission rejected TDC's application for precautionary measures on 24 September 2003.

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[38] Cf. BGE 127 II 132

[39] Administrative appeal by Cablecom against the precautionary measures decreed by the Competition Commission, BGE A2.142/2003 dated 5 September 2003 (cf. http://www.bger.ch).

1.3. IC procedure: Leased line prices

At the end of July 2003, TDC Switzerland ("Sunrise"), in addition to the unbundling applications, submitted a further interconnection application relating to the fixing of prices and interconnection conditions for leased lines. Here too, TDC applied for precautionary measures to be taken. For the same reasons as in the "bitstream access" procedure (cf. above, section 1.2), on 24 September 2003 the Commission rejected the request in this case also. Therefore no special arrangements in favour of TDC will apply for the duration of both procedures.

1.4. IC procedure: Resale of the local loop

At the beginning of October 2003, Tele2 submitted an interconnection application and requested that Swisscom be obliged to resell the local loop to Tele2. If this were possible, Tele2 could also sell the telephone connection directly to its end customers and the separate Swisscom bill for the line would no longer apply.

In this context, Tele2 cited the unbundling obligation anchored by the Federal Council in spring 2003 in the Decree on Telecommunication Services (DTS). However, reselling of the subscriber connection is not explicitly prescribed in the DTS as an interconnection situation.

The Commission rejected the application on 17 December 2003. It came to the conclusion that in this case there is no adequate legal basis which would justify obliging Swisscom to offer such reselling. This view also corresponds to the current practice of the Federal Court.

1.5. IC procedures: Prices according to the "Long Run Incremental Costs" (LRIC) calculation model

In the case of the two procedures in progress since the year 2000 and relating to the determination of interconnection prices based on the “Long Run Incremental Costs” (LRIC) calculation model, the Commission took the decisions on the main matter on 6 November 2003. Prior to this, the conciliation negotiations initiated by OFCOM had not led to any agreement between the parties.

Thus for the first time in Switzerland the interconnection prices have been examined with regard to their cost basis, by applying the LRIC model. Cost-based prices can be demanded only from a market-dominant provider and should prevent a dominant provider using pricing policy to obstruct interconnection and therefore competition.

LRIC prices correspond to the objectives of the telecommunications legislation[40] in that they promote efficient provision of services.

In accordance with the provisions of the law, the Competition Commission was consulted about the question of market dominance. The Commission found that Swisscom does occupy a market-dominant position with regard to all the disputed interconnection services – with the exception of transit and directory enquiry services. On the basis of article 15 of the law on monitoring of prices (Preisüberwachungsgesetz – PüG) the price monitor was also consulted and his recommendations were considered in the decisions.

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[40] Cf. the article defining the aims of the LTC (art. 1).

What is meant by the LRIC model?

The Federal Council specified the LRIC model explicitly and in detail in article 45 of the DTS; it has been in force since the beginning of the year 2000.

LRIC (Long Run Incremental Costs) is an internationally recognised method of calculation which for example is also used in the European Union to set interconnection prices. In this context, consideration is given to incremental costs due to interconnection, a portion of overhead costs and the capital costs which are customary in the industry. The capital costs include both the costs for external capital and the expected return on internal sources of capital and therefore prices also include a profit element.

According to the LRIC method, costs should correspond to the expenditure and investment of an efficient provider who is able to survive in a competitive environment.[41] A hypothetical new entrant on the market provides the benchmark for the efficiency of an established provider – according to the concept of "contestable markets". The analysis looks at the long term and is forward-looking, i.e. no inherited costs may be considered.

The LRIC method leads to fair prices which promote competition, in that competitors of the market-dominant provider only have to bear the costs actually attributable to the services in question.

Decreed price reductions and effects

On the basis of extensive economic investigations by the Federal Office of Communications (OFCOM), ComCom has come to the conclusion that Swisscom demanded prices which were 25-35% too high for a series of interconnection services in the years 2000 to 2003. These are now being reduced to the legally permitted level. At the same time, the opposing parties (TDC and MCI WorldCom) are also being obliged to offer their interconnection services at the same prices (reciprocity).

Several reasons have made these price reductions necessary: First of all, Swisscom's tariffs were not based on an understanding of efficiency which meets the legal requirements specified in art. 45 DTS. Secondly the costs were not always allocated to the interconnection services in an accurate manner. Thirdly the capital costs, i.e. the interest charges on the company's own and external capital, should also have been reduced to a level customary in this sector.

Initially, only the applicants, Sunrise and MCI WorldCom, will benefit from the price reductions which have been imposed for the years 2000 to 2003 – this is a typical feature of Swiss *ex post* regulation. In the future, i.e. from 2004 onwards, all of Swisscom's other interconnection partners should benefit from lower prices, thanks to the legal ban on discrimination. If the interconnection partners cannot agree in negotiations, each competitor is free to submit an application to the Commission for fixing interconnection conditions.

In the medium term, the Commission is assuming that the decisions will also have positive effects on end-user prices, since in a competitive environment reductions in the wholesale prices generally lead to price reductions in the retail sector.

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[41] For further information and explanations, in particular the economic background and the procedures used in the examination of costs, see press background material dated 7 November 2003 at http://www.fedcomcom.ch/comcom/e/communiques/2003/238.html

Duration of procedures and evidence of costs

It should be noted that the Law on Telecommunications concedes the right and the possibility for a market-dominant provider to prove concretely what its costs are. It is only when the provider does not provide justification for its costs that the Commission can fix prices, notably on the basis of comparative values at the international level (benchmarking).[42]

In order to make verification of costs possible, OFCOM, as the examining authority, conducted comprehensive and time-consuming cost surveys in cooperation with Swisscom. Obtaining a complete overview of Swisscom tariffs and checking the costs claimed also required much effort. Furthermore, the duration of the procedure meant that not only the interconnection prices for the year 2000 but also those for the subsequent years had to be incorporated into the procedure.

With the Commission's decisions of 6 November 2003 it was possible to complete the first instance of the proceedings in the two LRIC procedures. However, the decisions are not legally enforceable, since all parties – for different reasons – have submitted an appeal against the decisions to the Federal Court.

1.6. IC procedures: Mobile termination

As already mentioned in the last Activity Report, towards the end of 2002 two new interconnection applications were submitted by Tele2, relating to mobile termination charges from the fixed network to the mobile telephone networks. These charges are often described as too high by providers in the fixed network sector. In March 2003, however, both interconnection applications were withdrawn.

In October 2002, the Competition Commission (Comco) launched an investigation into mobile termination charges. The mobile operators Swisscom and Orange, however, contested Comco's competence in this instance, and this has since led to a prolonged legal dispute.[43]

What is meant by the term "mobile termination"?
When a customer of a fixed network operator calls a customer of a mobile telephone operator, the mobile operator accepts this call from outside into its network and routes it to its end customer. For this service the mobile operator collects a wholesale charge, the so-called mobile termination charge, from the caller's network operator.

[42] Art. 58, para. 3, DTS.

[43] Cf. Comco publication "Recht und Politik des Wettbewerbs", 2003/2, p. 387ff.

2. Licences

The Commission, as the licensing authority, is in principle responsible for granting all licences. However, according to the LTC, the Commission may delegate individual tasks to OFCOM. This has happened in the case of the following types of licence:[44] licences for telecommunication services which are not subject to a tender procedure (fixed services, for example), and radiocommunication licences which are not intended for the provision of telecommunication services (for example, radio licences for amateur radio operators or for transport companies' private radio links). In the following section we shall deal only with those licences granted directly by the Commission.

2.1. Additional GSM licences

In the autumn of 2002 a public consultation had produced limited interest in newly available frequencies in the GSM 1800 MHz band. In April 2003 the Commission decided to award a bandwidth of 2 x 15 MHz. The Commission defined stimulating the Swiss mobile telephone market by innovative projects as the aim of the award. To achieve this objective and also to give smaller companies an opportunity, the frequencies were awarded within the framework of a competition based on criteria, excluding the three existing GSM operators.

The invitation to tender for these GSM frequencies was opened on 15 July 2003 and lasted until 30 September. The following seven companies submitted a candidature dossier within the specified period: Global Networks Switzerland AG, In&Phone SA, SITA, Swissphone Systems AG, Télésonique SA, Tele2 Telecommunication Services AG and Technocell A.G.[45]

The candidatures were evaluated by OFCOM using the following criteria: business plan and service plan, technical concept and implementation, the effect on stimulating the market and the degree of innovation, as well as the coherence and credibility of the project. The basic requirements for taking part in the competition were meeting the legal conditions for a licence and proving that financing of their project was assured.

On the basis of this comprehensive evaluation, the Commission decided on 16 December 2003 to award one GSM licence respectively to the companies In&Phone and Tele2.

Both private and business customers will benefit from the stimulation of the market resulting from these two carefully thought-through projects. Competition should be strengthened through innovative offerings and attractive pricing. With regard to the question of the number of antennas, it must be stressed that no fourth national GSM infrastructure will be set up on the basis of the granting of these licences.

The two winning projects are characterised by the following strengths:
In&Phone intends to offer larger business customers (companies, administrations, international organisations, etc.) local GSM networks via which internal communications in buildings (in-house) or on a campus can be provided flexibly and at low cost using mobile telephones. Low-radiation picocells are used for in-house coverage.

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[44] LTC art. 5 para. 1 and Decree of the Federal Communications Commission concerning the Law on Telecommunications art. 1 para. 1 (SR 784.101.112).

[45] Cf. OFCOM press release dated 6 October 2003.

Tele2 focuses on the individual customer market and wishes to provide GSM services (telephony, SMS, MMS, etc.) at the best prices. The Swedish Tele2 Group is already present as a mobile provider in about a dozen European countries. The Swiss subsidiary Tele2 will benefit from this wealth of international experience. Tele2 intends to offer its services across Switzerland through cooperation with an existing operator (National Roaming). Tele2 will construct its own infrastructure only in densely populated areas with high volumes of telecommunications traffic.

In&Phone will receive a licence with a bandwidth of 2 x 5.8 MHz (29 channels) and Tele2 will receive a licence with a bandwidth 2 x 8.6 MHz (43 channels). By way of comparison, it should be mentioned that the three current GSM operators each have access to a bandwidth of about 2 x 25 MHz.

The considerable interest shown lately in the frequencies is an encouraging sign of the spirit of innovation in Switzerland and indicates the attractiveness of the mobile telephony market.

2.2. UMTS licences

On the basis of an operator's request, in autumn 2003 the Commission tackled the question of whether the prerequisites for a further change to the coverage obligation existed.

In general, however, the licences can be amended by the Commission not at will but in accordance with the legal provisions. According to article 10 of the Law on Telecommunications (LTC), a licence may be modified only if the actual or legal conditions have changed and if the change is essential to safeguard important public interests.

The Commission produced an overview of the current situation with regard to UMTS. In particular, the developments in standardisation, the availability of infrastructure and terminals and the market situation abroad were considered in greater detail. At the end of 2003, the Commission reached the conclusion that the prerequisites for a change to the UMTS licence are not currently being met.

Such third-generation (3G) mobile telephony services will be offered in five EU member states at the beginning of 2004. The EU Commission further indicates that by the end of 2004 more than 40 UMTS networks are expected to be offering commercial services.[46]

2.3. WLL licences[47]

Contrary to the optimistic expectations in the year 2000, when nine companies paid a total of CHF 582 million during an auction for 34 WLL licences, this technology did not become a serious alternative to the last mile of the fixed network.[48] At present, six companies still hold a WLL licence. As the supervisory authority, OFCOM regularly checks whether the minimum operational obligation of the licences is being complied with; otherwise OFCOM initiates a supervisory procedure which may lead to the licence being revoked.

In such a procedure, in the case of the WLL licensee Firstmark Communications Switzerland AG, OFCOM found that the allocated frequencies were not being used as prescribed in the licence.

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[46] Cf. EU Commission press release dated 3 February 2004 (IP/04/154).

[47] Wireless Local Loop.

[48] Cf. Activity Report 2000 of the Commission.

For this reason, on 6 November 2003 the Commission decided to revoke Firstmark Communications Switzerland's national WLL licence.

2003 also saw the transfer of one WLL licence and 2 licences were voluntary surrendered.

2.4. Universal service

The Federal Council regularly adapts the content of the universal service according to social and economic requirements and to developments in technology; this happened most recently in the autumn of 2001.[49] The Commission is in turn responsible for periodically putting the universal service licence out to tender and awarding it anew. In 2002 it was awarded to Swisscom Fixnet AG for a period of five years, until the end of 2007.[50]

Since 1 January 2003, as part of the universal service, there has been an entitlement to a digital connection of the ISDN type. According to OFCOM, this extension of the universal service occurred without any problems.

The number of public telephones, which are part of the universal service, remained practically constant in 2003. According to the DTS, every political municipality is entitled to a public telephone. According to information from OFCOM, none of the municipalities which do not have a public telephone at present has asked for a public telephone to be installed in the last year.

Providing the population with a high-quality, reasonably-priced basic offering of telecommunications services is fully guaranteed everywhere in Switzerland – and this will remain the case in the future.

3. Numbering plan

The new "closed" numbering plan (the same format for local and national calls) was adopted by the Commission in March 2000 to guarantee a sufficient quantity of addressing resources and thereby to prevent any risk of a shortage of numbers.

The introduction of the area code in the telephone number, implemented successfully at the end of March 2002, takes account of international developments and in addition has established the necessary basis for the introduction of geographical number portability.

To be able to do this, it is preferable to provide an identical length for subscriber numbers throughout Switzerland. This is the aim of the final stage of the numbering plan, which concerns the migration of 01 numbers to the same 044 numbers in the Zurich numbering zone.

When approached on this question, the Commission decided in May 2003, after seriously analysing the possibility of not migrating 01 numbers to 044, to maintain the numbering plan as already adopted as a compromise solution in March 2000, following detailed consultations with interested parties.

In order to minimise the costs, and in the interests of users throughout Switzerland, the migration has deliberately been set as a very long period of 7 years. Moreover, parallel operation, initialled

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[49] The content of the universal service is laid down in detail in art. 19ff. DTS.

[50] Cf. Activity Report 2002 of the Commission.

envisaged over two years, was finally extended to three years (from 1 March 2004 to 31 March 2007); this means than it will be possible to reach users of 01 numbers simultaneously using the two codes (01 and 044) and that they will be able to choose freely the time at which they switch from one number to the other.

In January 2004, OFCOM (the Federal Office of Communications) launched an information campaign on the migration from 01 to 044 in collaboration with different telecommunication services providers. For example, the subscribers received a brochure from OFCOM with their telephone bill. OFCOM is also providing an information platform on the internet (www.ofcom.ch/044) as well as a free hotline (0800 210 210) providing all the necessary information on the code change.

Finally, apart from the facilitated introduction of geographical number portability without any risk of confusion for users, it will be possible to call short numbers from abroad and the number of misdialled calls to the emergency and rescue services will fall considerably.

Barring of 090x value-added service numbers

In this context it is important to mention some measures taken by the Federal Council: Indeed, since December 2003, all telephony operators must provide their customers with the possibility of simply barring, at no cost, all value-added service numbers starting with 0900, 0901 and 0906.[51] Until now, only a bar on outgoing calls to adult services with erotic or pornographic content (0906) had to be offered free of charge. Barring all 090x value-added service numbers on the line used by a modem also makes it possible to prevent unwanted calls to the internet being made using these numbers (PC dialers).

Consumer protection will be further strengthened by the amendment of the Decree on Indication of Prices; in the opinion of the Federal Council, the provisions relating to transparency of prices must be made tougher for these value-added telephone services.

In addition, the main players in the telecommunications market also launched an initiative: under the aegis of SICTA[52] they have concluded an interprofessional agreement on value-added telecommunications services with a view to combating abuse.

4. National frequency allocation plan

In Switzerland, the frequency spectrum is administered by OFCOM, pursuant to article 25 of the LTC. It is the job of the Commission to approve changes to the national frequency allocation plan. This plan specifies the different frequency bands allocated in Switzerland and provides an overall view of the use of the frequency spectrum in the country, indicating the current or planned mode of use of each band.

Once it was approved by the Commission, the amended national frequency allocation plan entered into force on 1 July 2003.

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51 Cf. OFCOM press release dated 1 December 2003, http://www.bakom.ch

52 Swiss Information and Communications Technology Association. Cf. SICTA press release dated 16 October 2003, http://www.sicta.ch.

5. Carrier (Pre)Selection

Preselection of a telecommunications provider is an important instrument for stimulating competition. Moreover, this possibility was introduced very quickly in Switzerland, where it has been possible to use it since 1999, whereas certain countries in the European Union, such as Germany, introduced it only in 2002.

However, the Commission is well aware that problems continue to exist, particularly with regard to aggressive commercial practices on the part of certain providers. Implementing procedures which allow users themselves to check the operations aimed at activating or deactivating preselection would make it possible to limit disputes in this area.

The Communications Commission's revised decree on the Law on Telecommunications and its appendix 2 relating to the technical and administrative regulations on carrier selection does provide for this possibility. It is, however, linked to the introduction of version 4 of the ISUP (ISDN User Part) protocol on the providers' network. Right from the start, a period was provided to allow telecommunication services providers to harmonise the commands for querying the activation/deactivation status of CPS on the different systems making up their network.

At present, version 4 of the ISUP protocol has not been introduced on the telephone network. Furthermore, it would require adaptations to the administrative processes, notably concerning the commercial relations between subscribers and service providers.

It should also be noted that the Commission has decided, within the framework of an interconnection procedure (LRIC), to massively reduce the price invoiced by Swisscom to other service providers for processing preselection orders. However, since this decision is the subject of an appeal, its entry into force depends on a decision of the Federal Court, which will not be made until 2004.

6. Measures taken under supervisory procedures

As the supervisory authority, OFCOM monitors compliance with the provisions of the law, decrees and licences. If an infringement of licences or violation of the applicable law is suspected, OFCOM initiates a supervisory procedure. Where applicable, OFCOM makes a proposal to the Commission which then decides on the measures which are necessary.[53] These range from obliging the provider to rectify the fault, the imposition of supplementary conditions on the licence through to revoking the licence. If licences or decisions are not complied with, the Commission may additionally impose administrative penalties.[54]

[53] If the Commission has delegated OFCOM the authority to grant certain licences, OFCOM may decide on its own which measures are to be taken. Cf. art. 58 LTC.

[54] Cf. art. 60 LTC.

7. Study trip by the Commission

In an environment such as telecommunications which is developing so rapidly, continuous further education is of great importance. The Commission constantly follows the latest developments and future trends, e.g. by means of publications and conference reports, but also by means of direct contact with companies and research institutions at home and abroad.

For the same reason, in 2003 the Commission met with several telecommunication services providers for an exchange of views. In addition, this year's programme also included a brief study trip, which the Commission made to the Lake Geneva region. There, among other things, the Commission met various telecoms start-ups in the Parc scientifique d'Ecublens.[55] The Commission also visited the National Centre of Competence in Research "Mobile Information and Communication Systems"[56] at the Swiss Federal Institute of Technology Lausanne (EPFL). This research body, supported by the Swiss National Fund, works on distributed, self-organising networks in mobile telephony.

[55] "Parc Scientifique PSE" foundation: http://psewww.epfl.ch

[56] For detailed information on the National Centre of Competence in Research "Mobile Information and Communication Systems" (NCCR MICS) see: http://www.terminodes.org

IV. EVOLUTION OF THE MARKET: KEY FIGURES AND STATISTICS

The interest shown in this topic in our previous publications encourages us to continue to publish some figures here. These represent a brief summary of the development of the market in Switzerland, as the figures published below are estimates produced from data obtained from the main telecommunication services providers in Switzerland as well as sources available within OFCOM.[57]

The number of **telecommunication services providers** in Switzerland decreased a little bit in 2003. Thus at the end of 2003 there were 352 providers[58], or 7 less than at the end of 2002 (-2%). These include 165 providers (+4) subject to compulsory notification, 116 (-12) with a telecommunication services licence and 3 with a GSM mobile licence. Finally, the total number of interconnection agreements, which increased more markedly than last year, reached 64 at the end of 2003. It should also be noted that 80% of all providers offer services in the fixed network and 20% in the mobile networks.[59]

In terms of **fixed telephony** infrastructure, the reduction in the number of analogue connections continues, but at a slower and slower rate (-1.5% between December 2002 and September 2003, whereas the annual variation was about -2.4% between the end of 2001 and the end of 2002, and -4.2% the previous year). The development of ISDN, on the other hand, is running out of impetus, because of the strong growth in broadband access (DSL and cable), which has better performance in terms of data transfer rates. The number of digital ISDN connections thus increased by +3% between the end of 2002 and September 2003 (as against +6% between the end of 2001 and the end of 2002, and +16% between the end of 2000 and the end of 2001).

The growth of the Swiss **mobile telephony** market continued to make progress in 2003, reaching nearly 84% at the end of 2003 (79% at the end of 2002). At such a level, Switzerland reflects the European average. But after enjoying exponential growth at the end of the nineties, the growth of the mobile market seems to be slowly flattening out (decreasing annual rates of growth since the year 2000).

It should also be noted that after having contributed greatly to this sustained high growth, the proportion of pre-pay subscriptions also seems to have stabilised at around 42% since 2001.

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[57] It should be pointed out that in law OFCOM has the task of drawing up the official telecommunications statistics every year. However, analysis in the same year is not possible, given compilation and processing of data from all the telecommunication services providers because of the incomplete nature of the sources available at the time of drafting this report. For more detailed information, we would advise readers to consult the OFCOM website.

[58] Please note that not all of these providers are necessarily active on the market.

[59] OFCOM, Telecommunications statistics. Evolution up to 30 June 2003 for certain indicators, October 2003, p. 49, http://www.ofcom.ch (French and German only).

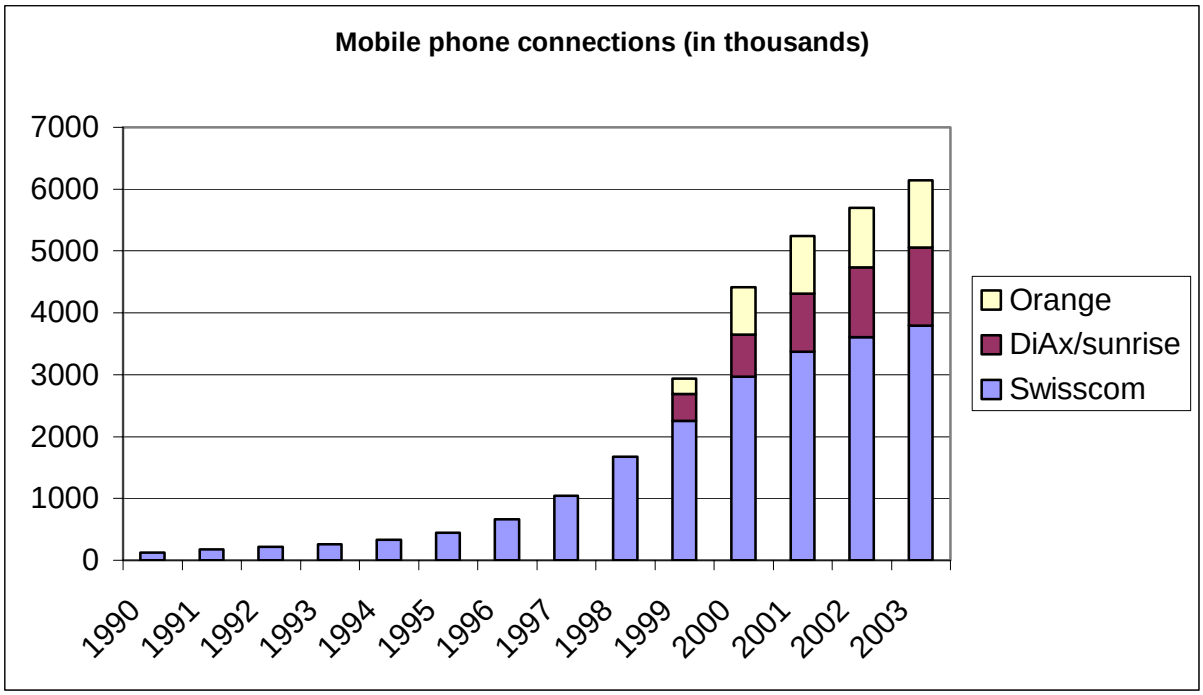

Fig. 2: Mobile phone connections in Switzerland (in thousands) [60]

At the end of December 2003, Swisscom still occupied a leading position with regard to mobile telephone connections. With a 61.8% **market share**, the influence of the historic operator remains considerable, despite a drop of 1.5%, again to the benefit of Sunrise, which remains in second position with a 20.5% market share. Orange is also making little progress, at 17.7%. It is also apparent that each of the three operators has again recorded an increase in the number of its subscribers in the course of the past year (see figure 2).

In an international comparison, we note that there is no country in Europe (with at least three operators) where the leading operator has such a strong market position as it does in Switzerland, even though the leading operator is in most cases also the historic operator. In all the European countries, the operator ranked second has market shares distinctly higher than those of the operator ranked second in the Swiss market. In several cases also, the second largest operator's share is roughly equivalent to the combined total of the two alternative operators in Switzerland (see figure 3).

[60] OFCOM, Telecommunications statistics. October 2003; Press releases from Swisscom dated 24 March 2004, Orange dated 10 March 2004 and TDC (sunrise) dated 1 March 2004.

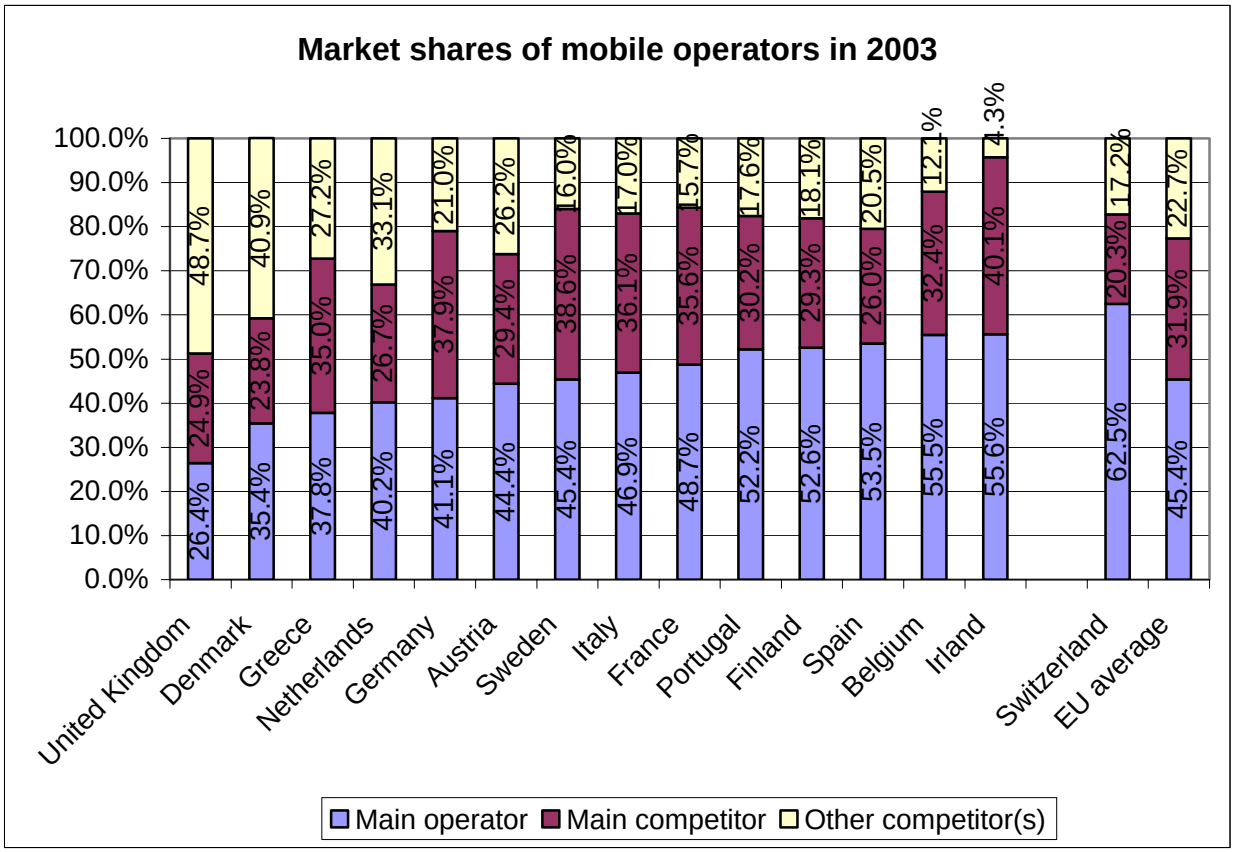

Fig. 3: Market shares of mobile operators in the EU and in Switzerland in 2003 [61]

Finally, with regard to the **development of the internet** in Switzerland, we should first note that the number of personal computers in the population, a key factor in the development of the information society, has again grown in the last year. It grew from 5.1 million units at the end of 2002 to 5.43 million at the end of 2003, i.e. an increase of 6.5%. With an equipment penetration rate of around 77.4 per 100 inhabitants, Switzerland is one of the best equipped countries in the world.

So sales of new computers increased very markedly during 2003 (+10.3%), admittedly after two years in which they fell (including one very large drop of about -8.2% in 2002). This increase is mainly attributable to the significant reduction in price of both desktop and notebook computers. Moreover, the latter contributed greatly to stimulating the market, particularly in the case of professional use; businesses have in fact replaced their computer inventory with notebooks, perhaps also motivated by the development of WLAN networks.

The major factor this year was again the enthusiasm for **broadband** internet access services. Launched during the year 2000, these have been a considerable success over the last three years, with a real explosion during the year 2003, in particular for ADSL access. Indeed, given that there were already 460'000 broadband connections in Switzerland as of 31 December 2002, split between 43.5% ADSL connections and 56.5% cable modem connections, the total number of connections almost doubled in one year, reaching 850'000 at the end of 2003 (see figure 4).

[61] 9th EU Telecoms Report, Annex I, page 42; *all data from summer 2003.*

The broadband penetration rate was therefore approximately 11.5% at the end of 2003; it was only 2.2% of the population at the end of 2001.

Of particular significance this year is the fact that the number of ADSL connections by far exceeded connections by cable modem. The trend which had slowly become clear during 2002 and which saw a progressive reduction in the gap between the two technologies then still dominated by cable connections has been more or less reversed in favour of ADSL technology. At the end of 2003, the split was 58.8% for ADSL and 41.2% for cable.

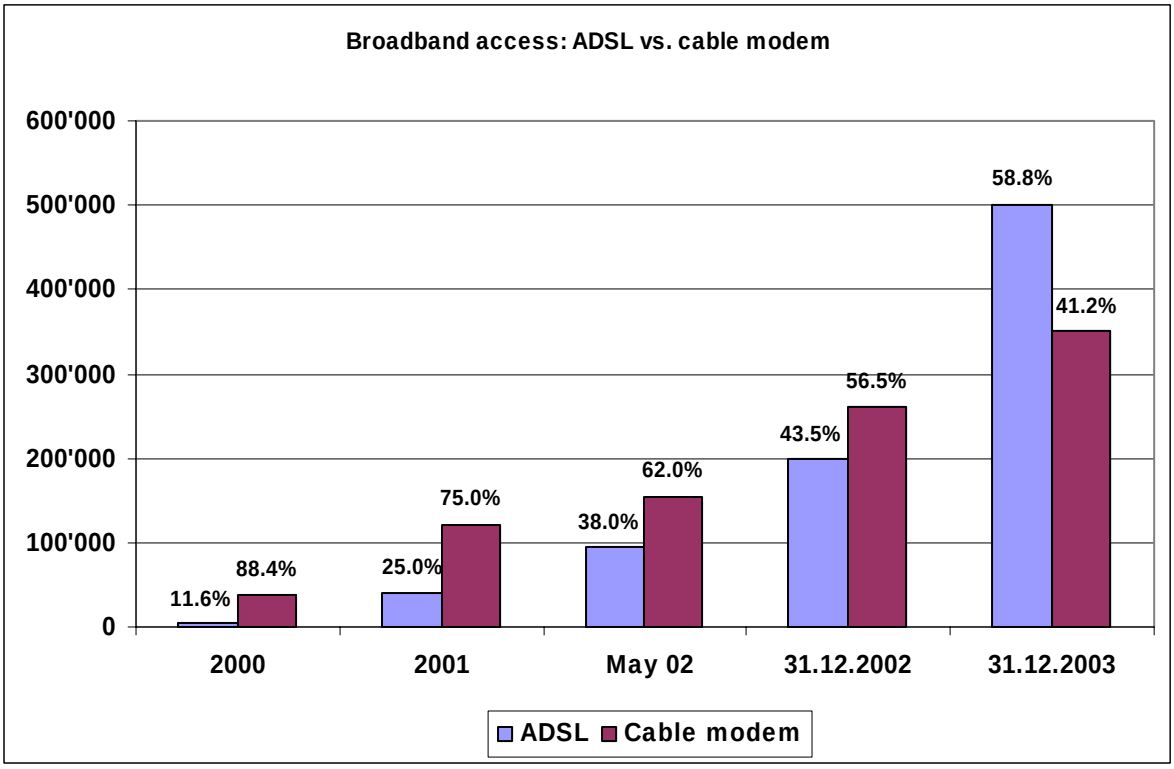

Fig. 4: Broadband access: ADSL vs. cable modem [62]

In an international comparison, Switzerland, after Sweden, enjoys the strongest growth rate for broadband access in Europe (see figure 5). In 2002, when there was a three-level development of the broadband market in Europe, with the first group of countries (Belgium, Denmark and the Netherlands) with a penetration rate of between 6.5% and 8% of the population, Switzerland belonged to a second group ranging between 4% and 4.5%.

In mid-2003, with a rate of penetration of 8.7% of the population, Switzerland entered in the leading group, just after Denmark, Belgium, the Netherlands and Sweden (with a penetration rate between 9.2% and 10.4%). Despite the tailenders Ireland and Greece, which form a separate group, all the other countries can be grouped together in a second group whose penetration rates (between 2.3% and 6.6%) are around the European average (4.6%).

Switzerland has thus largely caught up over two years, especially if one considers – and this is not shown in the figure 5 – the development observed during the second half of 2003, which has

62 OFCOM, Swisscom, Swisscable.

boosted the broadband penetration rate in Switzerland to approximately 11.5% at the end of 2003.

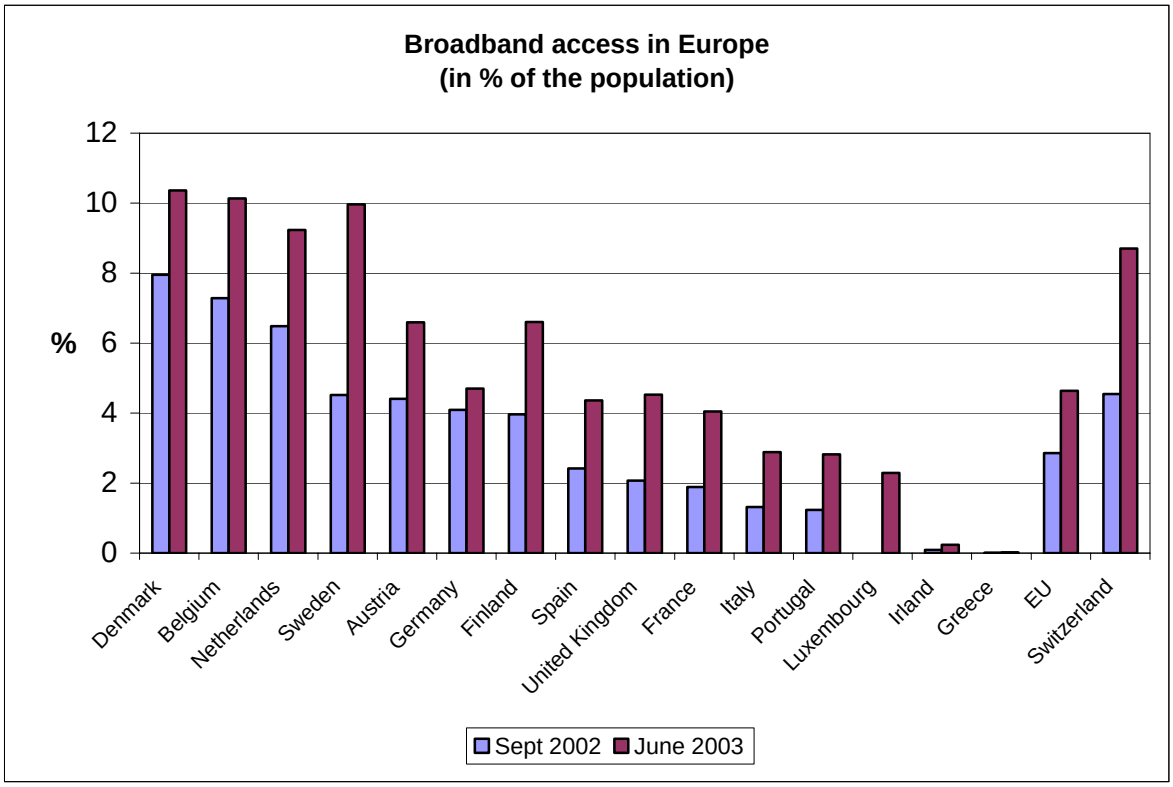

Fig. 5: Broadband access in Europe (penetration in % of the population) [63]

Since communications infrastructures are fundamental to our country, which has an economy based mainly on the tertiary sector and which tends to occupy a leading position worldwide in the services sector, it is also interesting to broaden the perspective by looking at other developed countries in the world (see figure 6).

In this case, although Switzerland certainly shows good results in terms of the development of high-speed access at the European level, it is still far behind countries such as South Korea (25% penetration rate), Hong Kong (17%), Canada (14%) or Taiwan (12.3%).

For Switzerland, its economic position and all of its consumers, it is important for the infrastructures to continue to develop and for competition to intensify still further in the area of services.

[63] 9th EU report on telecommunications, Appendix I, p. 50; Swisscom; Swisscable. For the EU countries, broadband access includes all technology types (xDSL, cable modem, WLL, PLC). For Luxembourg, no figures are available for 2002. The figures for Switzerland include only ADSL and cable modem access.

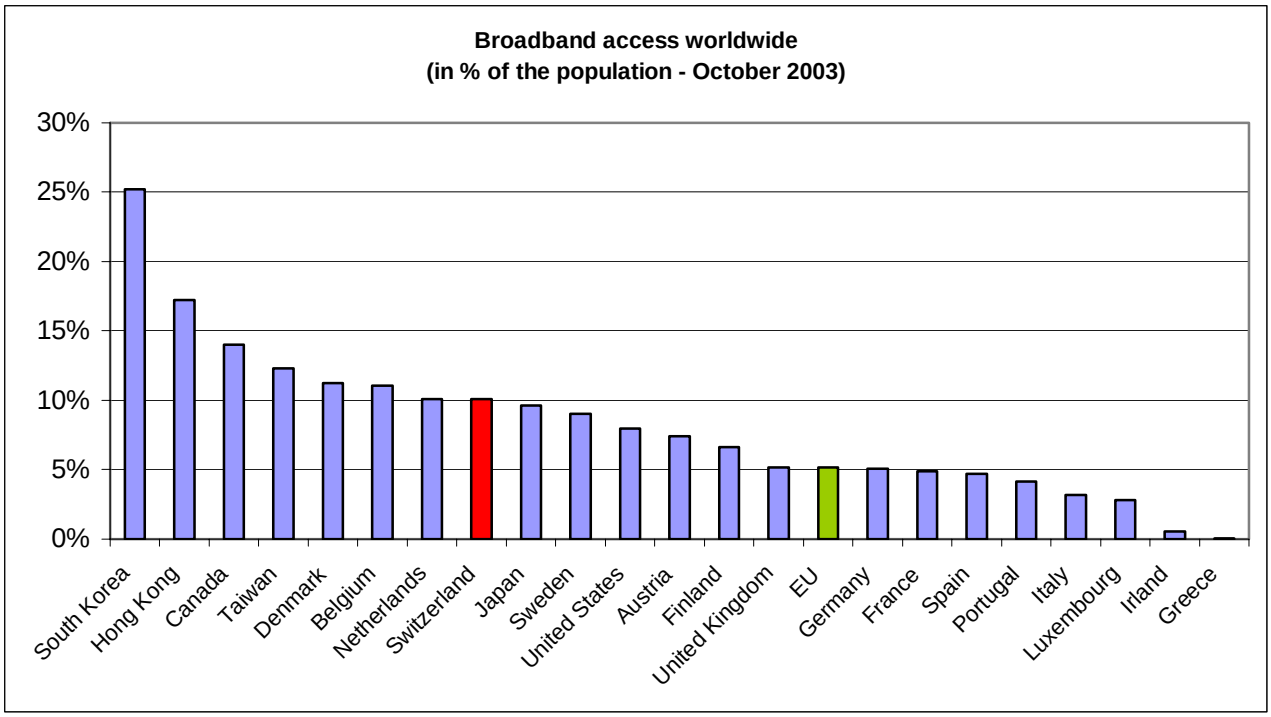

Fig. 6: Broadband access worldwide, October 2003 (penetration in % of the population) [64]

[64] EU Commission press release dated 3 February 2004 (IP/04/154). For Switzerland, estimates of between 8.7% at the end of June 2003 and 11.5% at the end of December 2003.

V. SUMMARY OF THE COMMISSION'S ACTIVITIES

Interconnection procedures

Unbundling	⇨	After the Federal Council had accepted unbundling and leased lines as interconnection services in the DTS in February 2003, at the end of July TDC submitted two interconnection applications for unbundling in three variants. Within the framework of the "bitstream access" IC procedure, on 24 September the Commission pronounced against the implementation of precautionary measures.
Leased line prices	⇨	At the end of July 2003, TDC submitted also an application to determine interconnection prices and conditions for leased lines. In this procedure too, the Commission rejected the application for implementation of precautionary measures on 24 September.
Resale of the local loop	⇨	In early October 2003, Tele2 submitted an application to force Swisscom to resell the local loop. Since no adequate legal basis exists for this, the Commission rejected the application.
Procedures according to the LRIC calculation model	⇨	In both these procedures the Commission made decisions on the main matter on 6 November 2003. The extremely time-consuming costings using the LRIC model have caused interconnection prices to fall by 25-35%. The Commission's decisions, however, are not yet legally enforceable, as appeals have been lodged against both of them with the Federal Court.
Mobile termination	⇨	At the end of 2002 two applications were lodged for a reduction in interconnection prices for calls from the fixed network to the mobile network of two mobile operators. In March 2003 both applications were withdrawn.

Licences

GSM	⇨	On the basis of the comprehensive evaluation by OFCOM, the Commission decided on 16 December 2003 to award two licences using frequencies from the GSM 1800 MHz frequency band: awarding 2 x 8.6 MHz to Tele2 and 2 x 5.8 MHz to In&Phone is intended to stimulate the mobile telephony market for private and business customers.
UMTS	⇨	At the end of 2003, the Commission came to the conclusion that the conditions for amending the UMTS licence do not exist at present.
WLL (Wireless Local Loop)	⇨	In 2003 the Commission revoked a WLL licence owing to lack of use of the allocated frequencies. In addition, one WLL licence was transferred and two licences were voluntarily surrendered.
Universal service	⇨	The universal service is fully guaranteed throughout Switzerland.
Numbering	⇨	The Commission is maintaining the numbering plan from the year 2000, which has already been partially implemented. Now, however, the period of parallel operation for implementing the migration of 01 numbers to 044 numbers has been extended from two to three years.
National frequency allocation plan		Once it was approved by the Commission, the amended national frequency allocation plan entered into force on 1 July 2003.

31 March 2004

In the name of the Commission

The President

Dr. Fulvio Caccia

APPENDIX I: The members of the Commission

President:
Fulvio Caccia

Vice President:
Gian Andri Vital

Members:
Christian Bovet
Pierre-Gérard Fontolliet
Beat Kappeler
Heidi Schelbert-Syfrig
Hans-Rudolf Schurter

APPENDIX II: The employees of the secretariat

Secretary General of the Commission: Peter Bär

Scientific officer and webmaster: Pierre Zinck

Administrative secretary: Verena Verdun