Focusing on our customers with a great deal of passion and reliability.

Glossary

Technical terms

4G/LTE (Long Term Evolution): 4G/LTE is the successor technology to HSPA and is the fourth generation of mobile technology. At present, LTE enables mobile broadband data speeds of up to 150 Mbps.

4G+/LTE Advanced: 4G+/LTE Advanced enables a theoretical bandwidth of up to 300 Mbps using the mobile phone network. In doing so, it bundles 4G/LTE frequencies to achieve the necessary capacity. In the near future, theoretical bandwidths of up to 450 Mbps will be achieved through the further bundling of 4G/LTE frequencies.

5G: 5G is the next generation of mobile network technology. There is currently no international 5G standard. But more and more tests are taking place worldwide. Swisscom expects to launch 5G in Switzerland in 2020.

ADSL (Asymmetric Digital Subscriber Line): A broadband data transmission technology that uses the existing copper telephone cable for broadband access to the data network. Filters at the customer end and in the network prevent mutual interference, allowing traditional analogue telephony and data transmission to exist in parallel. Depending on the line length and other factors, the transmission speed varies between 150/50 kbps and a maximum of 6,000/600 kbps.

All-IP: All-IP is the technology behind the transition to a single unified network (copper and optical fibre) based on the Internet Protocol (IP). All-IP means that all services such as television, the Internet or fixed-line telephony run over the same IT network based on the Internet Protocol. Phone calls are no longer transmitted using analogue signals but instead take the form of data packets, as is the case for existing Internet services. Thanks to the unified All-IP network infrastructure, devices and services can communicate with one another and exchange data. In the medium and long term, Swisscom intends to switch all existing communications networks to IP to enable all telecommunications services (telephony, data traffic, TV, mobile communications, etc.) to be offered over IP. This would mean that all IP services within Switzerland are provided via Swisscom's own network, ensuring a higher level of security and better availability than other online voice service providers.

Bandwidth: Bandwidth refers to the transmission capacity of a medium, also known as the data transmission rate. The higher the bandwidth, the more information units (bits) can be transmitted per unit of time (second). It is defined in bps, kbps or Mbps.

Cloud: Cloud computing is an approach in which IT infrastructure, such as computing capacity, data storage and even finished software and platforms can be modified according to need dynamically and accessed via the Internet. The data centres, along with the resources and databases, are distributed via the cloud. The cloud is also a synonym for hardware that does not have a precise location.

Connectivity: Connectivity is the generic term used to denote IP services or the connection to the Internet and the ability to exchange data with any partner on the network.

DSL (Digital Subscriber Line): DSL is the generic term for transmission technologies that use subscriber lines based entirely or partly on copper. Examples of DSL technologies: ADSL or VDSL.

EDGE (Enhanced Data Rates for GSM Evolution): EDGE is part of the second generation of mobile telephony and is a radio modulation technology used to enhance data transmission speeds in GSM mobile networks. EDGE enables data transfer rates of up to 256 kbps. EDGE is currently available to over 99% of the Swiss population.

FTTH (Fibre to the Home): FTTH refers to the end-to-end connection of homes and businesses using fibre-optic cables instead of traditional copper cables.

FTTS (Fibre to the Street)/FTTB (Fibre to the Building)/FTTC (Fibre to the Curb): FTTS, FTTB and FTTC with vectoring refer to innovative, hybrid broadband connection technologies (optical fibre and copper). With these technologies fibre-optic cables are laid as close as possible to the building, or up to the basement in the case of FTTB, while the existing copper cabling is used for the remaining section. VDSL's subsequent evolution to G.fast will significantly increase bandwidths for FTTS and FTTB.

G.fast (pronounced "gee dot fast"): G.fast, the latest technology for copper lines, is capable of providing far more bandwidth than VDSL2. The use of G.fast for FTTS and FTTB is part of Swisscom's access strategy.

GPRS (General Packet Radio Service): GPRS is part of the second generation of mobile telephony and increases the transfer rates of GSM mobile networks. GPRS enables speeds of 30 to 40 kbps.

GSM (Global System for Mobile communications) network: GSM is a global second-generation digital mobile telephony standard which, in addition to voice and data transmission, enables services such as SMS messages and phone calls to other countries (international roaming).

HSPA (High Speed Packet Access): HSPA is an enhancement of the third generation of the UMTS mobile communications standard. Compared to UMTS, HSPA enables large volumes of data to be transmitted at faster speeds. HSPA enables far more customers to use the same radio cell simultaneously and at a consistently high speed than would be possible with UMTS. At locations where mobile Internet use is particularly concentrated, HSPA was upgraded to HSPA+ (also referred to as HSPA Evolution). The maximum transmission speed currently delivered by this technology is 42 Mbps.

ICT (Information and Communication Technology): A term coined in the 1980s, combining the terms information and communication technology. It denotes the convergence of information technology (information and data processing and the related hardware) and communication technology (technically aided communications).

IP (Internet Protocol): IP enables different types of services to be integrated on a single network. Typical applications are virtual private networks (VPN), telephony (Voice over IP) and fax (Fax over IP).

IPTV (Internet Protocol Television): IPTV refers to the digital broadcasting of broadband applications (for example, television programmes and films) over an IP network.

ISP (Internet Service Provider): An ISP is a provider of Internet-based services. Also commonly referred to as Internet Provider. Services include Internet connection (using DSL, for example), hosting (registration and operation of Internet addresses, websites and web servers) and content provision.

LAN (Local Area Network): A LAN is a local network for interconnecting computers, usually based on Ethernet.

MVNO (Mobile Virtual Network Operator): MVNO denotes a business model for mobile communications. In this case, the corresponding business (the MVNO) has little or no limited network infrastructure. It therefore accesses the infrastructure of other mobile communication providers.

Net Promoter Score (NPS): NPS is a key figure that quantifies customer satisfaction directly and willingness to recommend the service to other customers indirectly. The NPS is thus an analysis to determine customer satisfaction.

Optical fibre: Fibre-optic cables enable optical data transmission, unlike copper cables, which use electrical signals to transmit data.

OTT (Over the Top): OTT refers to content distributed by service providers over an existing network infrastructure without operating the infrastructure themselves. OTT companies offer proprietary services on the basis of the infrastructures of other companies in order to reach a broad range of users quickly and cost-efficiently.

PWLAN (Public Wireless Local Area Network): PWLAN denotes a wireless, local public network based on the IEEE 802.11 WiFi standard family. Swisscom customers can use PWLAN at more than 2,200 hotspots in Switzerland and over 65,000 worldwide. A PWLAN typically offers data transmission speeds of 5–10 Mbps.

Roaming: Roaming enables mobile network subscribers to use their mobile phones when travelling abroad. The mobile telephone of a subscriber outside Switzerland automatically selects the best-quality partner network. Information indicating the country and region where the mobile phone is located at any given time is sent to the exchange in Switzerland where the mobile phone is registered. On receipt of the calling signal, the exchange in Switzerland transmits it within a fraction of a second to the right region in the respective country, where the signal is forwarded to the base station in whose vicinity the mobile phone is located. The base station then forwards the signal to the mobile phone and the call can be taken. Roaming only works if all countries involved operate on the same frequency bands. In Europe all GSM networks use the same frequency bands. Other countries such as the USA or countries in South America use a different frequency range. Most mobile telephones today are triband or quadband and support 900 MHz and 1800 MHz networks (which are most commonly used in Europe) as well as 850 MHz and 1900 MHz networks.

Router: A router is a device for connecting or separating several computer networks. The router analyses incoming data packets according to their destination address, and either blocks them or forwards them accordingly (routing). Routers come in different forms, from large-scale network devices to small devices for the home.

TDM (Time Division Multiplexing): Multiplexing is a method which allows the simultaneous transmission of multiple signals over a single communications medium (line, cable or radio link), for example, by means of classic telephony (using an ISDN or analogue line). Multiplexing methods are often combined to achieve even higher utilisation. The signals are multiplexed once the user data have been modulated on a carrier signal. At the receiver end the information signal is first demultiplexed and then demodulated.

Ultra-fast broadband: Ultra-fast broadband is broadband speeds of more than 50 Mbps – on both fixed and mobile networks.

UMTS (Universal Mobile Telecommunications System): UMTS is an international third-generation mobile communications standard that combines mobile multimedia and voice services. A further development of GSM, UMTS complements GSM and Public Wireless LAN in Switzerland. Today the UMTS network covers around 99% of the Swiss population.

Unified Communications: An attempt used to integrate the wide variety of modern communication technologies. Different telecommunication services such as e-mail, unified messaging service, telephony, mobile phones, PDAs, instant messaging and presence functions are coordinated to improve the reachability of communication partners working on distributed projects, thereby speeding up business processes.

VDSL (Very High Speed Digital Subscriber Line): VDSL is currently the fastest DSL technology, allowing data transmission speeds of up to 100 Mbps. The current form of VDSL is called VDSL2.

Vectoring: Vectoring is a technology that is used in conjunction with VDSL2. It eliminates interference (disruptions) between pairs of copper lines. This enables maximum a double increase in bandwidth.

Video on Demand: A service that allows subscribers to choose from a selection of (video) films and to watch the selected film at any time. The film is delivered to the subscriber either over the broadband cable network, over the original telephone network (DSL transmission), or over the new fibre-optic network (optical transmission).

VoIP (Voice over Internet Protocol): VoIP is used to set up telephone connections via the Internet.

VoLTE (Voice over LTE): LTE is, in effect, a pure data network. VoLTE enables phone calls via the LTE data network.

VPN (Virtual Private Network): Colloquially, VPN is now used to refer to a virtual IP network (usually encrypted) that acts as a closed subnetwork within another IP network (often the public Internet).

WiFi Calling: WiFi Calling enables users to make calls via their mobile phone and the WLAN/WiFi network. This technology significantly improves mobile phone reception in houses.

WLAN (Wireless Local Area Network): WLAN stands for wireless local area network. A WLAN connects several computers wirelessly to a central information system, printer or scanner.

Networks

Leased lines: Swisscom operates various data networks. These data networks support leased lines based on a range of different technologies such as SDH (Synchronous Digital Hierarchy) and, of course, Ethernet. Business customers can take advantage of permanent, overload-free point-to-point connections using bandwidths of between 2 Mbps and 10 Gbps. Redundancies are tailored to customers' individual requirements in terms of availability and security.

Next-generation network: To enable more cost-effective use of new services such as VoIP and convergent solutions in the future, Swisscom is investing in a network infrastructure that is based exclusively on All-IP. This infrastructure allows Swisscom to offer services irrespective of the type of access technology selected (copper, wireless or fibre optic). Having migrated the data transport network to IP, commissioned an IP-based telephony and multimedia platform, and launched its first IP-based services such as Swisscom TV and VoIP, Swisscom has already gained experience in All-IP offerings. The first products based solely on IP were already rolled out in 2009 and supplemented since then by a wide range of new services and bundled offerings.

PSTN network: The PSTN network connects virtually all private households and a large proportion of business customers in Switzerland. Four-fold redundancy in the core network and two-fold redundancy in the switching layer ensure excellent voice quality and optimum security and availability.

Transport network: The transport network is a wide area network that connects the regional parts of the fixed network as well as the regional parts of the mobile network with each other as well as with the respective central network core. It also provides the link to computer centres and the global Internet. The transport network is used for all services (voice, video and data) and all customers (residential/business).

Wired access network: Swisscom's copper access network is comprised primarily of twisted copper wire pairs. It reaches practically every household in Switzerland. Swisscom began with the expansion of fibre-to-the-home (FTTH) in 2008 (end-2015: more than 1 million households and businesses connected with fibre-to-the-basement). It started rolling out broadband technology in 2000, first based on ADSL (coverage at end-2015: 97%). ADSL was followed in 2006 by VDSL2 (coverage at end-2015: over 93%) and from 2013 by FTTS/B (fibre-to-the-street or basement) and vectoring (end-2015: more than 2 million of households and businesses fitted with the latest fibre-optic technology). To fulfil its mandate for basic broadband provision, Swisscom also uses wireless technologies such as UMTS and satellite. At present, ADSL is mainly used to provide Internet access. Internet access using very high bandwidths and more broadband-intensive services such as IPTV and video telephony are transmitted only over VDSL2 or optical fibre. A million customers are already using Swisscom's IPTV, and more than 90% enjoy at least one channel in HD quality (high-definition TV). At the end of 2013 Swisscom launched a service on the fibre-optic network offering speeds of 1 Gbps.

Wireless access network: Swisscom operates a nationwide mobile network in Switzerland. The mobile services it provides are based on 4G, 3G and 2G, the dominant digital standards across Europe and much of the world. Swisscom has implemented different technologies that enable transmission between handsets and base stations. In 2005, it enhanced all active GSM antennas with EDGE technology, a further development of GPRS. EDGE enables bandwidths of between 150 and 200 kbps and currently covers 99% of the Swiss population. Swisscom launched UMTS in 2004, and has continuously expanded its mobile network to include the UMTS extension HSPA/HSPA+ since 2006. This ensures download speeds of up to 42 Mbps. By the end of 2015, UMTS/HSPA was available to around 99% of the Swiss population. Swisscom took another major step in 2011 when it became the first mobile provider in Switzerland to launch a field trial with LTE. Swisscom launched its 4G/LTE offerings on the Swiss market in December 2012 and has since extended coverage to 98% of Swiss households. At present, LTE enables bandwidths of up to 150 Mbps. However, it is continuously being developed, and since end-2015, customers can now enjoy 4G+/LTE Advanced in 28 Swiss cities. Swisscom thus possesses the most efficient mobile network in Switzerland and will continue to expand its technological lead. Bandwidths of up to 450 Mbps are already being tested in laboratory conditions.

Other terms

Bit-stream access (BSA): Regulated bitstream access is a high-speed link that travels the last mile from the local exchange to the customer's home connection via a metallic pair cable. The BSA is set up by Swisscom and is provided to other telecoms service providers (TSP) as an upstream service at a price regulated by the government. TSPs can use this link, for example, to offer their customers broadband services or fast Internet access.

Collocation: Collocation is governed by the Ordinance on Telecommunications Services (Verordnung über Fernmeldedienste, FDV). The market-dominant provider offers alternative providers non-discriminatory access to the required locations so that they can use the location and install and operate their own telecommunications systems at that location.

ComCo (Competition Commission): ComCo enforces the Federal Cartel Act, the aim of which is to safeguard against the harmful economic or social impact of cartels and other constraints on competition in order to foster competition. ComCo combats harmful cartels and monitors market-dominant companies for signs of anti-competitive conduct. It is responsible for monitoring mergers. In addition, it provides comments on official decrees that affect competition.

ComCom (Federal Communications Commission): ComCom is the decision-making authority for telecommunications. Its primary responsibilities include issuing concessions for use of the radio frequency spectrum as well as basic service licences. It also provides access (unbundling, interconnection, leased lines, etc.), approves national numbering plans and regulates the conditions governing number portability and freedom of choice of service provider.

COSO/COSO ERM (Committee of Sponsoring Organizations of the Treadway Commission): COSO is a voluntary, private-sector US organisation. Its goal is to improve the quality of financial reporting by promoting ethical conduct, effective internal controls and good corporate management. The Enterprise Risk Management (ERM) Framework is an extension of COSO's Internal Control Framework.

ERM (Enterprise Risk Management): ERM is a Group-wide management system that ensures the assessment, handling and reporting of significant risks at Group level as well as Group-company level.

Ex-ante: In an ex-ante regime, the particulars of the regulated offerings (commercial, technical and operating conditions) must be approved by a government authority (authorisation obligation). The conditions approved by the authority (for example, price) are known to the parties using the regulated services. There is legal provision for the affected providers to establish that the price has been correctly determined.

Ex-post: In an ex-post regulation approach, the parties must agree all possible aspects of the contractual content (primacy of negotiation). In the event of a dispute, the authorities decide only on the points on which the parties have been unable to agree (objection principle).

Federal Office of Communications (OFCOM): OFCOM deals with issues related to telecommunications and broadcasting (radio and television), and performs official and regulatory tasks in these areas. It prepares the groundwork for decisions by the Federal Council, the Federal Department for Environment, Transport, Energy and Communications (DETEC) and the Federal Communications Commission (ComCom).

FTE (full-time equivalent): Throughout this report, FTE is used to denote the number of full-time equivalent positions.

Full access: Full access in connection with unbundling means providing alternative telecommunications service providers with access to subscriber lines for the purpose of using the entire frequency spectrum of metallic pair cables.

Hubbing: Hubbing relates to the trading of telephone traffic with other telecommunication operators.

Interconnection: Interconnection means linking up the systems and services of two TSPs so as to enable the logical interaction of the connected telecoms components and services and to provide access to third-party services. Interconnection allows the customer of one provider to communicate with the subscribers of another provider. Under the terms of the Federal Telecommunications Act, market-dominant TSPs are required to allow their competitors interconnection at cost-based prices (LRIC, see below).

Last mile: Also referred to as the local loop, the last mile denotes the subscriber access line between the subscriber access point and the local exchange. In Switzerland, as in most other countries, access to the last mile is regulated.

LRIC (Long-Run Incremental Costs): LRIC is the method defined by the Ordinance on Telecommunications Services (Verordnung über Fernmeldedienste, FDV) for calculating regulated prices. It is future-oriented and therefore creates economically efficient investment incentives.

Unbundling: Unbundling of the last mile (Unbundling of the Local Loop, ULL) enables fixed-network competitors without their own access infrastructure to access customers directly at non-discriminatory conditions based on original cost. The prerequisite for ULL is the presence of a market-dominant provider. There are two types of unbundling: unbundling at the exchange (unbundling of the local loop/ULL or LLU, referred to as TAL in Switzerland), currently available at around 600 unbundled locations, and unbundling at the neighbourhood distribution cabinet (sub-loop unbundling, referred to as T-TAL in Switzerland), in which Swisscom's competitors have so far shown no interest.

Termination charges: Termination charges are levied by a network operator for forwarding calls to another third-party network (e.g., calls from Salt to Swisscom or from Sunrise to Salt).

Index of keywords

Swisscom Group five-year review

In CHF million, except where indicated		2011	2012 [1]	2013	2014	2015
Net revenue and results						
Net revenue		11,467	11,384	11,434	11,703	11,678
Operating income before depreciation and amortisation (EBITDA)		4,584	4,477	4,302	4,413	4,098
EBITDA as % of net revenue	%	40.0	39.3	37.6	37.7	35.1
Operating income (EBIT) before impairment losses on goodwill		2,681	2,527	2,258	2,322	2,012
Operating income (EBIT)		1,126	2,527	2,258	2,322	2,012
Net income		694	1,815	1,695	1,706	1,362
Share of net income attributable to equity holders of Swisscom Ltd		683	1,808	1,685	1,694	1,361
Earnings per share	CHF	13.19	34.90	32.53	32.70	26.27
Balance sheet and cash flows						
Equity at end of year		4,296	4,717	6,002	5,486	5,242
Equity ratio at end of year	%	22.1	23.8	29.3	26.2	24.8
Cash flow provided by operating activities		3,951	4,245	4,131	3,770	3,867
Capital expenditure in property, plant and equipment and other intangible assets		2,095	2,529 [2]	2,396	2,436	2,409
Net debt at end of period		8,309	8,071	7,812	8,120	8,042
Employees						
Full-time equivalent employees at end of year	number	20,061	19,514	20,108	21,125	21,637
Average number of full-time equivalent employees	number	19,832	19,771	19,746	20,433	21,546
Operational data at end of period						
Fixed access lines in Switzerland	in thousand	3,120	3,013	2,879	2,778	2,629
Broadband access lines retail in Switzerland	in thousand	1,661	1,727	1,811	1,890	1,958
Mobile access lines in Switzerland	in thousand	6,049	6,217	6,407	6,540	6,625
Swisscom TV access lines in Switzerland	in thousand	608	791	1,000	1,165	1,331
Revenue generating units (RGU) Switzerland	in thousand	11,438	11,748	12,097	12,373	12,543
Unbundled fixed access lines in Switzerland	in thousand	306	300	256	180	128
Broadband access lines wholesale in Switzerland	in thousand	181	186	215	262	315
Broadband access lines in Italy	in thousand	1,595	1,767	1,942	2,072	2,201
Swisscom share						
Par value per share at end of year	CHF	1.00	1.00	1.00	1.00	1.00
Number of issued shares at end of period	in million of shares	51.802	51.802	51.802	51.802	51.802
Market capitalisation at end of year		18,436	20,400	24,394	27,067	26,056
Closing price at end of period	CHF	355.90	393.80	470.90	522.50	503.00
Closing price highest	CHF	433.50	400.00	474.00	587.50	580.50
Closing price lowest	CHF	323.10	334.40	390.20	467.50	471.10
Ordinary dividend per share	CHF	22.00	22.00	22.00	22.00	22.00 [3]
Ratio payout/earnings per share	%	166.79	63.04	67.63	67.27	83.75
Informations Switzerland						
Net revenue		9,243	9,268	9,358	9,586	9,764
Operating income before depreciation and amortisation (EBITDA)		3,945	3,864	3,685	3,788	3,461
Capital expenditure in property, plant and equipment and other intangible assets		1,537	1,994 [2]	1,686	1,751	1,822
Full-time equivalent employees at end of year	number	16,628	16,269	17,362	18,272	18,965

[1] Amendments to IAS 19 revised, restated from 2012.
[2] Including expenses of CHF 360 million for mobile frequencies.
[3] In accordance with the proposal of the Board of Directors to the Annual General Meeting.

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