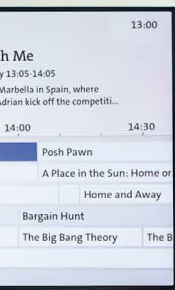




# 2017

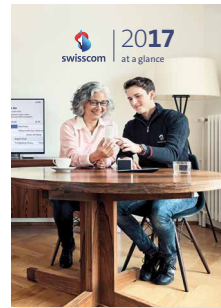
at a glance



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## Annual Report publications

The Annual Report, Sustainability Report and Swisscom at a glance together make up Swisscom's reporting on 2017. The three publications are available online at: [swisscom.ch/report2017](http://swisscom.ch/report2017)



## "Welcome to the networked world" concept

In our networked world, everything is becoming more and more connected. At the centre of this connectivity are high-performance and secure networks. That is why for years we have invested CHF 1.7 billion in the expansion, maintenance and innovation of our network infrastructure. We are extremely proud of our employees, who day in, day out, put their energy, heart and soul into making sure that our customers stay optimally connected no matter where they are.

The pictures in the 2017 Annual Report offer a peek behind the scenes into our working environment – where we build our network and support our customers. We want to open up the opportunities offered by a networked future and take advantage of them together with our customers.

A very big thank you goes to Stefanie Haag, Tiziana Conzett, Natalija B., Mona W., Edvin Caminada, Pirmin Egloff, Manuel Haag, Peter Fritschi, and all the children who took time out to have their photos taken.

## Our year, our future

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# Welcome to the networked world.

## Dear reader

In our world, not only do people talk to people, but more and more machines talk to machines, machines such as beer tanks, heat pumps and motor vehicles. And the networked world is growing. At first glance, it may seem impersonal when your email reaches us with the help of artificial intelligence. But if it is immediately routed to the right internal office and processed in a short time, the benefits of this technology are unmistakable. However, all applications only work on the basis of reliable, secure and always available networks.

Swisscom has been investing for years in expanding, developing and operating its network. In Switzerland alone, Swisscom invests 1.7 billion francs every year, accounting for three quarters of all the money invested in the Swiss network infrastructure. As market leader, we are not resting; rather, we are pushing ahead with new technologies, such as 5G, in line with the needs of our customers.

There are also new requirements that need to be met. The development of our infrastructure going forward will be affected by both the political framework conditions as well as new security requirements.

Over the following pages, we want to give you an idea of the issues that are impacting our business now and the ones that we will be working on in future. The Swiss infrastructure is near the top of international rankings. We are committed to maintaining a well-functioning competition and to the ongoing expansion of the network.

Swisscom is celebrating the twentieth year of its existence in 2018, and despite the tough conditions in 2017, the company achieved the goals it had set. But this is no reason to take a rest. In fact, it is a huge challenge to stay no. 1, a challenge that spurs us all to work harder. There has been a huge increase in competition in recent years. Not only do we want to manage our core business, but we

want to continue to develop it. That's why we are focusing on being close to our customers, while providing the best service and the best, most innovative products. We are also always mindful of costs and are lowering our cost base over the coming three years by 300 million francs. In addition, we want to grow in our core business as well as in adjacent new business areas. While growing, we are very aware of our Swiss roots.

We want to shape the future. And we want to generate enthusiasm for the networked world and inspire the people who live in it.

*Dear reader, together with our more than 20,000 colleagues, it is our pleasure to provide you with some insight into Swisscom. Thank you very much for your interest, and we wish you an enjoyable read.*



Visiting the historic cable tunnel on Bollwerk street in Berne where the latest fibre-optic and copper cables provide parts of the city with Internet. F. I.: Hansueli Loosli, Urs Schaeppi

A stylized, handwritten signature in blue ink.

**Hansueli Loosli**

Chairman of the Board of Directors  
Swisscom Ltd

A stylized, handwritten signature in blue ink.

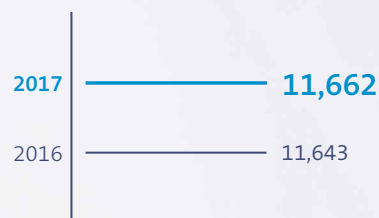
**Urs Schaeppi**

CEO Swisscom Ltd



# Targets achieved despite high market pressure.

An impressive market performance permitted Swisscom to generate revenue and earnings that were practically on a par with the previous year. The continued high level of capital expenditure shows that competition is working. Revenue in the Swiss core business decreased by CHF 199 million (–2.1%) to CHF 9,058 million. This is due primarily to declining revenue in fixed-line telephony and lower income from roaming services. Fastweb also posted another pleasing performance, growing its revenue and expanding its customer base.



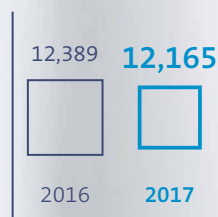
Net revenue in CHF million



Net income in CHF million

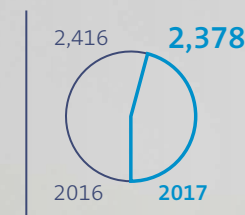


EBITDA in CHF million  
operating income  
before depreciation  
and amortisation

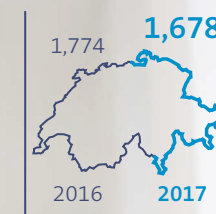


Revenue Generating Unit  
in 1,000s

Parameter that shows the number of services sold by the company and hence its economic development.



Capital expenditure  
in CHF million  
on property, plant  
and equipment and  
intangible assets



Capital expenditure in  
Switzerland in CHF million  
1,678 CHF million invested  
by Swisscom in IT and infra-  
structure in 2017. Primarily  
in the expansion of the ultra-  
fast broadband network in  
Switzerland.



Capital expenditure  
in Italy in EUR million  
primarily in the expan-  
sion of the ultrafast  
broadband network

# Key figures Switzerland.



**2 million**  
fixed-line  
telephony  
connections



**6.6 million**  
mobile phone connections

**2 million**  
broadband connections

**2 million All IP customers** was the number that Swisscom had for IP\* at the end of 2017. With All IP, the Internet, TV and fixed-line telephony function over a single IP-based network, which makes communication, easier, faster and more flexible.

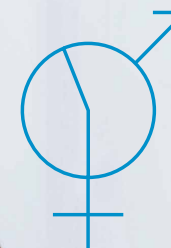
\* Internet protocol



## inOne

The subscription for private and SME customers was launched in April 2017. Customers can freely select what they want and how much: Mobile, TV, Internet and fixed-line. 1.3 million customers were using this new offer as at the end of 2017.

**20,506**  
full-time equivalent employees employed by Swisscom at the end of 2017. 17,688 of these were employed in Switzerland.



**20% part-time**  
The percentage of part-time employees has steadily risen in recent years. Currently, 20% of our employees in Switzerland work part-time.

**959**  
apprentices are forging their career paths with us.



# Our network – fit for the future.



*Participant exchange fixed-network technology, which has been used for around 140 years, is now being replaced by the innovative Internet Protocol (IP). IP forms the basis for digitisation and opens up new possibilities for communication and collaboration. The fixed telephone network is just one of several networks operated by Swisscom: the different mobile phone network generations ensure communication by mobile phone, and the Low Power Network (LPN) makes it possible for devices to communicate with one another. Most people are not aware of which network they are currently using; communication simply works without any problems, and that's just how it should be.*

## **Fixed-network transformation**

Switzerland has been making calls over the fixed telephone network for 140 years. The network dates back to the days before the Internet existed and is cable based – originally using copper cable, which has now been partially replaced by optical fibre. Even though Swisscom has consistently kept it up to date, traditional fixed-network technology can barely meet people's communication needs.

Flexible, mobile and

efficient – communication needs have gone through fundamental changes in recent decades. Internet Protocol (IP) has become the new standard worldwide for the transfer of data, images, films, music and voice. As at the end of 2017, almost all Swisscom residential customers and most business customers have switched to All IP in Switzerland. All services such as voice telephony, TV, Internet and data are now run via Internet Protocol (IP) technology

as standard. Traditional fixed-line telephony will be going into a well-earned retirement – but the fixed telephone network itself, whether copper or optical fibre, is more important than ever.

## **Fast Internet over optical fibre**

Optical fibre is ideal for transferring large amounts of information and is considered the ultimate technology for current and future high-speed networks. Ultra-fast Internet, TV in UHD (ultra-high definition) and excellent voice quality – without optical fibre cable, the massive global data volumes would no longer be manageable. Swisscom offers High-speed Internet over Switzerland's largest fibre-optic broadband network.

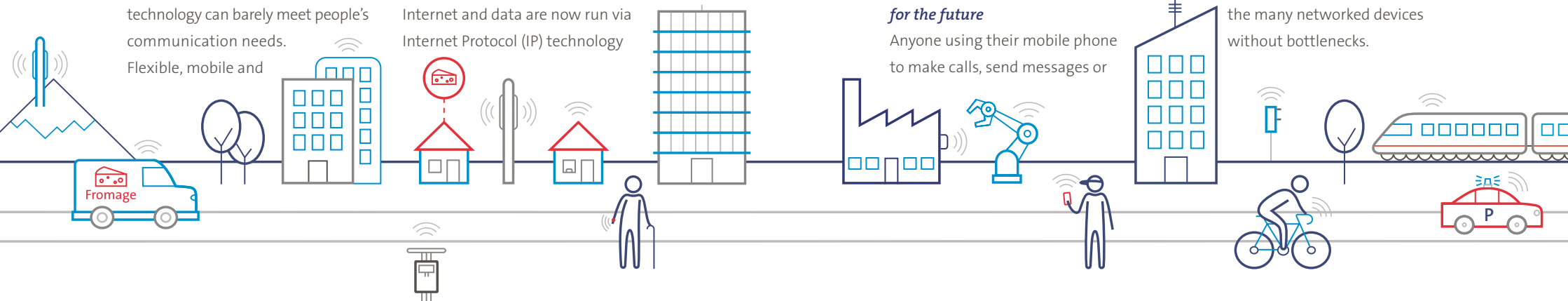
## **The mobile phone network is equipped for the future**

Anyone using their mobile phone to make calls, send messages or

surf the Internet generally does so over the mobile phone network. This is divided into radio cells, which are provided by a base station (transmitter and receiver station). The need for more data requires a denser mobile phone network with more base stations.

The exchange of information between mobile phones and base stations works over electromagnetic fields that transfer voice and data. Swisscom operates technologies in specific frequency ranges for the transfer of this information.

Swisscom significantly expanded the 4G+ network this year and can already offer speeds of up to 1 Gbps in 11 cities. The new mobile telephony standard 5G should continue to drive digitisation forward and promises data rates of up to 10 Gbps – enough bandwidth to connect the many networked devices without bottlenecks.





### ***In short: 2G, 3G, 4G, 5G***

Every new mobile telephony standard increases the network's response time, speed and capacity. With the 2G standard (G refers to the generation in each case), we are unable to transfer films or photos. The upcoming 5G standard will be faster and more energy efficient and can connect more devices at any one time than 4G.

### ***Low Power Network for the Internet of Things***

The Low Power Network from Swisscom is a supplementary network for the special needs of IoT-based applications that transmit only small volumes of data. It is the latest addition to Swisscom's networks and has been in operation since 2016. The LPN is designed for the sporadic transfer of small data packets and for the networking of things. It is characterised by a wide reach with minimal electricity consumption. The LPN enables countless new and innovative applications, products and services in the Internet of Things. It can be expanded quickly and easily: a gateway with Internet access

is all that's needed to expand the network. The LPN also works in a licence-free band.

### ***Our vision: the network of the future***

Swisscom is faced with the challenge of creating a network that lays the foundation for meeting the needs of the future; the switchover to All IP and rolling out of the fibre-optic network form the basis for this. Our vision is a network for everything and is based on the concept of convergence. No matter which services our customers are currently using, they should always be directed to the right network, without being aware of this.

Switzerland has one of the best infrastructures in the world, and we will do our utmost to ensure that this does not change in the future.

### ***Our investments in the network***

We have been making targeted investments in our networks for years – CHF 1.7 billion each year. This means our capital expenditure per capita is three times as high as that of other providers in a European comparison.

These investments are paying off: German industry magazine "CHIP" named Swisscom as having the best network, while "Connect" rated our mobile phone network as "outstanding" – the highest accolade among all international networks tested.

## ***Facts and figures***

### ***Fixed networks***

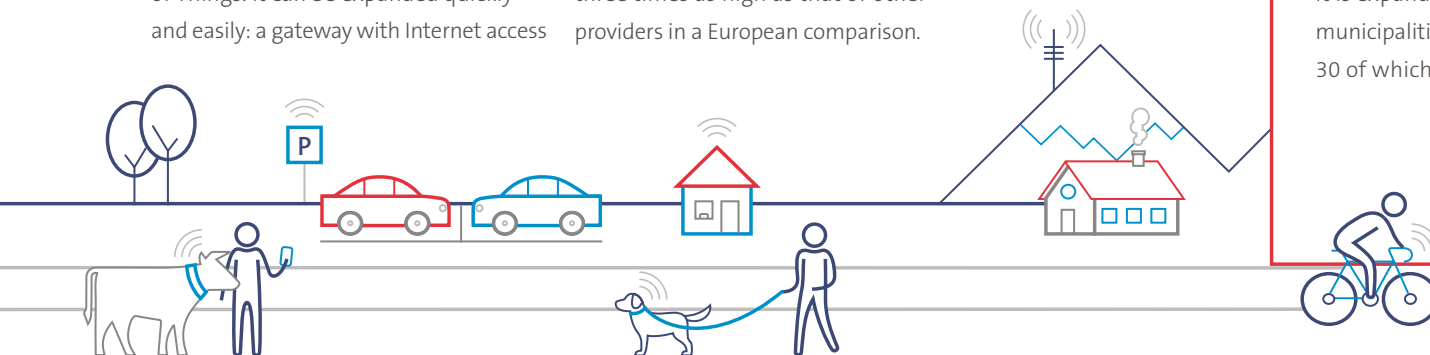
- By the end of 2017, Swisscom
  - connected over 1.3 million homes and offices with fibre to the basement, together with its cooperation partners;
  - connected around 3.9 million homes and offices with ultra-fast broadband (with speeds of more than 50 Mbps).
- Swisscom is the only provider to set itself the goal of expanding its fibre-optic network to every municipality in Switzerland (by the end of 2021).
- It is expanding the network to 300 municipalities each year – at least 30 of which are in very rural areas.

### ***Mobile phone network***

- In 24 hours at Swisscom
  - 760 terabytes of mobile data are transferred, the equivalent of 3,800 films of 200 Gigabytes each;
  - 23 million minutes of calls are made, corresponding to 11.5 million people making calls each day (with an average telephone call taking two minutes).
- The growing demand for mobile data services continues: under-26-year-olds use seven times more mobile data by volume on average than older people. Mobile data traffic increased by 55% year-on-year in 2017.

### ***Low Power Network***

- More than 16 million messages are sent over the Low Power Network each month, and this number is growing rapidly.



# When the spa itself is stress-free.



*In a vertical mineral bath or under the stone dome of a brewery: visitors to the Aqua-Spa-Resorts AG resorts can relax and forget the time. The operator of the six spa resorts can also lean back and relax, now that they have converted their telephony system to Internet Protocol (IP).*



“Six magnificent, unique spa resorts,” Aqua-Spa-Resorts AG states on its website. They are not exaggerating. In Berne, for instance, under a 13-metre-high cupola with a hammam. In Schönbühl, you can relax in the largest natural salt-water spa in Switzerland. In Samedan, in the Engadine, visitors can enjoy the first-ever vertically built mineral bath & spa, decorated with mosaic tiling. At a spa in Zurich you can take part in an “Irish-Roman spa ritual” under the old stone dome of the former

Hürlimann brewery. In Rigi Kaltbad, visitors can relax against the backdrop of a 300-metre wide rock wall, and at the spa in Locarno they can enjoy fantastic views of Lake Maggiore.

## **Digital detox effect with a catch**

Each spa is different. But they all have one thing in common (apart from water): clocks are few and far between. When visitors enter the spa, they should be able to forget the time. The limited mobile phone reception behind the walls of several of the spas ensures that visitors also undergo a digital detox – an effect that

also has a drawback, however. Uwe Gulde, Head of Technology and Spa Operations, is very familiar with this: “When I was in the spa areas it was hard for me to contact my colleagues using the mobile phone. We had external fixed-network phone lines, but we had to keep these free so customers could get in contact with us.” Today it’s different.

## **Leasing instead of buying**

The company outsourced its communications infrastructure to Swisscom one year ago and converted its telephony system to IP. It now leases a central telephony system and the end devices.

The lease also includes advisory services, installation, commissioning and maintenance. “Leasing instead of buying. This decision enabled us to forgo major capital expenditure. This service has also solved some bothersome problems,” explains Uwe Gulde. The communications infrastructure is now equipped with state-of-the-art technology and can be expanded flexibly, for example, if new workstations or locations are added.

## **The benefits of networks**

Internal communication and working have become easier since a network

was set up between the six spa resorts and the head office in Sursee: “Now, I can contact all of my colleagues at each location at the touch of a button. And the encrypted data connection allows me to control the ventilation and heating systems remotely while I’m on the move.” How do customers benefit? The telephone lines are always available

for enquiries. Callers now receive information about opening times and parking space availability via an automated system. “After hearing this information, most customers don’t need to speak to anyone, which relieves the strain on our employees.”



Uwe Gulde, Head of Technology and Bathing Facilities at Aqua-Spa-Resorts AG

## **Service that relaxes**

Aqua-Spa-Resorts AG has a contact partner that is on 24-hour call to deal with emergencies at any of the spa locations in Switzerland – CKW Conex AG, a Swisscom partner. Uwe Gulde finds reassuring: “We know that someone is always on hand to help us should we need it, so we can actually relax for once. Converting a telephone exchange to IP:

[swisscom.ch/ip-central](https://swisscom.ch/ip-central)



[aqua-spa-resorts.ch](https://aqua-spa-resorts.ch)



# The future needs infrastructure.

*No one can say with certainty what our digital life will be like in 2030. But one thing is sure: without a powerful telecommunication and data network nothing will work. The art is to set today the right course for tomorrow. As a company, we need framework conditions that enable us to invest for the long run and be innovative.*

## **The new world is mobile**

A mobile world also needs new mobile frequencies, including for the upcoming 5G mobile wireless standard. New frequency bands have already been awarded and tested in other countries. In the second half of 2018, Switzerland will award new frequency bands in the areas of 700 MHz, 1,400 MHz, 2,600 MHz und 3.6 GHz.

## **Digitalisation requires a modern mobile network**

The importance of the mobile network will expand once again with digitalisation. 5G also brings with it the launch of a new and innovative mobile technology. Swisscom operates 8,400 antennas in Switzerland. Already 90% of the antennas in cities cannot be expanded to meet customer needs, as the legal limit for non-ionising radiation

has been reached. The provisions of the Ordinance on Protection against Non-Ionising Radiation (NISV) in Switzerland are ten times more stringent than the recommendation of the World Health Organization. Unless there is a moderate adjustment to the NISV limits, Switzerland risks falling behind in the competition to be an attractive location.

## **Practical measuring methods based on international standards**

Swisscom is committed to practical measuring methods. The so-called panning method is used to test whether mobile communications installations are within the limits. With this method, it is easy to make mistakes when measuring, which the Federal Court has already criticised. Swisscom has developed an automated solution based on international standards

that is quick and easy to use. The spatial average value method works via a measuring point grid and greatly reduces measuring errors. It is reproducible and better reflects the actual emissions.

Watch our film clip: [swisscom.ch/niro](https://www.swisscom.ch/niro)

## **Location search**

We have a very good network of mobile communications installations in Switzerland. To meet growing customer demand, the performance of the network must be enhanced. We do this as much as possible by increasing the performance of existing installations, but also by building new installations in additional locations.

## **Successful network competition**

In 2007, the Swiss Parliament decided at the time of the revision of the Telecommunications Act (TCA) to limit the access regulation to the copper cable networks. A deliberate decision was made to leave the fibre-optic and cable networks unregulated and subject them to competition. This decision led to a high level of investment and to the best networks on an international comparison. As part of the upcoming revision of the TCA, the access regulation for the new net-

works that are currently being built is to be expanded. This would represent a departure from infrastructure competition and an intervention in a functioning market.

## **More regulation is not good for Switzerland**

Infrastructure competition has proven to be effective. Switzerland is a global leader in investment per capita, the networks are expanded intensively and without government aid, the market is dynamic, and customers and the economy benefit from an excellent price-performance ratio. Expanding the access regulation is a government intervention and it massively weakens the investing power of our industry. The planned roll-out of fibre-optic technology throughout the country would be jeopardised and the digital gap between urban and rural areas would be exacerbated. Moreover, other operators already have access to all Swisscom networks, which allows them to provide a state-of-the-art infrastructure to their customers.

# Press fewer buttons, save more lives.

*Sanität Basel is on call to save lives. Swisscom helps them – with a dispatch management system and a radio data transmission solution.*

When the phone rings at the Sanität Basel emergency call centre, a person is in need. Whether someone has been severely injured in a car accident, has suddenly gone into labour, has had a heart attack or has attempted to commit suicide, whether in Basel-Stadt or Basel-Land. “We never know what the day will bring,” says director Michel Eigenmann.



Michel Eigenmann, Head of the Sanität emergency call centre for Basel-Stadt and Basel-Land

Time is life. A dispatcher logs the emergency call within 10 seconds. Within 90 seconds, he enters all the relevant dispatch information – such as the location and situation – and alerts the appropriate emergency service, which then has 15 minutes to get to the patient.

## **The emergency is transferred in a flash**

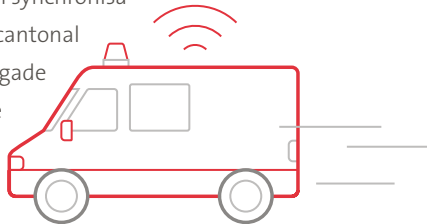
The dispatch management system by Swisscom (Avanti) helps dispatchers enter and document all of the data relating to the case in just a few clicks:

who is being dispatched, to where, and for what? The dispatch team that has been alerted logs into the ambulance by chip and immediately receives all the relevant dispatch data.

Sanität Basel is called out on an emergency an average of once every 20 minutes. In the event of a fire or a

traffic accident, the rescue services must respond rapidly and in synchronisation. That is why the cantonal police and the fire brigade in Basel use the same dispatch system.

“The emergency is



transferred in a flash, and no time is lost,” explains Michel Eigenmann.

## **4G speeds up radio data transmission**

A Windows tablet hangs in the ambulance next to the steering wheel. It provides the paramedics with all the information they need, transmitted by radio data communication, sped up by the 4G mobile network. This now also allows updates about the dispatch if a second call is received about the same emergency. The software in the ambulance (Avanti Mobile) navigates the emergency team to the dispatch location. The paramedics enter the status of their dispatch on the tablet: called out, arrived at location, transportation, arrived at destination (hospital), ready for dispatch via radio, return journey, available. Everything is time-logged in the dispatch

management system – which is extremely practical for invoicing, data analysis and statistics.

## **Interfaces for the future**

It is possible to conceive other methods of speeding up emergency services in future: one day, a patient’s data could arrive at the hospital faster than the patient – thanks to an interface between the medical devices in the ambulance and the hospital. The more manual intervention can be automated, the more time is freed up for Michel Eigenmann and his team: “We don’t want to have to press any unnecessary buttons or have any unnecessary handover conversations. We want to save lives.”



*“We never know what the day will bring.”*

# Internet of Things: the silent revolution.

*We live in a networked world in which communication has long ceased being just between people. Machines, vehicles, lifts and even beer barrels exchange information automatically, helping make processes more efficient and secure. Soon, even objects such as chairs, fire extinguishers, plant pots and water dispensers will have “smart” connections. Swisscom is well prepared for this: its nationwide mobile network and the IoT\*-specific Low Power Network (LPN) form the backbone for many IoT applications. Swisscom will be rolling out additional IoT connection technologies based on the mobile network in 2018.*

## World class in the Internet of Things

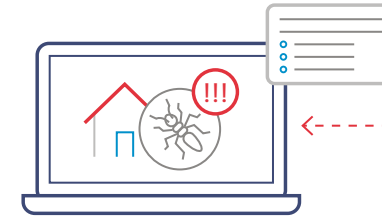
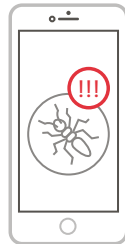
Swisscom helps its customers streamline their production processes and introduce new business and service models. They benefit from scalable management platforms, top-notch connectivity worldwide, professional advice, access to an extensive partner ecosystem and the seal of quality that comes with products and services made in Switzerland. We rank among the world's most innovative global partners for M2M\*\* and IoT applications and are committed to scalability, technological neutrality and the highest security standards.

## LPN: the network for small things

The Low Power Network from Swisscom is a nationwide supplementary network for IoT-based applications for autonomous devices that only transmit small amounts of data. Its cost-effective connections, high power-grid autonomy and broad reach open the door to a wide range of digital applications, including for the mass market. LPN also forms the basis for smart cities and energy-efficient buildings. We have been offering our customers easy access to the Low Power Network since October 2016.

## Developing solutions together

In January 2017, we opened the LPN Experience Center in Zurich,



in which customers can experience the benefits and potential of the Low Power Network. On Techie Tuesdays, a form of technical open house for customers, our developers solve specific challenges together with customers. While our boot camps in Zurich and Lausanne enable customers to get first-hand experience of the LPN within the framework of intensive one-day workshops.

## It couldn't be simpler: starter kits

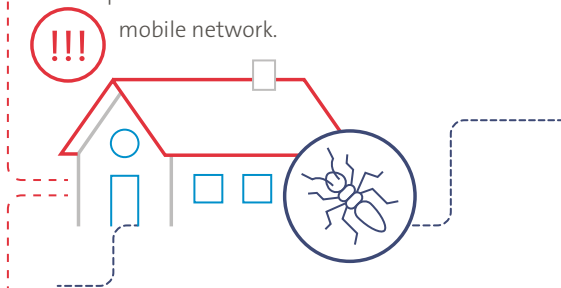
We offer various starter kits that provide customers with uncomplicated access to the Low Power Network. Developers can make their solution or device compatible with our LPN. Hackers and inventors can rapidly build a prototype or try out something new, while Swisscom's network coverage can be tested before a solution is implemented.

## Anticimex Smart:

### protects against malware

The modern anti-malware solution: the intelligent monitoring system Anticimex Smart keeps a constant eye on buildings, reacts immediately and provides continual reporting. This enables infections to be detected early and malware to be eradicated efficiently and quickly, thus significantly reducing the risk of consequential damage and the need for costly countermeasures. Anticimex Smart

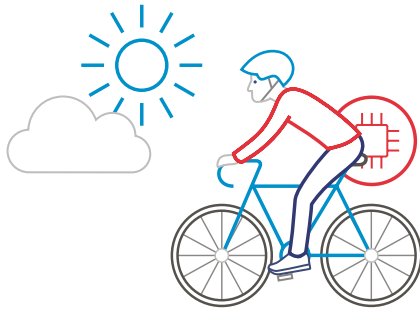
operates via the Swisscom mobile network.



\* Internet of Things

\*\* Machine to Machine





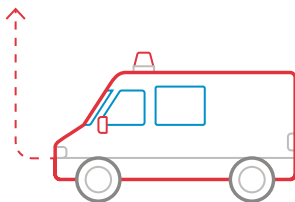
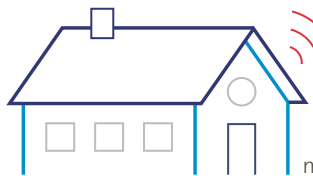
#### **DomoCare®:**

##### **secure in familiar surroundings**

For elderly people who live on their own and their relatives, security is an important issue. DomoCare® is much more than an emergency call button. Discreet sensors are installed at the person's home. The system learns their habits and can be relied on to trigger an alarm – even if

the emergency call button can't be activated.

DomoCare® uses our mobile network.



#### **Live tracking of events**

Mountain bikers, triathletes, canoeists and mountain climbers all nowadays rely on live tracking; a special form of GPS tracking that shows their position along a route in real time. Tractalis Tracking Solutions uses Swisscom M2M SIM cards to provide event organisers, athletes and spectators in more than 120 countries with live information about sporting events. Tractalis thus benefits from top network coverage and connectivity both in Switzerland and abroad.

#### **Carbosense:**

##### **measuring air quality in real time**

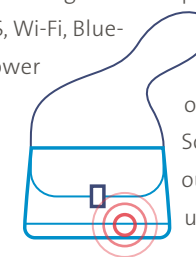
The Carbosense project provides scientists with valuable information to better understand CO<sub>2</sub> concentrations in the atmosphere. It also shows the progress made in reducing greenhouse gas emissions. A globally unique dense network of about 300 sensors throughout Switzerland records CO<sub>2</sub> concentrations in the atmosphere in real time and transmits this information to project partner



Empa (the Swiss Federal Laboratories for Materials Science and Technology) across Swisscom's Low Power Network. Analyses of the data provide pointers for traffic planning, urban development and preventative healthcare.

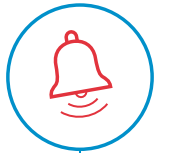
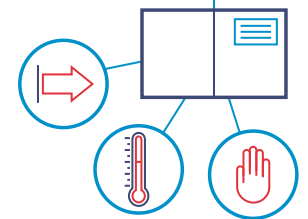
#### **The most reliable tracker in Switzerland**

Whether it's a key ring, a handbag or a rucksack, the FindMe app and tracker help you look for, protect and monitor objects throughout Switzerland. FindMe is the only tracker on the market that combines four technologies for an optimal result: GPS, Wi-Fi, Bluetooth and the Low Power Network. Swisscom supports FindMe as a network partner.



#### **Swiss Post and Swisscom join forces**

Swiss Post and Swisscom have been collaborating on the Internet of Things since the spring of 2017. Swisscom operates the Low Power Network for them both and can use additional Swiss Post locations to rapidly expand the network. The Internet of Things offers interesting new application opportunities for all aspects of logistics, e.g. flagging shipments for collection at the touch of a button, monitoring the temperature of sensitive packages, and sending real-time alerts via mobile sensors if shipments are opened without authorisation. So it probably won't be long before our personal letterboxes will tell us when we've received mail.



# Feldschlösschen taps into the Internet of Things.



*Manfred Weiss had a dream: a beer that everyone can enjoy and that tastes like it came straight from the tap. Less waste, more efficient delivery and an easy way to try new types of beer. Thanks to Swisscom, his dream has now become a reality – in the Beer Station.*

“When I was a young boy, fathers brought cases of beer to the house in a handcart,” reminisces Manfred Weiss. Now 54 years old, he works at Feldschlösschen Beverages Group as a Service Director – which is where he had his epiphany. “I wanted to see people bringing draft beer home again, like when I was a kid, but even fresher.” This was the idea behind the Beer Station.

## **Fresh for four weeks with a frothy head**

What is a Beer Station? It’s an automatic refilling station for beer and

works like a mobile refrigerator with four beer barrels inside. Consumers can choose between filling a 1-litre growler or a 2-litre glass carafe straight from the tap. The container is pressurised before carbonated beer is dispensed automatically, with the obligatory foamy head of course. The draft beer will stay fresh for up to four weeks if left unopened. There are currently 150 Beer Stations in Switzerland in high-traffic locations, in restaurants, pop-up stores, butcher shops and bakeries. Until now, clients paid at the till where the Beer Station is located. But this year,



the second generation of the Beer Station will be launched, and may have its own payment terminal.

## **The IoT makes this possible**

Why the IoT? The mobile Beer Stations register when and where which beer is being tapped, and provide information on how full they are. This allows them to automatically trigger refill orders. All the data from sensors and devices is transmitted by Swisscom via IoT SIM cards – the data is anonymised and stored centrally in the Swisscom Cloud. What days are most popular for drinking beer? Which beer do people enjoy most? Feldschlösschen can gather this information from the dashboard – and can monitor and update the Beer Stations remotely, for example to make changes to the operating system, adjust the pressure or change the labels. This makes it easier for Feldschlösschen to test seasonal beers and new varieties. This removes the need for bottling and labelling – making it better for the environment. Zero waste!

## **A partnership of equals**

Feldschlösschen specialises in beverages – not digital innovations. So Manfred Weiss needed a partner with expertise in IoT projects: Swisscom provides the infrastructure as well as support for integrating and networking devices in the Feldschlösschen ecosystem – from linking it to the

Cloud to operating and supporting the network.

## **A proud father**

Manfred later found out he wasn’t the first to come up with this idea. Mobile beer dispensers are already a thing in the US. “But our Beer Station is better, as pressurisation ensures that no carbon dioxide escapes, ensuring that the beer tastes fresh,” says the proud father of the Beer Station concept.



Manfred Weiss, Service Director of the Feldschlösschen Beverage Group



The story of the Beer Station continues here: [swisscom.ch/iot](https://swisscom.ch/iot)

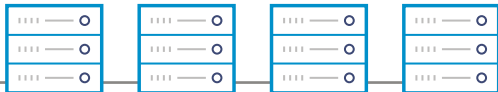


# Committed to growth.

*Swisscom's business environment is changing swiftly and decisively. While this brings with it challenges, it also creates opportunities. We are strengthening our core business and pushing forward into new ICT business areas. To do this, we are drawing on our power of innovation and extensive experience in order to offer people living in Switzerland a digital future where the best technology is always at their fingertips. We are committed to growth and thus also to supporting Switzerland as a place of business.*

## **Blockchain:** **revolutionary technology**

A blockchain is a huge database distributed across various computers. It is used to manage transactions and information of all kinds – from the alternative currency bitcoin through financial investments to rights entered in the land register. A blockchain works as a kind of logbook that records and monitors all data and any changes made chronologically. Participants are connected with each other directly – decentrally, practically forgery-proof and transparently.



## **Swisscom Blockchain Ltd**

Blockchain technology will revolutionise the economy and administration in the coming years. In order to push forward the development of blockchain applications in and for Switzerland, Swisscom founded Swisscom Blockchain Ltd in September 2017. It offers advice, infrastructure and development – a unique combination in Switzerland.

## **localsearch:** **digital service provider for SMEs**

Digitisation opens up tremendous opportunities for companies in online marketing. Swisscom Directories has been the Swiss number one in the directory business for 40 years and operates the broadest-based directories in Switzerland in the form of

local.ch and search.ch. localsearch wins 60% of all new contracts using solutions that were not even on the market 12 months ago. SMEs can be found online, new customers acquired and their loyalty secured – localsearch supports SMEs in making their mark with digital marketing. Thanks to the new My Presence service, companies are present in over 25 leading global online services with just a single central entry. My Presence was launched in November 2017 and had already amassed 1,000 customers by the end of the year.

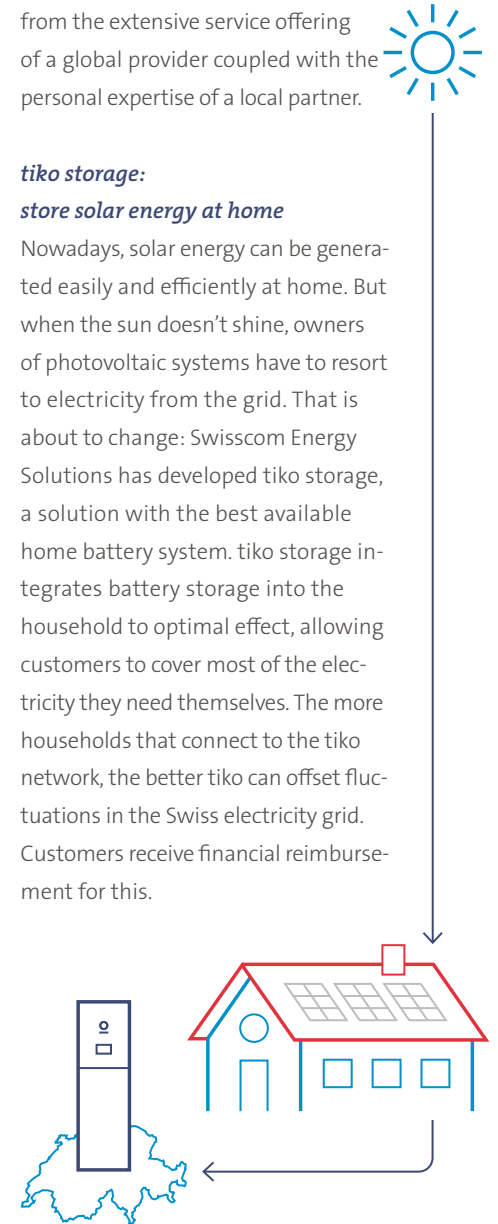
## **Swisscom Cloud:** **for every customer need**

Swisscom offers a wide range of cloud solutions: MyCloud, the storage memory for multimedia formats, currently boasts around 200,000 residential customers. Just under 8,000 programmers use the development environment of the application cloud. Over 2,000 customers source infrastructure from the cloud at the touch of a button with Dynamic Computing Services. Corporate customers that attach major importance to high-quality service use the Enterprise Service. Cloud. We have supplemented this with global solutions from Amazon Web Services

and Microsoft Azure. In this way, companies benefit simultaneously from the extensive service offering of a global provider coupled with the personal expertise of a local partner.

## **tiko storage:** **store solar energy at home**

Nowadays, solar energy can be generated easily and efficiently at home. But when the sun doesn't shine, owners of photovoltaic systems have to resort to electricity from the grid. That is about to change: Swisscom Energy Solutions has developed tiko storage, a solution with the best available home battery system. tiko storage integrates battery storage into the household to optimal effect, allowing customers to cover most of the electricity they need themselves. The more households that connect to the tiko network, the better tiko can offset fluctuations in the Swiss electricity grid. Customers receive financial reimbursement for this.





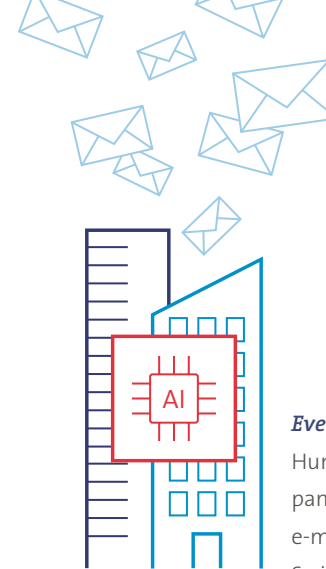
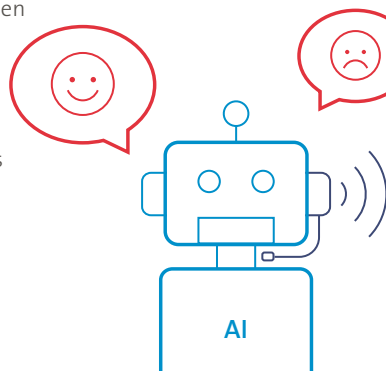
# Artificial intelligence is boosting growth.

*Chatbots, personal assistants, robo advisors, machine learning – artificial intelligence (AI) is gathering speed and is leading to groundbreaking new opportunities for the entire economy. Swisscom is successfully implementing AI projects in its own company. In collaboration with ETH Lausanne (EPFL), we have founded an AI competence centre that supports Swiss companies in applying artificial intelligence.*

## One-stop shop for AI

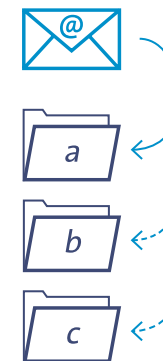
Today, artificial intelligence is already supporting our call centre agents. The application of chatbots is also being tested, and automated contract analysis is being used to take some of the burden off our legal department. We gauge the mood of our customers

by deploying AI to analyse feedback. The Swisscom competence centre for applied artificial intelligence offers customers everything they need to implement projects in the field of AI quickly and successfully – from advice through the right technology to integration.



## Every e-mail in the right inbox

Hundreds of enquiries are sent to Swisscom and other companies by e-mail each and every day. Who answers which e-mails? How they are assigned is not as simple as it seems. Swisscom has developed algorithms that take over e-mail triage and thus automate the process. Artificial intelligence has learned from the feedback provided by employees and today is already more accurate than manual assignment. In addition, AI anonymises confidential data, and recognises language and keywords that indicate controversial topics.



## Language recognition understands Swiss German

Swisscom is committed to its home market and is developing language recognition for Swiss German. With the help of several hundred employees speaking sentences in Swiss German, artificial intelligence is learning the country's various dialects. The technol-

ogy is already being used successfully for Swisscom TV and is being continually developed – with the aim of also deploying it in customer services. Companies from other industries have already expressed an interest.



# Making the most of a networked world.

*Digital transformation is one of the major buzzwords of recent years. It is not a one-off tour de force, but rather a continuous evolution – with far-reaching implications for the whole of society. For Swisscom, it is important to empower people to navigate this changing landscape and to provide them with the tools they need for this purpose. We foster media skills through our diverse offering and offer a wide range of products with sustainability benefits.*

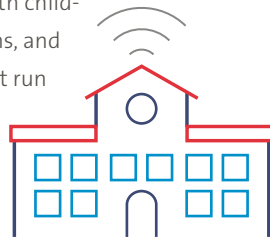
## 20 years in the service of sustainability

Swisscom rolled out its own environmental management system within the company in 1997. Just one year later, we were awarded certification in accordance with the ISO 14001 environmental standard. This has been followed by numerous milestones, such as inclusion in the Dow Jones Sustainability Index or the launch of Mistral – the cooling of telephone exchanges with fresh air. Corporate responsibility has been part of our corporate strategy since 2010, and in 2014 we opened the most efficient data centre in Switzerland in Bern Wankdorf, for which we received the Watt d'Or. Today, Swisscom offers a broad range of around 50 products featuring sustainability benefits – including a highly energy-efficient

TV box, a router with child-protection functions, and cloud solutions that run on 100% renewable energy.

## 15 years of "Internet for Schools"

Swisscom has been offering all Swiss schools a free Internet connection with a security solution since 2002. Over 5,600 schools benefit from this offer. Every school receives 500 Mbps or the maximum available local bandwidth free of charge. Over the past 15 years, we have invested half a billion Swiss francs in Swiss schools through "Internet for Schools".



## Broad offering for Swiss schools

An Internet connection opens up a wide range of opportunities. A crucial element of the networked society is identifying and exploiting these opportunities when they arise. Swisscom has developed sustainable and high-performance ICT offerings for the Swiss education system: the digital class register [helloclass.ch](#) serves as an easy and convenient exchange platform for examinations and projects; the Swisscom Cloud provides cost-effective data storage; a free Skype for Business licence for every school class facilitates connection; equipment is loaned free of charge.

## Popular media courses

51,218 people attended our media courses in 2017, making Swisscom the largest provider of media courses in Switzerland. We are continually expanding our offering for school classes, for example with the programme "3D printing: work creatively with new technologies" starting 1 January 2018. In our courses for adults and teaching staff, we provide practical examples

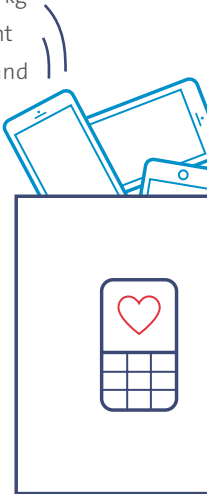
of how to support children and young people in navigating the digital world.

## Old mobile phones can make a big difference

There is 200 kg of gold and 66,000 kg of copper hidden in the around eight million mobile phones lying idle and unused in Swiss drawers. On 6 and 7 December 2017, Swisscom Santa Clauses collected 1,400 unused mobile phones throughout the country. A total of 72,000 old mobile phones were returned to us in 2017. We donate the 100% of proceeds from sales and recycling to SOS-Kinderdorf.

## Work Smart is changing the world of work

Not only do Swisscom's Work Smart solutions enable flexible and mobile working, they also place the focus on mutual, beneficial knowledge sharing. Around 52% of the people in Switzerland who work on a mobile basis use broadband connections from Swisscom – amounting to around 989,000 people.



# Farsighted security.

*There's two sides to every coin. While the digital networked world does make life simpler, it also makes users more vulnerable at the same time, as it provides cybercriminals with a large number of potential targets. Swisscom knows the risks associated with the Internet and has placed security and the fight against online crime at the heart of its strategy. The company has 60 security specialists working in a centrally managed department with the aim of ensuring that the data belonging to our company and our customers is always safe and that our employees can work securely at all times.*

## Well-prepared

Our security strategy is based on three pillars – raising awareness, detection and intervention. In the area of “raising awareness”, we focus on providing transparent information, simple rules of conduct and organisational measures. In order to ensure “detection”, we utilise constant monitoring measures in conjunction with modern hardware and software, as well as ensuring early recognition through threat intelligence. In the event of an attack, this is where “intervention” kicks in with a fast and efficient defence.

## Protection against phishing

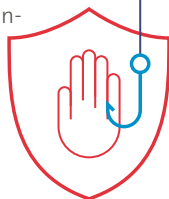
Our innovative Internet Guard protects against phishing attacks.

Phishing sites are comprehensively blocked for our customers. In addition, we also tell our customers why such pages have been blocked.

For the Internet Guard, we use a data base that saves the details of dangerous malware sites. This database is supplied with information from the Swiss Reporting and Analysis Centre for Information Assurance (MELANI), sources around the world and Swisscom itself.

## Identifying spam

“Spam trap” is the common name for an e-mail address that does not have a user, but serves to identify illegitimate e-mails. Since these mailboxes have no real user behind



them, any incoming e-mails have to be illegitimate e-mails such as spam, phishing and malware attacks. Swisscom operates thousands of these e-mail accounts, whose contents are automatically analysed and incorporated into the protective filters.

## Phishing Inspector

The Swisscom developed Phishing Inspector automatically analyses up to 20,000 suspicious websites every day and reliably identifies phishing sites by means of machine learning, unmasking up to 100 of these daily. As at the end of 2017, Phishing Inspector had blocked 16,700 phishing sites.

## Rewards for good-natured hackers

Swisscom is the first telecommunications service provider in Switzerland to run a “Bug Bounty programme”. Within this programme, we pay rewards to external security experts and good-natured hackers if they discover any security vulnerabilities in Swisscom products, services and systems and then send a detailed report about these to us exclusively.



## Faster than cybercriminals

Unfortunately, every security vulnerability cannot be remedied by means of preventative measures. The Swisscom Red Team is therefore constantly on the lookout for flaws within Swisscom's networks, services and applications. This involves our internal hackers simulating the behaviour of cybercriminals so that they can remain one step ahead of those who want to profit from any vulnerabilities.



## How Swisscom supports its customers

Every month in 2017, approx.

2,000 customer computers were taken offline as a preventative measure due to a malware infection,

3,750 phishing attacks were detected and blocked,

4,800 customers were contacted regarding hacked accounts,

22,000 complaints were received owing to problems with spam, phishing and malware,

2.1 million attempted attacks on the Swisscom infrastructure were blocked,

8 million attempts to access harmful websites were blocked.



# Key dates

2018

**7 February 2018**

Publication of 2017 Annual Results and Annual Report

**4 April 2018**

Annual General Meeting in Fribourg

**6 April 2018**

Ex. dividend date

**10 April 2018**

Dividend payment

**2 May 2018**

2018 First-Quarter Results

**16 August 2018**

2018 Second-Quarter Results

**1 November 2018**

2018 Third-Quarter Results

2019

**February 2019**

Publication of 2018 Annual Results and Annual Report

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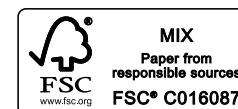
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*For general information*

Swisscom Ltd  
Corporate Communications  
CH-3050 Berne  
Telephone: + 41 58 221 99 11

*For financial information*

Swisscom Ltd  
Investor Relations  
CH-3050 Berne  
Telephone: + 41 58 221 99 11



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TV Guide: Swisscom

**Couples Come Dine with Me**  
© | Channel 4 | Reality | GB | Today  
This episode comes from and around 1  
extrovert Jojo and long term partner A

Today 13:00 13:30

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	211	Four in a Bed	Four in a Bed
5	212	GPs:...	The Hotel Inspector
	213	Antiques Roadshow	
	214	The Goldbergs	The Goldbergs
	215	It Came from Beneath the Sea	Moonrise
	216	4K Universe UHD	