



**swisscom**

# 2014

Switzerland – our networked country





*“Life in the digital world is exciting and challenging at the same time. As a traditional Swiss company, we are committed to providing assistance to everyone in Switzerland. Even if Swisscom is constantly changing, the values on which our company is based shall remain the same. We network Switzerland and connect the country to the rest of the world. We hope to use our products and services to create extraordinary experiences for our customers. We will make progress together, as people and employees, as a company and a country.”*

**Urs Schaeppi**  
CEO Swisscom Ltd





# Enthusiasm, innovation and responsibility

Dear Readers

Football is football. The game of football has existed since 1863, when it became separated from rugby, and has essentially followed the same basic rules created in 1938, of which there are 17. And yet, football is no longer the football of yesteryear. Technology has changed many things. Seats are now selected via websites and tickets are paid for online at whatever time is most convenient for us. E-mails are checked at half-time and increasingly during the match, or photos of Ronaldo and others are circulated on social media. The digital advertising boards compete for our attention, and we may even decide to take part in an online vote to win the shirt of our favourite player. That's not to say that fascination with football has lost any of its significance – on the contrary, we can now share our experiences with more people, awaken emotions and inspire.

Just as the football experience has undergone a fundamental change, so has the Swisscom environment. Technical capabilities and changes in user behaviour encourage mobility, while the demands on our infrastructure are also increasing. The merging of the virtual and real worlds in Swiss football stadiums is also in progress, and with the introduction of goal-line technology in some leagues, it's already arrived on the pitch.

The referee in football has similar values to the security managers at Swisscom. The highest priority of both roles is safety, whether it be that of the players or of Swisscom's customers and employees. Whereas in football the referee can issue cautions and show cards, Swisscom's security has other options. Precautionary measures are only successful, however, if



users exercise due diligence. In order to provide security, it's also necessary to be innovative. We aim to always be one step ahead of those in cyberspace who have destructive or criminal intentions, which means defending against attacks and catching them offside in cooperation with public and private institutions or dismissing them entirely from Switzerland's playing field. This is why Swisscom is developing security today that can solve the challenges of tomorrow.

*“The merging of the virtual and real world is happening – in Swiss football stadiums too.”*

In the banking business in particular, a reliable partner is essential, which is why Raiffeisen, for example, has also put its trust in Swisscom's services. Everyday actions, such as withdrawing cash at a cash machine, demand the highest level of infrastructure availability and security.



The increasing importance of the Internet for private and commercial use also requires powerful, secure and extensive network access. For the sixth year in a row, Swisscom was the winner of the connect network test. In football terms, this is the same as being crowned Swiss champion over six consecutive seasons. In order to continue offering our customers the best network, Swisscom invested CHF 1.75 billion in its network and IT infrastructure in Switzerland in the year under review, primarily for the expansion of the 4G/LTE mobile network and ultrafast broadband fixed network.

It's no longer necessary to go to the stadium to witness the action live. Instead we can do this from the comfort of our own home or on the go. In fact, our experience is more than just live: we can also repeatedly check an offside or analyse the goal we missed. Thanks to the live events on Swisscom TV, we broadcast all Raiffeisen Super League matches. Not a fan of football? No problem. With Swisscom TV there's also no shortage of other sports, including ice hockey, Formula 1, tennis and golf. In 2014, the cloud-based product was introduced on the market with the launch of Swisscom TV 2.0. Swisscom also launched the Teleclub Play video flat rate service – a video library that offers unlimited access at a fixed price to series, films, children's programmes, documentaries and a vast sports archive. All in all, Swisscom takes care of the television experience from production to TV screen, which requires trouble-free technology and logistics as well as committed employees.



*“Success is no accident.  
It is hard work, perseverance,  
learning, studying, sacrifice and,  
most of all: love of what you are  
doing or learning to do.”*

**Pelé**

Former Brazilian football player, born 1940

As a sponsor of the Swiss Football League, Swisscom supports Swiss football, with the aim of making it even more attractive. Of equal importance to us is Switzerland's competitiveness: we support start-ups and offer them not just financial support, but in particular our coaching and network. This is highlighted in this brochure by the successful example of Libero-Vision. Innovations are important growth opportunities for Swisscom.

The ease with which young people play football on their local pitch also reflects the natural way in which they use the digital world. But whereas there's a referee or coach to show them the rules and boundaries on the pitch, they find it more difficult to find their way around and recognise boundaries on the Internet. It is the responsibility of everyone to support young people in their use of media and set an example to them. Swisscom takes its responsibility seriously and offers courses on the use of new media, from which 295,000 participants have already benefited.

The merging of the virtual and real worlds is in full swing – on the pitch, in stadiums and in Switzerland as a whole. Swisscom has therefore further developed its customer promise: Swisscom is the best companion in today's networked world. Trustworthy, simple and inspiring. People and their relationships are at the heart of everything we do. This corporate brochure is designed to underline this and also take a look behind the scenes at Swisscom, its customers and young people in general.

So why football? Football is passion, enthusiasm and inspiration – values that we have incorporated into our guiding principles. Football also helps us to explain complex topics in a simple way, by means of concrete narratives. We hope you enjoy reading the brochure and are always on the ball for you, whenever and wherever you need us.



**Hansueli Loosli**

Chairman of the Board of Directors Swisscom Ltd



**Urs Schaeppi**

CEO Swisscom Ltd







# Experiences — the gold of our times

In 1968, Lotus Formula 1 team boss Colin Chapman concluded a lucrative contract with a cigarette company at the Spanish Grand Prix. Shortly afterwards, the image and logo of Golden Leaf Navy Cut were emblazoned across the Lotus team car. It was the first time a Formula 1 sponsor's products had nothing to do with motor racing. At the time, the general public condemned the deal as "scandalous". Today, sponsorship is taken for granted and helps make many sporting and cultural events actually take place at all.

The corporate sponsorship pioneers looked for new ways to increase recognition, enhance image and bolster public relations. Financially ailing football clubs or cultural event organisers with big ideas but small budgets proved to be open-minded about a new form of cooperation. And it is not only the two partners who benefit.

## **Sponsorship – the magic potion**

The market volume of sponsorship in Switzerland is estimated to be a modest CHF 900 million\*. In Germany, the figure is EUR 4.8 billion\*\*. Sports sponsorship is especially popular.

Sponsorship reflects a certain attitude to life. In an age when traditional advertising is zapped away, clicked shut or skipped over, sponsorship acts like a magic potion. Sponsorship allows companies to give people experiences. Thanks to sponsorship, they

improve their visibility, strengthen their brand and position their products.

## **Offering the best experiences**

The gold of our times is experiences. They make the difference in an era of material excess, and can also make life better, nicer and sometimes even easier. Which is why Swisscom consistently puts people centre stage and offers the best service. The key factors for us are things like personalised and flexible customer support, innovative digital products and straightforward offers. Our aim is to be our customers' expert companion in the digital world and offer them the best possible experiences.

## **A Switzerland that is surpassing itself**

As a company with strong Swiss roots, we also support our country as a sponsor. We are committed to culture and business and to Swiss sport, supporting athletes and making sports events and unique experiences possible. Swisscom is dedicated to elite performance and supports the most popular sports in Switzerland: football and winter sports.

## **Football**

Swisscom is a sponsor of the Swiss Football League and thus a partner of the Raiffeisen Super League and the Brack.ch Challenge League. It is important to us that the whole of Switzerland can share in the excitement when the goals go in. That's why we broadcast more than 200 Swiss football games live on TV, computer or smartphone – thanks to Swisscom TV and Teleclub. Enabling people in Switzerland to find the gold of our times everywhere, no matter where they happen to be.

\* Source: Sponsor Visions Schweiz 2014/15

\*\* Source: Forecast Sponsor Visions 2012

# So that everything runs like clockwork

When the door opens, the only clue that this is a monitoring centre is the huge, ten-metre video wall. Because the home of the Swisscom Operation Control Center looks nothing like the gloomy rooms seen in old-style action films. The site is not just modern, secure and sustainable, however.

The employees of the Swisscom Operation Control Center (OCC) are lucky: they work in light-filled rooms in one of the largest Minergie-P-Eco office buildings in Switzerland. Around 80 operators, escalation managers, problem and data managers and other specialists monitor the operation of infrastructure, systems and services in the OCC in Ittigen business park. They are also responsible for managing major IT faults, identifying causes and preventing system outages. When a fault occurs, they work to restore service as quickly as possible, for example for cash machines and e-banking, register systems or websites.

## **Around the clock**

It goes without saying that customers can contact the OCC around the clock. Because when they get in touch, it's usually something serious. One example involved an airline that was no longer able to access data from Meteo Switzerland. In this case, the OCC put the information and data of both parties into a common context and worked with other partners to restore service.

## **Security – it goes without saying**

Fault monitoring and elimination is kept physically separate from the data centre – the operations centre itself does not hold any data. This data is situated in data centres such as the one in Berne Wankdorf, newly opened and one of the most modern in Europe – secure, energy-efficient and available at all times. Security in the OCC is also high, however. All visitors are filmed, and access is only possible with a staff ID. Claudio Sanson, the new head of the OCC, has already been given all sorts of ideas of how to put the impressive room to alternative use. “When I tell colleagues about the enormous video wall, they often suggest showing a Raiffeisen Super League match on it,” he grins.







# The best service for Raiffeisen bank customers

Withdrawing money at a cash machine, paying for shopping by card, setting up a payment online and on time – it goes without saying that we simply expect all of these services to work. A lot of work goes into it, though.

Almost one in two people in Switzerland trusts Raiffeisen with their banking transactions, making the bank the leader in the private customer segment. The local presence and cooperative idea that shape the business have convinced 3.7 million customers. To enable Raiffeisen to offer these customers the best possible service around the clock and throughout the country, the bank is dependent on a reliable partner like Swisscom.

## **Service – it goes without saying**

A cash machine not working is simply not an option. Neither for Raiffeisen nor for its customers. Cash machines have become almost as indispensable as mobile phone reception and power supply. In Switzerland, we are used to key services functioning without a glitch. And, it is precisely because they always work that they are so important in our day-to-day lives.

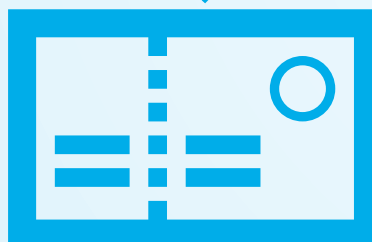
When a service is good, you don't notice just how much work goes on behind the scenes. A lot of unseen effort also goes into ensuring the availability of the cash machines. "Like an invisible good fairy in the background, Swisscom guarantees that our cash machines always work without a problem," is how Nicole Widmer, Head of Product Management Payment Methods & Payments at Raiffeisen, describes their cooperation.

## **Nationally networked**

To ensure that Raiffeisen customers always have access to cash and can make payments, the cash machines are particularly well protected. All of the bank's locations and its 1,600 cash machines are connected to the Raiffeisen Switzerland data centres – encrypted over a dedicated, nationwide data network. This connection is monitored by Swisscom; faults are analysed and remedied immediately.

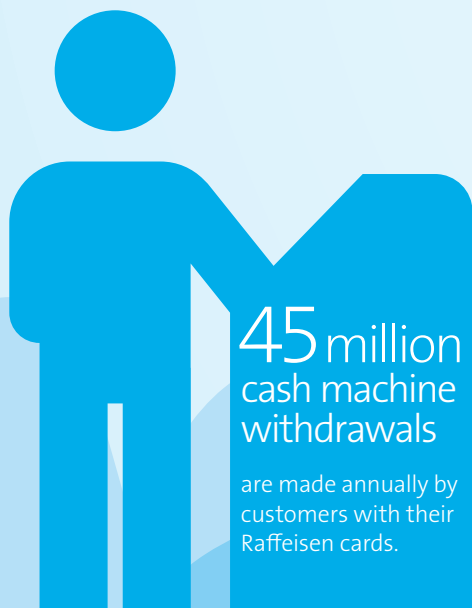


# 116,000,000



bills

are paid by Raiffeisen customers every year.



## 45 million cash machine withdrawals

are made annually by customers with their Raiffeisen cards.

## 72% of all payments

are carried out online via e-Banking by Raiffeisen customers.



“The banks have long since arrived in the digital age. E-banking, for example, has now become the standard. Customers rely on the fact that services simply work. With the Swisscom network and our support, we create precisely the right foundation for this. For instance, we connect all Raiffeisen banks, branches and cash machines via a nationwide secure data network. And we make sure that authentication for e-banking works.”

### **Gion Kehl**

Key Account Manager, Swisscom (Switzerland) Ltd

“Swisscom plays a key role in ensuring that our services are available. For example, we work together to maintain and support the systems that handle purchase authorisations and limits for the cash machines and manage all customer and payment cards. When the systems are so critical, it is important to have a partner at your side who you can count on.”

### **Nicole Widmer**

Head of Product Management  
Payment Methods & Payments, Raiffeisen Group

### **At a glance – key Swisscom services**

- › Swiss-wide, encrypted data network (WAN) connects all banks, branches and cash machines with the head office in St. Gallen
- › Traditional telecommunications services (mobile and fixed network, IP telephony, Internet)
- › Licensing, maintenance and support for cash machine transaction servers and card management software
- › eAlarm emergency alert system for notifying Raiffeisen banks
- › Mass SMS mailing for e-banking authentication



Security

Carlo Bertolini  
lives in Ticino

Head referee of Swiss Football Association  
since 2011

*“As a referee,  
I am responsible  
for the players  
and their health.”*







**Carlo Bertolini**

married, owns a labrador

Specialist in occupational health and safety  
at Swisscom since 1981

*“Swisscom is used to  
dealing with foul play.”*



# Near misses, phishing and personal experience

The word “security” is usually associated with a process, a technology or rules. But there is more to it than that. And it is no different on the pitch than in a company. For it is only when everyone involved has a shared understanding of security that they can respond to incidents as quickly as necessary. On the football pitch and at Swisscom.

## **The ref**

What I see isn't necessarily reality. It's something I experience as a referee every now and again. My goal is to keep the players healthy by seeing fouls, blowing the whistle and handing out penalties. I am responsible for what happens on the pitch. I attach great value to enjoyment and objectivity. There are endless discussions in football. But one person has to assume responsibility and take decisions – regardless of whether they are right or wrong. My word is law on the pitch. When I review the images again after the end of the match, I am sometimes surprised: instead of the five metres I thought it was, the distance was actually 30 metres.

We referees are connected to one another at all times during a match by a communication system. This is important when something happens because there is no such thing as zero risk. If you really want something, you'll find a way. When an incident occurs, the goal is to respond appropriately. For me on the pitch, this means: if smoke bombs, for example, are thrown onto the field, I have to make a snap decision. I can stop the match and guide the players to safety in the locker rooms or to the other side of the pitch. Then I initiate dialogue with the experts: the security officer,

## **The security guy**

Hackers who want to make a statement, organised crime, terrorism and espionage – these are our adversaries. Swisscom's goal sounds ambitious: to create security for people in today's networked world – everywhere and at all times. But ambitious goals are important. After all, our customers trust us with their information security; they rely on us.

Nowadays, we check our smartphones around 150 times a day and we always know exactly where it is. We are also susceptible to attacks because we move so naturally in the digital world. For example, phishing attacks where imposters send official-sounding e-mails that look like they have been sent by a bank or insurance company, etc. They try to gain access to confidential data and steal people's identities. In the past, it was easy to spot these e-mails. Today, the linguistic quality is better. Our filters detect standard phishing so that these e-mails are not even delivered via Bluewin. But there are also tricky cases, for example, dynamic e-mails where the URL of the link changes from e-mail to e-mail – in such cases, we cannot identify a pattern. This is why, when it comes to security, it is important that people are actively engaged and able to recognise when someone is



## *“Security is always about trust.”*

stadium director, both team captains and announcer all gather at the edge of the pitch. “Do you see a way to resume the match?” “What measures do we need to take?” The announcer then issues a warning over the PA system: “If another smoke bomb is thrown, the match will be called off.”

There are only 17 rules in football. When an incident occurs, the famed 18th rule comes into play: personal experience. Everyone involved has to be flexible and adapt their decisions to the situation. Of course, this only works when the framework and various scenarios are already defined ahead of time. Stadiums have crisis management procedures and a control room from which the entire stadium is monitored. There are evacuation plans, fire safety measures and emergency medical services. A stadium can’t operate without them because something unexpected always happens at some point.

about to light a virtual smoke bomb. Around 40% of all phishing e-mails are clicked on! That is way too much.

Creative solutions are in demand for both security and football. The aim is to foresee danger and stay one step ahead of the attacker. This is why Swisscom is developing security solutions today that can solve the challenges of tomorrow. To this end, we are investing in know-how and technology. We recently started tracking our own Internet traffic in the company network to find anomalies and new kinds of attacks. Maybe this will let us predict that a yellow smoke bomb is usually followed by a blue one and then red one. Maybe we can be the first to detect a vulnerability.

### **How phishing works**

Malware is a piece of infected software that criminals install on other people’s computers via networks. The infected computers can be merged to form a bot network and controlled remotely so that they send, for example, phishing e-mails. This is exactly what other criminals can buy on the black market: one hour of bot network usage to distribute their own malware. The goal: an e-mail recipient clicks on a link or opens the attached PDF – then data theft and sabotage can begin.

### **Identifying phishing e-mails**

1. The e-mails contain a link or attachment – if you move your mouse over the link and wait a second, you can see where it leads to. Does this URL make sense?
2. Psychological pressure is often created: “If you don’t react, then...”. A PDF is usually infected and takes advantage of weaknesses in Adobe Acrobat Reader – which is why it is so important to install all updates.

# Our playing field

On the pitch, eleven against eleven play to win hearts, fame and victory. Off the pitch, a digital world of experience is growing, with more and more to offer both fans in the stadium and at home.

Swiss clubs are playing on international turf. For the last sixteen match against Argentina at the 2014 World Cup, nearly 1.8 million fans in Switzerland were cheering and agonising in front of the TV. Our country is fascinated by football. And today, football is more than just football, due to the fact that fans' needs and expectations have changed.

Before, you used to park your car, go to the stadium and buy your ticket at the counter. Your ticket was ripped, you sat or stood, bought a hot dog at half-time, had something to drink, glanced at the advertising boards and went home. The next day, you told your work colleagues about the match. Football was football.

Today, football is both an ecosystem and a world of experience, the stadium a digital hot spot. You buy your ticket online before the game, arrange to meet friends with your smartphone and check online for the latest information about extra buses or team line-ups. On the day of the match, you check in to the stadium with your smartphone, order a hot dog at half-time with a single click, buy something to drink and pay without cash. You send an MMS, watch a new video on the LED advertising boards, or keep yourself entertained during half-time with a 'game' on the stadium app. On the way home, you discuss the game while watching match highlights on your smartphone. And the next morning, you buy a football shirt for your daughter from the e-shop kids' collection.



*“Football today is much more than just a trip to the stadium. Even though the match is still the main event, it is also part of a chain of experiences that starts long before kick-off and ends long after the final whistle. Throughout Europe, people are attempting to turn football into a digital experience, for example using venue apps, so far without much success. Our vision is a simple one-stop solution for the entire chain of experiences. And we will make this a reality.”*

**Stefan Rupp**

CEO Swisscom Event & Media Solutions



# Football – an ecosystem and a world of experiences



Print out the ticket or save it on your smart-phone – hopefully the battery doesn't run out...



What's going on in the betting pool?



The ticket is available online, as well as up-to-date travel information.



The barcode is scanned quickly and securely in the stadium.



The TV images are produced by Teleclub and transmitted to the TV studio by Swisscom Broadcast.





Modern LED strip lights have also been used to illuminate Swiss stadiums since 2012.

You might soon be able to order a sausage brought to your seat via the app.

Cheer on your team live while on the move.

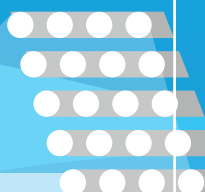
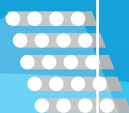
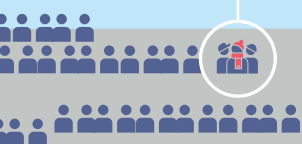
Relive the key moments on Swisscom TV.

Discussions between rival fans go back and forth in social media.

Victory! Quickly purchase the new strip in the merchandising shop.



Plan the journey to the next away game from the comfort of your own computer.



# Sports events live in your living room

We link stadiums and TV studios with ultrafast connections so that football fans can see the images from the Raiffeisen Super League at home in HD. An interview with Stefan Leuthold, Business Development Project Manager at Swisscom Broadcast.



## ***How are sound and images transmitted from the football stadium to the studio?***

Stefan Leuthold: There are two options: either by optical fibres or satellite. With our Broadcast Highway Video service, we operate our own fibre optic network for the stadiums in the Raiffeisen Super League and the ice hockey arenas of National League A. A permanent on-site connection is used exclusively for live broadcasting because the data rates for HD transmissions are very high.

Permanent access, however, is not worthwhile at every event site – the live broadcasts of the Swiss Challenge League or handball matches are therefore broadcast via satellite. And, we usually also receive matches from abroad via satellite using our Broadcast Highway Sat service.

## ***Who are your customers?***

Mainly Teleclub. We transmit all content needed for a sports production from the event itself to the Teleclub TV studios. Another customer is the Federal Chancellery for the transmission of Federal Council media conferences.

## ***How exactly do the TV signals travel to the studio by optical fibre?***

A TV production team sets up onsite with cameras and production vehicles and records the event. The cables with the signals are simply plugged in to our access point from the production vehicles, it is all relatively unspectacular. We handle encoding, transfer of image and sound data to the network and transmission to the customer.





### **How is it different from transmission via satellite?**

A match is ordered from us several days in advance. Our on-site partners handle the uplink to the satellite. We are then given the parameters for the downlink, receive the satellite signals on large parabolic dish antennas in our downlink station in Olten and route the decrypted content to our customers.

### **How do you guarantee such a spontaneous service?**

Flexibility is part of our day-to-day business. We offer a 24/7 service with our Network Management Center. There is visual monitoring for every match. We are in close contact with partners, usually international ones, for satellite links.

### **Are there challenges?**

Of course. It isn't easy to ensure almost 100% availability while simultaneously providing top quality. We also feel a responsibility to viewers who want to watch their club's match on TV. Reliability is the most important factor here. Which is why it is so important that our network is continuously monitored and redundantly secured. Innovation is also important. Terminals often set the trend here.

### **Can you give an example?**

The equipment in the entire production chain is defined by the HD television in the living room, from the HD cameras in the stadium to the workstations in the studio. High-performance networks are also needed to transmit HD signals. HD will soon be replaced by UltraHD (UHD or 4K), and the successor to UHD is already in sight. Everything is interlinked.

### **Your product is called Broadcast Highway. What is behind it?**

In our business, unrestricted travel on the data highway at high speed and with no traffic congestion is the highest priority. And it's about flexibility, which is very important to our customers.

### **On air for Switzerland**

Swisscom Broadcast builds, operates and maintains wireless networks for radio and TV broadcasting as well as security and company radio networks. We operate 1,600 transmitter sites for our customers throughout Switzerland. We provide 450 of our own transmitter sites for co-use. Our subsidiary, Swisscom Event & Media Solutions (SEM), enhances our service offer with temporary ICT services for the event and media sector. For example, the products Broadcast Highway Video and Sat ensure that image and sound are transmitted in the highest quality during live broadcasts. All signals that Broadcast Highway transmits from a live game to Teleclub are processed in the Teleclub studios Volketswil and Fribourg, produced for broadcasting and then supplied for Swisscom TV in Olten and broadcast.

### **Impressive figures for Broadcast Highway**

- > Every HD signal is transmitted at 250 Mbps to the studio via optical fibre (best studio quality, enables processing).
- > Via satellite, this figure is usually approx. 35 Mbps.
- > The speed for transmission to the TV in the living room is around 8 Mbps.
- > Fibre optic network transmissions/year: 400 times ice hockey, 180 times football, 50 times Federal Chancellery.
- > Satellite network transmissions/year: 1,200 times football European leagues, 200 times tennis.



# LED boards are just the beginning

Since the first match of the second half of the season in September 2014, six clubs in the Swiss Football League have introduced new LED advertising board systems. The new boards not only generate more marketing income for the clubs and offer fans more attractive advertising – they mark the dawn of a new era.

In mid-December, the Swiss football leagues are on winter break. Klaus Haussener, Head of Event Warehouse & Operations, packs two trucks for Spain with his crew. The Spanish league has asked Swisscom Event & Media Solutions to step in. “So we are heading to Spain with three complete LED advertising board systems – for matches in the Primera División and Copa del Rey,” explains events specialist Klaus Haussener. The crew will only return to Switzerland again in January. “We are responsible for planning, logistics, setup and dismantling, maintenance and operation. Our main customer is the Raiffeisen Super League. The additional jobs that we can take on, for example for the UEFA Champions League, UEFA Europa League and international matches, are based on their match schedule.”





## Impressive figures for LED boards

- > LED system: 250m long (=  $\frac{3}{4}$  of the stadium or 2.5 times as high as the Bern Minster).
- > Panels needed for 250m: 172 panels each weighing 72kg (= 12,900kg without cables).
- > LED lights/panel: nearly 14,000 or 2,400,000 for 250m.
- > Per deployment: 14,000kg of material moved by hand (= 1.5 times as heavy as the largest bell in Switzerland, in the Bern Minster).
- > Per year: 231 deployments of LED boards.

### Digital era in the stadium

Rotating advertising boards – every football fan has seen them. Advertising messages created long in advance try to grab the attention of stadium visitors and TV viewers. But the visibility of the boards is limited. And at international games, not every message is interesting for the viewers in all countries. It is plain to see that a new generation is slowly taking over the stadiums: LED boards. They are a sign that the digital age has finally dawned in football. And they also show how a telecommunications company like Swisscom can diversify its core business in this era.

The LED advertising board system is a product of our time. Klaus Haussener says: “We can set up the boards in four to six hours and dismantle them again in three to four hours, depending on the stadium – they are therefore mobile and can be flexibly deployed.” Other advantages: they guarantee advertising customers good visibility, they can be played at short notice and they simplify the production of content. “LED also offers fans interesting advertising thanks to moving images. The clubs generate additional income and improve the added value of home matches.”

### Maintenance is important

A LED wall is made of tile-like panels that are 1 metre high and almost 1.5 metres wide. Nearly 14,000 LED lights light up on every panel and supply extremely sharp pictures. It is immediately obvious when one is broken. And repair is no easy task. Even though LEDs are supposed to have a long service life, the system is

continuously exposed to wind and weather and is transported often. Which is why good maintenance is important. Klaus Haussener and his team take care of maintenance before and after every deployment. The logistics are complex: “Two organisers and four assistants, called stage hands, take care of the transport, setup and dismantling, all cabling and the activation.”

### New added value thanks to digital signage

Another product of the digital age is digital signage. It offers a colourful mix of digital services for stadiums and visitors. For example, the information system for visitors via screens. There are also event apps, live voting and SMS services for on-site competitions. Digital signage also offers access management, ticketing, live streaming or central storage of event data. Not forgetting a strong mobile telecommunications and data network for the event so that spectators can share impressions, photos and videos live with family and friends.

Together with a partner, Swisscom Event & Media Solutions is driving the development of LED advertising board systems. The LED boards 2.0 will create new opportunities for football clubs.







# A stadium full of fans cheer along from TV

No matter whether it's the Young Boys of Berne against FC Basel, Barça against champions Madrid or the veteran Juve against arch rival Inter Milan: tens of thousands of cheering fans aren't only found in the stadiums.

At home in front of the TV or on the go with a smartphone, football fans don't have to miss a single goal, skilled dribbling or rough foul, thanks to live sporting events on Swisscom TV.

## **Together with friends**

Watching football together with friends has become an event, celebrated at home or at a public viewing area. And today's live sporting event offering is much greater than it was eight years ago thanks to Swisscom's entry into the TV market. Fans can access over 5,000 live broadcasts per year on the screen. Teleclub Sport Live broadcasts all 180 Super League matches and 36 Challenge League matches on Swisscom TV, and in HD quality.

## **International Switzerland**

Countless fans root for clubs in the European leagues, such as the German Bundesliga, Italy's Serie A or Spain's Primera División. That's why Teleclub's programme also includes Europe's top live football matches. Formula 1, major tennis and golf tournaments and ice hockey are also in the line-up.

## **Everything I want, where I want**

Real fans don't simply miss out when their club plays. Since 2010, they can keep up with every match on any screen – on a tablet, smartphone, PC or Mac, just like on their TV at home. And those who miss the match or want to watch another one can find the video and photo highlights from various leagues shortly after the end of the match, free of charge, at bluewin.ch. Teleclub Play – the series flat rate for Swisscom TV 2.0 customers – has most of the matches stored in full length in a sports archive.

## **Swisscom TV 2.0 – the TV you can take with you**

With cloud-based Swisscom TV 2.0, viewers are turned into their own programme directors, allowing them to decide for themselves which programmes they want to watch, when and on which device.

### **What Swisscom TV 2.0 offers:**

- > Replay available for 7 days on over 250 channels\*
- > TV on a laptop, tablet or smartphone
- > Over 250 channels, including over 80 in HD quality\*
- > Unlimited parallel recording of up to 1,000 hours\*
- > Over 7,500 films in three languages on demand
- > Teleclub Play video flat rate

\* Swisscom TV 2.0 plus customers.



# For the Switzerland of the future

Switzerland is a great country and a world leader – in education and research, in tourism, in the quality of life we enjoy, and also in telecommunications. There is not one other country in the world that can boast such a high smartphone density (80%) and such a high percentage of people with access to the mobile Internet (80%)\*. What's more, Switzerland was the first country to legally stipulate that the population have access to a fast broadband connection. The Swisscom network is not only the best in Switzerland, but one of the best in the world.

To ensure that our country remains a world leader in future, it is vital that we establish a correct approach to interacting with digital media, particularly for children and young people. The way in which they use the Internet, smartphones, Facebook, WhatsApp, Instagram, etc. is therefore important.

## **Visiting the Bern-West team**

Football is the most important hobby for the FE-13 Bern-West team. They train three times a week, normally play in competitive matches and tournaments at the weekend, have their own website and, of course, have a WhatsApp chat group.

\* Source: Media Use Index 2014



*"Having a smartphone doesn't make you lonely at all. It's actually the complete opposite. When I was injured and had to stay at home, my team mates sent me messages, describing what they had done in training."*

**Noël** (12) midfield

*"I don't have a smartphone, so it's harder to send messages to my friends."*

**Noé** (12) goalkeeper

*"I spend far too long online when writing messages to my friends on WhatsApp. There is a constant stream of messages being sent in our class's group chat."*

**Marco** (12) defence

*"I don't really differentiate between the offline and online worlds. But, if I'm writing a message on WhatsApp and my parents speak to me, they probably feel that I am 'offline' to them."*

**Chiara** (13) defence





# For personal development

Schools are not the only place for learning. Sports clubs also play an important role in the development of children and young people.

## **The football coach:**

“Our personalities are shaped by various influences – our origins, values, experiences, and also our athletic environment. Physical activity is important for children and young people, as it promotes complementary physical and mental development, increases strength and dexterity, and improves self-confidence, well-being, learning aptitude and social skills. In my role as coach, I deal with every individual player in a respectful manner and try to pass on a positive attitude to them all. I feel it is important that I set a good example, teach my players new skills and tactics, and make sure that they continue to enjoy playing. I regularly speak to each of the players individually to tell them how they're doing and where they can improve in terms of their technique, game intelligence, sharpness and character. The best aspect of what I do is that I get to see how the team develops and the inherent factors that motivate the players. Coaches don't just train young people how to play football, they also help to develop their personalities.”

Coach of the FE-13 Bern-West team

## **Promoting young talent with Footeco and FE-13**

The Swiss Football Association's Footeco project (under-12s to under-14s) structures the key transition period from children's football to the preformation stage and further to competitive football (from under-15s upwards). This period is extremely important in finding and developing talent and lays the foundation for ensuring that Swiss football is stocked with talented players in the long term. FE-13 is the part of the Footeco project for players under 13. The Bern-West team is supported by partner club FC Köniz.



# For media-savvy families

Every two years, Zurich University of Applied Sciences (ZHAW) leads an investigation commissioned by Swisscom into the changes in media habits of young people aged between 12 and 19. The 2014 JAMES study once again revealed very interesting findings.

The digital natives are doing their reputation justice, with 97% of 12- to 19-year-olds owning a smartphone – a great deal more than in their parents' and grandparents' age range. They do not, however, make many telephone calls, but prefer to listen to music, take photos, play games and surf the web. In 2010, 16% of those surveyed used their mobile phones to surf the Internet on a daily or weekly basis. This figure has now risen to 87%.

## Not lonely and never without an answer

The good news is that smartphone users are not growing lonely. 79% of participants in the survey stated that they meet up with their friends very frequently – a figure which has maintained a constant level since 2010. 81% of young people are mindful of their privacy in social networks, and the Instagram photo service is more popular than Facebook among 12- to 13-year-olds.

Does this mean that everything is well in the world of media? Unfortunately not. Although smartphones and social networks are not turning users anti-social, they do increase the pressure to which they are subjected. When young people see photoshopped pictures of their friends online, showing off their trained physiques and flawless complexions, they know that the pictures are not real, but still hold them up as a benchmark against which to measure themselves. This is a paradox.

The role models of young people are TV stars, models and heroes from computer games, all of whom have very little in common with the real world. Nevertheless, their appearances inspire young people to make the best of the way they look in order to gain social recognition. Beauty is no longer a matter of being blessed with good genes, but rather something you achieve. Children and young people need the support of their parents, teachers and other adults. The aim is to increase the self-awareness and confidence of children and make them media savvy, thus ensuring that they are able to use digital media safely and responsibly. In order to put this idea into practice, Swisscom is offering media courses for parents, young people and teachers. The courses highlight the fact that, while filters and security programs are important, establishing a dialogue with children is of much greater significance. In one of the media courses, adults can learn about the “second world” of children in order to help maintain this dialogue.

Parents can find practical tips for family life on the “Medienstark” (Media Savvy) webpage, for example if your daughter cannot sit at the dinner table without checking her smartphone or if your son cannot even take a shower without putting down his video game.

Find out more by visiting  
[swisscom.ch/medienstark](http://swisscom.ch/medienstark)

## Media courses

When it comes to digital media, you never stop learning, as there is always something new to discover. Our media courses provide fathers, mothers, children, young people and teachers with the opportunity to learn about the most important aspects of digital media.

- **Media courses for parents and teachers**  
Understanding the digital world, discussion topics, child safety and legal aspects
- **Media courses for lower secondary school pupils**  
Media usage, surfing the Internet, community, Internet applications
- **Media courses for upper secondary school pupils**  
Fascination with digital media, law on the Internet, social networks, safe surfing, cyberbullying
- **Media courses for sports schools**  
Digital media become important when young athletes are suddenly placed under the spotlight. How should young athletes present themselves online? In collaboration with Swiss Olympic, the course highlights the important aspects of digital media usage.

Find out more by visiting  
[swisscom.ch/medienkurse](http://swisscom.ch/medienkurse)

# How we support start-ups

It's not enough just to have a brilliant idea. For a start-up to really take off, it also needs contacts, technological expertise and funding – and a reliable coach like Swisscom Ventures.

Every year, 40,000 companies\* are formed in Switzerland. We look for the gems among them. Curiosity is an important element in this treasure hunt. And openness to bold new ideas. Ultimately, our aim is to foster implementation of the best ideas from the very outset. Which is why Swisscom Ventures is collaborating with the technology parks of Swiss universities such as the Federal Institute of Technology in Zurich and EPFL in Lausanne. We also maintain international ties, for example, with Silicon Valley. Since 2007, we have supported more than 35 start-ups specialising in IT, digital media and telecommunications.

## **Much more than an investment**

Swisscom Ventures doesn't just offer new companies financial investment. It's about much more: Young entrepreneurs benefit first and foremost from coaching, technical infrastructure, sales channels as well as contacts – all of the core elements for a successful business. And the Swisscom StartUp Challenge is held every year: We give the top 5 companies intensive coaching and accompany them to Silicon Valley for a one-week mentoring programme.

## **Personal relationships**

We support start-ups that we believe in. A partnership is geared toward the medium term. The focus is not whether or not it is profitable, but is based on trust.

Our economy, and Swisscom as a technology company, need fresh ideas and innovation – one of the greatest challenges of our time. A breath of fresh air can help. And, this is exactly how our cooperation with start-ups works: momentum, courage and entrepreneurial spirit all shape culture – and also make their way into Swisscom's culture thanks to the personal relationships with young entrepreneurs. A rewarding symbiosis.

## **Example: LiberoVision**

One start-up that Swisscom Ventures has partnered for five years is LiberoVision. Two Swiss computer engineers have created a software application that has become indispensable in sports broadcasting.

\* Source: Commercial Register Switzerland 2013

*“Start-ups are the SMEs of tomorrow, and SMEs serve as the backbone of our economy. Because we believe in Swiss entrepreneurship, we support start-ups and join them on the road to becoming successful enterprises.”*

**Roger Wüthrich-Hasenböhler**

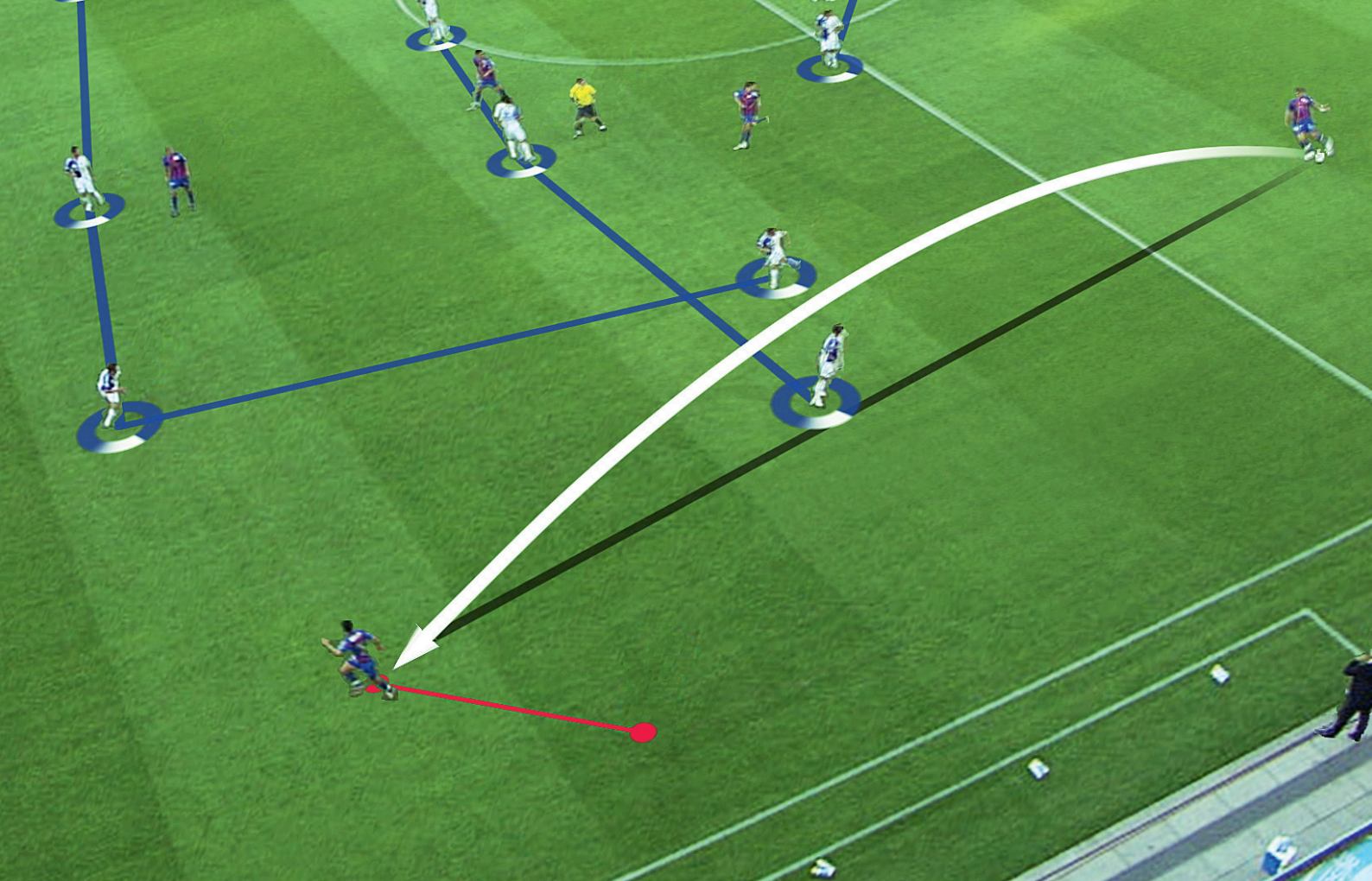
Head of Small and Medium-Sized Enterprises, Swisscom (Switzerland) Ltd

### **Swisscom Ventures**

Swisscom's Venture Capital division, founded in 2007, operates in Switzerland (Zurich and Lausanne) and in the USA (Silicon Valley). A team of five manages the operational side of Swisscom Ventures, while an investment committee of four makes flexible processes and fast decisions possible.

Find out more by visiting  
[swisscom.ch/ventures](http://swisscom.ch/ventures)





*“When fans are loyal supporters of a football club, they cheer, they suffer, and hopefully also get to celebrate every once in a while. This is exactly the same as when Swisscom Ventures believes in a start-up: we are a partner in good times and in bad.”*

**Dominique Mégret**  
Head of Swisscom Ventures

# Magic eye on the pitch

They took the football world by storm from Zurich. Two former PhD students at the Federal Institute of Technology developed a revolutionary video technology: LiberoVision lets viewers at home see the action better than the linesmen on the pitch.

Mere centimetres and fractions of a second can often lead to heated discussions in football. “It’s offside when the ref blows his whistle,” was the way Franz Beckenbauer put it. Thanks to LiberoVision, the spin-off from the Federal Institute of Technology, viewers can now tell whether or not the referee made the right call.

## **Magic cameras**

Discover-Eye, the application developed by LiberoVision, turns television images into virtual 3D images that are indistinguishable from real ones. Computer-generated cameras show the action from every possible angle, virtually in realtime, making it possible to review controversial decisions and analyse match scenarios in detail.

## **Kick-start from Swisscom**

When the computer engineers Stephan Würmlin and Christoph Niederberger designed their prototype in 2006, they never thought everything would happen so quickly. But their idea won prizes at competitions and found investors as a result. In particular Swisscom, which supported the start-up with funding and its network.

Before conquering the global market, however, the two spent many hours driving a rented van from one end of Switzerland to the other, because the prototype had to be turned into a product that could be used in professional TV productions. And this meant lots of tests. Swisscom gave LiberoVision access to the TV studios of its subsidiary Cinetrade. It was here that the founders were able to gain first-hand experience

with initial broadcasts of the Super League – before the technology was eventually used for the live transmission of a football game for the first time.

## **Top TV broadcasters get on board**

On the second to last day of the season in the spring of 2007, LiberoVision celebrated its world premiere at Teleclub – with ten to fifteen minutes of processing time for one scene. Just in time for the 2008 European Football Championship in Switzerland and Austria, ZDF, the German broadcaster, came on board as a customer, followed by ESPN, the biggest sports broadcaster in the USA. ESPN also wanted a software application for American football straight away, which was ultimately nominated for an Emmy.

## **No longer a start-up**

Six years later, fewer than ten seconds are needed to process the linesman’s perspective in an offside situation, and less than a minute for more complex match analysis. Today, LiberoVision is called Viz Libero and is used to analyse football, American football, basketball, ice hockey, baseball and rugby, with 24 employees in the Zurich Technology Park. Customers include the biggest TV stations in the world such as FOX, ESPN, ZDF, Globo and others. Swisscom phased out support when the international media company, Vizrt, took over the start-up in 2011 and has since then expedited the global rollout. The founders, Stephan Würmlin and Christoph Niederberger, are part of the executive management and are responsible for the Vizrt sports department.



# Key figures at a glance

The following table shows the development of certain key figures of Swisscom between 2013 and 2014. For a better understanding, a short explanation of the financial key figures is provided below.

Swisscom's net revenue rose by CHF 269 million or 2.4% to CHF 11,703 million, while operating income before depreciation and amortisation (EBITDA) was CHF 111 million or 2.6% higher at CHF 4,413 million. At constant exchange rates, excluding company acquisitions and Fastweb's wholesale revenue from interconnection (hubbing), net revenue rose by 1.9% or CHF 218 million, of which Swiss business accounted for CHF 128 million. Price erosion of CHF 360 million in Swiss core business (CHF 170 million of which resulted from reduced roaming fees) was more than offset by customer and volume growth.

On a like-for-like basis, Swisscom's EBITDA increased by 0.9% or CHF 39 million. Net income increased year-on-year by CHF 11 million or 0.6% to CHF 1,706 million. This increase in EBITDA was offset in part by higher depreciation and amortisation and higher income tax expense.

Headcount increased year-on-year by 1,017 FTEs or 5.1% to 21,125 FTEs. The higher headcount resulted from corporate acquisitions, the hiring of external staff and the strengthening of customer service operations. Excluding corporate acquisitions, the number of FTEs rose by 282 or 1.4%.

Capital expenditure increased by CHF 40 million or 1.7% to CHF 2,436 million, and in Switzerland by CHF 65 million or 3.9% to CHF 1,751 million.

Fastweb's net revenue grew by EUR 46 million or 2.8% to EUR 1,688 million compared to the previous year. Wholesale revenue from low-margin interconnection services (hubbing) dropped as expected. Excluding hubbing, Fastweb's revenue was EUR 63 million or 3.9% higher at EUR 1,660 million.

In CHF million, except where indicated

2014

2013

Change

## Economic performance

### Net revenue and results

Net revenue		11,703	11,434	2.4%
Operating income before depreciation and amortisation (EBITDA)		4,413	4,302	2.6%
EBITDA as % of net revenue	%	37.7	37.6	
Operating income (EBIT)		2,322	2,258	2.8%
Net income		1,706	1,695	0.6%
Earnings per share	CHF	32.70	32.53	0.5%

### Balance sheet and cash flows

Equity at end of year		5,457	6,002	−9.1%
Equity ratio at end of year	%	26.1	29.3	
Operating free cash flow		1,860	1,978	−6.0%
Capital expenditure in property, plant and equipment and other intangible assets		2,436	2,396	1.7%
Net debt at end of period		8,120	7,812	3.9%

### Operational data at end of period

Fixed access lines in Switzerland	in thousand	2,778	2,879	−3.5%
Broadband access lines retail in Switzerland	in thousand	1,890	1,811	4.4%
Swisscom TV access lines in Switzerland	in thousand	1,165	1,000	16.5%
Mobile access lines in Switzerland	in thousand	6,540	6,407	2.1%
Revenue generating units (RGU) Switzerland	in thousand	12,373	12,097	2.3%
Unbundled fixed access lines in Switzerland	in thousand	180	256	−29.7%
Broadband access lines wholesale in Switzerland	in thousand	262	215	21.9%
Broadband access lines in Italy	in thousand	2,072	1,942	6.7%

### Swisscom share

Number of issued shares	in thousand	51,802	51,802	–
Closing price at end of period	CHF	522.50	470.90	11.0%
Market capitalisation at end of year		27,067	24,394	11.0%
Dividend per share	CHF	22.00 <sup>1</sup>	22.00	–

## Ecological performance

### Environmental key figures in Switzerland

Energy consumption	GWh	497	498	−0.2%
Energy efficiency increase since 1 January 2010	%	26.4	21.1	
Direct CO <sub>2</sub> -emissions	tons	21,380	23,835	−10.3%
Reduction of direct CO <sub>2</sub> -emissions since 1 January 2010	%	17.0	3.9	

## Social performance

### Employees

Full-time equivalent employees at end of year	number	21,125	20,108	5.1%
Full-time equivalent employees in Switzerland at end of year	number	18,272	17,362	5.2%

\* In accordance with the proposal of the Board of Directors to the Annual General Meeting.



# Key dates

## 5 February 2015

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Annual Press Conference 2014, Zurich

## 8 April 2015

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Annual General Meeting in Zurich

## 10 April 2015

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Ex-dividend

## 15 April 2015

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Dividend payment

## 6 May 2015

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First-quarter results 2015

## 19 August 2015

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Second-quarter results 2015

## 5 November 2015

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Third-quarter results 2015

## February 2016

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Annual Press Conference 2015, Zurich



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