

SWISSQUOTE

FINANCE AND TECHNOLOGY UNPACKED

BOSSARD
The Swiss family
business that
rolls with Tesla

COMAC
Chinese
manufacturer
up against
Airbus and
Boeing

MCDONALD'S
Under pressure,
the fast-food giant
reinvents itself

DOSSIER

PHARMA CUTTING-EDGE SWISS COMPANIES

GROUNDBREAKING MEDICINE | BIG DATA | THE FIGHT AGAINST CANCER

ROCHE ► NOVARTIS ► IDORSIA ► ACTELION ► BASILEA ► SANTHERA ► SIEGFRIED

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Banks, watches and...pharma



By Marc Bürki,
CEO of Swissquote

Banks, watches and chocolate. For the rest of the world, Switzerland's reputation consistently boils down to these three things, according to the "Swissness Worldwide" study, an interview of thousands of people in several countries conducted at regular intervals by the University of St. Gallen.

However, one look at the half-year press releases from the Swiss Federal Customs Administration shows a far more nuanced and comprehensive picture of what is really going on in the country. What stands out is the pharmaceutical industry's rise to power, year after year, as the top driver of Swiss exports well ahead of other industries. No less than 40% of Swiss exports now come from this sector, a pillar of the national economy. The number of jobs on Swiss soil that are directly or indirectly associated with pharma is close to 200,000.

p. 34 After heavyweights like Roche and Novartis, which regularly rank among the top five pharma companies in the world in terms of turnover, there are other promising **Swiss companies**, as well as a myriad of burgeoning start-ups across the country. A commonality among the majority of these Swiss players is their ability to innovate. Roche and Novartis are the top two companies globally when it comes to investments in pharma R&D (Roche leads the way with nearly 8 billion invested in 2016). Long considered a futuristic

dream, **personalised medicine** is benefitting from constant progress in genetics and genomics and is little by little becoming a reality. *p. 38*

But don't miss the next big thing: the digitisation of data and big data is shaking up the world of big pharma. Who knows? Companies outside the industry, such as Google or Apple, could come onto the scene next. It wouldn't be a surprise to **Thomas Cueni**, Director General of the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA), who we interview in this issue. That's because the pharmaceutical industry, while on the cutting-edge of R&D, is conservative in its operations and still relies on rather traditional models. A recent McKinsey study showed that the sector is falling behind in terms of "digital maturity" and is far behind other industries such as tourism, media and banking. But for how long? *p. 54*

In addition to the feature on pharma, this issue of *Swissquote Magazine*, which is decidedly very Swiss, also takes a never-before-seen look at Zug-based **Bossard**. With 2,000 employees, this company is a market jewel but still relatively unknown. It specialises in fastening technologies (screws, nuts and bolts, etc.), particularly for high-tech industries such as aeronautics, and is currently the official supplier for US auto manufacturer Tesla. *p. 20*

Happy reading!



BOSSARD



COMAC



28

DOSSIER

PHARMA CUTTING-EDGE SWISS COMPANIES

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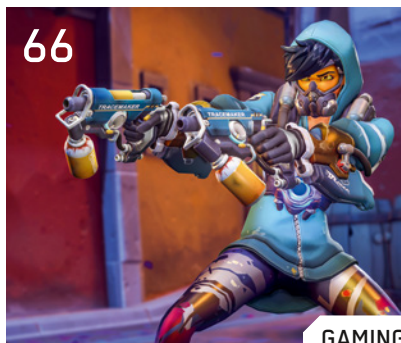
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Lea von Bidder,
co-founder of
Ava and L'inouï

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SCANS



“This is not a Tinder relationship”

The CEO of Whole Foods, **John Mackey**, commenting on the buyout of the organic supermarket chain by Amazon

engineering OC OERLIKON TAKES ON 3D PRINTING

OC Oerlikon – a Pfaeffikon-based company in the Canton of Schwyz – is set to invest 300 million Swiss francs in 3D printing materials over the next five years. Last July, in an interview for the e-paper *Schweiz am Wochenende*, group CEO Roland Fischer revealed his turnover target of 300 million Swiss francs by 2020, representing a market share of 15%. According to Fischer, the primary areas served would be medical prosthetics, aeronautics and the automotive industry. OC Oerlikon plans to manufacture advanced metal powders for 3D printing and will even print certain components in-house for its customers. The Swiss company also announced a partnership in June with General Electric, one of the biggest 3D printing system manufacturers.  OERL



energy RISE OF ELECTRIC CARS WORRIES OPEC



+70%

The increase in the number of IPOs worldwide in H1 2017. There were 772 in total, including the US firm Snap (which raised \$3.9 billion), the Korean company Netmarble (\$2.3 billion) and the Chinese firm Guotai Junan (\$2.2 billion).



The new Volvo XC60 SUV. The Swedish automotive company announced that beginning in 2019, all of its cars will be electric or hybrid models.

VOLVO

The electric car market should soar over the next two decades, with a fleet consisting of 530 million vehicles by 2040 according to a study conducted by Bloomberg New Energy Finance. The American agency concluded that as a result, oil demand will drop by 8 million barrels by 2040, or the equivalent of current Iranian and Iraqi production combined. The Organization of the Petroleum Exporting Countries (OPEC)

doesn't anticipate that the electric car fleet will expand to that extent, but it certainly revised up its projections. Despite the fact that OPEC's 2015 projections included a 46-million-vehicle fleet of electric cars by 2040, they have re-estimated that figure at five-fold its starting point, or 266 million vehicles. The intergovernmental organisation claims that electric cars will represent 12% of the market in 2040.



GRZEGORZ MICHALOWSKI / KEYSTONE

A 3D-printed implant. This technology is adaptable to the needs of each individual patient.



“From a market dynamics standpoint, I’m absolutely convinced the worst is over”

Antoine de Saint-Affrique


CEO of the B2B chocolate manufacturer Barry Callebaut, during an interview with the *Financial Times*. The Swiss company is back in the black after profits plummeted in 2016.

wellbeing

GIVAUDAN: AN AROMATIC WAKE-UP CALL



ROBYN BECK / AFP

The Geneva-based perfume expert Givaudan has decided to invest in Sensorwake, a French start-up. The two joined forces to develop an alarm clock that wakes users not only via audio stimuli, but by diffusing morning aromas “that make you want to get out of bed”, such as freshly-brewed coffee, cut grass, warm croissants and mint. They also released Oria, a device that diffuses scents such as fresh linen and sandalwood which help you doze off and sleep soundly. Sensorwake won the award for the consumer technology industry in both 2016 and 2017 at the CES Innovation Awards held in Las Vegas.  GIVN

RANKING

THE FIVE BRANDS THAT ARE WORTH THE MOST

(calculated using consumer polls and company financial results)

1. GOOGLE

\$246 BILLION

2. APPLE

\$235 BILLION

3. MICROSOFT

\$143 BILLION

4. AMAZON

\$139 BILLION

5. FACEBOOK

\$130 BILLION

Source: annual BrandZ ranking compiled by WPP

THE FIVE QUIRKIEST BENEFITS SILICON VALLEY COMPANIES OFFER THEIR EMPLOYEES

- 1 App developer Y Media has rented a house in Hawaii that is available for its employees to use whenever they like
- 2 Software developer Atlassian gives its employees an unlimited number of paid holidays
- 3 The start-up Indeed provides its employees with an insurance plan that enables them to be repatriated by helicopter from anywhere in the world
- 4 Google, LinkedIn, Intel, Spotify, Facebook, Microsoft and Amazon promise to pay the costs of IVF treatment for all employees. Some of these companies also finance the freezing of eggs
- 5 Employees at GitHub are able to take advantage of free massages, a gift card for books and, once a year, they can attend a conference of their choice

Source: Mashable

SCANS

aviation

GULF AIRLINES FACE
STRONG HEADWINDS

Gulf airlines – Qatar Airways, Emirates and Etihad Airways – aren't faring well. After years of sustained growth, Emirates posted profit margins of just 1.5% for the fiscal year ended in March. Qatar posted -3%. The airlines are suffering from the drop in the oil price, which has led to a sharp fall in the number of business passengers travelling to the Middle East. The travel restrictions imposed by the Trump administration on travellers from the Gulf region have also had an effect. Etihad has also had to absorb losses due to financial difficulties experienced by Alitalia and Air Berlin, two airlines that Etihad holds a stake in.

HANDOUT / REUTERS

automobile

TECH COMPANIES KEEN
ON DRIVERLESS CARS

A fleet of autonomous cars, outfitted with technology from Chinese company, Baidu, undergoing the test phase in Wuzhen, near Shanghai, China.

The tech giants are becoming increasingly interested in driverless cars. Waymo, a subsidiary of Alphabet, is involved in developing this type of vehicle in conjunction with the on-demand taxi service, Lyft. Chinese firm Baidu announced a partnership with automotive-components manufacturers Robert Bosch and Continental, with the aim of designing new technology

for driverless cars and intelligent mobility solutions. These partnerships are aiming at catching up with Uber, which is currently bogged down by legal wranglings and damage to its reputation. This summer, Nvidia and Autoliv have also forged a partnership with Volvo to develop software for driverless cars, using artificial intelligence.




+5%

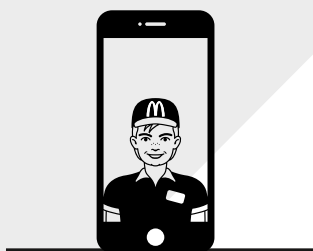
The increase in revenue for the pharmaceutical group Allergan in Q1 2017, which now totals \$3.6 billion. Sales were boosted by the demand for its flagship product, Botox, which is gaining in popularity in emerging countries and with men.

FLOP

Biscuits with flavours
that were one step too far

Oreos, sold by Mondelez, are the top-selling biscuits in the world. But after years without any significant changes, the biscuit needed a make-over. Half a dozen new flavours were introduced in the spring, including Blueberry Pie, Firework (with popping candy), Jelly Donut and Waffles & Syrup. Consumers

were decidedly underwhelmed, with the majority declaring the biscuits too sweet and artificial. Oreo therefore decided to give its customers a voice and organised a competition, with a \$50,000 prize, to decide which flavour would be put on the market. And the winner is... Brownie Batter.  MDLZ



45%

The share of sales using mobile payment in the 2,400 Chinese McDonald's restaurants. The majority of these payments are made using a QR code generated by the customer's smartphone. The figure for Chinese Starbucks was 30%.



“China is shifting from exporting to importing. China is going to be the world's largest consumption place and that engine is going to drive the world economy”

Jack Ma, CEO of Alibaba

energy

NEW PIPELINE FROM RUSSIA TO EUROPE



A section of the Nord Stream 2 pipeline undergoing inspection at the Kotka plant in Finland.

NORD STREAM 2

Europe is importing more and more Russian gas. Gazprom exports have increased by 12% during H1 2017 in comparison to the same period in 2016. To meet the demand, the Russian-based group will construct a new pipeline, Nord Stream 2, which will run under the Baltic Sea and into Germany. The pipeline will double

the export capacity to Europe. Five European firms – Uniper and Wintershall (Germany), OMV (Austria), Engie (France) and Shell (headquartered in the Netherlands and incorporated in the UK) – are involved in the project. They will provide half of the total €9.5 billion needed for the project.

KICKSTARTER



AMABRUSH

HANDS-FREE TOOTHBRUSH

Amabrush is the first toothbrush that brushes all your teeth at the same time and in less than 10 seconds. In the shape of a semi-circle and covered in antibacterial silicone bristles, Amabrush comes with a rechargeable battery which powers the brush's small oscillating movements and dispenses just the right amount of toothpaste from the device's refillable toothpaste capsule. The brush sits in your mouth like a set of dentures. As the device is hands-free, the user can multitask while his/her teeth are brushed automatically. The whole operation takes 10 seconds and saves users 108 days of brushing over their lifetime. Amabrush's designers promise that the brushing quality matches dentist recommendations (3 minutes, using a series of movements adapted to the teeth and gums).

FUNDS RAISED
€ 3.2 MILLION

AVAILABILITY
DECEMBER 2017

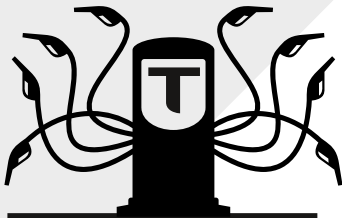
music

SONY GETS BACK
INTO VINYL

Popular with hipsters and music-lovers, vinyl has experienced a spectacular renaissance over the last few years. And nowhere more so than in the US, with sales of 13.1 million records in 2016, 10% more than in 2015. The trend started in 2006 and hasn't stopped since. The vinyl revival has prompted a shortage among the small number of vinyl manufacturers who survived the birth of the CD and digital music, and who are now barely keeping up with the increased demand. This situation encouraged the Japanese group Sony to re-start pressing vinyl records in a new factory south of Tokyo, after a hiatus of 28 years. — 6758



For the last 10 years or so, vinyl record sales have been steadily increasing – an opportunity that Sony has decided to capitalise on.



\$4.8bn

The amount that Total is expected to invest in Iran, in collaboration with China National Petroleum Corporation, to develop the South Pars gas field. This is the largest deal signed between a Western group and the Iranian government since the easing of sanctions against Iran in 2016.

security

KABA'S ALL-KNOWING LOCK



DORMAKABA

The Swiss lock maker Dormakaba has just launched a new electronic lock called Quantum Pixel. This lock is equipped with an RFID chip which collects and analyses a huge amount of data about how the lock is used, such as the exact time and number of times that users come and go each day. This allows hotels to better schedule housekeeping services, anticipate peak times for check-in or check-out and stay informed of any doors accidentally left open. — DOKA



“If you don’t get invited to this meeting and want to know what it was like, just drink a bottle of gin and then waterboard yourself”

The ex-CEO of Twitter, Dick Costolo, on a meeting held between Donald Trump and several representatives of the tech industry



ISTOCKPHOTO



“We need to become more integrated, more collaborative and less bureaucratic”

Tom Enders, CEO of Airbus, during the company's recent restructuring

watchmaking

RICHEMONT OPENS ITS INNOVATION CENTRE

The watchmaker and jeweller, Richemont, has just opened a centre in Neuchâtel dedicated to innovation. Boasting laboratories dedicated to energy efficiency for watch parts and new lubrication techniques, the centre should enable the R&D process optimisation of 19 of the group's brands. This new set-up also aims to take advantage of synergies created due to its proximity to the Neuchâtel innovation park, which brings together a branch of EPFL, the University of Neuchâtel and the HE-Arc. In the long-term, this collaboration will provide employment for approximately 50 people. — CFR

energy

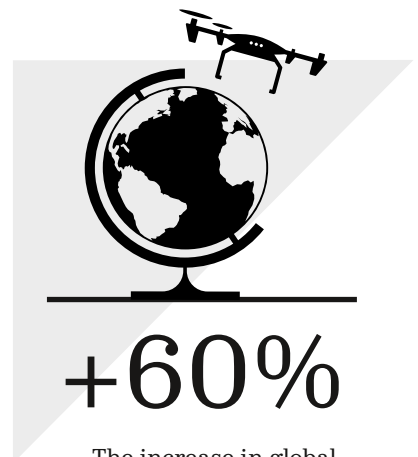
THE BIRTH OF AN OILFIELD-SERVICES GIANT

Baker Hughes is now owned by General Electric.

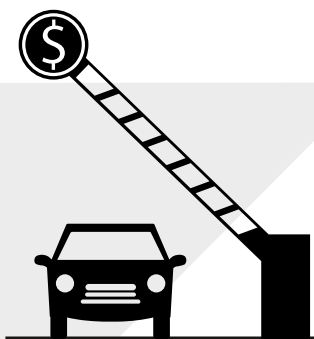


PETER BENNETT / NEWSCOM

The oilfield-services specialist Baker Hughes has merged with General Electric's oil and gas division. This new sector giant will be the only company involved throughout the entire oil value chain, from drilling, extraction and transportation to the sale of the end product. The company will share the market with Halliburton and Schlumberger. The synergies created by this merger will enable the company to save \$1.2 billion, and the new entity aims to develop new, more efficient drilling techniques by using digital technology. — BHGE — GE



The increase in global drone sales last year, according to consulting firm Gartner. The firm estimates sales of \$6 billion this year and \$11.2 billion by 2020. Drones for professional use currently equate to only 6% of the market, but generate 60% of the revenue.





14,000 km

The amount of roadway that the Italian toll-road operator Atlantia would own if it completes the acquisition of its Spanish competitor, Abertis. Atlantia would acquire roads in Spain and Latin America through the deal, which is valued at €16.3 billion.

chemicals

CLARIANT JOINS WITH HUNTSMAN

The Swiss chemicals company Clariant has announced a merger with Huntsman, its US counterpart. The new entity, which will be headquartered in Switzerland, will be valued at \$20 billion. The deal will give the Basel-based group access to its new partner's expertise – with Huntsman boasting BMW, GE and Procter & Gamble among its clients – in automotive coatings, insulation materials, textile and cosmetics. But a handful of its more activist shareholders are looking to derail the transaction. To achieve this, they have increased their stake in Clariant to 7.2%.  CLN  HUN

health


SWISS PHARMACIES ARE ALL SMILES



A Galénica distribution centre.

GALENICA

Galénica – which operates 500 pharmacies in Switzerland – floated on the stock market in April, raising 1.9 billion Swiss francs. The company's rival Zur Rose, which sells medication online and is based in the Canton of Thurgau, held its IPO in July and raised a total of 233 million Swiss francs. With a presence in Germany, Zur Rose is looking to expand

further into Europe, taking advantage of the liberalisation that the pharmaceutical market is currently undergoing. In Switzerland, the company has just opened its first brick-and-mortar pharmacy, located in the supermarket Migros. Both Galénica and Zur Rose should attract investors thanks to their stable revenues.  GALE

IPO

DELIVERY HERO FLOATS ON THE FRANKFURT STOCK MARKET

Delivery Hero, the German giant of the food delivery scene, floated on the Frankfurt stock market, raising €1 billion and valuing the company at €4 billion. This IPO has also boosted the share price of the start-up incubator Rocket Internet, which holds a 35% stake in Delivery Hero. The Berlin-based firm, founded in 2011, dominates the German online food-delivery market and

operates in over 40 countries. On certain markets, the company trades under the names Lieferheld, Foodora or Foodpanda. Despite the successful IPO, the company is facing relentless competition from Deliveroo, JustEat, GrubHub and Takeaway.com, and must also prepare itself for the onslaught from outsiders like Uber and Amazon, who are also planning to break into this market.

CHALLENGE EVERYTHING



H₀ BLACK

GENEVA MONTRES PRESTIGE INTERLAKEN KIRCHHOFFER HAUTE HORLOGERIE
LAUSANNE OURANOS LUGANO LES AMBASSADEURS LUZERN LES AMBASSADEURS
ZUG FINERYS ZURICH LES AMBASSADEURS

THE HYDRO
MECHANICAL
HOROLOGISTS

HYT
HYTWATCHES.COM

DURABLE
BY DESIGN



MADE WITH OUR EXCLUSIVE
FXT BALLISTIC NYLON™



PERFECTING THE JOURNEY

TRENDS



the figure

JIM HACKETT


The outsider put in charge of re-launching Ford

Position
CEO of Ford

Age
62

Nationality
American

Jim Hackett is now in the driving seat at Ford, following the precipitous departure of his predecessor Mark Fields, who was shown the door after disappointing results and a 40% drop in the company's share price between 2014 and 2017. The new CEO is not an establishment figure. After graduating with a degree in finance and following a brief spell at Procter

& Gamble, Jim Hackett spent 30 years – 20 of those as CEO – at the office-furniture manufacturer Steelcase. He joined Ford in 2013, as a member of the Board of Directors, before taking charge of the division for projects linked to on-demand car services and driverless cars. Jim Hackett will be responsible for helping Ford transition to these types of services and for managing the risks linked to the company's high dependence on the US market, which currently accounts for two-thirds of its revenue. 



the country

VIETNAM

The world's new manufacturing hub

Last year Vietnam posted growth of 6.2%, making it one of the world's most dynamic economies. This increase is thanks to the expanding manufacturing sector. With salaries rising steadily in China, more and more companies are choosing to relocate their factories to Vietnam, where costs are lower. This is especially noticeable in the tech sector, where the arrival of firms like Samsung and Intel is transforming the country into a hub for manufacturing smartphones and other

electronics. Several large textile and car companies also have factories in Vietnam. But other destinations even cheaper than Vietnam are starting to emerge, such as Cambodia and Myanmar. Luckily, Vietnam also has a second growth driver: the emergence of a middle class with purchasing power. The proportion of the population living below the poverty line had decreased from nearly 60% in 1993 to 13.5% in 2014. In 2016, retail trade increased by 10.2%.

Population
93.6 million

**GDP
per inhabitant**
\$2,306

Growth in 2016
6.2%

**Key economic
sectors**
electronics,
textiles, oil,
agriculture



ROBA ARCHIV / KEYSTONE

the innovation
NEURALINK

Company
Neuralink

Launch
within the next
five years

Cost
not provided

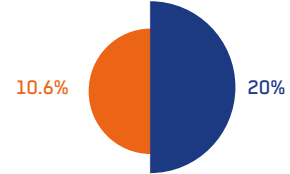
The man-machine symbiosis

Elon Musk, the man behind Tesla, has a crazy dream: to equip human beings with interfaces featuring electrodes that would be implanted in the brain so that they can communicate seamlessly with computers and the internet. This concept, known as “neural lace”, takes its inspiration from a sci-fi novel by Iain M. Banks. To carry out this ambitious project, the South African-born entrepreneur has founded a company

called Neuralink and appointed several renowned scientists to manage it. The aim is to start by creating cerebral implants designed to help improve the treatment of certain neurological conditions, such as Alzheimer’s and Parkinson’s disease, or paralysis caused by a stroke. These devices could enable a patient who has lost his memory to recall and retain certain memories or information. After this

initial phase dedicated to diseases, the new company will start work on implants for the general public. The end goal is to artificially increase human intelligence by giving the brain access to all the information that is currently available on the web and provide it with the computing power of PCs.

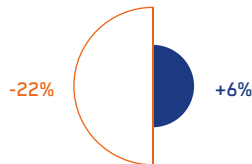
THE MATCH

PASSENGERS
(2016)PROFITS AFTER
TAX (2016)MARGIN
(2016)

CONNECTIONS

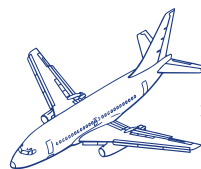
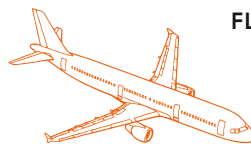
CHANGE IN STOCK
PRICE OVER 2017

EASYJET VS RYANAIR

TURNOVER
(2016)CHANGE IN PROFITS AFTER
TAX (YEAR-ON-YEAR)MARKET
CAPITALISATION

FLEET

144 AIRBUS A319
113 AIRBUS A320



383 BOEING 737

BY BENJAMIN KELLER

British airline easyJet was less resilient than its Irish counterpart amidst the turbulent headwinds that faced European aviation in 2016. The two low-cost airlines were hit hard by terrorist attacks and the slump in sterling post-Brexit, but easyJet has repeated strikes to add to its list of grievances. Furthermore, the UK's departure from

the EU is set to affect the London-based company even more adversely. CEO Carolyn McCall announced the creation of a subsidiary should barriers to free circulation arise, but that kind of fix would cost a pretty penny. Ryanair managed to increase profits, but the hyper-aggressive strategy of this sector leader sometimes backfires. During the

month of May, seven different pension funds worth over 300 million Swiss francs in assets under management refused to add the airline to their portfolios due to its failure to comply with labour laws. "We haven't had a strike in 31 years," retorted Michael O'Leary, CEO of Ryanair.

— EZJ — RYA

THE CHEDI

ANDERMATT, SWITZERLAND



Take the virtual tour



THE CHEDI PENTHOUSES

The Chedi Penthouses combine the exclusivity of a private home with the amenities of the most elegant and luxurious hotel in the Alps. When it comes to the interior layout and finishing of your penthouse, you can let your imagination run free. Our architects and designers will work with you to realise your personal wishes, whether one-of-a-kind master bedroom, stylish library, expansive private spa landscape or private hideaway with guest rooms for your friends.

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BY THE NUMBERS

2,100

Number of employees across 75 locations

695 million

In Swiss francs, 2016 turnover, up 5.9% over a year

11.3%

Operating margin in 2016, compared to 10.7% in 2015

\$486

Average amount Bossard receives for each Tesla vehicle produced in 2017, compared to \$567 in 2016, according to estimates*

1987

Year Bossard went public on the stock exchange

*Marta Bruska



Bossard, the Swiss family business that rolls with Tesla

The Zug-based company specialising in fastening technology owes a large part of its current growth to its partnership with the electric car brand owned by visionary entrepreneur Elon Musk. It's also one of the most high-tech companies in the industry.

BY BENJAMIN KELLER

At the end of July, California manufacturer Tesla launched its new electric car, which aims to provide wider access to the brand with a more accessible price than the previous models. A Swiss company will be closely following the sales of the Model 3: Bossard, based in Zug, is one of the market leaders in fastening techniques in Europe, the United States and Asia. Founded in 1831 as a hardware store, the family business is Tesla's main supplier for fastening parts such as screws, nuts and rivets.

Bossard grew gradually, first regionally, then nationally and finally internationally in the 1970s. But its growth has sped up considerably in recent years. Revenues have more than doubled since the late 1990s. Its share price has quadrupled since 2010. The company benefitted from the leadership of David Dean, CFO since 1998 and then CEO starting in 2005, as well as Stephan Zehnder, CFO since 2005. Both of them were recruited from outside the founding family and David Dean is the first

"external" CEO. When they first took on their roles, Bossard was affected by the difficulties experienced by its main client, the US agricultural equipment manufacturer John Deere. The duo then decided to target new industries, particularly the e-mobility segment. It paid off.

"Tesla opened doors to other start-ups in the field of e-mobility"

Stephan Zehnder, CFO of Bossard since 2005

The collaboration with Tesla started in 2010, when the brand, founded seven years earlier, still only produced roadsters. "At the beginning, Tesla chose two suppliers; however the second one, Anixter, decided not to continue with the partnership," said Michal Lichvar, analyst from Vontobel bank. Bossard believed in the future potential of the auto brand and became Tesla's sole supplier. ▶

A Bossard employee restocking: logistics management is one of the Zug-based group's biggest strengths.

It helped develop the Model S, a top-of-the-line saloon car that would make Tesla known to the public, and signed a three-year contract in March 2014 for a delivery volume worth \$140 million. Ever since, Tesla has been Bossard's top client (7% of revenue in 2017), ahead of John Deere (6%). Sixty employees are dedicated solely to the American auto brand. "The growth linked to Tesla's business was immense in the last couple of years," said Lichvar. And it's far from over.

CONTRACT EXTENDED TO 2020

The contract between Bossard and the company owned by visionary Elon Musk was recently extended to 2020. "Tesla's business is depending on the success of the Model S and X (ed. note: already on the market) going forward and the ramp-up phase of the Model 3, as well as Tesla's future volume and production capacities," said CFO Stephan

Zehnder. Tesla, which put out a bit less than 50,000 cars (Model S and X) in the first half of 2017, is aiming for 500,000 sales per year in 2018 and one million in 2020, thanks to the Model 3, whose base price starts at \$35,000. Marta Bruska, analyst at Baader Helvea, estimates a baseline exceeding 200,000 models in 2018, which means Tesla would account for nearly 10% of Bossard's turnover.

But what about after 2020? One of the risks for Bossard, according to Armin Rechberger, analyst at the Zurich Cantonal Bank, is that with the spike in volume, Tesla could look for other suppliers or buy its fastening parts directly. Indeed, the Zug-based company doesn't manufacture the parts it sells to its clients. Instead, it specialises in finding the most appropriate and effective products on the market for their clients.

Already, Tesla is purchasing fewer parts for its Model 3 and has re-

ceived reduced pricing, according to Rechberger. But Bruska believes it is unlikely that the US company will change suppliers so quickly: "Bossard is the main supplier of fasteners for Tesla cars, has deployed over 1,500 SmartBins (ed. note: storage bins that check stock levels using weight sensors and automatically reorder when necessary) at Tesla's Fremont plant and operates a new distribution centre near the factory. In our view, such a high level of integration into Tesla's production set-up significantly decreases the likelihood of being replaced by another supplier as well as the risk that Tesla switches to a direct sourcing from C-parts manufacturers."

"Bossard is one of the leaders in new trends"

Michal Lichvar, analyst from Vontobel bank

ANALYST'S ADVICE

"PERFORMANCE IS HIGHER THAN EXPECTED"

After record results in 2016, Bossard began the new financial year with a bang. Net profits were up 44.7% in the first half of 2017 year over year, reaching 45.3 million Swiss francs. Turnover increased 15%, reaching 395.1 million. Thanks to the partnership with Tesla and the improved business from agricultural manufacturer John Deere, Bossard's second largest client, the US market continues to become increasingly significant. Growth in the market has reached 32.3% or 114.3 million. This figure also includes the acquisition of US competitor Arnold Industries.

Bruska believes that the Zug-based company will exceed its 2017 target of 750 to 760 million Swiss francs in revenue. She

predicts the company will make 784 million (12.8% growth) and estimates that the income Bossard generates because of Tesla will grow 24% to reach \$60 million. "Bossard continues to perform slightly ahead of expectations," agrees Lichvar. Investors also like the exposure to Tesla. For Rechberger, if John Deere's recovery is confirmed, its effect on Bossard's revenue could even exceed that of Tesla. The weakened Swiss franc against the Euro should also be beneficial to the company, according to him. Bruska advises to purchase shares, with a target of 225 Swiss francs. Lichvar advises to keep shares, with a price targeted at 200 Swiss francs. Rechberger believes the current share price (around 210 Swiss francs) is a bit high.

Whatever happens, the collaboration with Tesla has positioned Bossard as a privileged partner for e-vehicle manufacturers. "Tesla opened doors to other start-ups in the field of e-mobility", said Stephan Zehnder. The Swiss company works with several California start-ups, such as Lucid Motors, NextEV, Karma and Faraday Future. While still marginal, this market is expected to take off. Bloomberg New Energy Finance predicts that 35% of the new vehicles on the market in 2040 will be electric. But if e-vehicles have fewer assembly parts than their ancestors, parts will be more expensive and margins will be higher.

INDUSTRY 4.0

Bossard has a leg up on the electric vehicles market, but it is part of an industry that is highly fragmented. The company holds less than 1% globally, despite its ranking as a world leader. "In Switzerland, one

of the competitors is SFS. In Europe, there are Böllhoff, Würth, Bufab and Trifast. In the United States, there are Fastenal and Optimas, along with many local players,” said Lichvar. To stand out, Bossard can rely on its reliability, good reputation, broad global reach and tech innovation. “Bossard is a very innovative company and I would say is one of the leaders in new trends. Bossard was one of the first to use automated smart bins, which are now becoming standard.”

SmartBins are a key component of “smart factories” or Industry 4.0, and Bossard relies heavily on them. The concept builds on the Internet of Things, whereby tools and machines on production sites communicate with each other, as well as externally with clients and partners.

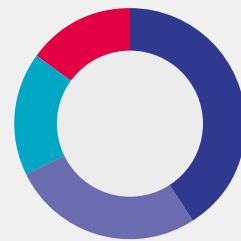
These technologies allow for a more efficient allocation of resources, greater control over the manufacturing process and lower costs. With SmartBins, an order is placed automatically, Bossard processes the request and sends the material – screws, for example – directly to the production site. The client doesn’t lift a finger. Sixty per cent of orders are digitised in this way.

With electric vehicles, Industry 4.0 is one of the fields that are very promising for Bossard’s future growth, according to Bruska. This is in addition to the aerospace industry and fastening solutions for lightweight materials: “We believe that the smart inventory management solutions are a very strong driver for Bossard’s business



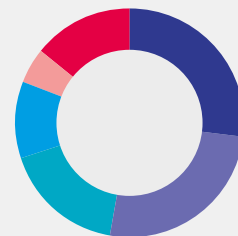
Bossard’s “smart” bins sent to clients continuously monitor the amount of stock by weighing it and automatically places orders to replenish the supply.

REVENUE BY REGION



Europe (excluding Switzerland)	41%
United States	27%
Switzerland	17%
Asia	15%

REVENUE BY SEGMENT



Electrics and electronics	27%
Machines	26%
Transportation and automobiles	17%
Metal construction	11%
Medical	5%
Other	14%

Source: Marta Bruska, Baader Helvea (estimations)

even in a difficult economic environment, as in tough times, ever more companies rethink their supply chain management approach towards leaner solutions. Moreover, Bossard’s high level of integration into the client’s operations creates additional ties to the customers.” Will this result in one billion in revenue by 2020, as Bossard execs believe? “I expect turnover of 900 million by that time, with an additional 50 to 60 million with potential acquisitions, said Rechberger. “So that number isn’t too far off.”

ANALYSIS

THE VIEWPOINT OF SPECIALISTS

FOCUS

“Saudi Arabia is full of opportunity”

The desert kingdom is looking to reduce its dependency on oil by developing industries and attracting investors. The Swiss economy may be in a position to benefit from the upcoming diversification.

BY BENJAMIN KELLER

Johann Schneider-Ammann, head of the Swiss Federal Department of Economic Affairs, Education and Research (EAER), made an official two-day visit to Saudi Arabia last July. The federal councillor was joined by a delegation comprised of government representatives and business minds. The country has initiated a dramatic economic shift to reduce its reliance on oil. And Swiss players stand to gain from the diversification in the works.

Black gold currently constitutes 80% of the government's budget and more than 40% of GDP. Until now, this abundance has always enabled the monarchy to take care of the people. The government employs 75% of Saudi citizens and there are no taxes. But now the economy is teetering. With the fall in crude oil prices – which have been cut in half since 2014 – along with a skyrocketing population that has



doubled to reach 32 million since 1990, the government has had to seek out new sources of income.

In April 2016, the monarchy launched Vision 2030, a plan to diversify its economy. The plan provides for a sovereign fund worth \$2 trillion to be invested in non-oil sectors. In order to fund the venture, the country is floating around 5% of the Saudi Arabian Oil Company (Aramco) in an IPO that could be worth \$100 billion. One of the fund's first moves was to invest \$3.5 billion in the San Francisco-based transportation company Uber.

In addition to investing via its sovereign fund, Saudi Arabia aims to develop national industries to increase foreign direct investment. Could this be a golden opportunity for Swiss firms? "Saudi Arabia has a lot of opportunities for foreign companies," says Chris Watts, head of Swiss Business Hub Middle East, the Dubai-based representative of Switzerland Global Enterprise (SGE) in the UAE. According to Watts, the tourism, renewable energy, aeronautics, professional training, agriculture, pharmaceuticals and food industries are the most profitable for Swiss companies.

TOURISM AND RENEWABLE ENERGY

"The Saudi kingdom has undertaken projects of historical proportions in renewable energy under a programme budgeted at \$30-\$50 billion," reveals Watts, who is also Consul General of Switzerland in Dubai. "Anything to do with greentech, cleantech, water treatment or alternative energy has high growth potential," states Bruno Syfrig, legal advisor and a committee

member of the Swiss Business Network Saudi Arabia (a network for the exchange of economic information) who has lived in the country for 15 years.

"Tourism is another very promising sector," adds Syfrig. As home to Islam's two main holy cities, Saudi Arabia receives 8 million visitors a year and is looking to kick that figure up to 30 million by 2030. "If they can manage to keep visitors for a week and not just during their pilgrimage, there's a lot of money to be made," explains the former Novartis executive. To manage this, they have substantially improved the country's infrastructure. Airports and especially international hubs have been expanded.

"The country is undergoing a process of widespread social and economic modernisation"

Chris Watts, Consul General of Switzerland in Dubai

Syfrig believes that rather than investing in manufacturing facilities, for example, the best opportunities are in consulting and equipment. "All of the Swiss groups who found it worthwhile to have a location in Saudi Arabia are already there," according to Syfrig. About a hundred Swiss companies have made the

move, including UBS, Credit Suisse, Novartis (marketing, sales), as well as Schindler and ABB (assembly). Saudi Arabia is Switzerland's second-largest financial partner in the region and has had a fully enforced free-trade agreement since January 2016. As such, it is and will remain a significant export market, particularly for luxury and convenience goods.

What is it like doing business with Saudi Arabia? "You have to accept that things can take a turn rather quickly," says Syfrig. "As far as working with the government goes, I wouldn't recommend it to anyone. You need a good Saudi partner, otherwise it's going to be very difficult." With respect to the instability that is currently rampant in the Gulf – including the Qatar diplomatic crisis and the Yemeni Civil War – Syfrig doesn't see the need to "overestimate" the risk. "There are conflicts all of the time in this region."

There is one more issue to address, but this time it's ethical. Even if the Vision 2030 plan is supposed to pave the way for social change, Saudi Arabia is an absolute monarchy based on divine right. Sharia law is strictly enforced (adultery is punishable by stoning) and fundamentalist Islam is promoted beyond its borders. Chris Watts put it diplomatically, stating that "Saudi Arabia is undergoing a process of widespread social and economic modernisation, and Swiss companies could contribute considerably." But Bruno Syfrig is more cynical. "Business always brings change. After all, all the major Swiss firms are already here." ▲

INVESTOR INTERVIEW

“Airbus and Boeing need not worry”

Designed by the Chinese aircraft manufacturer COMAC, the C919 – the largest airliner ever manufactured in China – flew its first successful flight in May. But turbulence lies ahead on the path to success...

BY STANISLAS CAVALIER

Shooting the Airbus-Boeing duopoly out of the sky: that's the ambitious goal of the Commercial Aircraft Corporation of China, or COMAC. The Chinese aircraft manufacturer has just taken a huge step towards fulfilling this goal. On 5 May 2017, its C919 aircraft took its first test flight. The aircraft took off from the Pudong International Airport in Shanghai to the applause of a large crowd, and landed without a hitch after 80 minutes of flight. "This is an impressive step, because it is incredibly difficult to enter the aerospace industry. Since 1969, no player has been able to penetrate this market," stated Richard Aboulafia, vice president of Analysis at Teal Group, an aerospace and defence market research firm. This aircraft is able to carry 168 passengers over 5,550 kilometres, and COMAC hopes to challenge the two international stars on the regional flight market, the American aircraft B737 Max by Boeing, and the European A320 Neo by Airbus. But Richard Aboulafia isn't convinced about this in the short term.

There is the C series from the Canadian manufacturer Bombardier, the C919 from the Chinese manufacturer COMAC and the MS-21 from the Russian manufacturer Irkut. Why would so many aircraft manufacturers want to invest in the civil aircraft market for 100- to 200-seat medium-haul aircraft?

All of the manufacturers have already developed smaller models (50 to 100 seats). Their logical goal is to develop larger aircraft, as the market for 100 and 200-seat aircraft is worth 10 times the 50 to 100-seat market, and as they don't have the necessary means to break into the long-haul segment. COMAC could become a big player in this segment.

The C919 by COMAC has just carried out its first flight. Will it rival the A320 Neo and B737 Max?

This first flight unquestionably represents an impressive success for the Chinese aircraft industry. However, I think that the Airbus-Boeing duopoly need not worry about the short term: there's a long road ahead for COMAC. The next step for the C919 is certification from the American and European aviation authorities, the FAA and the EASA. This could take a long time. Airbus waited 14 months for its A320 Neo to be certified, and Boeing waited 13 for its B737 Max. Certification for the C919 will take much longer because COMAC started off with a blank sheet, unlike Airbus and Boeing. In comparison, the ARJ21 – a regional 70- to 90-seat jet developed by COMAC which completed its first flight in 2008 – was certified by the Chinese authorities in 2014, but hasn't yet been authorised by the FAA or the EASA.

But in order to speed up this process, COMAC called on several Western subcontractors who work with these two manufacturers. In the end, only the assembly is 100% Chinese. Does this mean rapid certification?

COMAC called upon companies like GE-Safran, Thales, Zodiac Aerospace, Hamilton Sundstrand and Honeywell. However, instead of buying their products on a global scale, the Chinese manufacturer demanded local production of all the main components and subsystems, without intellectual property protections for their partners. In my opinion, this was where COMAC went wrong. Because



The satisfied Chinese flight crew at the Shanghai International Airport on 5 May 2017, after completing the COMAC C919 commercial airliner's inaugural flight. The aircraft manufacturer has already received 600 orders for the new model.

ultimately, the subcontractors know that the technology that they are transferring will be used by Chinese suppliers. In fact, they are only accepting to provide old technology. This procedure was detrimental to the ARJ21, an aircraft that was already technologically outdated, and the same is happening with the C919. This model is still very far from the ones it hopes to rival. The C919 is on the same level as good aircraft from the 1990s. Yet, in an era where aircraft companies' margins are so tight, any disadvantage in fuel consumption compared to the market references (A320 Neo and the B737 Max) is crippling.

However, the C919 has already booked more than 600 orders and intents to order.

Orders don't mean anything. These come exclusively from Chinese customers and could easily be cancelled if the aircraft doesn't meet the customer's needs or takes too long to get certified. By comparison, COMAC had 340 orders for the ARJ21. And then what happened? Only three aircraft have been delivered and most of the orders have been abandoned, making this industrial programme a veritable disaster. The same may be true for the C919.

China has become the leader on the global market for civil aviation. Could Beijing force the C919 on local companies?

This could happen, but I don't think it will be the case. In March 2014, Beijing signed an agree-

ment with Airbus so that the A320 Neo could be manufactured in Tianjin. If Chinese airlines are invited to buy products "made in China", then they can turn to the A320 Neo. Additionally, the Chinese economy is highly dependent on exports and open borders.

If COMAC were to drastically lower prices for the C919, would they likely gain market shares by offering a low-cost aircraft?

The cost of labour is marginal in the price of this type of aircraft. Margins are made by saving on large volumes. On this note, COMAC is starting out late in the game. It's necessary to develop a maintenance service around the world. COMAC would have trouble proposing their C919 at a competitive price.

After the C919, COMAC aims to develop the C929 (250 to 290 seats), then the C939 (350 to 400 seats). Are these aircraft also destined for failure?

COMAC has the resources to become an important player in the aerospace market and to rival the Airbus-Boeing duopoly in the next 10 years, taking into account the resources and talented workforce available in China. But in order to achieve this, COMAC must stop requiring suppliers to hand over their intellectual property. ▲



RICHARD ABOULAFIA
VICE PRESIDENT, ANALYSIS
TEAL GROUP

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DOSSIER

PHARMA CUTTING-EDGE SWISS COMPANIES

The main driving force behind Swiss exports, the pharmaceutical industry is entering a new age. Gene therapy, treatments for rare diseases and the emergence of big data are at the core of the intensifying battle for innovation.

BY LUDOVIC CHAPPEX

Dossier prepared by :
Stanislas Cavalier
Ludovic Chappex
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Benjamin Keller
Marie Maurisse
Julie Zaugg



CANCER IS KEY

Far ahead of other drugs, cancer treatments make up close to 40% of medicines currently in development. Roche is the world leader in this category, taking in more than 30% of revenue generated by this activity. Credit Suisse analyst Lorenzo Biaso said price pressure is stronger in common medications (to treat diabetes, for example) than in cancer treatments, less widespread but very lucrative for pharma companies.

“Oncology is a double-edged sword,” explained Jérôme Schupp. “It’s a huge market that’s growing enormously. The potential is significant, especially when you take into account the progress that can still be made. The danger is that competition is fierce in this field, and it will only get worse with the increased presence of the big US companies (Pfizer, Merck, Abbott, etc.) and European companies like Sanofi. It’s also a pharmaceutical industry where the failure rate is extremely high. Approximately 80% of developed drugs don’t receive market authorisation. As a result, companies in this industry must be very resilient.”



DEMOGRAPHICS ARE BOOSTING GROWTH

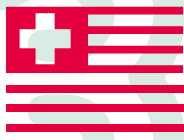
An ageing global population, an ever-increasing number of chronic illnesses associated with age, and an overall rise in standards of living, along with an uptick in demand for caregiving, especially in emerging countries... all these big trends are quite positive for the pharmaceutical industry and are expected to last for the next several years: “Currently the global pharma market is growing approximately 5% per year, or 1.5 times the growth of global GDP,” said Jérôme Schupp, an independent analyst. “Governments are becoming more demanding in terms of reimbursements (ed. note: see p. 32), so we are no longer in a phase where growth can reach 10%, but the fundamentals remain solid.”

According to a report published by the firm EY in May, turnover growth for the top 21 pharmaceutical groups dipped slightly in 2016 compared to 2015. Their operating profit (EBIT) improved, however, up 6.3%. The authors of the study highlight that the situation isn’t similar across the board, as some companies are posting “robust growth” while others “tarnish the overall trend”. US companies posted more positive figures than their European and Japanese competitors, taking up the top 10 spots in the ranking for highest annual turnover growth. These results do not surprise Schupp: “This situation is due particularly to the fact that many European countries

have pushed generic drugs, which are less profitable for the industry. Nevertheless, the majority of the large pharmaceutical companies are doing well. Individual performances fluctuate based on new product releases. But a company’s quarterly results rarely shock the market,” said Schupp. “Usually what increases a company’s share price is good clinical trial results, for example when a promising drug moves from phase II to phase III.”

EMERGING COUNTRIES ARE GROWING TWICE AS FAST AS DEVELOPED COUNTRIES

Currently, the United States is by far the largest pharmaceutical market in the world. For example, 45% of Roche’s sales come from the US. The US market also guarantees the highest profits, since the price of drugs is high and there is a strong demand for innovative – and therefore expensive – treatments. Unsurprisingly, emerging countries are growing, on average, twice as fast as developed countries. “Companies that know to take advantage of the demand in emerging countries and not focus solely on the United States are the ones who will stand out,” predicted Lorenzo Biaso, an analyst at Credit Suisse.



SWITZERLAND DEFIES THE US

It would be an understatement to say that the pharmaceutical industry plays a central role in the Swiss economy. Pharma exports now make up close to 40% of all Swiss exports. Last year, the 250 companies in the industry exported more than 80 billion Swiss francs' worth of products. And that's not even including the tens of thousands of jobs created by these companies (see on p. 33), particularly in and around Basel, Lausanne, Zurich, Zug and Lucerne.

ROCHE AND NOVARTIS ARE AMONG THE TOP FIVE COMPANIES IN THE WORLD

This ecosystem gave rise to a myriad of very promising start-ups, which are often in the news, such as CRISPR Therapeutics, AC Immune and Sophia Genetics. In terms of large listed companies, only two Swiss giants remain: Roche and Novartis. The two heavyweights are now among the top five companies in the world in terms of turnover (see the ranking on p. 37). These finan-

cial powerhouses have significant cash flows and are generous in paying out dividends (generally between 3% and 4%). But most importantly, innovation is the focus of their strategy; they are the top two companies in the world in terms of investments in research. Last year, Roche invested €7.88 billion in R&D, and rival Novartis invested €6.43 billion, according to EY.

Like many Swiss export industries, Swiss pharma saw its profit margins fall over the past few years because of the strong franc. Pressure over drug prices is also becoming apparent within Switzerland. But nothing challenges the central role the country plays as a hub for innovation. It remains the leader in terms of filing patents, as Lorenzo Biasio highlights: "Pharma's very specific business lines and R&D activity certainly have their place in Switzerland. The CFO of Novartis often confirmed that they would never relocate their main research activities to countries such as China, India or Poland. For Swiss pharmas, it is vital to take advantage of the ecosystem in place, stimulated by the presence of universities and polytechnic schools. However, low-cost jobs will move to countries where wages are lower. But that's a trend that affects all industries."



PROMISES OF BIG DATA

In time, when pharmaceutical companies will likely be reimbursed based on the proven effectiveness of their drugs, they will need to be able to manage and interpret a large number of data and results.

This is because now, information on each patient has been digitalised; it is no longer just wishful thinking. The long-held dream of personalised medicine for all, which Roche holds dear, has never seemed so attainable and concrete. In oncology particularly, doctors are now able to use high-speed, low-cost DNA sequencing to identify the genetic profiles that are more likely to develop various diseases.

Networking connects hospitals, giving them access to enormous databases that include details such as the effectiveness of treatments administered to individual patients. But it remains to be seen how we can effectively process all the data... "The key isn't accumulating data in itself, but rather our ability to extract relevant information from that data by employing artificial intelligence, for example," said Jurgi Camblong, CEO of Sophia Genetics, a Swiss start-up active in the field. "The goal is to better target treatment for each patient. It's a major change in the industry, one that is very concrete and pragmatic." (See also our interview on p. 54.)



THE REIGN OF MERGERS AND ACQUISITIONS

Given the pressure for growth that the pharmaceutical industry is experiencing, analysts expect that the mergers and acquisitions market will remain very active. According to EY, the total number of acquisitions hit a record high at \$258 billion last year, compared to \$230 billion in 2015. The biotechnology industry in particular doubled its mergers and acquisitions spending, which went from \$22 billion to close to \$40 billion.

Like many of his fellow analysts, however, Jérôme Schupp believes that the time for “mega mergers” has passed: “Over the past few years, we’ve seen a number of mergers between large companies. In Switzerland, Sero and recently Actelion were acquired by Germany’s Merck KGaA and US-based Johnson & Johnson, respectively. In Europe, the biggest companies such as Sanofi, GlaxoSmithKline and AstraZeneca are the result of large-scale mergers. But beyond a critical size, it becomes very complicated and unproductive to carry out a merger. If we take Roche and Novartis, for example, these two companies alone spend close to 15 billion Swiss francs on R&D. Regrouping and managing such immense structures would result in operational problems.”



DRUG PRICES: COUNTRIES CRACKING DOWN

Governments are increasingly cracking down on drug prices to reduce medical costs. Both the European Commission and the United States are putting pressure on pharma – even if, according to analysts, rapid drastic changes are unlikely, despite recent threats. The problem can be boiled down to this: as healthcare costs rise, the requirements in terms of results increase. “We’re still moving towards a system where a drug will be reimbursed based on how it concretely affects the patient,” said Jurgi Camblong, CEO of Sophia Genetics, a Swiss start-up specialising in Data-Driven Medicine (DDM).

This pragmatic approach can be beneficial to pharmaceutical companies, if they are able to stand out from the rest: “If a company can offer a more innovative and more effective product than its competitors, then the government will be ready to reimburse the product, even if it is expensive,” said Schupp.

“The ability to innovate is one of the determining factors for price positioning in the industry,” said Camblong. “To be competitive, companies must be able to convince regulators of a drug’s real effectiveness. Take Entresto, a Novartis drug to treat cardiac failure: scientists were

able to demonstrate that the drug reduced hospitalisation rates by 20%. In that case, the company can market the drug at a higher price because governments will save even more money from keeping patients out of the hospital. For Novartis, it’s easy to do the maths and set a competitive price.”

“TO BE COMPETITIVE, COMPANIES MUST BE ABLE TO CONVINCE REGULATORS OF A DRUG’S REAL EFFECTIVENESS”

Jurgi Camblong, CEO of Sophia Genetics

Beyond regulators, pressure groups also have a considerable influence on prices, as Biasio explains: “In the United States, pharmacy benefit managers (PBMs) represent insured patients against pharmaceutical companies. But we’re starting to see these types of activities become very consolidated. In other words, fewer PBMs will represent an increasing number of patients, which will give PBMs more negotiation power against pharma. They can therefore pressure the drug companies for lower prices by agreeing to promote the products to their insured patients. This will force pharma companies to reduce their margins.”

PHARMA IN FIGURES

WORLDWIDE



\$149.8 billion

Combined annual spending by pharmaceutical companies on R&D

SIZE OF THE PHARMACEUTICAL MARKET



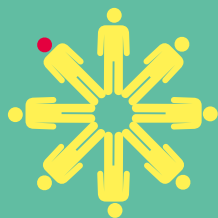
\$1.105 trillion

In 2016



\$1.480 trillion

Estimation in 2021



+5 million

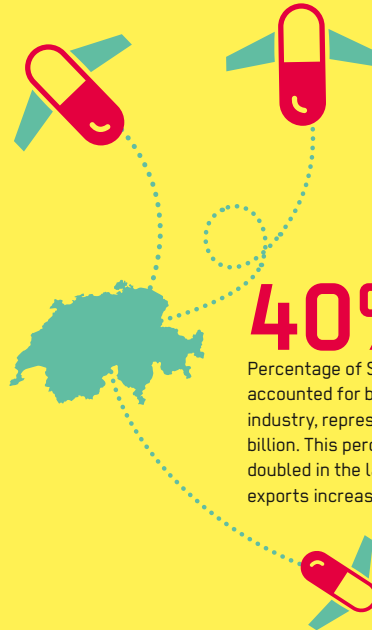
Number of pharmaceutical-sector employees worldwide



+1,900

Number of cancer treatment drugs in development

SWITZERLAND

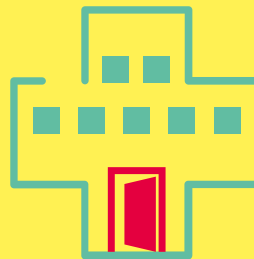


40%

Percentage of Swiss export market accounted for by pharmaceutical industry, representing roughly CHF 80 billion. This percentage has almost doubled in the last 20 years. Total exports increased tenfold.

+31%

Year-on-year increase in Swiss pharmaceutical exports to China in 2016, totalling CHF 4.1 billion

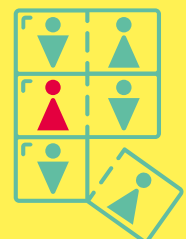


250

Number of pharmaceutical companies in Switzerland

+40,000

Number of people in Switzerland directly employed by the pharmaceutical industry. Add people indirectly employed by the industry and this figure climbs to 180,000.



5 SWISS FIRMS IN THE FOREFRONT

Well-known for their inclination towards innovation, small and large Swiss pharma stars have varied profiles. We took a look at a few.

BY LUDOVIC CHAPPEX AND JULIE ZAUGG

ROCHE

ONCOLOGY SPECIALIST

With promising new products in its pipeline, the Basel-based company is quite attractive to analysts

Founded in 1896, the company had a difficult start to this year. Disappointing clinical trials let down investor expectations and the share price fell as a result. In particular, the market was expecting that the drug Perjeta would be more effective in treating breast cancer when combined with Herceptin, another treatment developed by Roche.

Nevertheless, the advances made by the Basel company in terms of genomics and immunotherapies should quickly increase its revenue. "With a portfolio that includes three high added-value drugs, Roche aims to be much more specialised than Novartis," said Jérôme Schupp, an independent financial analyst. "The

company is emerging as the world leader in oncology and biotech. Avastin (ed. note: a drug to treat various types of cancer) is their flagship drug. The company's fundamentals are very good. No company has invested as much in R&D as Roche has."

According to Bruno Bulic, analyst at Baader Helvea, the share price of the world leader in oncology is currently undervalued and therefore makes a good medium-term investment. Credit Suisse is also optimistic: "We're expecting a big market breakthrough with their new drug Ocrevus, a revolutionary treatment for multiple sclerosis," said analyst Lorenzo Biasio. "This drug

is far more effective than the majority of the solutions that are currently on the market. Doctors and patients are very excited. We recommend purchasing shares."

"The scientists at Roche are brilliant," said Schupp. "They have been able to successfully mix their products, making them effective for several types of cancer." For the entire financial year, Roche is expecting revenue growth of approximately 5%. Earnings per share are expected to increase at the same rate. Furthermore, the group is counting on a new increase of their dividend.

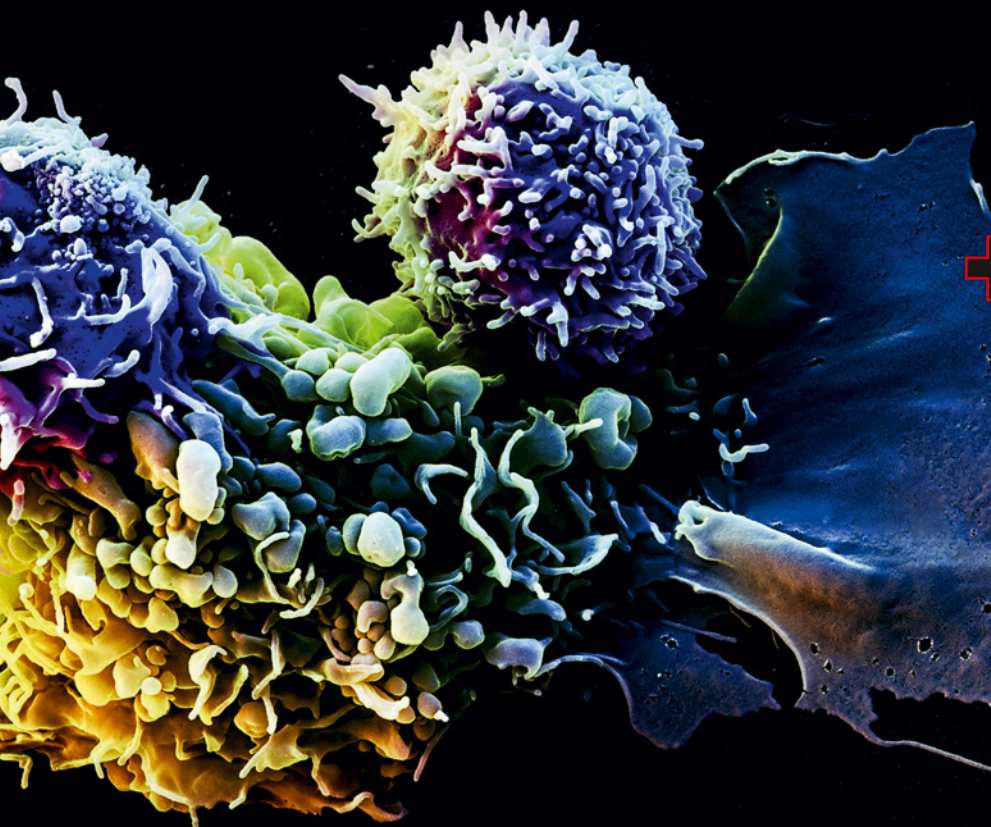
Founded
1896

Headquarters
Basel (Switzerland)

Revenue 2016
CHF 50.6 billion

Employees
94,052

— RÖG



SANTHERA

PHARMACEUTICALS

EXPERT IN RARE DISEASES

Active in a niche market, this small company seems to be undervalued

This company, founded in 2004, focuses on finding treatments for rare diseases. "It's a risky investment since revenue is still uncertain, but it's also attractive, since the company is currently very undervalued," said Bob Pooler, analyst at ValuationLAB. Its value is only calculated based on revenue from the drug Raxone (idebenone) for a single indication, while it is expected to obtain several other indications shortly. Share prices are currently around 70 Swiss francs but should be worth more than 200, according to Pooler.

Founded
2004

Headquarters
Liestal (Switzerland)

Revenue 2016
CHF 19 million

Employees
80

— SANN

BASILEA PHARMACEUTICA

FOCUS ON ANTIBIOTICS

It's been a banner year for this Roche-based company with high potential

This Roche spin-off focuses on producing antibiotics and antifungal medications. Analysts predict there will be a significant progression in its business volume in the medium term. This year, the company will conduct a phase III clinical trial in the United States to test its antibiotic Ceftobiprole. This drug will also be sold in several European countries and Latin America. Its antifungal medication Cresemba (Isavuconazole) was put on the market in the United States and Europe, and will soon be sold in Japan. In June, Basilea also signed a licence agreement with US-based Pfizer to produce and market the drug. Bruno Bulic from Baader Helvea recommends purchasing shares.

Founded
2000

Headquarters
Basel (Switzerland)

Revenue 2016
CHF 66 million

Employees
240

— BSLN



NOVARTIS

THE DIVERSIFIED GIANT

The Basel-based company lost patents by the handful and experienced disappointing growth, but is starting to see the light at the end of the tunnel

Novartis is slowly coming out of a difficult period of losing patents and battling competition from generic drugs. Over the past few years, the group's several blockbusters such as Diovan (for high blood pressure) and Glivec (for leukaemia) successively fell into the public domain. To make matters worse, the Basel-based giant suffered a major setback in ophthalmology, said Jérôme Schupp, independent financial analyst: "Novartis' big concern is Alcon. It was acquired by Nestlé for \$52 billion in 2008. But Novartis has clearly underinvested in this entity, which has fallen back a bit. It lost market share and its margins fell considerably. They are currently trying to remedy the situation."

In the first half of 2017, Novartis posted results that were down

slightly. Revenue was down 1% and net profits down 5%. In the short term, investors aren't interested in the shares but many believe the company's performance will recover. "The next growth phase should start in 2018," said CEO Joe Jimenez. Schupp agrees: "Starting next year, growth should once again be above the market average."

Novartis has two potential blockbusters waiting in its coffers, including Cosentyx (psoriasis) and Entresto (heart problems) that have just been put on the market and should help the company get back on track. Furthermore, Novartis stands out due to the diversified nature of its portfolio. "They are leaders

in various fields such as ophthalmology, multiple sclerosis, cardiovascular disease and dermatology," said Gbola Amusa, analyst at Chardan Capital Markets. The Swiss company also benefits from its ranking as the world's second largest producer of generics, under the brand Sandoz.

"Novartis will continue to lose a few more patents and the company continues to spend a significant amount on marketing," said Lorenzo Biasio, analyst at Credit Suisse. "But it is certainly a diversified company that pays substantial dividends and its fundamentals are solid."

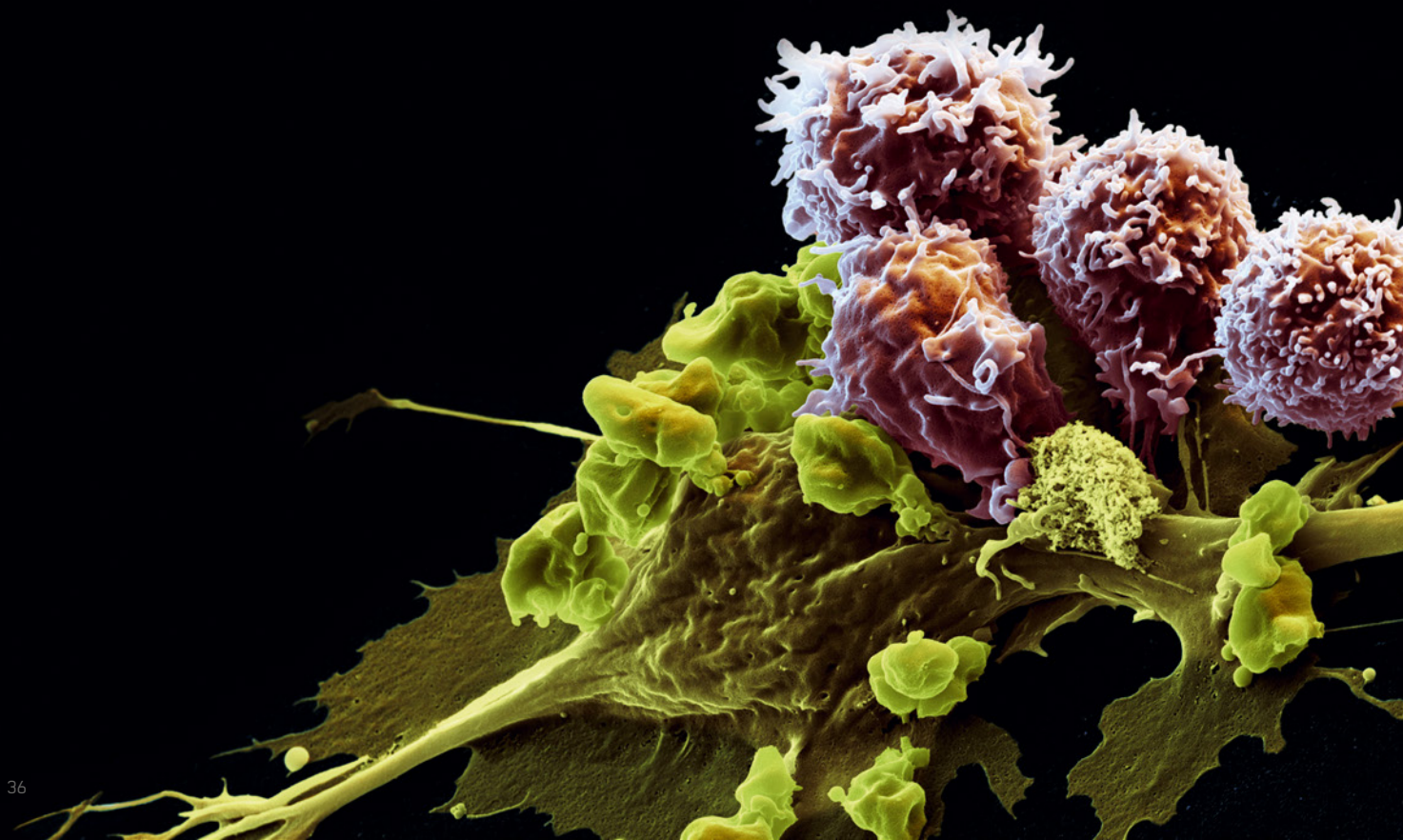
Founded
1996 (merger
between Ciba-Geigy
and Sandoz)

Headquarters
Basel (Switzerland)

Revenue 2016
\$48.5 billion

Employees
123,000

NOVN





IDORSIA

THE CLOZELS' BET

This Actelion spin-off has just gone public and has high hopes for the future

Repeat Actelion's success story. This could easily sum up the ambitious project of the couple, Jean-Paul and Martine Clozel. Having sold Actelion, which they founded in 1997, to Johnson & Johnson for \$30 billion, they created the biotech Idorsia from a development unit that did not interest the American group. Introduced on the stock market in June, the new company already has more than \$2 billion. Jean-Paul is CEO and Martine is scientific leader. The company has an advantage in that it is not starting from scratch, as Lorenzo Biasio from Credit Suisse states: "The pipeline of products in development is clearly more advanced than your average start-up (ed. note: Idorsia is testing molecules to treat high blood pressure and insomnia in clinical trials that are already in phase II). For investors, it could be a potential golden nugget."

But don't get too optimistic: "We made a rational calculation based on the current pipeline and the chances the drugs will be on the market. We estimate that the share price is 50% too high," warns the analyst. But this could change if there are positive announcements in the future."

Founded
2017

Headquarters
Allschwil
(Switzerland)

Revenue
-

Employees
+600

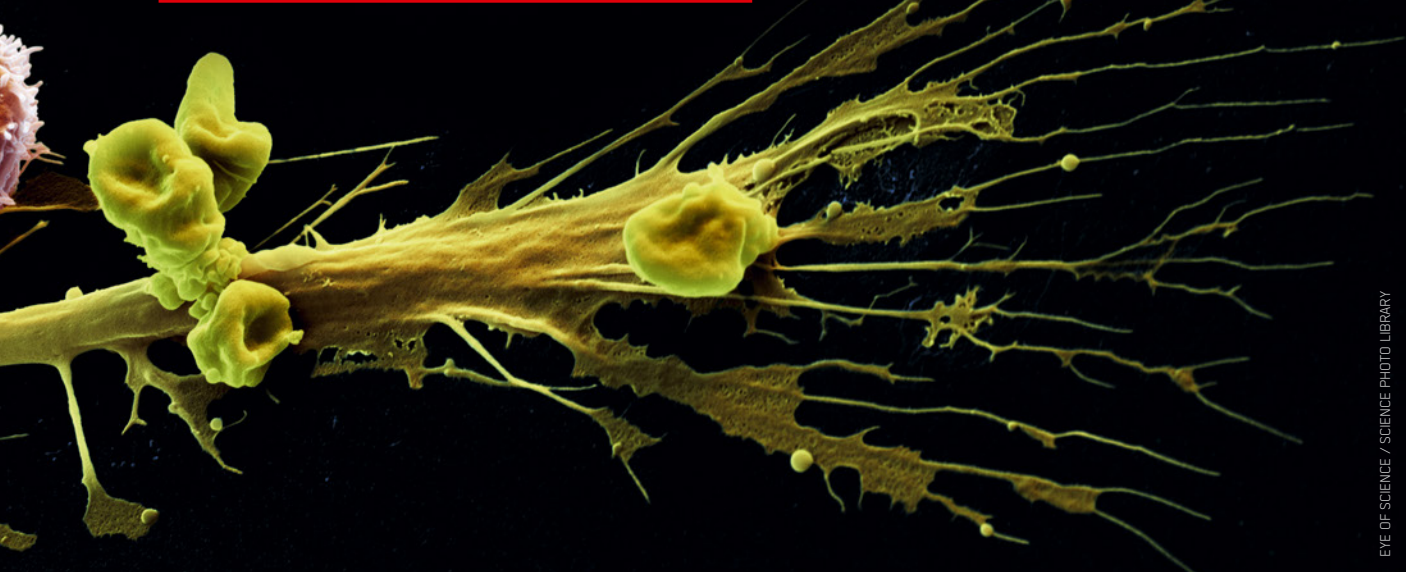
— IDIA

GLOBAL TOP 10: US COMPANIES COME OUT ON TOP

(BASED ON GLOBAL REVENUE*)

Johnson & Johnson (US)	\$71.9 billion
Bayer (DE)	\$55.2 billion
Pfizer (US)	\$52.8 billion
Roche (CH)	\$50.1 billion
Novartis (CH)	\$48.5 billion
Merck & Co (US)	\$39.8 billion
Sanofi (FR)	\$36.6 billion
GlaxoSmithKline (GB)	\$34.8 billion
Gilead Sciences (US)	\$30.4 billion
AbbVie (US)	\$25.6 billion

*The revenues have been converted to dollars





21ST CENTURY MEDICINE

Rather than sinking all of their efforts into developing potential blockbusters, pharmaceutical companies are now broadening their research to include rare and as-yet incurable diseases, using revolutionary methods such as immunotherapy and low-cost genome sequencing. An overview of the main developments.

BY JULIE ZAUGG

GENETIC MARKERS

Genomes provide insight into the mutations responsible for some diseases, making it possible to develop personalised treatments for them.

Leading pharmaceutical companies: Roche (Switzerland), Novartis (Switzerland), AstraZeneca (UK), AbbVie (US), Biogen (US)

The advent of low-cost genome sequencing has revolutionised the pharmaceutical industry, making it possible to better understand the

genetic basis for diseases and to develop targeted treatments. Didier Trono, head of EPFL's Laboratory of Virology and Genetics (fondly referred to as "Tronolab"), says, "we can now identify the mutations that make you genetically predisposed to some diseases, such as the BRCA1 and BRCA2 mutations that increase the risk of breast and ovarian cancer, or mutations in the low density lipoprotein receptor (LDLR) gene related to hereditary high cholesterol."

Drugs that repress these mutations are nothing new. Glivec by Novartis is a perfect example. According to Trono, "this drug inhibits a



American biotechnologist and businessman Craig Venter, pioneer in human genome sequencing. A controversial figure, he is considered to be one of the most brilliant scientists of his time.

mutation-based enzyme that causes certain forms of leukaemia." Genome sequencing also enables doctors to examine the genetic profile of each tumour and to tailor treatment specifically to the patient by giving them the most efficient combination of drugs possible. "This is less about developing new drugs and more about better using the ones available."

As for the pharmaceutical industry, this trend could reduce the number of drugs on pharmacy shelves since every prescription would be fully personalised in the future. But this also opens the way for innovation in diagnostics, specifically for devel-

oping genetic testing to put on the market. "Roche is way ahead of the game in this area," Trono confirms. The Basel-based group teamed up with the British government to sequence 100,000 genomes in cancer patients and people with rare diseases, and has established a partnership with the American company 23andMe in order to access their genetic data on people with Parkinson's and Crohn's disease. These projects should provide Roche with what it needs to develop treatments aimed at the genetic mutations behind these diseases.

IMMUNOTHERAPY – TEACHING THE BODY TO DEFEND ITSELF

This revolutionary method teaches the immune system to target cancer cells or the AIDS virus, and may usher in a new era for treatment.

Leading companies: Roche (Switzerland), AstraZeneca (UK), Bristol-Myers Squibb (US), Merck (US), Novartis (Switzerland)

Immunotherapy uses the patient's immune system to fight some diseases such as cancer. "This procedure involves infusing patients with T lymphocytes, or T cells, that come from their own body and have been modified by genome editing," explains Fyodor Urnov, a geneticist at the University of California at Berkeley who helped develop this form of therapy. In 2014, American researchers successfully cured leukaemia patients and injected a T cell mutation that made HIV-positive patients resistant to the AIDS virus.

Roche is currently the no. 1 company in the world for immunotherapy, devoting "over 50% of its R&D budget" to this field according to

Bruno Bulic, an analyst at Baader Bank. Roche also developed the first immunotherapy to hit the market – Tecentrig, a drug for lung and bladder cancer patients – and which was FDA-approved in 2016. "AstraZeneca, Bristol-Myers Squibb, Merck and Novartis are also highly invested in this area," says Bulic.

The next phase will focus on the genome-editing tool CRISPR-Cas9, which was discovered in 2012. "With this technique you can insert, delete or reorder bits of genetic code, which can promote or inhibit genes," says Martin Jinek, a biochemist at the University of Zurich, who worked in the American lab that discovered it. "The primary advantage is that it's fast and extremely precise." The first clinical trial using immunotherapy and CRISPR-Cas9 is set to take place in China this autumn for lung cancer patients.

LIVING DRUGS

Made with the patient's own blood and cells, these drugs have made substantial progress, making them significantly more profitable.

Leading companies: Genentech (Roche Group – Switzerland), Sandoz (Novartis – Switzerland), Amgen (US), Biogen (US), Johnson & Johnson (US)

The first biodrugs – made from living components like blood plasma and proteins – came out in the 1980s. Up until recently they were used to treat inflammatory diseases such as rheumatoid arthritis and Crohn's disease (chronic inflammation in the digestive system), but according to Graham Jones, a biodrug specialist at Tufts University, "the latest developments have been in oncology." Genentech, an American group ▶



AI PHARMA'S NEW BEST FRIEND

Artificial intelligence (AI) is thought to be the future of pharmaceutical industry. A number of factors could kick the discovery of new drugs into high gear, such as machines that could analyse all medical literature, clinical trial results and digital patient files, and draw their own conclusions. "AI will enable us to explore more drugs, anticipate the reactions when combining several of them and dream up new ones to create in the lab," explains Jackie Hunter, CEO of BenevolentBio, a branch of the British start-up BenevolentAI. This company used AI to find possible treatments for Lou Gehrig's disease (ALS), a progressive neurodegenerative disorder. IBM Watson supercomputers are also involved in this area of research in partnership with Pfizer and Johnson & Johnson, as well as Alphabet and Microsoft.

which Roche acquired in 2009, has been a trailblazer for biodrugs. "In 1998, Genentech put the revolutionary drug Herceptin on the market, dramatically increasing life expectancy for people suffering from breast cancer," says Bruno Bulic at Baader Bank. Then from 2009–2013, a series of drugs for skin cancer, leukaemia and breast cancer followed.

Significant developments have also been made to improve the production process. The production of biodrugs is labour-intensive and costly because they are made from living components," Jones adds. "But in recent years, pharma companies have managed to improve the yield and the purity of these substances."

Biosimilar drugs, which are generic versions of biodrugs, have also undergone substantial improvements despite the initial hesitation to delve into such a complicated process. Jones asserts that "the proteins that are the basis for biodrugs are unstable and unpredictable, so it's really difficult to copy them to the letter." In 2015, however, Sandoz – a Novartis subsidiary – became

the first group to do it. Sandoz released a biosimilar called Zarxio, a legitimate copy of the Amgen drug used to treat leukaemia. Last June, European authorities approved Rixathon, the Swiss company's biosimilar for Rituximab, which is used to treat blood cancers and certain auto-immune diseases.

RARE AND LIFE-THREATENING DISEASES TAKE THE SPOTLIGHT

Interest in rare diseases has been picking up in recent years. Now that the approval process can be streamlined, it's much easier to release drugs on the market to treat them.

Leading companies: Pfizer (US), Baxter (US), Bayer (Germany), Bristol-Myers Squibb (US), Novo Nordisk (Denmark), Santhera (Switzerland)

Pharma companies now have renewed interest in rare diseases that have long been on the back

burner. Graham Jones from Tufts University asserts that "with the FDA Fast Track approval process for drugs [used to treat serious or life-threatening conditions], companies are encouraged to invest in this area." One such drug to benefit from accelerated approval was Ivacaftor, developed by the US-based company Vertex, which targets 4% of people suffering from cystic fibrosis – that's 1,200 Americans.

The Swiss company Santhera came up with a unique approach. "Instead of looking for new drugs, it tests pre-existing drugs to see if they have an effect on rare or life-threatening diseases," says Bob Pooler, an analyst at ValuationLAB, which evaluates the company for investors. That's how they discovered that ldebenone – a drug developed by

CURTO DE LA TORRE / AFP

Runners in Santa Clause costumes hit the pavement in Madrid to raise awareness for rare diseases like multiple sclerosis (2016).





A Roche production centre employee in Kaiseraugst, Switzerland.

Takeda Pharmaceutical Company in Japan for Alzheimer's – was extremely efficient in treating Leber's hereditary optic neuropathy (LHON), an eye disorder that affects one in a million people. The drug was approved in Europe for this new purpose in 2015.

"Now Santhera wants to get it approved for Duchenne muscular dystrophy (DMD)," claims Pooler. "We are expecting the request to go through in Q3 of this year." This would make the number of patients taking Idebenone skyrocket. "The drug can also treat one form of multiple sclerosis present in 15% of those afflicted," he says. If it were approved for treating this disease, the number of patients taking it would be even higher.

THE WAR AGAINST SUPER BACTERIA

Drug-resistant bacteria has become a serious public health issue. Much to the delight of pharma companies, many countries have set up funds to promote research for new antibiotics.

Leading companies: GlaxoSmith-Kline (UK), Roche (Switzerland), AstraZeneca (UK), The Medicines Company (US), Basilea (Switzerland)

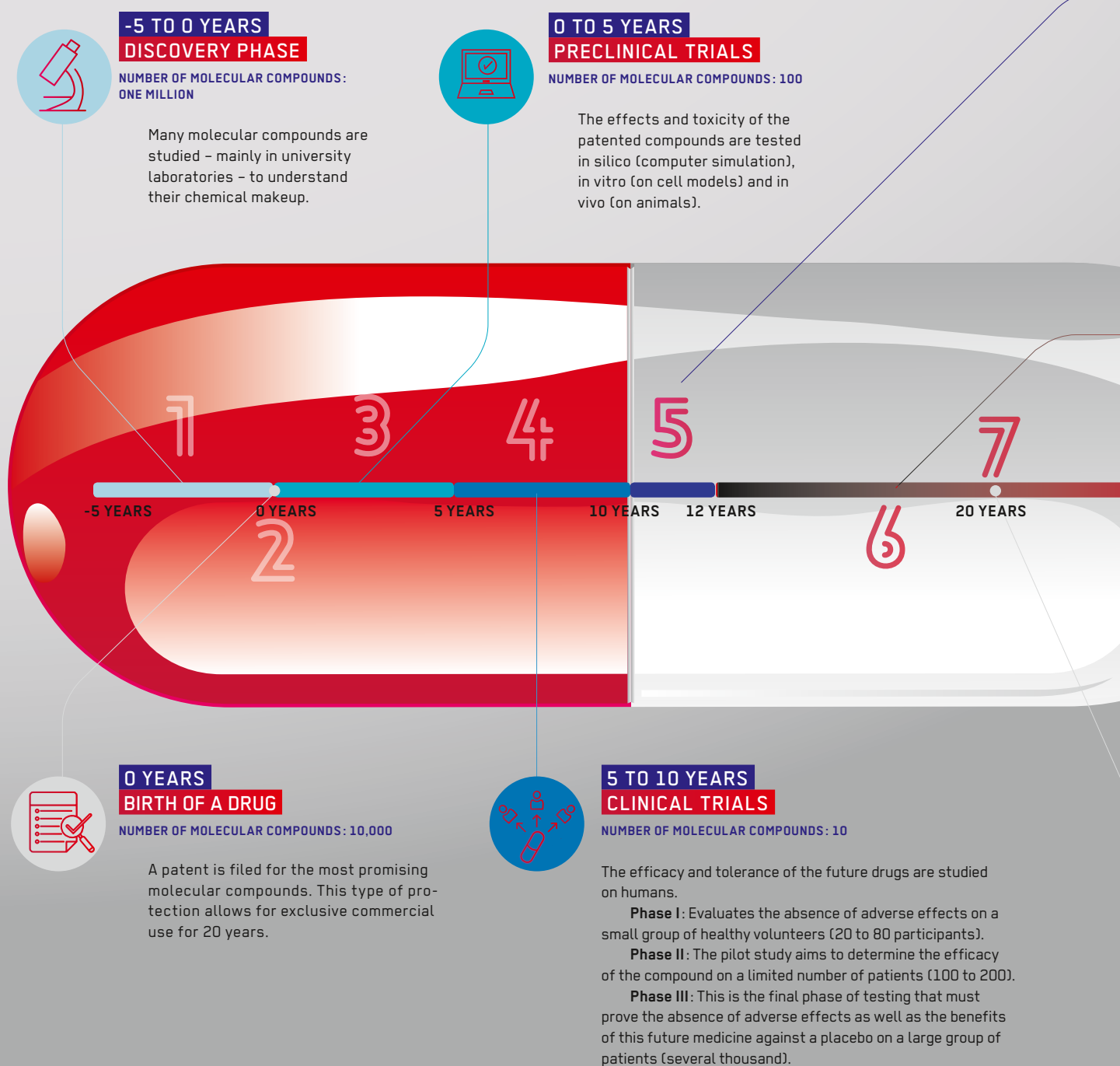
From 1960 to 1980, the quantity of new antibiotics on the market increased exponentially. But then came a wave of chronic under-investment as pharmaceutical companies realised that the most

straightforward discoveries in pharmaceuticals had already been made. On top of that, with little return on investment, El Dorado was unattainable for antibiotics. Patients only generally take them in the short-term, roughly one to six weeks, and they are inexpensive. High blood pressure or diabetes medication, however, is a lifetime investment.

But in 2010 when drug-resistant bacteria became a serious public health threat, a slew of initiatives were launched in the hope of spurring research for new antibiotics. The EU invested hundreds of millions of euros in the Innovative Medicines Initiative (IMI) and the US government agency called the Biomedical Advanced Research and Development Authority (BARDA). A number of pharmaceutical companies benefitted from the influx of funding.

Takeovers such as Merck's acquisition of the American start-up Cubist Pharmaceuticals and Pfizer's purchase of the antibiotics division at AstraZeneca have also ramped up antibiotic research. In Switzerland, the industry is headed by the giants Basilea, Novartis and Debiopharm. Basilea released a fifth-generation cephalosporin – an antibiotic – known as Ceftobiprole in Europe and Canada, and received \$100 million from BARDA to get it approved in the US. ▲

HOW A DRUG IS MADE





10 TO 12 YEARS MARKETING AUTHORISATION

NUMBER OF MOLECULAR COMPOUNDS: 1

In order to be marketed, a drug must obtain marketing authorisation, which is given in Switzerland by the Swiss Agency for Therapeutic Products (Swissmedic).



12 YEARS TO... DRUG SAFETY MONITORING

NUMBER OF MOLECULAR COMPOUNDS: 1

Once the drug is authorised, serious adverse effects must be monitored during its lifetime.

This is phase IV of the clinical trial.



20 YEARS EXPIRATION OF THE PATENT

The patent expires 20 years after it has been filed. The drug then enters into the public domain, opening up the possibility for marketing generics.

INCREASING COST OF DEVELOPMENT

\$2.5 BILLION

This is currently the presumed average cost of developing a drug that is successful on the market, according to an estimate published in 2015 by researchers from Tufts University in the *Journal of Health Economics*. This study was carried out based on 100 drugs containing new active substances. This figure is still being contested by many specialists and NGOs.

THE SWISS MARKET

2,500

This is the number of products that the Federal Office of Public Health (FOPH) reimburses.

EVEN MORE GENERICS

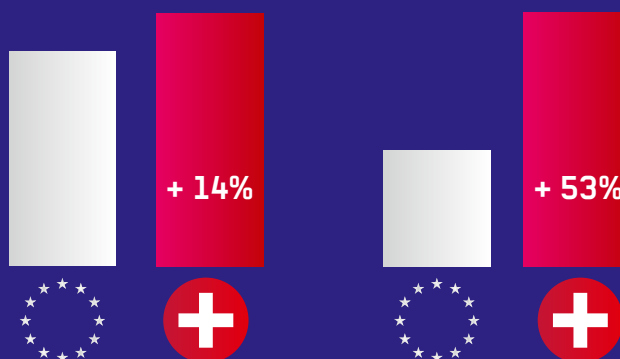
270

This is the amount of active substances with generic competitors in 2016, compared to 100 in 2000.

HIGH COSTS

PRICE OF PATENTED DRUGS

PRICE OF GENERICS



For a patented drug worth CHF 100, Europeans only pay CHF 86. And, for a generic drug worth CHF 100, Europeans pay CHF 47. In other words, the traditional formulas cost on average 14% more than they would abroad, while generics cost 53% more.*

*Source: Interpharma

IN THE SHADOWS OF THE PHARMA INDUSTRY, CLINICAL TRIALS PROSPER

Pharmaceutical companies have largely outsourced testing on patients to determine the effectiveness of new medicines. This has led to an ecosystem of companies specialising in the field of clinical trials.

BY JULIE ZAUGG

The pharmaceutical industry includes players in the shadows: contract research organisations (CROs). These discrete yet essential pawns in the game of putting new medicines on the market conduct clinical trials for pharma companies. CROs recruit patients, test the effects of a new treatment and send the results to the pharmaceutical company that requested them.

"This type of externalisation began in the 1980s," says Kenneth Getz, a professor at Tufts University who specialises in studying CROs. "At the start, pharmaceutical companies >

Captain America is the ultimate guinea pig. The Marvel icon owes his superhuman powers to a lab experiment in which he willingly participated: the combined effect of a special serum and Vita-Rays transformed him into a super-soldier.

SHUTTERSTOCK



COMPANIES TO WATCH

QUINTILES**Global leader**

The global leader in clinical trials holds a 12% market share and dominates the industry, owing especially to its extremely diversified services offer. "Quintiles can conduct clinical trials from phase I to phase IV in a wide range of medical fields," says David Windley, analyst at Jefferies. It was also innovative, taking advantage of the possibilities of big data to recruit patients. Its recent merger with IMS Health, a company that collects data on US patients, is an example of this.

CEO: ARI BOUSBIB

HEADQUARTERS: DURHAM (NORTH CAROLINA), UNITED STATES

EMPLOYEES: 50,000

REVENUE (2016): \$7.8 BILLION

**LABCORP****The king of laboratory testing**

Acquired by LabCorp in 2014, Covance now makes up 30% of its turnover. "This CRO specialises in laboratory testing (blood tests, etc.) conducted on patients before they begin a clinical trial. It currently dominates the industry," says David Windley. LabCorp also developed its own factories to produce medicine used in clinical trials, which is a timesaver.

CEO: DAVID P. KING

HEADQUARTERS: BURLINGTON (NORTH CAROLINA), UNITED STATES

EMPLOYEES: 52,000

REVENUE (2016): \$9.4 BILLION



PORTRAIT

Parexel: The (almost) Swiss clinical trials giant

One of the major companies in this booming industry was founded by Josef von Rickenbach, a native of Schwyz.

BY SOPHIE GAITZSCH

With \$2.1 billion in turnover for the 2015–2016 financial year and 18,600 employees in 52 countries, Parexel is one of the leading clinical trials companies in the world. Founded in 1983, the pharma giant is firmly established in the Boston area, the Silicon Valley of life sciences. But it was founded by a Swiss citizen, who is still the CEO.

It all started in Sattel, a mountain village in the Canton of Schwyz where Josef von Rickenbach grew up with five siblings and his parents, who owned a local service station. After a sales internship in a travel agency, he attended the School of Business at the Lucerne University of Applied Sciences, then broke into the pharmaceutical world for the first time at Schering-Plough in Lausanne. The young man had a steely determination and was “extremely disciplined”, according to his friends and family. He set his sights on the very prestigious Harvard Business School, where he passed the entrance exam in 1979 and received his MBA.

His entrepreneurial adventure then becomes even more of an American success story. “Joe” von Rickenbach, not yet 30 years old, launched his pharmaceutical services company with a former colleague, chemist Anne Sayigh. She knew the industry and he took care of the business side of things.

The company first specialised in regulatory consulting, but quickly added clinical trials, which is now its core business and the key to its success.

The young founder managed to raise funds at a time when venture capital was just beginning, and Parexel made its first acquisitions (there have been over 40 since) in Canada and the UK. Since the early 1990s, the company has had the biggest names in the pharma industry as clients. Parexel, listed on the Nasdaq since 1995, is also quite stunning on the stock market. Since 2012, its share price has quadrupled.

Despite its impressive growth, action taken, and “best employer” Qisn’t isolated from turmoil. Under pressure from one of its shareholders who deemed its margins insufficient, Parexel announced it was being bought by investment company Pamplona Capital in June. The transaction will be finalised before the end of the year, and Parexel will be off the stock market. “The biopharmaceutical services market is changing,” said von Rickenbach during his announcement. “The transaction will give us a more flexible structure and better positioning to advance Parexel’s strategy to face the new market reality.”



only outsourced a small part of the process, generally the steps that used the most workforce, such as monitoring the progress of the clinical study.” But since the end of the 1990s, pharma companies have outsourced the entirety of their clinical trials, from phase I (confirming that the tested substance isn’t toxic) to phase IV (identifying the side effects of a medicine after it has been put on the market).

This gave the CRO industry a tremendous boost. Today, it is worth \$38 billion and is expected to reach between \$45 and \$65 billion by 2022, according to estimates from various research institutions. Its annual growth rate will increase to 6% or 7% over the next five years, according to a KPMG report. The CRO industry is extremely fragmented. “There are six or seven giants with a global presence, as well as several hundred smaller companies,” says David Windley, an analyst at Jefferies who covers the industry.

“Medicines tested in clinical trials have become more complex”

David Windley, analyst at Jefferies

However, the 10 largest CROs hold a 57% market share all by themselves. The vast majority of the big companies are US-based (Quintiles, Covance, Parexel, PRA Health Sciences), while one is based in Ireland (Icon). “These companies are able to conduct a clinical trial from beginning to end,” says Getz. “Some even offer upstream services, such as pre-clinical research, or downstream services, such as treatment approval or marketing.”

Smaller companies focus on just one part of the process or one medical field. For example, INC Research specialises in advanced-phase (III and IV) clinical trials, whereas Novella, acquired in 2013 by Quintiles, specialises in biotechnology.

But why do pharma companies delegate such an essential part of their business to an external organisation? First and foremost, using CROs saves money, particularly by reducing the workforce needed to run trials. “Clinical trials require lots of employees over a short period of time,” says Getz. “Companies must hire many employees on a temporary basis, which is complicated and costly to manage.” Conversely, CROs conduct studies for many pharma companies and as a result, employees are permanent and always keep busy.

Pharma companies are also attracted by the gains in efficiency and speed. “CROs have developed a unique expertise in terms of clinical trial protocols, or in certain medical fields, which is very complex for pharmaceutical companies to replicate internally,” says Getz.

Externalising clinical trials also allows pharma companies to concentrate on their core business: discovering new medicines. In its report, KPMG compares this evolution in the industry to the one that airlines experienced in the 1990s, when they began outsourcing ticketing, baggage management, catering and aeroplane maintenance to third parties.

But despite the undeniable success of this model, CROs still face a number of challenges. They increasingly struggle to recruit patients. “Medicines tested in clinical trials have become more complex,” says Windley. “Now, companies must find patients with extremely precise diagnoses. They can’t just look for people with high cholesterol anymore. They have to find people >

ICON

An Irish innovator

With a 7% market share, Icon is the only non-US company in the top 10 CROs globally. “This company is very profitable due to its resource management and efficient employees,” says Eric Coldwell, analyst at Robert Baird. “Its margins have increased since 2012.” A series of information tools developed internally to facilitate contact with patients and running clinical trials give Icon a leg up on the competition. However, Coldwell believes that the Irish company is too dependent on its main client, Pfizer, which makes up 17% of its revenue. “But that led to an under-valuation of its share price,” says Coldwell.

CEO: STEVE CUTLER

HEADQUARTERS: DUBLIN, IRELAND

EMPLOYEES: 12,500

REVENUE (2016): \$1.7 BILLION

ICLR

INC RESEARCH

The new heavyweight

Earlier this year, the merger between INC Research and InVentiv created a giant that is now among the top three largest CROs. It is worth \$7.4 billion and has significant experience with both small and large pharma companies. This transaction was made possible by INC Research’s dynamic growth. The company’s revenue increased 9.3% in 2016. This merger will also allow the company to access marketing services for medicine developed by InVentiv.

CEO: ALISTAIR MACDONALD

HEADQUARTERS: RALEIGH (NORTH CAROLINA), UNITED STATES

EMPLOYEES: 6,700

REVENUE (2016): \$1 BILLION

INCR



A volunteer receives an experimental Ebola vaccine (Oxford, UK, 2015).

Conducting a clinical trial in China costs 40% to 60% less than in Europe or the United States, since there is a large number of affordable medical personnel. It is also easier to recruit patients. Healthcare is expensive in China. So if patients are offered free exams and medicine in exchange for participating in a clinical trial, they are more likely to accept than a European or American covered by health insurance.

The Chinese population also is usually not medicated. "Patients recruited in a clinical trial usually aren't on other medications," says Getz. "This reduces any interference with other drugs that would be in their system."

Quintiles employees recruit patients in homeless shelters

The immense size of the medical industry in the country of 1.3 billion, as well as the emergence of several innovative Chinese pharmas over the past few years, have also attracted the CRO industry to China. In 2016, China surpassed Japan to become the world's second largest pharmaceutical market. ▴

with a specific type of hereditary cholesterol." As a result, four out of five clinical studies become delayed.

To combat this, some CROs have gone to increasingly extreme measures: Quintiles employees recruit patients in homeless shelters. Without any other access to healthcare, homeless people are more likely to participate in a clinical trial.

The industry has also experienced a series of scandals which has damaged its reputation. In 2006, six healthy participants almost died after testing an experimental synthetic antibody given to them by Parexel in London. In 2005, news broke that CFBC International, another CRO, conducted clinical trials on undocumented immigrants in a Miami hotel.

Requirements from pharma companies have also become stricter over

the past few years. "They ask CROs to measure more parameters of the patients, recruit more participants in more countries and provide more detailed results," says Getz.

These challenges have led to a vast CRO industry in emerging economies, especially in China, India, Turkey, Eastern Europe and Brazil. Currently, China is the clear leader of this trend. "The clinical trials industry in China has gone from slightly more than \$1 billion to \$6 billion over the past eight years," says Philip Gregory, the China director of a CRO called George Clinical.

China has between 400 and 500 CROs. The largest, WuXi AppTec, holds a 10% market share," says Gregory. Other big players are Tigermed, Boji and R&G PharmaStudies. Three US companies, Quintiles, Covance and PPD, also have a significant presence in China.

INTERVIEW



“THE UNITED STATES REMAINS THE PRIMARY MARKET FOR MAKING MEDICINES PROFITABLE”

Valérie Junod, professor of pharmaceutical law at the University of Geneva and specialist in drug clinical trials, answers our questions on developments in the industry.

BY LUDOVIC CHAPPEX

During clinical trials, what are the most important factors for pharmaceutical companies?

Pharmaceutical companies have two major concerns during clinical trials. First, they have to quickly recruit enough patients and convince them to stay on until the end of the study (ed. note: patients are free to leave the study whenever they wish). The second concern is related to the first, in that the trials have to generate “clean” data – or in other words complete, detailed and non-contradictory data. If a clinical trial doesn’t generate data that is deemed credible by the regulating body, regulators will not grant market authorisation, which is necessary to put a drug on the market. It is also virtually impossible to “correct” data after the fact if it was poorly collected during the clinical trial. That’s why it is rare for a trial to be conducted entirely in an emerging country, at least when the company needs definitive results to gain market authorisation. Most often, phase-III trials are conducted in several countries at the same time using a single protocol.

Why has this industry developed mainly in the United States?

The main advantage of the United States is that it has a high number

of patients that can be recruited for clinical trials, often through university hospitals. US patients and doctors are also more inclined to test new treatments. As a comparison, in Switzerland for example, a pharmaceutical sponsor isn’t going to start the entire administrative process just to recruit only three patients in a cantonal hospital. Besides, the United States remains the primary market for making medicine profitable. Pharmaceutical companies don’t hesitate to involve “Key Opinion Leaders” (ed. note: renowned doctors) upstream in the trial process in order to increase the chances that the drug will be favourably viewed by future prescribers.

In very poor countries, sometimes clinical trials are conducted under morally questionable conditions – for example recruiting people living in poverty or needing medical care. Is this a topic of debate in the industry?

It is unanimously agreed upon that clinical trials must follow a minimum legal and ethical framework, regardless of where the trials are conducted. These regulations have been carefully defined in international documents. In practice, however, there is occasional disagreement on

certain points in terms of what constitutes the universal minimum for patients. For example, when a clinical trial is over, who monitors and is responsible for the patients who participated in the study? Do you offer them the experimental treatment? Another treatment? Or money so they can continue to receive medical care? If so, for how long? These ethical questions have been the subject of heated debate for over 20 years. Non-governmental organisations have played a decisive role in protecting the rights of vulnerable populations.

Nevertheless, a poor person with little education who is sick and has no health insurance – regardless of which country they’re from – does not have the same freedom of choice that someone from Switzerland would have when deciding whether to participate in a clinical trial. If a clinical trial is the only way a person will have access to medical care or certain treatments, that person will undoubtedly agree to participate. However, systematically refusing to conduct clinical trials in poor countries could also be discriminatory to those populations, since people in those countries also need to have access to promising treatments. ▀

WHEN PHARMA OUTSOURCES PRODUCTION



Linnea, Siegfried and Cerbios are Swiss firms that supply pharmaceutical companies with active ingredients used in drugs. The industry may be shrouded in mystery, but Switzerland's transparency is taking the world by surprise.

BY MARIE MAURISSE

Ticino-based company Cerbios manufactures a wide range of substances for the pharma industry, including some of the active ingredients of Vitamin D.

If you have cramps or abdominal pain, your pharmacist might recommend that you take Buscopan. It's a fairly common drug in Switzerland, but its active ingredient is lesser known. Butylscopolamine (quite a mouthful compared to its brand name) is an antispasmodic used to calm cramps and treat irritable bowel syndrome. But it's not always manufactured by pharma heavyweights – sometimes production is outsourced to Linnea, a Riazzi-based company in the Canton of Ticino, nestled between Locarno and Bellinzona.

Switzerland's Italian-speaking region is actually home to a cluster of family-owned companies known for their expertise in manufacturing active pharmaceutical ingredients (APIs) for the industry. Founded by an Italian engineer 37 years ago, Linnea has posted annual revenue of 45 million Swiss francs. Close to Lugano and not far from the Linnea plant lies another plant owned by Cerbios, an industry player that primarily manufactures vitamin D compounds such as Calcitriol and Anhydrous Calcipotriol, which sup-

port muscle mass and bone mineral density. The company's sales totalled \$36 million in 2015.

One of the other companies that has earned a shining reputation in the API market is Helsinn, which specialises in oncology and gastroenterology. These companies are part of an industry in which secrecy is paramount – hence their preference not to respond to our questions or disclose their clients. But a number of major Swiss pharma companies outsource drug manufacturing mainly for financial reasons, which helped the global pharmaceutical outsourcing market rake in \$65 billion last year according to a Visiongain report.

A lot of listed companies in Switzerland have grown in the pharma industry

“Manufacturing drugs requires a substantial investment,” says Research Partners AG analyst Martin Vögtli. “You need a plant that meets industry standards and you need qualified employees... It's costly and there is risk involved, because if the drug isn't approved in the end, which is not uncommon, you've invested in new buildings for nothing. That's why pharma companies prefer to outsource production to specialised companies who ▶

already have the infrastructures they need.”

But some companies prefer to manufacture in-house, especially for drugs under patent protection. That's why in 1959 Johnson & Johnson acquired the Schaffhausen-based company Cilag – “one of the largest manufacturers in the Swiss pharmaceutical industry”, with 1,200 employees. Companies looking to outsource, however, have to find reliable partners at a low price.

Apart from the family-owned companies in Ticino, a lot of listed companies in Switzerland have grown in the pharma industry, including the Zofingen-based Siegfried Group in

the Canton of Aargau. This company with 2,300 employees worldwide has blossomed, posting record revenue of 718 million Swiss francs in 2016 with EBITDA up more than 30%. Martin Vögtli expects that this trend will continue in the months to come. He has issued a buy recommendation for the stock, stating that “Siegfried has bought out a number of companies over the past five years that were fully integrated last year, and now is the time to reap the benefits!”

Siegfried's portfolio contains dozens of APIs, including Butalbital, a sedative, and oxymorphone hydrochloride, an analgesic. The group also has a plant in China where it manufactures generics, which isn't

GAETAN BALLY / KEYSTONE



GAETAN BALLY / KEYSTONE

Pharmaceutical ingredient manufacturing at the Bachem factory in Bubendorf, Switzerland. Specialised equipment is used to keep the ingredients in constant motion during production.

surprising considering the downward pressure on prices in plenty of sectors, not just pharma. Manufacturing in Asia is a recipe for substantial savings when it comes to APIs that are no longer patent protected. For drugs that are patent protected, however, and that are also particularly difficult to manufacture, pharma companies prefer to confide in Swiss sub-contractors, who offer quality and confidentiality.

That's the scenario according to a pharma expert (who wished to remain anonymous) from Dottikon Exclusive Synthesis – another



A Bachem employee oversees the production of a pharmaceutical ingredient.

H manufacturer listed in Switzerland that focuses primarily on APIs. For non-disclosure purposes, he was not at liberty to discuss the names of clients or the APIs they manufacture. "It's in the hundreds," he says, revealing that they are largely focused on immunology, oncology and neurology. The German company posted revenue of 152 million Swiss francs last year, up 25% year-on-year.

Only 2% to 3% of a drug's shelf price is allocated to manufacturing costs; so how do manufacturers turn a profit? "Economies of scale," says the expert.

Only 2% to 3% of a drug's shelf price is allocated to manufacturing costs

"We've had to learn to be more efficient in bulk production." In Switzerland, two other listed companies are also vying for a slice of this market, even though it's not their primary business activity. Lonza is unique in that it develops drugs with high potential. The Bubendorf-based

company Bachem specialises in polypeptides – chains of amino acids that are required to manufacture drugs, particularly to treat cardiovascular diseases. Bachem's revenue jumped 13% in 2016.

According to Vögtli, these companies are a profitable investment against a global background in which the elderly population is growing and will require more medical care. "But keep in mind that this sector fluctuates dramatically," he warns. Though it may be a nice way to round out a less risky securities portfolio that has more steady stocks. ▲

INTERVIEW

"DISRUPTIVE COMPANIES WILL BREAK INTO THE MARKET"

As of this year, Swiss native Thomas Cueni is the new Director General of the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA), the global umbrella association for pharma companies and organisations. He discusses the major challenges in the industry.

BY LUDOVIC CHAPPEX

The International Federation of Pharmaceutical Manufacturers & Associations (IFPMA) represents the interests of pharmaceutical research around the world. This Federation is also an intermediary to governments and international organisations such as WHO (health), WTO (trade) and WIPO (intellectual property), as well as NGOs in the industry. The new Director General began his role in February 2017 and is well-known in Switzerland. Prior to IFPMA, he spent several years as Secretary General of Interpharma, the association of pharmaceutical research companies in Switzerland. We met Cueni, who lives in Basel, in the light-filled avant-garde Campus Biotech building in Geneva, not far from Lake Geneva where the IFPMA offices are located.

The pharmaceutical industry has a reputation for being conservative. To what extent are traditional players threatened by industry newcomers who are more innovative and reactive?

Let's start by remembering that pharma is an industry that has evolved and continues to evolve.

In the space of a few years, it has moved from chemistry to biotechnology and other cutting-edge technologies. In the current context, with an ageing population that is overall becoming richer, biopharmaceutical companies have many opportunities. Demand for good health is universal. The healthcare field is less affected by crises than other industries.

"OVERALL, THE QUALITY OF INNOVATION IS IMPROVING"

But isn't the emergence of big data a form of disruption? In other words, would a tech company be able to break into the market thanks to its network and its data expertise?

Yes, I think we can expect some disruptive players to come on the scene. It's not just start-ups, but also tech giants like Apple and Google. The industry is being called on to transform itself, so pharmaceutical companies that

are able to integrate software expertise will come out on top. The real question to ask is: what is the pharma industry's business model? Is it selling big data expertise, or is it developing medicines? In the future, we could see these two avenues coexist. But even if data management becomes a business model, it will not happen without new treatments. I could see a scenario where companies collaborate to achieve both aspects.

Are pharmaceutical companies inclined to work together in these types of collaborations?



A CONVERTED JOURNALIST

Few people have as much expertise in the pharmaceutical industry. Originally from Zwingen in the Canton of Basel-Country, Thomas Cueni (63) began his professional career as a journalist in 1979 as a London-based correspondent for the *Basler Zeitung* and the *Bund*. He then spent a brief period of time as a diplomat, posted in Paris and Vienna, before joining the Swiss branch of Interpharma in 1988. He was Secretary General of the association until 2016. He was named Director General of IFPMA, the global pharmaceutical association, in February 2017. Cueni holds a Master's degree in economics from the University of Basel and in political science from the London School of Economics. He also studied at the Geneva Graduate Institute for International Studies.



This perspective has evolved. We can already see some collaborations between big biopharmaceutical companies. Take Alzheimer's research for example. No company works in this field alone. The scope of investigation is so enormous that even the biggest company can't tackle it alone. There is a trend where the boundaries between "open innovation" and competitive research move. There are similar types of collaborations in other cutting-edge technologies, such as semiconductors.

To what extent do innovative start-ups step on the toes

of big pharmaceutical companies?

The relationship between start-ups and big companies is above all mutually beneficial. For the past 15 years, collaborations and acquisitions have multiplied. I don't know of a single big pharma company that isn't looking for opportunities to collaborate with the best start-ups for research purposes. But large companies still have a crucial advantage: they have the financial means to take risks and can have several studies running at the same time. Developing a drug is very expensive, far

more expensive than preclinical research. Sometimes start-ups are successful at large-scale development, as was the case for Actelion – and could be the case for Idorsia – but that only happens for a small minority of companies. For the spin-off Idorsia, if its clinical trials result in innovative products, it could rely on Johnson & Johnson's sales force (ed. note: the US company acquired Actelion in January). It's a very interesting model: on one hand, you have the innovation and expertise of the founders, Martine and Jean-Paul Clozel, and on the other hand, you ▶

have the power and capital from a large company.

In your opinion, why should investors consider investing in pharmaceutical companies?

I have a positive outlook for the long-term future of the industry. We're expecting weaker growth than the past few years, particularly due to price pressure from regulators. But there will be growth nonetheless. Emerging countries are still developing, which will increase sales volumes. As long as companies will be able to offer innovative products, profits will come. The way to survive in this industry is be innovative.

Speaking of which, has the pharma industry made enough significant progress lately?

Overall the quantity of new drugs on the market is stable, but the quality of innovation is improving. Fifteen years ago, the industry was criticized for putting out products with only a marginal benefit to patients. "Little progress, high prices", everyone said. I believe that companies learned quite a few lessons during that time. They realised that by offering only marginal therapeutic gains, they wouldn't be able to make a profit from their drugs. Now, companies focus on developing treatments in fields where need is high, for example drugs to treat cancer and degenerative diseases. This has tangible results: many cancers are treatable nowadays. Pharma companies have also made significant progress in treating cardiac problems: mortality due to hypertension and heart attacks have decreased substantially.

Will this trend drive companies to specialise?

They already do, more or less. Most big pharma companies have their specialities. Of course, Johnson & Johnson and Novartis are more generalised. But no company develops drugs for everything. Each company



aims to become a leader in their chosen field, that is, for at most three or four different illnesses. For example, Novo Nordisk in Denmark is focused solely on diabetes. Other companies focus on asthma medications or cardiac diseases. But yes, this trend towards specialisation will continue.

Despite scientific advances, pharma often has a negative

reputation among the general public, because of scandals and various debates. In particular, NGOs question the exorbitant cost of developing drugs. What do you think of this criticism?

I notice it. That being said, I do believe that the role and importance of the biopharmaceutical industry for society is well regarded overall. Essentially all the controversies are regarding price and access to drugs. On those two subjects,

the industry has to explain itself better and demonstrate the value of therapy and progress in access. Generally, our challenge is to demonstrate how pharma objectively contributes to improved health. We have to do better. In terms of development costs, for example, we don't focus enough on the fact that for every market authorisation for one drug, a company has had approximately nine unsuccessful developments. Calculating only the development cost of an isolated molecule doesn't reflect all the costs.

"IT'S TIME TO CHANGE THE MODEL. BIOPHARMACEUTICAL COMPANIES SHOULD BE REIMBURSED BASED ON THE CONCRETE BENEFITS OF THEIR DRUGS"

But the prices of certain drugs are still very high...

You have to be careful of perspectives that are too simple and static. Take treatments for hepatitis C, for example. This is a case of an "innovative disruption" in the best sense of the phrase: we had a disease that was fatal over the long-term, weighed heavily on healthcare systems and the costs were spread out over several years. But the drug can treat that very illness in 8 to 12 weeks. Of course, the treatment is expensive, but in reality it significantly reduces spending if we take into account all the long-term costs. Essentially, that shows that it's time to change the model. Biopharmaceutical companies should be reimbursed based on the concrete benefits of their drugs, and not based on the amount of money they spent to develop them.

Exactly. Shouldn't governments be more demanding in this regard and require guaranteed results?

Yes, and that wouldn't necessarily harm pharmaceutical companies. Actually, I noticed on several occasions that the companies were often more inclined to start this debate than governments were. The concept of "pay for performance" makes sense to companies. If they are able to demonstrate the effectiveness of their product, they can legitimately set a higher price for it. Advances from big data that can identify patient typologies and evaluate the effectiveness of treatments should encourage this approach.

What's keeping governments from reforming the system?

Governments hesitate when they're faced with big changes and complexities, as well as when they have new administrative work to accomplish. This is also the case in Switzerland. Discussions took place regarding new ways to set drug prices, how to determine the added value of a product compared to another, etc. But the willingness to implement innovative solutions came more so from companies rather than university hospitals or health insurers. Nevertheless, I think we're headed in that direction.

In terms of public health, what are the major upcoming challenges for the pharmaceutical industry and what role will IFPMA play in handling them?

There are three main challenges. First, we're fighting against multi-resistant bacteria and we need new antibiotics. This is a

major topic of discussion on the G20 agenda. Second, the industry is researching treatments for Alzheimer's. Finding a treatment for this disease could very significantly reduce the costs of caring for older people. Finally, pharma is preparing to effectively combat future pandemics, such as Ebola or the Mexican flu. As an umbrella association, IFPMA participates in focused research to find solutions to these problems. Compared to the situation 15 or 20 years ago, I believe that the implementation of public-private partnerships is far more effective now. For example, WHO and pharmaceutical companies collaborate more. There is a real desire to combat major public health problems. In Geneva, many humanitarian organisations have been created over the past few years. Incredible progress has been made in developing countries with vaccines against malaria or neglected diseases, not to mention AIDS, which has gone from a deadly disease to a chronic one. According to WHO statistics, nearly 20 million people in developing countries have access to AIDS treatment.

Do pharmaceutical companies have a financial interest in this type of work, or is it simply to improve their image?

Of course, every company has their own financial interest, but I also believe that there is awareness as to the importance of treating certain problems collectively. In October, for example, we're actively participating in a summit organised by WHO and the Uruguayan government on non-communicable chronic diseases, but it wouldn't have been possible without help from the private sector. Biopharmaceutical companies realise that their reputation is on the line. By getting involved in projects like this, companies have the opportunity to be seen not as the problem, but as the solution. ▲

The revenge of the burger

Competing with newcomers on the market, the hamburger giant has been through some difficult years. But McDonald's hasn't given up. With home delivery, all-day coffee and gluten-free menus, it is trying new things left and right and seeing positive results.

BY MARIE MAURISSE

In January, McDonald's Switzerland opened its newest restaurant in Tour-de-Trême in the Canton of Fribourg. It is the 165th McDonald's in Switzerland. Customers can taste the classics, including Big Macs and soft-serve ice cream, while sitting on cushy chairs illuminated by vintage lamps. But for the first time in history, customers don't have to go up and get their food. After placing their order at the counter, they can find a table, and a server will bring them their food. Restaurant-style, with fast food prices. What's better than that?

In Switzerland, 26 McDonald's franchises now offer this new feature. It's no coincidence, however. In Switzerland and elsewhere, the Golden Arches are being chased by competitors, who offer "gourmet" fresh hamburgers...served at your table. One competitor, Holy Cow, has 14 restaurants from Lausanne to Zurich. On a small scale, the Swiss market is perfectly representative of the ups and downs in the hamburger industry. With 46% of sales, according to figures from Euromonitor, McDonald's is the leader of a global industry estimated to be worth more than \$200 billion. But it must fight to keep its rank.

To provide faster service, the brand's first step is digitalisation. In the United States, its primary market, the fast-food giant is progressively installing self-service kiosks in each restaurant where customers can choose their own menu. Switzerland is ahead of the game in this respect: every McDonald's in the country already has these

self-service machines, which take one-quarter of all orders. Self-service kiosks have increased sales by 2%, according to figures from McDonald's Switzerland.

Other brands have made their mark with fast service, affordable prices and original dishes

Ronald McDonald has modernised rapidly, but only because it no longer has the choice. For the past several years, the legendary company founded by Ray Kroc in 1952 has faced growing adversity. In the fast-food market, other brands such as Subway, Starbucks and KFC have made their mark with fast service, affordable prices and original dishes.

But above all, McDonald's has lost its monopoly on hamburgers. Now, the trend skews towards "better burgers": "They are made from higher-quality ingredients, they cost a bit more and they attract a younger, trendy crowd who can afford to pay slightly higher prices," says Brian Vaccaro, an analyst and restaurant-industry expert at Raymond James Financial. Over the past 10 years, several chains have broken into the US restaurant market. Five Guys, an independent company whose burger was praised by Barack Obama, boasts more than \$1.5 billion in revenue and has

recently opened restaurants in the United Kingdom and France. Other fast-food chains are publicly listed, the most well-known of which is Shake Shack, founded in New York in 2004 and listed since 2015. Its claim to fame is using fresh, non-frozen meat for its burgers, as well as potatoes as the base for its bread. It also offers a large range of milkshakes. Shake Shack also ▶

BY THE NUMBERS

\$24.6bn

2016 revenue

375,000

Number of employees in the world

37,000

Number of McDonald's restaurants in 120 countries

100 million

Number of customers in Switzerland in 2016, amounting to 275,000 orders a day

ANALYST'S ADVICE

"MOBILE SALES WILL GIVE MCDONALD'S A BOOST"

Andrew Charles, an analyst at Cowen, is one of the most astute observers of the fast-food industry. The expert predicts better results for the burger giant and advises to invest now.

What are your predictions for McDonald's shares?

They are excellent. We raised our price objective for this stock. It has gone from \$142 to \$180. Sales will keep rising in 2017 and 2018. The majority of results are expected in the US market, which makes up 47% of the brand's profits in 2017, according to our estimates.

What is improving McDonald's results?

Through the end of 2017, the company will catch up to its competitors in terms of mobile sales, as the ordering service will be available at 14,000 locations in the United States. This is expected to help increase US revenue by as much as 0.6%. It is part of the company's project called "Experience of the Future", which also includes placing digital screens in restaurants to replace orders at the counter (ed. note: this is already the case in Switzerland). More than 2,500 McDonald's restaurants in the US will have the screens by the end of the year.

In 2020, the 14,000 US locations will all have these types of machines.

So digitalisation and fast service are key?

Indeed. As for the rest, McDonald's should continue to simplify its menus, an initiative it began in 2015, and definitely not bank on a "premium" burger that costs more than \$5 in the US. Innovation shouldn't replace simplicity and efficiency. For example, "signature" hamburgers (ed. note: served in a premium wrapper with services like table delivery) had disappointing results, according to our observations. Conversely, making their hamburgers with fresh, non-frozen beef is a good idea, which will be implemented at most US locations in 2018.

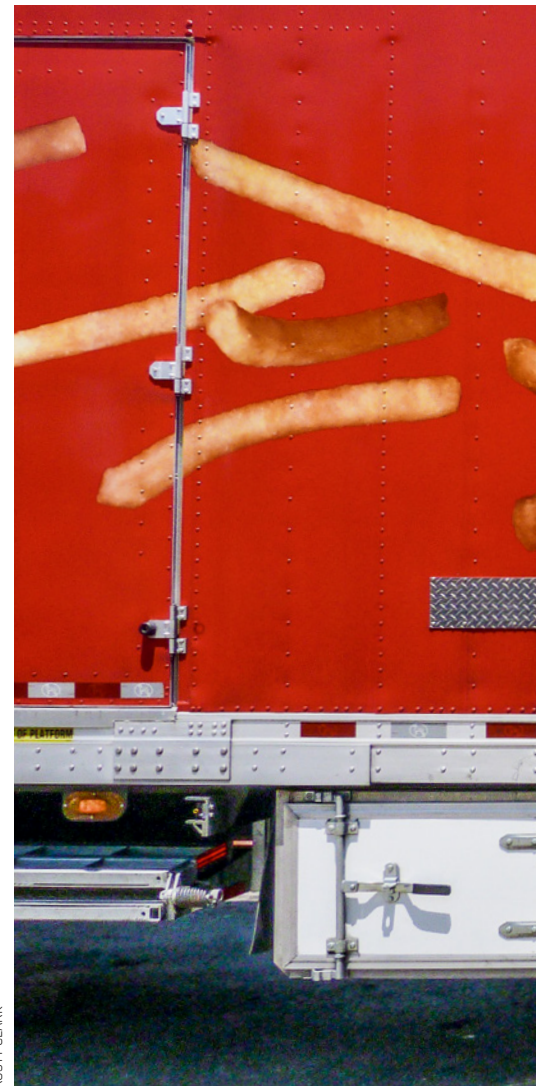
What do you think of home delivery?

I think it's a good idea for McDonald's to test delivery. In the US, 3,500 restaurants will offer this service by the end of 2017, especially via partnerships with UberEATS. But we're not entirely convinced yet, as delivery services distance wealthier customers from restaurants, leaving behind lower-income customers waiting in restaurants for their burgers to be ready...

wants to break into the European market and tempt customers away from McDonald's and Burger King, the other giant in the fast-food industry. It has been successful thus far: even though its stock price was overvalued at its IPO, Shake Shack profits tripled in Q4 2016, reaching \$3.92 million, or \$0.15 per share. Other fast-food chains, such as Habit Restaurants and Red

Robin Gourmet, have also tried their hand in this market, offering quality burgers that cost around \$10.

These brands have been successful because they offer what consumers now want. "In developed markets, the current trend is that consumers are looking for two types of services, which seem contradictory: a practical, technological experience that



RUSTY CLARK

is also authentic and local," says Elizabeth Friend, a strategic analyst at Euromonitor who specialises in the restaurant industry. "This trend has not benefitted fast-food giants like McDonald's."

This is why the chain has seen its growth stall several years in a row and its customer base drop by 500 million per year. In 2014, turnover was down 2.3% and profits down 15%. As a result of these disappointing figures, McDonald's CEO Don Thompson stepped down and was replaced by Steve Easterbrook, whose first order of business was very clear: change the model.



While the “gourmet” hamburger market is becoming saturated, McDonald’s has restored its legitimacy

Easterbrook’s strategy has several components. First, improve the brand’s reputation by focusing on more quality items. The Big Mac was made available in several sizes and customers can create their own recipes. Since June, McDonald’s restaurants in Switzerland also offer gluten-free hamburgers and muffins. Additionally, breakfast and hot drinks were made available all day

in response to customer requests. The other component is digitalisation. In addition to self-service kiosks, McDonald’s wants to strengthen its relationship with customers by launching home delivery via online ordering. In April, the CEO told shareholders, “Besides our restaurants in Florida, you can order a McMuffin on your smartphone at any hour of the day. It will be delivered right to your doorstep.” This delivery model isn’t in all restaurants yet, but it will gradually become available.

While the “gourmet” hamburger market is becoming saturated,

McDonald’s has restored its legitimacy. First, with its simple menus and unbeatable prices. And secondly, with fast service and mobile ordering. This two-pronged strategy has paid off, making McDonald’s one of the highest performing brands on the market right now. “2016 was our strongest year in terms of global sales since 2011,” said CEO Steve Easterbrook recently. Globally, customer traffic is up 6%. More customers have gone to McDonald’s restaurants in Q1 2017 compared with Q1 2016. Switzerland is no exception, as sales rose 1% in 2016 compared with the previous year. ▲

— MCD



THE PLATFORM OF CHOICE FOR INVESTING IN BITCOIN

Starting this summer, Swissquote clients can invest in the virtual currency and, most importantly, receive potentially high gains

SWISSQUOTE.COM/BITCOIN

Taking advantage of the rise in cryptocurrencies within a familiar, secure environment is now possible. Since July, Swissquote offers clients the opportunity to invest in bitcoin via its trading platform. Céline Bonola, in charge of implementing this service, discusses the advantages.

Who is this new offer targeted towards ?

Our platform is for any investor who wants to exchange euros or dollars for bitcoins, and vice versa. All that's needed is a trading account with Swissquote. Creating one only takes a few minutes. Given the high volatility of the price of bitcoin and its current upwards trend, investing in the currency has a clear speculative interest. It's also an interesting, innovative way to diversify a portfolio.

How does Swissquote's platform stand out from other competing solutions ?

We're the first online bank in Europe to offer bitcoin investing. Our platform was duly authorised by the Swiss Financial Market Supervisory Authority (FINMA). As a Swiss bank, we offer all the associated warranties and security to our clients, who can access the service in just a few clicks. Until now, many investors have been interested in cryptocurrencies but were hesitant to begin investing, since the majority of players on this market aren't very well known and often require transferring funds to a foreign account.

To what extent is it risky to invest in bitcoin ?

The risk is the high volatility of this currency. But that's what makes

it an attractive investment. When we began this project in May 2015, one bitcoin was worth approximately \$400, compared with close to \$4,000 now. Clients can purchase bitcoins with euros or dollars through their trading account. It's just as easy as buying any other currency. However, clients do not benefit from leverage. So they do not risk losing more than they invested.

What is the minimum investment amount to take part in this offer ?

The minimum amount is \$5 or €5. We also set a maximum investment amount at \$100,000 / €100,000. Fees are charged based on the transaction amount, between 0.5% and 1% depending on the total amount (ed. note : see table opposite). Please note that we do not offer a "wallet" on this platform. So

clients cannot make any transfers or purchases using bitcoin.

Why not ?

Mainly for security reasons. Swissquote would have to be able to provide 100% secure protection for the wallet. Someone could obtain the key and do with it what they wish. The wallet concept could also have potential risks in terms of money laundering.

How did Swissquote implement this platform ?

We collaborated with Bitstamp, a Luxembourg company that has solid expertise in virtual currency and has specialised in bitcoin trading

since 2011. It is the only bitcoin exchange that has a license from the European Union. Bitstamp provides us with pricing data and carries out the transactions that clients make on our platform.

Will Swissquote be offering other virtual currencies in the future, such as Ethereum or Litecoin ?

Yes, we're working on it. Other cryptocurrencies will be available soon. ▲



CÉLINE BONOLA
BUSINESS ANALYST
SWISSQUOTE BANK

BITCOIN IN BRIEF

The term "bitcoin" is a compound word meaning "digital money". This virtual currency is neither printed nor minted and is not controlled by any institution. As a result, bitcoins are not subject to the regulations of a central bank and do not depend on monetary policies or interest rates. Their value is based solely on supply and demand. Bitcoins were worth close to nothing in 2009, but their popularity has grown significantly since then. As of 15 August, one bitcoin was worth \$4,200, far exceeding the price of an ounce of gold.

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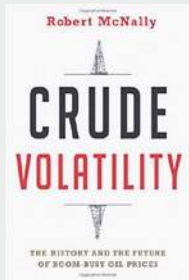
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For detailed information on the opportunities and risks, please refer to the most recent sales prospectus. The information contained in the sales prospectus, in the current annual and semiannual reports as well as in the Key Investor Information Document form the sole legal basis. These documents can be obtained free of charge in English from the management company ETHENEA Independent Investors S.A., 16, rue Gabriel Lippmann, 5365 Munsbach, Luxembourg and from the representative in Switzerland IPConcept (Schweiz) AG, In Gassen 6, Postfach, 8022 Zürich, Switzerland. Paying agent: DZ PRIVATBANK (Schweiz) AG, Münsterhof 12, Postfach, 8022 Zürich, Switzerland.

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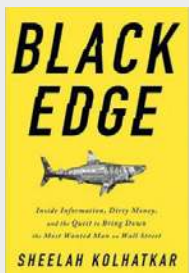
From CHF 34.-

CRUDE VOLATILITY

By Robert McNally
(Columbia University Press, 2017)

THE HISTORY AND THE FUTURE OF BOOM-BUST OIL PRICES

Over the past decade, the oil market has been characterised by volatility levels that are higher than they've been in a long time. Among the major reasons for this volatility are OPEC's waning influence on oil prices and increased output in the US due to fracking. In his book, McNally delves into the history of the production and consumption of black gold from the Pennsylvania oil fields of the 1860s to the overly-exploited Middle East of today. He deciphers the current cyclical ups and downs in an endeavour to predict the future of oil.



From CHF 24.-

BLACK EDGE

By Sheelah Kolhatkar
(Random House, 2017)

THE ENIGMA OF THE CENTURY

Hedge funds account for a staggering \$3 trillion in assets throughout the world, and everyone wants a cut. Steve Cohen was one of the lucky ones who came out on top. He built his company, SAC Capital, into a 15-billion-dollar empire. He was a legend on Wall Street – was being the operative term. Then SAC Capital went under after a seven-year federal insider trading investigation revealed widespread fraud. SAC traders were encouraged to uncover inside information (referred to as “black edge” in finance). A riveting story told by *The New Yorker*'s very own Sheelah Kolhatkar.



Free
Apple Store,
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GOOGLE MY BUSINESS

SEARCH ENGINE OPTIMISATION

This Google app helps entrepreneurs manage their company's Google, Google Maps and Google+ SEO rankings. You can update company info (name, address, opening hours, pictures), manage comments and get personalised information on the number of search requests and where they are coming from. Never miss a customer again.



Free
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Google Play

HEADSPACE

MEDITATE WITH YOUR SMARTPHONE

Ed Halliwell told the *New York Times* that Andy Puddicombe is “doing for meditation what someone like Jamie Oliver has done for food.” Translation: he's making it accessible for everyone. A British national, Puddicombe created Headspace, an app that offers guided meditation sessions suitable for beginners and seasoned meditators alike. The first 10 sessions are free and last 10 minutes each.



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Apple Store,
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SURVEYMONKEY

SURVEYS MADE EASY

Need feedback on a product or service? SurveyMonkey lets you create surveys and share them via social media, email and text message. You can build your survey from the ground up or take advantage of personalised models. The answers are updated in real-time. Ninety-nine per cent of Fortune 500 companies use this online tool.



Free
Apple Store,
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SPROUT

THE ULTIMATE SOCIAL MEDIA NETWORK

Sprout is the amalgam of all your social media networks – in one single app. One newsfeed lists all of the latest posts from all of your sharing platforms. Intended primarily for companies, the app has advanced features, including the number of internet users who have seen a message.

VIDEO GAMES

Developers are updating their games

Additional content, multi-player modes galore, micro-transactions... For heavyweights in the gaming industry, keeping gamers engaged for as long as possible has become a priority.

BY OSCAR LEMAIRE*

The traditional big players in the video game sector are facing a changing industry and the emergence of new models. Unlike mobile gaming, console games now must pay for development costs that are rising sharply, causing major game developers to rethink their economic strategy.

The challenge is no longer to sell lots of games, but to capitalise on the profits from each player

The first response to this trend was to expand access for people to buy extra content. This brought in additional revenue from every game for a very low development cost.

More recently, the newest trend is “games as a service”, which is the logical next step: ensure a game has a long-term lifespan and encourage the player fan base not to stop playing, but to keep the game alive through an online multi-player format. This favours the longevity of the game and its ability to be sold beyond its launch period. The model also facilitates selling additional content and micro-transactions, which are when players make simple purchases (such as costumes or virtual money).

Mat Piscatella, an analyst at NPD, believes that evaluating game developers’ ability to establish the “games as a service” model has become “the best barometer of potential future sales”, rather than

game sales themselves. Indeed, the challenge is no longer to sell lots of games, but to capitalise on the profits from each player.

“An excellent online service model can maintain player engagement for years after the game is released. It can also turn a game that had a weak launch into one of the highest selling games several months later,” said Piscatella. “On the other hand, a game could have a strong release but falter due to a basic online model.”

Therefore, the real question is: which companies will create and maintain the most effective online services to support their games? We take a look at four of the leading companies.

* Journalist specialised in video game economics, author of a chronicle of the Zelda games.

ACTIVISION BLIZZARD

ASSETS SUCH AS DESTINY
AND OVERWATCH

The leader among Western game developers is benefitting from its acquisition of mobile gaming expert King (*Candy Crush*) to cover a variety of genres and maintain its lead over Electronic Arts in terms of turnover. But one might wonder how relevant this acquisition is, since the *Candy Crush* phenomenon has died down and the company is having a tough time reinventing itself. Activision's more traditional catalogue is also struggling: the *Call of Duty* series is declining and even if the 2017 version could potentially lead to an uptick in sales, it would be minimal at best. It will not be easy for annual sales to make up for players losing interest in the long term. The *Skylanders* series has dropped even more, leading Activision to slump in 2017 for the first year since it began producing games. Finally, *Guitar Hero*'s 2016 return was a commercial failure and will not be continued.

Destiny keeps players' attention and managed to effectively sell its paid extensions

That said, Activision has reason to be optimistic about *Destiny*, its new brand launched in 2014 by Bungie, the independent studio that created

Halo. While relatively mixed reviews from the press disappointed observers when the game was released, the game has since been successful, with more than 10 million purchases in just a few months. It has also enticed its player base to remain engaged in the long term: with the "game as a service" model, *Destiny* keeps players' attention and managed to effectively sell its paid extensions. Delaying the launch of *Destiny 2*, which was initially slated for 2016 but will be released in September 2017, is a sound decision that will help the game succeed: the delay will drum up more reviews to recruit new players and strengthen its long-term success.

With the exception of *Destiny*, Activision does not have fresh content in its catalogue to counter the decline of its

brands, which is potentially worrying for the future of the company. While this is alarming news, it is balanced by the effectiveness of its Blizzard hub, inherited from the merger with Vivendi Games. The designers of *World of Warcraft* – which is also on the decline – have created new projects to refresh their titles. Launched in 2016, *Overwatch* is an impressive success, going from 10 million players when it was released in June that year, to 20 million in October, and up to 30 million in April 2017. It has the potential to remain the leading game for several years and constantly bring in new revenue by adding new content regularly.

HEADQUARTERS
SANTA MONICA (US)

ESTABLISHED
1979 (ACTIVISION), 2008
(ACTIVISION BLIZZARD)

CEO
BOBBY KOTICK

REVENUE 2016
\$6.6 BILLION

EMPLOYEES
9,600

ATVI

UBISOFT

BLOCKBUSTERS RUNNING OUT OF STEAM



HEADQUARTERS
RENNES (FR)

ESTABLISHED
1986

CEO
YVES GUILLEMOT

REVENUE 2016
€1.5 BILLION

EMPLOYEES
12,000

UBI

Ensnared in a financial battle with Vivendi, which has been trying to take over the French company since 2015, Ubisoft benefits as much from its potentially overvalued share price as it does from

the possibility of an acquisition. However, the Guillemot family, the founders and leaders of the company, have been ardently fighting the creeping acquisition, which suggests that employees (scared at the prospect of a Vivendi acquisition) could come together spectacularly against the transaction. The engagement would be good for the company. Ubisoft handles market trends effectively and favours the “game as a service” model for all of its titles, which has already shown good results for its varied catalogue.

Ubisoft does lack a hugely successful game that could be comparable to the blockbuster games of its competitors

This success, however, depends on original projects with varying levels of popularity. Ubisoft does lack a hugely successful game that could be comparable to the blockbuster games of its competitors. This is Ubisoft's main shortcoming, as it has a greater workforce than Electronic Arts or Activision but turnover is much lower. Potential success would come if it could relaunch *Assassin's Creed* (November 2017) and *Far Cry* (February 2018) and adapt them to the “game as a service” model, which is no easy task.

ELECTRONIC ARTS

THE HEAVYWEIGHT
OF THE BIG DEVELOPERSHEADQUARTERS
REDWOOD CITY (US)ESTABLISHED
1982CEO
ANDREW WILSONREVENUE 2016
\$4.8 BILLIONEMPLOYEES
8,800

After re-structuring, Electronic Arts

has come to establish one of the most stable models in the industry. The company relies on sure values with frequent new releases, such as *FIFA* or *Battlefield* – *Call of Duty*'s main rival – as well as a partnership with Disney to produce ambitious titles based on the *Star Wars* universe. Even though none of these games is truly built on the “games as a service” model, they do provide regular extra content (*Battlefield* and *Battlefront*), as well as micro-transactions (the *FIFA* series with the *Ultimate Team* mode). These additions all increase revenue significantly. The group expertly manages these pillars to sustain its brands and ensure their longevity. The financial year 2017-2018 has begun on relatively stable footing (*Star Wars Battlefront II* should have no trouble compensating for the absence of a new *Battlefield*) and intermediate and long-term plans have the potential to reinforce Electronic Arts' positive numbers.

The company hired Amy Hennig, renowned designer who created the *Uncharted* series, to manage the

Visceral Games studio that is building a *Star Wars* game. The game's solo mode comes in response to a strong demand from players. The Bioware studio put out the *Mass Effect* series, which was critically acclaimed but never really commercially successful enough to balance out its development costs. For the past four years, Bioware has been working on *Anthem*, which aims to rival Activision's *Destiny*. While Visceral's game is sure to be successful because of the popularity of *Star Wars*, Bioware's game could be more profitable to Electronic Arts. Not

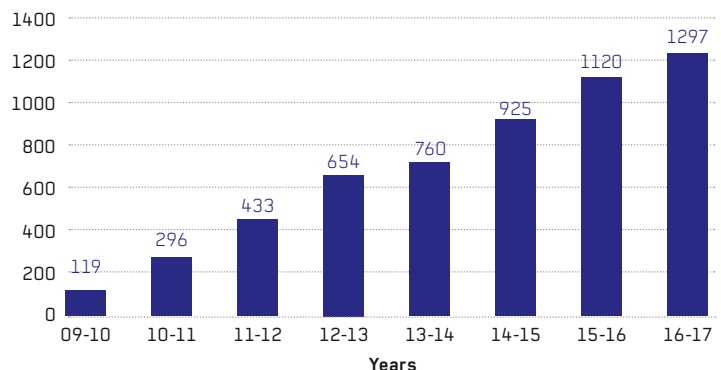
only does it have no royalties to pay to a third party (the *Star Wars* brand) but it is also a “game as a service”, oriented to a multi-player format with guaranteed updated support and additional content over 10 years. These two projects, expected in 2018, could significantly increase revenue and profits for Electronic Arts. Their success largely depends on the quality of the games, which is indeed promising given the designers working on them.

The projects expected in 2018 could significantly increase revenue and profits for Electronic Arts

Further down the road, Electronic Arts is preparing other ambitious projects, including an action adventure game produced by young studio Motive, led by Jade Raymond, who produced the first *Assassin's Creed* games. The goal is to create a game similar to *Assassin's Creed*. Another *Star Wars* game is in the works with Respawn Entertainment, the studio that created *Titanfall*, led by the designers who developed *Call of Duty*. The fact that these projects are being made demonstrates Electronic Arts' ability to work on a long-term basis.

REVENUE FROM ELECTRONIC ARTS EXTRA GAME CONTENT

In millions USD



TAKE-TWO

THE GRAND THEFT AUTO MIRACLE

TAKE-TWO

Take-Two has crafted a strategy to not over-exploit its strong brands to ensure their longevity, with the exception of its sport titles less likely to become unpopular with gamers. As a result, the company struggles to ensure its stability because it lacks regular new features. Its Achilles heel is its 2K Games label, which had a few big successes (*BioShock*, *Borderlands*), but they weren't huge compared to their development costs. Furthermore, their prolonged absence on the market could mean that the games will no longer be popular when they return.

***Grand Theft Auto V* did phenomenally well, with over 80 million in sales and an incredible longevity**

The very solo orientation of *BioShock* also makes it difficult to adapt to the “games as a service” model. The Rockstar label, however, is an undisputed success. *Grand Theft Auto V* did phenomenally well, with over 80 million in sales and an incredible longevity. It remains in the top weekly and monthly sales in the main markets almost four years after its release. This is due in part to the

additional multi-player mode, which includes regular new content and keeps the game current by bringing in very substantial additional revenue through micro-transactions. *Grand Theft Auto* was very much a solo game, but this online model made it possible to add a “game as a service” component.

While the current financial year has no notable new titles, the 2018-2019 year is very promising for Take-Two, thanks to the release of *Red Dead Redemption 2*, a variant of *Grand Theft Auto* with a Western theme. *Red Dead Redemption 2* had a very

HEADQUARTERS
NEW YORK (US)

ESTABLISHED
1993

CEO
STRAUSS ZELNICK

REVENUE 2016
\$1.8 BILLION

EMPLOYEES
3,707

TTWO

long development process and benefited from the indisputable expertise of

its designers (some of which also designed *Grand Theft Auto*), foreshadowing an enormous critical and commercial success. If sales are similar to the latest *Grand Theft Auto*, *Red Dead Redemption 2* could sell over 40 million copies around the world. Like *Grand Theft Auto V*, it will benefit from an additional online mode to maintain its long-term success and ensure a source of extra revenue. ▲



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TRAVEL

La dolce vita in Mexico

A former haunt of the colonial aristocracy, Roma Norte is a unique quarter of the Mexican capital. Walking around, you can't take your eyes off the murals and the neo-classical architecture, all the while following the aroma of chilli.

BY SALOMÉ KINER





The sprawling Mexico City, a diverse, patchwork metropolis, is daunting for first-time visitors. But in reality, with the exception of its historic centre and giant esplanades, the city is made up of a multitude of small quarters which often have a welcoming, intimate feel. Roma Norte is one of these quarters. Whether you're passing through on the way to Mexico's beaches or tempted by an exotic city break away from the busy city streets, here's our guide to an enthusiastic Chilango's perfect day.

8 am

A desayuno to start your day right!

Daybreak is the perfect time to get a feel for a city. In Mexico, breakfast is an unmissable local tradition...and you definitely won't go hungry. The favourite dish on the menu is huevos rancheros (or "rancher's eggs"), which comprises fried eggs on a corn tortilla, accompanied by a tangy sauce and refried kidney beans. It's

the perfect fuel to set you up for a long day of exploring. Add a fruit juice, freshly prepared to order and made from any number of different combinations of fruit.

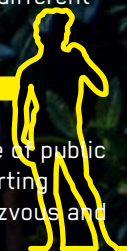
10 am

A stroll in the park

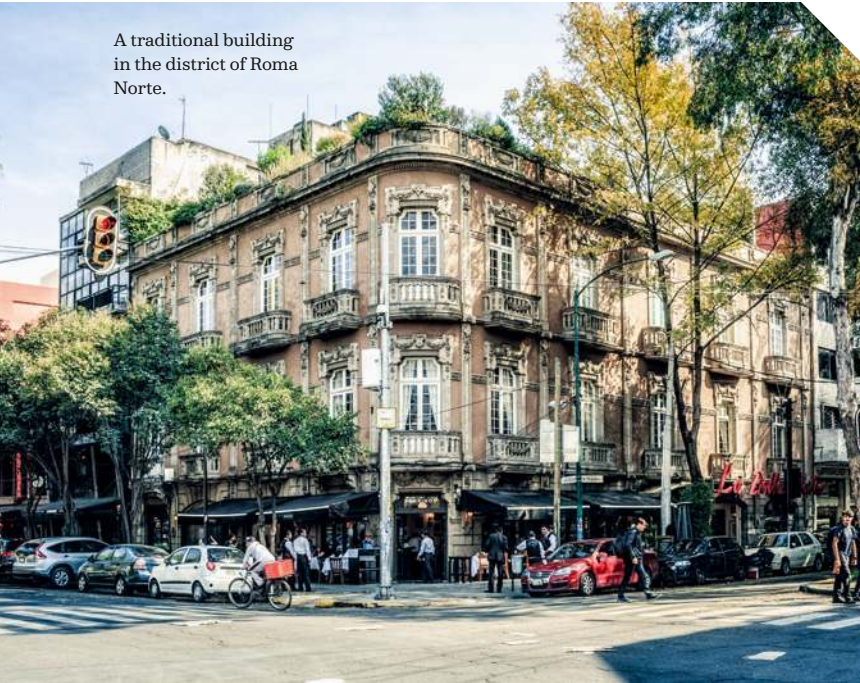
Mexicans love making use of public spaces and parks for sporting activities, amorous rendezvous and

picnics. Whilst certain parks are more run down than others, those in Roma Norte have a certain flamboyancy about them. This is certainly the case for the aquatic Plaza Luis Cabrera, which is popular due to the numerous restaurants and art galleries that surround it. Further on, planted in the middle of a fountain in the Plaza Rio de Janeiro, a reproduction of Michelangelo's David seems to laugh at dog-sitters tangled up in the leads, and children in school uniforms.

In the evening, salsa dancers and karate students gather for their rehearsals and training sessions. Grab a seat on a bench and have a snack as you enjoy the spectacle. Opposite the park, on the corner of Durango street and Orizaba street, stands the emblematic building ▶



A traditional building in the district of Roma Norte.



TORRESIGNER / ISTOCKPHOTO

La Casa de las Brujas, constructed in 1908 on the orders of President Porfirio Diaz to celebrate the 100th anniversary of Mexican independence. Recognisable from its red-brick turrets, the building was renovated in an Art Nouveau style. The building is a strange contrast between its austere facade and fantastic interiors, blending different styles that are unique to the history of the city.

Mexican culture: the history of Mexican wrestling, how to make Mezcal, a thousand and one ways to make a tortilla, etc. Book-lovers will adore getting lost amongst the endless rows of wooden shelves

in the El Pendulo “cafebrary”, where students and those out for a stroll can get away from it all, from the comfort of the Acapulco armchairs

2 pm

The riches of street-food

You definitely can't miss this aspect of the local culture: Mexicans eat in the street, sitting on plastic stools or lounging against a wall in the shade of a palm tree. The puestos – travelling stalls that are ports of call for tacos, sandwiches or quesadillas – aren't all the same standard, but there is a sure-fire way of sampling the pleasures of “urban gastronomy”: the Mercado Roma, an upmarket version of the popular markets. It's a foodies' paradise and offers a maze of tables where you can sample grilled insects, octopus ceviche, craft beers and rice with mole, an inimitable sauce made from chilli, cocoa, sesame seeds and peanuts.

4 pm

The hall of souvenirs

To unearth sugar skulls, Aztec spices, maté, embroidered tunics,

Midday

A helping of culture

It's not quite lunchtime, but there is time for some food for the soul. The history of art has often involved Mexico, witnessed by the numerous museums in the city. But it's the contemporary art scene that is coursing through the veins of Roma Norte. The OMR gallery, very well-known in international circles, exhibits a highly specialised selection of local and international painters, sculptors and photographers.

More popular, and both fun and educational, the Museum of Objects gives you the opportunity to discover the most important aspects of





The cozy ambiance at El Pendulo, café and library in one.

the best fish can be found at Contramar. El Parnita is less pretentious and always busy, and is ideal for those of you who want to overdose on tacos.

↓ 11 pm

La Vida Loca

The Roma Norte streets are jam-packed with bars, easily identifiable by the hip crowd smoking on the pavement outside. For a more authentic experience, those of you with fast feet should venture to Mama Rumba, a Cuban bar where you can salsa the night away. ▲

HOW TO GET THERE

Flights are available from Geneva and Zurich: approx. 900 Swiss francs per person (no direct flights). Mexico City sits more than 2,200 m above sea level. Temperatures are often lower than elsewhere in the country. To avoid the rainy season, it is better to visit between October and April. The Day of the Dead, held on 1 and 2 November, is a remarkable time of festivities and tradition.

WHERE TO STAY

LA VALISE HOTEL:

The most chic “urban refuge” in Roma Norte offers exceptional suits, including one on the roof for a night under the stars. From 290 Swiss francs per night for 2 people.

WWW.LAVALISE.COM.MX

HOTEL LA CASONA :

More conventional, but with a touch of imperial elegance. From 146 Swiss francs per night for 2 people.

WWW.HOTELLACASONA.COM.MX



OMAR BARCEÑA

The Luis Cabrera Plaza, a lively locale lined with restaurants and galleries.

folk nativity figures or SpongeBob SquarePants piñatas, the only place you need to go is Mercado Medellín with its 500 bazaar stalls. To recover from this technicolour trip, you should hurry over to the tiny stall Helado Oscuro, where the ice-cream maker spices up his recipes with mezcal and tequila.

↓ 7 pm

Salud y Buen Provecho!

You either love it or you hate it: Michelada is a typical Mexican drink made by mixing beer with lemon, salt, assorted spices, chilli, Worcestershire sauce and tomato juice. The drink is best sampled at Broka, on the terrasse, accompanied by a selection of tapas.

Dinner time is approaching and Roma Norte is, without doubt, a food quarter. Chef Elena Reygadas is head of the romantic restaurant Rosetta, but





CARS

From maxi to mini

SMALL SUVs ARE IN THE SPOTLIGHT

BY PHILIPP MÜLLER

MINI COUNTRYMAN JCW, IN A CLASS OF ITS OWN



ENGINE: 4-CYLINDER, TURBOCHARGED
2-LITRE PETROL ENGINE
POWER: 231 BHP 5,000 RPM
0 TO 100 KM/H: 6.5 SECONDS
STARTING PRICE: CHF 43,900.-

A gile, versatile and more environmentally friendly than the heavyweights in their class, small SUVs are now in vogue. There are all kinds: urban, sporty and adventure models, as well as award-winning and very chic versions, equipped like miniature Range Rovers. The first small SUV to win top honours was the MINI Countryman, launched at the end of 2010. Its soothing curves have been replaced for a more aggressive design

with a true build (4.29 metres long, 1.5 tonnes). MINI also stepped up the engine specifications, with a John Cooper Works version equipped with a 2-L turbocharged BMW petrol engine producing 231 bhp. These improvements were necessary to keep the Audi Q2, its nearest competitor, at bay. All-wheel drive and powerful Brembo brakes come as standard, but the 8-speed automatic transmission – a staple for cars from good companies – is an add-on. Fast (234 km/h) and alluring, the Countryman JCW can get expensive quickly; count on CHF 50,000 for even slightly personalised configurations.

On sale from July, the Citroën C3 Aircross is top of the line for half the money. It boasts multimodal (front) traction control and the latest gimmicks such as a head-up display and an induction smartphone charger, as well as a maximum modularity worthy of the C3 Picasso, which, as a sign of the times, has been forgotten like many MPVs. Finally, in the much contested “subcompact Sport Utility Vehicle” segment, the winner of the “happy medium” title could very well go to the unprecedented Hyundai Kona. Hyundai could also jump in front of the VW T-Roc and the Seat Arona, which are also expected to go on sale this autumn. ▴




AUDI Q2, DIESEL AS ALWAYS!

A bit shorter (4.19m), the other premium member of the class came out with all guns blazing with its 190 bhp turbodiesel engine with powerful torque (400 Nm). Quattro transmission and 7-speed s-tronic direct-shift gearbox. Top speed of 190. Prices start at CHF 43,700.



HYUNDAI KONA, STRAIGHTFORWARD!

Small (4.17m) and sporty, the Kona has strong technical aspects: 4x4, 7-speed dual clutch turbocharged engine producing 177 bhp, with ventilated seats, full LED headlights, blind spot detection and complete connectivity. 1.6 T-GDI. No price given.



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Designed for avid runners, the smart insole, Run Profiler, slips into a pair of trainers for a 3D analysis of your running and course characteristics such as average speed, distance, number of steps, calories, etc. An integrated audio coach monitors your performance in real time.

www.digitsole.com

CHF 99.-



AN ELEGANT OLED

Starting this summer, the German company Loewe – known for its exceptional design and finishing – will offer a new range of OLED television, the bild 5. Available in 55 and 65 inches, the Bild 5 boasts an ultra-thin screen at 4.9 mm and is equipped with a 1 TB hard drive for digital recording. Several types of bases are available, including a unique “tripod” look.

www.loewe.tv/ch

From CHF 4,250.-

HUMANITARIAN PEN

Montblanc is partnering with UNICEF to offer a limited-edition collection to help improve literacy and children's education. The Montblanc UNICEF Meisterstück stands out from the rest, featuring the first character learnt by children around the world and adorned with a gold nib engraved with the organisation's symbol.

www.montblanc.com

CHF 9,100.-





SMART SHOWER

Designed by Smart & Blue, a start-up from Grenoble, Hydrao First is the first eco-friendly showerhead. The connected showerhead has an integrated set of LED lights to indicate in real time the amount of water used, and lets the user monitor their energy savings via its mobile app. The natural water-flow powers the showerhead, so no batteries are needed.

www.hydrao.com

CHF 98.-

LIKE THE PRINCE OF WALES

Hublot has teamed up with Lapo Elkann, the jet-setting businessman who founded Italia Independent, to redesign its automatic watch Classic Fusion. The result is a collection of timekeepers dressed in classic fabric from the renowned Italian tailor, Rubinacci. The Prince-of-Wales version stole the show for most stylish, available in titanium, ceramic and King Gold.

www.hublot.com

From CHF 14,300.-



ULTIMATE PROTECTION

The outdoor gear supplier, Vaude, is introducing a new rain jacket so you can bike during every season. This breathable rain jacket has an environmentally friendly, water-repellent finish made without fluorocarbons, and helps you stay safe on the road with its 360° reflectors.

www.vaude.com

CHF 165.-

THE CIGAR SAFE

Known for their luxury safes, the German company Döttling is presenting its first cigar safe. Equipped with LED lighting, this calfskin and Spanish cedar humidor opens like a drawer and includes five removable trays that can store up to 50 cigars. The integrated humidifier designed by CigarSpa ensures an ideal climate for storing your cigars with the help of a thermometer, barometer and hygrometer.

www.doettling.com

CHF 13,100.-



LEA VON BIDDER
CO-FOUNDER OF AVA
AND L'INOUI
BORN 11 MARCH 1990
IN ZURICH, SWITZERLAND

INDIA, SURFING AND OVULATION

DR

According to Berlin-based economics magazine *The Hundred*, von Bidder was amongst the top 100 entrepreneurs in Europe in 2016. At 27, she has already co-founded two companies. L'inoui, her first, is a production line and chain for high-end chocolate in Bangalore, India. The second, Ava, is a Zurich-based start-up that sells smart bracelets which measure women's fertility. The bracelets take nine factors into account, including your pulse, body temperature and sleep patterns. A clinical trial carried out by The University Hospital Zurich demonstrated that it is possible to detect an average of 5.3 days of fertility per menstrual cycle with 89% accuracy. A Zurich native, von Bidder runs the Ava branch in San Francisco, where the device was launched in 2016 and has been making a killing. She holds a bachelor's degree in Business from the University of St. Gallen in Switzerland, as well as an MBA which she earned with studies split between the French Ecole de Management de Lyon, Zhejiang University in China and Purdue University in the US. She was formerly employed at Procter & Gamble in Frankfurt.

A KEY EVENT FROM YOUR CHILDHOOD ?

I was very involved with girl scouts and look back on that time fondly.

THE PROFESSION YOU WOULD HAVE LIKED TO DO ?

Doctor.

SOMETHING THAT INSPIRED YOU RECENTLY ?

Conversing with other female company founders in San Francisco.

A PLACE THAT MADE AN IMPACT ON YOU – AND WHY ?

India. It's where I launched my first company – L'inoui. Every day there is an adventure.

THE FILM THAT YOU WOULD HAVE LIKED TO EXPERIENCE ?

I'm already living a parallel life to the TV show *Silicon Valley* – that's enough for me right now.

THE IDEAL WOMAN ?

Every woman is the ideal woman.

THE IDEAL MAN ?

Mine is pretty wonderful.

THE IDEAL ANIMAL ?

Migratory birds – I love to travel.

YOUR SECRET HOBBY ?

I love to surf. It's a secret because I'm not very good at it yet!

YOU WIN 5,000 SWISS FRANCS ON THE STOCK MARKET.

WHAT DO YOU DO WITH THE MONEY ?

I'd invest it in Ava, my company.

A BOOK THAT YOU RECOMMEND ?

I'd currently recommend the biography of Phil Knight, founder of Nike.

WHAT IS YOUR FAVOURITE WORD AND YOUR FAVOURITE SWEAR WORD ?

"Ovulation". I don't really swear. ▴

TO BREAK THE RULES,
YOU MUST FIRST MASTER
THEM.

THE VALLÉE DE JOUX. FOR MILLENNIA A HARSH,
UNYIELDING ENVIRONMENT; AND SINCE 1875 THE
HOME OF AUDEMARS PIGUET, IN THE VILLAGE OF
LE BRASSUS. THE EARLY WATCHMAKERS WERE
SHAPED HERE, IN AWE OF THE FORCE OF NATURE
YET DRIVEN TO MASTER ITS MYSTERIES THROUGH
THE COMPLEX MECHANICS OF THEIR CRAFT. STILL
TODAY THIS PIONEERING SPIRIT INSPIRES US TO
CONSTANTLY CHALLENGE THE CONVENTIONS OF
FINE WATCHMAKING.



ROYAL OAK
PERPETUAL
CALENDAR
IN STAINLESS STEEL

AUDEMARS PIGUET
Le Brassus

AUDEMARS PIGUET BOUTIQUES:
GENEVA | ZÜRICH

How will markets react?

German Election



Prepare your investment strategy.

- Exclusive market analysis
- Custom trading strategies
- #DE30 Social Sentiment Index



swissquote.com/german-election

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