

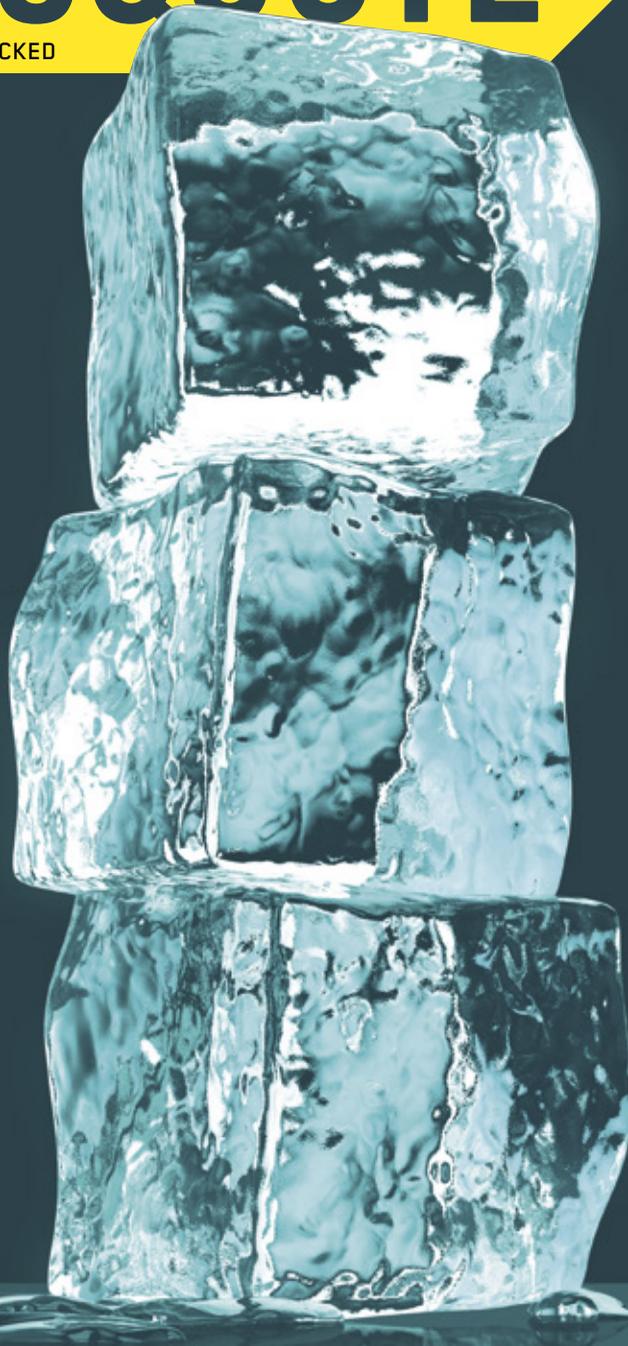
SWISSQUOTE

FINANCE AND TECHNOLOGY UNPACKED

STOCK EXCHANGE
Small investors
seize power

INTERVIEW
Christoph Franz,
chairman
of Roche

MARKET ANALYSIS
Boom in maritime
shipping



DOSSIER

Water, wellspring of profits

The winners in the rush to blue gold

► KURITA ► VEOLIA ► GEBERIT ► XYLEM ► EUROFINS ► SUEZ ► PENTAIR ► EVOQUA WATER ►



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SANTOS
DE
Cartier

The value of water



By Marc Bürki,
CEO of Swissquote

We are lucky. As the veritable wellspring of Europe, our country holds approximately 5% of the continent's freshwater reserves despite only occupying 1% of the European Union's geographic area. And, generally speaking, all we have to do is turn on the tap to drink water of excellent quality. However, don't let this impression of abundance pull the wool over your eyes. In the summer, drought regularly comes knocking on our door, farmers grit their teeth and crops suffer from the lack of rain.

The situation on the Plateau – a predominantly agricultural region – is already alarming, and it could get worse in the coming years due to global warming. According to research published in March 2021 by the Federal Office for the Environment (FOEN), stream and river flows will be 40% lower on average in summer by the end of the century than they are now if nothing is done.

Of course, Switzerland is still doing very well water-wise, particularly compared to the four billion people living in regions of the world struck by a major water shortage at least once a year. It was not without good reason, however, that the Federal Council adopted an ordinance in August 2020 aimed at ensuring that Swiss citizens have enough

water even in the event of severe shortage. Like elsewhere in the world, colossal **investments** will be necessary in Switzerland to sustainably guarantee access to water.

p. 42

In supercities such as Rome and New York, the leak rate in water pipes currently stands at around 40%. Reducing this number by just a few dozen per cent would save millions of cubic metres of water! Innovation has a major role to play in reaching that goal. Connected infrastructures, boosted by artificial intelligence, currently make it possible to optimise the upkeep of water pipes and detect leaks before they get too serious. In the most arid countries, the solution lies in water recycling and desalination – but by that we mean **Desalination 2.0**, i.e. a more energy-efficient version. In our review, we have selected **companies** on the cutting edge of the sector, those that are part of the solution to avoid a global water crisis.

p. 44

p. 36

Of course, all of these innovations do not absolve us as citizens, from making an effort. That means adopting simple habits like turning off the tap, but also keeping our plumbing systems maintained. A tap that drips once every four seconds wastes more than 1,600 litres of water per year.

Happy reading!



HAPPY SPORT

- Handcrafted in Ethical Gold -

Chopard

THE ARTISAN OF EMOTIONS – SINCE 1860

FREIGHT

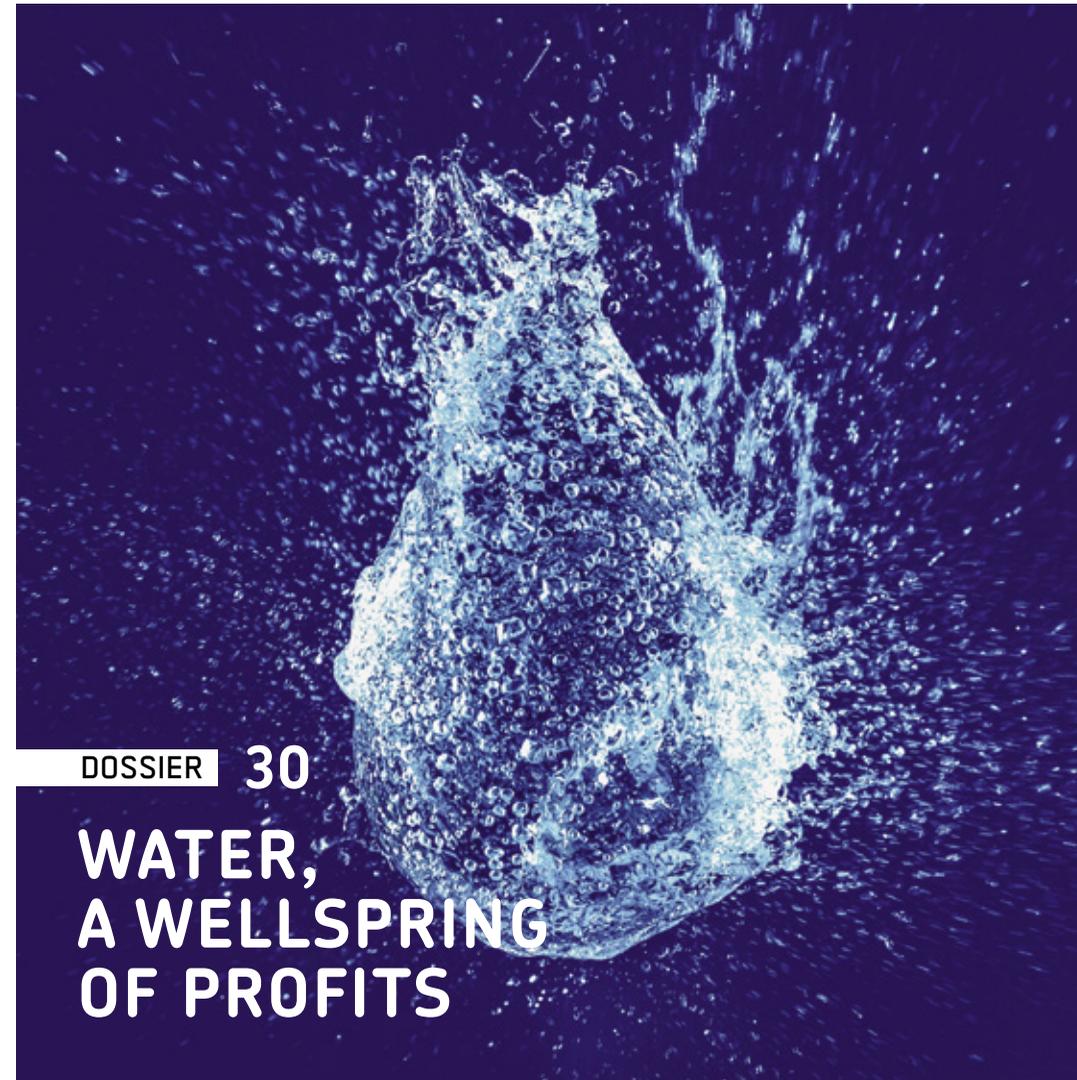


22



CONZZETA

26

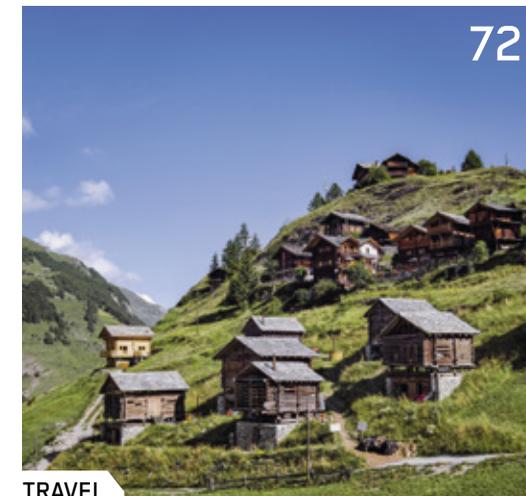


DOSSIER 30
**WATER,
A WELLSPRING
OF PROFITS**



56

INTERVIEW



72

TRAVEL

CONTENTS

- 3. EDITORIAL
by Marc Bürki
- 6. SCANS
Economic survey
- 14. TRENDS
Personality, country, innovation
- 16. ANALYSIS
Small investors seize power
- 20. CRYPTO CHRONICLES
Did you say "alt season"?
- 22. FREIGHT
Ship owners are back in the game
- 26. PORTRAIT
Conzzeta, ever more focused

30. DOSSIER: **WATER, A WELLSPRING OF PROFITS**

- 34. Infographic: water, an increasingly precious resource
- 36. Intriguing companies in the water industry
- 42. Interview with Dieter Küffer, portfolio manager at Robeco
- 44. Desalination: drinking seawater
- 48. Bottled water is under pressure
- 50. Interview with Mike Young, father of the water market
- 52. Water wars

- 56. INTERVIEW
Christoph Franz, chairman of Roche

- 60. SWISS START-UPS
Ones to watch

- 64. COSMETICS
Organic products move into cosmetics

- 68. SWISSQUOTE
Asian momentum

- 70. AUTO
The BMW iX3: close encounters of the third kind

- 72. TRAVEL
Five amazing travel ideas in Switzerland

- 80. TRIED AND TESTED
Easy money with Reddit

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SCANS



“Technology by itself sometimes is great, but it’s not the real end goal”

Satya Nadella,
CEO of Microsoft,
quoted in the *Financial Times* on 9 March 2021



Launched in 2004, the Roblox video game platform, which is a hit with children and teenagers, made a big splash on the New York Stock Exchange.

ROBLOX

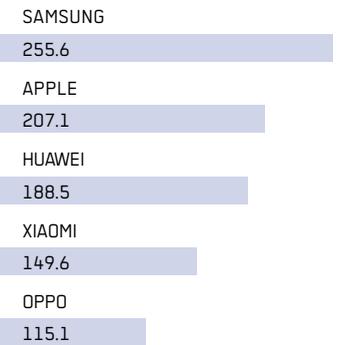
gaming GLORY DAYS FOR VIDEO GAMES

The video game industry is increasingly shaping up to be a new stock market gold mine. A particularly good example is the stunning IPO by Californian firm Roblox on 8 March. Founded in 2004, the creator of the famous free-to-play game of the same name saw its capitalisation reach \$38 billion at the end of the first day. This was \$8 billion more than its valuation in January, even exceeding the worth of Take-Two (*Grand Theft Auto*) and Electronic Arts (*FIFA*, *Battlefield*). The share price jumped 34% in 2020, while shares in Activision Blizzard were up by 56%. Mergers and acquisitions are also doing quite well. Zynga, the mobile social games expert, has acquired three studios in just 10 months. The market is expected to grow 9.17% per year on average between 2020 and 2025 to reach \$256 billion.

~ RBLX ~ EA ~ ATVI ~ ZNGA ~ CDR

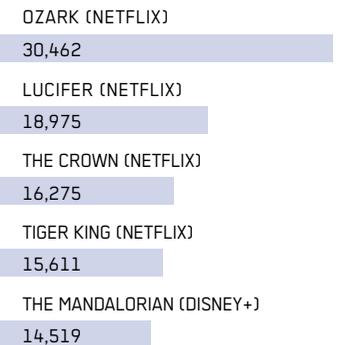
RANKING

TOP 5 BEST-SELLING SMARTPHONE BRANDS IN 2020 (in millions of phones sold and market share)



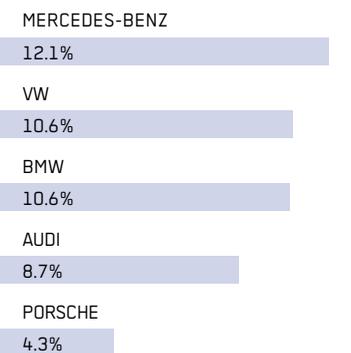
Source: Canalys

TOP 5 STREAMING SERIES IN THE US IN 2020 (in millions of minutes streamed)



Source: Nielsen

TOP 5 FAVOURITE CAR BRANDS IN SWITZERLAND IN 2020 (according to 26 million searches on the site comparis.ch from January to December 2020)



Source: comparis.ch



100 g

The amount of CO₂ emissions generated from one hour of Netflix streaming, according to a study from the University of Bristol commissioned by... Netflix. This is equivalent to using a 75w ceiling fan for six hours.

big data

PALANTIR: A BIG WIN FOR THE CANTON OF SCHWYZ



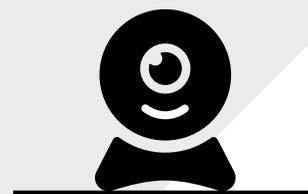
Federal Councillor Alain Berset (right) in discussion with Alex Karp, CEO of Palantir, at the Davos Economic Forum in 2018.

PETER KLAUNZER / KEYSTONE

After a recent IPO (*Swissquote Magazine 2020*, issue 6), the controversial company Palantir will build its European hub in Altendorf, in the canton of Schwyz. Furthermore, it will not be just a legal tax address, but an actual office: the Big Data specialist will create 20 to 40 engineering jobs at the location, in

addition to the existing 2000 employees around the world. Palantir will enjoy the proximity to Zurich and wants to take advantage of the highly qualified tech companies in the region. Its CEO Alex Karp also mentioned his affinity for the ski slopes nearby...

~ PLTR



x4

Sales of Logitech webcams generated \$132 million in Q3 2020 (2020-2021 financial year), which is four times higher than the same period the previous year.



“We want to get close and then overtake Tesla”

Herbert Diess,
CEO of Volkswagen,
quoted on 16 March
by CNBC

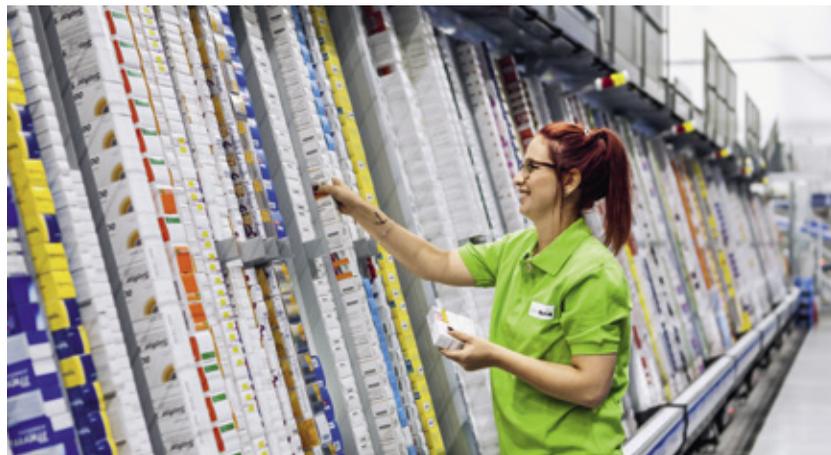


“The pandemic has vividly highlighted the imbalance in unpaid work between women and men”

Christine Lagarde, president of the ECB, in an article published on 8 March for International Women’s Day

pharmacy

SWISS COMPANY ZUR ROSE LOOKS TO CONQUER EUROPE



ZUR ROSE

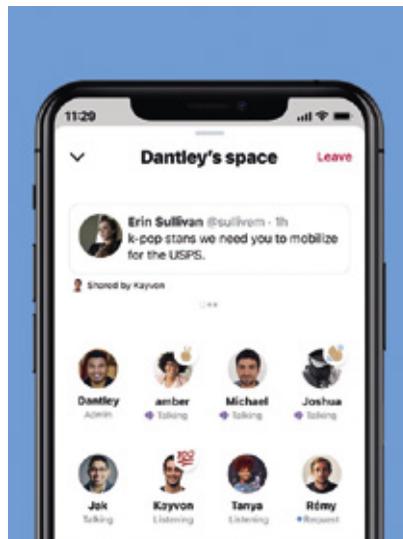
Will Zur Rose become the Zalando of health? After acquiring several European pharmacy websites in recent years, the Swiss group is trying to improve its visibility. It has combined its portals Doctipharma (France) and Promoforma (Spain) under the brand DocMorris. Dutch company DocMorris, acquired in 2012, is the primary provider of home delivery prescriptions in Germany. A new health offer, DocMorris+, was also launched early this year, offering a variety of fea-

tures including pharmacy services and online doctor visits. Zur Rose has made a serious effort to advance its goals, calling upon Mucho to create a new visual identity. With the world-renowned design agency (which also works with Apple and PayPal) at the helm, the Swiss brand has decided on a new logo: a heart made up of three shades of green, instead of the traditional green cross used by the pharmaceutical industry.

— ROSE — AAPL — PYPL

social networks

TWITTER EXTENDS ITS REACH



DR

Riding the wave of success with shares reaching their peak in late February, Twitter is set to launch new features. Available from early April, “Spaces” will allow users to create live audio chat spaces. This feature competes with the Clubhouse app, an invitation-only audio network that has been extremely successful since its launch in 2020. Twitter also wants to monetise its business activities with “Super Follow”, a never-before-seen feature that allows users to subscribe to a creator’s account to access advantages such as exclusive content and newsletters (\$4.99 per month). With these new features, Twitter hopes to reach its objective of doubling its revenue from \$3.7 billion to \$7.5 billion by 2023. — TWTR



\$5,000

The amount Google paid several Swiss newspapers to support the company.

— TSLA — MSTR — PYPL



\$129 BN

The value of the cloud infrastructure market in 2020, which is \$32 billion higher than in 2019.



“We are probably a bit too risk averse”

Jakob Stausholm, CEO of Rio Tinto, in the *Wall Street Journal* on 17 February

cryptocurrencies

WHO DOESN'T HAVE BITCOINS NOWADAYS?

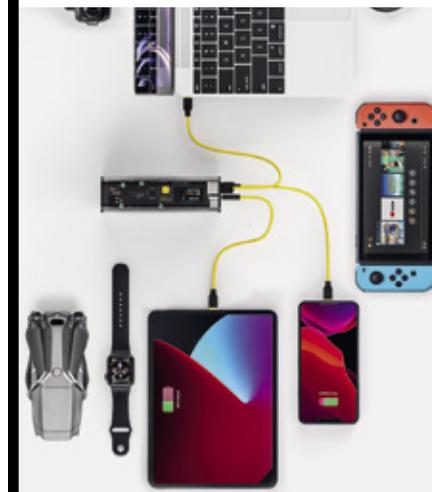


Through several announcements on Twitter, Elon Musk pushed up the price of Bitcoin.

BRITTA PEDERSEN / AFP

In January, Tesla acquired the equivalent of \$1.5 billion in Bitcoin and announced that its cars will soon be able to be purchased with the digital currency. The California brand is not the only company to do this. In recent months, several companies around the world have begun to amass Bitcoin. In the United States, software firm MicroStrategy purchased more than 91,000 Bitcoin for \$2.196 billion. In Germany, Synbiotic, a company that sells cannabis, exchanged some of its cash for Bitcoin. This is a first for a public German company, which said it also wants to protect itself against the devaluation of the Euro. The other motivation pushing investors is that Bitcoin is a safe investment, often compared to gold. This boom has also led to a variety of announcements, such as from PayPal, which as of November allows its US clients to purchase, sell and even hold Bitcoin. — TSLA — MSTR — PYPL

KICKSTARTER



STORY1

THE ULTIMATE CHARGER FOR GEEKS

The Storm 2 charger will end all worries about running out of battery power. The transparent, cyberpunk-style casing holds a mini electric power plant with a capacity of 99.36Wh. The Storm 2 has two USB-C ports and one USB-A port compatible with the 100 W PD rapid charging standard, as well as one DC output adjustable from 3.3 to 25.2 V, which could be useful to power a cool box for a picnic, for example. The display shows a range of data such as the operating temperature and battery life (which can be recharged in 90 minutes). Three devices can be charged simultaneously and a pass-through function allows devices to be charged via the USB ports while the Storm 2 recharges. Authorised in aeroplanes, it is equipped with a Panasonic lithium battery approved by Tesla and a fireproof PC body, as well as protection against power surges, short circuits and over-heating.

FUNDS RAISED
\$482,125

AVAILABLE
APRIL 2021

SCANS



“Cyber attacks are on the rise. The pandemic has made society, as a whole, more vulnerable to these attacks”

André Kudelski,
CEO of the Kudelski technology group in the *Tribune de Genève*

THE FLOP

Loon deflated

Alphabet, the parent company of Google, has ended its Loon adventure. The company's stratospheric balloons were supposed to provide internet access to the most remote areas of the world, the famous “last billion users”. The main reason Alphabet decided to abandon the project was the inability to find an economically viable business model. But the decision is still surprising, as Loon seemed

to be on the right track with successful balloon deployments in Kenya, Peru and Puerto Rico (see *Swissquote Magazine 2020*, issue 3). A number of analysts believe that growing interest in this type of offer from SpaceX (StarLink) and Amazon (Kuiper) influenced Google's decisions, even though the two companies would operate from space rather than the stratosphere.

— GOOGL — AMZN

hardware
**ELECTRONIC CHIPS:
A BOOM OF ACQUISITIONS**



Steve Mollenkopf, CEO of Qualcomm, opposes Nvidia's takeover of ARM.

QUALCOMM

Mergers and acquisitions are abundant in the semiconductor industry. Last year, these transactions reached a record value of \$118 billion, according to figures from IC Insights. Three of these acquisitions were among the top five in the industry: the first was Nvidia's \$40 billion offer for ARM, the third was AMD's \$35 billion acquisition of Xilinx and the fifth was Analog Devices' buy-out of Maxim for \$21 billion. Intel sold off its NAND flash memory business in

China to its competitor SK Hynix for \$9 billion.

But it is worth noting that Nvidia's acquisition of ARM is far from complete. It has not yet been approved by the relevant authorities in the various countries involved (United States, United Kingdom, European Union, South Korea, Japan and China) and Google, Microsoft and Qualcomm have challenged the deal, bringing it to the US competition authority (FTC).



+\$15,000 BN

The increase in global debt in 2020, reaching a record \$277 trillion.

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TRIBAL



“The roll-out of vaccination programmes and increased availability of screening options provide the preconditions for a rebound in air traffic - starting this summer at the latest”

Dr Stefan Schulte

CEO of German airport management company Fraport, in an interview published on 16 March.

automobile
THE DAWN OF (ACTUAL) SELF-DRIVING TAXIS



Chinese company AutoX has launched a robotaxi service without human assistance.

AUTOX

Autonomous taxis are no longer a dream in China. In February 2021, the company AutoX (supported by Alibaba and Fiat Chrysler) opened a robotaxi service in a district of Shenzhen. The cars function with no human assistance whatsoever. WeRide taxis are available in certain areas of Canton, in southern China, but they still have a human driver who can take control of the vehicle in the event of a problem. These assisted robotaxis have already driven more than 60,000

passengers according to the company, which is financed by the Renault-Nissan-Mitsubishi alliance.

There are pilot projects in the United States as well: autonomous vehicles from Cruise, a subsidiary of General Motors, are now authorised to travel on certain streets in San Francisco without a safety driver. As a precaution, Cruise decided to keep a human in the passenger seat during this new testing phase.

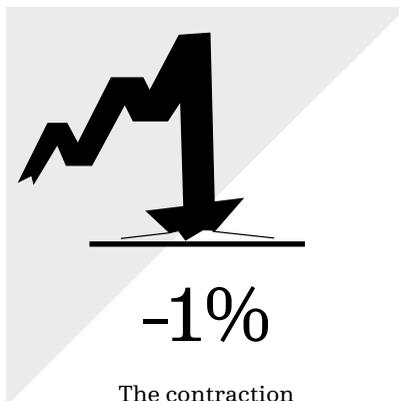
THE IPO

MAJOR SUCCESS FOR INPOST

With €2.8 billion raised on 26 January, Polish company InPost completed the largest IPO in Europe since 2018, according to Bloomberg. Inpost specialises in manufacturing lockers installed in automatic package distribution centres. The company even operates its own centres in several countries, including Canada, France, Germany, Poland and Russia. But InPost lockers are also used by local postal services in countries such as in the

Baltics, Chile and Ireland. The IPO also made a billionaire of the CEO, who was still a student when he founded InPost in 1999 as a simple brochure distribution company. This isn't the only European company that has taken advantage of the boom in online orders to go public. It joins online resellers The Hut Group (September) and Allegro.eu (October), which are listed in the UK and Poland respectively.

— INPST — THG.L — ALE:WSE



-1%

The contraction of GDP in South Korea in 2020, the worst drop in 20 years.

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G R A F F

TRIBAL



the figure

PAT GELSINGER

The prodigal son returns to Intel

Position
CEO

Age
59

Nationality
American

The global leader in semi-conductor manufacturing has experienced two difficult years as its market share has decreased significantly. Criticised for his lack of leadership, former CEO Bob Swan was replaced by Pat Gelsinger on 15 February 2021. Industry veteran Gelsinger was previously the CEO for nearly 10 years at VMware, an American IT group that saw significant growth under Gelsinger's leadership: increasing from \$4.6 billion in revenue in 2012 to \$10.8 billion last year.

Gelsinger is also unique in that he grew up in an Amish community in Pennsylvania. He began his career at 18 years old as a quality control technician for Intel while simultaneously pursuing a degree in electrical engineering and then received a Master's from Stanford University. He then spent about 30 years at Intel, climbing the ladder. Gelsinger was the architect of Intel's 80486 processors that were very popular in the early 1990s. Gelsinger has remained loyal to his origins and his upbringing. In 2013, he co-founded the NGO Transforming the Bay with Christ, which brings together CEOs, venture capitalists and pastors to promote the teachings of God in Silicon Valley.

INTC VMW



country

SPAIN

Hoping to be a new haven for start-ups

In December 2020, the Spanish Prime Minister Pedro Sanchez announced the Start-Up Act, the first step towards new legislation to expand the country's entrepreneurial potential. Indeed, Spain doesn't attract nearly as

many investments in start-ups as the UK, Germany and France. To rectify that, the Spanish government's priorities include the creation of the *Oficina Nacional de Emprendimiento*, an organisation heavily inspired by France's "French Tech" branding, which will provide a unified visual identity to Spanish start-ups. Another project is Renace (*Red Nacional de Centros de Emprendimiento*), inspired by its neighbour Portugal. This will encourage communication among start-ups in order to bridge the gap between various regions. These projects will be financed by some of the funds obtained through NextGenerationEU, Europe's €750 billion temporary recovery fund: €1.5 billion will be invested in 2021 and €4.5 billion in 2023.

Population
47,076,781
(2019)

GDP per capita
\$29,600,378
(2019)

Growth
-12.8% (2020),
2021 estimate:
+7.2%

Main economic sectors
Tertiary sector (tourism and banks), industry (textiles, food processing, iron and steel, naval ships, engineering), agriculture (olive oil, wine, oranges, strawberries)



Modules equipped with the famous Metalenz lens.

innovation

META-OPTICS

Manufacturer
Metalenz

Available from
2023

Price
Not disclosed

A disruptive lens for smartphones

The start-up Metalenz, a spin-off from Harvard University, was only founded in 2017 and yet its optical lens is expected to revolutionise smartphones, VR headsets and lidar thanks to its "meta-optic" technology. Smartphone cameras are currently made up of several superimposed lenses. The thickness of the lenses is what causes the unsightly bump on the back of mobile devices. A single Metalenz lens

can replace the complex multi-lens camera optics. The surface of the lens is actually made up of nano-pillars of varying densities, with the thickest measuring 100 nm, or 1,000 times smaller than the width of a human hair. The layering of these nano-pillars can redirect light to the exact location of a sensor and are a fraction of the thickness of standard optics with no loss in luminosity. Metalenz holds

the exclusive patent for this technology and about 15 others related to meta-surface technology, all from the science departments of Harvard University. Its fabless model implies that production will be handled by other companies. It's therefore no surprise that Intel and 3M participated in Metalenz's latest round of financing.

METALENZ

ANALYSIS

THE VIEWPOINT OF SPECIALISTS

INTERVIEW

Small investors seize power

The GameStop share debacle made headlines earlier this year when an army of anonymous individuals were able to drive up the share price, jeopardising powerful hedge funds. Was this a one-off fluke or the start of a long-term rebellion?

BY ANGÉLIQUE MOUNIER-KUHN

Since the beginning of the year, the speculative frenzy around GameStop, a video game retailer that has been in the red for several years due to its reluctance to embrace the internet, has kept the financial community on tenterhooks. The story, which pitted amateur investors against well-established hedge funds, had such a resounding effect in the United States that Congress even held hearings to determine whether new regulations were needed. Economist Michal Paserman,* professor at the University of Geneva, explains this highly volatile event.

Was the GameStop saga an isolated event or rather a structural change in financial markets?

This event symbolises a long-term trend towards the decentralisation of finance. We're witnessing a transfer of power from traditional financial institutions to individual investors and smaller financial institutions that are poorly, if at all, regulated.

Several factors contributed to this evolution.

The COVID-19 crisis has played a decisive role in the rise of a new generation of investors, who have found themselves stuck

at home, unable to go out in the evenings or visit the gym. So they have turned to the financial markets for something to do. Retail investors tend to be relatively educated men. The profile has changed considerably since the dot-com boom in the late 1990s. At that time, during which there was also a large number of individual investors in the market, the typical investor was 50 years old with an average of \$48,000 in investments. This higher amount lent itself to conservative investment behaviour. Today, individual investors are 31 years old on average and are investing between \$1,000 and \$2,000, so they're not afraid to take risks. This generation grew up in the era of the technological revolution and social media. They invest using apps such as Robinhood and discuss their perspectives on Twitter or Reddit, which serve as a sounding board for individual decisions.

In the case of GameStop, individual investors acted collectively as a kind of decentralised

hedge fund by taking on traditional hedge funds, which had bet on the company's imminent bankruptcy and short sold more shares than were actually available. When the share price rose sharply after individuals purchased shares, the hedge funds found themselves in a short squeeze situation with significant losses, since they had to cover their positions.

Beyond the GameStop affair, what other signs are there of the rise of this new generation of investors?

For decades, the proportion of shares held by US households continued to decline. But the trend seems to be reversing in recent years and we are now seeing a very high percentage, with nearly one-third of all US stocks being held by individual investors. Retail trading has increased significantly since 2019, whereas before it was relatively stable. It now accounts for about a quarter of the entire volume traded on the US market – equal to the activity of mutual funds and hedge funds combined. We're also seeing

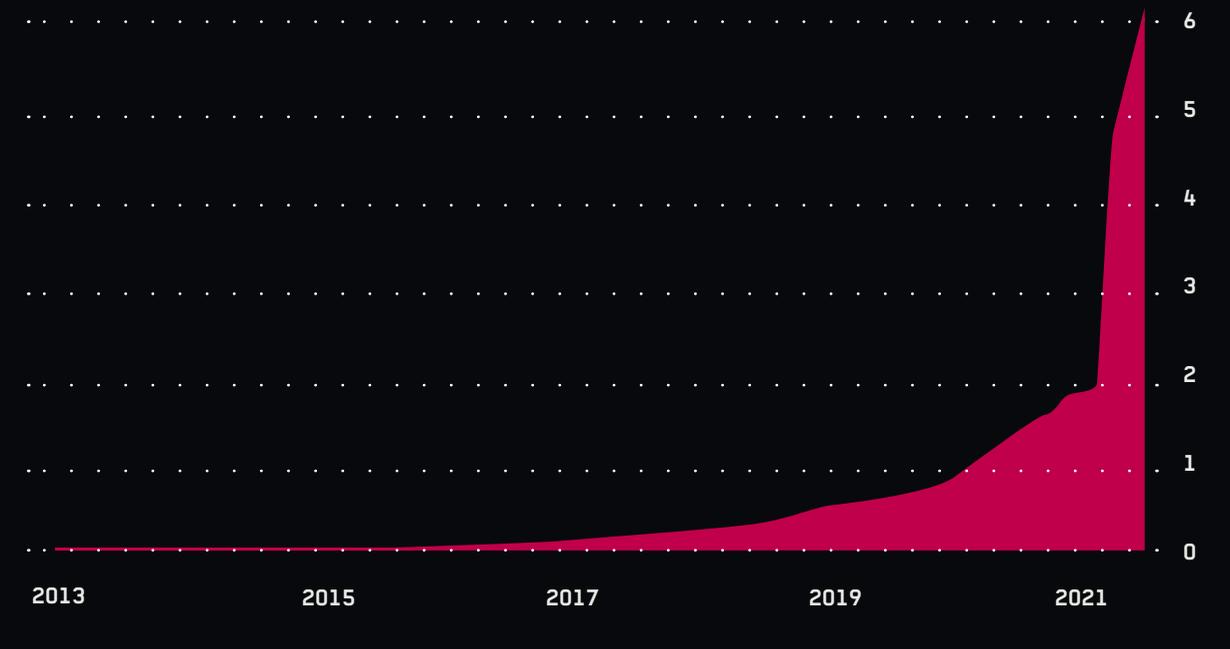
significantly more interest from individual investors in derivative products, such as call options, which are contracts that give investors the right to purchase an underlying asset at a specific price on a specific date. Trading in these products, which have a leveraging effect, comes with significant risk of loss. The number of subscribers to WallStreetBets, one of the most popular financial forums on Reddit, has grown exponentially, from a few users in 2013 to nine million today.

Are there other examples of innovations contributing to the phenomenon of the decentralisation and disintermediation of finance?

There are plenty of examples, including the development of participative finance (peer-to-peer lending and crowdfunding), cryptocurrencies, the opportunity that some brokers give individuals to invest in fractional shares, robo-advisors (automated wealth managers), and even trading applications and online banking services. All of these evolutions were ▶

Seen as the mastermind behind the GameStop saga, Keith Gill, aka "DeepFuckingValue", was questioned by the US Congress on 18 February. Here he is, in his Boston office, where he records his YouTube videos.

THE GENERAL PUBLIC IS INCREASINGLY ON THE LOOKOUT
Number of subscribers on Reddit's WallStreetBets forum (in millions)



made possible by the acceleration of technological progress in recent years, such as more powerful computers, advances in cybersecurity, powerful smartphones, fast internet and 4G and 5G networks.

Should we be concerned that the tech prowess of individual investors and their ability to act collectively (such as what happened with GameStop) could lead to new periods of market instability?

It is important to note that financial “decentralisation” does offer certain benefits. It leads to lower transaction costs and more transparency, which encourage financial inclusion and greater equality. It also generates new investment opportunities. All of these benefits ultimately promote economic growth.

That being said, these opportunities are not without risk, especially given that regulations always catch up with financial innovations. Throughout history, financial innovation and deregulation were associated with financial crises: tulipmania in the 17th century, the Savings and Loan crisis in the United States from 1985 to 1986, the dot-com bubble in the

early 2000s, and the mortgage-backed securities crisis in 2007. The GameStop event, in which some individuals made a lot of money and others lost very significant amounts, does raise some questions that US regulators must answer. For example, should non-qualified investors be allowed to trade in certain assets that are much riskier than others, such as call options? The number of margin accounts that offer the ability to use leveraging has increased by 38% in the United States. And yet in order to drive very powerful vehicles, people still need to pass a driving test. We could also question whether it is acceptable for non-regulated participants to provide investment advice on social media. ▲



MICHAL PASERMAN
UNIVERSITY OF GENEVA

*Dr Michal Paserman is the head of the new Master of Advanced Studies in Finance (MAS), which focuses on the most recent evolutions in the finance world. The programme will launch in September, supported by the Geneva Finance Research Institute in collaboration with the continuing education department of the University of Geneva.

Le plus beau des rêves est celui qu'on vit.

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Drive Your Dream.
En savoir plus: porsche.ch/DriveYourDream



PORSCHE

Crypto Chronicles

Did you say “alt season”?

As the Bitcoin dominance declines, the total capitalisation of the cryptocurrency market is soaring.

BY LUDOVIC CHAPPEX

“Are we going to have another alt season like 2017?” “When is alt season?” “When does the bull run start?” In recent weeks and months, social media and other forums dedicated to cryptocurrencies have been buzzing with these kinds of questions. The expression “alt season” designates a period in which altcoins – i.e. all cryptocurrencies other than Bitcoin (BTC) – outperform Bitcoin, generally by a significant margin.

Now, the environment is different. The entire market is moving.

The last alt season was in December 2017 and lasted a little over a month, during which certain coins increased their value by ten-fold, or even more. In the same period, the relative weight of Bitcoin in the total capitalisation of the cryptocurrency market – known as

Bitcoin dominance – fell drastically. Between 7 December 2017 and 13 January 2018, BTC went from 62% of the market to 32%; its total percentage in the overall capitalisation was halved.

At the time this article was written, there are strong signs that we may be on the cusp of a similar scenario. While Bitcoin dominance was nearly 73% early this year, it is currently 52.5% (as of 19 April), according to CoinMarketCap. Of course, many cryptocurrencies were soaring well before April, including Ethereum and Chainlink, as well as several decentralised finance (DeFi) tokens, which have been hot for several months now. But historically, these coins – which sometimes become popular in just a few days – have generally started at a relatively low capitalisation (referred to as “low-caps” or “mid-caps”).

Now, the environment is different. The entire market is moving. The rise of sleeper giants such as Ethereum Classic and Bitcoin Cash – Not to mention XRP’s spectacular

rallies – seems to be convincing enough for connoisseurs, analysts and speciality YouTubers... Alt season has begun. On 5 April, as if to mark the official start of the festivities, the cryptocurrency market surpassed the symbolic threshold of \$2,000 billion. Steve Erlich, CEO of US crypto broker Voyager Digital, tweeted on 8 April: “Bitcoin’s price has stabilised between \$55,000 and \$60,000, creating a bullish market environment that encourages investors to explore other cryptocurrencies in the market.” In other words, a very clear majority of investments continue to be injected into altcoins.

And already, a new and fateful question is being asked: “How long will this last?” Social media oracles, of which there are many, can help to forge an opinion. Alongside some of the more or less conventional opinions, some disciples of very long-term technical analysis have been able to draw historic parallels, some of which are mind-boggling. There may still be time to find your guide and get on the train. ↴

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Ship owners are back in the game

The pandemic and its many consequences have caused the freight market to skyrocket. Within the space of one year, container prices have increased tenfold. We take a closer look.

BY ANGÉLIQUE MOUNIER-KUHN

Container ship owners feared that the COVID-19 pandemic would drive them down into the abyss. Instead, it triggered what Lars Jensen, an executive with Maersk, the world leader in shipping, called a “perfect storm”. The World Shipping Council, the concerted voice of the industry, calls it a “cargo crunch”. Other industry professionals refer to a “cargo boom”. Whatever the phrasing, they are all talking about the same thing – the boom in maritime trade, an unexpected consequence of the health crisis. Soaring freight prices, container shortages, congested Californian ports, extended shipping times, and so on. Since last autumn, problems have piled up, thrusting all of global trade, or at least 80% of goods shipped by sea, into turmoil.

This upsurge is due to several concurrent factors. First is the unexpected strength of global demand for manufactured goods in the second half of 2020, especially in the United States. “The recovery in demand for

“The current pressure is definitely exceptional. We haven’t seen anything like it in a century.”

Pierre Cariou, professor at Kedge Business School and visiting professor at Shanghai Maritime University

containerised goods has been driven by increased consumer spending, particularly in home furnishings, as people have been spending more time at home, but also on the goods that people are buying rather than spending on services,” Peter Sand, an analyst with industry trade association BIMCO, recently said. A substitution factor has also encumbered maritime freight. The air freight industry has collapsed, as most air freight containers are usually transported in cargo holds on passenger flights. As a result, after falling by 6.8% in the first half of 2020 during the first wave

of the pandemic, maritime freight’s comeback in the second half was so strong that the total decline for the year was limited to 1.2%.

“The current pressure is definitely exceptional. We haven’t seen anything like it in a century,” says Pierre Cariou, professor at Kedge Business School and visiting professor at Shanghai Maritime University. Unlike “on-demand” transport (oil, grain, coal, etc.) where prices can fluctuate wildly, container transport is operated by companies offering steady service, on scheduled dates and fixed routes. This market is dominated by futures contracts and features relative price stability, except for the more volatile segment of last-minute transactions on the spot market. “What is unusual is that prices have taken off across the board. Depending on the route, they are seven to 10 times higher than they were a year ago. It now costs \$7,000 to ship a container from Shanghai to Europe, compared to just \$1,000 a year ago,” the expert says. ▸



An aerial photo of the port of Ningbo Zhoushan, in eastern China's Zhejiang province, taken on 3 March. Freight throughput grew by 4.7% in 2020.



WENG XINYANG / AFP

Transpacific trade (from Asia to North America) was the first route affected by the cargo crunch. The lack of capacity then ricocheted to trade between Asia and Europe, followed by Europe-Africa lines. Eventually all routes watched their prices shoot sky high. This is good news for ship owners' profit margins, and for the shares of operators listed on the stock exchange. For example, Maersk's shares have almost tripled on the Copenhagen Stock Exchange since their low in March 2020. The share price of German company Hapag-Lloyd, that was not doing so well last summer, has almost doubled since January 2020.

BUOYANT M&A MARKET

These companies have come back from the depths. The industry never truly managed to recover from its overcapacity since the 2008 crisis, and shippers (customers) had, so to speak, their hand on the rudder, allowing them to hold prices low. The Shanghai Containerized Freight Index (SCFI), which measures global trade, had not risen above 1,000 points since 2014. It currently stands at close to 2,800 points. To survive in this context of deflation, ship owners have had no alternative but to move towards consolidation, thereby transforming the sector. "Some merged, while others

decided to form strategic alliances," explains Pierre Cariou.

More than 200 new container ships are on order around the world

Today, three major alliances alone dominate the world's seas. With the onset of the pandemic and the falling volumes that ensued, rather than kill each other off in a bid to save their own market share, the

giants all scaled back their transport capacities to keep prices relatively stable. As soon as demand picked up, the shortage of containers drove prices skyward and disrupted supply chains. Pressure on freight explains, for example, the backlog on semiconductors. These jammed supply lines are forcing US carmakers to cut back on production, and Michelin to slow operations due to a lack of natural rubber supplies. For the time being, the consumer has only had to endure delayed deliveries. Importers have absorbed most of the hike in transport costs, which remains almost imperceptible in the final price.

But for how long? Establishing any sort of forecast would involve predicting the evolution of the pandemic, drawing conclusions about the impact on global demand for manufactured goods, and guessing whether it will be the customers or the ship owners that end up winning the current power struggle. Therefore, we may as well flip a coin. Freight companies are cautiously starting to rebuild capacity, and more than 200 new container ships are on order around the world, according to Bloomberg. Meanwhile, shippers have already engaged in their response. "Some are planning to

shorten their supply chain to reduce their exposure to the ups and downs of transport. Others are revising their shipping strategy. Rather than dealing directly with ship owners, they are going through supply chain intermediaries known as freight forwarders, such as the Swiss operator Kuehne Nagel (see inset below) and the French giant Bolloré. They wield better negotiating power and are themselves starting to charter cargo ships and planes," Pierre Cariou says. While others still simply plan to go their own route, like Amazon, which is developing its own air fleet. ▽

KUEHNE NAGEL IS GROWING (AGAIN)

The Swiss firm is a big name in the freight industry. Doing very well, Kuehne Nagel is buying up the competition and expanding in Asia.

With a volume of 4.5 million standard containers (TEUs) transported in 2020, Kuehne Nagel was already king of the seas as a freight forwarder – specialist companies that organise the shipping of goods on behalf of their clients. With the acquisition of the Chinese transport company Apex International, announced on 22 February, the group operating out of eastern Switzerland should soon be able to claim title as leader of air freight as well. Worth between 1 and 1.2 billion Swiss francs, the deal is Kuehne Nagel's largest to date.

It is primarily intended to fast-track the development of its activities in Asia-Pacific. The Swiss shipping giant has 78,000 employees in about 100 countries. But it still only generates 12% of its revenues from the region, which is the most dynamic in terms of international trade growth. This is expected to charm investors and bring them a bit closer. Since the shocks in the spring of 2020, Kuehne Nagel's share price has risen by more than 100%

on the Zurich stock exchange and is crushing new all-time records week after week. "The acquisition is a great leap forward that will drive growth in the years to come," said Michael Foeth, an analyst at Vontobel, in a February report. A further jump of 11% powered the publication of the company's annual results on 3 March and the surprise increase in its dividend, to 4.50 Swiss francs per share.

Although the slowdown in world trade in the first half of 2020 led to a decline in sales, the forwarder recovered in the second half and even slightly improved its economic profitability. Kuehne Nagel has mostly taken advantage of its logistics expertise in the medical field, a high value-added activity, to increase its revenues in air freight. Of note, the firm handles the global distribution of Moderna's COVID-19 vaccine. "Kuehne Nagel has manoeuvred well in this challenging year," Michael Foeth notes. "The company continues to stand out with its agility, adaptability, innovation and quality of execution. That is what places it among the best in its business," continues the analyst, who recommends holding the stock. ▽ KNIN

Conzzeta, ever more focused

Until recently, the Swiss mini-conglomerate owned a range of businesses as wide as sportswear, industrial foam solutions and sheet metal processing. But the group has decided to concentrate on this last business line, its most promising market. Here's how to dismantle a giant.

BY JULIE ZAUGG

A cotton climbing T-shirt, from Mammut, owned by Conzzeta.

MAMMUT

Back in December 2019, one of the last Swiss conglomerates sealed its fate. That month, its management committee announced that the firm would be dismantled. At the time, Conzzeta owned entities as diversified as the sportswear brand Mammut, the industrial foam solutions manufacturer FoamPartner, the sheet metal processing specialist Bystronic, and the packaging printing company Schmid Rhyner.

More specifically, Conzzeta would focus on Bystronic, its most profitable company, and sell off the other businesses. The Bern-based subsidiary generates 57% of the group's revenue and 90% of its profits. Meanwhile, Mammut brings in next to nothing; FoamPartner is barely growing, and Schmid Rhyner lacks the critical mass to survive on its own.

The firm owes its unique structure to one man, Jacob Schmidheiny, who served as the Chairman of the Board of Directors from 1984 to 2014. Born into a family of industrialists from German-speaking Switzerland, i.e., the name behind some of the country's giants such as Holcim and Eternit, he is the grandson of another Jacob Schmidheiny, who, with his brother Ernst des Zürcher Zielgeleien (ZZ), co-founded a brick manufacturing empire.

Their company was created in 1912 and quickly grew through takeovers and cartel-like practices. "In the 1920s, the Schmidheiny brothers

enjoyed such a dominant position that they could set prices and even decide which foundry would supply which customer," says Karl Lüönd, who wrote a book on the history of the mini-conglomerate. When architects abandoned bricks in the 1930s and shifted towards large flat surfaces made of concrete or glass, "ZZ" moved into the glass and insulation materials industry.

"The buyer will be foreign, probably a major US or Chinese group"

Robin Seydoux, analyst at Research Partners

During the construction boom after the war, the company expanded in Germany and Italy. But when Jacob Schmidheiny became CEO in 1978 at the age of 35, he had even higher ambitions. The young business leader embarked on a horizontal diversification strategy that stretched every which way. "There was no structure or logic to the acquisitions he was making," says Karl Lüönd. "When he had an opportunity, he took it."

This binge-buying led him to acquire the predecessor of FoamPartner in 1980, followed by Mammut in 1982, Schmid Rhyner in 1987 and Bystronic in 1994. "He always left the various components of his empire a lot of

autonomy, overseeing them from afar, aware that no real synergies were possible," the historian says.

In the 1980s, Schmidheiny also started building housing and offices, developing a new complex in the suburbs of Zurich which would eventually feature the Credit Suisse tower. "These property investments were the most profitable business Jacob Schmidheiny was ever involved in," Karl Lüönd points out. "He at least tripled his initial outlay."

In 1999, he sold the brick foundries and the insulation materials business due to the sluggish construction market, in the process renaming the company Conzzeta, a nod to the double Z in the original name. Listed on the stock exchange since 1996, the firm currently employs 5,000 people across some 60 sites throughout Switzerland, the rest of Europe, China and the United States.

But its structure was spread too thin. As Jacob Schmidheiny used to say, "We're too big to operate on niche markets but too small to play in the big league." When he retired in 2014, he appointed former Sika CEO Ernst Bärtschi to lead the group's board of directors, choosing for the first time in its history to break with the tradition of family succession.

Bärtschi is the one who initiated the firm's divestment process. That strategy led to the sale of the automation systems business in 2014 and the glass processing segments ▶

THREE FIGURES

CHF 1.28 BN

Conzzeta's 2020 revenue, of which more than 60% was generated by Bystronic.

+21.4%

Bystronic's annual growth between 2016 and 2018.

CHF 100,000

Mammut's profit before interest and tax in 2015, compared with CHF 7.5 million in 2019 after several years of restructuring.

in 2019. The property portfolio was cloistered off in a separate company, Plaza Immobilien, in 2015. At the end of 2019, the transition picked up with the announcement of a radical shift to focus on Bystronic.

In the months that followed, Conzzeta first shed Schmid Rhyner, sold in March 2020 to the German chemical group Altana for an undisclosed sum, then FoamPartner, which sold in November 2020 to the Belgian polyurethane foam specialist Recticel for 270 million Swiss francs.

Now, all that was left was to find a buyer for Mammut. "It's a strong brand with a high-end image," says analyst Robin Seydoux, who covers Conzzeta at Research Partners. "But it's too small to compete with the industry giants." In decline since 2014, the Aargau-based company launched an ambitious restructuring

programme in 2016 to narrow down its assortment of mountain gear, footwear and mountaineering ropes; improve its online retail website; and revamp its image, in order to look more like a mainstream brand, the analyst says.

The strategy started to pay off in 2018, with a substantial rise in sales and profits, but it still has a lot of catching up to do. The brand is struggling to gain traction in the US and Asian markets, which are currently experiencing the strongest growth in the mountain apparel segment. This is in part due to the nascent Chinese middle class that is beginning to discover winter sports.

Initially scheduled for 2020, the sale of the brand was postponed by the COVID-19 crisis, during which its revenue plummeted 30%. The sale is now expected to take place in

the first half of 2021, according to Conzzeta, which says it has received more than 50 expressions of interest.

In the future, growth is mainly expected to come from the American and Asian markets, which still have room for expansion

"The buyer will be foreign, probably a major US or Chinese group for which the sales price – estimated at 300 million Swiss francs – will not be an obstacle and which will be able to create synergies once it gets its hands on the brand," Robin Seydoux says. The first contenders that come

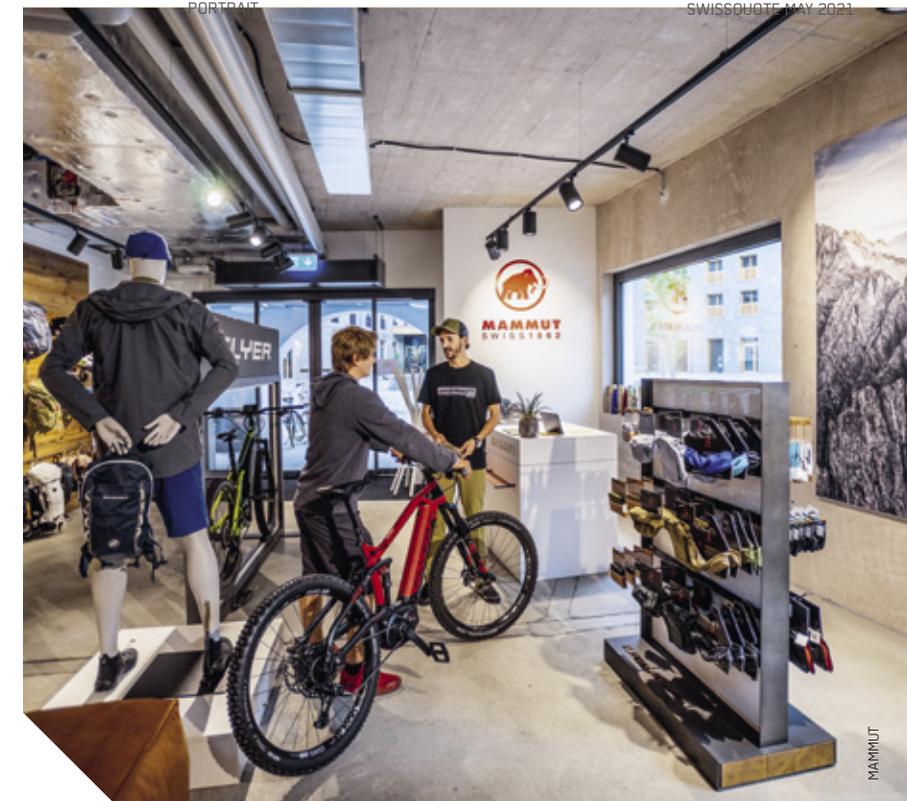
to mind are the US group VF Corporation (The North Face, Timberland) and the Chinese firm Anta (Salomon, Atomic).

Once Mammut is sold, Conzzeta will essentially boil down to Bystronic. Based in Niederönz (Bern), the company employs 2,987 people in Switzerland, Germany, Italy and China. It supplies a complete range of machines for cutting sheet metal using lasers or high-pressure water jets, as well as pressbrakes and software to operate all these machines. Its applications include the manufacturing of cable car cabins, kitchen hoods, car bodies and construction machinery parts.

"Bystronic's main strength is its capacity to provide integrated end-to-end solutions for automated sheet metal processing, almost without human intervention, derived from the smart factory model," says Philippe Cordonnier, head of the French-speaking branch of Swissmem, Switzerland's umbrella association for the textile industry. He believes that this gives Bystronic a key advantage in an industry characterised by low margins, and operating in an environment with a strong Swiss franc and fierce competition from Asia.

The Swiss brand is focused on driving innovation. "Bystronic has established a strategic partnership with the laser industry leader IPG Photonics, which means it can benefit from expertise and introduce new lasers on the market ahead of the competition," Robin Seydoux says. This merger has helped the company reduce the gap with its two main competitors, Trumpf in Germany and Amada in Japan.

In the future, growth is mainly expected to come from the American and Asian markets. These regions still have room for expansion, with only 22% and 26% of sales made in these two segments in 2019, against 52% in



Europe, the analyst points out. The acquisition of the Chinese company DNE Laser, begun in 2016 and completed in 2020, will improve the company's foothold in China, where it already has two plants. Bystronic also plans to open a new production facility in the US, near Chicago. Robin Seydoux also sees strong potential in the services

segment. "After-sales service is often much more profitable than the sale of machines themselves," he says. "But only 19% of Bystronic's revenues are currently generated by that business." The firm hopes to increase that percentage to 26% by 2025 by more actively promoting services to its customer base. ▲

This Bystronic robot handles and assembles sheet metal completely autonomously.



BYSTRONIC

ANALYST ADVICE

CLEAR STRATEGY AND RECORD MARGINS

By concentrating on Bystronic, Conzzeta has taken a clearer strategy, and that will increase its share value, says Torsten Sauter, who covers the firm at Kepler Cheuvreux. The sheet metal processing company has also announced ambitious growth targets of 153 million Swiss francs in EBIT and 12% margins by 2025. That would be a record in the Swiss machinery industry, but the analyst believes the targets are achievable. Between 2015 and 2019, Conzzeta's sheet metal processing segment doubled its operating profits, going from 55.4 million

Swiss francs to 121.1 million Swiss francs. Many opportunities for growth remain, such as after-sales services, digital solutions and expansion into new markets. So it is an attractive investment, Torsten Sauter says, issuing a buy recommendation. And that comes on top of the fact that sales revenues from FoamPartner and, in the near future, Mammut will be paid to shareholders in the form of special dividends. "The group could easily pay out some 500 million Swiss francs," he wrote in an analysis.

— CON

BLUE GOLD, THE NEW EL DORADO

Due to a strong increase in global demand combined with limited resources, the water market has a bright future ahead of it. Currently worth more than \$800 billion, the sector is expected to grow by at least 6% per year.

BY BERTRAND BEAUTÉ

- 34. Infographic: water, an increasingly precious resource
- 36. Intriguing companies in the water industry
- 42. Interview with Dieter Küffer, portfolio manager at Robeco
- 44. Desalination: drinking seawater
- 48. Bottled water is under pressure
- 50. Interview with Mike Young, father of the water market
- 52. Water wars

April 12, May 13, July 15... Although the date has changed depending on the calculation, one thing is certain: in the first half of 2018, the city of Cape Town came close to “Day Zero”, the day when not a single drop of water would come out of the tap. Suffering from three long years of drought, the South African city of 4.5 million inhabitants was on the verge of collapse. “Day Zero” was eventually averted thanks

to drastic restrictions – water was limited to 50 litres per day per person. It was a close call.

“The example of Cape Town is emblematic,” says Professor Frédéric Lasserre, a specialist in water geopolitics at Laval University in Quebec. “Geographically, the city is surrounded by water, and yet it experiences water shortages. It’s the same thing on a global scale: there is plenty of

water in the oceans, but usable fresh water accounts for less than 1% of the planet’s water.” The Earth’s supply of water does not vary, while consumption is growing rapidly (see infographic on p. 35). The use of fresh water worldwide has increased sevenfold since 1900, according to the 2030 Water Resources Group. This increase is largely the result of population growth, but also of economic development.

“Water consumption is closely correlated with population growth and GDP,” says Xavier Regnard, an analyst at the investment bank Bryan, Garnier & Co. “When a population emerges from poverty and gains greater comfort, it shifts towards a more water-intensive lifestyle, for example, eating more meat and using more manufactured goods.”

For example, making a pair of jeans takes between 7,000 and 10,000 litres of water, or nearly 285 showers, and a kilo of beef nearly 16,000 litres. Over the next few decades, water use is expected to continue to grow by 1% per year, rising to 20% to 30% above current levels by 2050. If no action is taken, the world population will lack 40% of the water it needs by 2030, according to the latest United Nations World Water Development Report published in March 2021.

“Global warming will also impact available supply, leading to an increase in extreme events such as droughts, as well as floods that degrade water quality,” says Antonio Celeste, ESG investment specialist at Lyxor ETF. “All of this will create a global water crisis.” This crisis will be felt most in urban areas, like Cape Town, where more and more of the world’s population is concentrated. According to a study published in 2018 in the *Nature Sustainability Journal*, a hundred megacities around the globe could run out of water by 2050, including Los Angeles, Bangalore, Sao Paulo, Beijing and

even London. But the entire global economy will be impacted.

This predicted shortage is whetting the appetite of some traders, who see water as the new El Dorado, also referred to as “blue gold”. As far back as 2011, economist Willem Buiter made an impression when he announced that the water market would soon eclipse oil. “I expect to see in the near future a massive expansion of investment in the water sector... I expect to see pipeline networks that will exceed the capacity of those for oil and gas today. I see fleets of water tankers (single-hulled!) and storage facilities that will dwarf those we currently have for oil, natural gas and LNG,” Buiter, Citi’s top analyst, wrote, before imagining that blue gold would be traded on a global market like any other commodity.

Nearly 10 years later, some of Buiter’s predictions are clearly coming true. In December 2020, the Nasdaq and the Chicago Mercantile Exchange – one of the world’s largest commodity exchanges – launched California water futures contracts that allow large California water consumers (cities, industries, farmers), investment funds, banks and hedge funds to buy and sell millions of litres, paving the way for speculation on water prices.

While those in favour of water markets believe that they provide a way of attributing value to a rare and precious substance (see interview on p. 50), many others are worried about seeing blue gold traded like any other commodity. “We can live without copper or oil, but not without water. It is a vital and irreplaceable resource,” says one analyst, who feels that water markets are dangerous.

But we should not get carried away. “Water is being ‘financialised’,” says Arnaud Bisschop, co-founder of Thematics Asset Management. “But based on the example of California

“Infrastructure is often old and in need of repair”

Arnaud Bisschop, co-founder of Thematics Asset Management

and the Chicago Mercantile Exchange, I think these markets will remain local. There won’t be a global water market like there is with oil, simply because transporting water does not make economic sense at the present time.”

So while the opportunities to invest directly in water, like buying gold ore, remain limited, a myriad of companies active in the water sector are nevertheless taking advantage of the growing gap between demand for and supply of fresh water (see company features on p. 36 to 41). “Due to the forecast crisis, water has become a hot topic. And this will continue for several decades,” says Antonio Celeste of Lyxor ETF. “Companies active in the water sector will benefit from the situation, because massive investment is needed to avoid shortages.” To

QUALITY COMES FIRST

When we think of the water sector, we first think of the amount of water available. But quality is just as important. “People are becoming increasingly sensitive to the problem of micropollutants found in drinking water,” says Arnaud Bisschop, co-manager of the Thematics Water Fund. “As a result, more stringent regulations are being introduced worldwide, which is positive for companies active in detection and/or treatment of water. It’s a growing field.” The problem of water pollution will increase as more people flock to cities and the wastewater increases.

reduce water stress, coastal regions like South Africa are investing heavily in seawater desalination plants. This is generating business for water specialists such as the American company Essential Utilities or the French group Suez (see also p. 44).

Other regions need to develop better infrastructure. “And that doesn’t only concern developing countries,” says Bisschop. “Infrastructure is often old and in need of repair.” Cities like New York, London and Rome have a network leakage rate of more than 40%! Massive investment is therefore needed to save water. “Today, by installing connected systems (sensors, smart meters, etc.), we can monitor networks and detect losses more easily,” Bisschop adds. “Unlike what most people believe, a lot of innovation is happening in the water sector.” ▲

A DIVERSIFIED SECTOR

What is the water market? Although the sector is not altogether clearly defined, three main sub-areas generally emerge: infrastructure management, waste treatment and pollution control. Other players active in the sector include companies that work to improve water efficiency (sensor manufacturers, water-saving toilets, artificial intelligence, etc.).

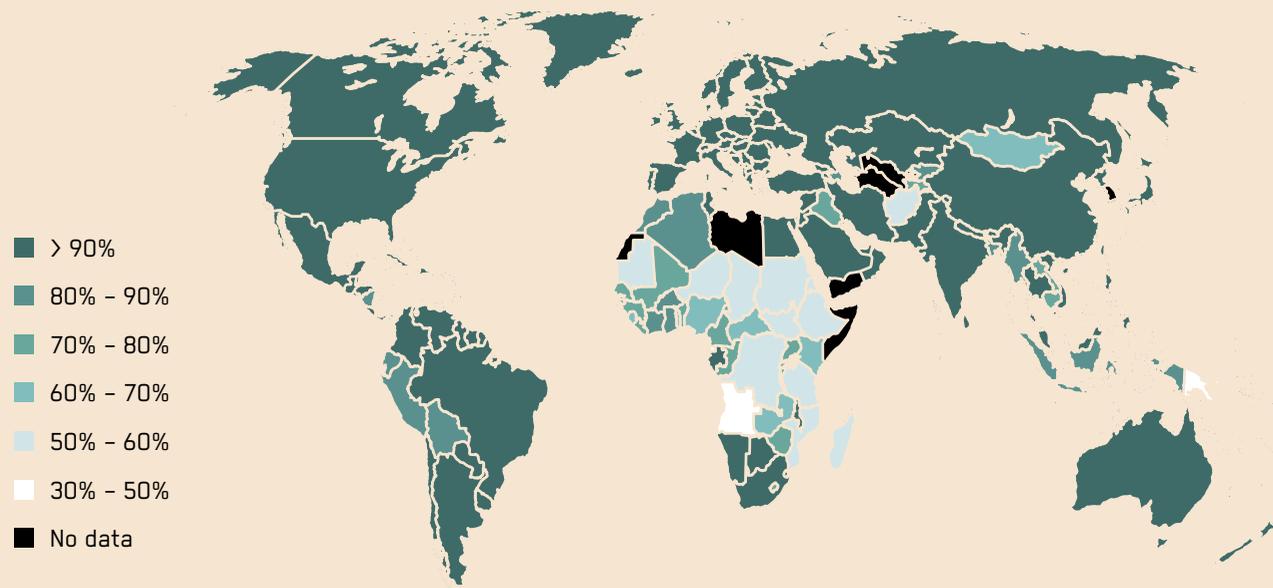
Taken as a whole, this market is currently worth between \$800 billion and \$1,000 billion, depending on where the boundaries are set. “The water market has been growing steadily since 2010, and like the rest of the economy, it has only been interrupted by the pandemic, with a 17.7% decline in 2020,” says Antonio Celeste, ESG investment specialist at Lyxor ETF. “Once the health crisis is over, growth will return to an average of around 5% to 6% per year.” And those prospects have caught the attention of investors. Over the past five years (31 March 2016 to 31 March 2021), the Lyxor World Water ETF has risen by more than 70%. “Water is particularly interesting for investors,” Celeste says, “because it allows them to build highly diversified portfolios.” These portfolios can include utilities, suppliers of all sorts of parts (pumps, filters, valves, pipes, membranes), or even waste treatment specialists.

A hundred megacities around the globe could run out of water by 2050

WATER: AN INCREASINGLY PRECIOUS RESOURCE

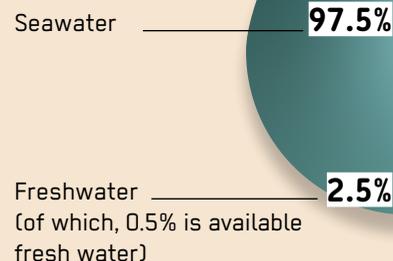
ACCESS TO POTABLE WATER WORLDWIDE

Percentage of population with access to potable water

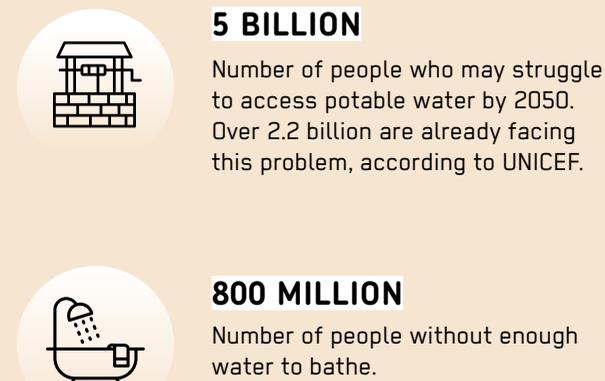


STEEP DECLINE IN FRESHWATER

There is a lot more water on Earth, but freshwater makes up just 2.5%.

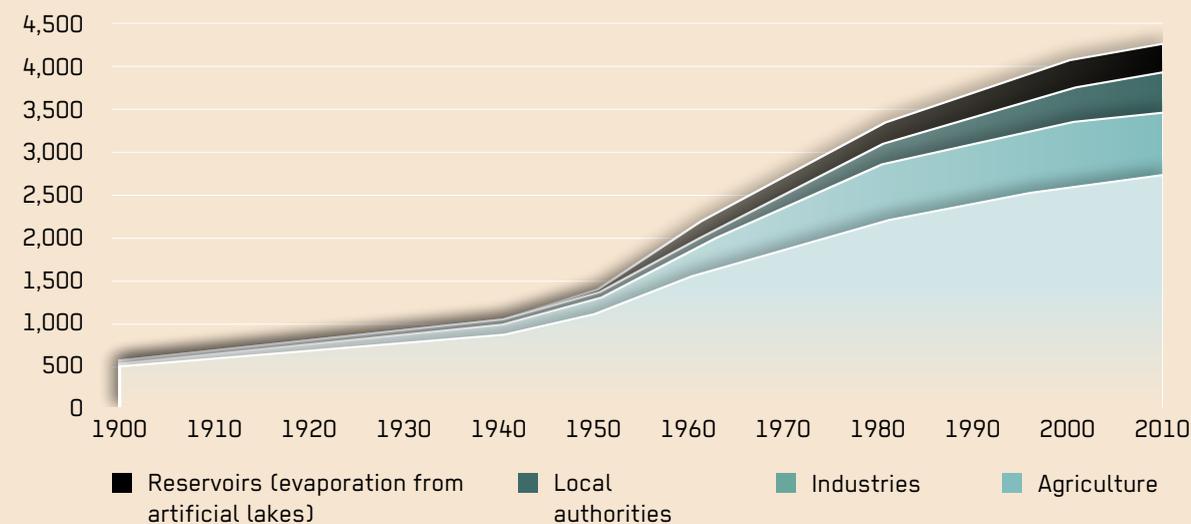


BILLIONS OF PEOPLE LEFT TO FEND FOR THEMSELVES



SHARP RISE IN WATER USAGE

km³ of water



A HUGE MARKET



LIVESTOCK AND TEXTILES: GARGANTUAN WATER REQUIREMENTS



HUGE DISPARITIES IN GLOBAL CONSUMPTION

Average consumption per capita in 2018 (in m³)



Sources: UNICEF, OECD, UBS, CREDIT SUISSE, ETH Zurich, WORLD BANK, WRI, AQUASTAT

Intriguing companies in the water industry

The water market is in the hands of various companies active in very different industries, including building infrastructure, micro-pollutant detection and wastewater treatment. We take a closer look at them.

BY BERTRAND BEAUTÉ

Pentair: partnering with Starbucks

How is it possible that coffee from Starbucks tastes exactly the same in New York, Shanghai and Zurich? It's partly due to the water. To ensure that the taste of its products is not affected by tap water quality, Starbucks has installed water filtration systems developed by US-based company Pentair across all of its stores. According to the manufacturer, these filtration machines remove 95% of dissolved solids in tap water and reduce contaminants to obtain perfect tasting tea and coffee.

In addition to corporate clients such as Starbucks, Pentair also offers products that can be fitted directly to home taps to filter tap water – a booming industry, particularly in the United States since the Flint, Michigan water

crisis, when tens of thousands of residents were poisoned by lead in their tap water. “Water quality has become a critical issue,” says Arnaud Bisschop, co-manager of the fund Thematics Water. “People are increasingly concerned because they realize that the water they consume has an impact on their health, and in some countries, they don't trust the quality of their tap water. Using a home filtration system is an additional layer of safety.”

This guarantees a bright future for Pentair, which is also active in other industries such as water pumps, swimming pool and spa equipment, and irrigation systems. Most analysts recommend holding shares, which have risen by 38% since 1 January 2020.

FOUNDED
1966

HEADQUARTERS
LONDON (UK)

EMPLOYEES
9,750

2020 REVENUE
\$3 BN

PNR

An employee prepares coffee in the new Starbucks Reserve Roastery flagship store in downtown Milan, Italy.



REUTERS / STEFANO RELLANDINI

AND ALSO...

NONGFU SPRING: THE CHINESE LEADER

The leader in the Chinese bottled water market with a 21% market share in 2019, Nongfu Spring had a remarkable IPO on the Hong Kong exchange in September 2020.

FOUNDED: 1996
HEADQUARTERS: HANGZHOU (CN)
EMPLOYEES: 19,000
2019 REVENUE: \$3.09 BN
9633

BIO-UV: ULTRAVIOLET WATER TREATMENT

A specialist in treating water with ultraviolet (UV-C) rays, French company Bio-UV saw its revenue skyrocket (+61%) in 2020, partly due to the pandemic – its products can eradicate the SARS-CoV-2 virus (see November 2020 issue of *Swissquote Magazine*).

FOUNDED: 2000
HEADQUARTERS: LUNEL (FR)
EMPLOYEES: 115
2020 REVENUE: € 32.1 M
ALTUV

ITRON: SMART METERS

US tech company Itron develops metering technology, particularly smart meters that measure water consumption and sensors that detect leaks in water systems.

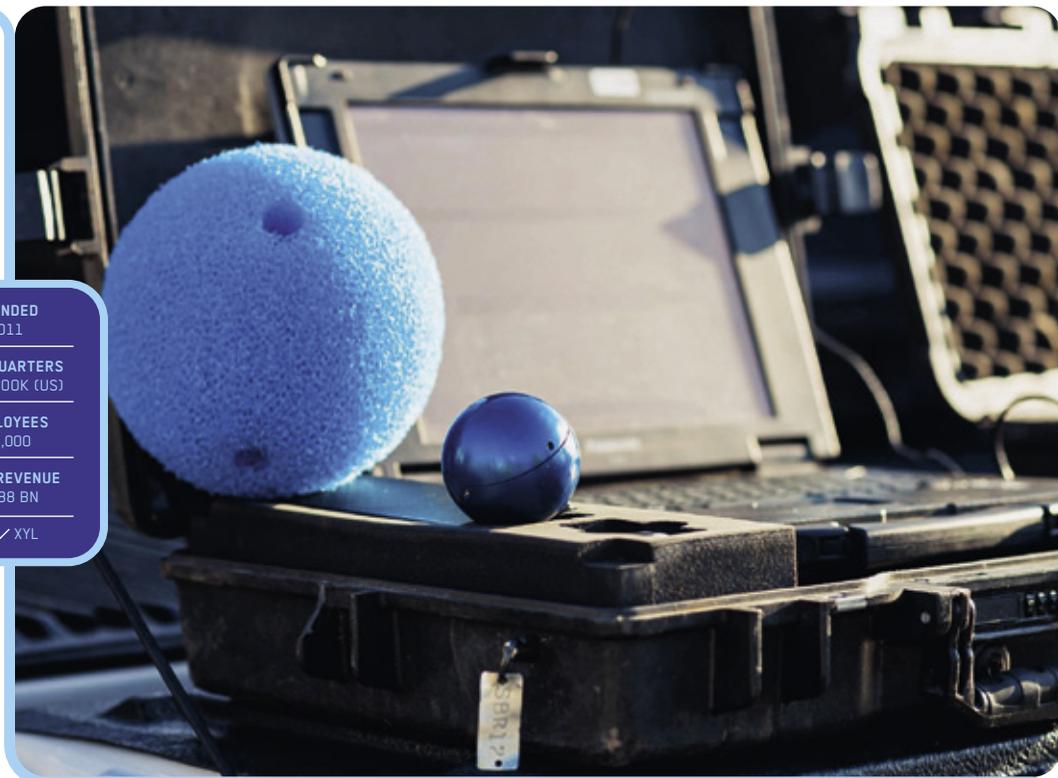
FOUNDED: 1977
HEADQUARTERS: LIBERTY LAKE (US)
EMPLOYEES: 8,000
2020 REVENUE: \$2.2 BN
ITRI

KURITA: THE JAPANESE EXPERT

Specialising in water treatment solutions, Kurita Water is mainly active in providing ultrapure water used to manufacture semiconductors.

FOUNDED: 1949
HEADQUARTERS: TOKYO (JP)
EMPLOYEES: 6,600
2020 REVENUE: \$2.421 BN
6370

Packed with sensors, the Xylem SmartBall can be inserted into pipes to detect leaks.



FOUNDED
2011

HEADQUARTERS
RYE BROOK (US)

EMPLOYEES
16,000

2020 REVENUE
\$4.88 BN

XYL

Xylem: the “digital water” expert

In 2014, Radio Télévision Suisse (RTS) had calculated that 4,000 litres of water were leaking from Swiss pipes every second, due to the country’s infrastructure being in need of repair. As a percentage, the leaks amount to 13.9% of the drinking water consumed in Switzerland every year. That may sound like a lot, but our country is actually faring better than our European neighbours. According to a 2019 report from the economic research company Bipe, the leakage rate in France is 20%, 21% in the United Kingdom, 27% in Belgium and 38% in Italy.

How can such a waste of water be explained, considering what a precious resource it is? “Replacing pipes, which are sometimes 100 years old in Western countries, is

expensive, because the network is so vast and buried in the ground,” says Arnaud Bisschop, co-manager of the Thematics Water Fund. “To reduce costs, water management organisations have long taken advantage of road works to replace their water pipes, without any real consideration for their condition. Now, smart sensors and connected infrastructure can intervene only if necessary. There is a lot of innovation in the sector, referred to as ‘digital water.’”

In 2017, water expert Xylem acquired a high-potential digital water firm, Pure Technologies, which offers a solution called SmartBall. The device flows through pipes to accurately locate leaks with its built-in sensors. In October 2020, the French company

Saur used the SmartBall to inspect part of its water network. The company’s findings revealed that the tool could detect leaks the size of a pinhead, with location accuracy of one metre. This solution can considerably optimise pipe maintenance.

Xylem is active throughout the water cycle – from water extraction to wastewater treatment – supplying pumps, treatment and analysis equipment and valves. And it is expected to benefit from US President Joe Biden’s \$3 trillion infrastructure investment plan. The company forecasts revenues of between \$5.16 billion and \$5.26 billion in 2021, up 3% to 5% from 2020. Most analysts recommend holding shares, which have risen 35% since 1 January 2020.

Eurofins: water tester

“When we talk about the water market, we often think about the quantity of water available, shortages and droughts. But water quality is just as important,” explains Arnaud Bisschop, co-manager of the Thematics Water Fund. According to the World Health Organization (WHO), two million people die each year worldwide from diarrhoeal diseases caused by drinking unsafe water.

To improve the situation, we obviously need to develop efficient treatment infrastructures, but we also need to test the water. Of the companies that provide this type of service, Eurofins Scientific is one of the best success stories on the Paris stock exchange. Founded in Nantes in 1987, the company has become a true behemoth with more than 50,000 employees working at 800 labs in over 50 different countries.

Specialising in bioanalysis, the

company performs more than 450 million tests each year in the healthcare, agribusiness and environmental sectors. On the environmental front, Eurofins offers water network managers the opportunity to test the quality and potability of the water supplied to consumers. Micro-pollutants, pesticides, traces of medications and other regulated hazardous substances can thus be quantified. Eurofins also tests bathing water.

Most analysts recommend buying the share, which has already shot up nearly 78% since 1 January 2020. Why the sudden boom? Eurofins, which has done very well during the pandemic, is on track for a record year in 2021. The group has notably developed a method for detecting SARS-CoV-2 in wastewater and clean water. Its pharmaceutical division has also put out coronavirus blood tests, home testing kits and rapid PCR tests.



FOUNDED
1987

HEADQUARTERS
LUXEMBOURG (LU)

EMPLOYEES
50,000

2020 REVENUE
€ 5.439 BN

ERF

Eurofins’ hydrology division analyses the potability of mains water and the quality of natural water.

ISTOCK

BEIJING WATER: THE CHINESE GIANT

Beijing Enterprises Water Group Limited operates mainly in the water sector. It provides wastewater services, construction and operation of wastewater treatment plants.

FOUNDED: 1992
HEADQUARTERS: HONG KONG
EMPLOYEES: 18,400
2019 REVENUE: \$3.62 BN
0371

PRIMO WATER: WATER FOUNTAINS

Canadian firm Primo Water installs and operates water fountains for businesses.

FOUNDED: 1952
HEADQUARTERS: TAMPA (US)
EMPLOYEES: 8,880
2020 REVENUE: \$1.953 BN
PRMW

BELIMO: THE SWISS START-UP

The global leader in servomotors and valves for heating, ventilation and air conditioning, Belimo also produces valves for potable water (see the December 2020 issue of *Swissquote Magazine*).

FOUNDED: 1975
HEADQUARTERS: HINWILL (CH)
EMPLOYEES: 1,789
2020 REVENUE: CHF 661.2 M
BEAN

AMERICAN WATER: THE DISTRIBUTOR

The largest publicly traded distributor of drinking water in the United States, American Water Works provides water services for around 15 million people across 46 states.

FOUNDED: 1886
HEADQUARTERS: CAMDEN (US)
EMPLOYEES: 7,100
2020 REVENUE: \$3.777 BN
AWK

Veolia: world champion

They have buried the hatchet. On Monday 12 April, Veolia and Suez announced that they had struck a tentative merger deal, putting an end to an eight-month financial, media and legal battle. The merger is set to create a “world champion for the ecological transition”, with revenue of approximately €37 billion, according to a Veolia press release. There are two main business sectors behind the idea of the ecological transition: waste and water.

Both leaders in sanitation and water distribution, Veolia and Suez together hold just over 10% of the

global market. This relatively small percentage can be attributed to the fact that companies operating in drinking water distribution or wastewater treatment tend to be local operators that enjoy something of a monopoly in their sector, such as Savern Trent in the UK, Sabesp in Brazil and American Water Works in the US. The new megagroup will have a lead on the competition, however, because the world’s No. 3 operator, China’s Beijing Enterprises Water Group, currently earns just one-fourth the amount of revenue generated by Veolia in the water sector.

To avoid concentrating too much influence, the new group will have to sell off certain subsidiaries. In addition to 100% of Suez in France (waste and water), the municipal water operations in Italy, Czech Republic, Australia and India, as well as annual revenue of €300 million in China and €700 million in Africa, will be spun off to form a “new Suez” with revenue of €6.9 billion.

Suez and Veolia shares took off with the announcement of the merger, gaining 7.5% and 9%, respectively. The final deal should be concluded by 14 May.



FOUNDED
1853

HEADQUARTERS
PARIS (FR)

EMPLOYEES
178,750

2020 REVENUE
€ 26.010 BN

— VIE



Antoine Frerot, CEO of Veolia (right), managed to convince his counterpart at Suez, Bertrand Camus (left), to bring the two French rivals of water and waste closer together.

BETTY IMAGES

SULZER: LEADER IN FLUIDS

World leader in pumping, mixing and separation technologies for all types of fluids, the Swiss company Sulzer has bolstered its position in water treatment by acquiring the Swedish company Nordic Water in January 2021 for 128 million Swiss francs.

FOUNDED: 1834
HEADQUARTERS: WINTERTHUR (CH)
EMPLOYEES: 5,000
2020 REVENUE: CHF 3.3 BN

— SUN

SABESP: THE BRAZILIAN GIANT

Specialising in water transport, Sabesp supplies water to 28.5 million people in 375 towns and cities in the state of São Paulo. The company’s poor management was singled out during the 2014 water shortage.

FOUNDED: 1973
HEADQUARTERS: SÃO PAULO (BR)
EMPLOYEES: 15,000
2020 REVENUE: \$3.103 BN

— SBS

GEBERIT: A SWISS ICON

Leading the sanitary product market, Geberit develops products such as more water-efficient toilets. Most analysts recommend holding the share, which has already climbed 10% since January 2020.

FOUNDED: 1874
HEADQUARTERS: RAPPERSWIL-JONA (CH)
EMPLOYEES: 11,569
2020 REVENUE: CHF 2.986 BN

— GEBN

COWAY: WATER PURIFICATION

Korean firm Coway develops and manufactures water and air purification systems for individual customers.

FOUNDED: 1989
HEADQUARTERS: SEOUL (KR)
EMPLOYEES: 5,000
2020 REVENUE: \$2.89 M

— 021240

ETFs and funds: profit through diversification

Because the water sector is overflowing with so many players, one attractive investment solution is to invest via an ETF or a dedicated fund, which lowers the associated risks while offering the benefit of a diversified portfolio. Examples include iShares Global Water ETF, Lyxor World Water ETF, and the Pictet-Water, RobecoSAM Sustainable Water and Thematics Water funds.



FOUNDED
2013

HEADQUARTERS
PITTSBURGH (US)

EMPLOYEES
4,000

2020 REVENUE
\$1.429 BN

— EOW

It takes about 100 litres of water to produce a single microchip. Here, Apple’s M1 chip.

Evoqua: ultrapure water

While Taiwan is facing its worst drought in over 50 years, the semiconductor industry is thirsty. Most people don’t realise it, but it takes a lot of water to manufacture electronic chips. The water consumption of Taiwan Semiconductor Manufacturing Company (TSMC) alone, the world’s largest semiconductor foundry (see *Swissquote Magazine*, July 2020), is 156,000 tonnes per day. Since February, Apple’s chip supplier has been paying dearly to have water delivered by tanker. The company, along with other industry players such as Vanguard International Semiconductor Corporation and United Microelectronics Corp (UMC), is expected to have to continue doing so until the end of the dry season in May.

“Just like in pharmaceuticals, the semiconductor industry uses ultrapure water,” says Arnaud Bisschop, co-manager of the Thematics Water Fund. A handful of companies, including Evoqua, Pentair, Veolia, Suez and Kurita Water, build the machines that remove all mineral salts and other chemical compounds from water. Evoqua Water Technologies stands out in that it generates 100% of its revenues in the water sector. Selling its disinfection, treatment and filtration systems, the US firm has customers in a wide range of sectors on top of microelectronics, including healthcare, manufacturing, maritime shipping and construction. Most analysts recommend buying Evoqua Water shares.

INTERVIEW

“Colossal investments are planned in the United States”

Boasting longstanding expertise in the water market, Dieter Küffer, senior portfolio manager at Robeco, describes the latest trends in the sector.

BY LUDDOVIC CHAPPEX



CHRISTIAN BEUTLER / KEYSTONE

REUTERS / STEFANO BELLANDINI

A photo taken at the Werdhölzli wastewater treatment plant in the canton of Zurich. The region's wastewater is treated there by various biological, chemical and filtration processes.

D Dieter Küffer has managed the RobecoSAM Sustainable Water Equities fund since its inception in 2001. The fund delivered a return of 12% last year, almost double the growth posted by the MSCI World TRN Index (6.2%). He provides some useful steps to take for investing in water.

What are the biggest trends on the water market today?

Well there are many. I'll start with micropollutants found in soil, waterways and lakes, which include pesticides used in farming, traces of medications and chemicals. This has been a problem for many years and is starting to be taken very seriously. In Switzerland, for example, a renovation of the 100 largest wastewater treatment plants is scheduled over the next few years, which will be costly and generate opportunities for sector players. In the US, the Biden administration is planning colossal investments not only to renovate the country's extremely obsolete pipe systems, but also to deal with the problem of perfluoroalkyl and polyfluoroalkyl substances (PFAS).

Which companies will get these contracts?

First and foremost, companies developing water quality testing solutions. Second, companies offering water treatment services using diverse technologies such as UV water disinfection and reverse osmosis, for example.

Are there any particularly innovative fields?

The agricultural sector is attracting a lot of attention because it accounts for 70% of water usage worldwide. “Micro-irrigation” techniques are growing increasingly efficient and can save up to 80% in terms of water volume. There are also companies developing humidity meters that can accurately determine crop water requirements,

which is very useful when you have huge areas of farmland, as is common in the United States.

“Micro-irrigation’ techniques are growing increasingly efficient and can save up to 80% in terms of water volume”

We’re hearing a lot about desalination as a potential water supply technique. Can you tell us about that?

Desalination is a fast-growing market. However, the process is more appropriate for major urban

areas, as opposed to agriculture, due to the high cost involved.

You mentioned that the pipe networks in the US are obsolete... this is also a problem in Europe. Has progress been made in terms of supervision and renovation?

Yes it has. New technologies, including digital technologies in particular, are now being used to precisely monitor the condition of distribution networks. It is possible, for example, to send a tiny ball equipped with sensors through the pipe systems to find leaks. Small robots or vehicles equipped with sensors and cameras are also used in pipes with larger diameters, usually close to wastewater treatment plants. Some

companies are even using artificial intelligence to try to predict where future leaks might occur.

What about emerging markets?

Emerging markets are also growth drivers, including for Western companies. China, for example, has invested massively in its infrastructure in recent years. Construction work is usually handled by Chinese firms, but high value-added services such as analysis and monitoring very often go to foreign groups. ▲



DIETER KÜFFER
SENIOR PORTFOLIO MANAGER
ROBECO

Desalination: drinking seawater

Removing salt from seawater to combat water scarcity is one solution that is gaining traction. But the technologies involved have serious environmental consequences.

BY BERTRAND BEAUTÉ

It's called the blue planet for a reason... three-quarters of the Earth's surface is covered by water, hence the characteristic colour. But 97% of that water contains salt, making it undrinkable and unusable. Fresh water – the remaining 3% – is scattered unequally across the world and is mostly found in the form of ice. As a result, more than four billion people live in regions that experience a drought at least once a year. So, why not transform the planet's immense reserves of salt water into drinkable water? "Ocean water is a never-ending resource," said Miguel Angel Sanz, director of strategic development at Suez and former head of the International Desalination Association (IDA). "Desalination is a real solution for regions that need water."

The idea is not new. In ancient times, the Greek philosopher Aristotle wrote about fishermen's first attempts to desalinate water. By heating salt water at a high

temperature (more than 100°C), the fishermen created vapour which, when gathered and condensed, became drinkable (see inset on p. 47). This technique, called distillation, was still being used two millennia later when the first desalination plants were built in the 1960s. But it has one major flaw: distillation uses a very large amount of energy, which is why desalination has long been a niche market reserved for Gulf countries with lots of oil.

The discovery of reverse osmosis in the early 1970s gradually changed this trend. The technique separates water and salt by forcing water through semi-permeable membranes that allow water molecules to pass through but not salt. "The desalination industry was restricted for a long time due to the technique's energy consumption and cost. But the discovery and steady improvement of the membranes used for reverse osmosis made this method more accessible," said

Sanz. "The energy consumption required for desalination has fallen by two-thirds over 40 years."

There are more than 20,000 desalination plants around the world, which supply more than 300 million people with drinkable water

As a result, the cost has fallen significantly. Twenty years ago, the

price of desalinated water was 2 francs per cubic metre (m³). Today, it is 1 franc, but varies considerably depending on the region and therefore the energy sources used. Comparatively, Swiss tap water, which varies by town, is priced at an average of 1.60 francs per cubic metre.

Improved energy efficiency, coupled with low prices, has caused desalination to become a booming industry. From 2010 to 2020, the volume of water desalinated globally increased nearly 100%, from 60 million cubic metres per day to 115 million cubic metres. In total, there are more than 20,000 desalination

plants around the world, which supply more than 300 million people with drinkable water (see infographic on p. 46). "Not all of these plants process ocean water," said Sanz. "40% of desalination plants process brackish water, which is water that has considerably less salt than ocean water or wastewater."

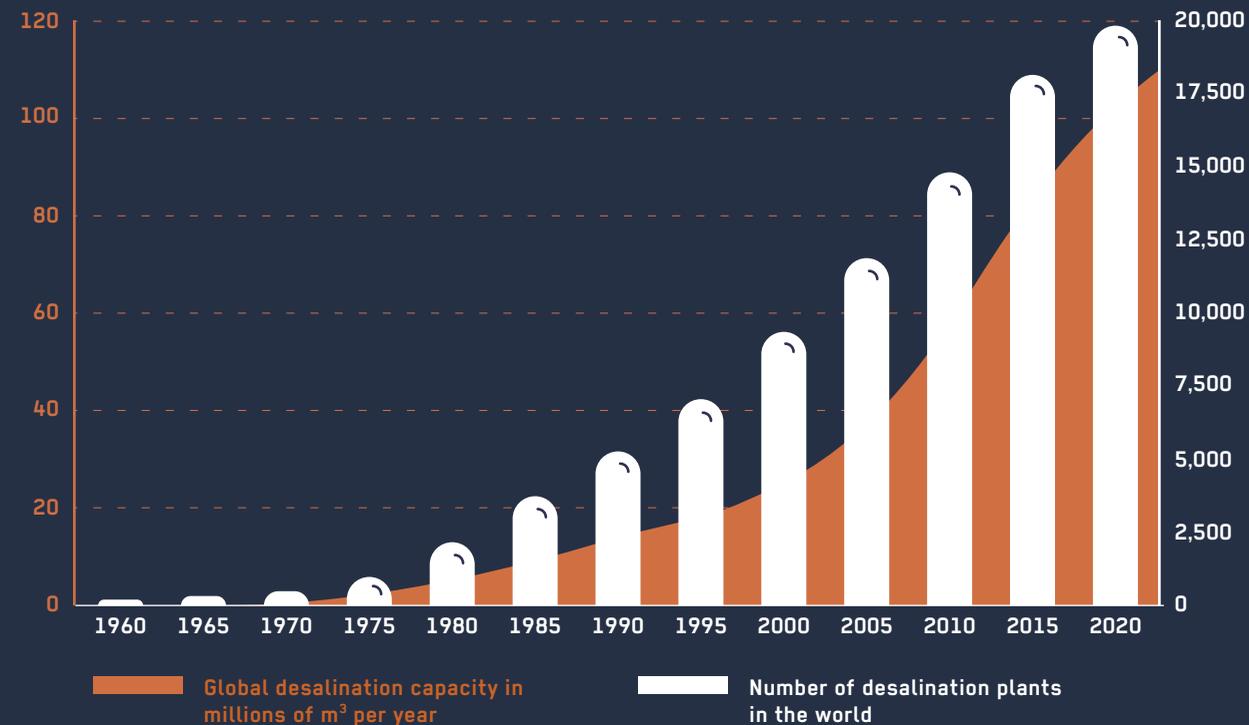
This market will continue to grow. According to the latest UN-Water report, published in March 2021, desalination will become "a solution to droughts for coastal communities around the world over the next 15 years." The market, which is currently worth nearly \$17.7 billion yearly, ▶



Reverse osmosis membrane tubes, here at the Hadera desalination plant, north of Tel Aviv, Israel.

THE DESALINATION BOOM

Almost non-existent in the 1960s, desalination plants are now capable of producing more than 100 million m³ of water per day.



Source: Science of the Total Environment

is expected to reach \$32.1 billion in 2027, according to predictions from the firm Research & Markets. Several companies, such as Veolia and Suez (France), Abengoa (Spain), IDE Technologies (Israel), and Xylem (US) share this lucrative space (see company features on p. 36 to 41).

“The desalination market has become a service market,” said Miguel Angel Sanz of Suez. “Building new plants generates \$4 to \$5 billion in revenue yearly, and use and maintenance brings in \$10 billion yearly.” In Israel, for example, nearly 70% of all drinkable water consumed is now processed using this method. This is a godsend for companies in the industry: “The membranes

used for reverse osmosis wear out quickly due to the high pressure exerted and corrosion. So they need to be changed regularly,” said Xavier Regnard, analyst for investment bank Bryan, Garnier & Co. “It is a cash cow for companies in the industry that sell and operate these plants. It’s a bit like Nespresso: once you buy the machine, you have to keep buying the capsules.”

BARCELONA AND LONDON ARE PIONEERS IN EUROPE

“Half of the world’s desalination capacity is located in the Middle East and North Africa,” said Sanz. “But demand is rising sharply in Asia with annual growth of 30%, compared to 15% in the US and 5% in Europe.” This

is because desalination is no longer used only in desert climates and remote areas. Since 2009, Barcelona has operated a plant that can produce 200,000 cubic meters of potable water per day, and London has had a similar set-up since 2010. In the United States, California and Florida are currently investing hundreds of millions of dollars to build new desalination plants.

“The Barcelona plant was designed as a backup in the event of a crisis,” said Sanz, who participated in the sale of the plant as a Suez employee. “In normal times, it is not used. But during a drought, the Spanish government can simply push a button and produce enough to supply 1.3 million Catalan residents

with water. This is why residents have called it the sixth dam.” This plant is only used sparingly, however, because the environmental cost of desalinated water is still very high, compared to water taken from rivers or groundwater tables. “Desalination technology has made progress, but these methods still use a lot of energy,” said Regnard, an analyst for investment bank Bryan, Garnier & Co. “Given the current environmental situation, I am not sure that desalination is the right answer. I would rather improve the networks and reduce water consumption.”

“Desalination technology still uses a lot of energy”

Xavier Regnard, analyst at Bryan, Garnier & Co.

Australia uses desalination plants heavily, and is taking steps to improve the environmental consequences. For all of the country’s biggest projects, the government now encourages the use of renewable energies. For example, 100% of energy needs for the reverse osmosis plant in Perth are supplied by a wind farm. The same is true in Morocco, which is currently building the largest desalination plant in Africa in Agadir, where energy will be partially supplied by wind turbines.

At the same time, researchers are trying to improve the energy efficiency of desalination plants. Inspired by aquaporins – pores present on the surface of human cells that only let water pass through – an international team was able to reduce the energy needed

for desalination by 12%, according to a paper published in *Nature Nanotechnology* in November 2020. “We are working with several large companies that use our membranes in their plants,” said chemist Mihail Barboiu, member of the European Institute of Membranes in Montpellier, which coordinated the research. “But industrialisation takes time.”

“In the next 10 years, energy consumption will decrease by 10% to 15% due to innovations such as new, more effective membranes,” said Miguel Angel Sanz. “But the most significant impact is the increased size of each plant. The bigger the plant, the more energy it saves, due to economies of scale.”

But energy supply isn’t the only pitfall for desalination. In a study published in the journal *Science of the Total Environment* in 2019, researchers sounded alarm bells about the massive disposal of brine, a substance filled with salt and chemical products that is produced during desalination. Producing one litre of drinkable water results in one litre of brine discharged into the ocean. The researchers believe that this leads to elevated salt levels in oceans, making it difficult or even impossible for marine ecosystems to sustain flora and fauna. Sanz disagrees: “In countries that have used desalination for a long time, we haven’t seen any impact.” After four years of studies, the Australian government also stated that desalination did not have a significant impact on marine life. This conclusion is still being disputed by scientists, as many other studies have shown that some species are becoming endangered in places where brine is being discharged.

Furthermore, while 174 countries currently use desalination to meet their water demands, the technique is still primarily used by rich countries, with less than 0.1%

THE THREE DESALINATION METHODS

Approximately 1% of drinkable water consumed around the world comes from desalinating ocean water or brackish water. Three technologies are used to do this.

Thermal distillation

This is the oldest and simplest method. Ocean water is collected, filtered to remove impurities, and then heated at 120°C until evaporation. The vapour is then cooled in a condensation tank where it becomes consumable liquid water.

Reverse osmosis

Salt water is filtered and then pushed under high pressure (50–80 bars) through semi-permeable polyamide membranes. These membranes trap salt molecules and only let water molecules pass through. Reverse osmosis currently makes up 90% of the desalination market.

Electrodialysis

Salt water passes through membranes which retain salt via an electric field. The advantage of this technique is that it doesn’t use a lot of energy, but it can only be used for water with low salt content. As a result, it is not widely used.

of plants located in low-income countries. Sub-Saharan African countries experience droughts often, but desalination technologies are quite rare. In 2015, Ghana was the first West African country to open a plant in Accra. It was built by Spanish company Abengoa and can produce 60,000 cubic metres of water per day. Senegal also built a plant in Dakar with a capacity of 50,000 cubic metres per day, which is expected to open in 2021. ▲

Bottled water is under pressure

The war on plastic bottles is challenging the bottled water industry in many countries and brands are being forced to innovate to avoid public criticism.

BY BERTRAND BEAUTÉ

“We don’t include bottled water brands in our ETFs, because this industry isn’t sustainable from an environmental perspective and is therefore being targeted by governments.” Antonio Celeste, an ESG (environmental, social, governance) investment specialist at Lyxor, says that the Achilles heel of the bottled water market is the plastic containers, which generate enormous quantities of CO².

The stakes are high: 500 million plastic bottles are consumed around the world every day – 100 billion of which contain water. While 80% of PET bottles are collected and recycled in Switzerland, this percentage drops to less than 10% globally, according to a report by Euromonitor International. The majority of plastic bottles end up in oceans, landfills and incinerators. It’s an environmental disaster.

“The bottled water market will always exist, because it meets a need in places where there is no access to drinkable water or in cities where tap water tastes bad,” says Julie Saussier-Clément, stock analyst at Credit Suisse. “But at the same time, consumers are very much aware of what happens to plastic bottles.”

“The premium brands do sell better”

Julie Saussier-Clément,
analyst at Credit Suisse

As a result, the consumption of bottled water has stabilised and

even started to decrease in Western countries. In Switzerland, for example, it went from 115 litres per year and per person in 2017 to 108 litres in 2019. This drop has had an effect on revenue for industry giants. Nestlé water products, for example, have seen reduced revenue year-on-year for the past three years, going from 7.45 billion Swiss francs in 2017 to 7.39 billion in 2019 (and as low as 6.4 billion in 2020 due to the pandemic).

To maintain their sales in mature markets, companies have been flaunting their environmental efforts in order to regain consumer confidence. As of September, the brand Evian – certified carbon neutral in 2020 – now uses bottles made from 100% recycled PET (rPET) in Switzerland, France, Germany, Belgium and the UK. Danone’s

water brand plans to do the same globally by 2025. “The use of rPET will reduce CO² emissions by about 50% compared to virgin PET,” says Frédéric Haas, country manager for Danone Waters Switzerland. “It is important for us to commit to a sustainable model.” Nestlé has also promised to make its water portfolio carbon neutral by 2025.

This transition, which all four industry giants (Nestlé, Danone, Coca-Cola and PepsiCo) will need to make, comes at a price: “Companies like Danone and Nestlé are increasingly taking into account ESG criteria,

particularly in regards to packaging, which puts pressure on their margins,” says Saussier-Clément.

As a result, lower-end brands are feeling the strain. In February 2021, Nestlé announced the sale of its bottled water business in North America, which comprised lesser-known brands. But the \$4.3 billion spent by the buyers (the funds One Rock Capital Partners and Metropoulos & Co) was less than the \$5 billion estimated by analysts. This price difference “reflects the rapid decline in the prospects for mass market bottled water in mature markets,”

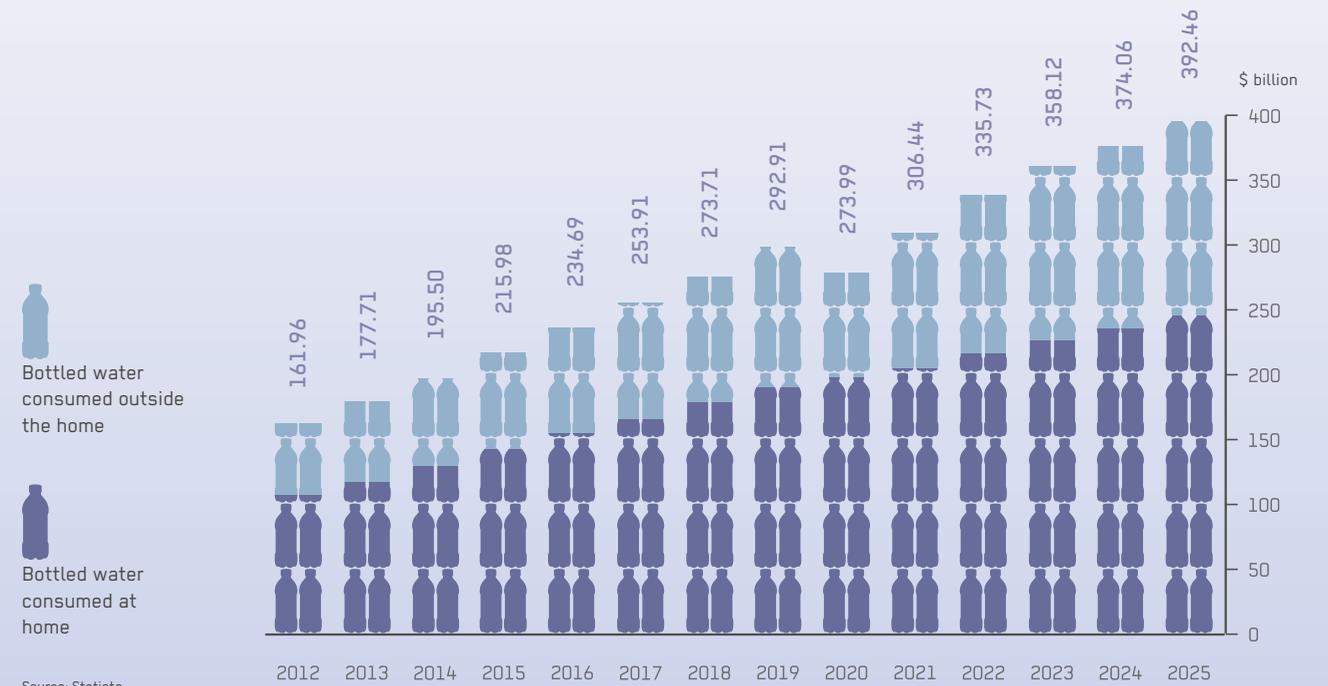
according to analysts from UBS as quoted in the newspaper *Le Figaro*.

The Vevey-based group retained its flagship brands in its portfolio, including Perrier, San Pellegrino and Acqua Panna. “The premium brands do sell better,” says Saussier-Clément. “They can be consumed in restaurants at higher margins.” Provided restaurants remain open, that is. In 2020, Danone recorded a 16.8% loss in water sales and Nestlé was down 13.4%, due to pandemic restrictions that kept consumers from eating and drinking outside the home. ▲

GROWTH MAINTAINED GLOBALLY

While bottled water consumption is stagnant in mature markets, it is still growing steadily globally, driven by emerging markets in which lack of access to clean drinking water results in higher bottled water sales. The global bottled water market is expected to grow by an average of 6% to 8% in value year-on-year,

from \$275 billion in 2020 to more than \$390 billion in 2025. This will primarily benefit local companies such as Nongfu Spring, the leader in the Chinese market. Comparatively, Nestlé’s water division generates less than 10% of its revenue in the AOA region, which includes Asia, Oceania, Japan and Sub-Saharan Africa.



“By putting a price on water, we give it value”

Is betting on the value of water on the stock market ethical and wise? Mike Young, the man behind the concept, explains.

BY JULIE ZAUGG

Australia was a pioneer in introducing a water trading scheme more than 30 years ago. The system is now being emulated elsewhere in the world, including California. In December 2020, the state launched a water futures contract that allows investors to trade on the value of the resource on the Chicago Mercantile Exchange (CME). Interview with Mike Young, one of the founding fathers of the Australian water trading system.

THE WATER MASTER

Mike Young holds a Research Chair in Energy, Water and Environmental Policy at the University of Adelaide in Australia. He contributed to developing a market-based approach to managing water in the country's southeastern region, featuring a set of proposals for the system architecture. He has also worked as an advisor to several states in the United States, including California, and the United Kingdom. In addition to developing a system to introduce quotas and a carbon emissions market in Australia, he has focused on measures to conserve biodiversity and reduce kangaroo overpopulation. Before joining the University of Adelaide, Mike Young worked for 30 years with the government-based organisation Commonwealth Scientific and Industrial Research Organisation.

When did Australia introduce its water market?

The idea first came up in the late 1980s, when we realised that we had reached the limits of what we could extract from the Murray River, a river that runs through the southeastern region of the country. We introduced quotas, along with the option to sell them, either temporarily or permanently, to the highest bidder. Some of the water was set aside for the cities – based on their needs – and the rest was allocated to farmers in the form of shares that could be traded on markets. The government buys any surplus water to maintain natural biotopes. In 1994, the system was formally launched and then extended to the entire country in 2004.

How has this impacted water shortages that regularly plague the country?

The water market helps local communities to allocate the resource in the most efficient way. In periods of drought, farmers struggling to grow crops or make a profit will choose to give up their water and sell it to another farmer who can use it more efficiently. This means that certain unprofitable, water-intensive crops, such as rice and cotton, are supplanted with higher value crops like fruit trees (avocado, orange, grapevines). In Kerang, Victoria, an over-cultivated region that had problems with soil salinity, many farmers began selling their water to grape growers elsewhere in the state.

What has the impact been on water prices?

The shares allocated to farmers tend to increase in value over time. In the Murray River region, their price rose fourfold in the decade following their introduction. But the increase is less about the system itself than about global warming, which increases the need for water while decreasing its supply. These conditions are merely reflected in the price that the market determines for this precious resource.

Is this “commodification” of what should be a public good the right direction?

By putting a price on water, we give it value. We stop wasting it, and stealing it becomes a crime, punishable in the same way as burglary. I don't think it's the worst way to manage a scarce, vital resource. And when people have to start paying for water, they become very inventive. In Australia, sophisticated new forms of irrigation have been developed, such as drip systems, or the use of sensors to measure exact soil moisture levels.

But how do we ensure that everyone has access to the water they need, a right guaranteed by the UN?

If a farmer cannot afford to buy the water he needs, it means his business model is not profitable and bankruptcy is inevitable. The water market allows only viable farms to remain in business and weeds out the rest. As for city residents struggling to pay their water bill, this is a poverty issue that should be addressed with social benefits, not by offering free water.

“When people have to start paying for water, they become very inventive”

Is there not a risk of encouraging monoculture, especially for particularly profitable species such as almond trees?

Monoculture is probably the best use of water in some regions. Elsewhere, nothing is stopping the government from introducing safeguards to pre-

serve biodiversity. But again, this is not a problem that will be solved by allowing everyone to use water, without paying for it and without limits.

Water trading has also led to the emergence of financial intermediaries and investors who see these markets purely as a tool for speculation...

Shares trading on the water market are very valuable, which has attracted institutional investors. Some farmers have also started storing water in good years and selling it in the next drought at a higher price. But there is no large-scale manipulation of these markets. This was recently shown in an investigation initiated by the Australian consumer protection agency. Overall, markets seem to be better than governments at allocating water in the most efficient way.

Is the Australian model being duplicated elsewhere in the world?

Trials are under way in Nevada, California, Chile and the Canary Islands. But Australia is the only country where the entire water management mechanism was overhauled to create a sophisticated water market. Elsewhere, trading rules have simply been layered on top of the existing water allocation system.

Is this economic model applicable in non-drought areas such as Western Europe?

Yes, and it's actually preferable. It is better to take action before water shortages occur, in the hope of avoiding them. With global warming, no country is immune to drought. When we intervene to repair a system that is already broken – like in California's Central Valley, where farmers have pumped so much water that the land is sinking and houses have collapsed – the challenge becomes much greater. ▲

Water wars

Worsened by global warming, urbanisation and runaway population growth, water shortages are escalating tensions around the globe.

BY BERTRAND BEAUTÉ

Summer of 2020: on Egyptian television, fighter jets gleam proudly on the tarmac. The commentator says they are just an order away from blowing up Ethiopia. The source of the dispute? A 175-metre high and 1,800-metre long concrete wall that cuts the Blue Nile in two, otherwise known as the Grand Ethiopian Renaissance Dam (GERD), on which Ethiopia had begun construction 10 years earlier. Once complete, the mega-structure will pack installed capacity of 6,000 megawatts, three times more than the mighty Grande Dixence Dam in the canton of Valais. But in the land of the Pharaohs, the GERD is causing concern because it could deprive Cairo of the vital waters of the Nile.

Nearly 90% of Egypt's water comes from the famous 6,700-kilometre long river. In other words, if Ethiopia closes the floodgates, 100 million Egyptians could face a dire shortage. "No one can take a drop from Egypt's water, and if it happens

there will be inconceivable instability in the region," said Egyptian President Abdel Fattah al-Sisi on 30 March 2021, before warning,

"No one can take a drop from Egypt's water, and if it happens there will be inconceivable instability in the region"

Abdel Fattah al-Sisi, Egyptian president

"Whoever wants to try it, let him try. No one imagines that it will be far from our capabilities." This threat is not the first. Back in 2013, President al-Sisi threatened Ethiopia with air strikes in an attempt to halt construction of the dam.

Could blue gold be taking the place of black gold in armed conflicts between nations? The outlook is so bleak that the concept of a "water war" has been introduced since the beginning of the millennium as a major risk for future generations. And this is hardly surprising. The latest United Nations World Water Development Report published in March 2021 estimates that four billion people already live in regions that experience severe water shortages at least

once a year. This figure is expected to reach 5.7 billion people by 2050 due to population growth compounded with the consequences of climate change (drought, pollution).

Aggravating the situation are the globe's 250 transboundary river basins, like the Nile, which flows through 10 countries. When an upstream country builds a dam or pumps more water from the river, all the downstream states suffer

the consequences. For example, China, India and Bangladesh are currently contesting the distribution of the Brahmaputra River.

"Tensions over water are high in several regions in the world, such as Southeast Asia," says Professor Frédéric Lasserre, a specialist in water geopolitics at Laval University in Quebec. "However, the likelihood of a water war between nations seems unlikely in the short

or medium term. War rhetoric does not mean they will take action, and I can't see Egypt invading Ethiopia, for example, or another country stealing water from its neighbour."

David Blanchon, an expert in water politics with the International Research Lab iGLOBES in Tucson, Arizona agrees. "A war has never been fought between two nations solely over water resources," says the author of *Géopolitique* ▶

WATER

SWISSQUOTE MAY 2021

WATER

SWISSQUOTE MAY 2021

The construction site of Ethiopia's Renaissance Grand Dam in northwest Ethiopia, pictured on 25 November, 2017. The dam is currently under construction on the Blue Nile and will become Africa's largest dam.

KEYSTONE

de l'eau (Geopolitics of water). “The past may not predict the future, but I remain quite optimistic that a water war between countries is unlikely to happen.”

Experts are confident for several reasons. “The first reason is that we have technical solutions, such as better resource management, desalination and wastewater recycling, which can help solve water-related issues,” David Blanchon says. “And these solutions are more affordable than a war.” For instance, Israel has alleviated its dependence on Syria and Jordan for its water supply by building desalination plants. And despite being located in desert regions, Gulf States have averted water issues thanks to desalination.

“Global warming is likely to exacerbate tensions around water”

Frédéric Lasserre, professor at Laval University in Quebec

The second reason, “Tensions over water management more often lead to cooperation agreements between governments than to armed conflicts,” says Christian Bréthaut, assistant professor of water governance with the Institute for Environmental Sciences at the University of Geneva. While Egypt still threatens to bomb Ethiopia, the country continues to negotiate, trying to get Addis Ababa to guarantee minimum flows in the event of drought. President al-Sisi expressed his hopes in March 2021 that the negotiations set to take place in the weeks ahead would enable the nations to reach a binding legal agreement. Similarly, around the world, many river basins are thus controlled through cross-border

THE RHONE, A SOURCE OF TENSION BETWEEN BERN AND PARIS

From the point of view of Switzerland, water wars seem a long way off. Yet, tensions also exist closer to home. Many still remember a famous incident from 2011. Amid a severe drought, Geneva decided to reduce the flow of the Rhone at the Seujet dam, located within the city, to maintain the level of Lake Geneva. As a result, Bugey Nuclear Power Plant, located about 30 kilometres from Lyon, was forced to reduce its power output because it lacked adequate water for its cooling system. “This unilateral decision by authorities in Geneva put France on the spot. This event triggered tensions between Bern and Paris,” says Christian Bréthaut, assistant professor of water governance at the Institute of Environmental Sciences of the University of Geneva.

agreements, flow planning and information exchange aimed at a fair distribution of water resources.

CIVIL WARS

However, these agreements between nations do not always prevent the situation from escalating locally in many countries. “Global warming is likely to exacerbate tensions around water, particularly in regions where drought periods will last longer,” says Frédéric Lasserre of Laval University. “In some countries, this could lead to internal conflicts or even civil wars.” The United Nations World Water Development Report published in 2019 showed that water-related incidents are already on the rise. Between 2010 and 2018, there were 263 such conflicts registered worldwide, up from only 94 between 2000 and 2009.

In 2016, deadly riots in India were sparked by disputes between two neighbouring states – Karnataka and Tamil Nadu – over the waters of the Kaveri River, which flows in both regions. More recently in May 2020, the situation became violent in Cap

To prevent this type of incident from happening again, France and Switzerland launched the GouvRhône project in 2012, to improve coordination between the two countries. In October 2020, the Swiss Federal Council finally agreed to launch negotiations with France on the thorny issue of managing the flow of the Rhone. The situation could become more critical as tensions between the two countries rise due to global warming. Released in March 2021 by the Federal Office for the Environment (OFEV), the findings of the Hydro-CH2018 research project estimate that by the end of the century Swiss rivers will have an average of 30% more water in winter and 40% less in summer.

Skirring, a seaside resort in southern Senegal, when rioters attacked the police because of a lack of drinking water. And during the shortage in Cape Town in 2018, several protests erupted against the government.

But in these cases, water is often just another factor that aggravates pre-existing social tensions. “In South Africa, for example, the rich use a lot of water to fill swimming pools, while the poorest have nothing to drink. This gross inequality was a source of serious tension during the drought,” Lasserre says. “And in India, the government heightened tensions for electoral purposes.”

“Water supply is not a question of water availability, but rather the lack of investment in infrastructure,” David Blanchon concludes. “The crisis is not about water, but water management.” As a result, nearly 1.6 billion people in the world are experiencing an “economic” water shortage, meaning that they live in an area where water is physically available, but not accessible due to a lack of infrastructure. ▲

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“We want to remain the world leader”

Christoph Franz, chairman of the Roche Board of Directors, analyses the challenges of diagnostics and personalised healthcare, which have become an essential focus of the Swiss pharmaceutical group.

BY PHILIPPE D. MONNIER

FROM TRANSPORT TO PHARMACEUTICALS

Christoph Franz's background did not suggest that he was predestined to become chairman of the Roche Group in 2014. This Frankfurt native, who holds a doctorate in economics from Technical University of Darmstadt, spent most of his pre-Roche career in the transport sector. Of note, he was CEO of Swiss International Air Lines (2004–2009) and CEO of Deutsche Lufthansa (2011–2014). But it was undoubtedly his ability to bring an outside perspective that attracted the main shareholders of the pharmaceutical group based in Switzerland's Rhine region. Christoph Franz is also co-author of a book entitled *Die Digitale Pille* (The Digital Pill), recently published by Campus.

Roche is sending a clear message. The Swiss pharmaceutical group believes that diagnostics are an essential tool, especially to accelerate the development of personalised healthcare. The current pandemic has only strengthened that belief. Since the beginning of the health crisis, Roche has launched no fewer than 19 diagnostic solutions for COVID-19. In fact, Roche is expanding in the industry, announcing that it would acquire the US company GenMark Diagnostics in March 2021 for \$1.8 billion. In this current state of affairs, Christoph Franz, chairman of the Roche Board of Directors, met with *Swissquote Magazine* for an interview at the company's headquarters in Basel.

Personalised healthcare is booming. But COVID vaccines are not personalised... Can we expect a second generation of personalised COVID vaccines to enhance efficacy?

I don't think so. As the new messenger RNA technologies achieve 95% efficacy, we are already pushing the limits of what is possible. However, we need to understand, for example, why some people do not secrete antibodies despite vaccination. That's the route we are going down by developing various COVID-related diagnostic tools (see inset on p. 58).

It's also worth noting that COVID vaccines were brought to market in less than a year, whereas this ▶

process normally takes at least five years. It is a true scientific miracle. And I can speak about it freely because these vaccines were not developed by Roche.

In what direction is personalised healthcare going?

Personalised healthcare will eventually offer many more possibilities and more precision in personalisation. This branch of healthcare is developing fast. That's why our strategy is to remain the world leader in in vitro diagnostics.

Personalised healthcare not only improves the quality of treatment but also minimises drug waste and helps us better design clinical trials. I believe that in the future every drug should be developed with a companion diagnostic if possible.

Can you provide a concrete example?

Currently, only one in two cancer patients benefits from their treatment. For the others, the therapy has, at best, no effect on the disease, and at worst, serious side effects. Of course, the doctor eventually realises after a few weeks or months if the treatment is ineffective, and will then suggest another treatment. But unfortu-

nately in the meantime, the cancer will have grown and perhaps even metastasised. So doctors need to know in advance whether a patient will respond to a treatment or not.

“Currently, only one in two cancer patients benefits from their treatment”

At Roche, we have developed predictive diagnostics to identify patients who are most likely to respond positively to specific treatments. One example is the test for PD-L1, which was approved in 2019 by the US Food and Drug Administration (FDA). This biopsy-based test can identify certain patients with breast cancer who have a high probability of responding favourably to immunotherapy.

Are you also developing companion diagnostics for your competitors' drugs?

Absolutely. And that's the case right from the early stages of development of new drugs. It goes with-

out saying that we never disclose internally the confidential information we receive from our competitors. We make sure our different divisions are clearly siloed for this type of project. We've never had a problem, and that's why other pharmaceutical companies regularly work with our diagnostic teams.

What are the new skills that personalised healthcare needs today?

Expertise in digital solutions, because we have to analyse massive amounts of data. Artificial intelligence and computers with increased computing power are also key factors driving personalised healthcare.

“Artificial intelligence is a key factor driving personalised healthcare”

Which companies are at the forefront in this field?

There are three to four specialised start-ups, including the New York-based firm Flatiron Health, which we acquired in 2018 and develops solutions for cancer research. Its teams can aggregate and leverage an impressive amount of high-quality real-world data derived from electronic cancer patient records. This data is not only used by Roche but also by other pharmaceutical companies and cancer specialists.

These start-ups such as Flatiron Health are probably highly profitable...

Not really, because they are still very small and developing fast.

They are gaining experience and investing heavily. But for now, they're not yet in the black.

Where do you recruit your digital technology specialists?

From universities in Europe, including Switzerland, and more specifically from computer science and artificial intelligence departments. We also recruit from universities outside Europe and from high-tech firms. Fortunately, our company is capable of attracting first-rate talent. These people are in high demand, but they definitely appreciate the fact that working for Roche means having a meaningful impact on patients' lives. That's arguably more rewarding than trying to increase the effectiveness of targeted ads on Google.

“Due to the pandemic, 2020 was a year like no other, and this generated strong revenue growth in our diagnostics division”

Last year, your diagnostics division grew significantly. But its profitability is usually lower than that of your pharma division.

Due to the pandemic, 2020 was a year like no other, and this indeed generated strong revenue growth in our diagnostics division (ed. note: see also the inset opposite). I think it also underscored the importance of diagnostics well beyond COVID-19. More generally, our two divisions have very different business models. Our diagnostics division is relatively stable and therefore has comparatively low profitability. In contrast,

A FEW PERILS IN THE MEDIUM TERM

By Ludovic Chappex

Roche's sales slipped 5% in 2020 to 58.3 billion Swiss francs, mainly because of the strong Swiss franc, but also due to the pandemic. The rise in total sales in the diagnostics division (up 14%), thanks to the many COVID-19 tests (see also inset on p. 58), was not enough to offset the drop in the pharmaceuticals division (down 2%) and in non-COVID tests. Due to the global health context, people are going on fewer medical visits, which means fewer prescriptions, not to mention many operations and in-hospital diagnostics being postponed. This puts the Swiss group

in a tough spot. “Roche's revenue depends quite heavily on hospital treatment,” says Lorenzo Biasio of Credit Suisse. “That means it feels the effects of the current situation more than other pharmaceutical groups.” In the medium term, the new US administration's plan to lower drug prices is also cause for concern, the analyst says, but nevertheless believes in the Swiss group's long-term strength. “Roche has very interesting products in its pipeline. And it pays a high dividend.” Credit Suisse recommends holding the share, with a price target of 350 Swiss francs.

the risks we take in our pharma division – in the research and development of new drugs – are high. And that justifies the higher profitability.

Given the different business models for your two divisions, are you planning to spin off your diagnostics division?

That is definitely not on the cards. On the contrary, the divisions mutually benefit from each other. And if in the future the concept of personalised healthcare develops as we think it will, with companion diagnostics closely linked to drugs, the synergies between the pharma and diagnostics divisions will become even clearer.

In that case, are you thinking of outsourcing the production of your diagnostic kits to boost profits?

No. Retaining the ability to produce high-quality tests on a very large scale is vital. And that's difficult for small companies to do. That being said, we collaborate a lot and in different ways with biotech start-ups because we don't have a monopoly

on good ideas. Plus, we try to avoid the “not invented here syndrome”.

The reliability of clinical data is crucial, especially in the context of personalised healthcare. Are you sure of the quality of the data you use, including data from emerging countries?

As far as the clinical data we use is concerned, I am absolutely sure of its quality, regardless of its geographical origin. To ensure data quality, we only work with a small number of pre-selected clinical study centres. For each new drug, we use only a few dozen highly qualified centres. In fact, to increase the ethnic representation of our medicines, we are trying to work with more centres in developing countries, including in Africa. ▲

CORONAVIRUS: ROCHE'S ARSENAL

The Basel-based group is not sitting idle when it comes to battling the pandemic. At the beginning of 2020, it began selling molecular diagnostic tests (RT-PCR) to detect the presence of the virus in nasopharyngeal swabs, along with antibody detection tests to monitor the immune response of a patient infected with SARS-CoV-2. The range of products expanded further in March of this year with the launch of tests that can recognise the British, Brazilian and South African variants of the virus, as well as the original strain. In addition to diagnostic kits, Roche is developing drugs to fight COVID-19. Four compounds are currently in its portfolio, including REGN-COV2, a cocktail of artificial antibodies that received emergency approval in the United States in November 2020.

SWISS START-UPS IN THIS EDITION

BY GRÉGOIRE NICOLET



WINGTRA

THE CARTOGRAPHER'S DRONE

Wingtra was ranked second of the top Swiss start-ups in 2020 by Venturelab. The Zurich-based start-up produces the WingtraOne drone, a vertical take-off and landing (VTOL) flying wing powered by two propellers and designed for large-scale surveys. Wingtra is the world's first producer of professional VTOL drones for mapping, surveying and mining applications.

The drone was launched to market in 2017, and Wingtra has already sold over 1,000 units at a minimum price of CHF 20,000 apiece. With 60 distributors and customers across all continents except for Antarctica, the start-up has set its sights high. "The WingtraOne will completely replace planes on large-scale mapping missions in the very near future," says CEO and founder Maximilian Boosfeld.



Number of employees
60+

Founded
2016

EYEWARE

THE COMPANY THAT LOOKS YOU IN THE EYE



Eye tracking is not revolutionary technology in itself, but the Swiss start-up Eyeware has developed a unique way of doing it. Its software interprets the human gaze using regular 3D camera technology, while competitors' solutions require additional components. Eyeware's original aim was to help people with reduced mobility to control a computer remotely without a keyboard or mouse. But with more people using 3D cameras, the range of potential applications has expanded considerably in the past few years, which enabled the company to raise \$2 million in 2019, three years after it was founded.

Based in Martigny, the start-up's marketing is currently directed at three markets: medical research, shopper behaviour in stores, and training simulators (e.g. flight simulators). Its customers include the Austrian company AMS, listed in Switzerland and specialised in sensors and detection solutions. At the end of 2020, AMS integrated Eyeware's technology into a driver monitoring system, for example to detect and even prevent drowsiness.

Number of employees
18

Founded
2016

LATTICEFLOW

ARTIFICIAL INTELLIGENCE FOR SWISS RAILWAYS



LatticeFlow is the first start-up to come from the artificial intelligence research centre at EPFZ (École polytechnique fédérale de Zurich). Its target is to improve the efficiency of AI in very concrete applications. For example, the Zurich-based company helps optimise quality control for Switzerland's rail network. "Our solution is used to build AI models that accurately identify defects in different environmental conditions," says Petar Tsankov, CEO and founder of LatticeFlow.

Its AI robustness verifier won first prize at VNN-COMP 2020, the International Verification of Neural Networks Competition, outshining teams from MIT and Oxford. The start-up raised \$2.8 million from Global Founders Capital and btov, venture capital funds that have previously supported companies such as DeepL, Zalando and Slack. "We are using this funding to hire more engineers and deploy our solution at our customer sites," says Peter Tsankov. "We will then launch a bigger financing round to develop our marketing and move some operations to the United States and Asia."

Number of employees
11

Founded
2020

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ETF for US small-cap stocks with superior ESG rating

In June 2020, Credit Suisse Asset Management launched the CSIF (IE) MSCI USA Small-Cap ESG Leaders Blue UCITS ETF (SIX Swiss Exchange ticker: USSMC SW), an ETF that invests in US stocks with a market capitalization below USD 10 bn. The fund is one of several Credit Suisse Asset Management ESG-focused ETFs listed on SIX Swiss Exchange, and it can be traded on Swissquote at a flat fee of CHF 9. It is also the first ETF in Europe to apply ESG criteria to a broadly diversified US small-cap index.

In recent months, US small-cap stocks have posted impressive numbers. Setting aside the speculation-fueled mayhem surrounding GameStop and AMC, the stellar performance of US small caps comes down to two factors: an exceptionally expansive government fiscal policy and a gradual but strong post-pandemic recovery fueled by pent-up demand.

Although US small caps represent only about 15% of the total US stock market capitalization, incorporating ESG considerations is particularly important when investing in companies from this segment. Whereas large caps can devote resources to ESG reporting, the ESG performance of small caps is tricky to assess because of the lower transparency that results from resource constraints.

The CSIF (IE) MSCI USA Small-Cap ESG Leaders Blue UCITS ETF applies the ESG Leaders methodology to US small caps. Construction of the index

involves two phases: first, the exclusion of companies linked to controversial business activities or practices; second, selection of the best stocks per GICS sector according to their ESG profile.

The sustainability features of Credit Suisse ETFs go beyond portfolio construction: all ETFs follow a physical replication scheme, and the word "Blue" in their name indicates that securities lending is not allowed, thereby avoiding the related counterparty risk.

With total assets of roughly USD 300 mn, the CSIF (IE) MSCI USA Small-Cap ESG Leaders Blue UCITS ETF is large enough to track its benchmark with high precision. Its ongoing charges are 20 basis points p.a. The ETF is listed on the SIX Swiss Exchange (ticker: USSMC SW) and can be traded at a flat fee of just CHF 9 per ticket via Swissquote.



Source Credit Suisse elaboration MSCI data, April 2021

For more information on Credit Suisse Index Solutions, please visit: credit-suisse.com/ch/indexsolutions.

General risks of index funds: The funds do not offer capital protection. Investors may lose some or all of the capital they invest. The funds' investments are subject to market fluctuations. The funds do not significantly outperform their benchmark indices. Shares are subject to market, sector, and company-specific risks that may result in price fluctuations.

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Organic products are moving into the world of cosmetics

Organic beauty and personal care lines are popular with consumers who want more natural products. Many firms are crossing into this market, but the path is laden with technical and logistics challenges.

BY JULIE ZAUGG



Extra virgin olive oil from Provence. Coconut oil from Samoa. Organic green apple peel. These ingredients are not used to make yoghurt or organic soup, but in cosmetics from brands such as La Provençale by L'Oréal, The Body Shop and Juice Beauty.

"Until recently, these products were essentially sold by small organic brands," says Emily Mayer, a beauty and personal care industry specialist from the French research institute IRI. But following a spate of scandals caused by hazardous ingredients such as parabens and aluminium salts in deodorants, demand has skyrocketed.

All the industry giants, including L'Oréal, Henkel, Unilever and Procter & Gamble, have taken the plunge. "For large retailers, the share of organic products jumped from 1% in 2017 to 4.4% in 2020," says Emily Mayer, whose research organisation regularly conducts market studies. In face care, the share has shot up by as much as 20%.

"It's now a structural shift that is permeating the entire industry," says Leïla Rochet, founder of the consulting firm Cosmetics Inspiration & Creation. The natural and organic goods market is expected to reach \$15.3 billion worldwide by 2026, which amounts to a growth of 7.5% per year. "While sales of traditional products are falling, especially from brands sold by large retailers, the organic segment continues to gain ground," Mayer adds.

L'Oréal was one of the first to seize the potential of this market. Its dedicated line La Provençale was created in 2018, while L'Oréal's traditional brands (Garnier, Dop, Mixa, etc.) began to include organic products in their ranges. In recent years, the group has also bought a flotilla of small organic brands, such as Sano-flore and Logocos Naturkosmetik.

In March 2020, the French personal care giant presented an ambitious sustainability plan promising that 95% of its ingredients would be derived from renewable plant sources, abundant minerals and circular processes by 2030.

Contrary to popular belief, organic products are not always the most highly recommended for our health

But for now, despite fast-growing demand for natural and ethical products, organic cosmetics only represent a fraction of the market. Where does this relative sluggishness come from, especially considering that organic foods have established a solid footing in supermarkets over the past 10 years? The list of reasons is long...

"Manufacturing organic cosmetics is not so easy. It involves replacing many artificial substances, such as those contributing to product texture or that feature specific chemical properties," Leïla Rochet explains. For example, retinol (ed. note: a form of vitamin A used to counter skin ageing) doesn't exist in a natural state.

But health restrictions do not stop there. Contrary to popular belief, organic products are not always the most highly recommended for our health. For several years, dermatologists have, for instance, cautioned

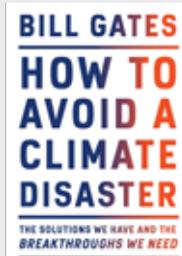
us that certain natural substances, such as lavender and tea tree oil, are allergens. "Sensitive skin does not at all like organic cosmetics," says Michelle Wong, the Australian chemist behind the beauty blog Lab Muffin. Furthermore, some natural products do not contain preservatives, which can lead to bacterial contamination.

On top of these complications is a risk of fraud. "The industry is not tightly regulated, and some products claim to be organic but only contain a single natural ingredient, and a small amount of it," Wong says. Organic labels have been developed to address that issue, including Ecocert, Cosmos and Natrue. "To obtain Cosmos certification for example, brands must prove that 95% of the natural ingredients contained in their product and 20% of the total volume are organic," the chemist says.

The last hurdle, and not a small one, is that the brand must completely overhaul its supply chain to be included in the organic segment. That means finding small local producers that work with sustainable, environmentally friendly processes. Not an easy feat. And it comes at an additional cost, explains Morningstar analyst Ivan Su. He points to the example of shea butter used in products by L'Occitane, a French organic cosmetics brand. "While most of its competitors use an industrial version that is already refined, L'Occitane sources raw shea butter from small-scale farmers in Burkina Faso, incurring high shipping and refining costs. L'Occitane ends up paying 20% to 30% more for its shea butter."

So it is not surprising that organic cosmetics are an average of 30% to 40% more expensive than their non-organic counterparts, says Emily Mayer from the IRI. But for now, consumers are willing to cover the higher cost. ▽

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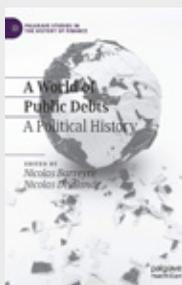


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MARKET
**ASIAN
MOMENTUM**

Now is the right time to invest in Asian equities.
Jürg Schwab, Head of Trading Department at Swissquote, explains why.

With COVID-19 vaccination campaigns well under way and many countries beginning to see an end to the crisis, Asian stocks are more popular than ever. Swissquote Bank, which has offices in Hong Kong and Singapore, has an excellent vantage point into the markets.

Why invest in Asian markets these days?

Asian exporters are expected to benefit significantly from the recovery. They currently dominate the consumer goods market, and the people that their products are designed for are going to start buying massively again soon. We're in a post-crisis period, and stimulus and recovery plans in many countries are strongly pushing towards consumption.

Asian countries are leading the way in a number of sectors. China has filed the most patents worldwide since 2019, ahead of the United States, and its lead widened further last year.

South Korea enjoys a strong position in high-tech. And Hong Kong and Singapore continue to emerge as leading financial centres.

How can Swissquote clients benefit from this trend?

Our clients can already invest directly on the Tokyo, Hong Kong, Singapore and Sydney stock exchanges from our platform. And we are actively working to develop new products and services. We will soon provide direct access to the Thai, Indonesian, Malaysian and Chinese Markets. And customers can already invest in most Chinese companies via the Hong Kong Stock Exchange, which acts as a sort of international external hub for listed Chinese companies. The largest Asian companies are also listed on the US and European markets.

Investors who do not necessarily follow Asian companies closely, or who simply want to diversify their portfolio, can invest in investment funds, ETFs or our thematic "China's Dragons" certificate.

Which markets do you recommend following?

One to watch is the Singapore Exchange, whose index fell more than other markets during the crisis. This already powerful financial centre is poised to grow even further. Japan is also making a strong comeback. Japanese shipping companies, for example, handle the transport of goods for many Asian exporters. So quite clearly, many opportunities to make a profit are out there for investors focusing on Asia. ▲



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Honda e:TECHNOLOGY



AUTO

Close encounters of the third kind

BY RAPHAËL LEUBA

With the “zero emission” version of its incredibly popular mid-size SUV, BMW is reining it in. No interplanetary voyage, but a smooth, utterly delightful experience.

Seeing the iX3 with your own eyes is like déjà vu, but with a vaguely odd, ethereal sensation. One might even imagine that a *Transformer* robot could be hiding under the familiar silhouette. Maybe it is the ghostly white body, the large two-tone rims or the splashes of that bright extra-terrestrial blue. The slim ground clearance and the more aerodynamic bumpers also pique the onlooker’s curiosity. But we cannot know what is in store for us with this high-tech clone until we get going. From the cockpit, there is no doubt that we

are inside an X3. And a well constructed one at that. But the push of the “start” button does not awaken a raging 6-cylinder or a fearsome autobot. No, this is the “all-electric” version, planned from the genesis of this third generation G01.

After the extroverted i3, no one expected a battery-powered BMW to make such a mystery out of its propulsion system. In fact, what is the point of such a big bonnet if the only engine is in the back and the 10 lithium modules are spread over

the entire length of the wheelbase? It is hard to see underneath its big plastic lid, but most likely the central charging unit and battery cooling system do not fill all the space otherwise occupied by the petrol-powered, diesel or hybrid engine blocks. But it doesn’t matter... As the Gen5 eDrive engine transmission unit fits quite compactly into the rear axle, the boot remains spacious (510 – 1,560 litres), as do the seats in the passenger space.

Striking the right balance

Apart from being free of rare metals, the iX3 is not spectacular on paper. Nowadays, with Tesla getting all the attention with its 1,100-horsepower (!) Model S Plaid, the more conventional iX3 makes do with its 286 horsepower to move its unladen 2,260 kg (three quintals more than its petrol-powered equivalent). And it doesn’t even have four-wheel drive. Practically unthinkable for an SUV! So is it a losing battle against the Mercedes EQC and Audi e-tron, which come off as more valiant? Not so fast – we can’t forget the expertise of BMW engineers, especially when it involves dynamic behaviour. Because let’s face it, the iX3 delivers a first-rate driving experience. The car may not offer extraordinary power output, but it is still lighter than the competition. It can tackle turns with amazing ease and offers top-notch driving precision, handling and filtering. All that without controlled suspension. To top it off, its omnipresent 400 Nm of torque make for velvety-smooth acceleration and reacceleration. More horsepower would not have changed much, except to eat up range more quickly and rather uselessly. In fact, according to our observations, the battery’s 74 kWh net capacity (nominal 80 kWh) can take the iX3 on motorway stretches of about 300 km in normal conditions (460 km for WLTP combined cycle). On arrival, it recharges in a jiffy as it supports up to 150 kW of charging power. A half an hour

THE COMPETITION

MERCEDES EQC 400 4MATIC

Specific electric propulsion model. 4.83-metre long SUV (iX3: 4.73 metres), two engines with a combined power of 300 kW (408 hp), 765 Nm, four-wheel drive. Combined power consumption of 26.3 kWh/100 km (iX3: 19 kWh/100 km). Acceleration from 0 to 100 km/h in 5.1 seconds, top speed 180 km/h (same as the BMW). Battery 80 kWh (nominal capacity), 2,495 kg, boot 505 litres.
CHF 84,900.-

AUDI E-TRON 55 QUATTRO

SUV (4.90 metres) or coupe, electric propulsion with three power levels, two battery capacities. Model 55 with large battery (95 kWh nominal), two driving axles, total power 300 kW (408 hp), 664 Nm. 0 to 100 km/h in 5.7 seconds, top speed of 200 km/h. Combined power consumption 26.1 kWh/100 km. Weight 2,595 kg, boot 660 litres.
CHF 91,900.-



BMW iX3

ENGINE:
SYNCHRONOUS ELECTRIC, 80 KWH LITHIUM-ION BATTERY

POWER:
210 KW (286 HP), 400 NM

RANGE (WLTP):
460 KM

ACCELERATION:
0-100 KM/H IN 6.8 SECS

PRICE:
FROM CHF 77,600.-

TRAVEL

Five amazing travel ideas in Switzerland

The health situation has forced us to rethink the art of travel, but happiness is within our grasp. Here is our selection of gems of Swiss hospitality, for some respite from the urban bustle.

BY SALOMÉ KINER



Anako Lodge My beautiful log cabin

To practise social distancing in line with today's health guidelines, isolated properties are popular. Since the spring of 2020, reservations have been pouring in at the Anako Lodge. Nestled at the bottom of the Val d'Hérens, in a corner of the Valais more safeguarded and less developed than the neighbouring valleys, the six cabins revisited by the architect Olivier Cheseaux are like gems set against the green pastures. Saved from demolition thanks to this rehabilitation project, they have been rebuilt according to the traditions of the local heritage and to environmental standards.

Plus, they still bear the names of their previous owners: Henri, Madeleine, Pierre... Same for the decorative elements, period originals or vernacular inspiration. On top of being a hotel, the Anako Lodge project and its historical wooden beams can immerse you in a journey of a bygone agricultural era: the two larch barns, the sheds and huts will delight nature lovers, people in search of a unique experience and athletes looking for new practice ground. Especially popular with cyclists who take part in the European mountain bike championship or the Raid Evolénard, they come every year to rest their legs in these little cocoons, rustic on the outside, but comfortable on the inside.

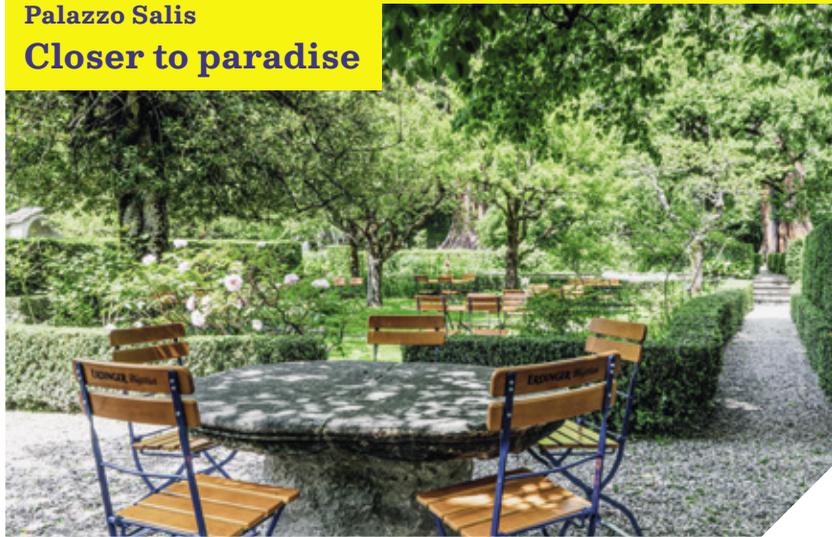
LA FORCLAZ (VS)

ANAKO.LODGE.CH

+41 (0) 75 413 50 04

FROM CHF 190.- PER NIGHT
(TWO NIGHTS MINIMUM STAY)

Palazzo Salis Closer to paradise



PALAZZO SALIS

the Palazzo Salis, a building dating from 1630. Transformed into a hotel in 1876, Palazzo Salis has received some distinguished guests, such as the writer Rainer Maria Rilke, who was fascinated by Soglio, and the sculptor Giacometti.

Today, it is mainly a destination for hikers trekking along Via Panoramica Val Bregaglia, an exceptional high altitude trail where a local chestnut delight can be enjoyed in the spectacularly enchanting baroque garden of the Palazzo Salis restaurant. For the all-out tourism-gastronomy experience, plan to go for the Chestnut Festival, which takes place every autumn. Note: six of the 14 rooms have a private bathroom.

SOGLIO (GR)
PALAZZOSALIS.CH
+41 (0) 81 822 12 08
FROM CHF 240.-PER NIGHT

Named the most beautiful village in Switzerland in 2015, Soglio is not easy to get to. But its beauty is so magnetic that tens of thousands of people climb the Passo del Maloja pass every year – a destination in and of its own – to reach this otherworldly spot so aptly named the

“gateway to paradise” by symbolist painter Giovanni Segantini. Perched on a mountain terrace at an altitude of 1,100 metres and home to 80 inhabitants, Soglio is a hamlet carved out of granite overlooking lush landscape and legendary peaks. Here stands, in the heart of the village,

Hotel Ospizio Bernina Where the athletes go



BERNINA HOSPIZ

Anyone who has ever mounted the massive stone staircase of the Ospizio Bernina will long remember their visit to Poschiavo. Here, there is no ostentatious luxury or design eccentricities. Triumphant perched 2,309 metres above sea level on the Bernina Pass, a historic road that is popular with motorcyclists and cyclists linking the Engadin region with Italy, the hotel stands out in its simplicity. No surprise, the surrounding panoramic views provide all the finery one needs. The windows in the wood-trimmed rooms overlook the Eastern Alps, where the mountains in the Bernina Range tower over the surroundings from up to 4,048 metres.

At the Ospizio Bernina, one might easily run into top athletes at breakfast who come to make the most of the air quality to fine-tune their training. You can mimic them by practising one of the many activities available

in the area: no less than three kiting and snowkiting schools, snowshoe hiking, downhill skiing or an unexpected shot of colour at Lago Bianco, literally meaning White Lake – a lake fed by glacial waters rich in silt, which explains its milky hue. A stay here also provides the opportunity to take the Bernina Express, the ultimate in remarkable high-altitude trains, classified as a UNESCO heritage site.

Linking Chur to Tirano, Italy, in just over four hours, it winds through Davos and Saint Moritz, as an unforgettable landscape unfolds before its passengers' eyes.

POSCHIAVO (GR)
BERNINA-HOSPIZ.CH
+41 (0) 81 844 03 03
FROM CHF 120.- PER NIGHT

Hôtel Beau Séjour Lucerne Lazing about at its best



BEAU SÉJOUR LUCERNE / MIRIAM HILLER

With its retro-modern style, the Beau Séjour hotel pampers its guests the old-fashioned way – a godsend in today's world where speed is king, even in travel. “True Love” is its motto, and no one dares deny it. In this Belle Époque mansion built in 1875, where some plumbing fixtures date back to 1920, the 28 rooms rival each other in charm, whimsy and comfort.

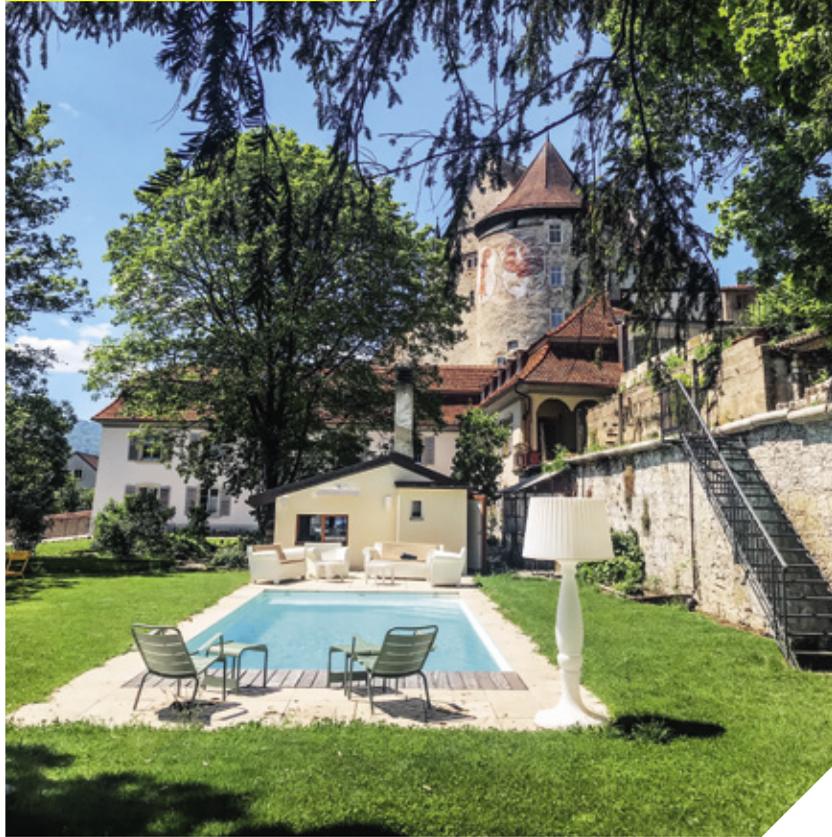
Everything lends itself to lazing about. From the cosy living room decorated with works by contemporary artists Claudia Comte and

Nina Staehli, to the chandeliers and woodwork, the delicacies ready to be savoured on the terrace, Lake Lucerne and its shimmering waters across the road, and Mount Rigi and Mount Pilatus, whose peaks dot the landscape and invite onlookers to meditate. But gorgeous Lucerne is worth a few hours away from the Beau Séjour. For example, sightseers can follow in the footsteps of great local composers from Villa Wagner along the lake's shore, or take the boat to Vitznau to admire Villa Senar, a superb Bauhaus-style house built

by Sergei Rachmaninoff while he was in exile. Once back in town, visitors can enjoy a game of bowls on Helvetiaplatz, “the little Brooklyn of Lucerne”, then sip a spritz on the terrace of a neighbourhood café and drop in to look through the artisan shops.

LUCERNE (LU)
BEAUSEJOURLUCERNE.CH
+41 (0) 41 410 16 81
FROM CHF 180.- PER NIGHT

Manoir de la Côte-Dieu A garden of Eden in Porrentruy



MANOIR DE LA CÔTE-DIEU

Meryl Boulanger was a watchmaker before opening the five-star bed and breakfast at the Manoir de la Côte-Dieu. She oversaw the renovation work, zeroing in on the smallest details: pure but warm pastel variations on bedroom walls, the lived-in patina of the period parquet flooring, quality of the bedding, hand-picked antique knick-knacks, deckchairs around the swimming pool and the floral design of the garden, her greatest pride. "Even the locals of Porrentruy can't believe it. It's a peaceful getaway, a cocoon isolated from the sounds of the city where you immediately feel as though you're on vacation, replenished."

This house, which in 1720 was home to the prince-bishops of Porrentruy, has since 2019 offered optimal comfort with five rooms that can

welcome up to 10 to 12 guests. The Manoir de La Côte-Dieu provides the ideal base and privacy for families who want to enjoy all the vitality of the region, boosted by the initiatives of Jura Tourism. What does Meryl Boulanger recommend? "The Secret Circuit! Visitors can go to the tourist office and pick up a digital key. This key gives them access to offbeat places that are part of the local heritage. And some of them also bedazzle guests with sound and light shows." Along the same lines: the Jurassica Museum, Caves of Réclère, Préhisto-Parc... The Jura is full of treasures to discover.

PORRENTUAY (JUJ)

COTE-DIEU.CH
+41 (0) 77 401 32 91
FROM CHF 175.- PER NIGHT

AND ALSO...

Hotel Bella Tola

The first guest books of this institution date back as far as 1859. As do the woodwork, parquet flooring and painted ceiling. Its antique finishings do not mean that this jewel of Alpine heritage cannot offer a comprehensive spa service.

Saint-Luc (VS)
bellatola.ch
From CHF 200.- per night

Hotel Victoria

One cannot help but think of the Downton Abbey set while wandering through the rococo luxury of this particularly well preserved Belle Epoque establishment, which has seen the entire Swiss Riviera elite pass through its doors.

Glion (VD)
From CHF 250.- per night
victoria-glion.ch

Bauhaus Hotel Monte Verita

Architecture enthusiasts will love this hotel. The edifice was built in 1927 at the request of the controversial German Baron Eduard von der Heydt, who, in the day, owned this hill rich in history.

Ascona (TI)
monteverita.org
From CHF 145.- per night

Bauhaus Hotel Monte Verita

This very high class 5-star hotel, with Art Nouveau architecture, offers a magnificent panorama of Lake Lucerne, including from the heated outdoor swimming pool. A great classic.

Ennetbürgen (NW)
villa-honegg.ch
From CHF 700.- per night

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BOUTIQUE



THAT'S A BICYCLE?

The Spanish brand Rayvolt has come out with a whimsical, unique-looking electric bike. The machine stands in a class of its own, with its sleek design resembling a retro motorcycle, fat bike tyres and 7-speed Shimano gears. It comes in three battery life capacities (10.5 Ah, 13 Ah or 16.5 Ah) and features a regenerative braking system.

From CHF 2,615.-

CONTINUOUS SUPPLY OF COOL SOCKS

With more than 200 styles in funky geometric patterns and bold colours, the Zurich-based label Francis et son Ami creates socks made from an DekoTex Standard cotton blend, interwoven with a fine elastane thread. You can buy a pair or subscribe for six or 12 months and receive a surprise or selected assortment of socks.

francisetsonami.ch
From CHF 13.90.-



THE TELESCOPE OF AESTHETES

The eVscope is a telescope designed by the French startup Unistellar, which brilliantly combines simplicity, quality, power and lightness. Its mere nine kilos and tripod mean you can take it with you on almost any adventure. With its Enhanced Vision technology that amplifies light, the device automatically identifies the stars in its field of vision within seconds, facilitating exploration of the cosmos for the neophyte, through the telescope or on a smartphone. In partnership with the SETI Institute, the eVscope sends users stargazing recommendations and invites them to share their discoveries with scientists, thus creating the first network of participatory astronomy.

kjus.com
CHF 3,750.-



CEILING PLANTS

Designer Noé Duchaufour-Lawrance has created a 2-in-1 suspended object for the Italian brand Kundalini that becomes a hanging lamp when mounted in one direction, and transforms into a planter when turned the other way around. Named Viceversa 1, the object graces the ceiling solo or in a group with its suspended canopy, which creates a vibrant vertical garden of the most exquisite taste.

From CHF 872.-
kundalini.it



24-HOUR MONITORING

Montblanc has created a smartwatch for gentlemen who want to stay healthy. With its 43 mm recycled aluminium and stainless steel case, the Summit Lite monitors its owner's physical condition. For example, it tracks the length and quality of his stages of sleep, and the body's reactions to stressors, even suggesting preventive breathing exercises.

montblanc.com
CHF 795.-

PURE AIR

Designed and manufactured in France by a startup based in the west of the country, the Teqoya air purifier eliminates 99% of ultrafine particles, viruses, bacteria, pollen, mould, odours, smoke and other pollutants present in the atmosphere. With its patented and certified ozone-free technology, the device produces negative ions and works without filters. Energy-efficient and completely silent, the Teqoya features a sleek design and comes in three sizes (living room, bedroom and car).

teqoya.ch
From CHF 260.-



THE CYCLIST'S FRIEND

Developed by the French brand Spad De Ville, the Fulap rain cape effectively protects cyclists thanks to a few clever techniques. Featuring an ultra-light weight of 300 grammes and large visor hood that turns with the head, the poncho's broad cut and elastic hem covers the legs and won't fly away. Available in four colours, the Fulap is made entirely of polyester from recycled plastic bottles.

spaddeville.com
CHF 80.-



TRIED AND TESTED

EASY MONEY WITH REDDIT

BY GÉRARD DUCLOS

Driven by rapid gains, our columnist set out to find new sources of information that should have made him very rich, very fast.

The GameStop (GME) saga stole the financial news headlines in early 2021. In just a few days, the value of a handful of US stocks sky-rocketed. The most emblematic of them was GME, which rose by a dizzying 1,700%.

It all started with an intuition held among a few individual investors on one of the most popular forums in the United States, Reddit's WallStreetBets. These companies' share prices, already struggling before the COVID-19 crisis, were artificially undervalued as large hedge funds had been massively betting against them. If investors band together to achieve critical mass and buy stocks, the share value increases automatically. This forces hedge funds to buy shares to cover their losses, in turn adding even greater upward pressure on stock values. Or, as traders call it, a short squeeze.

This all culminated in stock market panic that cost hedge funds billions and thrust into the spotlight a new generation of individual investors, represented by the brain leading the crusade, DeepFuckingValue, a.k.a. Keith Gill.

With that promise of getting rich quick, how could we not want to find out more? But instead of trying to hop on an already speeding train, why not seek out new gems that could generate 1,000% gains fast and without effort?

So, we headed to WallStreetBets, the lair of new investment oracles, where it all began. On Thursday, 25 March, after a 33% drop in GME's value the day before, most of the messages consist of screen captures showing spectacular losses celebrated by frantic users who "love the share" and vow to each other that they will never sell it, all spattered with dozens of emojis and memes of all sorts.

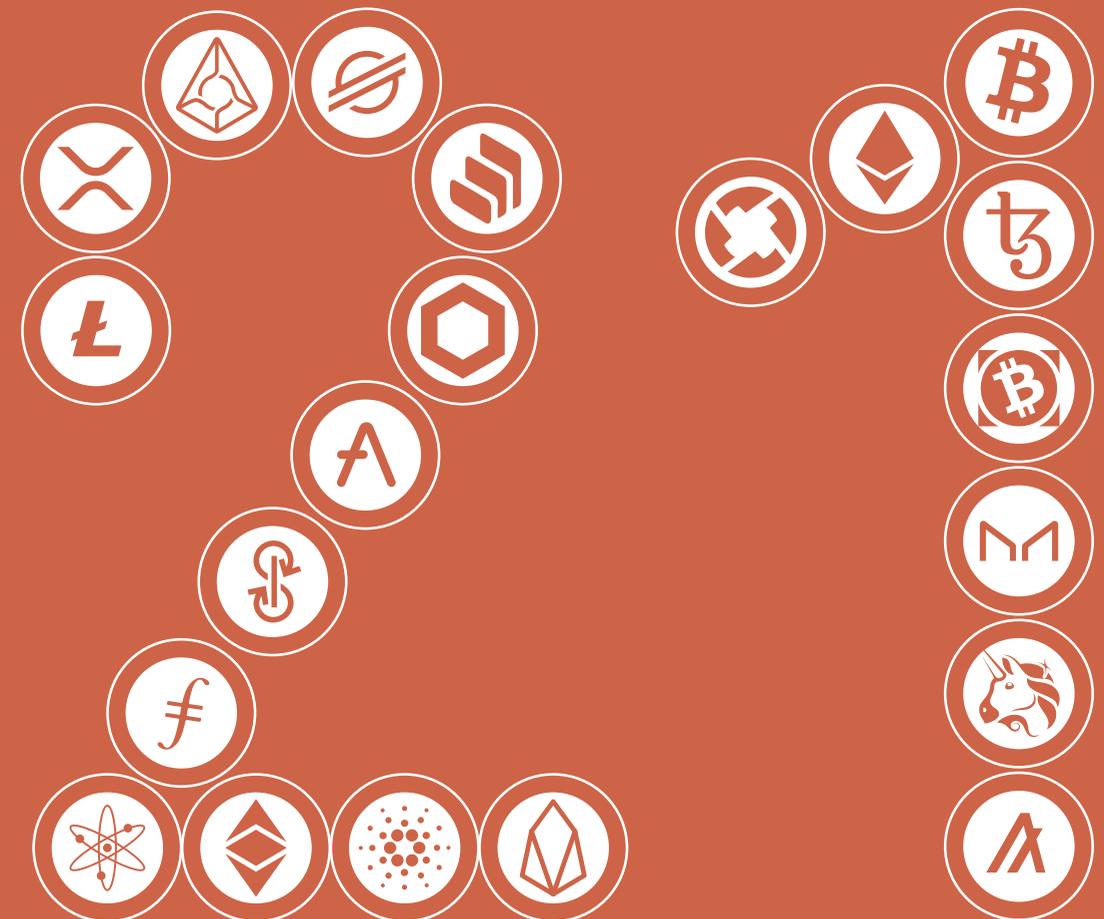
But in sifting through all that, one can unearth some original investment recommendations for obscure shares that are often extremely undervalued but whose fundamentals point to imminent bankruptcy.

This is advice that no sensible individual would follow and is more akin to bets one might make when in a state induced by unusually high blood alcohol levels. Aye, there's

the rub. If these decisions aligned with financial market consensus, everyone would be doing it, and they would not make anyone any money. But the promise of rapid, colossal gains involves reckless risk-taking, and these choices are actually often losing ones. The "Loss porn" section on WallStreetBets can attest to that. This space is where investors post about their high-risk – if not to say wildly crazy – positions getting obliterated on the market. And the unfiltered audience congratulates them, praising their immeasurable stupidity.

After this excursion into these new sources of financial information, we cannot help but notice that today, like yesterday, money grows more by patiently studying investment opportunities that are based on fundamental or technical analysis, rather than betting on and against everything. In fact, the risk taken by DeepFuckingValue was not a senseless gamble. It was based on an analysis that had been carefully studied and thought out, when he finally realised that GME was being artificially undervalued. ▾

🔗 Crypto Assets



CRYPTOS AVAILABLE!

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