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FINANCE AND TECHNOLOGY UNPACKED

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**SWISS STOCK
EXCHANGE**
Interview
with Head,
Christian Reuss

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The race for
the quantum
computer

BARRY CALLEBAUT
The chocolate
empire under
threat

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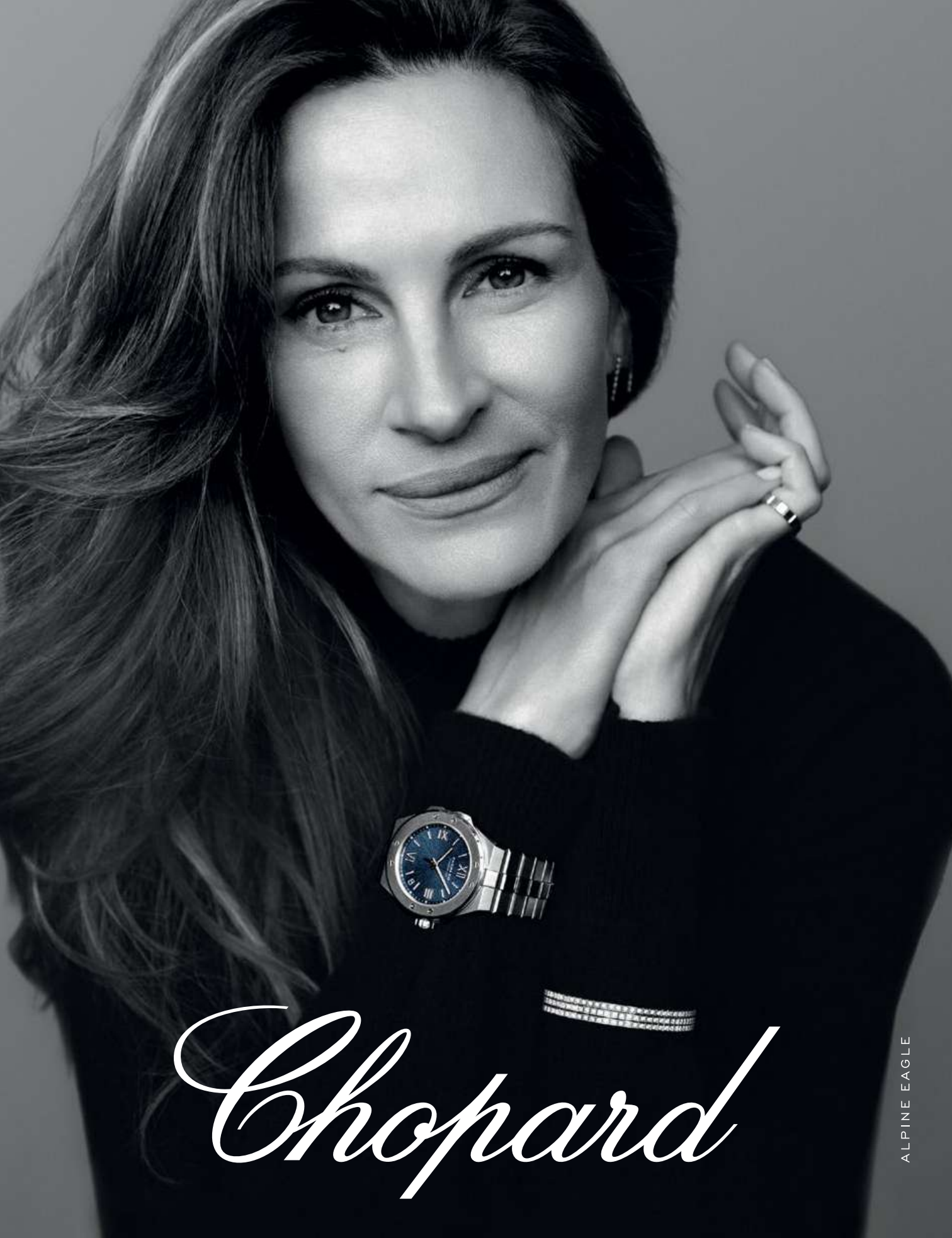
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The choice is ours!

2022 and 2023 will go down in our history books. But not necessarily for the right reasons. Obviously, war is still raging in Ukraine. Needless to say, the Israeli-Palestinian conflict has transformed into a nightmare. And no need to remind anyone that temperatures worldwide are off the charts. 2023 will end up being one of the hottest years on Earth. Also hitting record levels are greenhouse gas emissions, which are expected to reach 40.9 billion tonnes, according to the latest estimates from Global Carbon Budget scientists. Researchers say that this unprecedented rise means a 50% chance that global warming will constantly exceed 1.5°C compared to pre-industrial levels within seven years. This constitutes an eye-watering failure considering that the Paris Agreement, signed at the COP21 back in 2015, set the target of limiting global warming to between 1.5°C and 2°C by 2100.

Amid all this talk of doom and gloom, we could easily sink into pessimism, telling ourselves that it's all over, that COP28, which is being held in Dubai as I write these lines, will be just another COP, with no real effect or consequences. But I'm going to share a secret with you: I'm an eternal optimist. As we glide into the holiday season, I get lost in my thoughts, dreaming of a better world. Am I utopian? Naive? Perhaps... But I remain convinced that each

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and every one of us has a role to play, especially investors. By financing companies that make a real difference, whether on environmental, social or governance (ESG) issues, they can help to improve things and defend their own values. This is the promise of so-called “sustainable” finance, which is the subject of our feature.

Of course, the ESG criteria used to assess a company's sustainability have their shortcomings, as do green funds, which are frequently accused of greenwashing. We are not trying to hide those negative aspects. But there are also companies that are making efforts for the benefit of their employees, that are trying to improve their carbon footprint, or that are moving towards better governance practices. Still others are developing new technologies that could change the world, tomorrow. By choosing to invest in companies that help our society, every investor can play their part. This will be my resolution for 2024, because the worst thing to do would be to sit by and let it happen.

We hope you enjoy this issue. Happy holidays!

BY MARC BÜRKI,
CEO OF SWISSQUOTE



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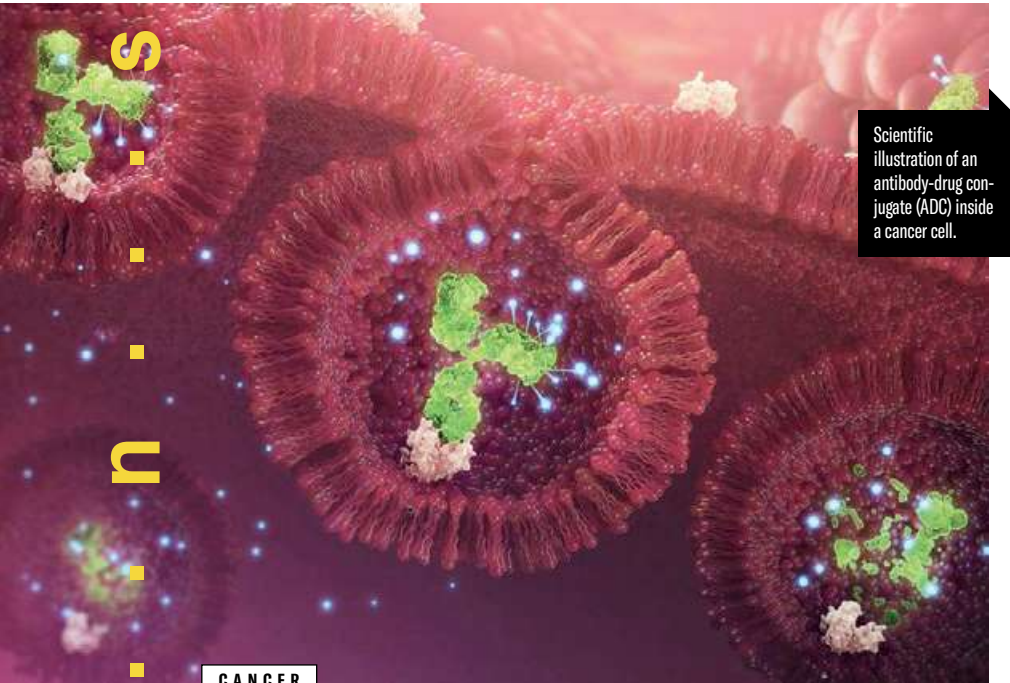
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Scientific illustration of an antibody-drug conjugate (ADC) inside a cancer cell.

CANCER

ADCs: boon for big pharma

A new class of oncology drugs known as antibody-drug conjugates, or ADCs, is augmenting the revenue of pharmaceutical groups. These drugs deliver antibodies carrying cytotoxic chemicals used in chemotherapy to targeted cancer cells, thus boosting potency without damaging adjacent tissue. Sales of Enhertu, an ADC developed by AstraZeneca and Daiichi Sankyo,

exceeded \$1 billion in 2022. Also last year, revenue from Trodelvy by Gilead Sciences grew by 79% to \$680 million. And Roche's Kadcyla brought in \$1.1 billion in the first six months of the year alone. The data analysis firm The Insight Partners estimates that by 2028, ADC sales could reach \$30 billion a year, up from \$7.5 billion in 2022.

→ AZN → GILD → ROG



“Offshore wind in the US is fundamentally broken”

Anja-Isabel Dotzenrath, BP's executive vice president of gas and low-carbon energy, responds to the cost of inflation on its projects off the US coast.

RANKING

Top five generics manufacturers (based on revenue in 2022)

1. TEVA (Israel) **\$8.6 BN**
2. SANDOZ (Switzerland) **\$6.8 BN**
3. SUN PHARMACEUTICAL (India) **\$5.3 BN**
4. VIATRIS (United States) **\$5 BN**
5. BIOCON (India) **\$3.2 BN**

Source: Statista

Top five defence companies (based on revenue from arms sold in 2022)

1. LOCKHEED MARTIN (United States) **\$63.3 BN**
2. RTX (FORMERLY RAYTHEON TECHNOLOGIES) (United States) **\$39.6 BN**
3. NORTHROP GRUMMAN (United States) **\$32.4 BN**
4. AVIC (China) **\$31 BN**
5. BOEING (United States) **\$30.8 BN**

Source: DefenseNews

60%

The percentage of climate-related disasters that American insurers have stated they would cover in 2022. Total losses amounted to \$165 billion. In some parts of the country that have been particularly hard hit by hurricanes and forest fires, insurers have started refusing to give out new policies for private households.

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THE IMAGE

Meet Digit. Amazon's humanoid robot is now being tested at some of its warehouses. Developed by the startup Agility Robotics, the inexhaustible bipedal machine can grasp and lift items weighing up to 16 kg, move around, bend over or crouch down.

LUXURY GOODS

Diamonds hit rock-bottom prices

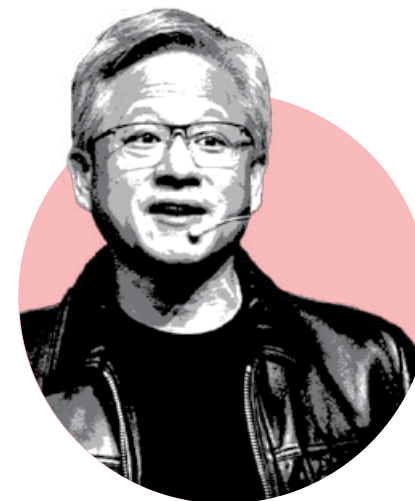
For more than a century, the mining giant De Beers, owned by Anglo American, has dominated diamond production. In the 1980s, its reach stretched as far as 80% of the market for these gems. Hence, it enjoyed virtually absolute control over prices, which it kept artificially high. But competition from newcomers to the market, such

as Russian firm Alrosa, and from lab-grown diamonds has disrupted the model. These days, De Beers only covers a third of the global diamond supply. The London-based group has recently had to cut the price of rough two- to four-carat gems – a popular stone used in engagement rings – by 40%.

→ AAM



A polished diamond by the Russian company Alrosa.



“If we realised the pain and suffering and just how vulnerable you're gonna feel, and the challenges that you're gonna endure, [...] I don't think anybody would start a company”

CEO of Nvidia **Jensen Huang**.

INSURANCE

Zurich sees a future in India

Zurich Insurance has bought a majority stake in the insurance arm of the Indian bank Kotak. Valued at 40.51 billion rupees (438 million Swiss francs), the deal involves the largest investment by a foreign group in the country's insurance sector. The Swiss insurer hopes to secure a piece of this fast-growing market, which is driven upwards by the emerging middle class. Annual premium collections on the Indian market climbed 11% in 2021-2022 to \$26.7 billion. Zurich Insurance has also acted on new legislation passed in 2021 allowing foreign investors to acquire up to 74% stake in the insurance sector, compared with the previous cap of 49%.

→ ZURN



“We dug our own grave with the Cybertruck”

Tesla boss **Elon Musk** on the production headaches with his electric pickup truck.

It was only 10 years ago that Professor Mark Post of Maastricht University presented the first lab-grown meat burger. Now, large-scale commercialisation is a reality.



FOOD

Nestlé moves into lab-grown meat

The Swiss food giant is planning to incorporate “cultured” meat, i.e., meat produced in a laboratory, into its Garden Gourmet line, which currently only features plant-based meats. As part of its strategy, Nestlé has partnered with Believer Meats. This Israeli startup produces chicken, lamb and beef from fibroblast cells, a component of the connective tissue found in muscles. The fibroblasts are placed in bio-reactors, where they multiply using a growth substrate. Lab-grown meat generates 80% less greenhouse gases than traditional livestock farming and requires less land and water. → NESN

TRANSPORT

Low-cost air carriers riding high

For the first time in its history, Ryanair plans to pay out regular dividends. The Irish low-cost airline expects to make a profit of between €1.85 billion and €2.05 billion for the financial year closing out at the end of March 2024. Its rival, EasyJet, is also rejoicing. In October, the UK budget carrier

announced pre-tax profits of between £440 million and £460 million for the financial year ending in September. Both airlines enjoyed a sharp rise in passenger numbers, particularly during the summer period, enabling them to raise their ticket prices and thereby offset the higher cost of fuel. → RYAAY



A Ryanair flight departing from Berlin.

35 M

In tonnes, the amount of “green” metals needed per year between now and 2050 to meet carbon neutrality targets, as forecast by the International Energy Agency. By 2030, demand for copper and nickel could increase by 50% to 70%, cobalt and neodymium by 150%, and graphite and lithium by six to seven times.

THE QUESTION

How will the conflict in Gaza impact the regional and global economy?

“If you look at what has happened historically when this region is hit by a period of unrest – whether it be the Iranian revolution or the Gulf War – oil prices have always risen, because the region produces 30% of the world's supply. With the conflict in Gaza, this effect will occur if the war spreads to other countries. A country like Saudi Arabia could decide to curb its oil exports in retaliation for the support shown by Western countries to Israel. On a regional level, the countries that will suffer most from the conflict are those with close business ties with Israel. For example, India obtains most of its weapons from Israel, while Turkey was on the verge of an agreement with Israel to accommodate a gas pipeline. Of course, the Israeli economy will also suffer, as 10% to 15% of army reservists work for its vibrant startups.”

Daniele Bianchi, associate professor at the School of Economics and Finance, Queen Mary University of London.

+47.6%

Microsoft's operating margin in Q1 2024 (October-end, 2023), up from 29% in 2014. This strong performance is owed to its decision to develop cloud computing, where the tech firm is now a powerhouse. In the future, Microsoft also hopes to become a leader in artificial intelligence, through its investment in OpenAI, the developer of ChatGPT.

ACQUISITION

Clariant ventures into cosmetics



Swiss chemicals group Clariant has acquired Lucas Meyer Cosmetics for \$810 million. The acquisition will make the Ba-

sel-based group a world leader in high-end ingredients for the personal care industry and increase its footprint in North America. Lucas Meyer Cosmetics, a Canadian company, specialises in active and functional ingredients derived from natural products such as algae, tea tree oil and lavender. Around the time of the deal, Clariant reported a decline in third-quarter sales, due to sluggish consumer demand and weak prices in chemicals. → CLN



The impressive Kern River oil field, one of the fracking hotspots in the state of California.

OIL

Fracking rush

Big oil companies have long steered away from using hydraulic fracturing to extract oil, as the process was perceived as too risky and unprofitable. This has paved the way for a handful of pioneering firms, such as Devon Energy, EOG Resources and Pioneer, which helped notch US domestic production up from 8 million to 15 million barrels a day between 2005 and 2015. But the funda-

mentals have changed. Extraction is now more efficient and the gas released during the process, which used to end up simply flared, is now recovered and sold. This has got big oil drooling. In October, ExxonMobil announced that it was buying Pioneer for \$60 billion. In the spring, its rival Chevron took over PDC Energy, which operates in Colorado and Texas, for \$6.3 billion.

→ DVN → EOG → XOM → CVX



“One year in, the future of X is bright”

X (formerly Twitter) CEO **Linda Yaccarino**, as the platform weathers a rough patch.

BUST

WeWork goes bankrupt

Once seen as the future of remote working, WeWork is now a shadow of its former self. In early November, the pioneer of shared office space filed for bankruptcy. Its valuation has tumbled from \$47 billion at the height of its success to less than \$50 million today. The company, which operated 777 sites worldwide a few months ago, now has only 660, and has announced that new closures are expected. Founded in 2010, WeWork gradually lost ground due to the erratic management of its founder Adam Neumann and prices that were too high to be competitive. Then came the pandemic, and employees discovered working from home. That dealt the fatal blow. In the first six months of the year, WeWork lost more than \$1 billion. → DGE

€3.64
BN

Amount paid by German firm Schaeffler to acquire its rival Vitesco, creating a giant in the automotive parts sector. The takeover will strengthen Schaeffler's position in electric vehicles, where Vitesco reported orders totalling €10 billion in 2022. The two groups also expect to achieve economies of scale of around €600 million a year.

© KEYSTONE





“Our youngsters must say: ‘This is my country, I want to work 70 hours a week’”

Co-founder of Indian company Infosys **Narayana Murthy**, who rustled up a storm on social media.

\$74.4

The record-high uranium (U308) spot price reached in October, compared with \$45.20 two years earlier. Demand for the element is high in Europe, where it is needed for nuclear power stations. Countries have been scrambling to replace Russian fossil fuel imports since war erupted in Ukraine. Some of them also view nuclear power as a way of limiting their CO₂ emissions.

THE IPO



Sandoz Chairman Gilbert Ghostine (left) and CEO Richard Saynor celebrate the company's IPO at the SIX Stock Exchange in Zurich on 4 October.

Sandoz regains its independence

Generic pharmaceuticals group Sandoz debuted on the Swiss stock exchange at the beginning of October, after spinning off from its parent company Novartis. The company's valuation was 10.3 billion Swiss francs, below analysts' expectations. Founded in 1886, the Basel-based group contributed 11% of Novartis' profits in 2022. Now the firm hopes that the split will enable it to focus on the fast-growing bio-

similar segment, i.e., copies of biological medicine. Sandoz already has blockbuster-potential drugs in the development phase that aim to treat multiple sclerosis, rheumatoid arthritis and bone cancer. But competition is fierce. The Israeli company Teva, Germany's Fresenius and the US firms Amgen and Organon are all vying for a position in the biosimilars market.

→ SDZ



Super-apps: beginning to stall

Long an object of envy in the West, Asian super-apps provide a wide range of services, stretching from food delivery to e-commerce to online video. But now, the model is being challenged. The combined valuation of Singapore's Sea and Grab, South Korea's Coupang and Kakao, Japan's Rakuten and India's Paytm plummeted 60% in the first six months of the year. Most of these companies are stuck in a domestic market that is too small and are struggling to grow. For example, Kakao holds 90% of the taxi-hailing market in South Korea but generates a mere 10% of its revenue outside the country. The only exceptions are the Chinese mega-apps WeChat and Alipay, which continue to draw on growth in their huge home market of 1.4 billion people.

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I WISH

G R A F F

The crypto gazette

crypto express

Richard Teng,
new CEO of
Binance.



Binance moves into a new era

The world’s largest cryptocurrency exchange has a new boss: Richard Teng. The Singapore native joined Binance in 2021 and has now replaced the highly publicised and influential Changpeng Zhao (known as CZ) as CEO, following Zhao’s resignation with immediate effect on 21 November. The move followed Binance’s settlement with the US authorities after CZ pleaded guilty to failing to comply with the country’s anti-money laundering laws. With over 30 years’ experience in traditional finance and regulation (Monetary Authority of Singapore, Singapore Exchange, Abu Dhabi Global Market, etc.), Richard Teng has the consensual and reassuring profile that his predecessor lacked. One of his first tasks, he pledged, will be to “work with regulators”.

Ethereum founder expresses fears about AI

Echoing the recent warnings from many artificial intelligence experts, in late November Ethereum founder Vitalik Buterin posted in his blog about the meteoric rise of AI, which he believes could replace humans as the new “apex species” on Earth and cause “human extinction”. To counter this risk, Buterin believes that humans will have to develop their brain through biological innovations. He also suggests developing brain-computer interfaces (BCI), which would give humans more control over AI.

Mining Bitcoin using methane

Converting methane emitted from landfills into a source of electricity to mine Bitcoin: this is the challenge taken up by energy company Nodal Power at a pilot site based in Utah, US, in partnership with Nasdaq-listed Marathon Digital (MARA). Methane, which is produced through decomposition of organic matter, is considered to be 80 times more harmful than CO₂ over a 20-year period. Landfill sites usually burn this gas to convert it into CO₂. This project addresses this, thereby reducing the environmental impact of BTC.

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Like a spa. In a jet.

THE NEW PANAMERA. CHOOSE BOLDLY.





HUBLOT

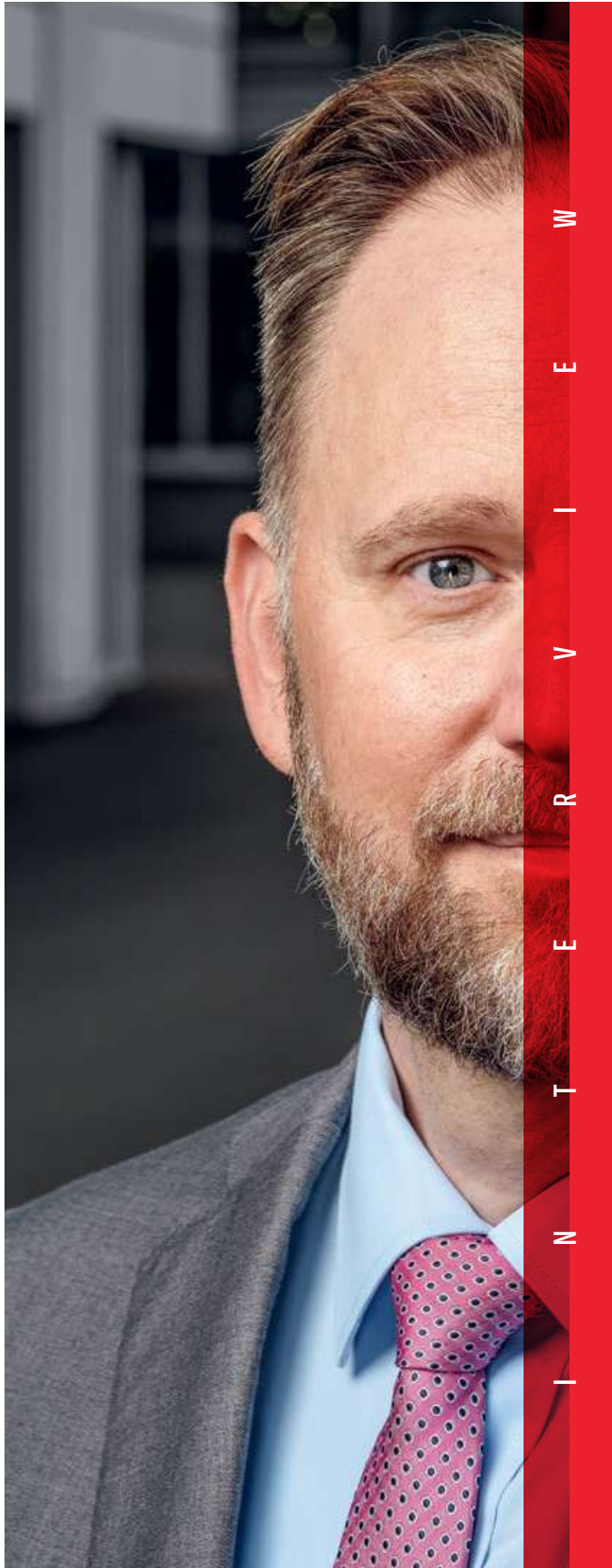
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SPIRIT OF BIG BANG MECA-10

Black ceramic case. In-house manual movement, with a 10-day power reserve.




HUBLOT



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“EVERY-ONE IS WAITING FOR THE IPO THAT WILL GET THINGS GOING AGAIN”

CHRISTIAN REUSS
HEAD OF SIX SWISS EXCHANGE

Christian Reuss, head of SIX Swiss Exchange, spoke to *Swissquote Magazine* at the headquarters of the Swiss stock exchange in Zurich. He discussed the current context of uncertainty, an environment hardly conducive to IPOs.

BY LUDOVIC CHAPPEX

Seven Chinese firms, but only one Swiss company. That's it for the initial public offerings on the SIX Swiss Exchange in 2023. A meagre performance. The only Swiss company to go public was Sandoz. Coming as no great surprise, the Basel-based company made its move onto the Swiss market on 4 October after spinning off from Novartis. SIX Swiss Exchange director Christian Reuss sat with us for an interview at the group's Zurich headquarters on 9 November. He explained why companies are currently reluctant to take the big step onto the stock market, and what the outlook is for the year ahead. It was also an opportunity to assess the performance of the Sparks platform since its launch in 2021. The Swiss stock exchange segment is aimed at SMEs, by simplifying listing procedures and regulatory requirements.

The pharmaceutical company Sandoz is the only Swiss company that went public this year. Were you expecting things to be so calm?

This situation reflects the current challenges of the market context. Higher interest rates have contributed to fuelling uncertainty. The ideal scenario would be low interest rates, high valuations, with investors in good spirits and everyone on the lookout for the next investment opportunity. That's not the case right now. There's still a lot of uncertainty. We don't know which way geopolitics will go, or how rising interest rates will impact the economy, and whether interest rates – for example in the United States – will remain at around 5% in the longer term.

That said, we have a pipeline with a wide variety of companies ready to go public. IPOs have been rare in recent years, particularly since the start of COVID. But the pipeline needs to move into action.

How many companies are there?

We're talking double digits in terms of the number of potential candidates, albeit at very different stages of the process. Some companies are ready to go, waiting for the right moment.

“A company would have to take the risk of going public, and the reward of it being successful”

When do you think the situation will settle?

We hope it will be in the first half of 2024. Everyone is waiting for a conducive environment and an IPO to get things going again. A company would have to take the risk of going public, and the reward of the IPO being successful. That's what is lacking throughout Europe right now, not just in Switzerland. We recently saw two IPOs in the United States: the British semiconductor producer ARM went public on the Nasdaq and Birkenstock on the NYSE. But due to today's market climate, share prices fell after →

the launch. That indicates that initial public offerings are still complicated.

How often do companies postpone an IPO?

Again, it all depends on the economic environment. When a company announces its intention to issue shares publicly for the first time, they always include the typical phrasing, “subject to market conditions...”. Imagine an established company that has been around for 100 years. They decide to go public, and the market slumps. No company wants to take that kind of risk.

“About 10 years ago, we were in contact with several Indian companies”

How do you motivate companies to go ahead with their IPO?

It would be easier if we could ring a bell and say, “Hey, we’re doing special IPO deals this week. Do you want to go public?” But that’s not how it works. A company has to be ready to float its shares. It has to reach a level of maturity that gives it continuous access to the capital market and to benefit from it on a regular basis. Basically, the company has to transform itself, and it must proceed at its own pace. So, when a company finally comes around to deciding that the time is right for an IPO, our job is to make sure it comes to us. Until they reach that point, we provide information and organise seminars, inviting companies interested in going public to learn more about the IPO process. We also work closely with lawyers and banks, both directly and through workshops and educational events.

Banks are essential at various stages of the process because they translate the company’s story into the language of investors, to develop what we call an “equity story”. They present data such as equity, EBIT and growth forecasts. And of course, banks know investors and act as intermediaries, so a company wants to have investors with a solid grounding, who believe in its story and want to hold on to the shares for a long time.

What drives some companies to go abroad for their IPO?

Several strategic reasons can come into play. For example, it may be because the company’s main competitors operate on a given market. Take the case of Zurich-based

sportswear and footwear brand ON. In 2021, it chose to go public on the NYSE because it is positioning itself as a competitor to Nike, which has a strong community in the United States. On the US market, you’ll have more analysts covering the company and its sector, and therefore enhancing its visibility by producing information.

The other key factor is the target market where the company is mainly aiming to expand its customer base. IPOs generate publicity. When it went public, ON was already selling more in North America than in Europe. The company therefore wanted to develop its growth there. A few years ago, Prada chose Hong Kong for its IPO for similar reasons: the brand generates a large percentage of its sales in Asia.

A lot of Chinese companies are listed on the SIX. Does that surprise you?

Yes, in a positive way! The point of this segment was to provide Chinese companies with an in-road to capital in Europe. So far, 16 companies have done so, raising around \$5 billion. So it’s a good start. However, we should also point out that, at this stage, there’s not yet a great deal of trading activity following the IPO. Our role is to facilitate access so that they can raise capital and their shares can be traded. Then investors decide whether or not demand is there.

Are you trying to attract international companies from other countries, such as emerging economies like India and Brazil?

About 10 years ago, we were in contact with several Indian companies. The purpose was for these firms to raise capital locally through subsidiaries and local headquarters in Europe. We met many companies on roadshows, including in India, but in the end, we only gained new bond issuers. It all boils down to one fundamental rule: if a company wants to raise capital, that de-

cision must come from the company itself. No matter where the company is from, we’re open. For example, if a Brazilian firm wants to move into a sector in which Switzerland is a leader and it wants to expand into Europe, we would be very happy to support it and help it to understand the advantages we offer on the capital market.

For example?

We are still the world’s strongest or second strongest market for offshore assets. Singapore is catching up or, depending on the statistics, has passed us. We’re talking about

approximately \$8 trillion in assets under management. On top of that, the Swiss franc is strong and the political environment very stable. It’s an attractive place for international companies to raise capital.

The free-float market capitalisation of the SIX is comparable to that on Euronext Paris, and even greater than on the Deutsche Börse, even though Switzerland has only one-tenth of the population of Germany. In other words, we set ourselves apart from the competition by hosting a large number of international companies. →

An employee at SIX’s Zurich office. SIX Swiss Exchange employs around 250 people. The SIX Group as a whole has just over 4,000 employees and a presence in 20 countries.

THREE NUMBERS

1

Only one Swiss company, Sandoz, was listed on the SIX Swiss Exchange in 2023.

-26%

The drop in transaction volume compared to the same period last year.

\$8,000 BN

The amount of offshore assets under management, which makes the SIX Swiss Exchange the world leader in this area.





CHRISTIAN REUSS

THE STOCK EXCHANGE, CHESS AND STOICISM

"I'd always dreamt of becoming Indiana Jones, but 20 years ago I received an offer from Goldman Sachs and decided to start there." Mischievous through and through, Christian Reuss joined SIX in 2013 as a member of the Management Committee, before taking over as director of SIX Swiss Exchange in 2020. A history buff, who says he owns thousands of books on the subject, Christian Reuss also admits to having a penchant for studying stoicism, a philosophy that, as he puts it, "helps me calm down when things get out of hand". The Frankfurt native also loves chess, which he has played assiduously since the age of six. He earned his MBA in Finance from Goethe-Universität Frankfurt and has completed various management programmes (IMD, Harvard Business School). Before moving to SIX, he held senior positions at Goldman Sachs in Zurich and Deutsche Börse in Frankfurt. His wife is Swiss, and he has two daughters. Now a Swiss citizen, he lives in Thalwil, in the canton of Zurich.

The number of transactions on the SIX platform is down a considerable 26% from the same period last year. Where does the difference come from?

Trading volumes are at their lowest in 12 years. This situation is affecting all of Europe. As a general rule, high volatility leads to increased trading volume. In the past few years, trading volumes have risen steadily. But market volatility is currently very low. Annualised volatility is now at less than 16 percentage points. That means that, on a daily basis, shares on the SIX fluctuate by an average of around 1% a day.

Why is volatility so low at the moment?

That's what everyone is wondering... Everything points to the markets being jittery, but for some reason they're not. We put it down to more of a cyclical process. For about seven years, we've seen above-average trading volumes. Now the market seems to be letting up.

Two years ago, you launched a platform specifically tailored to SMEs, called Sparks. So far, however, only Xlife Sciences has gone public in the segment. Isn't that disappointing?

Of course, we'd hoped for more activity, but again, the current economy is a determining factor. And for small companies, the risk is even greater when they issue shares publicly for the first time in a market that is not stable. That said, the Sparks programme has attracted a lot of interest. Many companies are joining our Sparks IPO Academy, which is a six-month programme in which we put SMEs into contact with lawyers and bankers to familiarise them with the IPO process and everything it involves. We've just got started with the third season, and over 15 Swiss companies have taken part this year. So companies are definitely interested.

What is the outlook for the Sparks segment over the next few years?

We estimate that, across Switzerland, venture capital investors could withdraw from 200 to 300 companies over the next five to ten years (ed. note: funds that finance SMEs typically have a 10-year lock-up period). That doesn't mean all these companies will go public. They could be sold to private investors, but they might be interested.

Why did you wait so long to provide a segment aimed at SMEs? Why didn't you launch this platform 20 or 30 years ago?

Until recently, there weren't enough companies applying. If you're a Swiss SME and you're looking for capital without going public, chances are you'll find it.

That's why not many

companies with a market capitalisation of less than €100 million go public. However, after watching the development of the Swiss market, we have come to the conclusion that it has reached critical mass. But an entire ecosystem needs to be built around it, and that takes time.

When you look at similar segments in other markets, such as Scandinavian countries or the UK, it has taken five to ten years to get the →

"Trading volumes are at their lowest in 12 years. This situation is affecting all of Europe"

ecosystem up and running. It's not just the Sparks platform; you need banks to support the companies, lawyers to draw up the prospectuses and handle all the legal aspects. Scandinavian countries are more advanced than us in this area. They have a strong ecosystem.

Exactly; do you draw on practices from other stock markets? Euronext launched a similar platform in 2015, called TechShare. In all, 13 Swiss companies have taken part in the programme. Have you tried to contact them?

(Smiles) I suppose that the 13 Swiss companies that participated in the TechShare programme are also interested in what we have to offer... Sparks is based on the concept of facilitating access to exchanges and helping companies to avoid the hurdles and burdens imposed on larger companies. All markets offering an SME segment work based on this principle. The goal is always the same: reduce the barriers to entry.

What are the advantages for an SME of listing on the Sparks platform?

The first is continuous access to the capital market. Companies will raise capital when they go public, but people most often forget the secondary share issues. In subsequent years, they could issue more shares, buy back their shares or carry out other similar operations to finance their growth.

What's more, once a company is listed on the stock exchange, it becomes a matter of public interest. The press generally follows it more closely, and reports are written about it, giving it greater visibility. And being listed enhances the company's credibility, because it has to comply with more regulations.

And what about investors?

From the investor's point of view, the advantage is clear. These smaller companies can grow faster than companies that have already reached a certain degree of maturity, with a high market capitalisation. The downside is that the risk is higher than for other shares. Trading hours are restricted on this market due to the limited number of transactions. That way, liquidity is

concentrated over a shorter period. It is worth noting that companies on this platform with a market capitalisation of more than 1 billion Swiss francs automatically move to the traditional listing segment. I would see it as a success if, over the next few years, companies from the Sparks segment moved up to be included in the SMI.

Are there any changes planned for the Sparks platform?

Yes, if one day we have enough companies, it could be worthwhile to create an index to cover them. Product providers could then use the index to launch ETFs or structured products, which would attract the attention of a larger number of investors and in turn passive liquidity for the stocks.

“Sparks is based on the concept of facilitating access to exchanges and helping companies to avoid the hurdles and burdens imposed on larger companies”

Companies are always very keen to be included in an index. Since indices are used as benchmarks for funds, active and passive ETFs along with other products, being included in an index attracts additional liquidity. This creates an important positive dynamic that can only benefit the company if it is listed on a stock exchange. ▲

The SIX Swiss Exchange building in Zurich (2018).



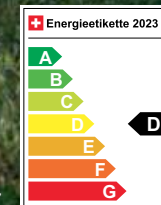
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PORTRAIT

Meltdown ahead for the king of chocolate?

The world's leading manufacturer of cocoa products, Barry Callebaut, has gone through a rough period, which has wiped out a third of its value. But its new management team has devised an ambitious plan to get it back on its feet. BY JULIE ZAUGG

Have you ever tasted the crunchy chocolate shell that coats Magnum ice cream, the milk chocolate that envelops Kit-Kat wafers or the hot chocolate sold at Costa Coffee? All that chocolate comes from one place, the Swiss giant Barry Callebaut, the world's largest supplier of cocoa products. But times have been tough for the king of chocolate.

Its shares have shed 25% of their value since the spring, i.e., one of the worst performances on the Swiss stock exchange. The former CEO Peter Boone, in position for a mere 19 months, was replaced in April by Peter Feld, a venture capital expert from its majority shareholder, Jacobs Holding, which owns 30.1% of the firm. In early November, the group posted a disappointing performance for its 2022/2023 financial year, with sales volumes down 1.1%, after growing by an average of 3% per year since 2016.

Created in 1996 as a result of the merger between the French producer Cacao Barry and Belgian chocolate maker Callebaut, and listed on the stock exchange since 1998, the Zurich-based group dominates the entire chocolate production chain. After sourcing and grinding the beans, it then processes them into cocoa-based ingredients that are sold to major brands such as Nestlé, Hershey, Mondelez and Unilever, as well as to restaurants and artisan chocolatiers.

"With its global presence and economies of scale, Barry Callebaut can offer its customers unbeatable prices," says Ioannis Pontikis, a Morningstar analyst who covers the firm. He calculated that Barry Callebaut pays 13% less to turn out 100 grams of chocolate than its customers, some of whom – such as Nestlé – continue to produce a portion of their cocoa in-house.

↑ Barry Callebaut offers a wide range of chocolates – dark, white, milk and notably ruby, the brand's emblematic product.

© BARRY CALLEBAUT



IN NUMBERS

2,280,925
Tonnes of chocolate sold by Barry Callebaut in the 2022-2023 financial year.

CHF 2,376
Peak price reached by Barry Callebaut shares in mid-2021, compared with CHF 1,471 at end-November.

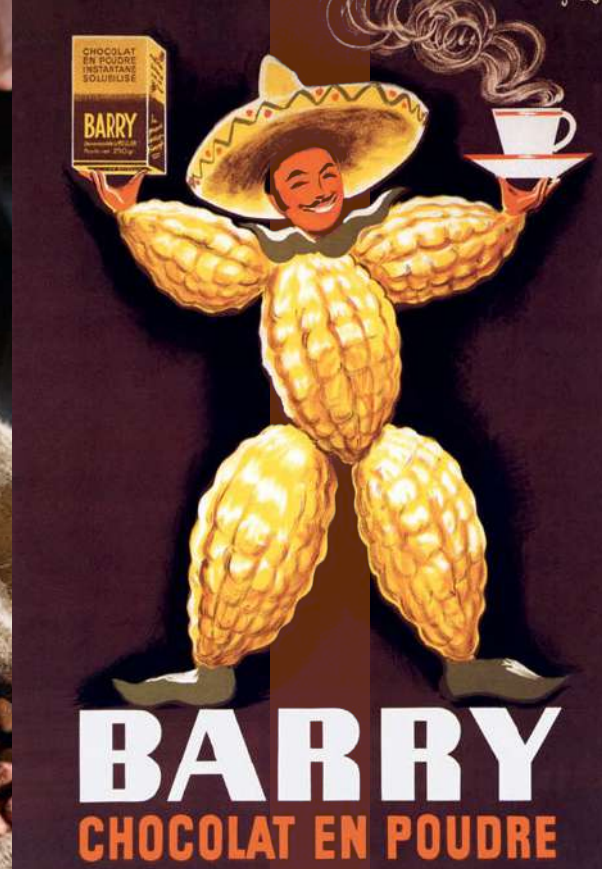
66%
Percentage of new contracts coming to the market that the company wants to secure in the future.

Its full vertical integration also gives it a competitive advantage when it comes to sourcing raw materials. "Around 60% of cocoa beans come from Côte d'Ivoire and Ghana, two countries with turbulent political regimes," the analyst says. Because of that, more and more chocolate makers – from large conglomerates to small confectioners – are outsourcing their chocolate production to the Swiss group, ensuring sustained, stable growth.

But in the past three years, the machine has broken down. "The first dent to the business model came from the COVID-19 pandemic, when restaurants were forced to close for long periods," says Baader Helvea analyst

Andreas von Arx. "Then, in June 2022, Barry Callebaut's plant in Wieze, Belgium, had to halt production after cases of salmonella were detected." That is the largest chocolate factory in the world. Wieze was shut for six weeks, slashing production volumes by 50,000 tonnes in 2022. The cost to the company: 76.9 million Swiss francs. "Some major customers ended up going to competitors," says Ioannis Pontikis.

Making matters worse, the price of cocoa beans has shot up 70% since the beginning of the year, and unrelenting inflation is dissuading consumers less inclined to buy non-essential items such as chocolate. "Grappling with these challenges, the management team →



↑
The cacao tree only grows in tropical regions. The beans, once dried and fermented, are processed into various products.

“The company is very innovative – it operates over 20 Chocolate Academy Centers, where it develops new products in collaboration with star chefs”

Jean-Philippe Bertschy, analyst at Vontobel

was unable to meet the growth targets set by Jacobs Holding, so the firm placed one of its own at the helm, with a mandate to completely overhaul the company,” says Andreas von Arx.

The new CEO Peter Feld unveiled an ambitious restructuring plan at the beginning of November to achieve annual savings of 250 million Swiss francs, while investing around 500 million Swiss francs over the next two years. Growth is expected to be flat in 2024 and moderate in 2025, but by 2026 the company forecasts 3% to 5% annual growth in sales volumes and a 10% rise in its EBIT margin, up from the average of 7.7% over the last five years. The group also expects to capture two-thirds of the new outsourcing contracts that come to the market.

To achieve that, Barry Callebaut will have to start trimming back. “This will involve dig-

itising certain processes, reorganising the manufacturing network, which will probably lead to some closures, and reducing the product assortment,” says Jean-Philippe Bertschy, who covers the firm for Vontobel. Supplying its products in the form of 5 kg blocks or flakes, Barry Callebaut currently offers its customers some 6,000 chocolate recipes. That is significantly more than the 1,000 recipes available from Cargill, one of its main competitors.

Kepler Cheuvreux analyst Jon Cox believes that the company will be able to eliminate around 15% of its costs by centralising and simplifying its structure. “The company has grown very fast, taking the form of a loose, inefficient federation,” he says. “In the future, hubs will be set up in each country. They will be managed centrally but will have better knowledge of their local customers.”

At the same time, Barry Callebaut plans to further develop its “Gourmet” line of chocolates, sold primarily to restaurants, confectioners and artisan chocolate makers. It currently accounts for just 16.5% of sales. “This is the

↑
A 1950s advert for Barry chocolate powder, which became Barry Callebaut in 1996.

© BARRY CALLEBAUT

most profitable segment, with a margin of at least 15%,” says Daniel Bürki, who covers the company at Zurich Cantonal Bank.

It also hopes to double sales of its “speciality” chocolates, i.e., gluten-free, vegan and Single Origin (products made from quality beans from a single country), a segment for which demand has risen sharply in recent years. “The company is very innovative,” Jean-Philippe Bertschy says. “It operates over 20 Chocolate Academy Centers, where it develops new products in collaboration with star chefs.”

This concept led to the launch of its ruby chocolate in 2017, a pink variety featuring a berry taste. In 2021, Barry Callebaut launched its “second-generation chocolate”, made from naturally fermented beans from Ecuador. The product contains only two or three ingredients (cocoa, sugar and milk) and has 50% less sugar than most other chocolates on the market.

Asia-Pacific is another growth region identified by the new management team. They aim to double business in this market, which currently accounts for just 6.9% of the group's total sales. The region has 2.5 billion poten-

tial consumers, and its population continues to grow, with increasing affluence.

In the two biggest markets, China and India, “chocolate is not yet in most people's dietary habits,” Daniel Bürki says. He adds that the high temperatures in some Asia-Pacific countries are not conducive to eating this food, which melts at over 40°C. Still, Barry Callebaut hopes to increase its market penetration in these countries by expanding its regional sales team, which currently has only 12 people, and by forging partnerships with the major food groups that operate in the region.

However, most analysts are sceptical about the group's ability to meet these ambitious targets. Rising commodity prices and inflationary pressure will not dissipate overnight. Andreas von Arx also points out that “growing public concern about health, the fight against obesity, and the sugar taxes introduced by some governments are not favourable to the development of the chocolate industry.”

Competition is also starting to heat up. “The chocolate market has high barriers →

↑
In 2017, Barry Callebaut introduced ruby chocolate to the market, which naturally has a pink colour due to the use of a particular type of cocoa bean.



↑
Peter Feld, a German national, was appointed CEO of Barry Callebaut in April 2023.

to entry, due to the difficulty of building a network of suppliers in countries where it's not always easy to operate," says Alejandro Marangoni, an expert in chocolate at the University of Guelph in Canada. "This has created a sort of oligopoly dominated by Barry Callebaut."

At the end of 2021, Barry Callebaut had a 38% share of the industrial chocolate market, followed by Cargill (11%), Fuji Oil (10%) and Puratos (3%). But Cargill and Puratos have of late made a number of acquisitions to strengthen their positions. Headed by a former Barry Callebaut employee, the Italian group IRCA is taking strides to gain market share in the gourmet segment. For example, it recently bought Kerry Group's Sweet Ingredients division.

Over the next few years, Barry Callebaut will also have to contend with the issue of sustainability in its supply chain. "Cocoa is undoubtedly the least environmentally-friendly plant material there is," Alejandro Marangoni says. "Only the bean is used, and the rest of the fruit is thrown away. Even worse, plan-

tations require a lot of water and contribute to deforestation."

The main cocoa-producing countries are also associated with child labour. "As the beans are supplied by a multitude of small farmers, it won't be easy for Barry Callebaut to eliminate this kind of conduct," Andreas von Arx says.

However, the group began investing significantly in 2016 to remedy the situation. "About 49% of its raw materials are already sustainably sourced," Daniel Bürki says. It plans to increase this percentage to 100% by 2030 and to reach carbon neutrality by 2050. "These issues are becoming ever more pressing for consumers," Ioannis Pontikis points out. "Barry Callebaut can no longer ignore them." ▲

ANALYST OPINION

Attractive medium-term gains

With revenue up 4.7% to 8.47 billion Swiss francs and profits up 3.4% in the 2022/2023 financial year, the situation is not dire for Barry Callebaut. However, its share price has dropped by more than 20% since the start of the year. Baader Helvea analyst Andreas von Arx, who issued an "Add" recommendation, believes the stock is now undervalued. "In the medium term, investors could make a respectable gain of around 40%, especially if the management's announced restructuring plan pays off," he says. That said, he believes that the longer-term growth targets are overly optimistic. Jean-Philippe Bertschy of Vontobel, who has issued a "Hold" recommendation, believes that, due to the company's recent difficulties, investors are mired in a crisis of confidence. More specifically, he regrets the lack of clarity about the intentions of its majority shareholder, Jacobs Holding. Its stake has decreased from 50.1% to 30.1% in the last 10 years, and the investment firm now seems to prefer cost control over growth. — BARN

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Guide to
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sustainably

Through their investments, investors can help to heal the planet. That is the idea behind “responsible investing”. Despite a slowdown in 2022 and 2023, responsible investments are expected to recover quickly and grow up to \$200 trillion by 2030, four times their total current value. Mirage or miracle? Sustainable finance rouses intense debate. But it is better than simply standing idly by. **Dossier.** BY BERTRAND BEAUTÉ

“W

e're all consumers. When we go to the supermarket and buy plastic products, we know that what we're doing is bad for the planet. The same goes for investing. We have the option of choosing sustainable products, or not." Luke Ward, investment manager with the Global Discovery Team at Baillie Gifford, is convinced that investors have a key role to play in building a better world.

And that's perfect timing, because sustainability is in vogue. The 2020 investment review from the Global Sustainable Investment Alliance (GSIA) reported that sustainable investments totalled \$35 trillion that

year, showing 15% growth from 2018, and almost 36% of all assets under management were labelled as sustainable. "After strong growth until 2021, sustainable finance has been on the decline for the past two years," says Tzoulianna Leventi, investment manager and ESG analyst at abrdn. "The war in Ukraine, soaring energy prices, inflation and rising interest rates have pushed sustainability out of the limelight."

But this backlash will probably not last. "You can't decouple sustainability from the global economy. The geopolitical and economic situation over the last two years has directed financial flows to less sustainable industries, especially oil companies, which did extremely well in 2022," says Laura Kaliszewski, global head of Client Sustainable Investing at Natixis Investment Managers. "Yet sustainable products are desperately needed, and there's huge demand for them. According to surveys, nine out of ten institutional investors plan to invest more sustainably in the coming years."

Franck Sabbah, head of AM Sales Continental Europe at Berenberg, agrees. "The Paris Agreement in 2015 (COP21) truly sparked a shift in awareness. Governments set commitments and, industries across the board took things from there. All listed companies have now understood that ESG cannot be

ignored. And the trend is likely to persist, because younger generations are much more sensitive to good environmental, social and governance practices when investing." What does that add up to? Precedence Research forecasts that the global sustainable finance market could exceed \$200 trillion by 2030, four times its total current value. So does that mean everything is green in the best of all possible worlds? Unfortunately not. For its detractors, sustainable

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→ In May 2022, activists protested outside the Deutsche Bank headquarters in Frankfurt. The German bank is accused of greenwashing.



“Younger generations are much more sensitive to good environmental, social and governance practices when investing”

Franck Sabbah, head of AM Sales Continental Europe at Berenberg

finance is no more than greenwashing on a colossal scale. "Green finance is based on the

premise that we can achieve economic growth that is harmless, or even beneficial, to the environment, but there is no scientific argument for that," Guillaume Carbou told *PME Magazine*. A professor and researcher at University of Bordeaux, he specializes in political ecology and is co-author of *Greenwashing: manuel pour dépolluer le débat public* (Greenwashing, a guide for decontaminating public debate) published by Seuil in 2022. Many researchers believe

that the problem with green finance lies in the very idea of ecological growth. They feel it is an oxymoron.

To this stance, supporters of sustainable finance snap back: "pragmatism". "Radicals think we should bring everything to a halt. But the world is not going to stop. The reality is that people consume, and we need mines and energy to satisfy them," retorts Franck Sabbah. "So the question is, how do we improve the situation? Of →

course, it's not perfect, but we have to be pragmatic and try to improve current technologies."

"It's easy to say that you're protecting the environment or acting sustainably. But it's harder to actually do it"

Tzoulianna Leventi, analyst at abrdn

However, despite the popularity of responsible investing in the financial community, environmental damage continues unabated, as highlighted in our May 2023 issue on plastics. Plus, greenhouse gas emissions have hit record levels, growing 0.9% between 2021 and 2022 to 36.8 gigatonnes of CO₂ equivalent, as reported by the International Energy Agency (IEA).

"We still see emissions growing from fossil fuels, hindering efforts to meet the world's climate targets," Fatih Birol, executive director of the IEA, said. "International and national fossil fuel companies are making record revenues and need to take their share of responsibility."

That is for those who see the glass as half empty. For those who see it as half full, "an additional 550 million tonnes of emissions were avoided by increased deployment of clean energy technologies in 2022," the IEA estimated in its report. "The impacts of the energy crisis didn't result in the major increase in global emissions that was initially feared – and this is thanks to the outstanding growth of renewables, EVs, heat pumps and energy efficient technologies," IEA Executive Director Fatih Birol

said. "Without clean energy, the growth in CO₂ emissions would have been nearly three times as high."

"We're not doing enough to limit global warming," Laura Kaliszewski concedes. "If we continue without changing anything, we will not achieve the United Nations Sustainable Development Goals. An unprecedented acceleration is necessary and this requires close collaboration between all stakeholders. Governments must lead the transition, providing clarity and strong incentives. Companies must develop alternative solutions. And the financial sector has a key role to play in financing these solutions and supporting the transition to a more sustainable world. Faced with the climate emergency, investors are there, ready to invest."

But how do you choose truly responsible investments, without being deceived by marketing tactics and greenwashing? "It's easy to say that you're protecting the environment or acting sustainably. But it's harder to actually do it," Tzoulianna Leventi says with a smile. Companies have given us plenty of broken promises. Coca-Cola is the classic example. Back in 2008, the American multinational claimed that it would include 25% recycled PET in its bottles by 2015. Unfortunately, according to the company's lengthy, 88-page *Business & Sustainability Report*, this percentage ended up being only 15% in 2022. But that has not stopped Coca-Cola from making even stronger claims. In January 2018, the company announced its World Without Waste plan for 2030. By this timeline, all Coca-Cola packaging worldwide will have to contain 50% recycled material.

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And that is just one example. Countless companies, ETFs and other sustainable funds have been accused of greenwashing or failing to adhere to their social and governance commitments. But pressure from the media and the courts

has begun to effect change. For example, on 26 September, the asset manager DWS received the largest ever fine handed down in the United States for greenwashing. The Deutsche Bank subsidiary agreed to pay \$19 million for issuing mislead-

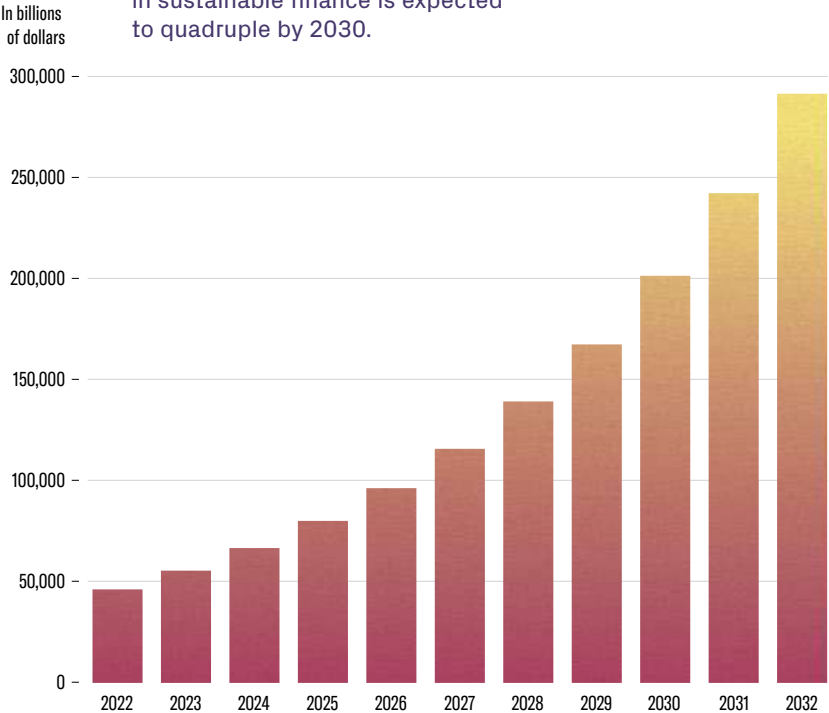
During COP26 in Glasgow in November 2021, HSBC Bank rolled out advertisements touting its action against climate change. A year later, the British regulator banned the posters, deeming them too far from reality.

ing statements about how it incorporated environmental, social and governance issues into its investment processes. Another instance took place in the United Kingdom in 2022. The bank HSBC was banned from using poster ads promoting its green credentials, which were deemed "misleading" for omitting material information about its own action.

"The greenwashing scandals have raised awareness in the financial and business communities," Franck Sabbah says. "Everyone now knows that if the gap between marketing claims and reality is too wide, the consequences can be severe and, in some cases, severely impact the reputation of companies." ▴

The rise of sustainable finance

The global amount of investment in sustainable finance is expected to quadruple by 2030.



SOURCE: WWW.PRECEDENCESEARCH.COM

The dark empire strikes back

In December 2022, the asset management giant Vanguard sent a chill throughout the sustainable finance community. The world's second largest asset manager, with \$8.2 trillion in assets under management, announced that it would withdraw from the Net Zero Asset Managers initiative, after joining in 2021. This group is the largest alliance of international asset managers committed to supporting more sustainable finance. Not to be taken lightly, this departure depicts the rise of an "anti-woke" movement of defiance against ESG investing in the United States. In May 2023, the Republican

governor of Florida, Ron DeSantis – a potential candidate for the White House in 2024 – passed a bill prohibiting state officials from investing public funds to promote environmental, social and governance goals and banning ESG bond sales. The same DeSantis had decided in December 2022 to pull \$2 billion in public funding invested with BlackRock, due to the asset manager's pro-ESG stance. Gloomier still, US shareholders seem to be heading in the same direction. Between January and August 2023, the Sustainable Investment Institute reports that proposals submitted at general meetings calling for more

climate action were approved by an average of 23% of shareholders, versus 34% in 2021 and 30% last year. A case in point, one-third of Amazon shareholders at this year's AGM approved a resolution that would require the online retail giant to address the environmental risks associated with its plastic packaging, compared with nearly 50% last year, and 35% in 2021. But experts are not worried about these headwinds. "The boycotts launched in some Republican states will not change anything," says a specialist in the sector. "The sustainable finance market will continue to grow."

ESG: the mish-mash criteria

In terms of environmental, social and governance criteria, the ratings awarded by rating agencies are still difficult for private investors to use. We take a closer look... BY BERTRAND BEAUTÉ

environmental

social

ESG. Those three little letters stand for an essential tool now used throughout the finance world. “All major listed companies now understand that they can’t get around environmental, social and governance (ESG) criteria,” says Franck Sabbah, head of AM Sales Continental Europe at Berenberg. “If they don’t have an ESG policy, they are closing themselves off to sources of financing.”

To stay in the loop, most listed companies now publish lengthy “sustainability reports” alongside their traditional financial reports to inform investors of their non-financial risks relating to climate, ethics and governance issues. “These days, an ESG report is about 80 pages minimum. That amounts to a lot of work for companies,” Franck Sabbah adds. “While large companies can pour substantial resources into implementing their ESG policy, small caps sometimes struggle. We have to assist them in highlighting their ESG

approach, but small companies still have trouble meeting all the reporting requirements.”

As an example, the Berenberg manager cites the Italian company Carel, a leader in air conditioning and refrigeration control systems. Between 2021 and 2023, its ESG rating

from MSCI has risen from B to AA. “Carel’s business model hasn’t fundamentally changed,” Franck Sabbah says. “Its rating increased mainly because in 2021, the company was able to demonstrate that its technology reduces its customers’ emissions.”

Based on the sustainability reports provided by companies, rating agencies such as MSCI, Moody’s ESG, S&P Global, Refinitiv and Morningstar (the list is not exhaustive, as more than a hundred exist worldwide) assign an ESG rating to each firm. No report means no rating, or worse, a poor rating. The problem is that the agencies rarely reach consensus. A scientific paper published in the *Review of Finance* in November 2022 shows that ratings fluctuate enormously depending on the agencies considered (see infographic on p. 43).

“ESG rating systems are opaque” says Laura Kaliszewski, global head of Client Sustainable Investing at Natixis Investment Managers. “At Natixis IM, we prefer to use raw company data to determine our own ratings, which our affiliates can explain transparently to investors.” That makes it difficult for a private investor to form an idea of a company’s “sustainability” based on its ESG rating, as the score may differ depending on the agency that awarded it.

This problem is compounded by the fact that although there are international standards such as those of the Global Reporting Initiative (GRI), they remain voluntary. Certain companies publish their own data, so it is

complicated to compare them with other companies. “For investors, as well as for fund managers, standardising regulations would make things much simpler,” says Yili Wu, sustainable investing strategist at Global X ETFs. “But I don’t think this is likely to happen, especially due to the divergence of interests and needs between the US and Europe.”

Private investors may also find it unsettling that heavy polluters can end up with good

“ESG rating systems are opaque”

Laura Kaliszewski, global head of Client Sustainable Investing at Natixis Investment Managers

governance

ESG ratings. That is because the “E” for environment is only one of the three pillars of ESG. A highly polluting company can therefore partly offset a poor environmental rating with a strong social and/or governance rating. For example, MSCI awarded a BBB rating to Glencore, an A to McDonald’s, AA to TotalEnergies and the highest possible rating (AAA) on a scale from CCC to AAA to Coca-Cola (see p. 43 for ratings of Swiss companies). →

“Europe is at the forefront of sustainability”

Tzoulianna Leventi, investment manager and ESG analyst at abrdn

To improve reliability and facilitate comparison between companies, the European Union has decided to tighten the game rules with the Corporate Sustainability Reporting Directive (CSRD), set to go into effect on 1 January 2024. Going forward, companies will be required to provide more complete and detailed information

on their material ESG risks, opportunities and impacts, based on 12 specific points known as the European Sustainability Reporting Standards (ESRS). All companies will therefore have to speak the same language, which will make it easier to compare the data provided and avoid any fragmented or biased communication. In addition, the data provided will have to be audited by professionals such as PwC, KPMG, Deloitte and EY, which usually certify the financial statements.

“With the CSRD, European companies will have to disclose their data, and it will be audited,” Laura Kaliszewski says. “That’s a real change. But the directive will not solve all the problems.” For now, the CSRD only applies to EU-based companies. But the directive introduces measures for those outside the EU. As of 2028, all companies with significant activity in Europe will have to comply with its requirements. The financial data firm Refinitiv

estimates that the CSRD will affect nearly 10,000 companies outside the EU, and almost a third of them are based in the US. If the required information is not disclosed, the companies will be fined a percentage of their annual revenue generated in the EU. And Uncle Sam is not happy about it. In June, US Senator Tim Scott and Kentucky Congressman James Comer reacted, “Shifting to an EU-style climate regulatory regime in the US would materially and unnecessarily harm our nation’s oil and gas sector, agriculture sector, and our preeminent capital markets.” The two Republicans called on the US Treasury to do everything in its power to block the CSRD.

“Europe is at the forefront of sustainability,” says Tzoulianna Leventi, investment manager and ESG analyst at abrdn. “But it’s very complicated for investors because regulations change very quickly in this area, and the game rules are not the same worldwide. For these reasons, I think it’s hard to imagine any standardisation for now.” ▲

Using AI to help investors

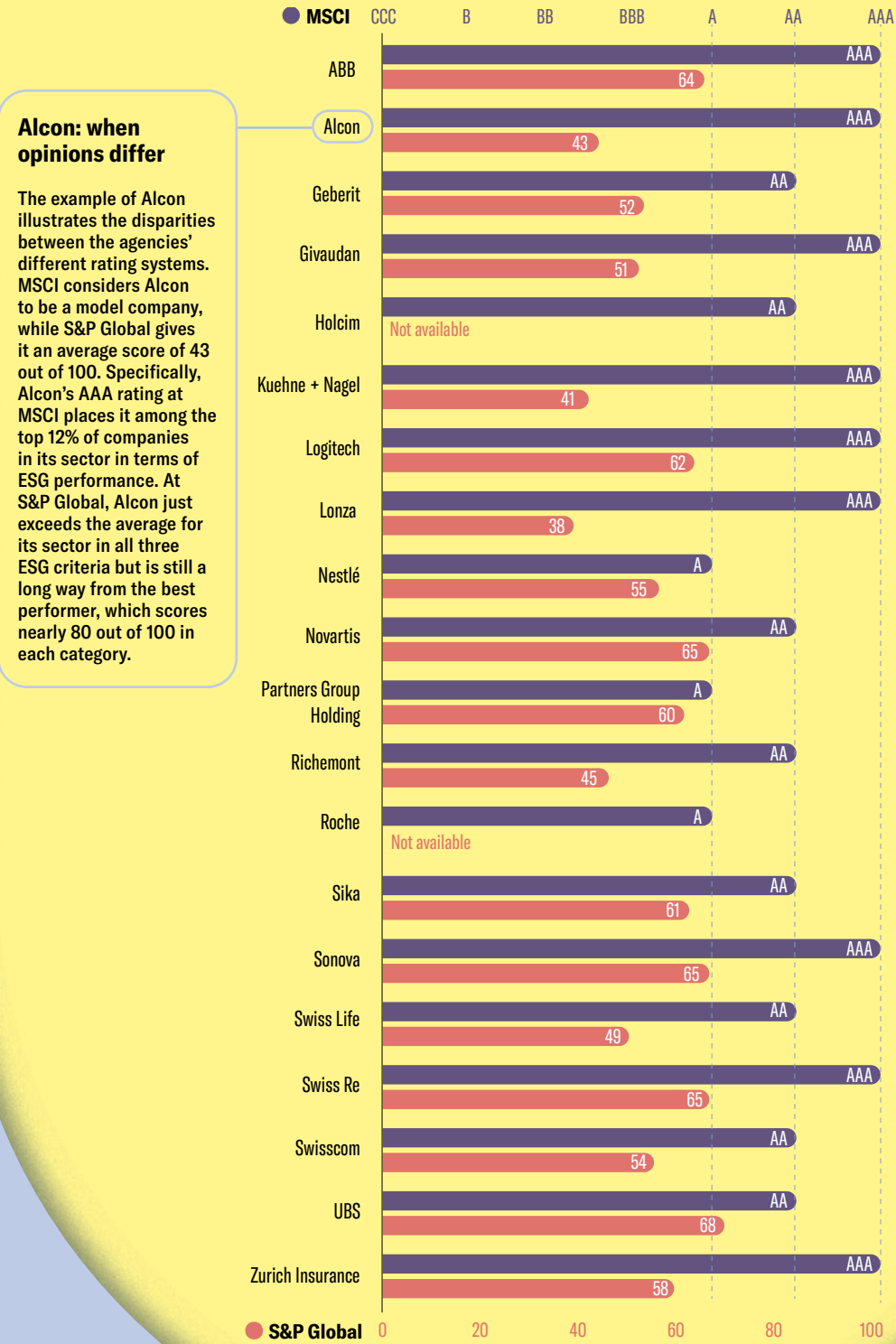
“Access, quality and comparability of data and sustainability indicators remain one of the main challenges today,” says Laura Kaliszewski, global head of Client Sustainable Investing at Natixis Investment Managers. As more and more companies produce non-financial reporting along with traditional financial reports, investors are drowning in data. That is where artificial intelligence could play a key role in analysing these vast amounts of

data. But that’s not all. “In terms of environmental performance, AI can be used to optimise industrial processes and water and energy consumption, and to reduce greenhouse gas emissions,” says Yannick Ouaknine, head of Sustainability Research at Société Générale. However, on social issues, the more widespread use of AI will not be without its drawbacks. “With artificial intelligence, some repetitive tasks will be automated,” Yannick Ouaknine ex-

plains. “The WEF predicts that 85 million jobs will be lost and 97 million new jobs created. So the overall balance will be positive, but it won’t involve the same people.” Lastly, on governance, the Société Générale analyst who authored a paper on the subject recommends introducing safeguards. “At the end of the chain, any decision must always be approved by a human being. Because if we make a mistake, we can’t point to the AI and say, ‘It’s his fault.’”

The SMI: topping the ESG charts?

The 20 companies included in the Swiss Market Index (SMI) have all been awarded high ESG ratings from the rating agency MSCI. S&P Global is not so complimentary.



SOURCES: MSCI AND S&P GLOBAL

“Green finance is a lure”

A veteran of the trading floors, Julien Lefournier published the book *L'illusion de la finance verte* in 2021, which criticised so-called “sustainable” investments. We spoke to him to find out more.

BY BERTRAND BEAUTÉ

After spending more than 25 years working the trading floors at banks including Crédit Agricole, Royal Bank of Scotland, Merrill Lynch and Société Générale, Julien Lefournier co-authored the book *L'illusion de la finance verte* (The Illusion of Green Finance) with Alain Grandjean, founder of the consultancy Carbone 4. In it, he argues that sustainable finance is hardly a solution, but rather creating inertia that is making the climate situation worse.

“My criticism of finance firms is that they are pretending and using ‘sustainability’ to make their image greener”

Why is that?

A fund that tells its clients, “we’re going to underperform the market because our investments are truly sustainable and factor in additional costs” would not be able to sell to anyone. There are two reasons for this. First, investors’ priority remains on returns, risk and liquidity. Everything else, including the “sustainability” factor, which is not even defined by the investment firms themselves, comes afterwards and barely makes a difference. And second, funds sell their performance.

That means that a “greening” process is put into motion, but only in name. With every survey, the public finds out that most of the funds presented as “sustainable” are packed with stocks from some of the most polluting industries, such as fossil fuels. In other words, if they cut themselves off from oil, they would potentially underperform the market. ESG filters are used to make this greening process look credible, but all they do is create a façade of sustainability. Companies such as Coca-Cola, the world’s largest producer of plastic waste, which sells products that contribute to obesity and diabetes, and TotalEnergies both have very good ESG ratings and are therefore included in most of these sustainable funds.

TotalEnergies invests in renewable energies. What do you say to people who think that including this type of company in sustainable funds helps to support the transition?

That’s a lure. Yes, TotalEnergies and other oil companies are investing in renewable energies, but that’s just a smokescreen. It’s not about making business

greener; it’s about making it less brown. While it’s true that TotalEnergies is increasing its renewable energy capacity every year, its fossil fuel production is also rising, and at a much faster pace. The net result is therefore negative. The CarbonBombs.org survey published in October 2023 showed that TotalEnergies is involved in at least 23 “carbon bombs”, i.e., new oil and gas megaprojects that are ruining any hope of meeting the ambitions of the Paris Agreement. By endorsing this, sustainable finance is not even a small step in the right direction. It makes things worse.

So finance can’t help to heal the planet?

Left to act alone, finance will not organise the fight against climate change. Bill Gates never mentions finance in his book *How to Avoid a Climate Disaster!* Because the solution cannot come spontaneously from there, and I agree with that. My criticism of finance firms is that they are pretending and using “sustainability” to make their image greener while impeding useful regulations. The way they do sustainable finance is all marketing, with no real impact, and it avoids the awareness and policies needed.

So what solutions do you recommend?

Only policy and regulations can change the situation. Look at the automotive industry. Manufacturers did not spontaneously switch from internal combustion to electric vehicles. Europe introduced increasingly restrictive standards, effectively eliminating internal combustion engines from the table. Why should this strategy only apply to carmakers? Ecological legislation must be stricter in all areas, and finance will follow. ▲

Why do you believe that green finance is an illusion, to paraphrase the title of your book?

Just look at the figures, and it will be clear. Despite the boom in finance presented as “green”, greenhouse gas emissions have never been higher. They hit a record in 2022 (ed. note: 36.8 billion tonnes of CO₂ equivalent, according to International Energy Agency estimates). So the world is not

at all headed in the right direction, and so-called “sustainable finance” is not changing this pathway.

Perhaps the situation would have been worse without green finance, which contributes to financing renewable energy...

But finance has always invested in renewable energy, such as hydroelectric dams. That’s nothing new. As for the recent

development of wind and solar power, it has nothing to do with the good works of finance. That growth was made possible by massive state subsidies. As a general rule, anything sustainable costs more to produce. If you buy organic fruit, fair-trade coffee or environmentally-friendly clothing, you know you have to pay more. In other words, it comes with a vice premium. Companies have a competitive advantage by not

taking into account the negative impacts of their activities. In his 2021 book, *How to Avoid a Climate Disaster*, Bill Gates describes the situation very clearly, calculating the incremental costs of decarbonisation sector by sector. But so-called green finance does not propose any solution in which owners of capital would bear part of this additional cost by reducing the profitability of their capital.

© ED ALCOCK, MYOP

“Sustainable finance is developing very quickly”

Professor of Responsible Finance at the University of Geneva, Philipp Krüger was one of the first researchers to take an interest in this subject. Find out more in this interview. BY BERTRAND BEAUTÉ

An international authority on green finance, Professor Philipp Krüger was one of the earliest academic researchers to focus his work on sustainability. His dissertation back in 2010 delved into the issue, demonstrating that the market reacts warmly when companies with a reputation for poor sustainability performance take steps to improve their social performance or limit their environmental impact. Now Professor of Responsible Finance at the University of Geneva (Unige), he spoke with *Swissquote Magazine* in an interview.

“Best-in-class companies, referring to those with the top ESG ratings in their sector, perform slightly better than others”

© DAVID WAGNIÈRES

After years of growth, sustainable finance has slowed in 2022 and 2023. Is this a turning point?

No. Sustainable finance will continue to grow. Geopolitical events, inflation and rising interest rates may have contributed over the last two years to slowing the headway made by green finance, but what has really changed is the notion of sustainability itself. The definition is more restrictive. Assets that used to be considered sustainable five years ago no longer qualify today, which means the universe of sustainable options is smaller. Regardless, the world is moving towards a more sustainable economy, and one day we'll no longer be talking about “sustainable” finance. It'll just be finance, plain and simple. Look at academia: ten years ago, practically nobody was talking about sustainable finance. These days, all the top researchers are working on the subject. Sustainable finance is developing very quickly. To give you an idea of the figures: green bond issues totalled \$1 trillion in 2021, a staggering rise from \$20 billion in 2013.

Legislation and requirements are changing very quickly in this area. In essence, how would you define sustainable finance?

There is not one single definition. In fact, I'd even say that there are as many definitions as there are people in the world. My definition of sustainable is different from someone else's. Nuclear power is a good example. Some see it as a sustainable energy, because it produces low CO₂ emissions. But others view it as completely unsustainable because nuclear power generates radioactive waste, and uranium is not a renewable resource. Many studies show that sustainability criteria vary substantially

from one country to another. In China, for instance, green bonds can be issued to improve the environmental efficiency of a coal-fired power station. In Europe, that would be impossible because fossil fuels are not considered sustainable. And in the United States, the concept of sustainability combines a lot of different things: climate risk, gender diversity, transparency, and so forth.

The contours of sustainable finance are still vague. For example, the European Union's “super green” funds, which comply with Article 9, remain invested in oil and gas companies. How do you explain that paradox?

Sustainable finance players are required to be very precise. But in many other sectors, the lines in finance are blurred, and nobody has a problem with that. For example, performance is a relative measure. I think that these ultra-high standards set for green finance are actually designed to discredit the whole concept.

That being said, a company's sustainability can be assessed in two ways. We can look at whether its products contribute to sustainability or how the company makes its products. These are two very different angles. Historically, sustainable finance has mostly taken the second route, by applying ESG (environmental, social and governance) criteria. Relatively unsustainable firms, such as companies from the tobacco industry, ended up in green funds because they were good to their employees. Obviously, this approach let down small shareholders and led to accusations of greenwashing. These days, sustainable finance more closely examines the sector's impact, and as a result, certain industries (fossil fuels,

weapons, tobacco) are being excluded altogether.

What investment strategies does sustainable finance focus on?

There are several approaches. First is exclusion, when investors exclude any company deemed non-compliant with the ESG criteria. Then there is best-in-class investing, which involves selecting companies with the highest ESG ratings. You also have impact investing, which finances individual social or environmental projects. So there are several ways of putting sustainable finance into practice, and each fits somewhere on the spectrum according to its degree of intensity. Investors can therefore position themselves based on their own goals and expectations.

But do green investments perform better than others?

That question is not new. People have been asking about that since the 1970s, and we have yet to come to a conclusive answer. Several meta-analyses have shown a slightly positive correlation between financial performance and sustainability. Best-in-class companies, referring to those with the top ESG ratings in their sector, perform slightly better than others. That's quite surprising from a theoretical point of view, because we would expect the opposite to be true. Companies that invest in sustainability have greater restrictions and therefore additional costs. So we'd expect them to underperform the market. But that's not the case. In fact, we don't understand the cause and effect relationship. Do the most sustainable companies perform better because they are sustainable? Or, is it the other way round, i.e., are successful companies more sustainable because they are successful? The point remains up for debate. ▲

Your guide to investing sustainably

Through their investments, investors can help to heal the planet. Here's an overview of the options available. BY BERTRAND BEAUTÉ

In 2022, the European Commission (EC) decided to include specific gas and nuclear activities in its taxonomy, on the grounds that these technologies contribute, under certain circumstances, to the fight against climate change. As a result, investments in nuclear or gas-fired power stations that produce electricity are classified “sustainable”. And the decision has aroused the ire of a number of NGOs, such as Greenpeace. They accuse the EC of greenwashing and are taking the decision to the European Court of Justice in 2023. The controversy over the EU Taxonomy illustrates how difficult it can be to agree on what is sustainable and what is not.

“There is no universal definition of sustainability,” Professor Philipp Krüger, a responsible finance expert from the University of Geneva, said in an interview with us (see p. 46). Yili Wu, sustainable investing strategist at Global X ETFs, feels it should be up to investors to decide: “I believe it’s important for each investor to think for themselves about their sustainability and performance objectives.” Here are a few strategies to guide you in your choices.



↑ Every year, many companies, such as Disney, Airbnb, and Adidas, celebrate Pride Month. Here, employees of the French multinational Sodexo, a specialist in contract catering, during Pride in London in 2018.

CASE-BY-CASE BASIS

Advantage
you choose based on your values

Disadvantage
you have to research each company

Choosing the companies in which you invest offers a definite advantage: you can be sure that all the companies in your portfolio align

with your values, whatever they may be. For example, someone who is a climate change sceptic but very concerned about social issues might choose to buy shares in the French group Sodexo, which in early 2023 launched a common benefits standard for its 420,000 employees in 53 countries. All employees now have access to life insurance, parental leave and caregiver leave.

Or, you can choose to invest in the biggest proponents of LG-

BTQIA+ inclusion. This approach can even be economically profitable, according to the 2020 Credit Suisse study, “Diversity: The LGBT-350”. It shows that the shares of companies that take the most action to promote the inclusion of LGBT+ people generally perform better. The bank came to that conclusion by looking at the performance of a portfolio of 350 LGBT-inclusive companies. Tech giants such as Apple, Microsoft, Amazon and Google topped the list.

THEMATIC ETFs

Advantage
easy to select

Disadvantage
includes companies you may not want

Some funds and ETFs labelled as “green” or “sustainable” include companies active in oil, gas or nuclear power. But for many investors, that is unacceptable. What can you do? “Along with green ETFs, there are more specialised ETFs that let you invest in a specific sector, such as hydrogen or renewable energy ETFs,” says Yili Wu, sustainable investing strategist at Global X ETFs. But this technique is not perfect either. For example, hydrogen ETFs include companies such as Air Liquide and Air Products. However, these groups mostly produce grey or blue hydrogen, which comes from fossil fuels (see also p. 58).

IMPACT INVESTING

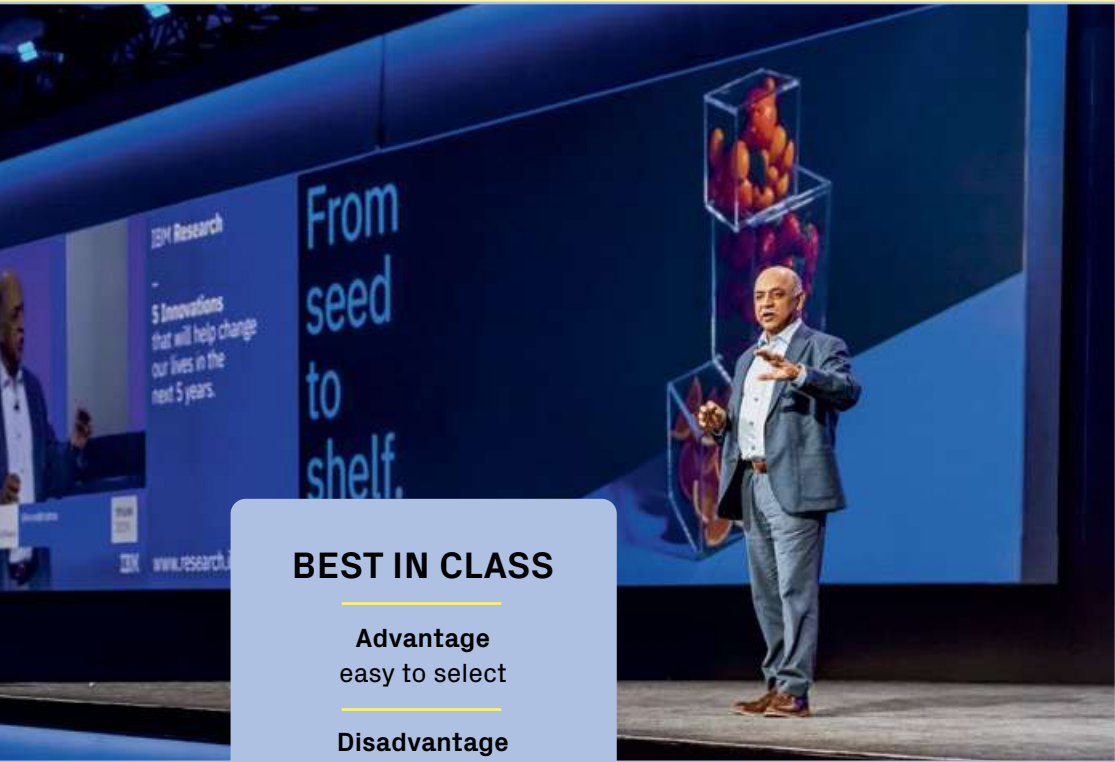
Advantage
positive impact

Disadvantage
high risk

The Global Impact Investing Network (GIIN) defines impact investing as “investments made with the intention to generate

positive, measurable social and environmental impact alongside a financial return”. Unlike “sustainable” investments, which generally involve companies awarded high ESG ratings, impact investing aims to bring a measurable benefit to society. For example, Coca-Cola may be included in “sustainable” funds, but not in impact funds. Tesla, Zoom Video Communications, Moderna and

Impossible Foods are frequently cited as examples of success in terms of impact, as they have produced both financial gains for their investors and made a positive contribution to social or environmental issues. Impact investing first started out as a way of backing startups that aimed to achieve a positive impact on the world. Today, there are many impact ETFs and impact funds.



BEST IN CLASS

Advantage
easy to select

Disadvantage
includes companies you may not want

The best-in-class approach consists of investing in companies that lead their sector in implementing their ESG criteria. In other words, these companies have been awarded the

highest ratings from agencies such as MSCI and Refinitiv (see p. 43). For example, Refinitiv’s ranking lists the three most socially responsible companies in the world as IBM (US), SAP (Germany) and Tata Consultancy Services (India). The Swiss company with the high-

est ranking is Roche, coming in ninth. Best in class can also be applied with exchange-traded funds (ETFs) or funds that include the companies with the top scores across all sectors. Several studies show that best-in-class companies slightly outperform the market.

← Arvind Krishna, CEO of IBM. According to Refinitiv, the American multinational is the most socially responsible company in the world.

TECHNOLOGIES OF THE FUTURE

Advantage
high potential

Disadvantage
high risk

“Do you want your investment to have an immediate impact or are you looking at the long term?” asks Luke Ward, investment manager with the Global Discovery Team at Baillie Gifford. He believes that, while investing in renewable energies (solar and wind power) may have a small impact in the short term, investing in disruptive technologies could truly revolutionise things if they eventually gain traction. “For these technologies to be adopted, they have to be better and cheaper,” Ward adds. “Look at nuclear power. Over time, this technology has become increasingly expensive. One solution could be to use small modular reactors (SMRs). By standardising components and building dozens or hundreds of units, the companies that develop SMRs could drastically reduce the cost of nuclear energy and therefore have a major impact on decarbonisation.” One of the companies developing SMRs is NuScale Power (see *Swissquote Magazine’s* May 2022 issue). Other technologies, such as solid-state batteries, which Toyota plans to mass-produce between 2027 and 2028, or nuclear fusion, namely with Shine Technologies, could also have a genuine impact in the medium to long term.



↑ The American company NuScale is developing small modular nuclear reactors.

PORTRAIT

The race to quantum computing

Having secured a recent partnership with a centre in Basel, the US company IonQ promises a quantum leap in computational power within two years. BY BLANDINE GUIGNIER

In October 2021, IonQ made history by becoming the first quantum computing company to go public on the New York Stock Exchange. In doing so, the company raised \$636 million, a huge jump from the \$82 million it had raised in the first six years of its existence. Who is behind it all? Peter Chapman, the startup's CEO since 2019. The former director of engineering at Amazon Prime, son of a NASA astronaut and serial tech entrepreneur has been laying out his roadmap ever since. His mission is to expand "quantum computing out of the lab and into the real world". By 2025, he aims to deliver the #AQ 64-powered Tempo computing system capable of outperforming traditional computers for certain tasks.

But what makes this company different from its competitors? First, its technology, known as "trapped ions". "Trapped ions are one of the first approaches proposed by academics to build small quantum computers," says Thierry Giamarchi, a physicist at the University of Geneva and the Centre national de la recherche scientifique in France. "This

© IONQ

IN NUMBERS

2015

Year company was founded by Christopher Monroe and Jungsang Kim.

\$11.1 M

Revenue in 2022.

200

Number of employees.

technology uses charged chemical elements to carry information then traps them in the desired state using electromagnetic fields. The theory was first put forward by the Austrian physicist Peter Zoller and the Spanish physicist Ignacio Cirac. Several people in the United States then built on this discovery. Christopher Monroe, namely, took his research at Duke University and the University of Maryland as a basis to go on and co-found IonQ."

Created in 2015, the spinoff, which now has 200 employees, operates in an ultra-competitive sector. By the end of 2022, \$5.4 billion had already been invested in quantum computing, according to McKinsey & Company. "Many IT companies are trying to take a position in the field, using technologies other than IonQ," Giamarchi says. "Tech giants like Google and IBM are doing this by developing systems that use superconducting circuits. Other companies, such as the French company PASQAL, are developing quantum

IonQ Forte, the first generation of IonQ's data centre deployable quantum computers, is expected as early as 2024.



computers that work using what are called de Rydberg atoms. Each technology is extremely serious, and each has its advantages and disadvantages."

Very different machines

Thierry Giamarchi believes that it is difficult to say which of these three main technologies will be the first to solve significant problems that cannot be solved using conventional algorithms. First, one should note that conventional digital computers code with 1s or 0s (known as "bits"), whereas quantum computers simultaneously code 1s and 0s ("qubits"). "This means that many operations can be carried out in parallel, but quantum computing is subject to decoherence, i.e., noise in its environment that can cause disturbances in information processing. It is very difficult to increase the power of these computers, i.e., their number of qubits, while avoiding decoherence and errors. There are still many engineering problems involved in getting all these qubits to work together." Although its development is uncertain, the quantum computing market could grow to →



between \$9 billion and \$93 billion in 2040, according to various forecasts from McKinsey & Company.

David Williams, an analyst at Benchmark, also sees this as a limitation. “What’s missing is a baseline or a third party that can effectively compare the different machines against each other. Of course, there are comparisons on very specific points of the products, but they don’t point to the best system.”

Record sales of on-site systems

The only effective way to judge the potential of a company in this field, David Williams says, is to see whether it creates enough value for its customers. “And IonQ is faring quite well in that respect. Both government and commercial organisations are prepared to pay a lot of money to have access to its machines, even at a very early stage of development.” The analyst also points out that, unlike other listed companies like D-Wave or giants like Google, IonQ is building an entire ecosystem around

“Both government and commercial organisations are prepared to pay a lot of money to have access to its machines, even at a very early stage of development”

David Williams, director at the US-based Benchmark Company

The two founders of IonQ, Jungsang Kim (left) and Christopher Monroe (right).
↓

quantum computing. “They don’t just want to provide cloud services. They want to dominate the whole space – software, hardware and remote access.”

In 2023, the company is therefore expected to double its turnover to \$21.6 million, with nearly \$61.5 million in orders. The most recent contract was with the United States Air Force Research Lab, worth \$25.5 million. “IonQ’s management expects several more

system sales over the next 18 months,” says David Williams, who recommends buying the stock (see inset on p. 56).

Earlier this year, another contract, worth \$28 million, was sealed in Switzerland between IonQ and QuantumBasel.

© IONQ / UPTOWNBASEL

Based in Arlesheim (BL), this privately funded neutral quantum hub aims to democratise access to quantum computing. QuantumBasel bought a computer with 35 algorithmic qubits of power from the US firm, with delivery scheduled for 2024. A second more powerful 64 system is scheduled for 2026.

QuantumBasel CEO Damir Bogdan believes this partnership offers a number of advantages. “As we had already invested in different quantum technologies from IBM and D-Wave, we also wanted access to IonQ’s trapped ion system. The idea is to bring our customers the widest possible range of options, while reducing the risk of dropping out of the running.” Another positive outcome of this deal is that IonQ plans to open its EMEA (Europe, Middle East, Africa) innovation centre on the uptownBasel campus. “It will be able to develop some of its products there, drawing on the physics and engineering skills available in Switzerland.”

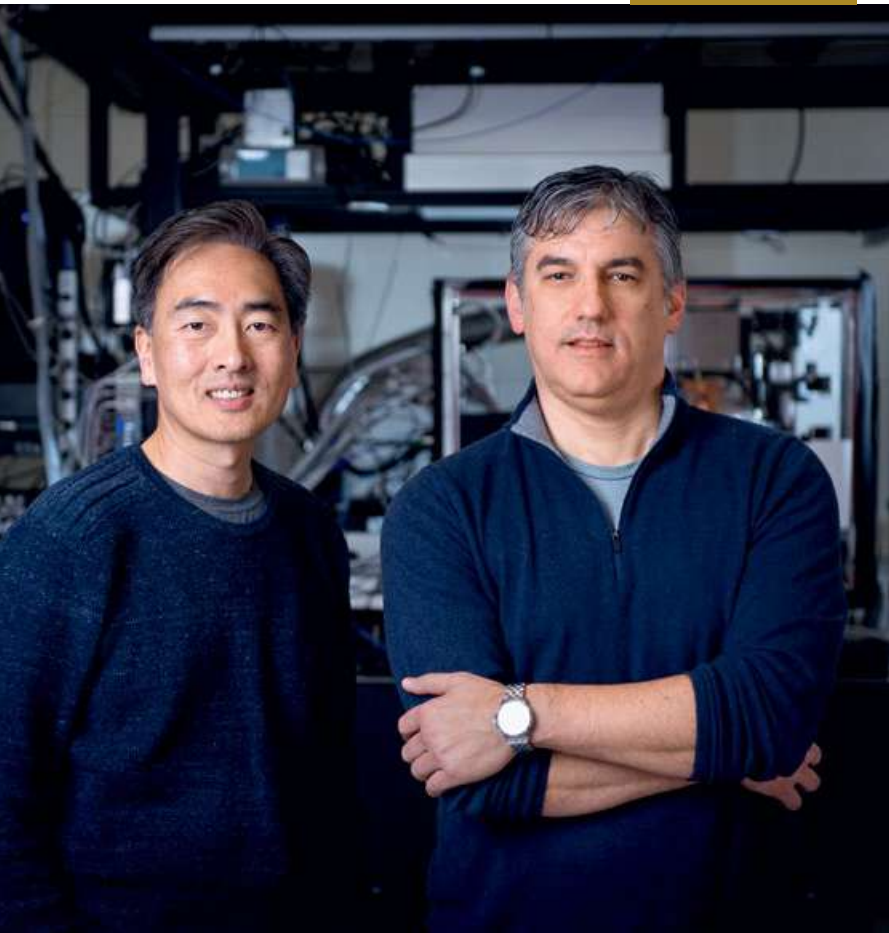
Through its partnership with QuantumBasel in 2023, IonQ will open an innovation centre in uptownBasel, Switzerland.
↓

A key feature for QuantumBasel was that IonQ is one of the few companies that does not only offer cloud access. “The contract with IonQ helps us to meet growing industry demand for ‘on-site’ quantum computing systems. We can attract talent, and *Forbes* magazine referred to us as the next ‘European quantum powerhouse’.”

Multiple applications

Estimated to be worth between €620 billion and €1,270 billion by 2035, the potential economic value from quantum computing – in the chemical, life sciences, financial services and automotive industries – is tremendous. Damir Bogdan senses many concrete applications in the near future. First and foremost, he says existing industrial processes can be optimised. “This could make it easier to manage the workforce and production. Major construction companies are already using our quantum computing services to improve the way they build their buildings.” Logistics is also set to benefit, for instance, “by optimising route planning, air cargo loading and last-mile delivery”. →

IonQ’s Tempo computer expected on the market by 2025.
↓



The CEO also takes the example of financial services. "Quantum computing machines can make calculations much faster, whether they are used to simulate changes in price or risk, or to optimise portfolios. Using them also requires fewer parameters, and therefore less data. This translates into lower costs and reduced energy consumption, a very important factor in achieving sustainability objectives." Damir Bogdan also mentions creating synthetic data for machine learning. "For example, to calculate future market trends, the finance sector now needs to replace data from the pre-COVID period with other synthetic data. The process can be simplified by quantum computing."

The last industry, an obviously very important one in Switzerland, is life sciences. "Quantum technologies could be used to improve simulations of the results of drug trials, specifically by analysing 'protein folding'. This problem will probably take more than a decade to solve, but we're better off starting now if we are to achieve it in the long term." That adage seems to apply to many aspects of the race to quantum computing. ▀

Damir Bogdan, QuantumBasel CEO, with whom IonQ has partnered, here during a symposium. ↓



ANALYST OPINION

David Williams, a director at the US-based Benchmark Company, is confident. IonQ's revenue has "exceeded expectations, thanks to milestone payments". As a result, the outlook for the full year 2023 has recently been raised from \$19.1 million to \$21.6 million. As a comparison, revenue totalled \$11.1 million in 2022, with an EBITDA of -\$44.74 million.

In addition to the raised revenue guidance, the analyst is optimistic as a result of the company's report of "another solid quarterly performance... an accelerating pipeline of interest in hardware and continued momentum in quantum adoption trends." Mr Williams also notes in his report the interest in computing and networking applications. "We are encouraged by the recent \$25.5 million agreement with AFRL (US Air Force Research Lab) deal, which suggests the opportunity for quantum networking is clearly gaining traction and is providing much better revenue potential for the lower performance hardware than we had originally anticipated."

On 10 November, when the stock was trading at around \$11 on the New York Stock Exchange, David Williams therefore reiterated his "Buy" recommendation and his price target of \$16. It is worth noting that the share ended its first day of trading in October 2021 at \$9.20.

The only drawback is the departure of co-founder Christopher Monroe. "That is probably the result of internal differences in opinion," David Williams supposes. "It's possible that the startup's scientific vision and commercial vision took diverging paths. That can happen at this type of company, especially when they go public and financial performance is expected. However, despite lingering concerns about the reason for his departure, we're still more convinced that it's not due to a more significant technical problem and that it does not compromise the company's roadmap." — IONQ

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30
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HYDROGEN

“Green energy is necessarily more expensive than grey energy”

After an impressive rise in 2020, the hydrogen bubble burst on the stock market. But Matthieu Guesné, CEO and founder of Lhyfe, a French startup specialising in producing green hydrogen, isn't concerned. We spoke to him to find out more...

BY BERTRAND BEAUTÉ

O

n the other end of the line, Matthieu Guesné apologises for the noise in the background. The founder and CEO of Lhyfe was visiting a work site and paused to answer questions from *Swissquote Magazine*. The French startup, founded in 2017, has seven facilities currently under construction. In Tübingen, Germany, Lhyfe is finishing work on a green hydrogen production plant that will be used to power Deutsche Bahn trains running on the Pforzheim-Horb-Tübingen route in 2024. And at its first facility in Bouin, France, the company is expanding production capacity to achieve one tonne of green hydrogen per day in 2024, which is 2.5 times higher than before. In total, Lhyfe's maximum production capacity of green hydrogen is expected to reach 4 tonnes per day by the end of 2023, and 80 tonnes per day by 2026. Comparatively, production capacity at the end of 2022 was 300 kg per day. To give a sense of volume, filling a hydrogen-powered car requires 5 kg of hydrogen. Produced via water electrolysis powered by renewable energy, green hydrogen will play a key role in the energy transition.

← Deployed in June, 2023, in Saint-Nazaire (France), Lhyfe's Sealhyfe – an electrolyser contained in a 21-metre-long and 14-metre-wide “buoy” – enables the production of green hydrogen at sea from energy generated by offshore wind turbines.

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The hydrogen sector is struggling to gain a second wind on the markets after the boom in 2020 (see *Swissquote Magazine's* issue from September 2020). Were outlooks on the industry overestimated by investors?

We need to decouple the market activity of hydrogen companies from their industrial trajectory. Whether upwards or downwards, market reactions are very intense in the short term. For industrials, we need to look at the medium to long term because it takes several years to build a green hydrogen production facility. Some investors may have thought that hydrogen was going to revolutionise the energy sector overnight. But that's simply not possible. Look at Tesla. Now, it's a household name that revolutionised the automobile industry with its battery-powered electric vehicles, but it took Elon Musk 20 years to get here. It will be the same for the energy sector. Green hydrogen will become increasingly more important, but it will take time. So I'm optimistic about our share price in the medium to long term.

Building production facilities takes time and costs money. Is it difficult for the industry to receive financing when share prices are low and interest rates are high?

When any company decides to go public, it must accept the highs and the lows. When the

share price is up, we have easy access to funds. That's obviously not the case when the share price is at its lowest. The important thing is to anticipate the low points. In terms of interest rates, of course it's more difficult to finance the growth of a booming company such as ours when the Euribor is at 4% rather than 0%. But energy prices are also higher at the moment, and we benefit from that as a hydrogen supplier. That allows us to maintain our profitability. →

↑ Matthieu Guesné, CEO and founder of Lhyfe.



Green hydrogen remains more expensive than grey hydrogen. Is that the main roadblock to growth?

I think that green hydrogen will become competitive without subsidies before 2030. But we cannot delude ourselves: in order to reach that goal, the industry needs subsidies now, because all green and renewable energies were always much more expensive at the start than their polluting grey counterparts. Europe, which is the region in the world with the most sustainable path forward, has made the exact same assessment.

“90% of hydrogen production is in the hands of small companies and open to newcomers”

Oil and gas are available from the ground for free. Of course, wind and solar are as well, but we need to transform them into electricity before we can use them. That incurs an extra cost that must be covered. So pure capitalism doesn't work in this case. Only regulatory pressure and subsidies will allow us to move towards a more sustainable energy source. This transition is absolutely necessary. We can no longer ignore the negative externalities of fossil fuels which, paradoxically, are also subsidised. Thanks to regulatory pressure and subsidies received for years, renewable energies and electric vehicles are starting to become competitive. The hydrogen industry will follow the same trajectory. By using public incentives to industrialise, it will become competitive.

In 2022, Lhyfe became the first company in the world to produce green hydrogen in an offshore wind park. Why did you decide to go offshore where everything is more expensive?

Why do European countries build oil rigs in the ocean, even though it's much cheaper to build on land? Simply because they seek a certain level of energy sovereignty and there are not enough oil deposits on land in Europe. It's the same concept for wind energy. Building in the ocean is easier because wind conditions are better. Building wind farms further than 50km off the coast, where you can't see them from land, solves many issues. Space is virtually unlimited and coastal residents

aren't opposed to new wind turbines if they can't see them.

In 2022, Lhyfe's revenue was only €600,000. How can a small company such as yours compete with traditional hydrogen players in the industry, such as Air Liquide and Linde, and newcomers such as Total Energies and Shell?

According to the International Energy Agency, global hydrogen production (ed. note: all forms included, see inset on p. 61) reached a total of 95 million tonnes in 2022 (or 0.3 million tonnes per day). Altogether, traditional companies (Air Liquide, Linde, Air Products) only hold a 10% market share. In other words, 90% of hydro-

gen production is in the hands of small companies and open to newcomers.

Of course, oil giants such as Shell, BP and Total all say they're interested in hydrogen. But in reality, they'll only participate when the market is mature by acquiring smaller companies, such as when Total acquired Saft to enter the battery market. That's why I think small sky-rocketing companies such as ours will capture a large share of the green hydrogen market.

Compared to other companies, we have technological advances with our software, as well as our unique industrial knowledge. But we're not here to gatekeep. Look at electric vehicles: Tesla works because there is competition. In the same way, the hydrogen sector also needs many players in order to grow. There's room for everyone.

You mentioned Tesla. In the automobile industry, battery-powered vehicles are much further ahead than hydrogen vehicles... Do you think hydrogen has a future in mobility?

Battery-powered electric mobility has grown significantly in recent years for consumer vehicles. But very little when it comes to intense use cases (lorries, trains, ships, captive fleets, etc.). Why is that? Because energy stored in batteries is limited by default. One kilogramme of battery can hold between 150 and 300 watt-hours (Wh), whereas hydrogen has a much higher massic energy density: 38,000 Wh/kg. That's the primary advantage of hydrogen over batteries. So we'll start to see hydrogen being used more often in intensive-use mobility before gradually expanding to individual vehicles.

Due to many investments, Lhyfe is burning lots of cash, with an EBITDA of -€17 million in 2022. When do you plan to break even?

Our objectives have not changed: we're planning for financial equilibrium in 2026. At that time, our revenue is expected to be around €200 million, compared to €1 million in 2023.

“It will take years before we find the most significant deposits – if they even exist – and figure out how to extract the hydrogen in an efficient way”

Several projects to uncover natural hydrogen are underway around the world. Are you concerned by this new competition?

If it works, the more hydrogen the better! But it's going to take time, because current knowledge is very basic. It will take years before we find the most significant deposits – if they even exist – and figure out how to extract the hydrogen in an efficient way. There's also the question of purity: if the hydrogen isn't pure, that's a disaster. I understand the excitement around natural hydrogen, but given the limited amount of time we have, I believe it's better to focus on mature technologies rather than hoping for a possible development in natural hydrogen. ◀

FOUNDED : 2017 | HEADQUARTERS : NANTES (FR)
EMPLOYEES : 150 | 2022 REVENUE : €0.6 M
→ LHYFE

The different sources of hydrogen

BLACK HYDROGEN

Hydrogen is produced using coal or lignite through a process called gasification. This method creates the most pollution, but fortunately it is no longer very common. The hydrogen produced costs between \$1 and \$2 per kilo.

GREY HYDROGEN

Hydrogen gas is produced from natural gas via a chemical reaction called steam methane reformation. This method is the most widely used today because it is inexpensive (\$1 to \$3 per kilo), but it produces a lot of CO₂.

BLUE HYDROGEN

Hydrogen is produced via natural gas reformation in a similar way to grey hydrogen, but the CO₂ produced is captured by filters, and then either reused or stored and not released back into the atmosphere. Blue hydrogen costs between \$1.50 and \$3 per kilo.

GREEN HYDROGEN

Hydrogen is produced by water electrolysis, i.e., splitting water molecules (H₂O) into hydrogen gas (H₂) and oxygen (O) using an electric current supplied by renewable energy (solar, wind, hydroelectric dam). This method has the advantage of not releasing any greenhouse gases, but it is expensive (\$2 to \$7 per kilo).

WHITE HYDROGEN

Several natural hydrogen deposits were discovered in recent years around the world. In the United States, Australia and Spain, startups have already begun mining. But as of right now, no one knows if mining white hydrogen is possible on an industrial scale.

ANALYST OPINIONS

A very ambitious startup

From €1 million in revenue in 2023 to €200 million in three years: that is the goal of French startup Lhyfe. Is it realistic? In a release published in October 2023 entitled “H2'oween: trick or treat in green hydrogen”, investment bank Bryan Garnier & Co said it was not. “Everything we have promised thus far, we made it happen,” said Matthieu Guesné, CEO and founder of Lhyfe. “There's no reason that would change in the future.” Since its creation in 2017, the startup has expanded rapidly: its first production facility opened in Bouin, France in 2021, then an IPO in 2022 along with its first offshore green hydrogen production site in Saint-Nazaire (France), and then a second location in Brittany (France) in 2023. And Lhyfe doesn't intend to stop there. It plans to open a new production facility in Denmark in 2024. In total, Lhyfe's maximum production capacities for green

hydrogen, which were 300 kg per day at the end of 2022, are expected to reach 80 tonnes per day by 2026. Currently 95% of the group's revenue comes from hydrogen sales to industrials, and the remaining 5% to the mobility sector. One of Lhyfe's clients is the German brand Lidl. Every day since the end of 2021, Lhyfe has delivered 75 kg of renewable hydrogen to Lidl's logistics platform in Carquefou (Loire Atlantique), which powers 98 pieces of handling machinery. In the years to come, Lhyfe is expected to benefit from the European Union's strong support of the green hydrogen sector. Following the breakout of the war in Ukraine, for example, the European Commission has planned to drastically increase its hydrogen production goals for 2030, increasing from 5.6 to 20 million tonnes. Most analysts recommend buying shares.

Birkenstock

A B R A N D
A S T O R Y

The ultimate hippie sandal gets a fresh new twist

The recently floated Birkenstock brand has watched its sales soar in the past few years thanks to astutely curated collaborations. This success also comes from new, more feminine styles that focus on comfort. Here’s the latest. BY JULIE ZAUGG

“Y

ou can go back to your regular life or you can know the truth about the universe. The choice is now yours,” Weird Barbie says. In one hand, the woman holds a bubble gum pink pump and, in the other, a brown Birkenstock sandal. Initially, Barbie chooses the first one, the high heel, but she eventually resolves to discover the real world, with all its injustice. The shoe also appears in the final scene, in which Barbie, having become a strong, independent woman, sports a pale pink version.

This clever, unpaid product placement immediately boosted sales for the brand, and its pale pink Arizona sandals quickly sold out. While this summer’s *Barbie* block-

buster drove Birkenstock sales sky high, the company’s stellar performance actually began a few years ago, with sales rising from €292 million in 2014 to €1.24 billion in 2022.

Hoping to capitalise on this success, Birkenstock launched its IPO on the New York Stock Exchange in early October, securing a valuation of \$8.6 billion. Despite losing 12% in share value since then, the group’s medium- and long-term outlook remains positive, according to Jessica Martinez, an analyst at Jane Hali & Associates, which covers the brand. “The company is financially robust, it has a product that is selling well, and it has many options for growth,” she says.

The German firm owes this solidity to its long history built around a quality product. The name

Birkenstock first appeared in 1774, in the archives of the village of Langen-Bergheim, near Frankfurt, to describe a local shoemaker. By 1896, his grandson Konrad had opened two shops and began selling an orthopaedic insole contoured to support the foot.

The first sandal was created in 1963 by Karl, a fifth-generation



© BIRKENSTOCK

Birkenstock. Fitted with a cork footbed and a single buckle, the shoe was quickly exported to the United States, where it was sold in health stores. “It became the shoe of the hippies and the 1960s counterculture movement,” says Quynh Mai, fashion expert and founder of the digital agency Culture.

“Women, especially Gen-Zers, are reinterpreting what femininity means”

Quynh Mai, fashion expert and founder of the digital agency Culture.

However, in the years that followed, the sandal lost its hipness and was associated with physics teachers, tourists and nurses. The shoe first regained popularity in the early 2000s, when celebrities such as Steve Jobs, Gwyneth Paltrow and Heidi Klum donned them with style. But sales did not really take off until the following decade, when Oliver Reichert stepped in at the helm in 2013.

Appointed CEO to ease internal strife among the three heirs to the Birkenstock dynasty, he immediately embarked on an ambitious reorganisation plan. Following its restructuring, the group opened a large number of company-owned shops. “The sandals are displayed on pedestals, making people think more of an art gallery than a shoe store,” says Thomaï Serdari, professor of marketing at New York University’s Stern School of Business.

The brand has also initiated collaborations with prestigious designers such as Dior, Manolo Blahnik, Rick Owens, Valentino, Maison Margiela and Proenza Schouler. These have produced some unique pieces, such as a futuristic boot created by Rick Owens and a velcro sandal by Proenza Schouler. To amplify the buzz, the German group has not hesitated to restrict its inventory, “causing carefully orchestrated stock sellouts,” Thomaï Serdari says.

The brand has also launched new versions of its classic models, in vegan leather or with fur, as well as the Boston Clog. “That is currently one of the best-selling shoes,” Jessica Ramirez says. “It’s particularly popular with men, a segment in which Birkenstock had only grazed the surface.” About 72% of customers are women.

In 2021, private equity firm L Catterton, within the sphere of LVMH group and its CEO Bernard Arnault, bought a majority stake in Birkenstock. “This influx of cash enabled the brand to expand its geographical footprint,” Serdari explains. Sales have risen sharply in the Americas, where the group now generates more than half its revenue. Its fans are undyingly loyal. In the United States, Birkenstock owners each own 3.6 pairs on average, according to a study conducted by the brand.

Now sold in over 100 countries, Birkenstock also owes a great deal of its success to social change. “Women, especially Gen-Zers, are reinterpreting what femininity means,” Quynh Mai says. “They dress more to make themselves happy than to attract a man. That means they’ll choose their Birkenstocks over a pair of heels.” This trend was reinforced by the “normcore” wave in 2014, which made styles once considered “ugly” cool to wear.

But if Birkenstock is to continue to grow, it will need to move into new markets. “Its online sales channel could be strengthened,” Jessica Ramírez says. “It will also need to sign more deals with wholesale buyers, to avoid relying too heavily on direct sales to consumers.”

With 90% of its sales generated in Europe and the Americas, the company also remains largely under-represented in Asia. The first Birkenstock shop opened in China as recently as 2017. Today, the brand is beginning to gain a following, especially since the release of the *Barbie* film. The one-buckle sandal has always preferred tiny steps to long strides. ▲

FOUNDED: 1774 | HEADQUARTERS: NEUSTADT (DE)
EMPLOYEES: 6,200 | 2022 REVENUE: € 1.24 BN
→ BIRK

THREE FIGURES

130 M
Number of pairs of Birkenstocks sold worldwide in 2022.

325%
Increase in sales recorded by the group between 2014 and 2022.

\$1,100
Price of a fur mule created in collaboration with Dior, compared with \$110 for a pair of Arizonas.



DePoly

More efficient and sustainable plastic recycling

NUMBER
OF EMPLOYEES
18

HEAD OFFICE
SION

FOUNDED
2020

This Valais-based startup and EPFL spinoff has developed an innovative chemical recycling process for PET that does not require pre-washing or pre-sorting from other plastics – in stark contrast with conventional recycling methods. The process, known as depolymerisation,

transforms PET plastic into raw materials. Its technology uses solvents to break down the chemical bonds in PET to obtain a liquid (ethylene glycol) and a powder (terephthalic acid). This all takes place at room temperature, with no additional heat or energy required. These raw materials can then be sold back to industry to produce PET plastic again, just like the original material, thereby promoting a circular economy.

DePoly wrapped up a seed round this summer, raising 12.3 mil-

lion Swiss francs from several investors, led by BASF Venture Capital. The funding will be used to expand the pilot plant near Sion, which can process up to 50 tonnes a year, as CEO Samantha Anderson explains, “We’re working on a new plant with 10 times more capacity (500 tonnes a year), which is scheduled to come on stream in 2024 and will continue demonstrating the technology.” Industrial-scale commissioning is expected for 2027-2028.



KetoSwiss

Diet therapy to combat migraines

NUMBER
OF EMPLOYEES
7

HEAD OFFICE
BASEL

FOUNDED
2017

The Journal of Headache and Pain estimates that 1.2 billion people suffer from migraines every day. To treat this global burden, the Basel-based startup has developed MigraKet, an orange-flavoured food that dissolves in water to help the management of migraines. Grow-

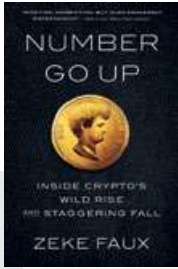
ing lines of research suggest that for a large group of patients, a migraine is as much a metabolic issue as a neurological one. MigraKet contains ketone bodies identical to those released by the human liver, which help to compensate for the dysfunction in the energy metabolism of the brain, a possible factor in migraines.

In August, the Basel-based company closed a pre-series A funding round, raising \$4.8 million, and plans a series A round in 2024 to raise a further \$10 million. MigraKet will hit US

markets in early 2024, with one month of therapy set at \$198. Elena Gross, founder and CEO of KetoSwiss, suffered from chronic migraines herself. She conducted the world’s first clinical trial using exogenous ketone salts while working on her PhD at the University of Basel. Today, she holds three patents registered in her name and has no intention of stopping there. “Our portfolio can be extended to other neurological and psychiatric diseases characterised by metabolic dysfunction, such as depression, for which we’re already conducting trials.”

Swiss startups in this edition

BY GRÉGOIRE NICOLET



R E A D

Number Go Up

Inside Crypto's Wild Rise and Staggering Fall
BY ZEKE FAUX
CROWN CURRENCY
SEPTEMBER 2023

Investigative journalist Zeke Faux (Bloomberg Businessweek) set out on a two-year journey through the outlaw land of cryptoassets. Along the way, the author met many genuine utopians who have become billionaires, as well as crooks such as Sam Bankman-Fried. He travelled to several countries, including Cambodia, to uncover a human trafficking ring powered by cryptocurrencies. In New York, he bought a \$20,000 image of a monkey to get into the elite “Ape-Fest” bash (limited-edition Bored Ape Yacht Club NFTs), featuring performances that year by rappers Snoop Dog and Eminem. Packed with anecdotes – at times poignant and at others hilarious – this account offers a unique perspective into a fascinating world.

CHF 22 PAPERBACK
CHF 12.50 DIGITAL COPY

FREE TIME



L I S T E N

The Silicon Valley Podcast

BY SHAWN FLYNN

With over 200 episodes already available, this podcast has, in three years, become the go-to source for anyone who wants to find out how Silicon Valley works. Shawn Flynn’s guests are recognised experts in the field of innovation and startups, and the interviews cover a wide range of topics about running a successful startup. The podcast is as much as for those just starting out in building a business as it is for seasoned entrepreneurs.

[HTTPS://THESILICONVALLEYPodcast.COM](https://thesiliconvalleypodcast.com)



F O L L O W

StockTwits

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The global voice of finance, trading, and investing.

X (TWITTER) 2,353 FOLLOWING 987.2K FOLLOWERS

StockTwits is one of the largest social media platforms in finance, with two million active users. It promotes the sharing of ideas between investors, traders and entrepreneurs. Its X (formerly Twitter) feed provides information throughout the day on the hottest stocks, rankings, closing prices and memes on key events.



D O W N L O A D

Fabulous

I'll start tomorrow

Fabulous sets out to improve users’ well-being by encouraging healthy new habits. To get started, the app asks users to perform one simple task, called a routine. The very first task is simply to drink water after getting up for three days in a row. Fabulous then lets you choose different goals – such as getting more exercise or improving your sleep or productivity – by choosing a themed course called a “Journey”. During these journeys, the app suggests gradually doing daily sessions of meditation, creativity and work, along with other exercises to help you change your habits. Most of the features are available with a premium subscription.

APP STORE, GOOGLE PLAY,
FREE, IN-APP PURCHASES

IMPACT INVESTING

Contributing to the common good

With the Impact Investing certificate, not only do you invest in high-potential companies, but you also actively finance humanitarian projects by donating half of your dividends.

Investing is a good thing. But financing concrete humanitarian projects while doing it is even better. The Impact Investing certificate allows your portfolio to grow with competitive companies, while – and this is what makes it unique – participating in the direct financing of social and environmental projects.

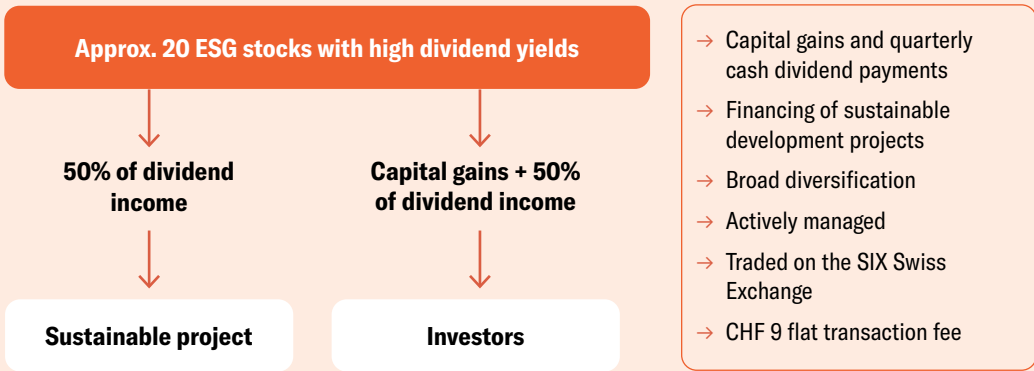
Swissquote selects realistic projects with a real impact in supporting disadvantaged populations. Once the first project is fully financed, the dividends paid out are used to finance the next project. Therefore, the more funds raised, the higher the number of projects financed.

With the Impact Investing certificate, companies are selected according to strict environmental, social and corporate governance (ESG) standards. Companies whose revenues are derived directly from coal or oil are excluded, as are companies involved in environmental controversies, companies linked to arms and tobacco, and companies that do not respect the principles of the United Nations Global Compact.

You can monitor the progress of projects on the Swissquote website.

How the certificate works

Half of the dividends go to financing a sustainable project



Santé Solaire, the pioneering project

For its first sponsorship program, Swissquote contributed CHF 30,000 to finance the Santé Solaire project from Solafrika, a Swiss non-profit organisation that promotes access to affordable, reliable and renewable energy in economically disadvantaged regions. The project was carried out in the village of Mokin in Burkina Faso, where there was a lack of quality electric power.

The installation of solar panels on the roof of the local health centre has considerably improved the population's access to medical care. The system now provides a reliable source of energy, which is stored in high-quality lithium batteries. Electricity is essential for child-birth, to provide light at night, and also for applications such as refrigeration, which is crucial to keeping vaccines and medicines effective.

Burkina Faso has strong solar potential, as the country has one of the highest amounts of sunlight in the world, and considerably more regular sunshine than in Europe.

SWISS REAL ESTATE

Investing in Swiss real estate



The Swiss Real Estate certificate lets you invest in real estate funds that own properties located exclusively in Switzerland. What's more, you don't pay tax on the capital and receive potential minimum coupons of 3% a year, tax free.

The certificate is managed in collaboration with Finstoy, a Lausanne-based wealth management firm with more than 10 years of experience. We interviewed Nicolas Dénervaud, partner at Finstoy.

Why invest in a portfolio of real estate funds?

Thematic portfolios are often launched at times of a lot of hype. That's not the case with this one. The timing is ideal. It's really an excellent first step into the market. The listed property market has corrected by around 20% from its peaks. But the prices of houses and flats have not fallen by that much. Moreover, it's an opportunity to diversify your investments. And property is much safer and more predictable than many other sectors. Its annualised returns have been around 5% since 1995.

Unlike other markets that are harder to understand, real estate is a very concrete sector. A building is something tangible. You know where it is; you can see how it is maintained, whether or not there are people in it. Its value is governed by pragmatic financial laws.

What are the specific advantages of the Swiss Real Estate certificate?

It's an investment that is not subject to wealth tax, as opposed to investments in a conventional real estate ETF, which are taxable. On top of

that, we pay a coupon of 3% a year (three times 1%). The coupon is also tax-free. Another key aspect is that we actively manage the portfolio. It is re-assessed and rebalanced twice a year. That's unusual for this type of product. Furthermore, funds are selected according to very specific criteria, such as their sustainability score and capital efficiency.

How do you select funds in practice?

We have around 60 funds in our universe. We have introduced several selection criteria, including an ESG ranking that we created. In the property sector, that offers real added value. Buildings with higher energy efficiency will remain much more competitive in the future. Switzerland has a net zero emissions target for 2050, and that will have a major impact on the property market. Clearly, there is a huge advantage to having a portfolio of properties that have been renovated to meet energy efficiency standards. This will pay off in the long run, because it will be easier for property owners to adjust rents.

We also use risk criteria to establish fundamental scores. These scores

cover a wide range of parameters, such as the cost and maturity of debt, and the quality of borrowings. We assign a score from 1 to 30 for each criterion. This process ensures that investors always have the 10 to 12 top funds in their portfolios, as measured by our scoring system.

Fundamental data is published twice a year in financial reports. The reports provide access to all the data we need, such as building maintenance, investments made and CO₂ emissions for each building. We use artificial intelligence to assist in extracting all the data. Natural language processing tools enable us to efficiently analyse a vast amount of data. For example, our analysis of ESG criteria is not just greenwashing, because we exclusively take into account data from the reports, such as checking whether the buildings have been properly renovated. ▴



Nicolas Dénervaud
Partner at Finstoy



NEW PARTNERS

BOREL & BARBEY
AVOCATS 1907

Diversity is the key to success. BOREL & BARBEY is delighted to announce the appointment of Anne Laure Bandle and Maria Oberlin-Chiriaeva as Partners with effect from 1st January 2024, thereby strengthening the Law Firm's expertise in cutting-edge and fast-growing practice areas.

Anne Laure Bandle mainly advises individuals and companies on a wide range of issues relating to works of art and collectibles, including transactions, cross-border movements, due diligence, exhibitions and copyright. She also practices law on matters related to intellectual property, contracts, estate planning and foundations.

Maria Oberlin-Chiriaeva advises private and institutional clients on banking, financial and insurance law, in particular on regulatory, contractual and commercial matters. Her practice covers financial products and services (including wealth and fund management), compliance and sanctions, internal investigations, as well as FinTech.

The M3 gets packing

The BMW M3 Touring isn't the most spacious of estate cars. Nor is it the most discreet. But this new version adds a number of practical features to its mechanical excellence. BY RAPHAËL LEUBA

BMW's most emblematic sports car has become polymorphous over the generations. After the 1986 two-door saloon, the coupes and cabriolets (renamed M4) and the four-door, here we have the M3 Touring estate car, which comes into direct confrontation with the Audi RS 4 Avant. And, like the Audi, the Munich car features all-wheel drive. A crime against the crown? No more so than the launch of its supercharging network in 2014, which put an end to the brilliant saga of naturally aspirated four-, six- and then eight-cylinder units. For a family car, it's most likely wiser to funnel the incredible torque (650 Nm) of the three-litre twin-turbo into all four wheels. Of course, this means straying far from the classic concept of a rear-wheel-drive, front-engine three-box model, but nostalgic

fans of this subset can let out a sigh of relief. The small M2 brilliantly fits this niche, as does the M3 saloon, available in a choice of two- or four-wheel drive.

At any rate, this all-wheel drive will draw a consensus as the front axle can be completely uncoupled, giving free rein for some creative road handling. However, at 4.79-metres-long (!) and 1.9 tonnes on the scale, a fairly wide tarmac and good countersteering control are advisable. On the other hand, with the electronic beacons on alert in all-wheel drive, the driver is left with little to do. Firmly hugging the asphalt, the M3 Touring zips along the road with disconcerting confidence and precision, its deep roar thoroughly delighting its occupants.

The real challenge lies in making sense of the plethora of settings available using the personalisable configuration menus. Once you've got your bearings, you can switch modes by pressing one of the two steering wheel buttons (M1 and M2) or use the dedicated button to select a predefined driving mode. You also have to figure out the calibration button for the 8-speed automatic transmission, located on the selector. After that, you still have to set the power steering and, if necessary, open the pipes of the two-piece exhaust system.

On the open road, you might as well leave all the settings on "comfort" mode, as the suspension is already tight by default and the engine power is amazing. Some of the "sport" settings are useful on winding roads, giving the brakes a crisper attack or for immediate downshifting. Everything goes so fast... you'll be highly tempted to push it to 7,200 rpm in

the intermediate gears, but fears of speed cameras help to calm your ardour. Press cars don't have diplomatic immunity. Fortunately, the inline six-cylinder can be enjoyed at all speeds, as it is both vivacious and luxurious. At legal speeds, you can expect fuel consumption of 10 litres per 100 km, a reasonable figure given the potential of this 510-horsepower engine, with nothing of a hybrid.

More coherent and less ostentatious than the big, over-powerful SUVs that haunt our cities, the M3 estate remains an eye-catcher. You can hear it from way down the road, and its looks are intriguing. If not graceful, the wagon owns its sporty quality, with its exaggerated diffuser, four tailpipes, black trim and Kabuki-like demon mask. Access to the cabin requires a little flexibility, as the bucket seats are deep. Priced at 6,340 Swiss francs, these sumptuous carbon and leather thrones immediately set the mood with their illuminated "M" logo. Apart from the uncommonly thick steering wheel, all the rest is familiar, plush and solid. The only disappointment is the large digital slate as a dashboard, but incorporated into an older frame. Mechanical

nobility deserves better than this instrumentation panel, which is, admittedly, configurable but boring. Others, like Porsche, have done a better job of making the transition to pixelated instruments. However, iDrive, still present in some BMW lines, earns some points by minimising the need to touch the screen while driving.

Another good idea from previous models is the tailgate with a separate opening window, which gives top access to a 500-litre storage compartment. This boot offers the same modularity (three full-size seats) as that of other 3 Series Touring models, with undetectable body reinforcements. Only the towing hook has been sacrificed, making it impossible to transport a single-seater on a trailer to the paddocks. But no need for that with M3 Touring customers. That is the point: they want two cars in one, a practical estate car that is also a tiger on the road. Even if it means paying the (high) price. ▲

Fortunately, the inline six-cylinder can be enjoyed at all speeds, as it is both vivacious and luxurious

ENGINE
TWINPOWER TURBO INLINE 6-CYLINDER, 2,993 CM³
POWER
375 KW (510 HP) AT 6,250 RPM
ACCELERATION
3.6 S (0 TO 100 KM/H)
PRICE
STARTING AT CHF 130,700 TEST CAR WITH OPTIONS CHF 162,870



T O U R I N G

T R A V E L

Catching up on lost sleep

Has sleep become the latest hot trend? The boom in sleep tourism seems to suggest just that. Luxury hotels are now vying to come up with the most inventive sleep-focused treatments. We have hand-picked a few of them for you. BY GAËLLE SINNASSAMY



The *Sanitas Health Forecast 2022* study reports that more than half of Swiss men and women (52%) feel that they sleep poorly. Making matters worse, we now sleep one hour less than we did 30 years ago. Yet researchers are unanimous: healthy sleep has a considerable impact on brain performance and long-term health. In a stress-filled, continuously connected world, in which we are pummelled by incessant notifications, getting a good

night's sleep is a practically unattainable goal. The situation has become so dire that some hotels have taken it upon themselves to develop special programmes for inveterate insomniacs and other repentant night owls. Farewell, wild fiestas. People now go on holiday to enjoy long, restful nights. Featuring the latest in mattresses, sleep tracking devices, CBD oil tinctures and purified air, these five stays should help you to finally get back to sleep.

NEW YORK, UNITED STATES
Sleep high-tech



The Art + Science of Sleep

Equinox hotel New York
equinox-hotels.com/nyc
+1 (212) 812 9200

Starting at 1,675 Swiss francs for a 2-night package



Catching some shut-eye in the city that never sleeps.

The Art + Science of Sleep by Equinox Hotel is a programme that has set the incredibly ambitious goal of bringing deep, restorative sleep to the most hardened insomniacs in just two nights. That is no small feat in the heart of Manhattan, where the rooms are completely sound-proofed and plunged into total darkness. The beds feature a temperature control system, and guests are provided with an iPad to control the room temperature and lighting. A personal care kit is also available, with fragrances that are supposed to promote relaxation in the evening and wakefulness in the morning. If that's not enough, relaxing teas and CBD tinctures are available from the RoomBar, while an in-room "Sleep Well" menu includes bone broth, activated charcoal latte and other recipes that promote the natural production of melatonin. To top off this end-to-end programme, you can head to the wellness area where the Wave Table brings you 30 minutes of restfulness through an immersive sound and harmonic resonance experience.

ROME, ITALY

Between dreams and ancient treasures

A peaceful oasis in the epicentre of the Italian capital.

In the very heart of Rome, just a few minutes' walk from the Pantheon and the Trevi Fountain, the hotel brand Six Senses opened its first resort in Italy in the spring of 2023. Located in the historical Palazzo Salviati Cesi Mellini, the new hotel has 96 guest accommodations with interior design by Patricia Urquiola, like a contemporary echo to the city's ancient past. High ceilings, travertine stone, limestone floors and Italian plasterwork sharply contrast against state-of-the-art equipment. But some of those machines are designed to help you sleep better. Like several of the Group's resorts around the world, this 5-star venue offers its guests a programme curated in collaboration with Dr Michael J. Breus and Professor Steven Lockley, two internationally renowned sleep experts.

In Rome, the three-, five- and seven-day programmes focus mainly on comfort,



Sleep Programme

Six Senses Rome
sixsenses.com/en/hotels/rome
+39 06 86814000

Starting at 545 Swiss francs for 3 days (not including accommodation)

with artisanal organic mattresses, damp-proof sheets, non-allergenic and temperature-regulating pillows, a humidifier and a white noise machine. The treatment also includes sleep monitoring using a device that measures sleep cycles and daily sleep reviews to detect any issues. Inspired by Roman baths with a caldarium, tepidarium and frigidarium, the spa promotes holistic wellness by combining the Six Senses signature massage, meditation and sleep yoga sessions.

COIMBRA, PORTUGAL

The king of mattresses

The ultimate in bedding worship.

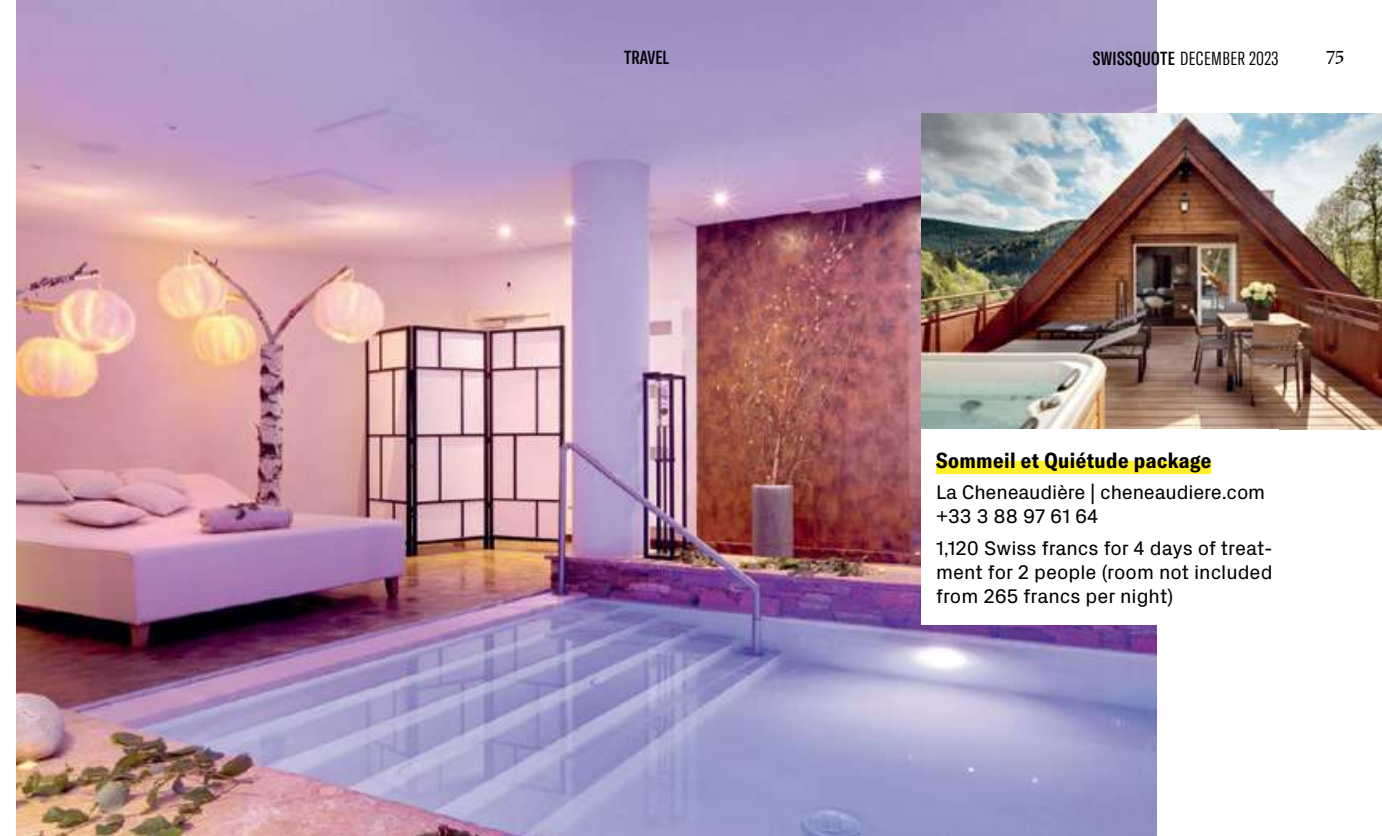
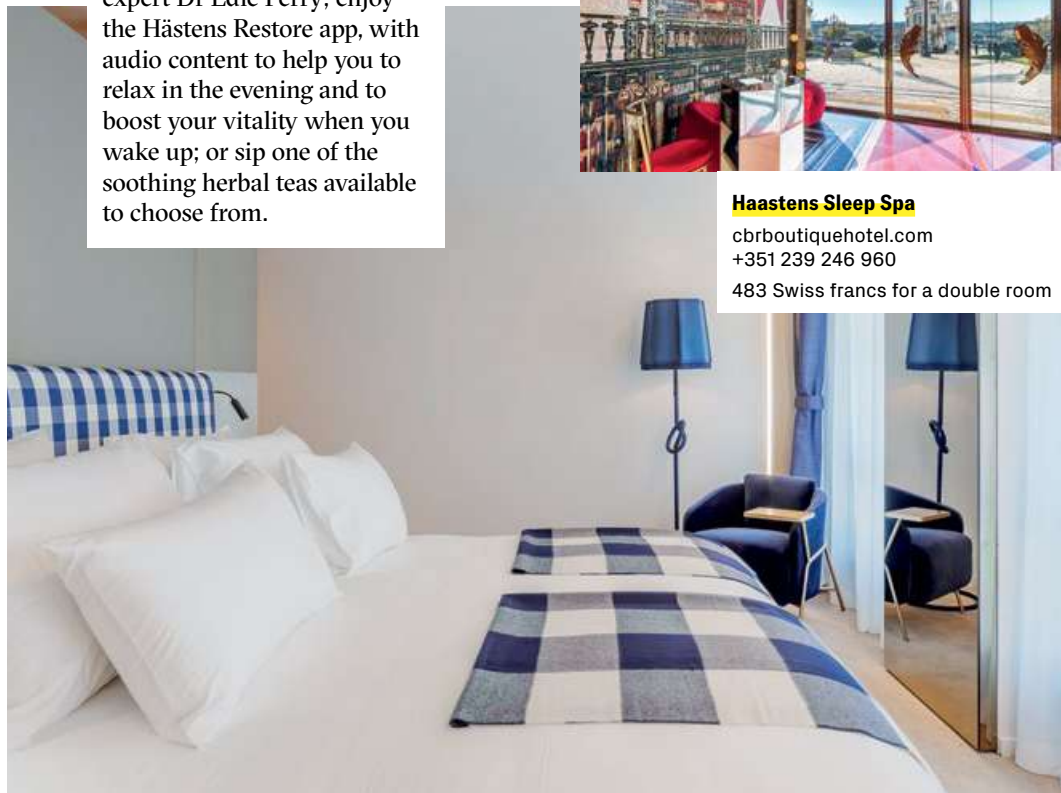
In this elegant hotel in the centre of Coimbra, the Swedish luxury bedding brand Hästens showcases its products and allows potential buyers to test them on the spot. Each of the hotel's 15 rooms is equipped with the Rolls Royce of mattresses. Made in a limited edition of 200 worldwide, the Herlewing is packed with three interacting spring systems and 35 hand-built layers made from linen, cotton, wool and horsetail hair. Along with the house duvets, bed linens, bathrobes and slippers, you can choose from five pillows to suit your preferences in a range of sizes, materials and levels of firmness. To round out your experience, turn on the TV screen hidden behind the mirror opposite the bed to watch a few "bed talks", videos extolling advice from sleep expert Dr Edie Perry; enjoy the Hästens Restore app, with audio content to help you to relax in the evening and to boost your vitality when you wake up; or sip one of the soothing herbal teas available to choose from.



Haastens Sleep Spa

cbrboutiquehotel.com
+351 239 246 960

483 Swiss francs for a double room



Sommeil et Quiétude package

La Cheneaudière | cheneaudiere.com
+33 3 88 97 61 64

1,120 Swiss francs for 4 days of treatment for 2 people (room not included from 265 francs per night)

ALSACE, FRANCE

Sleep and peace in the heart of nature

A concoction of treatments and floating sessions in a private suite.

Nestled amid the greenery deep in the Bruche Valley, between Strasbourg and Colmar, La Cheneaudière is a haven of peace and relaxation, with 45 rooms and suites, each different from the rest, a gourmet restaurant serving locavore cuisine, and a 2,500 sq.m nature spa with four swimming pools. "We began to notice that our guests always told us that they slept very well at our resort, attributing it to the ambient air, bedding quality, and the atmosphere," says Nicolas Decker, owner of the Relais & Châteaux property. To capitalise on that aspect, the spa staff came up with the Sommeil et Quiétude package. The four-day programme includes a body massage with hot stones and fresh pebbles, a

body wrap with fresh honey from La Cheneaudière's own beehives and warm heather oil, two sessions of krax-enofen – a traditional steam bath – with organic hay, and several hydrojet sessions.

The highlight of the stay? The floatation sessions. This therapy is extremely popular in North America for reducing stress and relieving sleep disorders. Glistening in a spacious 60 sq. m suite, the 3.5 m x 3.5 m pool lets you drift in heavily salted, 35°C water, with underwater music and dim lighting. The body feels weightless, freed from pressure and utterly relaxed. After the iodine bath, a super-size bed adjacent to the pool is available for a restorative snooze... unless you prefer the comfort of your room and the sumptuous view of the surrounding forest.

GSTAAD, SWITZERLAND

Exclusive napping

The fabulously luxurious Alpina Gstaad resort has introduced a plush new Sleep Suite.

Since June 2022, the 5-star Sleep Suite has been catering to sleep-deprived guests of The Alpina Gstaad. Every detail has been meticulously thought out to ensure optimal recuperation for body and mind. The bed features a temperature and humidity control system; air filtering eliminates pollens and allergens; and carefully selected essential oils are diffused to help you fall asleep. Even green plants are there for their supposed virtues of purifying the atmosphere. In the evening, put on the blue light blocking glasses and relax to the 3D sounds and binaural beats available on the Synctuition Mindspa Meditations app, which helps listeners to achieve a deep state of relaxation.

During the day, spa therapists offer in-room body balancing treatments on request, combining breathwork, aura cleansing, visualisation, Tai Chi and Pilates. To complete the picture, the hotel's gourmet restaurant offers tailor-made menus made with sleep supportive food. "Certain foods can be natural sleep aids, particularly because they calm the nervous system or stimulate the hormonal response," says the hotel's Executive Chef Martin Göschel. The final ritual of your day before drifting to sleep is a relaxing herbal tea made with herbs from Saanenland and honey from the hotel's very own beehives.

Sleep Suite

The Alpina Gstaad
thealpinagstaad.ch
+ 41 33 888 9888

Starting at 8,850 Swiss francs for a 3-day/2-night programme for 1 guest, or 10,500 Swiss francs for 2 guests



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Geneva-made vodka

After dabbling in finance, Quentin Verne set out in 2019 to devote himself full-time to his true passion: distillation. At his bar and laboratory in Geneva, he produces a whole range of spirits, including LVX Cold Distilled Vodka. Made from Swiss grain alcohol and yarrow, the liquor features subtle herbaceous accents that are exalted by the long maceration period and cold vacuum distillation. Enjoy it as a cocktail or neat between 4°C and 8°C.

lvxspirits.ch
CHF 40

Butterflies in diamonds

Since it was founded in London in the early 1960s, the House of Graff has emerged as a leader in fine jewellery, with a predilection for diamonds. The pieces from its iconic Butterfly collection are designed after the delicate winged insect. One eye-catcher is the gorgeous 1.83-carat Butterfly Diamond Small ring.

graff.com
CHF 15,900

Cut out for vlogging

Eagerly awaited from DJI, the new Osmo Pocket 3 camera will make mobile video content creators squeal with delight. The handle of this extremely compact device is topped with a gimbal that contains the camera itself. This gimbal features 3-axis stabilisation, so it compensates for movement to deliver smooth, stable images. The top-notch video quality (4K at up to 120 fps) comes from its 1-inch CMOS sensor. Sound quality is also stellar, with omnidirectional stereo sound capability. A 2-inch OLED screen rounds out the package.

dji.com
CHF 549

Discreet luxury

The Longines Mini DolceVita embodies contemporary elegance, in a beautiful harmony of classic styling and modern touches. Featuring a stainless steel case, the watch is powered by a high-accuracy L178 quartz movement. The bracelet comes in a choice of alligator or stainless steel.

longines.com
CHF 1,690

Pocket iron

The latest release from Swedish company Steamery, the Cirrus X is a handheld steamer that de-wrinkles and refreshes your clothes. Its powerful steam output of 18 g/minute also helps reduce unwanted odours and bacteria. Ideal for use at home or when travelling, this lightweight appliance comes in three colours: lilac, cotton and onyx. The Cirrus X comes with a steaming pad to make it easier to smooth out hems and collars. This means clothes need less washing, thus extending their life.

steamery.de
CHF 129

Multifunction bike helmet

Lumos is famous for the high safety performance of its bicycle helmets. The brand has now upped its game with the Ultra E-Bike MIPS model, featuring LED front lights and red LED rear lights with integrated turn signals. The side indicators are activated using a wireless remote control, or, for Apple Watch wearers, with a simple wave of the hand. The helmet is also equipped with a removable protective visor. It has a 10-hour battery life and charges using a USB-C cable.

lumoshelmet.ch
CHF 199



A LOOK
INSIDE
THE
LAB

A new microbiota

A London-based laboratory has developed a pill that can replace a dysregulated microbiota with the gut bacteria of a healthy individual. Its many applications range from neurodegenerative conditions to autoimmune diseases.

BY JULIE ZAUGG

Over the past 10 years or so, advances in genetic sequencing have pointed to the crucial role played by what has been referred to as a “new organ”, our microbiota. “We are home to billions of microorganisms – bacteria, viruses, protozoa, fungi –, most of which are in our gut,” says Blair Merrick, a microbiota researcher at Guy’s and St Thomas’ NHS Foundation Trust in London. “They are essential for ensuring that our immune system functions properly, absorbing toxins and preventing the development of certain harmful bacteria.”

This encouraged his laboratory to develop a technique back in 2016 involving the transplantation of the microbiota, in the form of live faecal matter, from a healthy person into the gut of a patient with a dysregulated ecosystem. The procedure was fine-tuned in 2019. “We have found a way of concentrating and freeze-drying microbiota, and producing a powder that can be put into capsules and taken orally,” the researcher says.

This treatment is currently only administered to people with *Clostridioides difficile*. “This bacterium is naturally present in the gut in 3% to 5% of the population and is frequently found in hospital settings,” Blair Merrick says. “In a healthy microbiota, the bacterium doesn’t pose a problem. But if the microbiota is imbalanced, due to illness or antibiotics, *C. difficile* multiplies and releases toxins that cause the colon to become

inflamed.” This can lead to diarrhoea, fever and abdominal pain. “If left untreated, the infection can be fatal,” the researcher says.

Patients who have received a faecal microbiota transplantation (FMT) in the form of the capsules developed at Guy’s and St Thomas’s have been able to fight the bacteria and get rid of them. “A healthy microbiota produces metabolites that prevent *Clostridioides difficile* spore germination,” Blair Merrick explains. “The bacterium is actually in competition with other microorganisms for the nutrients it needs, and that keeps it from multiplying.”

Blair Merrick’s laboratory now wants to extend this discovery to other conditions. The team is working to better understand the gut-brain interactions and test applications for the neurodegenerative disease amyotrophic lateral sclerosis, or ALS. It is also examining how the microbiota impacts the immune system, in the hope of using it to fight ankylosing spondylitis, an autoimmune disease.

Ultimately, FMTs could be used to treat liver diseases such as cirrhosis, because the microbiota can absorb the toxins that cause them, or even Parkinson’s disease. “People with this condition often present with gastric issues, namely constipation, up to 10 years before the first symptoms appear,” Blair Merrick says. “There’s a good chance that the onset of the disease coincides with changes in the microbiota.” ▲

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