

SWISSQUOTE

FINANCE AND TECHNOLOGY UNPACKED

FEATURE
Novartis:
the black
sheep of
the markets

ANALYSIS
Robotisation
accelerates

FASHION
Second-hand
is the new chic



DOSSIER

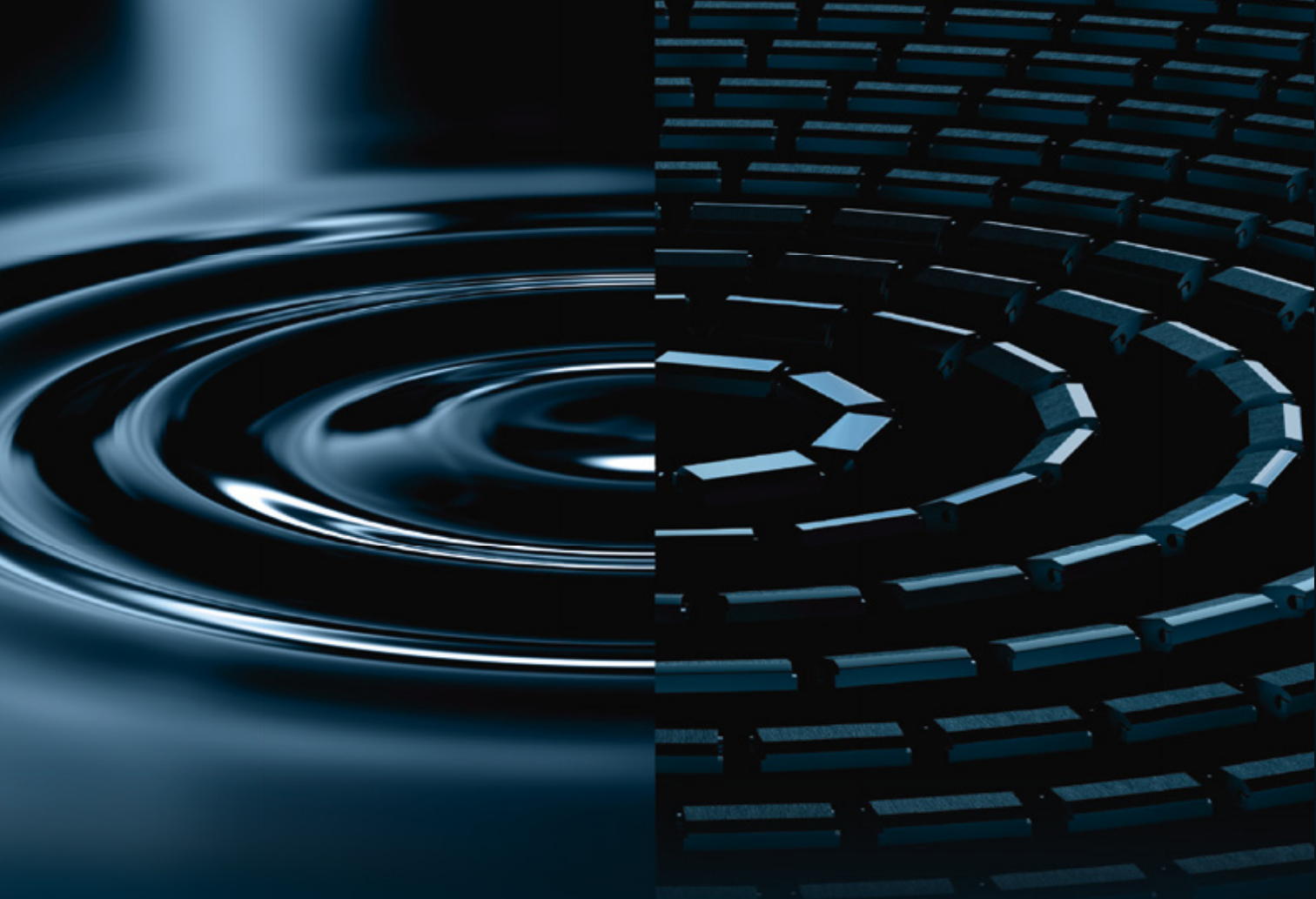
WOMEN'S HEALTH INVESTING IN FEMTECH



ISSN 2296-3278



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HUBLOT

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The femtech paradox



By Marc Bürki,
CEO of Swissquote

How times have changed. When Apple first released its Health app in 2014, it included no services specifically related to women's health. But now, each new product launched, starting with the Apple Watch, promotes features designed exclusively for women, such as period and fertility tracking. In March 2021, the company even made a lot of noise when it published findings from a scientific women's health study on menstrual cycles, conducted in collaboration with Harvard University based on iPhone and Apple Watch data collected from 10,000 women.

We should rejoice in this progress, because women definitely needed it. For a long time, conditions only affecting women, such as endometriosis, were ignored by medicine. Making matters worse, throughout the second half of the 20th century, women were routinely excluded from clinical trials conducted in developing new drugs. While intentions were good – to keep new treatments from affecting a potential pregnancy – it created a major problem: a poorer

understanding of women's bodies and ill-adapted medical care to the specific conditions of women. For example, chemotherapy causes more side effects in women than in men.

To bridge this gap, an onslaught of **companies**, including Apple, are now moving into women's health under the umbrella term **femtech** (for female technology). Another one is the Swiss biotech firm Obseva, which develops innovative treatments for endometriosis and uterine fibroids. In fact, Switzerland's Health Valley, where more than 1,000 companies are active in healthcare, places our country in an excellent position to reap the growth of this new sector, says Lan Zuo Gillet, director of the EPFL femtech incubator Tech4Eva, in the **interview** she gave us.

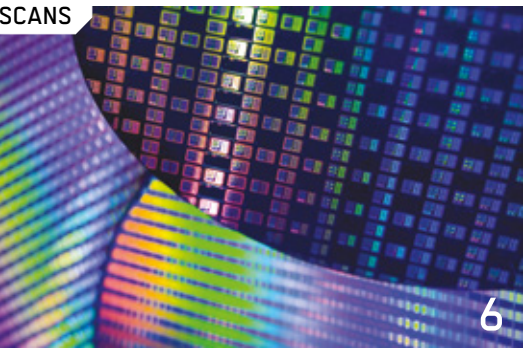
But investors still need some nudging. Many of them persist in believing that femtech is a niche market. Fancy that! As one contributor to our special report points out, we don't come across niche sectors every day that cover half the planet...

Enjoy!

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DOSSIER

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INVESTING
IN FEMTECH



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SCANS



1 BN

The number of travellers at European airports in 2021, a figure up 37% compared to 2020 but still well below the pre-pandemic level (-59% compared to 2019).



Cargo ships backlogged at Long Beach port, California (September 2021). In North America, port infrastructure for unloading and transporting goods has been overwhelmed.

NEWSCOM



MELINDA CHAN / GETTY IMAGES

China holds about 30% of the known rare earths' reserves but accounts for 85% of global production.

raw materials RARE EARTHS: CHINA PUTS THE BOOT IN

Due to tensions between China and the US, the Chinese government created by decree the China Rare Earth Group, a new public company specialising in rare earths – metals used in smartphones and other electronics. The new group is under the direct control of the Chinese government (31.21% of its capital) and was formed from a merger between three market players – China Minmetals Corp, Aluminum Corporation of China (CHALCO) and Ganzhou Rare Earth Group Co – which each hold 22.33% of the capital. Even though China supplies 85% of all rare earths globally, it wants to better coordinate growth in the sector once its reserves are used up. It has also begun imposing export quotas, which is unfortunate for the United States and Europe, which largely depend on China for their supply.



x2

The deployment of 5G around the world is happening twice as fast as the rollout of 4G. Coverage reached 29% in late 2021 and is expected to increase by two-thirds by 2026, according to Strategy Analytics.

maritime shipping

CONGESTION AT MAJOR PORTS REACHES EXTREMES

Cargo ships continue to amass at the gates to the world's major trading ports, due to jammed unloading and inland transport operations. The entanglement has become critical in North America, where much of the current chaos is playing out. Some 90 ships (at the end of January) are anchored off the coast of California, with some stuck for several weeks before they can leave for Asia. With its barometer compiling data from 13 of the world's largest commercial ports, the Swiss logistics company Kuehne+Nagel predicts that these bottlenecks will not loosen up any time soon. In total, 11.56 million containers per day are stranded in port, up from the already excessive 7 million at the beginning of December 2021.

KNIN



“The thing that frustrates us is why haven’t we been as successful in India, but we’re definitely leaning in there”

Reed Hastings, co-founder and CEO of Netflix, as company results were published.

RANKING

TOP 5 BIGGEST IPOs IN 2021

Billions of dollars raised during the IPO (valuation at IPO)

1. RIVIAN (electric vehicles)	11.9 (66.5)
2. COUPANG (e-commerce)	4.6 (60)
3. LUCID MOTORS (VIA SPAC) (electric vehicles)	4.6 (24)
4. GRAB (VIA SPAC) (e-commerce)	4.5 (40)
5. DIDI (e-mobility)	4.4 (73)

Source: Crunchbase

TOP 5 LUXURY BRANDS IN 2021

(sales in \$billions)

1. LVMH	34
2. KERING	14.9
3. ESTÉE LAUDER	14.3
4. RICHEMONT	13.2
5. L'ORÉAL LUXE	11.6

Source: Global Power of Luxury Goods 2021 report by Deloitte

NUMBER OF NEW DECACORNS (Startups valued at over \$10 billion)

2021	30
2020	15
2019	5
2018	13
2017	3

Source: Crunchbase

SCANS



“I have great respect for the remarkable work done by Tesla and Elon Musk. But it is clear that the company’s market value does not reflect a physical reality”

Carlos Tavares, CEO of automobile group Stellantis (PSA, Fiat, Opel, Chrysler) in an interview published on 19 January in four European newspapers (*Les Echos*, *Handelsblatt*, *Corriere della Sera* and *El Mundo*).

THE FIRST SPAC ON THE SWISS STOCK EXCHANGE

In December 2021, the Swiss stock exchange operator SIX authorised the listing of SPACs. These Special Purpose Acquisition Companies raise funds by going public on an exchange for the sole purpose of acquiring promising private companies within the 36 months following the IPO. The Zug-based VT5 Acquisition Company is the first SPAC to benefit from these new rules.

It joined the SIX on 15 December 2021 and hopes to acquire one or more companies active in fields such as semiconductors, automation and energy. The transaction did raise the expected \$200 million, but enthusiasm remains moderate: issued at 10 Swiss francs, the stock finished the first day at 10.10.

—VT5

semiconductors
SOVEREIGNTY, A FOCUS IN THE CHIP WAR



A futuristic environment in a TSMC Taiwanese factory, the most profitable semiconductor foundry in the world.

TSMC

With the semiconductor shortage, immense projects are being announced. In Japan, Sony and TSMC are coming together to open a new factory by 2024, with the Japanese government contributing around €6 billion to the construction project. The United States has also decided to increase production: Samsung will invest \$17 billion in a mega-factory in Texas, Intel

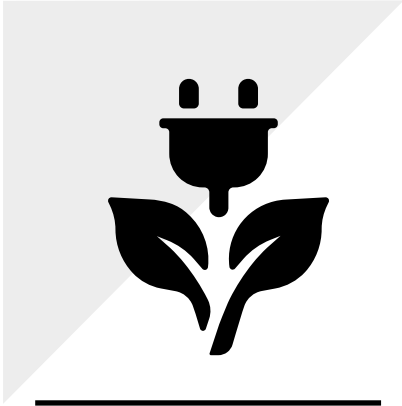
is planning to build two factories in Arizona for \$20 billion, and Texas Instrument is thinking even bigger, with four production facilities for \$30 billion. Europe is not quite as zealous, but the German government has announced a €3 billion investment in the industry and Intel plans to build two factories there worth 20 billion.

—6758 —2330 —
005930 —INTC —TXN



4

China will open its fourth financial centre in Beijing, in addition to centres in Shanghai, Shenzhen and Hong Kong. The new centre will be aimed at SMEs.



32%

By 2024, renewable energies are expected to supply nearly one-third of all energy needs globally, compared to 28% in 2021, but still less than coal (34% in 2024), according to the International Energy Agency (IEA).



“Quite a lot of people witnessed people in their community dying from COVID, that makes them think life can be short, and you’d better live now than postpone it to a later date. That also has helped [Rolls-Royce sales] quite massively”

Torsten Müller-Ötvös, CEO of Rolls-Royce, in the *Financial Times*, explaining the brand's record sales in 2021.

minerals
TIN'S ENDLESS SURGE



Soldering in electronics accounts for half of the world's demand for tin.

ISTOCK

The price of tin just keeps breaking records: the threshold of \$42,000 per tonne was exceeded in late January, an increase of more than 140% compared to its pre-pandemic level. The reasons behind this rise are the same as for other metals: restrictions due to quarantines have affected extraction volumes, while the

global economic recovery has caused demand to rise ever higher. Given its low fusion point and high electrical conductivity, most tin is used as a soldering material in electronics, where demand is particularly high due to the digital boom and growth in green technologies such as solar energy and electromobility.

KICKSTARTER



ANKER

NEBULA COSMOS LASER
THE ALL-IN-ONE COMPACT 4K BEAMER

At CES 2022, Chinese company Anker unveiled its new travel projector, the Nebula Cosmos Laser. It stands out from the competition due to its compact size (24.4 cm x 22.1 cm x 16.5 cm) and ability to display in Ultra HD 4k. It also maintains the same features as previous Anker projectors, such as the integration of Android TV, so that you can watch Netflix without any additional components. A carrying handle and four integrated speakers (10 W and 5 W) are ideal for travelling and testers say that it is easy to use. The 2400 lumen bulb has an advertised durability of 25,000 hours, and the autofocus and trapeze automatic correction system are among the reasons it has been so successful on Kickstarter.

FUNDS RAISED
\$2,754,825

AVAILABLE
MARCH 2022

SCANS

energy

YORKSHIRE WELCOMES OFFSHORE TURBINES



A wind turbine at the Hornsea 2 wind farm.

ØRSTED

Off the coast of Yorkshire (UK) in the North Sea, the Hornsea 1 wind farm has held the title of the largest offshore wind farm in the world since 2020. Its 174 wind turbines, designed by Siemens, produce a total capacity of 1.2 gigawatts. Ørsted, one of the largest companies in the energy industry in Denmark, just

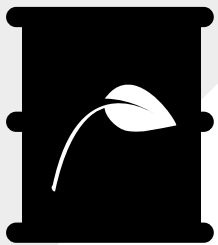
announced the launch of the Hornsea 2, which has 165 turbines, also made by Siemens but slightly more powerful: 8 megawatts compared to 7 megawatts for Hornsea 1. The two farms will be capable of providing enough energy to supply more than 2.3 million households.

— ØRSTED — SIE



“I felt like before the pandemic, I thought we were kind of on top of the world. But then the gods struck down on us and we lost 80% of our business in eight weeks. And we had to raise that”

Brian Chesky,
CEO of Airbnb.



2030

According to a Bloomberg report, despite massive investments, green hydrogen will not be economically competitive until 2030.

BUST

ARM: Nvidia lays down its arms, saves an arm and a leg

The most expensive deal in the history of electronic chips probably won't go through. Bloomberg predicts that Nvidia is preparing to walk away from its \$40 billion purchase of British chipmaker ARM, due to lack of support from multiple sides. Since it was announced in September 2020, regulators from around the world have been up in arms over the

deal (China, the United States, the United Kingdom and the European Commission), as have Nvidia's competitors (Qualcomm, Microsoft, Intel and Amazon), which all fear a monopoly looming. With the acquisition currently stalled, ARM's current owner SoftBank is reportedly already working towards an IPO for its subsidiary as a plan B. — NVDA

pharma
IDORSIA AWAKES FROM ITS SLUMBER

Jean-Paul Clozel,
CEO of Idorsia.



IDORSIA

The share price of Swiss pharma company Idorsia was at a historic low in late 2021 at CHF 16.13, leading to anxiety among shareholders. But perhaps the worst is over for this Actelion spin-off which was launched in 2017. The company has received the green light from the US regulatory body (FDA) for the most important drug in its pipeline: Daridorexant. This sleep aid is expected to go on the market in the United States in May. According to analyst estimates, Daridorexant could bring in 200 million Swiss francs in 2022 and 800 million in 2025, which would put Idorsia back in the black. The sleep aid sector is particularly lucrative, with the global sleep aid market estimated at around \$20 billion (see the September 2021 issue of *Swissquote Magazine*).

— IDIA



52%

With 52% of the total global video game market, revenue for games on mobile platforms exceeded revenue from PC and console games for the first time in 2021.

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SCANS



“The US approach is to force companies to show their allegiance. I wanted to show that I won’t play that game”

Tadashi Yanai, CEO of Uniqlo, on the fact that his company refuses to participate in the rising tensions between China and the United States.

luxury
DIAMONDS ARE SPARKLING



A diamond in the sorting centre of Russian mining group Alrosa, the world’s largest producer of diamonds by volume, ahead of the famous De Beers.

ALROSA

2021 was a prosperous year for diamond-mining companies. The world’s two largest diamond companies, Alrosa and De Beers, generated sales that were much higher than in 2020. Revenue for the Russia-based Alrosa increased 49% compared to 2020, reaching \$4.2 billion. Its competitor De Beers, owned by holding company Anglo American, saw sales

double, reaching nearly \$3.5 billion. These record numbers are the result of higher prices for rough diamonds; for example, the average price index for Alrosa increased by 12.5% in 2021. This price increase is the result of high demand for jewels, reduced stock and reduced production capacity due to the pandemic.

— ALRS — AAL

entertainment

THE VIDEO GAME INDUSTRY IS CHANGING SCALE

The video game industry is consolidating. Early this year, the two largest transactions in industry history were announced within a week of each other. Microsoft plans to acquire the legendary game developer Activision Blizzard, which has created both iconic and lucrative games (*Call of Duty*, *Candy Crush*, *World of Warcraft*, *Hearthstone*, *Diablo*, *Overwatch*, etc.) for the breath-taking price of \$68.7 billion. This transaction would be the largest acquisition ever made by Microsoft and would result in the Redmond-based firm being the third largest player in the industry behind Tencent and Sony. A week earlier, Take-Two Interactive (*Grand Theft Auto*) announced the acquisition of mobile game developer Zynga (*FarmVille*) for \$12.7 billion. At the end of January, Sony joined the action by buying Bungie studios, creators of *Halo* and *Destiny*, for an estimated amount of \$3.6 billion. These moves are proof that the wave of acquisitions that began in 2021 (approximately 180 companies acquired) continues.

— MSFT — ATVI — TTWO — ZNGA — EA

Ragnaros, the mighty Firelord, in the *World of Warcraft* game from publisher Activision Blizzard.

ACTIVISION BLIZZARD

Invest in Thematic Venture Capital



Artificial Intelligence

AI is changing our world. Overall, the technology holds a market revenue potential which is expected to almost quadruple to +\$120 billion by 2025 from +\$30 billion in 2021.



Robotics

With the robotics market forecast to grow by 4x from 2020 to 2026, venture capital is tapping into the potential of robotics start-ups.



Blockchain

The high growth and adoption of blockchain solutions in areas like banking and cybersecurity are making venture capitalists increasingly tap into Blockchain.



Internet of Things

Already worth hundreds of \$ billions, this market is set to grow much further over the years to come. IoT is one of the few technologies to impact almost every facet of our lives.



Metaverse

The Metaverse and 3D gaming world is the closest experience in existence today, offering a market revenue opportunity close to \$800 billion by 2024.



Space Technology

The space technology market is valued at \$200 billion and is set to grow even further. With 629 companies active in the sector as of June 2021, it has solid foundations for growth.

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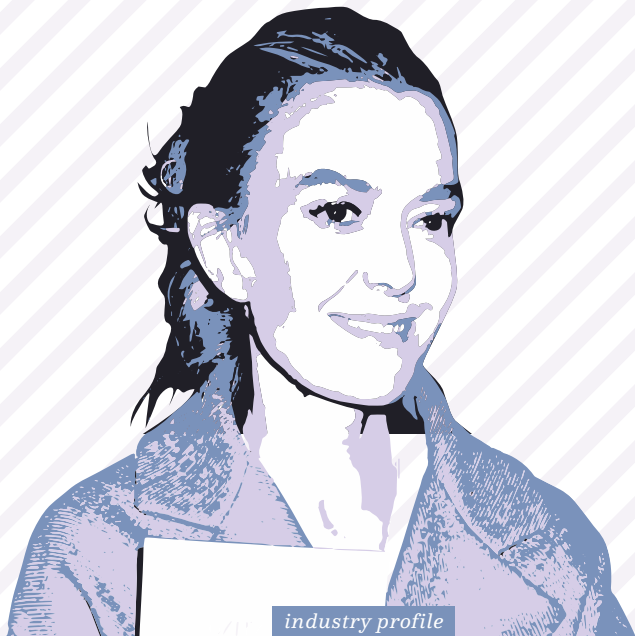
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industry profile

MARTA ORTEGA

Heiress finally takes her place atop a textile empire

Position
CEOAge
38Nationality
Spanish

Announced several years ago, Marta Ortega will officially become head of the world's ready-to-wear leader Inditex (Zara, Pull and Bear, Massimo Dutti, etc.) at the beginning of April. In doing so, she will also become the most powerful woman on the IBEX 35, the stock market index of Spain's largest companies. The youngest daughter of Amancio Ortega, founder of Zara and Spain's richest man, completed her secondary education at Aiglon College in Chesières (Vaud) in Switzerland, and moved on to obtain her master's degree in business administration from London Business School. She then spent her entire career working her way up through her father's company, after starting at the bottom. Marta Ortega will succeed Pablo Isla, who has not only kept the spot warm over the past 11 years, but was also named by the Harvard Business Review for two years in a row (2017-2018) as the world's Best-Performing CEO. On a side note, the markets did not take to the announcement kindly, and the stock plunged 4.5% in one day. —VITX



country

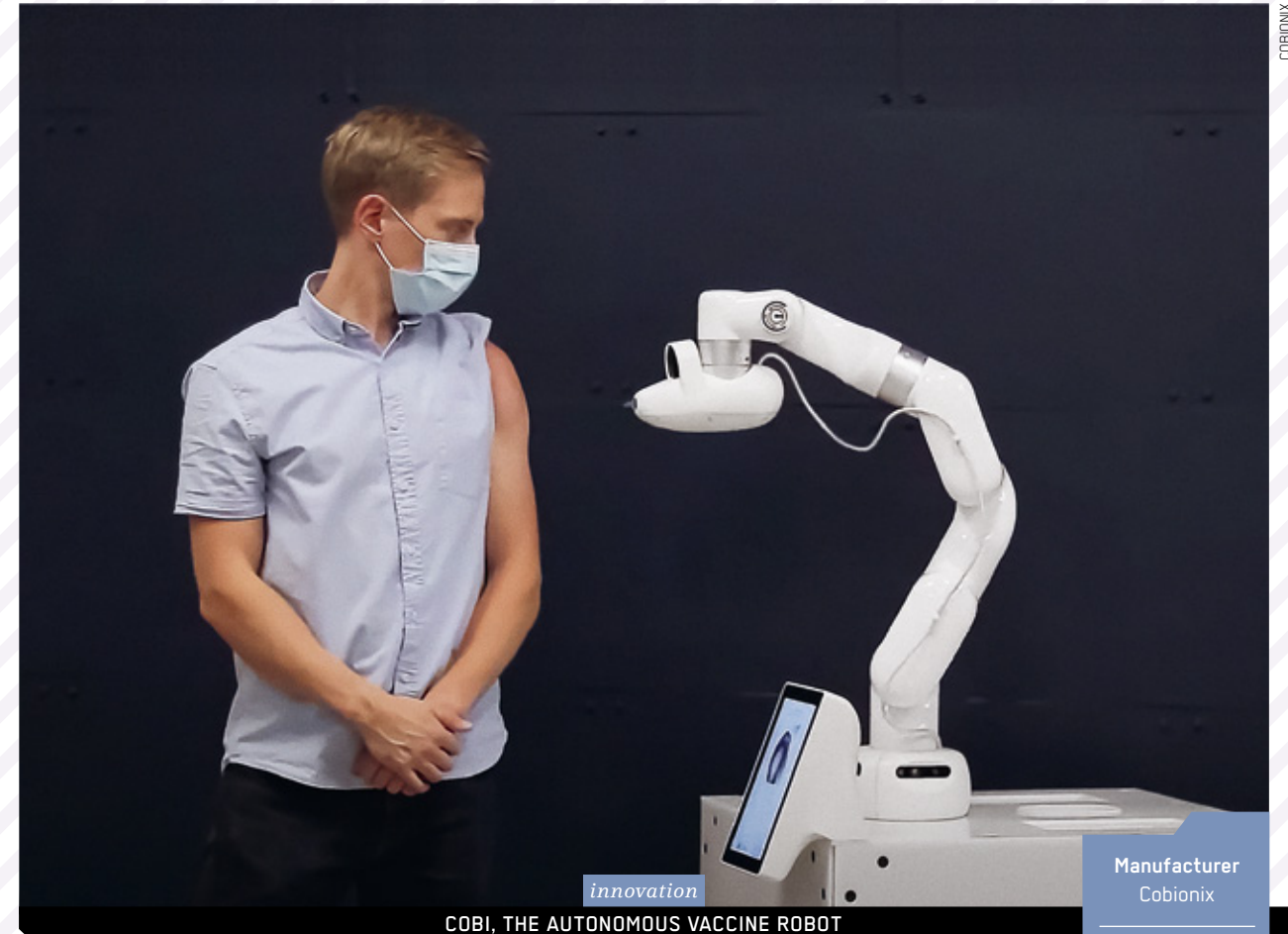
VIETNAM

Powerful economic growth

Vietnam and its 2.6% growth in 2021 shine bright in today's market environment. But let's admit it: record results are a regular thing for the country. Vietnam has been the second-fastest growing emerging country for the past 30 years, just behind China, averaging 6.8% growth. This boom was long driven by rice exports (third worldwide) and raw materials (oil and coal). But the country's economic fabric has been undergoing a deep transformation for several years. With significantly lower operating costs compared to companies in southern China, the value creation chain is becoming longer, turning Vietnam into a place that does more than simply assemble imported parts and components. Samsung currently produces 65% of its smartphones there, and Apple 30% of its AirPods. In fact, the Korean giant has also become the country's largest employer (approximately 190,000 people) outside the public sector. Now Samsung plans to transfer its flat television screen production from China to Vietnam. Even Chinese companies are relocating some of their production to Vietnam as a springboard into the US market.

Population
97.4 million
(2020)GDP per capita
\$2,786 (2020)Growth
+2.58% (2021)

Main economic sectors
energy, manufacturing (electronics, food processing, cigarettes and tobacco, textiles, chemicals and footwear), services and tourism, agriculture



innovation

COBI, THE AUTONOMOUS VACCINE ROBOT

Manufacturer
CobionixAvailable from
2024Price
not disclosed

Needle-free injection

Cobionix, a spin-off from the University of Waterloo in Canada, has developed a robot to vaccinate patients autonomously and – what's equally remarkable – without a needle in sight. The goal is to speed up vaccination campaigns and reduce the burden on healthcare workers. Following the procedure planned by Cobionix, after pre-registering

online, patients would go to a location where the Cobi robot performs vaccinations. They then present their identification to the camera on the robot's touchscreen. The system's robotic arm retrieves a pre-filled vaccine vial from its storage area, and a LiDAR sensor built into the end of the arm scans the patient's body to create a 3D digital

map. Artificial intelligence analyses the map and determines the optimal injection site. The injection itself involves a high-pressure jet of fluid no thicker than a strand of human hair. This last step is extremely fast and apparently painless.

ANALYSIS

SPECIALISTS' VIEWPOINT

FOCUS

Clay-footed giants in the sharing economy

Ride-share and food-delivery platforms have been in the red for over a decade. Is something wrong with their business model? Here's what the experts have to say.

BY JULIE ZAUGG

In early November, Uber announced to great fanfare that it had turned a profit for the first time ever. For the quarter ended 30 September, the American company netted a meagre \$8 million profit on revenue of \$4.85 billion. But that figure reflects only its adjusted EBITDA and excludes a number of costs, such as stock-based compensation and costs linked to the pandemic.

"It's borderline dishonest," says Hubert Horan, a transport industry expert who has been analysing Uber's accounts since 2016. "This company is simply not profitable. It has lost \$28 billion since it was founded in 2009, and has never achieved positive cash flow." In that respect, it's not alone. Of the nine sharing-economy companies that have gone public, such as Uber, Lyft, DoorDash and Delivery Hero, all of them are still in the red. Their collective losses for the past 12 months are \$11.5 billion.

What's going on? To generate a profit, a platform connecting buyers and sellers of a service needs to maximise economies of scale. But that's not the case here. "Each journey requires a car or a motor scooter whose fixed costs (fuel, insurance, driver's wages) cannot be lowered," says Horan. "It's not the same as the model of a company like Amazon, whose warehousing, inventory and distribution costs decrease as its customer base expands."

These platforms are also suffering from a lack of customer loyalty. "There's really no advantage to choosing Uber over Lyft, or Uber Eats over DoorDash, so people alternate between them depending on the offer," says Jonathan Knee, professor at Columbia Business School and author of *The Platform Delusion*. "Drivers and restaurants do the same. They're on several platforms simultaneously, and they choose the one that offers them the best bonuses."

It's the exact opposite of a company like Airbnb, which has been one of the few winners in the sharing economy, with a unique offer and high barriers to entry. "If you had a good experience with Airbnb in the past, you're not going to change platforms, because the risks are too high: a miserable holiday or a destroyed home," says the expert.

To counteract this phenomenon, ride-share and food-delivery apps heavily subsidise journeys through special offers for customers, bonuses for drivers and discounts on restaurant deliveries. These practices have led to absurd situations. One Substack article tells of a pizzeria owner who buys his own pizzas from DoorDash for \$16, charging the platform \$24 and pocketing the difference.

Uber also often subsidises journeys during busy periods, to ensure that there are drivers on the roads, even if it means operating at a loss. "None of

these platforms wants to charge the real cost of their services to users, for fear they might look elsewhere," says Clément Genelot, analyst at Bryan, Garnier & Co.

On top of that is the fact that margins are typically very small in the industries in which these companies operate. A Deutsche Bank analysis shows that when marketing costs and refunds to unhappy customers are factored in, DoorDash nets on average only 90 cents on a \$36 order.

At the start, the technologies developed by these companies – mostly in Silicon Valley – were supposed to revolutionise the sectors they penetrated. "Big promises were made with regard to monetising the vast quantities of customer data gathered by these platforms, but those promises haven't materialised," says Professor Jonathan Knee. "Uber knows you take a taxi to work every morning. So what? How can you use that information to cut costs or boost revenue?"

The introduction of differentiated price ranges, reflecting changes in demand – a system invented by the airline industry – does not work for a company like Uber. "You might decide to fly Saturday morning instead of Friday night, but you're not going to book a restaurant for Tuesday morning instead of Saturday evening just because the taxi is cheaper," says Horan.

Likewise, the automation made possible by these apps has not resulted in real savings. "The old taxi-booking systems, with an operator, represented only a fraction – roughly 5% – of the journey price," says the expert.

Aware of these irregularities, ride-share and food-delivery platforms have long said that they wouldn't be profitable without major disruption to the markets in which they operate. "The idea was that they would ultimately drive all their competitors out of business, and that once they were in a monopoly position, they could

raise their prices, stop subsidising their services and cut their marketing costs," says Genelot.

But once again, those promises turned out to be too optimistic. "No platform has actually been able to oust its competitors," says Ioannis Pontikis, analyst at Morningstar. "In London, a mature market, there are still four or five food-delivery apps battling it out, one £20 coupon at a time." In some cases, the pre-existing entities have survived. "Many taxi companies now have apps that are very similar to Uber and Lyft, and their prices are more competitive," says Knee.

But analysts think some of those platforms are better positioned than others, which makes them promising investments over the medium term. "GrubHub, which only connects restaurants with their customers without taking charge of delivery, generates impressive gross margins on the order of 80%–90%," says

The Airbnb exception

Rental accommodation expert Airbnb is an iconic giant of the sharing economy, and also one of the few winners in the industry. Why? Because the US company has a unique offer and has high barriers to entry. "If you had a positive experience with Airbnb in the past, you're not going to switch platforms because the risk is too high: a holiday ruined or a trashed place to stay," says Jonathan Knee, professor at Columbia Business School. Similarly, a platform such as Airbnb is not negatively affected when margins are low in the food-service or transport industries. "With hotels and other accommodation, there's a lot more money available, because customers are willing to pay more to make sure they get nice accommodation when they travel," says Jonathan Knee. In the three months from June to September 2021 – the summer season in the northern hemisphere and therefore the most active for the platform – Airbnb made \$834 million in profit.

Pontikis. Delivery Hero, meanwhile, has decided to focus on emerging markets with less competition. "The service already has a dominant position in several Asian and Middle Eastern countries," says the analyst.

Similarly, a platform such as Airbnb is not negatively affected when margins are low in the food-service or transport industries. "With hotels and other accommodation, there's a lot more money available, because customers are willing to pay more to make sure they get nice accommodation when they travel," says Knee.

Some platforms, such as Uber Eats and DoorDash, have also started to diversify, offering deliveries of household products and alcohol. "This approach allows them to aggregate orders and thus reduce the cost of each journey," says Genelot. Ultimately, they hope to develop customer loyalty. Uber and DoorDash have both begun testing a monthly subscription service. ▀

INTERVIEW

“We are only at the start of the robotisation wave”

The global robotics market is seeing double-digit growth. According to expert Jay Jacobs of US-based Global X, there are some fantastic investment opportunities.

BY BERTRAND BEAUTÉ

Global X, a New York-based provider of exchange-traded funds (ETF), recently published its “Charting Disruption 2022” report, which explores the disruptions that may be in store for the coming year and beyond. Robotics was one of the more promising sectors analysed in the report. Jay Jacobs, head of research and strategy at Global X and co-author of the report, shares his insights.

What are the factors that will drive growth in the robotics sector in the coming years?

The global robotics market, which was worth \$250 billion in 2020, will likely see an average annual growth of 12.4% to reach \$510 billion by 2026. There are several factors driving that growth. First, labour costs are on the rise. In the United States and China, for instance, they have increased 44% and 567% respectively since 2014. To stay competitive, companies need to significantly reduce labour costs by expanding their use of robots.

Another factor is the current low-interest-rate environment, which offers a good opportunity to invest in factory automation. And the last factor is the pandemic. Lockdowns have disrupted supply chains over the past two years. Many factories, particularly in Asia, have had to shut down temporarily. Highly automated factories, however, would not have needed to suspend operations. In that sense, the pandemic has given a big boost to the robotics sector.

Who are the key players in robotics?

Robotics is a highly diversified sector affecting a wide range of fields, such as transport, industrial manufacturing, logistics and the military industry. So there are a lot of companies. Among the most promising are Japan's Fanuc and Switzerland's ABB in the field of industrial robots. In the medical field, Intuitive Surgical produces robotic surgical systems, such as

Da Vinci, which are more precise than human surgeons. In transport, TuSimple Holdings is developing the world's most advanced autonomous-driving technologies. And there are also some interesting companies in robotics-related fields, such as Nvidia, which produces chips used in robots, and C3AI, which develops software and artificial intelligence for robots.

Are these companies a good investment?

Yes. We are only at the start of the robotisation wave, so investors still have a chance to get in at the right time. Since the sector is extremely diversified, I think the best way to invest in robotics is through an ETF. ETFs expose investors to the sector as a whole, rather than just a limited number of players.

Why is Japan at the cutting edge with companies like Fanuc and Mitsubishi?

First of all, Japan got into robotics very early,

back in the 1970s, and has been investing in the sector ever since. The country also has a labour shortage as a result of its ageing population and lack of immigration, which makes the robotisation of Japanese society inevitable.

As “the world's factory”, where does China stand?

In just a few years, China has become the world's largest consumer of industrial robots. But overall, Chinese factories are behind in terms of robotisation. For instance, there are currently only 246 robots per 10,000 employees in China, versus 390 in Japan and 371 in Germany. Because of China's relatively low level of robotisation, the growth prospects in this enormous market are strong. ▲



JAY JACOBS
HEAD OF RESEARCH
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Da Vinci robot from
Intuitive Surgical.

Crypto Chronicles

Putin and the geopolitics of crypto mining

Russia's president is trying to woo bitcoin miners, going against the stance taken by his central bank. Meanwhile, US and European authorities are dawdling.

BY LUDOVIC CHAPPEX

Calamity or welcome source of income? Governments take differing views when it comes to massive cryptocurrency mining on their soil. Is it a threat to national economic security? A climate hazard? Or sometimes simply a financial windfall that should be protected? First things first, what do mining farms do? These structures use thousands of computers to solve complex mathematical problems in order to approve crypto transactions, and in return receive new tokens.

Until the summer of 2021, most of these farms were set up in China, where electricity is cheap. However, the country's central bank upset the playing field last June, announcing that virtual currency business activities are illegal financial activities. This restriction drove miners to other countries, including Russia. Within two months, Russia's mining capacity almost doubled, making the country the world's third-largest miner (with 11.2% of total mining power, according to the Cambridge Centre for Alternative Finance in August 2021), behind the United

States and Kazakhstan (35.4% and 18.1% respectively).

Apparently unaffected by this buoyant activity, the Central Bank of the Russian Federation sparked a heated controversy in late January by proposing a total ban on bitcoin transactions and mining in Russia. But Vladimir Putin tends to disagree... According to sources reported by Bloomberg, the Russian president criticised this hardline approach at a government meeting, saying that Russia has "certain competitive advantages... especially in the so-called mining", specifying "the surplus of electricity and well-trained personnel available in the country". Indeed, many regions in Russia, including Irkutsk, Krasnoyarsk, and the Republic of Karelia, enjoy abundant electricity surpluses from their hydropower facilities. And the chilly climate, ideal for keeping machines cool, is an added advantage. Mining farms operate 24 hours a day, 365 days a year. So basically, they're big customers.

The context of riots and political repression in Kazakhstan at the

beginning of the year is also a factor. The unstable environment is likely to push miners to flee to more peaceful lands... In other words, market share is up for grabs! Russia therefore seems to be shifting legislation towards attracting cryptocurrency mining, with many members of the government in favour, according to Bloomberg's sources.

At virtually the same time, on 19 January, the vice-chair of the European Union's European Securities and Markets Authority (ESMA), Erik Thedéen, sounded a very different note. In a *Financial Times* interview, he said that the EU should consider banning crypto mining within the block as it would jeopardise progress towards meeting climate goals under the Paris Agreement. The United States must also begin deliberating on these issues. On 27 January, the business weekly *Barron's* leaked that a national security memorandum is in the works. Expected to come out in the next few weeks, this document will set out the regulatory framework for cryptocurrencies. To be continued. ▲

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Novartis: the black sheep of the markets

The Basel-based pharma group is pulling out all the stops to try to regain the trust of its shareholders. The future of its generic subsidiary Sandoz is expected to be decided this year.

BY ANGÉLIQUE MOUNIER-KUHN

What does Vasant Narasimhan, CEO of Novartis, hope for in 2022? Perhaps that the share price of the second leading pharma company in Switzerland will take off astronomically, after years of chronic underperformance? Does he hope to regain the favour of the German press, which is destroying the balance sheet? Or maybe that ensovibep, Novartis' experimental COVID-19 drug, will launch on the market (even though so far the only pandemic-related work the group has done is encapsulating the Pfizer-BioNTech vaccine at its Stein (AG) laboratory)? But this Harvard-trained doctor doesn't give up on his pipe dreams. "Be careful. Everyone will >

Vas Narasimhan, the charismatic CEO of Novartis, is facing headwinds. The Basel group's shares have been met with market scepticism in recent months.

try to kill your dreams,” a CEO once told him when he was seeking advice. That was Vas Narasimhan himself, who told the story in August 2019 to the *New York Times*, as part of an interview with a prophetic title: “We are not at all prepared for a pandemic”.

At the time, the American had been at the helm of the Basel multinational for 18 months. Before that, he spent about 12 years climbing the ranks at Novartis. Hope springs eternal. The young CEO, then aged 41, is lauded for his charisma and the management style, which is more collective and casual, that he brings to the company and its 100,000 employees. Novartis’ ophthalmic subsidiary Alcon went public in April 2019 and the transaction was considered a success, as well as a prelude to renewed focus on the core pharmaceutical business. Investors have purchased shares based on this new dynamic: since the highly educated scientist became CEO, shares have increased 20% on the Zurich exchange.

But in reality, the grace period is about to end. The initial enthusiasm first led to a kind of impatience and then, in 2021, when the group formed from the Ciba-Sandoz merger celebrated its 25th anniversary, the feeling was more one of persistent scepticism. Indeed, Novartis improved its

profitability under Narasimhan. But the balance sheet is only part of the story: shares have been in the red for the second consecutive year (-1.4% in 2021), a disappointment that is all the more frustrating given the growth of Roche, another Swiss pharma giant, over the same period (+22% in 2021). Between the two Basel-based rivals, there is a significant difference on the market: Novartis’ capitalisation is under 200 million Swiss francs, whereas Roche generates about 10 billion more in revenue and its capitalisation is nearly 350 billion.

Between the two Basel-based rivals, there is a significant difference on the market

Moreover, Novartis’ below-average performance would have been more significant if the company didn’t try to regain control with a slew of major decisions in autumn 2021. Was it a strategic offensive manoeuvre or just a hasty series of events caused by growing anxiety among top management? “Probably both,” surmises Jérôme Schupp, financial analyst at Prime Partners. The first move was the transfer to bearer form of the

53.3 million shares (33% of voting rights) that Novartis held in Roche, which brought in \$20.7 billion for Novartis in early December. While many rumours have circulated in the past, the possibility of a merger between the two laboratories was never really in the cards. So it made sense that Novartis would relieve itself of this block of shares acquired between 2001 and 2003. Roche’s excellent performance on the markets provided an ideal opportunity. “This holding certainly contributed to the results of Novartis, but it doesn’t make sense

from a strategic standpoint,” says Jean-Jacques Le Fur, financial analyst at Bryan, Garnier & Co. “The fact that Roche shares were so high was what allowed the transaction to move forward under ideal conditions.”

However, Novartis has decided to allocate three-quarters of the product of this transaction, roughly \$15 billion, to an enormous share buyback plan, which left a more mixed sentiment among observers. The plan was released on 16 December 2021 and is expected to be completed in 2023. “Announcing a share buyback could move share prices, but it’s only a short-term measure,” says Agathe Bouché Berton, a healthcare analyst at Bordier. Indeed, the surprise announcement caused the share price to rise by a few percentage points at most, before quickly falling back to its previous level. Furthermore, “even if this was a common practice in pharma, such strategies can be interpreted as a lack of ambition by companies not knowing what to do with their cash. ▶

ANALYST OPINIONS

WEAK PERSPECTIVES

In December 2021, the bank Bordier pulled Novartis from its selection of preferred stocks in Europe (Core Holding EU). A month earlier, UBS changed the stock from “Buy” to “Neutral”. Since then, other research regressions have clouded the picture. This is due to weak outlooks, resulting in Novartis shares being valued at 20% less than its

European competitors. “The company has lower growth than its peers, with 6% growth in earnings per share (EPS) compared to 11% for the industry as a whole,” says Agathe Bouché Berton, healthcare analyst at Bordier. According to Bouché Berton, Novartis does not meet the conditions for a long-term revaluation at this time.

— NOV

A Novartis manufacturing centre dedicated to gene therapies in Stein, canton of Aargau. Active on many fronts, Swiss pharma is one of the most diverse players in the sector – considered a weakness by some analysts.



These days, that's not what investors expect to see in the industry," says Le Fur.

DOUBTS ABOUT THE PIPELINE

Novartis' ambitions are anything but simple. According to its own calculations, the Basel-based company will see its revenue decrease by \$9 billion by 2026 – compared to \$49 billion in annual sales in 2020 – as the patents protecting the exclusivity of its products expire. This is the case with Entresto, medication to treat heart failure and one of the laboratory's flagship products, with \$5 billion in expected annual revenue. Unless Novartis receives a patent extension, it will be faced with competition from generics from 2025.

Vas Narasimhan tweeted that the share buyback programme announced on 16 December was proof of the "unwavering confidence in our strategy, pipeline and growth outlook", but analysts had some doubts. In a global pharmaceutical market in which annual growth is expected to be between X and 6% (IQVIA, 2021), the company confirms it will be able to increase sales by 4% annually on average by 2026, as about 20 new drugs – out of the 150 molecules currently in development – will go on the market, with each capable of generating at least \$1 billion in sales.

But the consensus is at most 2% to 3% average growth in revenue in the years to come. Of the five acquisitions totalling \$25 billion made by the CEO since his arrival, in order to supplement the Novartis pipeline, only one has so far lived up to expectations – Leqvio, a cholesterol medication, which was part of the acquisition of The Medicines Company in 2019.

This was the last significant acquisition by Novartis to date. The company has been ready and waiting ever since. The CEO has justified

his decision by stating that valuations were too high and that he was only interested in "targeted acquisitions"... Or in other words, more modest prices. "A pharmaceutical group needs to take risks in order to secure its future growth. The best time for acquisitions is when it's a good time, and not when it's an emergency," advises Le Fur. Given these circumstances, many analysts doubt that the laboratory will be able to compensate for the loss from expired patents.

"A pharmaceutical group needs to take risks in order to secure its future growth"

Jean-Jacques Le Fur, financial analyst at Bryan, Garnier & Co

"The market is waiting for a turning point from Novartis based on its clinical results, because the company has recently had recurring setbacks and some product launches were disappointing," says Bouché Berton. "The pipeline could be well supplied and diversified, but in the next 12 months, we're not expecting any major study that would rebuild our trust. In the longer term, even if products are launched successfully, it is unclear whether their sales potential will be sufficient."

GROWTH WEIGHED DOWN BY SANDOZ

Unlike the majority of its competitors, Novartis is present in a wide

range of therapeutic domains: oncology, respiratory illnesses, cardiovascular diseases, immunologies, neurology, etc. "The advantage of this type of diversification is that the group has no dependency on one particular product," says Schupp. Conversely, Le Fur believes that this diversity could be a source of potential weakness: "I get the sense that the company has difficulties allocating its resources in a very effective way. In terms of outlook, it shows a struggle."

But Vas Narasimhan still has one card up his sleeve: the separation of Sandoz, the company's generic and biosimilar (drugs produced or derived from one cell or one living organism) subsidiary.

This branch, which makes up 20% of sales, is weighing increasingly heavily on global revenue, due to the downward pressure on the price of generics. In 2020, Novartis tried to sell off Sandoz and its declining business line in the United States to Indian lab Aurobindo. But the deal went south as soon as the COVID-19 crisis hit. By divesting of its generics once and for all, Novartis would be refocused on its primary goal – innovative medicine, where the margins are wider. In so doing, it would gain the necessary resources to proceed with acquisitions that some of its shareholders want in order to boost the pipeline.

Since October 2021, all options are on the table regarding the future of Sandoz, with valuations running anywhere from \$20 to \$40 billion. These include putting it on the market, selling it in a block or piecemeal, or even keeping it within Novartis. There has been some interest in the last option, but no official decision has been made. We only know that a decision must be made in 2022. This may finally end the cycle of negative news and allow Vasant Narasimhan to make his dreams come true. ▲

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DOSSIER

WOMEN'S HEALTH INVESTING IN FEMTECH

While still considered a niche market for most investors, technologies associated with women's health affect half the global population... A good reason to invest.

BY BERTRAND BEAUTÉ

- 35. Interview with Francesca Arena, gender and health historian
- 36. Infographic: the world needs femtech
- 38. A data-driven market
- 40. Innovation to the rescue
- 50. The weight of taboos
- 52. Interview with Lan Zuo Gillet, director of startup incubator Tech4Eva

Men have an entire arsenal of pharmaceutical drugs at their disposal to treat sexual dysfunction. But women have practically nothing. "It's as if there's a double standard," said professor Carole Clair, co-head of the Medicine and Gender department at Unisanté in Lausanne. "Erectile dysfunction due to age is considered a pathology for men, whereas for women, the drop in libido after menopause is seen as normal." For ▶

Dossier prepared by:
Bertrand Beauté and
Stanislas Cavalier

women, it's not seen as an illness but just a part of ageing. Why is there such a difference? "Medicine was invented by men, for men," said professor Carole Clair. "There is a lot less interest in female pathologies, such as endometriosis, menopause issues and some chronic conditions, than there is for male pathologies."

One symbol of this disinterest in female medicine is Pozzi forceps, often nicknamed the "butcher's hook". Invented in the 19th century, this instrument is used to seize the cervix during gynaecological procedures such as an IUD insertion. It has not evolved at all since it was invented, despite the pain it causes. This is not surprising, given that only 4% of funds dedicated to R&D in the healthcare sector specifically target women's health, according to UK big data platform FemTech Analytics.

"MEDICINES AND TREATMENTS ARE OVERALL MORE EFFECTIVE FOR MEN THAN FOR WOMEN"

Carole Clair, co-head of the Medicine and Gender department at Unisanté

Indeed, for years, women have been systematically excluded from medical research: researchers believed that hormonal fluctuations in women could distort the results and it wasn't ethical to include women in studies due to risk of pregnancy. "Young white men were considered the norm, and medical knowledge based on that population was then extrapolated to women," said Clair. But this methodological bias led to a problem: "Medicines and treatments are overall safer and more effective for men than for women," said the specialist. A study published in 2018 in the journal *JAMA Oncology* demonstrated that chemotherapies had more side effects for women than for men. This phenomenon has been seen in many other treatments. To change the status quo: "Including women in all phases of research is therefore necessary to increase the safety of treatments," said Clair.

To this point, things are starting to change. Shaking up the masculine focus, startups are currently making waves in the healthcare industry with one goal: a focus exclusively on women's health. Among them, Vaud-based startup Aspivix is developing a painless ventouse to replace Pozzi forceps, Zurich startup Ava created a smart fertility bracelet and Muvon Therapeutics, a spin-off from the University of Zurich, is developing a treatment for urinary incontinence. These are just a few examples. According to FemTech Analytics, more than 1,300 companies around the world are now focused on women's health. This new industry is called femtech, short for 'female technology'. ▶

Pozzi forceps have not evolved since they were invented in the 19th century,

In 2016, Ida Tin, founder of the German-based company Clue, coined the term 'femtech'. This neologism is among the 10 most important words of 2019, according to the *Guardian*.



FEMTECH: A CONTROVERSIAL TERM

Of the many new words that end in "tech", everyone knows fintech (financial technology), medtech (medical technology) and cleantech (environment). But the term 'femtech' was coined in 2016 by Ida Tin, legendary founder of Berlin-based femtech Clue, which focuses on sexual, menstrual, and reproductive health. But while this name has become more popular in recent years, it is also the subject of current social debate. "The word 'femtech' should not be read restrictive-

ly in terms of gender identity — the point is that all people with a menstrual cycle are still underserved. Femtech provides tools and insights for people with this particular biology, independent of gender. We at Clue do our best to ensure that trans and non-binary people do not feel excluded through communication loaded with unnecessary gender stereotypes," said Audrey Tsang, co-CEO of Clue. "When Ida Tin coined the term in 2016, it was important to have a word because no one was talking about tech as it relates to women's health. Today, while there's greater awareness of the importance of these challenges in society, the term femtech remains necessary because we're only just at the beginning. But of course, I would prefer that one day we say 'healthtech', meaning healthtech that truly serves everyone, and we then no longer need to distinguish 'femtech'."

With her controversial brand Goop, actress Gwyneth Paltrow helped popularise femtech. Goop has been selling the candle “This Smells Like My Vagina” since 2020.



GETTY IMAGES

Paltrow, this growing industry has become more visible in recent years. “Even just three years ago, no one was talking about femtech,” said Maria Velissaris. “Now, the *New York Times* and the *Wall Street Journal* cover this industry.”

As proof of this increasing attention, several femtechs have gone public with wild success in recent years. Swiss biotech Obseva, which develops a treatment for endometriosis, joined the Nasdaq in 2017, and US-based Sera Prognostics, which sells a test for predispositions for premature birth, has been listed since July 2021 (see company features on p. 40 to 49). Other startups have been acquired by pharma giants. In August 2020, for example, Bayer paid \$425 million to acquire UK company Kandy Therapeutics, which specialises in treating menopause symptoms.

The industry can also boast significant expected growth: according to the latest report from emTech Analytics published in December 2021, the global femtech market is expected to be worth \$75.1 billion in 2025 compared to \$45.5 billion in 2021, which is an average annual increase of 13.3% over the period.

But these excellent outlooks miss the bigger picture. “Despite the explosive ▶

First appearing in 2016, this neologism includes all solutions that meet women’s health needs, including pharmaceutical companies, medtech and technology companies.

“The Food and Drug Administration (FDA) did not lift its recommendation to exclude women in clinical trials until 1993,” said Maria Velissaris, founder and director of SteelSky Ventures, a New York investment fund specialising in women’s health. “This several-decades’ delay compared to research on men has made

women’s health a new industry that is just beginning, with significant unexploited potential.”

And it’s not just in terms of gynaecology or fertility problems. Zurich startup CorDiFio, for example, uses artificial intelligence to better diagnose heart conditions in women. This is very important: “When a woman has a cardiac emergency, she is much more likely to be in a life-threatening condition than a man would be,” said Carole Clair, of Unisanté “Improving treatment for women is therefore a

vital public health concern, including for pathologies that affect both sexes.”

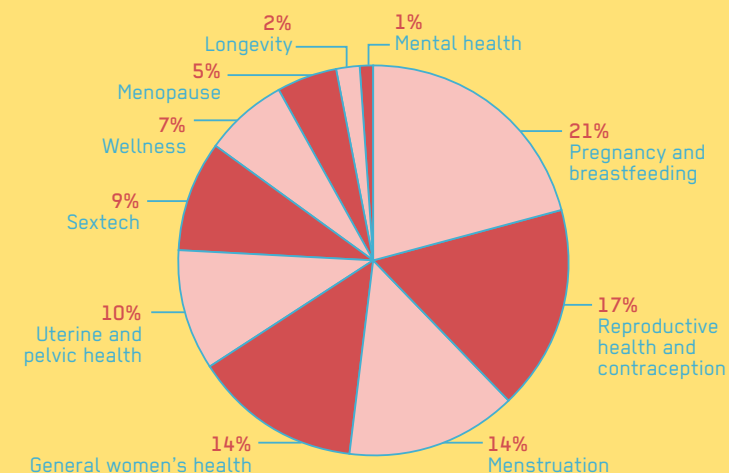
“Femtech is a very large and diversified market,” said Marwan Elfitesse, head of startup programmes at Station F, a Parisian startup incubator by Xavier Niel. “It includes solutions having to do with periods, fertility, pregnancy, maternity, sexual health, menopause, and also women’s health in general.”

Partly thanks to support from global stars such as actress Gwyneth

MEDICAL, BUT THAT’S NOT ALL

Femtech is highly diversified and covers a variety of sub-sectors. However, most companies focus on fertility issues.

Percentage of active companies
Sector



Source: FemTech Analytics

growth, the sector and its entrepreneurs remain underfinanced and neglected.” said Maria Velissaris of SteelSky Ventures. Indeed, while femtechs focus on women’s health in all capacities, subjects such as contraception, fertility, pregnancy and maternity take up most of the capital, to the detriment of other sectors such as menopause, mental health and sexual well-being.

“IT’S NOT EVERY DAY WHERE A NICHE MARKET AFFECTS HALF OF ALL PEOPLE ON THE PLANET!”

Marwan Elfitesse, head of startup programmes at Station F

companies created by female founders only received 2% of capital invested in startups financed by venture capital in the United States. And there are only 12% of women leaders in US venture capital funds.”

As a result, many investors believe that femtechs are a niche market. “But it’s not every day where a niche market affects half of all people on the planet!” said Elfitesse. In order to encourage contact between investors and companies, several startup incubators dedicated to femtechs were created in recent years, such as FemTechLab in London, Station F in Paris and Tech4Eva at the École polytechnique Fédérale de Lausanne (see interview on p. 52).

“The creation of accelerators, and the success of venture capitalists in recent months, show that the industry is promising. It creates a virtuous circle and grows interest from investors,” said Velissaris. “2021 was the first year where investments in femtech surpassed \$1 billion and we predict that the industry will exceed this number in 2022 as institutional investors take more of an interest. They are starting to understand that investing in femtechs results in better health for women, but also positive returns for investors.” Marwan Elfitesse shares this optimism, saying “Femtechs are a very good investment, because they address an enormous market and remain – for the time being – very under-market.” ▲

COVID: WOMEN MORE AFFECTED BY VACCINATION

Between January and December 2021, nearly 11,000 instances of undesirable side effects linked to the coronavirus vaccine were reported to Swissmedic. In 64% of cases, these instances were from women. “Women have more side effects after the Covid-19 vaccine than men. This trend was also observed in Canada, the United Kingdom and the United States, for example,” said Swissmedic. One of the reasons could be that women’s immune systems seem to be stronger. Women have a tendency to produce more antibodies but also develop allergic reactions after a vaccination.

Since women’s metabolism and physiology are different from men’s, the side effects are also different. Side effects were reported regarding the menstrual cycle. Some patients observed a shorter cycle after the vaccine, whereas others had heavier and more painful periods. “The vaccine doses are unique, regardless of our sex, biology, or size,” said Carole Clair, co-head of the Medicine and Gender department at Unisanté. We have cause to conduct research to see if women could be equally as protected with a smaller dose of the vaccine.”

Among the publicly listed companies, those active in contraception, fertility, pregnancy and maternity make up 77% of the total capitalisation of femtechs, according to FemTech Analytics. “The other femtech segments do not have the same visibility at all and are not recognised in the same way by investors,” said Elfitesse. Why not? Since most investors are men, they struggle to see the business opportunity of femtechs that are active in sectors other than fertility (as this also concerns men), and even more so because mental biases push them to provide more support to male entrepreneurs than to female entrepreneurs. “The majority of femtech founders are women and we know that female founders historically struggle to access institutional capital,” said Velissaris. In 2020, in all industries combined,

“GENDER MEDICINE DOES NOT COME WITHOUT RISKS”

Francesca Arena, a historian of gender and health from the University of Geneva, fears that femtechs will turn women into permanently sick patients.

BY BERTRAND BEAUTÉ

Are women largely overlooked in medicine?

No. The history of medicine holds a wealth of texts focusing exclusively on women’s bodies and diseases. From ancient times to the early 20th century, medicine studied women even more than men. But the situation was reversed in the middle of the last century. Probably due to the progress of endocrinology, scientists then considered that hormonal cycles could disrupt clinical trials and gradually excluded women. Men became the standard for developing medicines. Since then, feminist movements have reinserted gender as an essential parameter in health studies. The medical profession is rediscovering female pathologies and organs. This recent shift is interesting, but we mustn’t forget that gender medicine existed before and has ambivalent effects.

What are the risks?

Doctors in the 19th century studied women more than men because women were perceived as permanently sick. There was a sort of hierarchy in which the male body was synonymous with stability and good health, and therefore didn’t require any special study. In contrast, the female body was viewed as fluctuating, sickly and inferior, due to menstruation, hormones and meno-

pause. This difference justified why the “weaker sex” was kept under close watch. The current shift back towards gender medicine could set women’s health apart, giving it inferior status to men’s health. For example, the body of research on treating the symptoms of menopause is far greater than for andropause, as if this physiological change were an illness in women but a normal development in men. As in the 19th century, the woman’s body is relegated to a lower position, which deserves more attention.

What about sexual health and pleasure?

The study of the clitoris is another example of how the history of medicine has gone back and forth around gender and its ambivalent effects. The anatomy of the clitoris was already well known during the Renaissance, as was its role in women’s sexual pleasure. As time went by, it was completely disregarded and eventually forgotten about by doctors in the 20th century, before re-emerging in the 1990s. Today, it has become a symbol, embodying the struggle to liberate women’s pleasure. While this rediscovery has positive effects, opening up new spaces for discussion about sexuality, it’s problematic to claim that we have finally found the true centre of female pleasure, while

neglecting the rest. Men are not exempt from these stereotypes. All research on male sexuality focuses on erectile function, i.e. on performance, while the prostate is also an important zone for male pleasure. ▲

PHYSIOLOGY ISN’T EVERYTHING

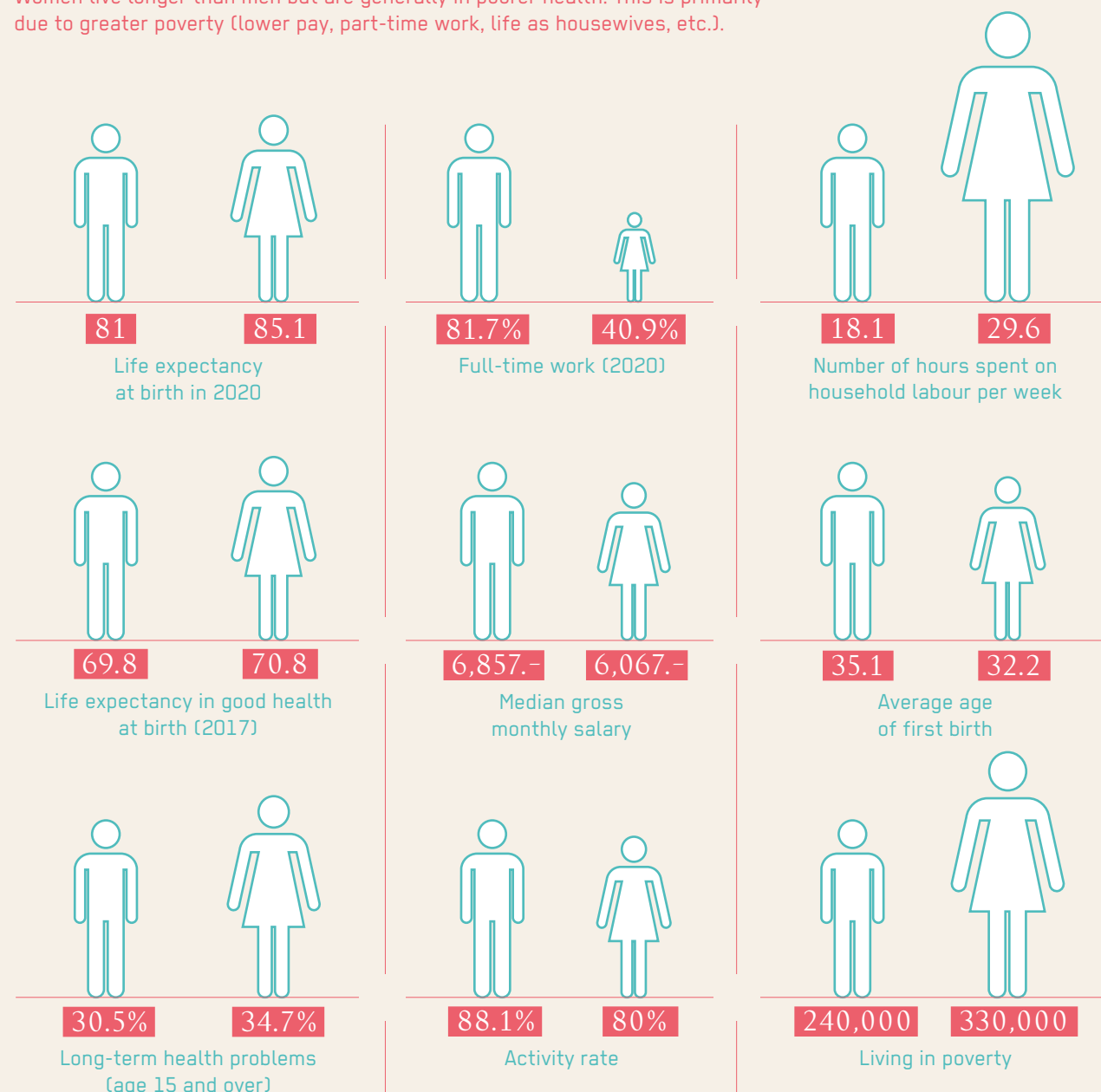
Although women living in Switzerland live on average four years longer than men, their health indicators are worse, according to a study published in December 2020 by the Swiss Federal Statistical Office. More women than men live with a chronic illness, or suffer from pain or sleep disorders. But biological differences and disparities in medical care do not explain everything. Social factors also play a role. As women are paid less than men and work part-time more often, they are more likely to be in a precarious situation, causing psychological and social stress. “Our work has shown that the health indicators of unemployed men are close to those of women,” Professor Carole Clair, co-author of the SFSO study points out.

THE WORLD NEEDS FEMTECH

Long overlooked, the women's health market offers huge potential.

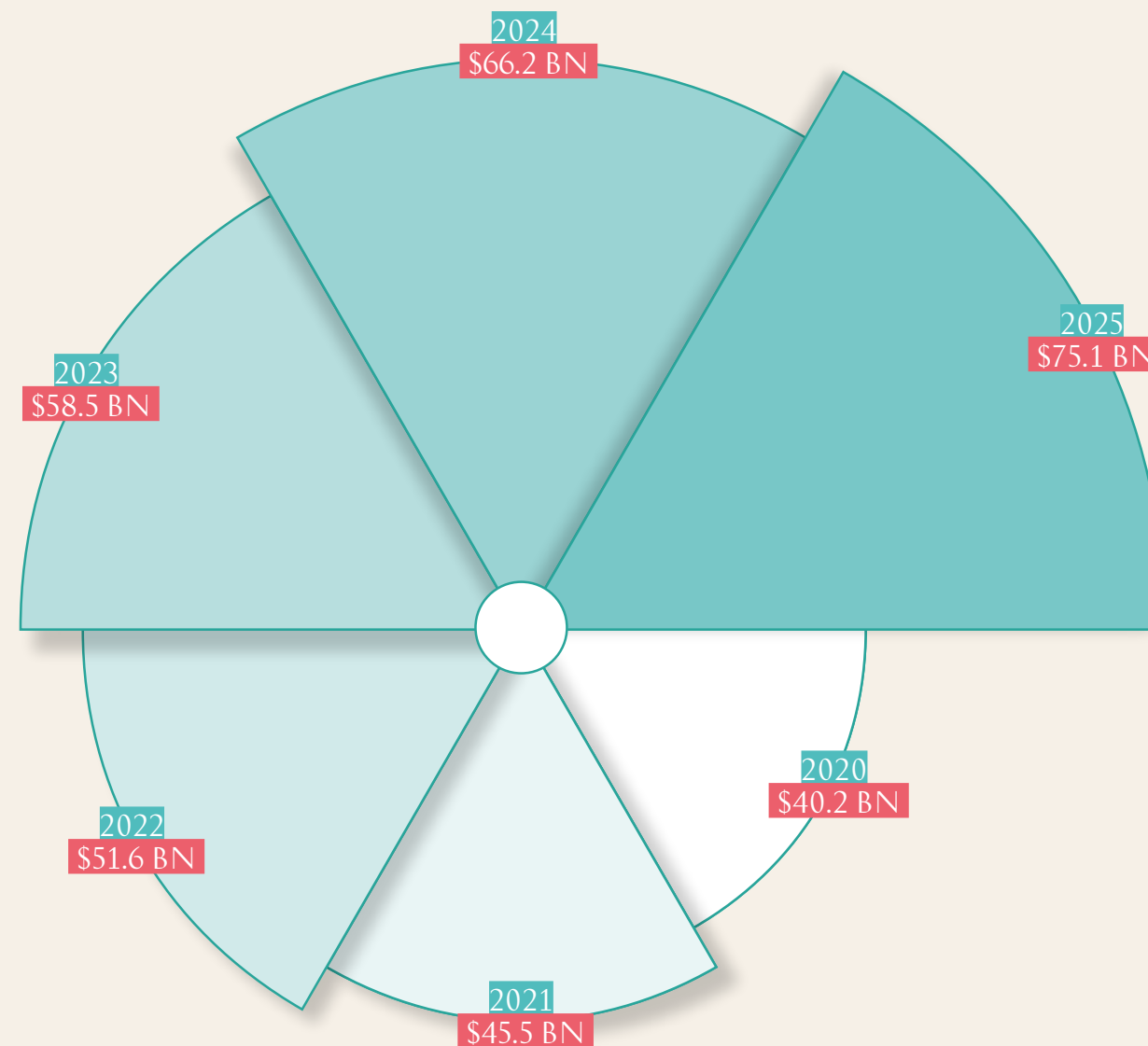
DIFFERENCES BETWEEN MEN AND WOMEN IN SWITZERLAND

Women live longer than men but are generally in poorer health. This is primarily due to greater poverty (lower pay, part-time work, life as housewives, etc.).



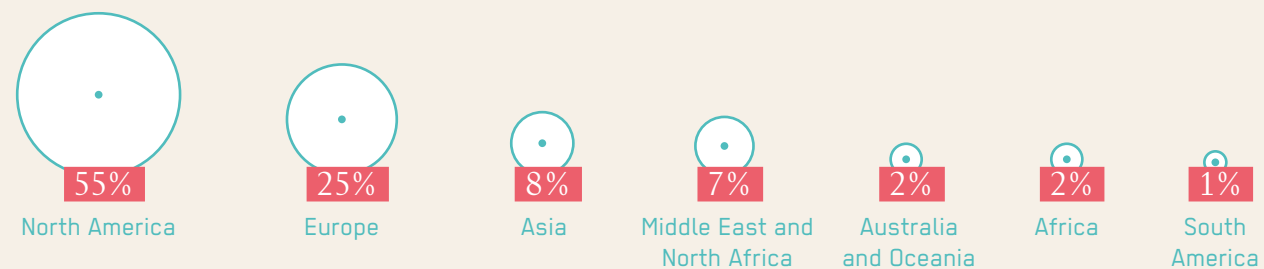
A FAST-GROWING SECTOR

The overall size of the femtech market is expected to grow at an average annual rate of 13.3% until 2025.



UNITED STATES, THE UNDISPUTED LEADER

With 51% and 10% respectively of the total number of femtech companies worldwide, the United States and Great Britain by far dominate the sector.



Sources: FemTech Analytics, Arizton Advisory & Intelligence, Office fédéral de la statistique (OFS), Caritas

A DATA-DRIVEN MARKET

Femtechs use the data they collect to develop ever more innovative services for women. But the buying and selling of such private information for commercial value is cause for concern.

BY BERTRAND BEAUTÉ

In 2014, Apple released its Health app with much flourish. But the tech giant had not at all thought about the needs of women. It took a whole year for Apple to correct that and update its app with a period tracking feature. Since then, the Cupertino-based company has continued to expand its range of products for women. For example, the Apple Watch uses heart rate to more accurately predict a woman's next period and fertility windows.

Apple now gives prominence to these new features because the market has exploded. The German company Clue, a women's health pioneer, launched its menstrual cycle tracking app back in 2013 and claims to serve more than 12 million users. The Google Play app store currently lists nearly 250 period-tracking apps. "Digital health is a booming sector, and the pandemic has only accentuated the phenomenon," says Marwan Elfitesse, head of startup programmes at Station F. "This has been especial-

ly beneficial for women's health, because there was strong demand and a lack of available solutions."

"THE INFORMATION WE RECEIVE CAN ADVANCE SCIENTIFIC RESEARCH"

Carrie Walter, co-CEO of Clue

As a result, digital health tools for women are flooding the market. One of these is the Zurich-based startup Ava Women. Approved by the US Food and Drug Administration (FDA), its smart bracelet tracks fertility by measuring physiological parameters such as temperature and heart rate. The company claims to have helped more than 50,000 women

become pregnant by using its device. In another field, British femtech company Elvie has launched a smart breast pump that slips into the bra of new mothers. The Bluetooth-enabled device connects to a smartphone and monitors milk volume in real time. Finally there is the US startup LoonCup, which has developed a smart menstrual cup – currently available for pre-order – that analyses menstrual blood to detect certain diseases such as endometriosis.

All these companies collect a lot of data on their users, which goes towards developing new products. For instance, Clue has recently launched a new birth control software application in the United States to prevent pregnancy. In essence, the company's algorithm predicts a woman's "low-risk" and "high-risk" days of becoming pregnant, which are calculated based on information she provides about her menstrual cycle. These days, with hormonal contraceptives falling out of

favour due to their side effects, this all-digital form of contraception, which received FDA clearance as a medical device in February 2021, could take off. The Clue Birth Control app claims 92% effectiveness with "typical" use, and 97% with "perfect" use. This compares with 93% and 99% for the contraceptive pill and 87% and 98% for the condom, respectively. "No contraceptive method is perfect," says Carrie Walter, Clue's co-CEO. "Women should have as much choice as possible and use the method that is right for them and where they are in life, with full information about the pros and cons of each."

And Clue doesn't intend to stop there. Capitalising on its user data, the company plans to expand its services. In August 2021, the company part-

nered with the beauty giant L'Oréal to understand how hormonal cycles affect skin health. "There are so many things we can do," says Audrey Tsang, Clue's co-CEO with Carrie Walter. "Our goal is to become an app that tracks women throughout their lives, from their first period, through contraception, and up to menopause, an area we're starting to look into."

The fact remains that femtech firms collect intimate data (such as frequency of sexual intercourse, plans to get pregnant, or painful periods), and that is cause for concern. Especially as scandals are beginning to emerge. An investigation by the *Washington Post* in April 2019 revealed that the pregnancy-tracking app Ovia Health was selling its user data to health insurers. Also, between 2016 and 2019, the period-tracker

The connected bracelet from Zurich startup Ava Women detects windows of fertility by analyzing five biological parameters, including skin temperature and heart rate.



INNOVATION TO THE RESCUE

More and more women's health tech companies are traded on the stock market. Here is our selection.

BY PAR BERTRAND BEAUTÉ AND STANISLAS CAVALIER

MITHRA MENOPAUSE, IN THE LINE OF FIRE

FOUNDED
1999

REGISTERED
OFFICE
LIEGE (BE)

WORKFORCE
300

2020 REVENUE
€ 9 M

MITRA

"2022 is starting off in another great way," Leon Van Rompay, CEO of Mithra Women's Health, commented in a press release on 14 January. What's all the excitement about? Donesta, a hormone treatment developed by the Belgian company Mithra to reduce vasomotor symptoms (VMS) in menopausal women (e.g. hot flashes), delivered positive top line results from its Phase 3 clinical trial. The study of 2,300 women showed that after three months of treatment, Donesta reduced the frequency of hot flashes by 80% and their severity by 56% from baseline.

If the next results, including the safety assessment, are also positive,

Donesta could be granted market authorisation in Europe and the United States by 2024. And it has the potential to become a blockbuster, i.e. a drug that generates more than \$1 billion a year. The global menopause market, currently valued at nearly \$10 billion, is expected to shoot up to \$17 billion by 2027 due to the ageing population around the world. In 2021, Mithra Women's Health launched the contraceptive pill Estelle, which has since been selling in the United States, Canada and Europe. For the first six months of 2021, the company posted revenue of €12.142 million, compared to €9 million for the whole of 2020. All analysts covering the company recommend buying the stock.

THE GLOBAL MENOPAUSE MARKET IS EXPECTED TO SHOOT UP DUE TO THE AGEING POPULATION

AND ALSO

MYRIAD

THE GENETICS PIONEER

In 1996, the US company Myriad Genetics was the first to market a genetic screening test for women to assess their breast and ovarian cancer susceptibility. Since then, the company's portfolio has grown to include a prostate prediction test for men and prenatal screening to identify various genetic conditions in the embryo.

FOUNDED: 1991

REGISTERED OFFICE: SALT LAKE CITY (US)

WORKFORCE: 2,600

2020 REVENUE: \$638.6 M

MYGN

MINERVA

FOR HEAVY PERIODS

The American College of Obstetrics and Gynecology estimates that nearly 18 million women in the United States suffer from abnormal uterine bleeding. In some cases, the condition can result in a hysterectomy, i.e. the total or partial removal of the uterus. The US company Minerva Surgical has developed and sells minimally invasive medical devices for this procedure. Its potential market is estimated at \$900 million per year in the United States alone.

FOUNDED: 2008

REGISTERED OFFICE: SANTA CLARA (US)

WORKFORCE: 120

2021 REVENUE: \$52 M

UTRS

THE TEST CAN PREDICT WHETHER A MOTHER WILL GIVE BIRTH PRETERM

SERA IDENTIFYING RISKS OF PRETERM BIRTHS

Every year worldwide, 15 million babies are born premature, i.e. before the 37th week of gestation. That is one in 10 births, according to the World Health Organization (WHO). Sadly, nearly 1 million of these infants die from complications due to prematurity, and many survivors suffer lifelong disabilities, including visual and auditory learning disabilities. However, the WHO also estimates that, "more than three quarters of premature babies can be saved with feasible, cost-effective care, such as... antenatal steroid injections."

To identify women at higher risk of preterm delivery, the US biotech company Sera Prognostics has developed a blood test called PreTRM. The test can predict whether a mother will give birth preterm, by measuring several proteins in her blood. This will allow doctors to make more informed decisions based on the specific risk of each patient. The PreTRM test is currently the only blood-based biomarker for preterm birth risk licensed and sold in the United States. Sera went public in July 2021 at a price of \$16 and is currently trading at around \$7. Most analysts recommend buying shares, which they believe could reach \$18 by the end of 2022.

FOUNDED
2008
REGISTERED
OFFICE
SALT LAKE CITY
(US)
WORKFORCE
80
2020 REVENUE
\$250,000
SER A

COMPARED TO SURGERY, CRYOABLATION IS FASTER, LESS PAINFUL AND LESS EXPENSIVE

ICECURE THE COLD TREATMENT

The World Health Organization (WHO) reported that more than 2.2 million women were diagnosed with breast cancer in 2020, resulting in 685,000 deaths. Since the 1980s, improvements in diagnosis, thanks to early tumour detection, have reduced mortality from this form of cancer by 40% in high-income countries. But treatment, which usually combines surgery and radiotherapy, is often a traumatic experience for patients, especially when the entire breast is removed. To solve the problem, the Israeli company IceCure has developed the ProSense system for cryoablation of breast tumours.

How it works is that the doctor, guided by ultrasound, percutaneously introduces the probe-

equipped device into the tumour. Liquid nitrogen is then injected into the tumour area, reducing the temperature to -160°C and destroying the cancer cells. Compared to surgery, cryoablation is faster, less painful, and less expensive. In April 2021, the ProSense system was granted Breakthrough Device Designation by the Food and Drug Administration (FDA). It is approved and marketed in Europe and the United States to treat certain forms of breast cancer. The device could also be used to treat other tumours. Listed on the Tel Aviv Stock Exchange, IceCure posted sales of \$2.75 million in the first nine months of 2021, up 11% from the same period a year earlier. A buy recommendation has been issued on the stock.

FOUNDED
2006
REGISTERED
OFFICE
CAESAREA (IL)
WORKFORCE
60
2020 REVENUE
\$3.9 M
ICCM

NATERA PRENATAL TESTING

The US company Natera has developed a range of genetic tests for women, including a test to assess breast cancer risk. Panorama, its star product, can detect genetic diseases in an embryo using a simple blood sample taken from the pregnant mother, thus avoiding a much more invasive amniocentesis.

FOUNDED: 2004
REGISTERED OFFICE: SAN CARLOS (US)
WORKFORCE: 1,800
2020 REVENUE: \$391 M
NTRA

ASPIRA THE OVARIAN SPECIALIST

Focusing entirely on ovarian cancer, which affects one out of 70 women, the US biotech Aspira Women's Health provides several diagnostic and genetic predisposition testing solutions for this disease.

FOUNDED: 1993
REGISTERED OFFICE: AUSTIN (US)
WORKFORCE: 100
2020 REVENUE: \$4.6 M
AWH

FEMASYS THE FERTILITY SPECIALIST

The US biotech firm Femasys, which launched its IPO in June 2021, commercialises FemCath, an FDA-approved intrauterine catheter used to examine the fallopian tubes, and the FemCerv, a medical device used to collect samples of endocervical tissue. Both products are used for infertility diagnostics.

FOUNDED: 2004
REGISTERED OFFICE: SUWANEE (US)
WORKFORCE: 25
2021 REVENUE: \$1.038 MIO
FEMY

OBSEVA THE SWISS CONTENDER

2021 was a pivotal year for ObsEva. Listed on the Nasdaq since March 2017 and on the Swiss Stock Exchange since July 2018, the Geneva-based biotech firm filed an application with the US Food and Drug Administration (FDA) last September for its most advanced drug, Linzagolix. If all goes to plan, the drug could be approved in the United States in 2022 to treat fibroids, a uterine condition that affects 20% to 40% of women over age 30, causing pain, bleeding and even infertility. Linzagolix is a tremendous step forward as it shrinks the size of fibroids without invasive surgery. Market potential is huge: every year in the United States, 300,000 hysterectomies are performed due to uterine fibroids.

If Linzagolix is launched to market, ObsEva will be able to start generating revenue. The company is also conducting clinical trials to prove the effectiveness of its drug to treat endometriosis. In September 2020, Wedbush Securities analyst Liana Moussatos estimated in *Swissquote Magazine* that Linzagolix sales would peak at \$1.1 billion for fibroids and \$653 million for endometriosis in 2026 in the US alone. Most analysts recommend buying the stock, which has literally collapsed since its IPO on the Swiss Stock Exchange in 2018. The share went from ending its first day on the Swiss Stock Exchange at a price of 20 Swiss francs to currently trading at less than 2 Swiss francs.

MOST ANALYSTS RECOMMEND BUYING THE STOCK

CONTEXT

CANCER RESEARCH

The US biotech firm Context Therapeutics is developing new treatments for cancers specific to women, such as breast, ovarian and endometrial cancer. All of its treatments are in the early stages of development.

FOUNDED: 2015
REGISTERED OFFICE: PHILADELPHIA (US)
WORKFORCE: UNKNOWN
2021 REVENUE: 0
— CNTX

NU SKIN

THE COSMETICS GIANT

Founded in 1984 in the United States, the Nu Skin brand is mostly known for its anti-ageing cosmetics primarily aimed at women.

FOUNDED: 1984
REGISTERED OFFICE: PROVO (US)
WORKFORCE: 5,000
2020 REVENUE: \$2.58 BN
— NUS

DARÉ

BIOTECH FOR WOMEN

Founded in 2005, the US company Daré Bioscience develops drugs exclusively for women. Its first treatment, DARE-BV1, was approved by the FDA in December 2021 to treat bacterial vaginosis, an infection that affects 21 million women in the United States. The company has another drug that is still in its development pipeline to treat female sexual arousal disorder.

FOUNDED: 2005
REGISTERED OFFICE: SAN DIEGO (US)
WORKFORCE: 30
2020 REVENUE: 0
— DARE

SAGE POST-PARTUM DEPRESSION PILL

What should be the most beautiful moment in one's life can turn into a nightmare. In the year following childbirth, 10% to 15% of new mothers suffer from post-partum depression. Far from being a case of the blues, this disease has many harmful consequences. Without help, this depression can become chronic and develop unnoticed. The mother loses confidence in her abilities and thinks she is a bad parent. Couples feel the strain,

and some do not survive. Children are the most vulnerable victims of post-partum depression. Their development, which depends to a large extent on their relationship and interactions with their parents, is disrupted.

To treat these new mums, the US company Sage Therapeutics has developed Zulresso. In March 2019, the drug became the first (and so far only) FDA-approved treat-

ment specifically for post-partum depression, which has until now been treated with conventional anti-depressants. In both controlled studies, Zulresso demonstrated superior performance over a placebo in improving depression symptoms. The only drawback is that the drug passes into breast milk, which can cause problems for breastfeeding mothers. Most analysts recommend holding shares, which has fluctuated considerably in recent years.

FOUNDED
2010
REGISTERED
OFFICE
MASSACHUSETTS
(US)
WORKFORCE
300
2020 REVENUE
\$1.1 BN
SAGE

WITHOUT HELP,
THIS DEPRESSION
CAN BECOME
CHRONIC

INMODE

RADIO FREQUENCY

InMode commercialises devices that use laser or radio frequency capabilities for non- or minimally-invasive aesthetic procedures (treatment for varicose veins or wrinkles, pigmentation problems, hair removal). Its business is growing fast, as the company expects to generate revenue of between \$415 million and \$425 million in 2022, a 15% to 20% increase compared to 2021, already a record year for InMode.

FOUNDED: 2008
REGISTERED OFFICE: IRVINE (US)
WORKFORCE: 200
2021 REVENUE: \$356 M
INMD

PROGNY

FERTILITY INSURANCE

This health insurer specialising in fertility care in the United States expects its revenue to grow by almost 50% in 2021, compared to 2020. The company's customer line-up includes several big names – Uber, Google, Microsoft, PayPal – which provide their employees with Progyny's services.

FOUNDED: 2008
REGISTERED OFFICE: NEW YORK (US)
WORKFORCE: 200
2020 REVENUE: \$344.9 M
PGNY

AGILE

THE CONTRACEPTIVE PATCH

Agile Therapeutics sells a weekly hormonal birth control patch called Twirla. The company has several other contraceptives undergoing clinical trials.

FOUNDED: 1997
REGISTERED OFFICE: PRINCETON (US)
WORKFORCE: 30
2020 REVENUE: \$749,000
AGRX

THE DEVICE ALLOWS THE EXPECTANT MOTHER TO WATCH HER BABY LIVE

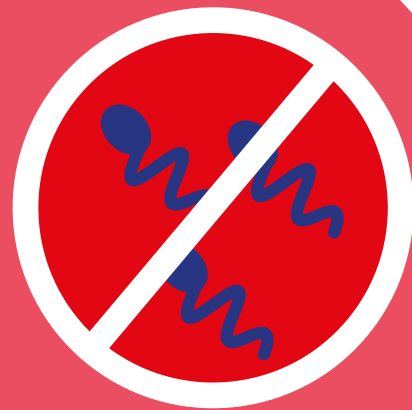
FOUNDED
2015
REGISTERED
OFFICE
OMER (IL)
WORKFORCE
50
2020 REVENUE
0
PULS

PULSENMORE ULTRASOUNDS AT HOME

Elazar Sonnenschein, CEO of PulseNmore, likes to tell how he came up with the idea that is changing his life. Here's the story. One night, a woman in his family who was pregnant could not feel her foetus moving in her belly. In fear, she rushed to the hospital. False alarm. The baby was fine. "My wife then asked me if I couldn't do something to prevent these stressful and unnecessary incidents," Sonnenschein told the online news source l'Usine Digitale in 2018. The entrepreneur then developed an ultrasound device that connects directly to a smartphone. By placing the scanner on her belly, the expectant mother can watch her baby live as she would during a regular ultrasound scan. The

technology also measures the baby's heart rate, which can then be sent to the obstetrician for a medical opinion.

Authorised in Israel and CE-approved for sale in Europe, the device is now sold in several countries. In August 2020 and again in January 2022, PulseNmore signed agreements to sell tens of thousands of devices to Clalit Health Services, one of Israel's leading health insurance companies. PulseNmore's portable ultrasound scanner promises to reduce health-care costs by avoiding unnecessary medical visits. In June 2021, the Israeli company PulseNmore launched a successful initial public offering on the Tel Aviv Stock Exchange, raising \$42 million.



UNLIKE TRADITIONAL SPERMICIDES, PHEXXI DOES NOT DAMAGE THE VAGINAL WALLS

EVOFEM NON-HORMONAL BIRTH CONTROL

FOUNDED
2007

REGISTERED
OFFICE
CALIFORNIA (US)

WORKFORCE
UNKNOWN

2020 REVENUE
\$450,000

EVFM

The pill is no longer the symbol of freedom it used to be. More and more young women are going off hormonal contraceptives out of concern for their health and the side effects they cause. While more than 50% of women aged 15 to 49 living in Switzerland took the pill in 1992, only 31% did so in 2017, according to the Swiss Federal Office of Public Health (FOPH). "This decline in use that began in 2012 is due to the scandals reported in the press involving third and fourth generation pills containing both oestrogen and progestin," the FOPH says. Consequently, in recent years a myriad of companies have taken the opportunity to come up with new birth control methods. Startups such as the German company Clue and the Swedish company Natural Cycles have developed all-digital contraceptives that have been green-lighted by the US Food and Drug Administration (FDA).

The US company Evofem Biosciences brings another approach: Phexxi gel. The way it works is simple. The gel stabilises the pH of the vagina, keeping it naturally inhospitable to sperm. The product is about 93% effective when used as directed by a healthcare provider, and 86% effective with "typical" use. This rates it on par with condoms, which are 87% effective in preventing pregnancy. Unlike traditional spermicides, which are detergents, Phexxi does not damage the vaginal walls, the manufacturer says. Approved since November 2020 by the FDA, Phexxi has since been on the market in the United States. Most analysts recommend buying shares in the company, which has an investigational candidate in its pipeline that prevents urogenital chlamydia and gonorrhoea infections.

THERAPEUTICSM EXPERT ON WOMEN

The US firm TherapeuticsMD describes itself as "an innovative pharmaceutical company exclusively committed to advancing the health of women," and commercialises a wide range of products in the segment. Its solutions include a hormonal birth control ring called Annovera, a hormonal drug that reduces menopausal hot flushes (Bijuva), a hormone that reduces vaginal pain during sex due to menopause, and vitamin supplements for pregnant women (BocaGreen).

FOUNDED: 1907
REGISTERED OFFICE: BOCA RATON (US)
WORKFORCE: 400
2020 REVENUE: \$62.9 M
TXMD

OLEMA ENDOCRINE-DRIVEN CANCERS

The US firm Olema Oncology develops treatments for endocrine-driven cancers, i.e. linked to hormones. The company has drugs in its pipeline, all of which are currently in clinical trials, against breast cancer and gynaecological cancers.

FOUNDED: 2006
REGISTERED OFFICE: SAN FRANCISCO (US)
WORKFORCE: 20
2021 REVENUE: 0
OLMA

VITROLIFE FOCUS ON IVFS

Founded in 1994, the Swedish company Vitrolife was one of the world's first companies to provide in vitro fertilisation (IVF) laboratories with culture media. Today, the group's solutions cover the entire IVF process, ranging from oocyte retrieval to embryo transfer and cryopreservation.

FOUNDED: 1994
REGISTERED OFFICE: GÖTEBORG (SE)
WORKFORCE: 1,200
2020 REVENUE: SEK 1,246 M
VITR

THE WEIGHT OF TABOOS

The subjects covered by femtechs are subject to censure from web giants, which are particularly puritanical when it comes to women's health.

BY BERTRAND BEAUTÉ



ISTOCK

Could web giants have a problem with femtechs? The question deserves to be asked, especially as internet companies censor advertisements from femtech companies – their algorithms automatically delete a majority of text and images about women's health. "Most femtechs are up against the policies of web giants such as Google, Facebook and Instagram, which block them from communicating about their products," said Marwan Elfitesse, head of startup programmes at Station F. "The algorithms block the ads."

Fizmed is one such example. This Strasbourg-based company developed a smart perineum probe designed for women who need to rehabilitate their perineum after birth. It is a very legitimate medical product that has obtained the CE label in Europe, as well as a marketing authorisation from the United States' FDA. However, Amazon decided to place the product in the sex toy category of its e-commerce site, making it difficult to find for women who need it. Facebook has censored several ads from Fizmed.

However, Facebook rules indicate that advertisements promoting products or services relating to sexual health are authorised, as long as they target people over 18 years old and they are not focused on sexual pleasure. Despite these rules, censorship is everywhere. A study published in January 2022 by the US non-profit Center for Intimacy Justice confirms that the phenomenon is widespread. The authors surveyed 60 companies active in women's health, particularly in the treatment of pelvic pain, menopause, pregnancy, menstruation, education, sexuality and fertility.

The results were damning: 100% of companies had advertisements censored on Instagram or Facebook. And 50% of those companies had their social media accounts suspended.

THIS CENSORSHIP IS EVEN MORE TROUBLING GIVEN THAT MANY ADVERTISEMENTS TARGETING MEN ARE PUBLISHED ON FACEBOOK

That is what happened to Joylux, a US company that sells medical products (approved by the FDA) for menopausal women. Its Facebook page has been shut down twice since 2017. "Our customers are 50 years old, they're on Facebook. It's the best place to spread awareness about subjects relating to menopause," said Colette Courtion, CEO of Joylux, quoted in the *New York Times*. "But due to the nature and the look of our product, Facebook and other companies think it's pornography." Also included in this study are Google, TikTok and other platforms that have also rejected advertisements about women's health.

This censorship is even more troubling given that many advertisements targeting men are published on Facebook, even though some seem to go against the rules of the social network. In an article, the *New York Times* gives an example

of condoms that provide pleasure, lubricants for solo moments and pills to treat erectile dysfunction that promise a "wet hot American summer". These adverts were not affected in the slightest by Facebook's algorithms.

Double standards. French company Elia Lingerie had to delete its Facebook page for a month after publishing a photo of its menstrual underwear, even though advertisements for traditional lingerie show half-naked women on the same site. Swiss start-up Ava, which develops a smart bracelet that helps women track their fertility cycle, has also experienced this unequal treatment. A post about the importance of cervical mucus in female fertility? Censored on Facebook. An article about improving your sperm? Accepted. "According to the advertisement algorithms on Facebook, talking about a woman's cervical mucus is inappropriate and sexual, but talking about a man's sperm is no problem," said Lindsay Meisel, head of content at Ava, in an article from US tech news site VentureBeat. "We can't see that as anything other than an unfair double standard."

"The censorship from American web companies contributes to maintaining the taboo around women's health," said Elfitesse. "At a time when almost all marketing goes through social media and sales are via e-commerce, that limits the possibilities for femtechs. These platforms really need to change their publication policies."

Following publication of the Center for Intimacy Justice report, Facebook recognised errors in the application of its advertising policies and unblocked several advertisements. ▴

INTERVIEW

“SWITZERLAND CAN BECOME A LEADER IN FEMTECH”

Tech4Eva, a startup accelerator programme focused on women's health, has supported 30 companies in raising 60 million Swiss francs. Interview with its director Lan Zuo Gillet.

BY BERTRAND BEAUTÉ

The École polytechnique fédérale de Lausanne (EPFL) launched the first startup incubator dedicated to women's health in Switzerland. Lan Zuo Gillet heads it.

On 8 March 2022, the symbolic date of International Women's Day, the startup incubator Tech4Eva will celebrate its first anniversary. Launched by the EPFL Innovation Park and Groupe Mutuel, this unique platform in Switzerland promotes technologies and solutions to improve women's health. Just one year after its creation, Lan Zuo Gillet, Tech4Eva's co-founder and director, draws up an initial assessment and outlines her goals for the years to come.

Why did EPFL launch an accelerator specifically for femtechs? Were the existing general startup support programmes in Switzerland not enough?

Broadly speaking, women's health technology, or the femtech sector, remains under-developed and under-invested. Why? Because men don't think about it, and women themselves don't usually talk about their health concerns. Menstruation, menopause and female sexuality are still taboo subjects.

“MENSTRUATION, MENOPAUSE AND FEMALE SEXUALITY ARE STILL TABOO SUBJECTS”

But in recent years, these taboos have started to lift, especially with the creation women's health startups. More than 80% of these companies are launched by women who want solutions to their own problems. Unfortunately, most investors are men who tend not to be interested in this sector, despite the high potential of femtech firms as an asset class. Frost & Sullivan estimate that the women's health market will be worth more than \$50 billion dollars by 2025. ▶

By launching Tech4Eva, EPFL has tasked itself with raising awareness about women's health. Our goal is to boost these startups and push innovation in femtech to the next level. With existing accelerators, femtech would have drowned in the mass. The startups would have lacked the visibility that we want to give them.

What is your assessment after one year in action?

The launch of Tech4Eva was officially announced on 8 March 2021. By mid-April, we had already received 110 applications. That was a nice surprise and shows that there is a real need for this structure. We selected 30 startups, 10 of which are from Switzerland, and we tracked them for nine months to develop their business model. Each "early stage" project had a personal coach to guide it, while "growth" phase startups had access to one of the experienced entrepreneurs and experts from the pharmaceutical industry, medtech and healthcare sector. These startups were also put in touch with investors through tours organised in London, Tokyo, Boston and Zurich. A total of around 100 business meetings were organised to help raise 60 million Swiss francs. So we've raised a lot of money in a short space of time. This shows one thing: by creating a complete femtech ecosystem that connects startups, potential customers and investors, we can contribute to the development of this new sector.

What do you think will happen next?

The 2022 call for applications from startups all over the world has already been launched. Any startup offering innovative solutions and technology to improve women's health is encouraged to contact us, regardless of their nationality or level of maturity.

We also invite banks, venture capitalists and family offices to join our initiative. We need more investors. For the time being, startups active in high-potential fields such as fertility are able to raise funds. But femtech

does not only cover gynaecological problems! For example, menopause is often overlooked by investors, despite being a major health problem. By 2025, there will be 1.2 billion women aged 50 or over. Some of them will experience hot flushes so debilitating that they may even have to stop their careers. The potential of this market is huge. The US startup Embr Labs focuses on this issue and is developing a bracelet that reduces menopausal hot flushes. It raised \$35 million in 2021, of which \$22 million was through the Tech4Eva programme.

"WOMEN HAVE LONG BEEN NEGLECTED IN MEDICAL RESEARCH"

In the long term, Tech4Eva aims to become the national innovation centre for women's health, showcasing solutions that cover women's entire lives.

The United States is spearheading innovation in femtech. Where does Switzerland stand?

Switzerland is well poised to ben-

efit from the development of women's health technology. We have leading pharmaceutical groups, but also innovative medtechs. Switzerland's Health Valley is made up of more than 1,000 companies. So far, these firms have not launched products aimed specifically at women. But they have the capacity to do so. On top of that, our country is home to top universities and research centres, so we have all the skills we need to make Switzerland a leader in femtech.

What role can research play in the development of femtech companies?

Women have long been neglected in medical research. For years, they were systematically excluded from clinical trials because researchers felt that their hormonal cycles could interfere with the results. Many treatment protocols and therapeutic solutions are therefore based solely on men. As a result, some solutions may be less effective on women. This needs to change. Feminist movements are fighting for equal pay for men and women, which is very good. There should also be equal treatment in clinical trials and medical research. Through the Tech4Eva platform, we also stress the need for gender-specific differences to be taken into account due to the biological cycle of women, so that more targeted solutions can be developed. ▴

AN INNOVATION EXPERT

A graduate of Shanghai Jiao Tong University, Lan Zuo Gillet holds a PhD from EPFL, performed post-doctoral work at Stanford University (US), and completed her MBA at HEC Lausanne. She then started her career in the R&D department at Rolex, before being named Head of China Business at Pictet. After working from 2008 to 2011 for Swissnex,

Switzerland's global scientific exchange network, in Shanghai, she returned to Switzerland to manage the Geneva Creativity Center. In 2014, she became deputy general manager of the EPFL Innovation Park, where she launched the Tech4Eva femtech incubator in 2021. In parallel, she has been an expert for Innosuisse since 2015.



GRAFF
TRIBAL



ISTOCK

Second-hand chic

Resale platforms for vintage apparel are performing exceptionally well. Several have gone public recently, bolstered by booming sales during the pandemic.

BY JULIE ZAUGG

A young woman with long brown hair sports a blue sequin dress bearing the slogan “I only accept apologies in cash”. In her photos, she’s wandering through the streets of London wearing mirrored sunglasses like it’s a fashion shoot. Three months ago, she was photographed on a beach somewhere

in the UK wearing an embroidered Zara dress. And photos taken even earlier show her posing with Chanel earrings. “NicolaJayne18” is her handle on the resale platform Depop, and she has already sold 360 products. She is one of two million sellers scouring their wardrobe for second-hand items to sell on the London-based platform, which

launched in 2011. Some have become mini-stars, with thousands of followers on TikTok and Instagram.

The resale market for clothing, jewellery and shoes is booming. It is dominated by a handful of online platforms that all launched about a decade ago, such as Poshmark, The RealReal, ThredUp, Depop, Vestiaire

Collective and Vinted. “Those platforms operate on a C2C (customer to customer) model, which means they serve as intermediaries connecting sellers with buyers, with minimal intervention regarding the products sold,” says Simeon Siegel, an analyst at BMO Capital Markets who covers The RealReal.

Resale will make up 27% of the fashion market by 2023

According to data-analytics firm GlobalData, the US online clothing resale market was worth \$15 billion in 2021, versus less than \$1 billion in 2013. By 2025, that figure is expected to grow 213% to \$47 billion. A quarter of all consumers worldwide bought something second-hand in 2019, according to a study by BCG, which estimates that resale will make up 27% of the fashion market by 2023.

The rosy outlook has led to a wave of IPOs among the US platforms with the strongest growth in recent years. The RealReal led the way in 2019, followed by ThredUp, Poshmark and Rent the Runway in 2021. In March 2021, the luxury group Kering, which owns Gucci and Yves Saint Laurent, took a 5% stake in Vestiaire Collective. Then, in June, Etsy bought Depop for \$1.6 billion.

Those platforms owe their success to their ease of use. “They have significantly improved the consumer experience,” says Tracy Cassidy, fashion expert at the University of Huddersfield in the United Kingdom. “Before, people had to spend hours at little old shops going up and down the aisles in the hopes of getting their hands on a rare item. Now they can do it on their ▶

COMPANIES TO WATCH

THE REALREAL

Luxury above all

Founded in 2011, this US-based platform was one of the first to really take off in the online resale market. “This company had the advantage of being the first of its kind, which gave it a strong brand image,” says Simeon Siegel, analyst at BMO Capital Markets. Its margins, however, are still in negative territory because its costs are high. As a platform with a focus on luxury, it has had to hire a team of gemmologists, watchmaking experts and fashion specialists to authenticate items. The company’s share price has plummeted since its IPO in 2019, but Siegel believes its medium-term prospects are good, thanks to its pool of 24 million users. He has issued an “outperform” recommendation.

FOUNDED: 2011

REGISTERED OFFICE: SAN FRANCISCO (US)

WORKFORCE: 3,000+

2020 REVENUE: \$298.3 M

REAL

THREDUP

Virtual yard sale

On ThredUp, users can find anything from a \$10 Zara jumper to a \$1,500 Burberry handbag. Because of its vast diversity, the platform has had to adopt different models for authentication and sorting. Commissions also vary depending on the value of the item for sale. “Its size gives it a competitive advantage,” says Edward Yuma, analyst at KeyBanc. The company’s share price is low, but Yuma believes its valuation is therefore more attractive, given the growth potential of its margins and its sales.

FOUNDED: 2009

REGISTERED OFFICE: OAKLAND (US)

WORKFORCE: 1,862

2020 REVENUE: \$186 M

TDUP

smartphone, whenever they want, from the comfort of their own sofa.”

Some platforms, such as The RealReal, even send couriers to pick up high-value items directly from the seller’s door. They also notify users when the price of an item they are interested in drops, and provide negotiation tools to help buyers and sellers agree on a price.

This style of shopping – offering all the excitement of a treasure hunt – is a big hit with Generation Z.

Roughly 90% of Depop users are under 26 years old. “That cohort prefers experiences to material objects, and places just as much importance on the story behind an item of clothing as on how it looks,” says fashion expert Tracey Cassidy. “They reject the mass-produced items found at fast-fashion shops and prefer hunting for one-of-a-kind items that allow them to express their individuality.”

They also tend to have a strong interest in environmental issues. “Members of this generation like

The COVID-19 pandemic has also given resale platforms a leg-up

being able to give a second life to an item that is still in good condition,” says Neil Saunders, managing director of GlobalData. According

to the United Nations Environment Programme, the fashion industry generates 10% of global carbon emissions, which is more than aviation and maritime shipping combined. Among those surveyed by BCG for its study, 70% said they bought second-hand items for environmental reasons.

The COVID-19 pandemic has also given resale platforms a leg-up. “Many consumers stuck at home used the time to empty their wardrobe or look for deals online,” says Cassidy. In

2021, ThredUp registered 118 million new users, and the amount of time shoppers spent browsing its platform rose 31%.

But competition is getting tougher. “A number of fashion brands, such as Levi’s, have started creating their own resale platforms,” says Saunders. Urban Outfitters, Mulberry, Aigle, Nike, H&M, Zalando, Decathlon, La Redoute and ASOS have also muscled in on the action. Often sellers receive a portion of their income in the form of a voucher, which guarantees more sales for the brand.

Resale platforms are also still struggling to optimally monetise their services. They make money by charging sellers a commission of between 5% and 60% depending on the value of the item and the quality checks they have to perform. “The business model of these companies is very onerous,” says Siegel of BMO Capital Markets. “The seller’s items need to be sorted and authenticated by hand before being sent to the buyer. To improve their margins, these platforms will need to invest in systems allowing them to partially automate the sorting and authentication processes.” Siegel believes tools such as artificial intelligence and blockchain are essential.

Shares in the sector have fallen sharply since the wave of IPOs last year, probably due to a minor “bubble” effect during the pandemic. Is now the right time to invest? Several analysts seem to think so, and have issued “buy” recommendations for some of these stocks (see opposite).

Over time, some of these platforms could end up focusing more on providing tech solutions than reselling apparel. ThredUp has established partnerships with Walmart, Gap and Hollister, which have started selling second-hand items through its portal. This strategy has allowed the start-up to cut its transport and quality-control costs. ▴



Employees sorting clothes at a thredUP warehouse in San Leandro, California.

GETTY IMAGES

POSHMARK

A platform driven by its users

Unlike most of its competitors, Poshmark is based on a peer-to-peer model, which means the platform does not possess its inventory. The model allows Poshmark to minimise its operating costs, according to Roxanne Meyer, analyst at MKM Partners. She believes the strategy should ultimately ensure “a smooth transition to profitability” for the company. Poshmark also has a more global reach than its peers, with a presence in the United States, Canada, Australia and India.

FOUNDED: 2011

REGISTERED OFFICE: REDWOOD CITY (US)

WORKFORCE: 501

2020 REVENUE: \$262.1 M

POSH

RENT THE RUNWAY

The king of rentals

This platform allows users to rent designer clothing at a fraction of its retail value. Most of its users buy a subscription that allows them to rent between four and 16 items a month. Eric Sheridan, analyst at Goldman Sachs, believes Rent the Runway will benefit significantly from a return to normal after the pandemic, as its offer is particularly well suited to the professional world. He has issued a “buy” recommendation.

FOUNDED: 2009

REGISTERED OFFICE: NEW YORK (US)

WORKFORCE: 1800

2020 REVENUE: \$157.5 M

RENT



No place like home

Most of the major stock exchange operators, such as Euronext and Nasdaq, are listed on their own exchange. And their shares are hitting record highs. We take a closer look...

BY ANGÉLIQUE MOUNIER-KUHN

“How times change!” In a blog article published in May 2021 on his company’s website, SIX CEO Jos Dijsselhof shared his excitement about his industry’s spectacular metamorphosis: “For a long time, financial market infrastructure providers (FMIs) such as SIX were considered within the financial industry as boring, something you needed to have, and never garnered much recognition. Recently, however, (...) FMIs have become the new stars in the financial market industry.”

Nasdaq, for instance, which operates the Nasdaq Stock Market, saw its shares gain 55% in 2021, and over 200% in the past five years. That stellar performance was anything but a fluke. The sector, whose total revenue reached a record \$38 billion in 2020 according to Burton-Taylor International, has seen impressive annual growth since 2012: 5% globally, and 3% in Europe. “FMI providers have been delivering 20% average shareholder returns,” says Dijsselhof. “Banks, for example, cannot compete with these results. They oscillated at around 0% over the same period.”

It’s a situation that would have been unimaginable just 20 years ago. Until the late 20th century, exchanges were national not-for-profit entities independent from one another. But everything changed in 1998, when the Australian stock exchange

opened the floodgates and listed on its own exchange. The leading operators in Europe and America quickly followed suit. The London Stock Exchange and Euronext completed their own IPOs in 2001, followed by Nasdaq in 2005.

Stock exchanges have transformed into tech multinationals specialising in a wide range of business activities

As listed entities, they now need to grow and generate profits in order to satisfy their shareholders. To form markets that are ever more vast and liquid, they acquire more and more companies all over the world, funding each deal through a capital raising. The latest transactions include: Euronext’s acquisition of Borsa Italiana in 2021, and SIX’s acquisition of the Spanish firm Bolsas y Mercados (BME) in 2020.

As the industry grows more concentrated, a number of giants have emerged. According to researcher

Johannes Petry, the global capital market is currently dominated by six international exchanges, all of which are listed entities: InterContinental Exchange (ICE), Nasdaq, Deutsche Börse, Chicago Mercantile Exchange (CME), London Stock Exchange (LSE) and Chicago Board Options Exchange (Cboe). As a whole, those giant exchanges handle half of all futures trading and aggregate 50% of global market capitalisation.

But after 20 years of large-scale acquisitions, geographical concentration is reaching its limit, and the number of potential targets – attractively-sized independent exchanges – is becoming smaller and smaller. Exchange operators therefore began seeking new avenues for growth long before territorial expansion began to wane. “The first step was to shift business models from securities trading to post-market services, such as clearing and settlement,” says Antoine Pertriaux, market activities expert and head of research at the consulting firm Adamantia. “Since then exchanges have progressively turned to new and highly lucrative activities, such as production of indices – demand for which has been driven by growth in passive management – and marketing of financial and non-financial data. It’s a market that is also growing fast thanks to regulatory changes.”

The Chicago Mercantile Exchange (CME) bought Dow Jones Indices in 2010. Deutsche Börse acquired the index provider STOXX in late 2015, followed by Institutional Shareholder Services (ISS), a specialist in corporate governance and responsible investment solutions, in 2020. Nasdaq, which, in addition to owning the eponymous stock exchange, also owns exchanges in Boston, Philadelphia and several northern European countries through its subsidiary Nasdaq Nordic, sells its software worldwide. Last year it acquired the software developer Verafin, a leader in the fight against financial crime, for \$2.75 billion.

EXCHANGES IN EMERGING MARKETS JOIN THE PARTY

On 8 December 2021, Saudi Tadawul Group, the Saudi stock exchange, went public. The company was valued at over \$1 billion, making it one of the biggest IPOs in the sector in recent years. A few weeks earlier, it was Saint Petersburg’s stock exchange, SPB Exchange, that saw its shares selling like hotcakes when it listed on its own exchange. Open 19 hours a day, SPB Exchange is the

platform through which Russian investors can buy and sell foreign equities. The trend shows no signs of stopping any time soon, as the financial community eagerly awaits the upcoming floatation of the National Stock Exchange (NSE) in Mumbai. This deal would have already been completed by now if the regulatory authorities had not taken so long to give the green light.



The New York Stock Exchange (NYSE) is the largest stock exchange in the world. At the end of December 2021, the combined capitalisation of the companies listed on the NYSE amounted to \$27.69 trillion.

Through mergers and acquisitions, stock exchanges have transformed into tech multinationals specialising in a wide range of business activities. Financial transactions are just one product among others.

“The trading platform is now just a loss leader for gathering and selling data,” says Pertriaux. And for good reason: selling financial data through subscriptions is more profitable than trading. In 2020, the consulting firm Opimas calculated that exchange operators were generating an average profit margin of 76% through data services.

It is a bitter pill to swallow for the asset managers and investment banks that have to pay an arm and a leg for that data, which plays a crucial role in investment decisions and risk management. As a by-product of stock-exchange operations, data actually costs very little for exchanges to produce. This has raised a number of eyebrows among regulators on both sides of the

Atlantic. New guidelines from the European Securities and Markets Authority (ESMA) came into effect on 1 January 2022: operators must now ensure that the price of the data they provide is based on the actual cost of production.

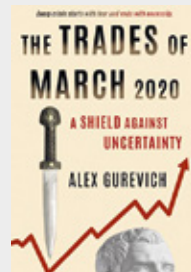
But not to worry. With all signs pointing to stable growth and handsome profit margins, shareholders are beaming. ICE, which achieved a profit margin of 35% in its most recently completed fiscal year, saw its shares gain 10% in 2021, and 140% over five years. On a more subdued note, Deutsche Börse’s shares gained under 6% last year, nearly doubling in five years, while Euronext gained 10% in 2021, and 133% in five years.

The only dark spot in this otherwise idyllic picture has been the poor share performance of the London Stock Exchange. A pioneer in diversification, the LSE, which already owned the index producers FTSE and Russell, may have bitten off more than it could chew when it acquired

Refinitiv for \$27 billion in 2019. Integrating this data provider, which has three times more employees than the LSE itself (nearly 20,000 versus 4,500), has been more complicated and costly than expected. The consequences have been brutal. In 2021, LSE shares lost 30% in what was one of the worst performances of the year on the London exchange.

Nevertheless, Berenberg analysts believe that the company’s strategic choices will eventually pay off. “The LSE has completely reconfigured its business model since 2007, moving away from traditional volume-driven activities to profile itself as an information services company,” they note in a recent study. “This new model exposes it to some of the most promising structural trends in the industry: the development of ETFs, over-the-counter clearing, the rise of risk management and quantitative investing,” they continue. They recommend buying the LSE stock. ▲

TO READ, TO DOWNLOAD



Honte Investments,
LLC, 2022
CHF 30.-

THE TRADES OF MARCH 2020

A SHIELD AGAINST UNCERTAINTY

By Alex Gurevich

In *The Trades of March 2020*, Alex Gurevich, a Wall Street veteran and investment fund manager, takes readers into the fateful days following the collapse of the market at the start of the COVID-19 pandemic in March 2020. This fascinating and very instructive page-turner follows the decision-making process of company's executives and traders as they tried to weather the storm and identify new opportunities in the midst of chaos.



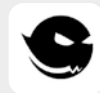
PublicAffairs,
2022
CHF 30.-

THE CRYPTOPIANS

IDEALISM, GREED, LIES, AND
THE MAKING OF THE FIRST BIG
CRYPTOCURRENCY CRAZE

By Laura Shin

As the cryptocurrency market reached exceptional heights in 2021 – before dropping sharply in late January – Laura Shin tells the short but already tumultuous story of this new asset class. Meet a fascinating cast of characters including the Wunderkind Vitalik Buterin, founder of Ethereum, and Joe Lubin, a former Goldman Sachs employee who became a crypto-billionaire.



Free, in-app
purchases
App Store
Google Play

WASDER

A SOCIAL NETWORK
FOR GAMERS

A newcomer to the sector of social media for gamers, Wasder brings together players, games and messaging on a single platform. To entice users, the application has also introduced a token named \$WAS that gamers can win by being active on the network.

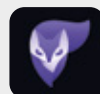


Free, in-app
purchases
App Store
Google Play

IFTTT

A COMPREHENSIVE
IT GURU IN YOUR POCKET

IFTTT (If This, Then That) is a seriously clever app that connects and automates an array of tasks and services with no coding knowledge needed, all via applets. The possibilities are endless, such as automatically adding an entry into a Google Sheet every time a call is received or receiving a notification each time the ISS passes above your house!



Free, in-app
purchases
App Store

PHOTOLEAP BY LIGHTRICKS

PHOTOSHOP FOR IPHONE

This app is probably the best for retouching and editing photos on iOS. There is such a wide variety of options and tools that it is almost possible to professionally edit images without a desktop computer.



App Store,
Free trial, then
subscription

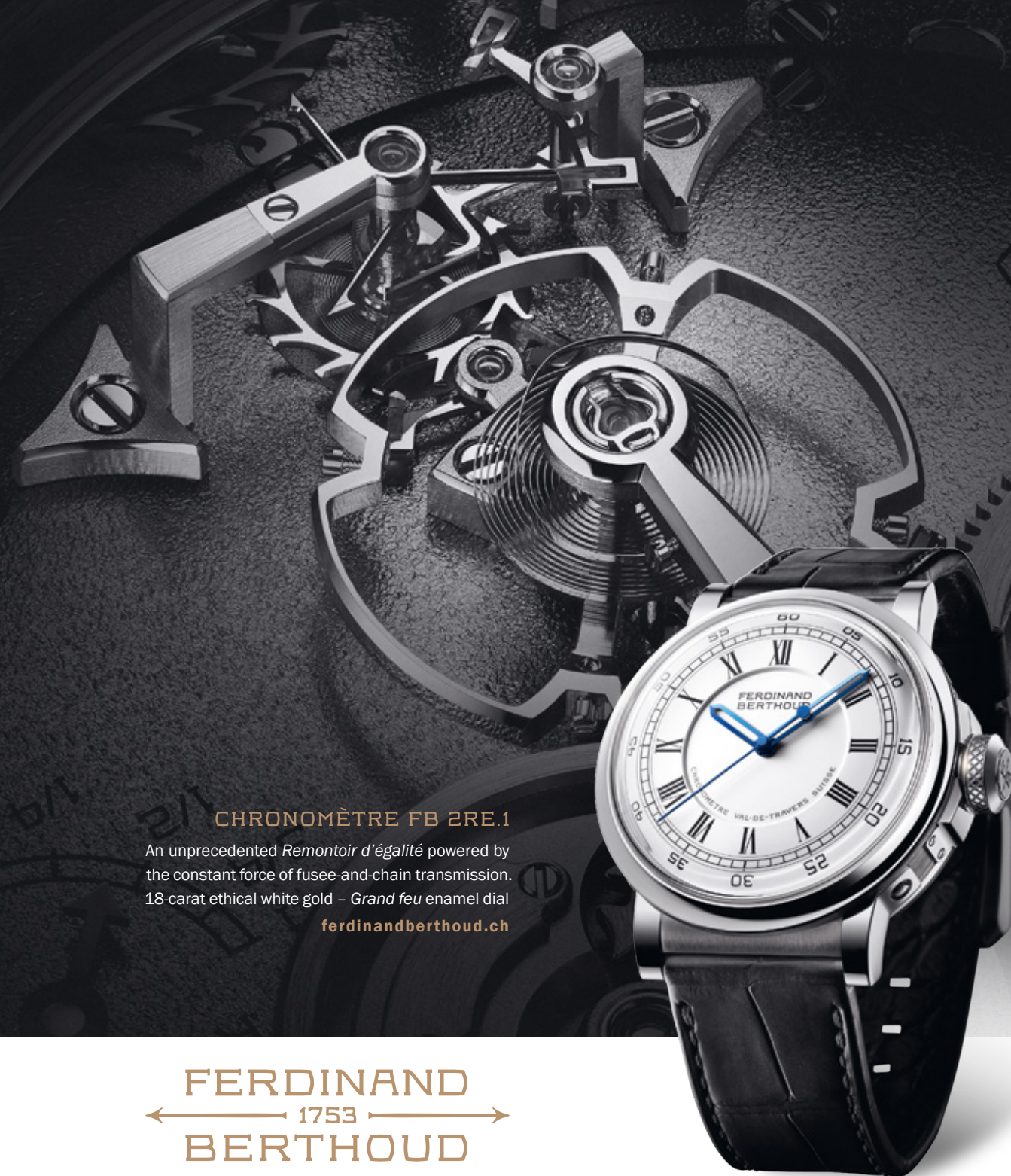
SMARTPLANT: PLANTS

MADE SIMPLE

PORTABLE GARDENER

SmartPlant is the ideal app for busy budding gardeners or seasoned florists managing an entire flower bed. After entering your plants in the app, you receive calendars and personalised maintenance, watering and repotting reminders for each plant.

P R E C I S I O N F O R E X P L O R E R S



CHRONOMÈTRE FB 2RE.1

An unprecedented *Remontoir d'égalité* powered by the constant force of fusee-and-chain transmission. 18-carat ethical white gold – *Grand feu* enamel dial

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GENEVA, LUCERNE, ZÜRICH **Les Ambassadeurs** - DUBAI **Ahmed Seddiqi & Sons** - MUNICH **Wempe** - MONACO **Art in Time**
NEW YORK **Cellini Jewelers** - SINGAPORE **Sincere Fine Watches** - TAIPEI **Swiss Prestige** - TOKYO **Yoshida**

SWISS STARTUPS IN THIS EDITION

BY GRÉGOIRE NICOLET



YAMO

ORGANIC BABY FOOD



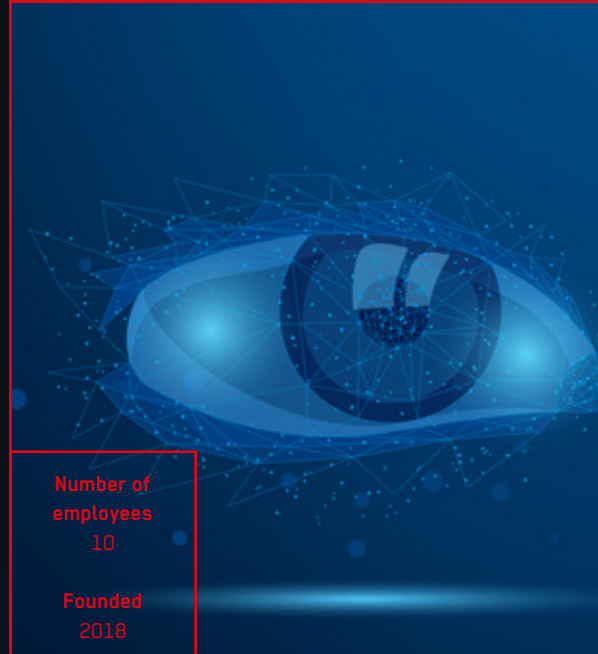
Number of
employees
40

Founded
2016

Yamo, the healthy baby food maker, continues to expand in Europe. Moving onward from its firm footing in Switzerland (through Coop stores), Germany and Austria, in 2021, the brand signed a partnership with Carrefour, opening the doors to 800 stores in Spain. Yamo now plans to tackle the French and Belgian markets early this year. However, the ride has not always been smooth. In 2017, Yamo began using high-pressure, also referred to as cold-pressure, processing to better preserve vitamins in its baby food – a first in the sector. But this attracted the ire of its competitors, including the giant Hipp, which sued the Zug-based startup in late 2018, claiming that its process and marketing were misleading. The various rulings have absolved the startup, and now it can finally move on. With 12 million Swiss francs raised from Swiss and European investors, Yamo now intends to enlarge its offer to young children. Its CEO Tobias Gunzenhauser makes no secret of his ambitions: “to make Yamo the children’s food brand for the next generation, following the example of Danone or Nestlé.”

TINAMU LABS

DRONE INSPECTOR



Number of
employees
10

Founded
2018

Tinamu Labs uses automated drones to monitor infrastructure that is hard to access and potentially hazardous for humans. By replacing networks of large fixed cameras, its drone inspection system can collect data, which is then processed and analysed directly on the cloud. Tinamu has raised a total of 2.5 million Swiss francs since its inception and was one of the 31 startups selected to participate as part of the Swiss Pavilion at CES 2021.

In collaboration with Axpo, Switzerland’s largest renewable energy producer, the young firm demonstrated the safety and cost-saving benefits of its technology in monitoring dam infrastructure. “Thanks to this feasibility study, we have landed three recurring contracts, two in Switzerland and one outside the country,” says CFO and co-founder David Lanter. The startup did not disclose the names of its customers or the amounts involved, but mentions six-figure contracts.

TERRA QUANTUM

QUANTUM HYPE

Terra Quantum, a pioneering startup specialising in quantum services, started the year with a funding round that raised a record-breaking \$60 million, led by Zurich-based venture capital firm Lakestar. In January, the firm also launched the first hybrid quantum cloud data centre for industrial users, which links classical computing applications with quantum algorithms. The startup claims that this technology brings its customers significant savings on IT hardware, up to several tens of millions per year.

Terra Quantum’s goal is to build a quantum-as-a-service platform. The company, which already has DAX-40 customers, currently focuses on a suite of quantum algorithms and quantum cryptography tools, including a quantum key distribution service. The funds raised will be invested in R&D and used to open subsidiaries in Silicon Valley and Munich’s Quantum Valley.



Number of
employees
100

Founded
2019

“The Robo-Advisor is the tool we use for daily work”

As a certified Swissquote partner, the company Finstoy manages client assets using our robot investor. CEO Florian Schefer explains the advantages for its clients.

In the hands of experts, Swissquote's automated asset manager, Robo-Advisor, is an impressive tool. With Robo-Advisor, investors can precisely define their objectives, allocation preferences, desired risk level (on a scale of 1-10) and customise their investment strategy at any time (particularly the types of assets and geographical regions to include or exclude). Asset managers at Finstoy, a certified Swissquote partner, use the tool to build and optimise asset portfolios for their clients. CEO Florian Schefer explains.

How do asset managers at your company Finstoy use Swissquote's Robo-Advisor?

We use the robot daily, since we are partnered with Swissquote. We routinely offer this service to our clients with 100% transparency. Many clients are very excited about it. Most people think that the robot is great, but for some, the configuration could seem intimidating or time-consuming. That's where we come in: we are the intermediaries that implement their strategy based on their objectives and contin-

ually monitor progress. Our clients' assets are held by Swissquote. I see this approach as the future of private banking. The total fee for this offer (our service plus the fees for the robot) are 1.5% of the total amount invested.

“The fact that the system is 100% transparent is a real plus for our clients”

From a technical perspective, are clients able to take back control if they wish?

Of course. All clients have access to their accounts at all times and they can control the robot if they wish. However, that has never happened! And I understand why: when a client calls us, it's because they want to delegate their portfolio management. That

said, clients do enjoy accessing their accounts to follow along with what's happening. The fact that the system is 100% transparent is a real plus for them. They can see precisely what transactions have been made and at what time. Everything is recorded. In addition, many clients call us when they have questions or suggestions for us to implement. That leads to interesting discussions.

What are the advantages of the robot?

There are many. First, clients put a lot of trust in the robot. They understand that the robot manages risk in a mathematical way, with no emotions influencing the decisions. That's one of the key components of this tool. To build or rebalance the ideal portfolio, the algorithm is based exclusively on market data and fluctuations in share prices. And Swissquote has an extremely valuable history with both of those components.

Furthermore, each client has a unique portfolio that is custom made, whereas

at a large traditional bank, all client portfolios with the same risk profile are managed in exactly the same way due to availability. The only thing that changes is the amounts.

For us, the automation that the robot provides allows us to save so much time in share purchasing, portfolio reallocations and reporting. The easy-to-use interface – since the tool was originally designed for non-professionals – is also a very nice perk.

Another advantage is that the robot is based exclusively on economic data, which has introduced us to many stocks. Sometimes it shows us

An innovative, bespoke service

Based in Lausanne and Sion, with over 50 years of experience in finance and portfolio management, Finstoy is a pioneer in using Swissquote's Robo-Advisor. From left to right: Florian Schefer, Nicolas Dénervaud, Samuel Rapin, Sébastien Lamot, and Jonas Jaeggi.

companies from Sweden or Norway that we didn't know at all. And it also makes big moves: would you have purchased Moderna shares after the price increased 50%? The robot did.

Can you describe a typical client?

Most are entrepreneurs. The average age is between 35 and 55. Currently, we manage more than 50 client accounts.

What is the minimum amount required to access this service?

We ask our clients to invest at least CHF 150,000 for risk profiles (majority in stocks) and CHF 250,000 for weighted profiles (mixed). This is because these amounts allow the stock

portfolio to be diversified by investing directly in stocks rather than via funds or ETFs. We determined that the robot performed better above these amounts.

Can you give an example of the robot's performance?

Performance varies based on the risk levels and currencies selected, which vary for each client. For example, last year, a portfolio primarily made up of stocks in USD with a risk of 8 generated a performance of +15.8%. For a diversified portfolio (stocks, real estate, bonds, precious metals and raw materials) in CHF with a risk of 5, performance was +6.8%. ▲



Mortgages that open doors

Are you looking for advantageous financing for your real-estate asset? Jürg Schwab, Head of Trading, explains the benefits of choosing Swissquote.

What services does Swissquote offer for clients wishing to purchase a property?

First, we offer very attractive interest rates, starting at 0.57%. Second, our clients enjoy a very simple and quick mortgage application process, which is done entirely online. A response is sent in under 24 hours directly to the client's account. The platform is accessible 24 hours a day, seven days a week.

What are the steps?

Just go to our website and under the 'Loan Solutions' tab, click on 'Mortgage'. "As a first step, clients can use our simulation tool to find out if

"We are delighted to begin a partnership with Luzerner Kantonalbank"

their asset can be financed, based on its value, amount of personal funds and net revenue. Then, clients fill out a questionnaire that only takes a few minutes. And of course, if they have any questions, they can always call one of our experts.

Do you have anything to say about Luzerner Kantonalbank, Swissquote's new mortgage partner?

We are delighted to begin a partnership with Luzerner Kantonalbank (LUKB), as it is very well-known for its mortgage expertise. By applying for a mortgage via Swissquote, our clients are also linked to LUKB. In other words, their application is in good hands! ▲



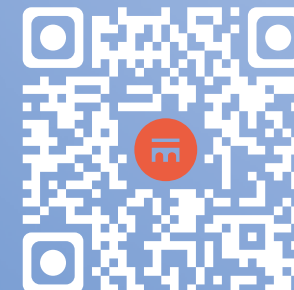
JÜRIG SCHWAB
HEAD OF TRADING

ThemesTrading

MEGA CASH, FROM YOUR PORTFOLIO TO YOUR WALLET

Invest in a certificate that pays you in cash!

Our experts have designed a certificate for you where the returns are paid directly to you instead of being automatically reinvested. The "Mega Cash Dividends" certificate (available on the SIX Swiss Exchange) invests in the world's most generous dividend-paying companies. A simple solution for diversifying your portfolio and receiving cash!



swissquote.com/cash-dividends

Certificate
Mega Cash
Dividends

ISIN
CH1121318872

Symbol
CASHLK

Swissquote



AUTO

The age of reason

BY BLAISE DUVAL

Tesla's Model Y is the full-package deal. Here's our test drive.



TESLA MODEL Y LONG RANGE

ENGINES:
2 X SYNCHRONOUS ELECTRIC
THREE-PHASE
BATTERY:
75 KWH
RANGE:
533 KM (WLTP)
TRANSMISSION:
FOUR-WHEEL DRIVE
PRICE:
CHF 62,000.-

Let's get the Model Y's most obvious flaw over with first. Yes, the comfort at low speeds is not the smoothest for a vehicle in this family-oriented range. Automotive press journalists were telling the truth. We remembered the awe felt from test driving the Model 3 saloon, with which the Model Y shares most of its components. But even then, the suspension did not feel especially tight.

The SUV's inevitably higher weight and elevated cabin apparently forced Tesla's engineers into a choice, and they went for maintaining on-road efficiency.

Once you've come to terms with that parameter, just relax and enjoy the soothing in-vehicle experience. Because the cabin is luxuriously roomy – in the front and back – with plenty of light thanks to the all-glass panoramic sunroof. Care in the assembly process has improved significantly since the first Model 3s, at least for our model built at the Gigafactory in Shanghai. The central console design was also optimised, and perceived quality enhanced (no more glossy black finish to attract dust).

Unsurprisingly, ergonomics and responsiveness of the touchscreen interface check out. Tesla conti-

nuously brings minor improvements to its concept, with regular software updates automatically available for download.

At speeds above 80 km/h, the adaptive suspension is no longer a drawback, but an advantage, offering impeccable stability. And talk about road handling! Rarely have the large curves of the A9 motorway between Lausanne and Villeneuve been such a breeze to hug. In this setting, the Model Y is truly at the height of its game. The air noise is also significantly reduced compared with the original Model 3 at high speed. This is a Tesla after all, so overtaking happens in the blink of an eye, by barely grazing the accelerator. The Long Range version never felt short on power (0 to 100 km/h in less than 5 seconds). But for speed seekers, the Performance version (0 to 100 km/h in 3.7 sec.) should soon be available in Europe, as soon as production starts at the Berlin Gigafactory.

As it was early January, our trip to the snowy region of Evolène (Valais), with kids and luggage, was the perfect opportunity to muster a full appreciation of what the Model Y has to offer. After stopping to charge at the Relais du St-Bernard, near Martigny (and nothing to it, thanks to the plentiful Tesla Superchargers), we started climbing in altitude. On winding roads, the Model Y is a little less agile and thrilling to drive than the Model 3. But performance is still impressive for a two-tonne vehicle. The electronic all-wheel drive system works wonders on snow, rain and ice, both uphill and downhill. And we didn't even rely too heavily on the advanced Autopilot features – which are very efficient by the way – from the option package neatly priced at 3,700 Swiss francs.

We almost forgot one of the vehicle's massive selling points: its cargo space, in both the front and the rear (854 L in the boot and 117 L

under the bonnet). Those are enormous volumes by category standards (4.75 m long), plus numerous storage compartments scattered throughout the cabin. Up against similar sized or even larger petrol-powered vehicles, the Model Y is unbeatable. EV competitors are more comparable, but still lag behind.

Parked outside non-stop, our test vehicle ended up blanketed in snow (and ice) more than once in the early hours of the morning, braving temperatures nearing -15°C. Despite these extreme conditions for an electric vehicle, we were never stressed about range. The 533 km or so (WLTP standard) claimed by Tesla are covered, even in winter. The Model Y's standard built-in heat pump contributes to this good performance.

After balancing out the good and bad points at the end of our 10-day test drive, Tesla's SUV is admittedly a practical, efficient and pleasant car to drive. And its price tag at 62,000 Swiss francs makes it almost a fair deal compared to a premium German vehicle.

But not everyone is keen on its exterior styling. Too heavy, too smooth, even boring for some. In our opinion, the move away from all the chrome, weird lines and multiple appendages hanging off the body (the new norm in the automotive landscape) is a welcome relief. Plus its shaping extends the range, bringing its drag coefficient to an exceptional 0.23. Want to bet on it? The Model Y has a bright future ahead. ▲

THE ALTERNATIVE



HYUNDAI IONIQ 5

Those who want comfort in suspension as a top priority are likely to turn to competitors from Germany (VW ID.4, Audi Q4) or Korea (Hyundai IONIQ 5, Kia EV6). Tested in *Swissquote Magazine* no. 5/2021, the Hyundai IONIQ 5 SUV emphasises a smooth ride, offering exquisite comfort, along with many other qualities. A real alternative.

Starting at CHF 44,900

WORKATION

Working remotely on holiday

From the Maldives to the Swiss Alps, more and more hotels are looking to attract remote workers. Here are seven establishments where guests can unwind while staying productive – for a long weekend... or a stay of several weeks.

BY GAËLLE SINNASSAMY

BAA ATOLL, MALDIVES

Feel the sand between your toes

Working in paradise? This is now possible with The Nautilus's "Workation" package. Turquoise waters, office on the beach, round-the-clock assistance, laundry service, and a personalised educational programme to keep the kids entertained – this idyllic haven has everything you need. Located on a private island in the Baa Atoll, The Nautilus offers remote workers luxurious private beach houses equipped with everything they need: scanner, wireless printer, fax machine, portable projector and screen, and the list goes on. Wind down after a long day's work with a yoga, fitness or meditation class before heading off on a guided underwater exploration. Or go cruising with the dolphins on a luxury yacht, with wine tasting and high-speed Wi-Fi so you can stay connected at all times.

THE NAUTILUS |
THENAUTILUSMALDIVES.COM | +960 660 00 00
21,400 SWISS FRANCS FOR A 7-NIGHT STAY





MONSUMMANO TERME, TUSCANY (IT)

Dolce Vita

Wish you could teleport your workspace to a 19th-century villa in the heart of the Tuscan countryside? Then you'll want to check out Grotta Giusti Resort's attractive "Workotium" package. Surrounded by a 45-hectare park featuring a natural thermal cave, this five-star hotel provides guests with a workstation with broadband internet access, a courier service for sending documents and an on-demand printing service. Tea, coffee and a selection of sweet treats is served twice a day. Early risers can partake in morning hikes led by a fitness trainer, and at the end of the day guests can head to the spa for a relaxing massage to wind down before playing some tennis, hitting the links or going for a swim in the pool. Come evening, an Italian aperitif is served with canapés and bite-size appetizers, followed by an à la carte dinner showcasing the region's culinary specialties.

GROTTA GIUSTI RESORT GOLF & SPA
GROTTAGIUSTISPA.COM | +39 057 29 07 71
FROM 1,365 SWISS FRANCS FOR A 7-NIGHT STAY

SAULIEU, BURGUNDY (FR)

Gourmet retreat

Are work and gourmet cuisine a good pairing? Judging from the success of the "Workation" package launched last spring by Relais Bernard Loiseau, it seems they are. "Workation" is now one of the hotel's permanent packages. When guests book a room, they are given the option of booking a co-working space in a fully equipped conference room. The hotel is part of the Relais & Châteaux network and is just a stone's throw from Switzerland. Not only does it have an award-winning 1,500 sq. m spa,

it also has a two-star restaurant, La Côte d'Or – one of the best in the region. The menu of this Burgundian institution features high-calibre creations by chef Patrick Bertron, who is celebrating his 40th year at the hotel in 2022. Come and (re) discover the culinary signature of Bernard Loiseau, jazzed up by his talented successor.

RELAIS BERNARD LOISEAU
BERNARD-LOISEAU.COM | +33 3 80 90 53 53
FLAT RATE OF 105 SWISS FRANCS FOR ACCESS
TO THE CO-WORKING SPACE, IN ADDITION TO THE
PRICE OF THE STAY



TENERIFE (ES)

Work hard, party hard

When you think of Hard Rock Hotel Tenerife, you think fiesta and leisure, not Teams and PowerPoint. But the giant resort on Spain's popular volcanic island offers several packages for remote workers. With the "Play Harder" package, the minimum stay is 14 nights, and guests have access to a private office between 8 am and 8 pm, with high-speed

Wi-Fi, secure log-in, a printing service (up to 50 pages), a conference room and unlimited coffee and tea. When work is over, the fun begins. The complex is located roughly 100 m from the beach and features a fitness centre, spa, three pools, a freshwater lagoon and a dozen restaurants and bars. On offer are a wide range of classes (guitar, yoga,

DJ, aquafit, zumba, etc.) and unforgettable parties. You'll have plenty of ways to unwind when you shut down your laptop.

HARD ROCK HOTEL TENERIFE | HARDROCKHOTELS.COM/TENERIFE/ | +34 971 92 76 91 | FROM 93 SWISS FRANCS PER DAY, FOR A 14 NIGHT-STAY, MINIMUM

DEAUVILLE, NORMANDY (FR)

Hit the beach

Where is Paris's 21st arrondissement? Some say it's in Deauville... Just two hours from the French capital, this highly popular seaside resort features an iconic beach lined with retro-style dressing cabins, a casino and a number of high-end shops. To soak up the unique atmosphere of this Normandy town while avoiding the weekend crowds, why not try a "workation"? The Le Normandy hotel welcomes remote workers from Monday to Friday, offering them a private office in addition to their room. A workation is an opportunity to experience a luxurious stay, either alone or with your family, at this emblematic hotel in Deauville, while staying connected with your work. Enjoy its Belle Epoque brasserie, kids club and indoor pool heated to 28°C!

LE NORMANDY
HOTELSBARRIERE.COM | +33 2 31 98 66 22
655 SWISS FRANCS FOR A 7-NIGHT STAY
FOR TWO PEOPLE



DAVOS, GRAUBÜNDEN (CH)

Peak performance

If remote workers can work from anywhere in the world, then why not go to Davos for two months? AlpenGold now offers a package for guests to spend 50 nights at its five-star hotel in the heart of the exclusive Swiss resort. Every detail has been carefully considered to ensure that remote workers have everything they need: a gargantuan breakfast every morning, free parking, VIP shuttle within the village, laundry service, kids club, and a choice of Japanese, Italian or regional cuisine for lunch and dinner. In addition to being provided with a desk in their room, remote workers can reserve one of the hotel's 10 conference rooms, print documents at the business centre and send post via a courier service. Relaxation is also possible of course, with skiing in winter, mountain hikes in summer, heated indoor and outdoor pools, spa treatments, and yoga and fitness classes.

ALPENGOLD HOTEL | ALPENGOLDHOTEL.COM | +41 81 414 04 00
FROM 14,000 SWISS FRANCS FOR A 50-NIGHT STAY

BOUTIQUE



THE NEW ENDURO

The young Swedish brand Cake aligns design with high performance to make motorbikes that are a cross between a downhill mountain bike and an enduro bike. The Kalk OR Race model has an aluminium frame and carbon-fibre body, and weighs just 75 kg, battery included. Powered by an 11 kW electric motor and producing 42 Nm peak torque, the bike can reach a top speed of 90 km/h and charges in three hours with a domestic socket.

ridecake.com
CHF 14,050.-

HONEY-SPICED RUM

Lémanic is a rum made with Swiss honey and spices sourced from local artisans. Two batches are released each year, with a selection of six seasonal flavours: orange peel, Madagascan vanilla and freshly roasted Brazilian coffee for the spring batch, and cocoa, cinnamon and dried ginger for the autumn batch. To mark the release of each batch, the brand gives away two beehives to local beekeepers.

rhum-lemanic.ch
CHF 59.-



SOUND DESIGN

The Pantheone I is an Australian-made speaker that promises to deliver sound as mind-blowing as its futuristic design. Winner of the prestigious Red Dot Design Award 2020, the connected speaker comes in white or black and doubles as a minimalist sculpture. It is compatible with Amazon's Alexa, has an intuitive tactile interface and offers a 360° acoustic experience with eight loudspeakers and a Class D amplifier.

pantheoneaudio.com
CHF 2,700.-



THE ULTRA-COMPRESSIBLE SUITCASE

The Flex 21 Vega from Israeli brand Rollink features patented folding technology and weighs just 2.2 kg. The trolley case is only 5 cm thick when folded, which makes it easy to store. It has a 40-litre capacity and is suitable for use as hand luggage. Plus, its rigid shell is made of polypropylene, which is resistant to impacts and extreme temperatures.

rollink.com
CHF 99.-



METEOR HOUR

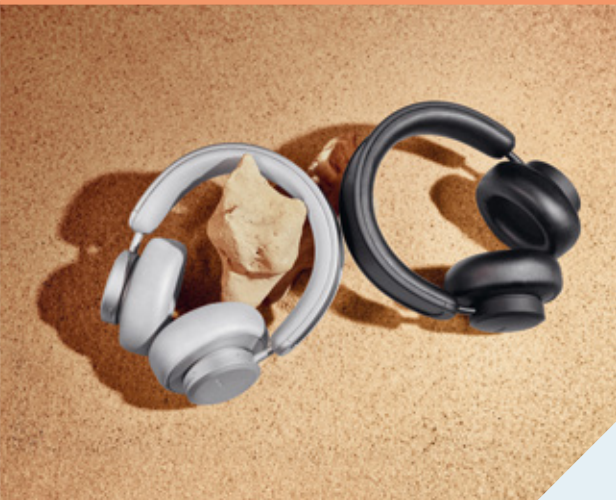
Specially designed in 1963 to meet the demands of race car drivers, the legendary Cosmograph Daytona has reinvented itself with a new dial made from metallic meteorite. Each piece is unique, as the material is unwrought and irregularly-shaped, and comes from an asteroid that exploded millions of years ago. The model has 18-carat white gold casing, a black ceramic bezel and a calibre 4130 movement.

rolex.com
CHF 32,500.-

T FOR TECH

This connected sports T-shirt designed by the French start-up Body Connect tracks your heart rate and other data. The shirt is equipped with electrodes and a removable 17 g cardiobox (with GPS, accelerometer and gyroscope) and monitors changes in your heart rate as well as your athletic performance (speed, distance, elevation change, etc.).

clicshirt.com
CHF 376.50



SOLAR-POWERED HEADPHONES

The Los Angeles wireless headphones are the latest creation from Urbanista. A solar cell is embedded in the headband, which allows them to recharge continually when exposed to light, either outdoors or indoors. They also have a battery reserve of up to 80 hours, are compatible with Siri and Google Assistant, and have active noise cancelling technology.

urbanista.com
CHF 249.-

TRIED AND TESTED

MOLECULAR MIXOLOGY

BY JULIE ZAUGG

At a bar in London, novice chemists can concoct their own alcoholic beverages using chemical techniques such as nitrogen cavitation and dry ice infusion. Read about our evening spent conducting experiments.

You have to earn the experience. To enter the ABQ lair, you have to crawl under a railway arch in the heart of Hackney, East London, then climb into a camper inspired by the meth lab used by Walter White, the hero of the series *Breaking Bad*. You slip on a bright yellow jumpsuit and wait, with a touch of trepidation, for the waiter to bring the ingredients for the molecular cocktail you're about to mix, despite your sparse knowledge of chemistry.

You start with a welcome drink. It's an introduction for dummies. All you have to do is inject a syringe into the bottle to change the acidity level and turn the liquid from sky blue to bubble gum pink. Then you move on to more serious things, i.e. the CRT, a refreshing creation made with gin, elderflower, cucumber and lime.

The first step is nitrogen cavitation. That involves pouring jalapeno peppers and an alcohol and fruit juice blend into a whipped cream maker. Release the gas and shake hard. The broth transforms into a

creamy foam, which you place in a chemist's beaker, attached to a second container filled with dry ice through a transparent tube.

Dizzy from the cocktails and the DJ's grooves, guests shed their yellow jumpsuits and stagger towards the exit

We start fiddling with it. The waiter runs over, looking slightly alarmed. "Be very careful not to touch the dry ice," he warns. "It is -80 degrees. You could burn yourself. And don't ingest it, it can kill you!" Ah. We place the beaker back on its base. Then you add few sprigs of thyme and rosemary to the beaker, with a little hot water. As a dense white swirling fog comes off the dry ice, like an evil magic potion, the fragrant mixture rises in the tube and infuses the drink, giving it a delicate herbal after-taste.

It's time to press onwards with the evening's other creations, like the Punchy Pete, a cocktail made with rum, cognac, peach liqueur and Earl Grey tea, topped with a thin layer of sparkling mousse created by mixing coconut milk, a spice mix and an emulsifier.

The Ice Ice Janey is an alcoholic ice cream made by pouring rainbow-coloured powders from a set of test tubes into a beaker filled with dry ice. Stir a bit, and you get a smooth ice cream. The I F*cked Ted is an intoxicating drink made with bourbon, maraschino, thyme and ginger. Hibiscus bubbles are added to the concoction by dipping a bubble stone into the cocktail, similar to the aerators used to add oxygen to aquarium water.

The evening draws to a close. Dizzy from the cocktails and the DJ's grooves, guests shed their yellow jumpsuits and stagger towards the exit. The chilly air on this cold January night jolts them back to their senses, and they become acutely aware of the delightful evening they've spent playing chemist. ▴

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With its pure and sophisticated lines, Alpine Eagle offers a contemporary reinterpretation of one of our iconic creations. Its 41 mm case houses an automatic, chronometer-certified movement, the Chopard 01.01-C. Forged in Lucent Steel A223, an exclusive ultra-resistant metal resulting from four years of research and development, this exceptional timepiece, proudly developed and handcrafted by our artisans, showcases the full range of watchmaking skills cultivated within our Manufacture.

Chopard

THE ARTISAN OF EMOTIONS - SINCE 1860