SWISSQUOTE MAGAZINE

FINANCE AND TECHNOLOGY UNPACKED

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DOSSIER

Rise of the thinking machines

Generative AI is turning robots into autonomous machines – and the sector is taking off.

KALRAY
The Frenchie with Nvidia dreams

BELIMO
Data centers take centre stage

RENEWABLES
Spain and Portugal lead the way

→ XPENG → INTUITIVE SURGICAL → BAE SYSTEMS → ALPHABET → PALANTIR → TESLA → NVIDIA →

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omegawatches.com

Seamaster

PLANET OCEAN

A collection without limits, the Planet Ocean embodies OMEGA's passion to explore. For the latest evolution, this Co-Axial Master Chronometer model follows the ocean's call with a design that is entirely transformed. Featuring an innovative new ceramic bezel in the Planet Ocean's signature orange colour, along with a rubber strap and a more angular case, it's an overall look that feels contemporary and invigorated.

OMEGA

The humanoid allure

For some, it is a nightmare; a dystopia often feared, and now on the verge of becoming reality. Intelligent robots are coming! In industry, services and even medicine, these autonomous machines powered by artificial intelligence are beginning to show their potential. And this is only the beginning: the AI robotics market is expected to grow by more than 30% per year between now and 2030. A revolution is underway that could have advantages. Imagine tomorrow: a companion robot will clean your house, do the washing up, iron your clothes and even cook you delicious meals. All while chatting with you and maintaining a good mood.

Less anecdotal, it is now conceivable that in a few years' time, certain medical operations will be performed by robots without any human assistance. Robotic operations already reduce intraoperative complications by 30% in certain procedures, compared to traditional operations.

Looking at the reports from the latest Consumer Electronics Show (CES), held in Las Vegas in early January, I nevertheless wondered: why do more and more robots resemble humans? Many tasks (cleaning, cooking, reception, medical operations, etc.) could be performed perfectly well by robots without anthropomorphic features.

Yet companies such as Boston Dynamics, Tesla, Agility Robotics, Figure AI and Unitree are all developing humanoids. Will these human-like machines, long a source of public unease as illustrated in films such as *Terminator, Blade Runner, I, Robot*, be more readily accepted today? Bank of America believes so. In a study published in April 2025, the American bank estimates that 3 billion humanoids will be living alongside us by 2060.

This will not necessarily be the horror film we fear. Technologies are neither good nor bad in themselves. They always depend on how humans use them. The risk is not zero, and we must be aware of this. The military forces of the major powers are taking a keen interest in advances in AI robotics. But the deployment of intelligent robots could also compensate for the labour shortage associated with an ageing population, replace humans in the most unpleasant and dangerous jobs, and improve care and personal assistance services. In short, it could contribute to a better world.

Happy reading!

BY MARC BÜRKI,
CEO OF SWISSQUOTE

c o n t e n t s

impressum

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S·n·a·p·s

AUTOMOBILE

Toyota: gamble on solid-state batteries enters implementation phase

After years of promises, Toyota is finally taking action on solid-state batteries. The Japanese manufacturer, which holds more than 1,000 patents on this technology, obtained approval from the Japanese Ministry of Industry to start limited production in 2026. The first vehicles equipped with these batteries – likely to be high-end Lexus models – are expected in 2027-2028. The announced specifications are impressive: 1,000 to 1,200 km of range, 80% recharge in 10 minutes, and a 40-year lifespan. But caution is advised: Toyota has already pushed back this schedule several times since 2020, and volume production is not expected until after 2030. The initial cost will confine this technology to the luxury segment. If Toyota keeps its promises, however, it will have a major strategic advantage over its competitors – including Chinese giants such as CATL, which are still focused on lithium-ion. → TM

The LFA concept from Lexus, Toyota's premium brand. This sports coupé, whose technical specifications are not yet known, could benefit from the famous solid-state batteries.

© TOYOTA / VAT GROUP / INA FASSBENDER, AFP

RANKING

The top 5 battery manufacturers
(global market share)

1. CATL (CHINA) **38.5%**
2. BYD (CHINA) **16.7%**
3. LG ENERGY SOLUTION (SOUTH KOREA) **9.3%**
4. CALB (CHINA) **4.9%**
5. GOTION (USA) **4.3%**

Source: SNE Research

The top 5 innovation hubs
(based on VC investments, authors of scientific articles and location of patent applicants in 2025)

1. SHENZHEN–HONG KONG–GUANGZHOU
2. TOKYO–YOKOHAMA
3. SAN JOSE–SAN FRANCISCO
4. BEIJING
5. SEOUL

Source : Global Innovation Index 2025

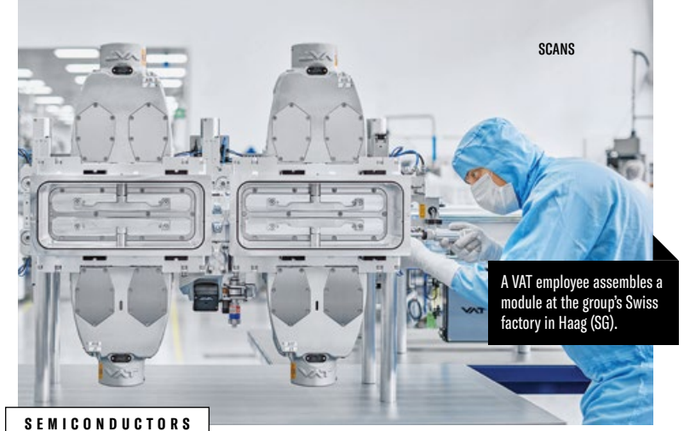
S·i·c

"Platforms like Instagram will do good work identifying AI content, but they'll get worse at it over time as AI gets better"

Adam Mosseri, head of Instagram (Meta), admitting his powerlessness on 1 January 2026 in the face of social media saturation with synthetic images.

18%

The share of the Trump administration's customs duties that would actually be borne by foreign exporters, according to a note from Goldman Sachs. American companies would absorb 22%, with the bulk of the cost, 55%, falling on American consumers.



A VAT employee assembles a module at the group's Swiss factory in Haag (SG).

SEMICONDUCTORS

Swiss chip trio rides the AI wave

The year 2026 is off to a flying start for semiconductor equipment manufacturers. The Philadelphia Semiconductor Index (SOX) reached historic highs in January, up more than 9% since the beginning of the year (as of mid-January). Swiss suppliers VAT Group, Comet and Inficon are participating fully in the rally: +13%, +11% and +6%, respectively, over the same period. VAT, the world leader in vacuum valves with a 70% market share, has had its price targets raised by UBS (430 Swiss francs) and Bank of America (506 Swiss francs). Comet has been upgraded to BUY by UBS, which anticipates "unprecedented" levels of investment in chip manufacturing equipment until 2027. Behind this euphoria is Nvidia's announcement of its Rubin platform at CES, soaring memory prices and confirmation that AI demand remains strong. However, these 'picks and shovels' of the digital gold rush remain exposed to the cyclical nature of the sector.
→ VACN → COTN → IFCN

"Sorry, but we're not going to undo our regulation just because you don't like it"

Teresa Ribera, vice president of the European Commission and competition commissioner, told the *Financial Times* in early January that the EU would not give in to Donald Trump, who wants Brussels to abandon its regulations on technology.

THE IMAGE

Unitree flexes its muscles at Davos

An ankylosaurus robot, developed by Chinese firm Unitree, walks the streets of Davos on 21 January 2026 during the annual meeting of the World Economic Forum (WEF). In just a few years, Unitree has made a name for itself in the robotics industry (see feature on pp. 24 to 55).

SWISS SCAN

“We are an emerging country compared to China”

Louis Gallois, former chairman of the supervisory board of PSA and former CEO of Airbus, on BFM Business, regretting that Europe has been overtaken by China on certain products.

57%

The percentage of investors and analysts who consider the bursting of the ‘tech/AI bubble’ to be a major risk to market stability in 2026, according to a survey published by Deutsche Bank on 4 January. The scale of this consensus is striking.

CONSTRUCTION

Implenia at the top

Implenia’s share price has reached a level not seen since its IPO in 2006, buoyed by a series of mega-contracts. Over the last 12 months, it has jumped +160% (as of mid-January), by far the strongest growth in the SPI among construction stocks. On 8 January, the announcement of the award of the MehrSpur Zurich-Winterthur rail project saw the share price rise by a further 5%. In a joint venture with Marti, Implenia will build the Brütten tunnel (8.3 km) and modernise several stations for the SBB – a 10-year project worth 830 million Swiss francs for the Zurich-based group. This will be one of the largest railway infrastructure contracts awarded in Switzerland in recent years. With an order book now exceeding 8 billion Swiss francs, Implenia is reaping the full benefits of the revival of the European construction sector and massive public investment in transport infrastructure. The share price is hovering at around 80 Swiss francs, compared with 29 Swiss francs a year ago. → IMPN

Construction of the new Grimsel Lake dam in the canton of Bern (24 January 2025). Implenia played a major role in the project.

© IMPLENIA / STRINGER, AFP / BANDAR APNA DOST

DERMATOLOGY

Galderma: the Swiss gem sparkling since its IPO

Less than two years after its IPO, Galderma has established itself as one of the SIX’s greatest success stories. The Zug-based dermatology specialist, owner of the Cetaphil, Restylane and Dysport brands, has seen its share price jump from 53 to over 160 Swiss francs (+200% in mid-January), approaching an all-time high at the opening on 8 December. The drivers: double-digit growth in its three segments (injectable aesthetics, skincare and therapeutic dermatology), L’Oréal’s acquisition of a 20% stake in December 2025, and the successful launch of Nemluvio, its new treatment for pruritus. Listed on the SMIM and the FTSE Global Index, the former Nestlé subsidiary is enjoying even greater institutional visibility → GALD

Launch of a Long March 8A rocket from Wenchang, southern China, on 13 January 2025, carrying internet satellites into orbit.

SPACE

China looks to supplant Starlink

At the end of December, Beijing submitted a series of projects totalling more than 200,000 satellites to the International Telecommunication Union (ITU) – enough to eclipse Starlink and its 9,400 devices in orbit. The most ambitious, named CTC-1 and CTC-2, each plan to launch nearly 97,000 satellites. Added to these are the constellations of China Mobile (2,520 satellites) and Qianfan (target: 15,000 satellites by 2030). But there is a huge gap between ambition and reality: Qianfan has launched only 90 satellites in 2024-2025, compared to the 648 planned. Beijing lacks reusable launchers comparable to SpaceX’s Falcon 9. These massive filings are mainly aimed at securing radio frequencies and orbital slots, limited resources that ITU rules allocate on a first-come, first-served basis. A battle of paperwork, before the battle for space.

SLOP

YouTube overwhelmed by AI-generated videos

One in five users who discover YouTube come across ‘slop’ – low-quality videos produced by artificial intelligence to maximise views and advertising revenue. According to a study by Kapwing, an American video editing platform, 21% of the top 500 Shorts offered to a blank account are AI-generated, and 33% fall under ‘brainrot’, a subgenre of absurd or hypnotic content. Globally, 278 specialised channels have accumulated 63 billion views and generate approximately $117 million per year. The Indian channel Bandar Apna Dost (an animated monkey in absurd scenarios) alone rakes in $4.25 million annually. YouTube CEO Neal Mohan defends AI as a creative tool, but advertisers are concerned about their adverts being linked to this filler content. → GOOGL

THE QUESTION

Negative interest rates: will the SNB have to return to them in 2026?

The Swiss National Bank (SNB) will do everything it can in 2026 to avoid repeating the painful episode of negative interest rates that it introduced between 2015 and 2022. At the time, the aim was to weaken the Swiss franc after the 1.20 floor against the euro had been removed. However, this policy did not have the desired effect.

And for good reason: the Swiss franc has always been a safe haven currency. When investors flee global turmoil and seek refuge in the franc, its yield is the least of their concerns. All that matters is its stability. Negative interest rates, on the other hand, come at a high cost to the Swiss banking system. They also penalise savers and may encourage them to withdraw their money from the bank and place it in a safe or... under the mattress.

The SNB will undoubtedly favour interventions on the foreign exchange markets in 2026 to ensure that the franc does not appreciate sustainably beyond its estimated floor of 0.93 francs to the euro.

Michel Girardin, visiting professor at the Geneva School of Economics and Management (GSEM) at the University of Geneva.

Nestlé has initiated a voluntary recall of specific batches of BEBA and Alfamino infant formula in Switzerland.

AGRI-FOOD

Nestlé: largest recall in its history weakens Vevey-based giant

The world's leading food company is weathering another storm. In early January, Nestlé had to recall infant milk in more than 60 countries after cereulide, a bacterial toxin, was detected in an ingredient supplied by a third party. According to the Austrian authorities, this recall – affecting more than 800 products from 10 factories – is the largest in the group's history. The NGO Food-Watch has criticised the one-month delay between the initial reports and the global public alert. For Nestlé, the impact is expected to be less than 0.5% of turnover, or less than 465 million Swiss francs; Jefferies analysts estimate it to be closer to 1.2 billion Swiss francs. This new scandal adds to a string of bad news: hidden sugars in African products (2024), illegally filtered water, Buitoni pizzas contaminated with E. coli (2022). Since its peak in January 2022, the stock has lost around 40%.

→ NESN

"We've had our assets seized there twice. And so, you can imagine to re-enter a third time would require some pretty significant changes"

Darren Woods, CEO of ExxonMobil, addressing Donald Trump on the legal and commercial structures and frameworks in place in Venezuela.

THE IPO

Zhipu AI, ChatGPT's Chinese rival, takes over Hong Kong

Hong Kong's financial hub is buzzing with artificial intelligence at the start of 2026. On 8 January, Beijing Zhipu Huazhang Technology (Zhipu AI) made a splash with a highly scrutinised IPO, confirming its status as the spearhead of Chinese tech. Zhipu AI is not just another 'unicorn': it is the company that carries Beijing's hopes for digital sovereignty in the face of American giants. With its GLM-4.7 model, it is positioning itself as a direct competitor to OpenAI (ChatGPT) and Google (Gemini). For its market debut, the company raised the equivalent of $552 million, for a valuation of nearly $7 billion.

One day after Zhipu, MiniMax, the AI gem specialising in multimodal models and consumer applications, caused a sensation. The startup's share price jumped 78% on its first day of trading on 9 January, a spectacular performance that enabled it to raise more than €530 million. These successes, combined with the recent listing of Biren Technology in the chip sector, confirm that Hong Kong has once again become a key hub for financing the AI infrastructure of tomorrow, at a time when Western private capital is now more cautious.

→ 2513 → 0100 → 6082

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$345,700 BN

The amount of global debt, which reached a record high at the end of the third quarter of 2025, according to calculations by the Institute of International Finance (IIF). This amount represents 310% of the world's GDP.

STOCK MARKET

IPO 2025: Europe falls behind the United States and Asia

The global IPO market rebounded in 2025, with fundraising up 39% to $171.8 billion, according to EY. But this upturn masks a regional divide. China and Hong Kong posted the strongest growth (+158%, to $54.7 billion), driven by battery giant CATL ($5.3 billion). The United States accounted for 223 IPOs (+27%) and $45.5 billion, boosted by cross-border listings – more than 60% of companies listed on Wall Street come from abroad. Europe, meanwhile, is falling behind: 105 IPOs (-20%) for $17.3 billion (-10%), hampered by the fragmentation of its capital markets and competition from private equity, which encourages companies to remain private for longer. The only bright spot: SMG Swiss Marketplace Group (903 million Swiss francs) and Verisure ($4.2 billion) signed the two largest European IPOs of the year.

"Do not fall into complacency. Growth is not strong enough"

At the WEF, the Managing Director of the International Monetary Fund (IMF), **Kristalina Georgieva**, emphasised that even though the global growth forecast had just been raised to 3.3% in 2026, it remained insufficient.

Embraer's Phenom 300 private jet is a huge commercial success for the Brazilian firm.

AERONAUTICS

Embraer: record year for world's third-largest aircraft manufacturer

Brazilian manufacturer Embraer delivered 244 aircraft in 2025 (+18%), a record that consolidates its position as number three worldwide behind Airbus and Boeing. This is the fifth consecutive year of increased deliveries. The business jet division performed particularly well, delivering 155 aircraft, its best result in 15 years, driven by the Phenom 300, the world's best-selling light jet for 13 years. Commercial aviation (78 E-Jets) and defence (KC-390 and A-29 Super Tucano) complete the picture. The order book reached a historic high of $31.3 billion (+38%). On the stock market, the share price jumped 65% over the year, buoyed by better control of supply chains than its American and European competitors. Embraer is now aiming for 100 commercial deliveries per year by 2028. → ERJ

Scanner

THE FLOP

Elon Musk launched his AI company in July 2023 and then launched the first version of the Grok AI chatbot in November of the same year.

Grok, the AI that strips

Elon Musk's AI has morphed into a pornographic deepfake factory. Since the summer of 2024, Grok has offered a 'spicy mode' allowing partial nudity – an unprecedented level of permissiveness among major consumer AI systems. What was supposed to be an 'adult' feature quickly got out of hand: users exploited the tool to digitally undress women and children from simple photos.

The scale of the phenomenon is staggering. According to researcher Genevieve Oh, in early January Grok was generating around 7,750 sexualised images per hour – five times more than the five leading deepfake sites combined. Sexual content accounted for 85% of its total output.

Faced with public outcry, on 9 January xAI restricted the creation of images on X to paying subscribers only. This half-measure failed to convince: the British government described it as "insulting to victims", arguing that it "turns an illegal feature into a premium service". On the same day, Brussels ordered X to retain all its internal documents related to Grok until the end of 2026. Indonesia and Malaysia suspended the tool. Under pressure, social network X finally announced in mid-January that it had implemented measures to 'prevent' Grok from 'undressing' 'real people'.

This scandal is part of an alarming trend: according to the Internet Watch Foundation, reports of AI-generated child pornography jumped 400% in the first half of 2025. Meanwhile, xAI completed a $20 billion fundraising round.

$13,000

The price of copper per tonne in early January 2026. Driven by the dual pressures of AI infrastructure and global electrification, this surge in prices is triggering an unprecedented wave of mergers and acquisitions.

"In Europe, factories will close or be bought out by the Chinese"

Carlos Tavares, former CEO of Stellantis, predicting a bleak future for the European automotive industry in an October 2024 interview with the French newspaper *Les Échos*.

© DR

The crypto gazette

The race against quantum computing is on

"The potential effect of quantum computing on the safety of this kind of asset still needs to be proved." When such a warning comes from Sergio Ermotti, it is hard to ignore. At the recent Davos forum, the CEO of UBS brought up a debate that many in the crypto world prefer to avoid.

Faced with this risk, the Bitcoin and Ethereum communities have begun to mobilise

The principle is simple: blockchains are based on cryptographic algorithms that would take current computers millions of years to crack. But a sufficiently powerful quantum machine could do so in a matter of hours, deducing the private key from the public key and thus accessing the funds in the wallets. Billions of dollars would then be at risk.

Faced with this risk, the Bitcoin and Ethereum communities have begun to mobilise. On the Bitcoin side, a technical proposal called BIP-360 has been the subject of intense debate since December. It plans to introduce new address formats using quantum-resistant algorithms, already validated by NIST, the US federal agency that is the benchmark for cryptographic standards.

Ethereum is moving forward on the same front. At the end of January, its foundation created a team dedicated to post-quantum security and launched two prizes of one million dollars each to stimulate research. Vitalik Buterin, co-founder of the network, sounded the alarm last August: in his view, there is a 20% probability that machines capable of breaking current cryptography will appear before 2030.

Among the concerned voices, Charles Edwards, manager of the quantitative fund Capriole, emphasises the market risk for the sector and advocates for the deployment of solutions as early as 2026. But many other specialists, such as Adam Back, a key figure in the cypherpunk movement, consider the threat to be extremely premature for cryptocurrencies and are counting on a horizon of 20 to 40 years.

Beyond the timeline, the real problem may not be technical. In a December post on X, Jameson Lopp, Bitcoin developer and co-founder of Casa, estimates that any migration would "easily take five to 10 years" to coordinate "wallets, exchanges, miners and custodians". Furthermore, Bitcoin, which is decentralised by nature, has no authority to orchestrate such a change.

The oldest wallets would be the most exposed: their public keys, visible on the blockchain, could be "broken" by a quantum machine. This is particularly the case for the bitcoins of a certain Satoshi Nakamoto, which have been untouched since 2010.

Morgan Stanley opens crypto trading to the public

This is a first for Wall Street. Morgan Stanley will offer the purchase of Bitcoin, Ether and Solana to the six million customers of its E*Trade platform from the first half of 2026. Never before has a major American investment bank offered direct crypto trading to its retail customers.

To build this offering, the bank is relying on Zerohash, a firm specialising in crypto infrastructure, in which it is an investor. A proprietary portfolio is expected to follow in the second half of the year. "This is just the tip of the iceberg," warned Jed Finn, head of wealth management. Morgan Stanley is also exploring the tokenisation of traditional assets, such as stocks and bonds.

Nearly 40% of US merchants would accept cryptocurrencies

The figure is surprising in its magnitude. According to a joint study by PayPal and the National Cryptocurrency Association published at the end of January, 39% of US merchants now accept cryptocurrency payments. The proportion rises to 50% for companies with annual revenues of more than $500 million.

The survey, conducted among 619 decision-makers, reveals that 88% of merchants have received requests from customers wishing to pay in cryptocurrency – mainly millennials and members of Generation Z.

INTERVIEW

“WE ARE WIDENING THE GAP EVERY YEAR”

LARS VAN DER HAEGEN
CEO of Belimo

Swiss company Belimo, the world leader in control systems for heating, ventilation and air conditioning in buildings, is enjoying impressive growth, further boosted by the boom in data centers. Its CEO Lars van der Haegen welcomed *Swissquote Magazine* to the company’s headquarters in Hinwil.

BY LUDOVIC CHAPPEX, PHOTOS: NICOLAS RIGHETTI, LUNDI 13

The reception area at Belimo’s headquarters in Hinwil sets the tone: clean lines, nothing superfluous, but on the wall is a huge orange panel, the brand’s signature colour. In 50 years, this Zurich-based company has become the global benchmark for building climate control systems, a sector known as HVAC (Heating, Ventilation, Air Conditioning). Its products, with their often-obscure names – damper actuators, control valves and sensors – optimise the circulation of air and water in ducts.

As we are a little early, communications manager Andreas Meile takes us to the demonstration room, where dozens of products are on display, all fully operational, classified by application and accompanied by educational screens. The attention to detail is striking. There is plenty to see, but it is time to head to a meeting room where CEO Lars van der Haegen joins us.

Belimo is trading at over 60 times current earnings (at the end of January), making it one of the most expensive stocks in Switzerland. How would you respond to an investor who considers your valuation excessive and would prefer to wait for a correction?

I would quote Warren Buffett: “Price is what you pay; value is what you get.” What I can say is we have a long-term strategy and strength in all aspects of the business, including our ESG initiatives, which we are pursuing at a time when others are abandoning them. Our asset-light model makes us extremely resilient in the face of any geopolitical situation.

“The second largest player in the market spends about half of what we spend on R&D”

In 2025, your growth was driven by the data center boom. How did you manage to carve out a place for yourself in this strategic market?

What has changed is the use of liquid cooling, which is now essential for high-performance chips such as those made by Nvidia. Previously, servers were cooled by air. Today, heat must be removed by liquid to optimise performance. This development has accelerated in recent years. Our energy valves for data centers incorporate specific algorithms: they regulate cooling at each server, measure the load, and quantify the energy entering and the heat rejected. This increases the availability and robustness of the entire system.

The possibility of a bubble around artificial intelligence is often mentioned; will the growth of data centers continue?

In the United States, we experienced very strong growth in 2025 and huge investments are planned for the next three to five years. Europe and Asia are lagging behind a little, but we are seeing demand grow. The outlook for this market is good in the medium term. Every year, companies invest $500 to $600 billion in data centers. Hyperscalers (ed. note: cloud giants such as Amazon, Microsoft, Google and Meta) play an important role in this regard. At some point, they will have to prove that their investments in AI are profitable.

You assemble some of your products in the United States using European components. How exposed are you to US tariffs?

That’s an important question. When tariffs rose to 43% (4% initially plus an additional 39%), it had an impact on us. Our components come from all over the world, including Switzerland and Europe. The most problematic thing would be a difference in treatment between Switzerland and the European Union, as this would force us to reorganise our flows. The current situation, with tariffs around 15%, is manageable. Zero tariffs would obviously be preferable, but we can operate this way. →

Would a surcharge on the EU compared to Switzerland be advantageous for you?
Relatively speaking, yes, because we have more exposure to Switzerland. And it should be noted that Switzerland's free trade agreements with India, China, and soon Mercosur, are a considerable asset. If we put aside the 39% episode, Switzerland remains an excellent location in terms of customs tariffs.

For an outside observer, it is not easy to understand what distinguishes Belimo from diversified giants such as Siemens or Honeywell. How have you managed to outperform these heavyweights?
We specialise in climate control for buildings. Where our competitors offer complete systems, we have chosen to focus on specific components (actuators, valves, sensors) and strive for excellence in these particular areas. I often use the analogy of sport: a 100-metre specialist does not run the 400 metres, and a 400-metre specialist does not run the 800 metres. The founders of Belimo made this choice 50 years ago. They came from Stäfa Controls System – now Siemens – and Honeywell, and initially they focused entirely on a single product: a component called a damper actuator, which controls the opening and closing of airflow in a ventilation duct. The gamble paid off.

Yet today your catalogue contains countless products...
The total number is the result of the available variants: each product exists in dozens, even hundreds of versions, to adapt to the different systems on the market. We have gradually expanded our range, but always with the same logic. Each time, we aim for global leadership. After damper actuators in 1975, we introduced control valves in 1998, then sensors and meters in 2017.

You are renowned for your R&D efforts. How does this translate?
It's one of our secrets: we invest 7% of our turnover in R&D, which is more than our competitors. The second largest player in the market spends about half of what we spend on R&D. We are widening the gap every year in this respect. It's a sustainable competitive advantage.

“We have also become, in part, a software company”

What areas does innovation focus on?
Fifty years ago, we designed electromechanical devices. Now, we combine electromechanics with electronics (ed. note: Belimo has its own chip, the M600) and a software layer, both in our products and in the cloud. This transformation has taken place over the last 15 years. We have also become, in part, a software company.

How do you integrate artificial intelligence into your solutions?
We use AI and machine learning in our R&D process. For example, for our thermal energy meter, we have developed an algorithm for detecting and correcting glycol (ed. note: an antifreeze added to water circuits for cooling) using AI, which improves measurement accuracy. At present, AI is not directly embedded in our products deployed in the field. However, our customers can use AI to analyse the data collected by our sensors.

A PREDESTINED CEO

Lars van der Haegen (57) seemed predestined to lead Belimo. The son of an engineer specialising in ventilation and air conditioning systems, he accompanied his father to construction sites from an early age. A native of Basel with a degree in building services engineering, began his career as an engineer at ABB, before completing his education with a double MBA from Columbia Business School in New York and London Business School.

He joined Belimo in 2000. His career took him from Zurich to Danbury, Connecticut, then to the management of the Italian subsidiary, before taking over as head of the Americas division in 2010. He was appointed CEO in July 2015.

Outside the office, Lars van der Haegen is an avid sportsman. A runner and cyclist – gravel and road – he regularly cycles to work from his home on the shores of Lake Zurich.

Lars van der Haegen has been CEO of Belimo for over 10 years. Photographed here, during our interview at the company's headquarters in Hinwil on 21 January.

How do you see Belimo evolving over the next 10 to 20 years?
Our components will become smarter, with more embedded logic. There will be more sensors and more measurement to make energy flows transparent. The potential remains enormous. And we will continue to select targeted sectors where we can bring specific added value. Data centers are is one we have chosen. Others will follow.

You deliver your products within 48 hours, which is exceptional in your sector. How do you manage this when you depend on so many subcontractors?
We focus on our added value. Anything that another company can do better than us, we don't manufacture ourselves: plastic moulding, printed circuit boards, etc. We rely on a global network of suppliers, which also makes us very resilient. For our part, we control assem- →

bly and logistics. We have maintained a lean structure with two production sites in Switzerland and the United States, nine customisation centres, and around 25 locations in total. That's not much for a company with a turnover of more than a billion. Other firms operate 40 or 50 factories. This simplicity guarantees our operational efficiency and speed.

Couldn't your competitors do the same?
We regularly test their lead times. They are up to four weeks, or even six weeks slower, and sometimes even more.

The new-build market is sluggish in Europe. How do you make up for this shortfall?
We are targeting existing buildings with our RetroFIT+ initiative. This is our biggest opportunity. Only 2% of the building stock is renewed each year. The remaining 98% are existing buildings, which are often difficult to demolish and rebuild – think of Europe, New York, Hong Kong. The potential for reducing energy consumption is enormous. But renovation is more complex than new construction because each building is unique. We have a dedicated sales force that advises our customers on the energy-saving measures that can be implemented.

"Apple's headquarters in Cupertino has 23,000 of our devices"

Can you name any iconic renovation projects?
The Hayden Library at MIT in Boston is a textbook case for us. They needed a solution, so we installed our prototype energy valves, and the result was spectacular: $1.5 million in annual savings on their energy bill, simply by replacing valves. In New York, we equipped the Paramount Building. In Nashville, a similar project using our control valves drastically reduced consumption.

And in terms of major new projects?
Given our position as a global leader, you will find Belimo components in most large commercial buildings. Apple's headquarters in Cupertino, for example, which we equipped in 2017, has 23,000 of our devices.

FACT SHEET

+23.3%
Belimo's projected revenue growth in 2025, reaching CHF 1.121 billion

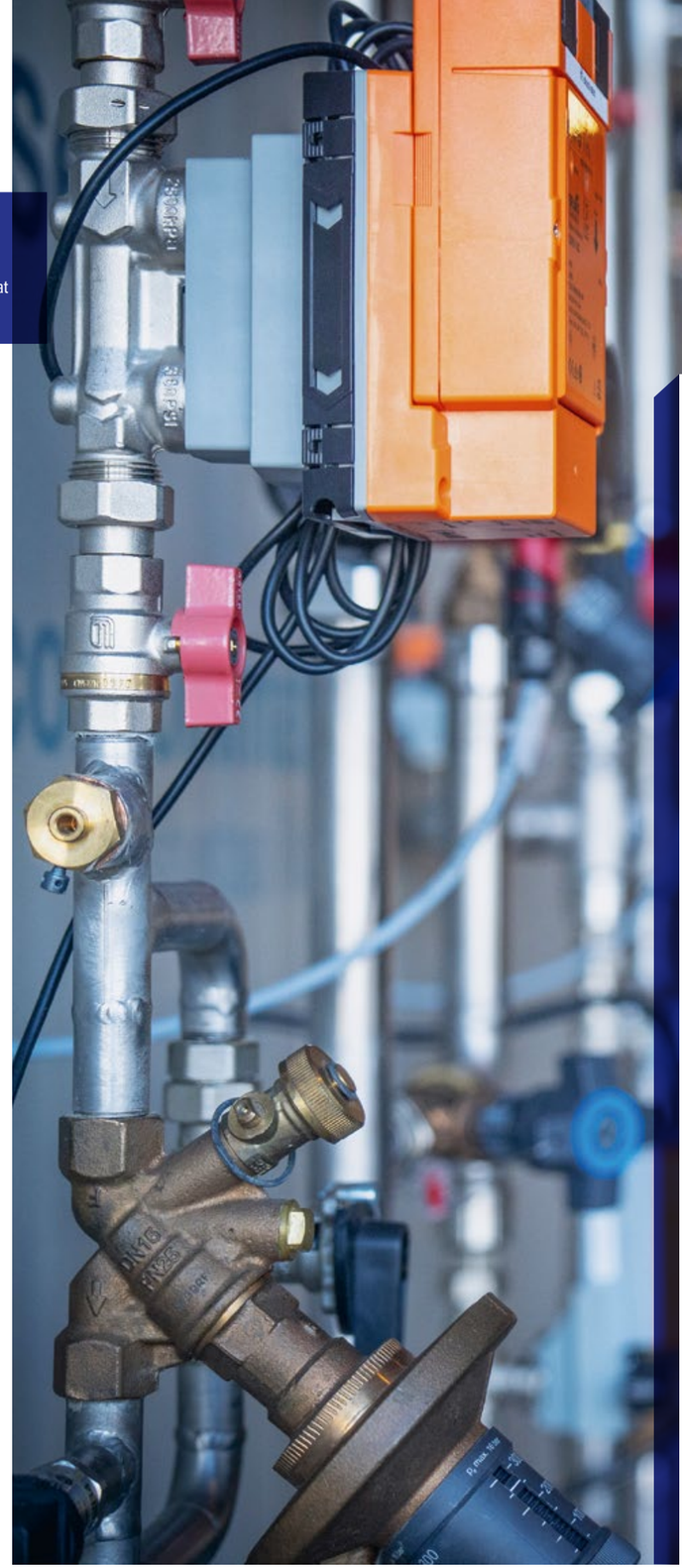
17%
The share of revenue represented by the data center segment in 2025

2,800
Number of employees

With an equity ratio of over 70%, your balance sheet is exceptionally healthy. Why not be more aggressive in terms of acquisitions?
We have an ongoing monitoring process, but pertinent opportunities are rare. We do not need to strengthen our distribution channel as we are already leaders in this area. What we are looking for is to expand our product range. Furthermore, our strong organic growth offers us excellent prospects.

What type of company would interest you?
A good example is the acquisition of Opera Electronics about five years ago. This Montreal-based company specialised in sensors for detecting toxic gases (carbon monoxide, nitrogen oxides) and refrigerant gases. This allowed us to add a complementary product line that fits perfectly into our digital ecosystem.

You trained as a building services engineer. How does that help you as CEO?
My father was an engineer specialising in air conditioning and ventilation systems. When I was 10 years old, he used to take me to construction sites. That's what led me to this profession. Even today, when I walk into a building, I immediately identify the technical installations... It's what you might call professional bias. I think it's important for a manager to understand their business from the ground up. And for employees too, it sends a strong signal. ◢



All Belimo products feature the same orange colour, which has been emblematic of the brand since its inception. Here, a component is photographed in the company's showroom at its headquarters in Hinwil (21 January 2026).

THE GEM THAT CONTINUES TO SHINE

Belimo has passed the billion mark in turnover in its 50th year. Buoyed by the boom in data centres, the share remains one of the most expensive on the Swiss stock exchange.

Some companies tick almost all the boxes. Founded in 1975 in Gossau (ZH) by six engineers, Belimo has become the world leader in optimising climate control in buildings in just half a century. Actuators, valves, sensors: components that are invisible to the general public, but omnipresent in office towers, hospitals, university campuses and data centers around the world. This is a strategic market at a time when buildings account for more than 30% of global energy consumption.

One of the unique features of Belimo's model is its asset-light approach: 88% of components are sourced from subcontractors. The added value lies in highly specific parts, the quality of assembly and logistics capable of delivering within 48 hours, where competitors often take weeks.

As if to celebrate its 50th anniversary in style, the Zurich-based company surpassed the 1 billion Swiss franc mark in turnover in 2025. Sales reached 1.121 billion Swiss francs, up 23.3% at constant exchange rates. The EBIT margin stands at 22.8%. The balance sheet is equally solid, with an equity ratio that has remained between 70% and 80% for years.

The secret to this particularly successful year? Data centers. The explosion of artificial intelligence is increasing the need for server cooling. Chips from Nvidia and others now require sophisticated liquid cooling systems, an area where Belimo is once again setting the standard. This segment now accounts for 17 % of the company's turnover and generated nearly half of its annual growth.

Geographically, North America is driving revenue with 544 million Swiss francs in sales (+31.8%), accounting for nearly half of the total. Asia-Pacific follows with +28.9%, driven by China and India. Even Europe, weighed down by a sluggish new construction market, grew by 12% thanks to the company's other major strategic focus: retrofitting. Called RetroFIT+, this segment targets existing buildings. The potential is real: replacing ageing valves with smart components reduces energy bills without the need for demolition and reconstruction.

The thorny issue remains the share price. With a price-to-earnings ratio (P/E) of nearly 60, Belimo is one of the most expensive stocks on the Swiss stock exchange. This is enough to dampen the enthusiasm of some analysts. But not all of them. Patrick Laager of Berenberg raised his target price to 1,020 Swiss francs, praising growth that was "well above expectations". Mark Diethelm of Vontobel is more cautious, summing up the dilemma with this clear statement: "It is one of the most expensive stock among Swiss companies. But there are good reasons for this." At the end of January 2026, the share price was hovering around CHF 835. → BEAN

RETURN ON INVESTMENT

In each issue, we take a look at a company or topic covered in a previous edition of *Swissquote Magazine* to see whether, months or years later, the forecasts made by the analysts we consulted have proved accurate (or not). BY BERTRAND BEAUTÉ

Kalray, the Frenchie with Nvidia dreams

"1,000 billion chips." This was the title of our feature on microchips in the July 2020 edition. Eight companies were highlighted on the cover. Almost all of them have since made savvy investors happy: Intel (-8% between July 2020 and today); TSMC (+440%); Nvidia (+1,750%); ASML (+250%); AMD (+390%); Comet (+120%) and Infineon (+69%). But it was on the inside pages (page 58, to be precise) that we found the company we are interested in today: Kalray. Established in 2008, this French gem was regularly presented by the media at the time as the 'French Nvidia', and all analysts who followed the stock recommended buying it, which was then trading just below the €20 mark. What has become of it today? To find out, we got back in touch with Éric Baissus. "A lot has happened in the last six years," says Kalray's CEO. "We had to reinvent ourselves to survive."

Let's take a look back. In 2020, Kalray was preparing to launch production of its DPU (Data Processing Unit) called Coolidge, which was being manufactured by Taiwanese foundry TSMC. DPUs are processors designed to offload and accelerate tasks (CPUs and GPUs are not the most efficient hardware for this function). Target markets: smart data centers and autonomous cars. At the time, the acquisition of stakes by players such as Safran, Renault and NXP reinforced the company's credibility and served as technological validation for investors. So much so that, a few months after *Swissquote Magazine* was published, Kalray's share price reached its peak, trading at almost €45 in February 2021.

"A lot has happened in the last six years. We had to reinvent ourselves to survive"

Éric Baissus, CEO of Kalray

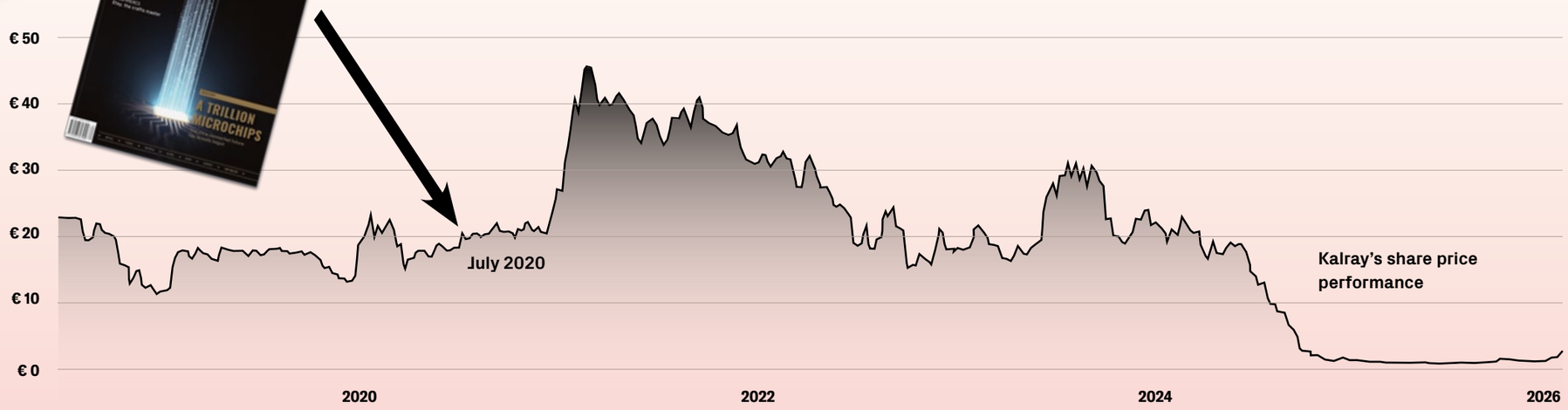
The company then took advantage of its appeal to acquire Arcapix, a British publisher of data storage and management solutions, in 2022. This acquisition was intended to add a software layer to Kalray's processors in order to further improve their performance.

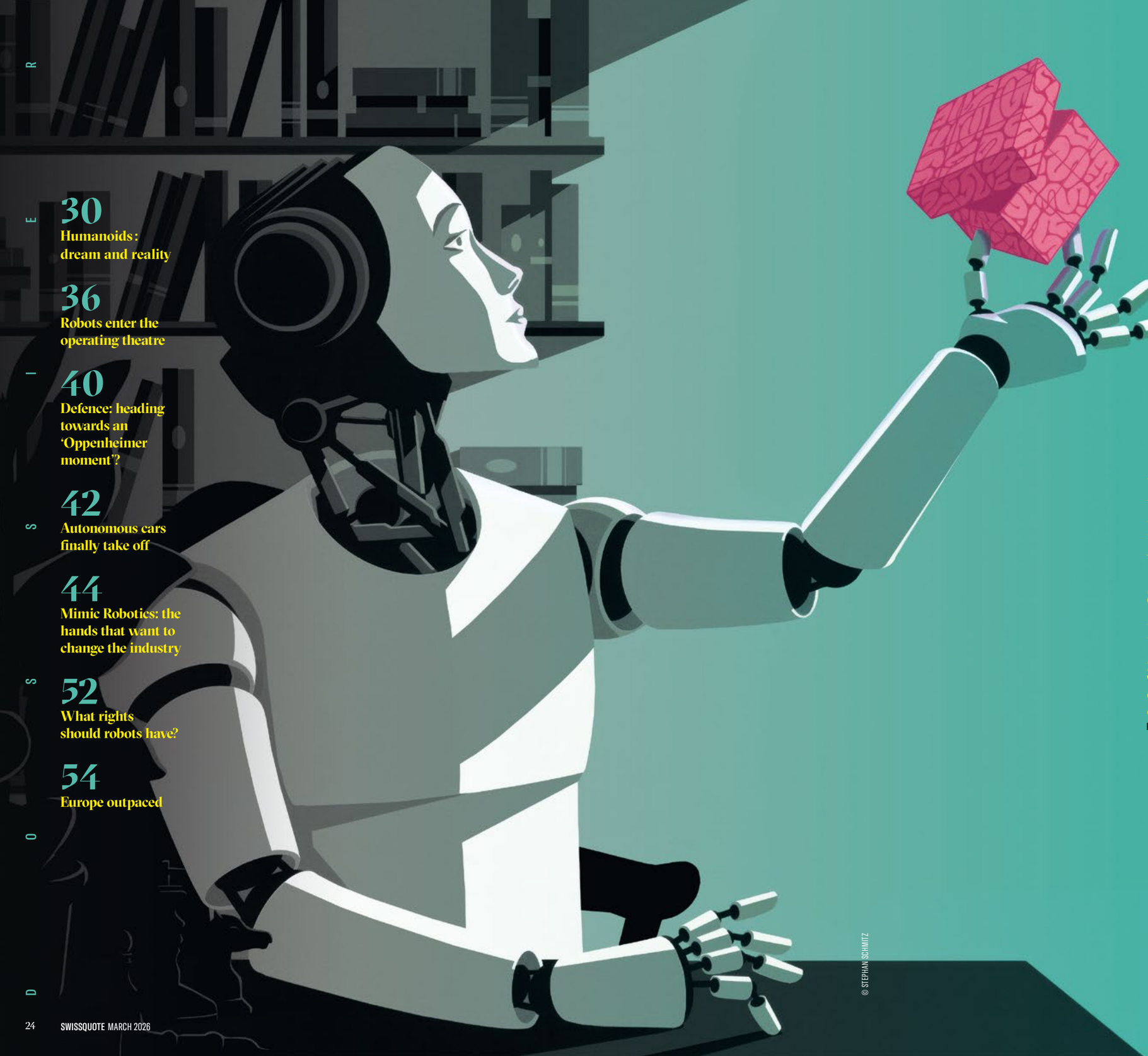
"Our merger with Arcapix has worked very well," says Éric Baissus. "Our turnover grew from €1.5 million in 2021 to €25.8 million in 2023, and we have signed a major contract with Dell." But at the same time, losses are mounting. And things have gotten complicated. "Growth has not been what we imagined," says the CEO. "Autonomous vehicles are not being developed as quickly as expected. And while the development of AI, particularly LLMs (large language models), has caused demand for GPUs and DPUs to skyrocket, it is mainly Nvidia that has benefited from this, as the company offers easy-to-deploy packaged solutions."

This has raised concerns among investors. In early 2024, Kalray's share price fell back to around €20. In an attempt to grow, the small Grenoble-based company tried to buy the Israeli gem Pliops in June, whose products partially compete with those of Kalray. The merger made sense, allowing for economies of scale. But just as the deal was about to be finalised, the French company's share price dropped. A lot. As the acquisition was to be made through a share exchange, the agreement fell through. In August 2024, Kalray announced that it was abandoning the takeover.

"After this setback, we suffered a sharp fall on the stock market," continues Baissus. The share price fell from around €20 at the beginning of summer 2024 to less than €1 in November 2024. To survive, the company had to sell its software business in February 2025. However, this business accounted for 85% of Kalray's €24.8 million in revenue. "We refocused on our core business, DPU," explains Baissus. The company also changed its business model: rather than developing chips from start to finish – a process costing between €50 million and €80 million – Kalray sells licences for its technologies. "We take fewer risks," summarises Baissus. "It is the customer who assumes the risk and financing associated with development." This business model, reminiscent of ARM's early days, is paying off. In 2025, Kalray quadrupled its revenue on a like-for-like basis and, most importantly, turned a profit for the first time in its history. This has given the stock a boost, with its value rising by more than 100% since the start of the year to €2.62 at the beginning of February.

The caveat is that the company has only one customer: Spain's Openchip, which specialises in the design and development of hardware acceleration architectures for artificial intelligence. But this is not a cause for concern for Éric Baissus, who has clearly been hardened by the trials and tribulations of the last five years: "We are in talks with half a dozen players. We still believe in DPUs." And the French company is not alone: Nvidia, AMD and Broadcom are also developing such processors and integrating them into their systems. Kalray's advantage over the American giants? "We offer tailor-made solutions for our clients. This allows for a 30% to 40% gain in consumption and performance compared to standardised products." → ALKAL





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DOSSIER

The era of intelligent machines is here

Fuelled by rapid advances in artificial intelligence, the robotics industry is approaching a pivotal moment, with annual growth expected to exceed 30% in the coming years.

BY BERTRAND BEAUTÉ

1

That is the number of robots Amazon announced in June 2025 that it had deployed in its distribution centres. According to the *Wall Street Journal*, the e-commerce giant now has "almost as many robots as employees on its sites". None of them look like humans, but they all have very specific tasks: Hercules, a small blue robot, can move up to 565 kg of goods; Proteus, an autonomous mobile robot (AMR), can navigate freely around the warehouse to move trolleys, avoiding obstacles, without being parked in a designated area. And Vulcan, a handling robot that incorporates several force feedback sensors, has a 'sense of touch' that allows it to handle parcels.

"Robotics offers a fascinating prospect"

Hamish Maxwell, investment specialist at Baillie Gifford

Unlike traditional robots, AI robots have new capabilities enabled by artificial intelligence: communicating with humans intuitively using large language models (LLMs), moving autonomously, and learning new tasks by exploiting data from human observation or videos. "Robotics offers a fascinating prospect," enthuses Hamish Maxwell, investment specialist at Baillie Gifford. "Its development over the next decade could mirror the initial evolution of electric cars: a period of iteration before exponential growth."

While humanoids are currently attracting all the attention (see p. 30), AI robots have a different form from humans because they are designed for very specific applications. This has the potential to disrupt many fields, such as medicine, defence and services (see pp. 36 to 43).

"There are two ways to design a robot," summarises Humberto Nardiello, fund manager at DPAM. "Either we imagine a machine that resembles us – a humanoid – or something completely different. Both approaches have their advantages and disadvantages. The infrastructure we live in is designed for humans, which makes it relevant to develop humanoids that could fit into it without changing our environment. But anthropomorphic machines are much more difficult to develop."

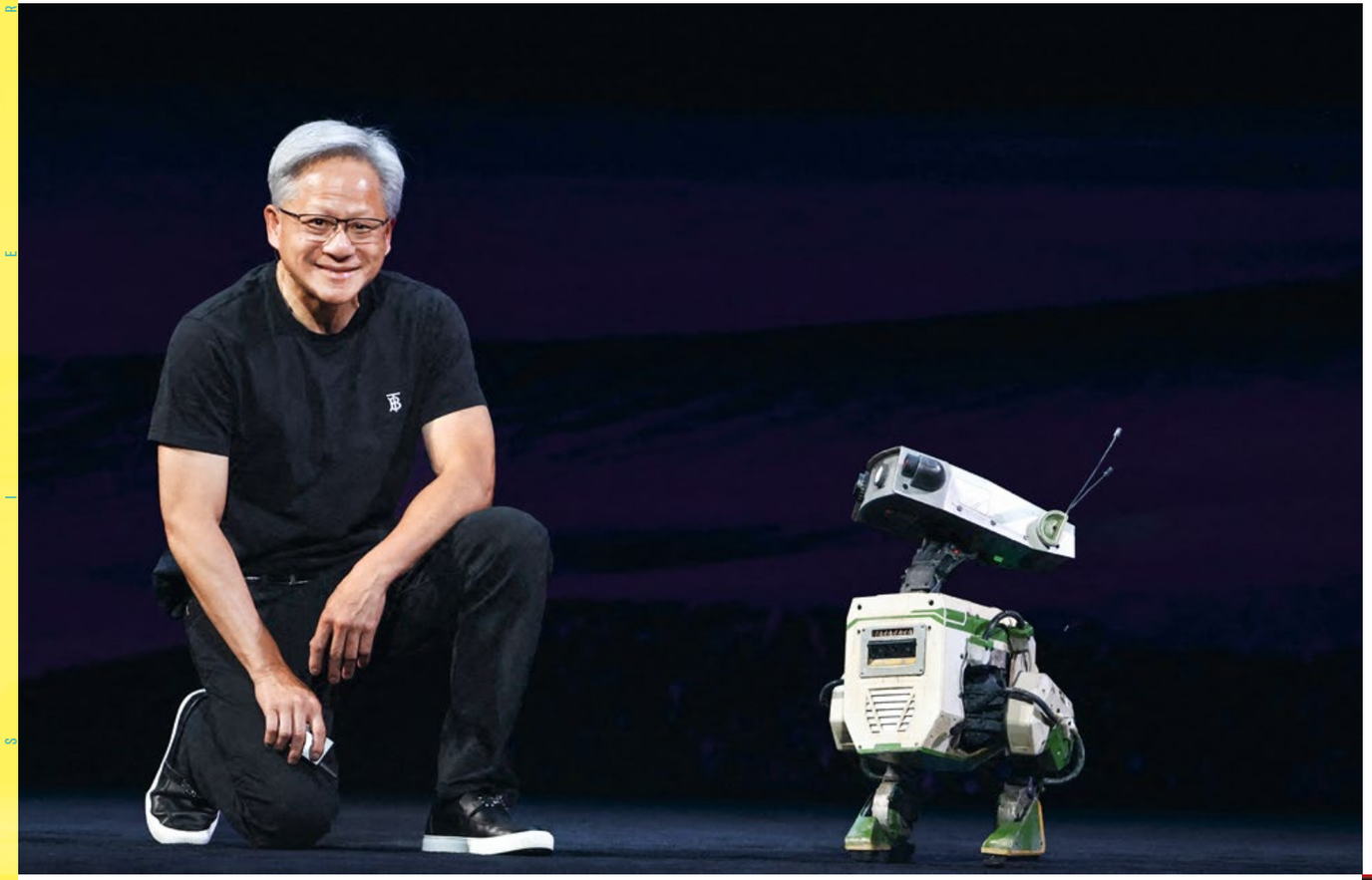
Yet, for most industrial applications, there is no need to climb steps, thus making humanoid features unnecessary. After autonomous cars, which are one of the first examples of functional autonomous machines, AI robots are expected to take over the planet well before humanoids, according to experts. "Industry is the first addressable and monetisable market for AI robots," says Karen Kharmandarian, CIO & portfolio manager at Mirova. "Factories have a long history of using robots. Moving to smarter machines that can perform less repetitive tasks and interact with humans is the next step."

© AMAZON

↑ Amazon's Hercules robots are capable of autonomously moving stacks of objects in the American company's warehouses. They can lift more than 600 kg.

After factories, AI robots will move into other sectors. "As AI software is combined with precision hardware, robots will expand beyond controlled factory environments to become increasingly integrated into everyday life," predicts Hamish Maxwell.

While estimates and calculation methods vary greatly among analysts, they all agree on strong growth in the coming years. According to Fortune Business Insight, the AI robotics market will grow from $6.19 billion in 2025 to $60.68 billion in 2034, representing annual growth of 37.02% over the period. Grand View Research, meanwhile, forecasts annual growth of 38.5% between 2024 and 2030, which would →



↑
Pictured here in June 2025 at the Vivatech trade show in Paris, Nvidia CEO Jensen Huang believes that "the era of widespread robotics has arrived." In March 2025, the company launched Nvidia Isaac Groot N1 – a comprehensive model for robot learning.

take the sector from $12.77 billion in revenue in 2023 to $124.77 billion in 2030.

"The market for AI-powered robotics is entering a phase of accelerated growth for the next 5 to 10 years," confirms Matthias Röser, partner at BearingPoint. "The global robotics market as a whole is expected to grow at an annual rate (ed. note: compound annual growth rate) of around 13% to 15%. The AI robotics segment is expected to grow even faster, from around $17 billion in 2024 to over $300 billion in 2034, representing annual growth of nearly 34%."

Given these promising prospects, is now the time for private investors to jump on the volatile AI robotics bandwagon? "The short answer is absolutely yes!" smiles Nicola Tomatis, president of the Swiss Robotics Association. The long answer is more complex. "Robotics is a cyclical sector that depends on companies' willingness to invest," the specialist continues. "In the event of geopolitical and/or macroeconomic crises, uncertainty causes companies to delay their investments, effectively slowing down the growth of robotics. COVID, the war in Ukraine, the supply chain and US customs duties have all put the brakes on investment in recent years. But all this is only temporary. We need more robotics. In a stable world, growth in this sector is exponential."

This is because AI robots meet a societal need, namely the shortage of labour, by replacing humans in the most tedious and dangerous tasks. "AI robots can fill a gap," confirms Karen Kharmandarian. "Due to demographic changes, many countries will face a shortage of employees." However, it is difficult for private investors to bet on the sector. "AI robotics remains a highly fragmented industry, with many unlisted startups and listed companies that are active in many other areas," continues Kharmandarian.

Pieter Busscher, portfolio manager at Robeco, recommends following the activity of pickaxe sellers rather than miners: "We need to look at suppliers to the robotics industry, see who manufactures essential components such as chips, sensors, batteries and the mechanical system, which can account for around 50% of production costs."

A threat to employment?

One thorny question remains: will robots take over all human jobs? "As with all technological revolutions, some jobs will disappear, but others will emerge. Web design, for example, did not exist before the advent of the internet." But for many professions, rather than their disappearance, it is the distribution of different tasks between machines and humans that will become an issue, says Kharmandarian. "However, this time there is a difference: robots will affect many sectors at the same time. It will be a challenge for our economies to adapt." Busscher shares this view: "There will be an impact on employment," confirms Robeco's portfolio manager. "But at the same time, robotisation could enable certain factories to be relocated. Furthermore, robots will initially replace the most tedious and dangerous jobs. They will also offer more free time."

> "Robotisation could enable certain factories to be relocated"
>
> **Pieter Busscher**, portfolio manager at Robeco

Tech giants are taking the issue seriously. Like Elon Musk, Sam Altman, the head of OpenAI, has been advocating for years for the introduction of a universal basic income to compensate for job losses linked to AI, to the point of funding a study on the subject. Silicon Valley bosses envision a future society of leisure where poverty has been eradicated and humans, paid a universal income, can enjoy their free time while robots – developed by a super-elite – handle everything. A dream society or a dystopian world? ◢

Photographed here in January 2026, the 'Intelligent Police Unit R001' robot is currently being tested in the city of Wuhu, China, to improve traffic flow. Equipped with high-definition cameras, this robot is capable of autonomously identifying traffic violations by non-motorised vehicles and pedestrians and issuing warnings to offenders.
↓

Humanoids: dream and reality

From Tesla to Figure AI, billions of dollars are pouring into humanoid robotics. But behind the spectacular demonstrations, anthropomorphic machines are still far from fulfilling their promise. BY BERTRAND BEAUTÉ

They were the stars of the latest Consumer Electronics Show (CES). They? Humanoids, of course. At the major consumer electronics show, held from 6 to 9 January in Las Vegas, these human-shaped robots literally invaded the aisles of the world's largest tech show. Among the most impressive was CLOiD. Developed by the Korean firm LG, this wheeled robot butler, designed for domestic tasks, demonstrated its ability to fold laundry, tidy up, fill and start washing machines, and even prepare breakfast.

A little further on, the G1, from Chinese firm Unitree, tried its hand at a few boxing matches against humans during the show, while the X2, from Agibot, gave a Tai Chi demonstration. Do these prototypes foreshadow a future world where humanoids will mingle with humans? The prophets of Silicon Valley firmly believe so, arguing that robotics is currently experiencing its 'moment', just as there was the 'iPhone moment' in 2007 and the 'ChatGPT moment' in 2022. →

On 6 January 2026, at CES in Las Vegas, Unitree's G1 robot took part in Ultimate Fighting Bots (UFB) – a boxing competition between robots. The G1 is available to buy for $13,500. ↓

© PATRICK T. FALLON, AFP / ARMANDO FRANCA, KEYSTONE

↗ The same Unitree G1 robot stands up after rolling on the floor in November 2025 at the Web Summit conference in Lisbon.

© PATRICK T. FALLON, AFP

The best way to convince yourself of this shift into the era of intelligent robots is to listen to Elon Musk's techno-messianic sermons. In May 2025, at the US-Saudi Investment Forum in Riyadh, the controversial boss declared that in the near future, "everyone will want their own personal robot. You can imagine it's like owning your own C-3PO or your own R2-D2, but better".

UBS estimates that the number of humanoids will explode between now and 2050, rising from 2 million units in 2035 to 300 million in 2050

And this humanoid that everyone will be clamouring for will, according to the billionaire, be none other than Optimus, the model developed by Tesla – "the most important product in history", as claimed by Elon Musk. The entrepreneur elaborated on his thoughts at Tesla's Annual General Meeting on 6 November, during which he claimed that Optimus would be "the best surgeon", capable of "eliminating poverty" and "multiplying the economy tenfold, or even hundredfold". In short, a robot that can do everything, ushering in a global golden age.

According to Musk, production of Optimus will begin "with a bit of luck" at the end of 2026. Tesla is currently building a production line with a capacity of one million units in Fremont. A second line, with 10 times the capacity, will follow. "The initial production rate of Optimus will be excruciatingly slow, but will eventually be incredibly fast," Elon Musk warned at the end of January on X.

Tesla is not the only company betting on humanoids – there are reportedly hundreds of projects around the world, including nearly 200 in China alone. Among the most advanced is Boston Dynamics, now owned by South Korean car manufacturer Hyundai. The company unveiled the commercial version of its Atlas industrial robot at CES on 5 January and has begun production. All models to be manufactured in 2026 have already found buyers, and the company will only accept new customers from 2027 onwards. On our side of the Atlantic, the Norwegian-American company 1X launched pre-sales of its 'domestic robot' in the United States last October, with deliveries scheduled to begin in 2026. For $20,000 – or a monthly subscription of $499 – the humanoid NEO can now live in your home! There is similar excitement in China, where manufacturer Unitree, for example, is already offering its G1 humanoid robot for sale at a competitive price of $13'500. As for XPeng, last November it unveiled Iron, which it plans to bring to market by the end of 2026.

In a note published in June 2025 entitled 'Is the world ready for 1 billion robots?', UBS estimates that the number of humanoids will explode between now and 2050, rising from 2 million units in 2035 to 300 million in 2050. Meanwhile, analysts at Bank of America Global Research, in a study published in April 2025, predict a population of 3 billion humanoids in 2060 – or one robot for every 3.3 humans if the planet has 10 billion inhabitants by that date, as projected by the UN.

← On the right, LG Electronics CEO Lyu Jae-cheol presents the CLOiD domestic robot at a press conference ahead of CES in Las Vegas on 5 January. On the left, the same humanoid robot demonstrates its skills by starting a washing machine.

In light of all these advances and promises, capital is flooding in to support the promising humanoid robotics sector. California-based startup Figure AI, one of the most prominent in the sector, announced last September that it had raised more than $1 billion in Series C funding, valuing the company at more than $39 billion, to develop its general-purpose humanoid robot. Its Pennsylvania-based counterpart, Skild AI, raised $1.4 billion in January 2026, valuing the company at over $14 billion; and Norway's 1X raised $24 million in 2023, then $100 million in January 2024. As for Tesla, the company that was worth more than $1 trillion, its valuation now depends more on robotics than on its automotive business, which is nevertheless its current source of revenue. Taking advantage of investor enthusiasm for the sector, Chinese companies Unitree and Agibot are expected to go public in 2026.

Science fiction

However, we should be wary of getting carried away. Most of the analysts we consulted remain cautious: "I think it would be very premature to invest in this sector right now," warns Karen Kharmandarian, CIO & portfolio manager at Mirova. "Even if a few signs, such as Tesla's Optimus, are emerging, we are still a long way from a functional humanoid robot in a real environment. It remains science fiction. It is difficult to imagine humanoids becoming widespread in the short term."

Pieter Busscher, portfolio manager at Robeco, points to some figures: "The industry could see very rapid growth in humanoid robot production, with a CAGR in the double or even triple digits, but this is because the current market is extremely limited. →

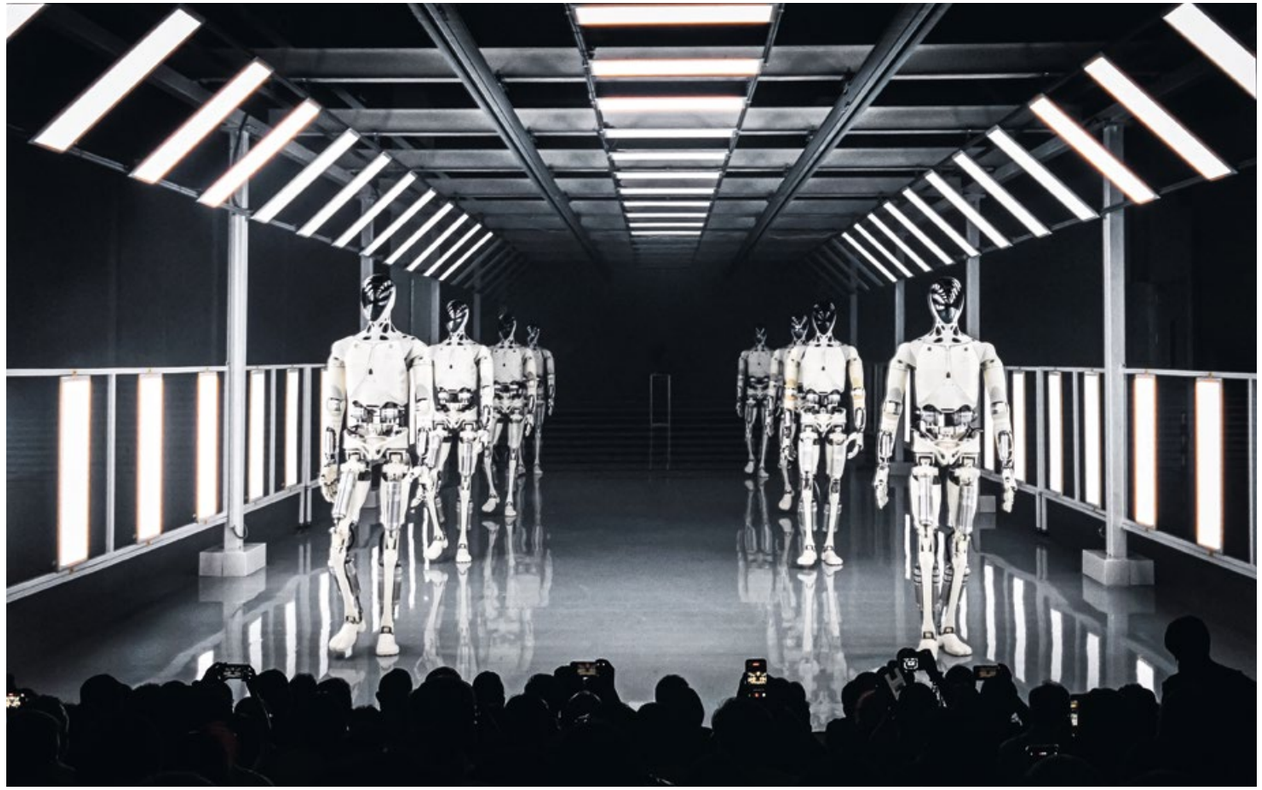
> **“A speculative bubble has formed around robotics, and when expectations are disappointed, its bursting could hurt the entire sector”**
>
> **Nicola Tomatis**, president of the Swiss Robotics Association

Annual humanoid production is expected to reach one million units by 2030.” According to ABI Research, the global market for humanoid deliveries will skyrocket by 138% per year between now and 2030, but will only reach $6.5 billion by that date. The firm predicts that the take-off will come in 2027 – the year in which, according to its estimates, 150,000 humanoids are expected to be delivered worldwide.

“The hype surrounding robotics is driven by the promises made about humanoids. This has pushed the valuation of certain companies to new heights, without there currently being sufficient value creation.” points out Nicola Tomatis, president of the Swiss Robotics Association. “Expectations are now extremely high, much higher than what current technologies can deliver. On the positive side, the hype is attracting significant funding for technology development. On the flip side, a speculative bubble has formed around robotics, and when expectations are disappointed, its bursting could hurt the entire sector.”

Unveiled with great fanfare at CES, the CLOiD robot butler, for example, is still a long way from being commercially available. It takes several minutes to take a product out of the fridge. That’s better than Aidol, the Russian humanoid robot – which collapsed after a few steps during its presentation in Moscow in November – but not enough to convince potential customers.

As for Tesla, the company is regularly accused of overestimating the true performance of its robot, or even of ‘cheating’. In 2024, for example, Optimus impressed the crowd by walking through them at the We, Robot trade show. Alas, a few days later, it emerged that the robots were being remotely controlled by operators, something that Tesla had been careful not to mention to the audience. The same thing happened again in December 2025 with the publication of a video taken at an event in Miami, leading internet users to believe that Optimus was not as autonomous as it claimed to be, even though in this specific case, it is still unclear whether the machine was remotely operated or not.



The same was true at 1X Technologies: at the futuristic presentation of NEO in October 2025, some of the machine’s movements had to be remotely controlled by a human. Total autonomy is not yet a reality.

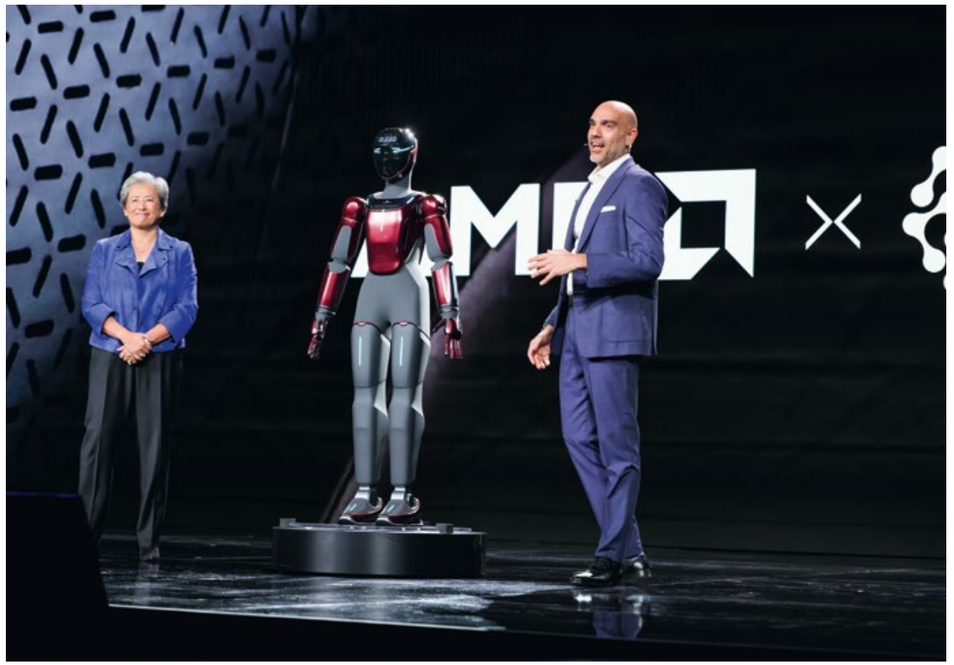
Why is there such a gap between promises and reality? “While artificial intelligence has undergone phenomenal development in recent years, bringing AI out of a virtual universe and into the real world in humanoid form is proving extremely complex,” explains Karen Kharmandarian, CIO & portfolio manager at Mirova.

← Spectators watch a presentation of the Iron robot, from Chinese firm Xpeng, in November 2025. The movements of this humanoid are so fluid that the audience believed that they were actors in disguise during the demonstration. To dispel any doubts, the CEO of XPeng literally had a piece of a robot’s leg cut off live on stage.

This view is shared by Amir Ben Ammar, mechanical engineer and co-founder of the French company AI Robotics: “Personally, I think humanoid robots will remain in the laboratory or in demonstrator form for a long time to come. Their development will require billions in investment, because these machines consume enormous amounts of energy and there are still many challenges to overcome before they can be functional, particularly in terms of interactions between all the parts as well as with the outside world.”

This is especially true as mechatronics is progressing more slowly than AI. “Technically, current robots, especially humanoids, are still far from matching human dexterity, mobility and endurance. Fine motor skills, tactile perception, actuator performance and battery life remain limiting factors in real, unstructured environments,” points out Matthias Röser, a partner at BearingPoint. “Economically, cost is a major obstacle. Humanoid robots with complex functionalities remain very expensive, raising questions about their short-term return on investment and limiting their deployment beyond pilot projects and basic use cases.”

Does this mean we should bury the humanoid dream? “Elon Musk is talking about 2026. But we know he’s always very optimistic about timelines. In 2025, we saw a lot of humanoids operating in labs or during demonstrations. I think it will be the same in 2026 and 2027,” says Humberto Nardiello, fund manager at DPAM. “Then prices will start to fall and we could see an explosion in their use, but not before 2028.” ◢



← Unveiled at CES 2026 by Lisa Su, CEO of AMD (left), and Daniele Pucci, CEO of Italian company Generative Bionics, the GENE.01 robot is equipped with an AI chip designed by AMD.

Robots enter the operating theatre

Thanks to advances in AI, machines are playing an increasingly important role in healthcare centres, improving patient care. So much so that operations performed entirely by robots are no longer a utopian dream. BY BERTRAND BEAUTÉ

This is undoubtedly the heartwarming story of this issue of *Swissquote Magazine*. It is told by Dr Julien Welmant, a radiation oncologist specialising in the treatment of tumours in children and young adults at the Montpellier Cancer Institute (ICM).

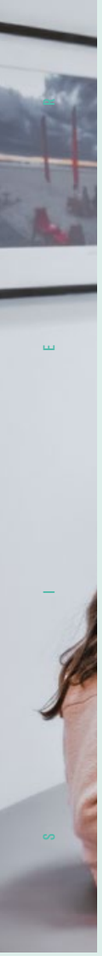
The global market for surgical robots is expected to grow from $4.7 billion in 2025 to $9.6 billion in 2033, representing an annual growth rate of 9.3%

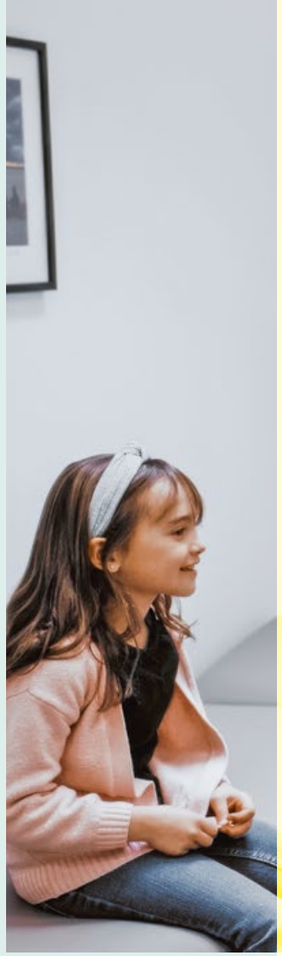
"Entering the radiotherapy room is a real shock for children because they have to go in alone. Without parents or carers to accompany them, due to the X-rays used to treat their cancer. I remember, for example, a little girl who cried for an hour and a half before each session for two months. It was terrible. But I had to take her into the room, which was torture for me," recalls the doctor. "Then, during a trip to Japan, I came across an impressive robot in a shop. It was a lightbulb moment; I thought to myself that it must be possible to develop one to accompany children into the radiotherapy room."

Back in France, the doctor approached several companies specialising in robotics. One of them took up the challenge: the Parisian startup Enchanted Tools, which had been working for many months on the development of a robot. "Thanks to numerous donations, we raised more than €150,000 to fund development," continues Julien Welmant. And so Mirokaï was born – a small robot with big expressive eyes, rabbit ears and bright colours, who looks like he's straight out of the Disney studios. "For the past four months, all the children at the ICM have been accompanied by Mirokaï," continues Dr Welmant. "And we can really see the difference: the robot absorbs all the mental strain and stress of the child, but also of the parents and nursing staff."

In practical terms, the little robot is brought in from the very first consultations to help build a bond with the child. Equipped with ChatGPT, Mirokaï is able to converse with the little ones, move around with them, follow their faces, hold their hands and even pick up objects. "Four- to seven-year-olds tend to sit and listen to the robot's stories. With 5- to 12-year-olds, there is real interaction. The first patient who was accompanied by Mirokaï couldn't bear to go to the radiotherapy room," recalls Dr Welmant, "but once the robot started accompanying her, she would run to get there."

However, there is still room for improvement: "Mirokaï will become more autonomous and will soon be able to perform more tasks, such as small logistics.





↑ Developed by the French startup Enchanted Tools, the Mirokaï robot has been accompanying all children being treated for cancer at the Montpellier Cancer Institute for the past four months. It is pictured here with a young patient and Dr Julien Welmant, a radiation oncologist specialising in the treatment of tumours in children and young adults at the ICM and the project's initiator.

© ENCHANTED TOOLS

We are also making progress on the possibility of interactions with a group of people," explains Blaise de Préville, sales manager at Enchanted Tools. In hospitals, the robot still needs to be remotely operated in certain situations to avoid malfunctioning in front of children. The final version is expected to be released in 2027. By then, the company anticipates numerous use cases: "Our robot could be used in retirement homes to stimulate the elderly," explains Blaise de Préville, "but also in hotels and restaurants, as well as airports." For Julien Welmant, its importance lies elsewhere: "that all children being treated for cancer can benefit from this kind of support."

Like Mirokaï, more and more robots are appearing in hospitals. "Due in particular to the ageing population, the medical sector will represent a significant market opportunity for AI robots. The global deployment of humanoid nursing robots could, for example, reach more than one million units by the mid-2030s, with the long-term potential for more than one humanoid per human nurse." says Pieter Busscher, portfolio manager at Robeco. The current leader in the sector is undoubtedly Intuitive Surgical, which is marketing the fifth generation of its Da Vinci surgical robot. However, the pioneering American company now faces competition from Chinese companies such as Sagebot, Edge Medical and Medbot, which have recently obtained the CE mark for the marketing of their products in Europe. Thanks to artificial intelligence, these machines enable surgeons to operate with greater precision and remotely on patients who may be located in medically underserved areas. Some robots now have five arms so that two surgeons can operate on the same patient together. Other American companies, such as Medtronic and Johnson & Johnson, as well as the British company CMR Surgical, are also trying to break into the market. →

↑
A surgeon places a surgical instrument on an arm of the Da Vinci robot, marketed by the American company Intuitive Surgical, during an operation at the Centre Hospitalier Universitaire Vaudois (CHUV) in Lausanne in August 2022.

According to Grand View Research, the global market for surgical robots is expected to grow from $4.7 billion in 2025 to $9.6 billion in 2033, representing an annual growth rate of 9.3%. For patients, the benefits of robotic surgery are enormous: reduced blood loss, smaller incisions, shorter hospital stays, lower risk of infection, fewer complications during and after surgery, less pain and faster recovery times.

AI-assisted robotic surgery has reduced operating time by 25%, intraoperative complications by 30% and healthcare costs by 10%

According to a meta-analysis published in June 2025 in the scientific journal *Journal of Robotic Surgery*, AI-assisted robotic surgery has reduced operating time by 25%, intraoperative complications by 30% and healthcare costs by 10% compared to traditional methods. All while increasing surgical precision by 40%. And in the future, it is therefore quite possible that robots will operate on patients independently.

In another field, the American company Accuray markets two radiotherapy robots – Radixact and CyberKnife (see also the July 2024 issue of *Swissquote Magazine*). "Thanks to AI, our robots are able to predict where the tumour will be at the time of irradiation," explains Ludovic Peyre, marketing director for the EMEA region at Accuray. "This is particularly important for treating mobile organs such as the lungs and liver. The robot tracks the patient's breathing cycle and then predicts the tumour's future movements, thereby avoiding irradiating healthy areas or missing parts of the tumour. This increased precision reduces treatment time, which is a benefit for patients, hospitals and society." And that's not all: "AI robots are a big wave sweeping through radiotherapy and medicine in general," says Ludovic Peyre.

However, this development is not without its dangers: "Artificial intelligence can increase performance, but it can also increase ignorance," said Dr Arnaud Beddok, a radiotherapist at the Godinot Institute, during the Artificial Intelligence in Radiation Oncology symposium, held on 15 and 16 January at the Innovation Hub of the Genolier Clinic. A study published in November 2024 in the journal *Radiology* showed that doctors were too inclined to trust AI. Even when it is wrong. ◢

LISTED COMPANIES: **ACCURAY** → ARAY | **INTUITIVE SURGICAL** → ISRG | **SHENZHEN EDGE MEDICAL** → 2675

At your service!

From hotels to airports, robots are beginning to make their mark in the personal services industry.

BY BERTRAND BEAUTÉ

They may still be rare, but even in Switzerland, robots have begun to serve a small portion of the population. Last summer, for example, RIVR, a spin-off from ETH Zurich, tested automated meal delivery in the Oerlikon district in partnership with Just Eat Takeaway.com. The two companies do not intend to stop there. They plan to deploy more of these four-legged robots in European cities this year. RIVR also signed a partnership agreement with La Poste and Migros Online last September to test its delivery robot.

Is this enough to replace humans in the personal services industry? Not yet. In Japan, the Henn na Hotel, which caused a stir by becoming the world's first hotel run entirely by machines in July 2015, had to backtrack and rehire humans, who are more productive and less prone to bugs.

"Robots are designed to work alongside humans, to help them, not to replace them," says Amir Ben Ammar, co-founder and CTO of AI Robotics. The French company markets two robots, Ugo and Pritee. The former is used by several restaurants for service, while the latter is being tested at Orly Airport to encourage passengers to sort their waste more effectively.

The global service robotics market size is valued at $36.1 billion in 2024 and is expected to grow by 17.1% per year to reach $166.6 billion by 2034, according to Global Market Insights. This outlook is the result of a growing labour shortage and the increasing adoption of robots in sectors such as hospitality and cleaning. ◢

"Robots are designed to work alongside humans, to help them, not to replace them"

Amir Ben Ammar, co-founder and CTO of AI Robotics

Elsewhere in Switzerland, other trials are being conducted. In Lausanne, for example, the Brasserie de Chauderon used the Bella robot in 2023 to provide part of its service; the Opera Hotel in Zurich tested the Pepper reception robot from 2019 to 2021 and several nursing homes have adopted robot animals, such as the Valfleuri nursing home (NE), which uses interactive robot cats to entertain residents and reduce their anxiety.

In September 2025, Zurich-based startup RIVR signed a collaboration project with Swiss Post and Migros Online to test automated deliveries in Regensdorf (ZH). During the trial, some Swiss Post parcels and Migros Online grocery orders will be delivered by RIVR's home delivery robots. ↓

Defence: heading towards an ‘Oppenheimer moment’?

The military is increasingly interested in autonomous machines, which could wreak havoc by detecting and destroying enemies on the battlefield using AI. BY BERTRAND BEAUTÉ

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“We need to be very careful with AI. We need to be very careful with robotics. We don’t want to find ourselves in a James Cameron movie, uh, *Terminator*.” This warning did not come from some hippie encountered under the sun of Venice Beach, California. It was uttered in the cold of Davos, during the latest World Economic Forum (WEF), by the usually very techno-optimistic Elon Musk. It must be said that, while the military has long been interested in robots, the phenomenal advances in artificial intelligence in recent years have opened up a whole new range of possibilities.

The moment when a military robot kills a human without any human intervention is not far off

“You’d have to be pretty naive to think that the defence industry isn’t going to be interested in robotics,” notes Pieter Busscher, portfolio manager at Robeco. “We’re already seeing this to some extent. China, for example, is looking to deploy robots to monitor its borders.” And the Russian-Ukrainian conflict has become the first war dominated by drones and autonomous systems. Currently, it is estimated that 70% to 80% of human casualties are caused by aerial drones on the Ukrainian battlefield.

And this is only the beginning: in 2023, the US Department of Defence (since renamed the US Department of War under Donald Trump’s administration) launched the Replicator programme to mass-produce combat drones and other autonomous systems for the US military. The US Air Force, for its part, wants to allocate around $6 billion over the next five years to build a fleet of 1,000 AI-equipped fighter jets capable of flying autonomously. As for the People’s Liberation Army (China), it is focusing on the use of artificial intelligence to deploy swarms of drones, robot dogs and other autonomous systems, according to documents seen by the *Wall Street Journal* and revealed at the end of January 2026.

According to the firm Grand View Research, the global military robotics market, valued at $19.68 billion in 2024, is expected to reach $32.50 billion in 2030, with an annual growth rate of 8.7%. In fact, major players as well as startups are mobilising to capture this market. BAE Systems, for example, markets an unmanned, uncrewed ground vehicle (UGV) called Atlas. According to the manufacturer, this eight-wheeled model fitted with a medium-calibre turret is capable of “identifying, classifying and understanding the complex real-world environment in real time and formulating appropriate responses to carry out its mission”, according to the company’s gentle euphemism. In March 2024, technology company Palantir won a $480 million contract from the Pentagon for its Maven prototype, a hostile target detection system. The US military has already used this technology in several military operations in the Middle East. In addition, the US Department of War is currently testing the Atlas humanoid robot, developed by Boston Dynamics. As for the Israeli multinational Elbit Systems, it is developing a multitude of autonomous robotic solutions.

Examples include all arms manufacturers – from France’s Thales to Germany’s Rheinmetall and America’s Lockheed Martin – which are developing AI-powered robots. So much so that many experts are concerned that autonomous weapons are reaching the ‘Oppenheimer moment’, in reference to the development of the atomic bomb during the Second World War.

The intensification of conflicts and geopolitical tensions around the world, coupled with advances in AI, is acting as a powerful accelerator for the development of autonomous weapons. If it hasn’t already occurred, the moment when a military robot kills a human without any human intervention is not far off. “The money we are seeing invested heavily in autonomous weapons and the use of AI targeting systems is extremely worrying,” said Catherine Connolly, head of monitoring and research for the organisation Stop Killer Robots, in *The Guardian*.

Since then, everything has accelerated even further. It seems that the T-800 was right when it philosophised about the human race in the film *Terminator 2: Judgment Day*: “It is in your nature to destroy yourselves.” ◢

COMPANIES TO WATCH: EXAIL TECHNOLOGIES → EXA • BAE SYSTEMS → BA • PALANTIR → PLTR • LOCKHEED MARTIN → LMT • NORTHROP GRUMMAN → NOC • RHEINMETALL → RHM • THALES → HO

Autonomous cars finally take off

After several false starts, the rollout of autonomous vehicles is accelerating rapidly. The latest obstacle: regulations in certain countries that are hindering widespread adoption. BY BERTRAND BEAUTÉ

Cars in a feature report on robots... really? Yes, because these vehicles have indeed become mobile robots: machines that are now capable of perceiving their environment and navigating it without human intervention, thanks to advances in artificial intelligence. And their deployment is accelerating rapidly. Waymo's autonomous cars surpassed 14 million commercial trips in 2025, three times more than in 2024. This growth is set to continue, as the subsidiary of Alphabet (Google's parent company) plans to make 20 million trips in 2026.

Autonomous cars are therefore no longer a dream. They are operating in more and more cities around the world. With more than 2,000 vehicles (mainly Jaguar I-Paces equipped with the Waymo autonomous system, and soon Chinese Zeekr RT minivans renamed Ojai), Alphabet reigns supreme in the robotaxi sector in the United States. It is the only company to offer its customers truly autonomous journeys, i.e. without safety drivers and without predefined routes, in a handful of cities: San Francisco, Phoenix, Los Angeles, Atlanta, Austin and Miami.

But competition is mounting. Zoox, a subsidiary of Amazon, has been offering rides in Las Vegas since September last year, with predefined stops like a bus, and since November in certain neighbourhoods of San Francisco.

Other players, however, have seen their wings singed. In 2024, Apple definitively abandoned its electric and autonomous car project, the Apple Car, putting an end to 10 years of secret R&D in Cupertino, according to Bloomberg. General Motors, meanwhile, has abandoned its robotaxi project following several incidents, despite having invested more than $10 billion in the company Cruise, preferring to focus on optimising its technology for private vehicles.

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← Aerial view of Waymo's robotaxis, a subsidiary of Alphabet, parked at a company centre on 10 June, 2025 in San Francisco.

> "Autonomous cars are functional and safer. The only thing holding back their widespread adoption globally is regulation"
> **Alex Roll,** ETFs investment strategist at Global X

Another player in difficulty, and not the least, is Tesla. Very ambitious in this field, Elon Musk's company is now lagging considerably behind Waymo. On the sidelines of CES in Las Vegas in January, Elon Musk announced that production of the Cybercab model, without a steering wheel or pedals, would begin in 2026 for release in 2027. But this year, the electronics industry's biggest event had eyes only for humanoids (see p. 30), as if autonomous cars were no longer a topic of interest, illustrating Tesla's lag in this field. This may be due to a bold technological choice made by Elon Musk. Several years ago, the Tesla boss decided to use an autonomous driving system based solely on cameras, while other manufacturers combine data from cameras, radars (Lidar) and ultrasonic sensors. Unfortunately, following the Californian firm's high-profile launch of its autonomous taxi service (with a safety driver) in Austin at the end of June, incidents have multiplied. This has led the NHTSA, the US road safety agency, to request additional information from the company, and all of this has unsettled shareholders. On 4 August, several of them filed a class action lawsuit in a US court against the manufacturer and its CEO. They accuse Tesla of securities fraud for downplaying or even concealing the dangers of its autonomous taxis.

"On paper, the idea of using only cameras for autonomous navigation is very appealing. Just look at everything humans can do with their eyes," says Nicola Tomatis, CEO of BlueBotics. "But at the moment, it's not quite there yet. Autonomous vehicles with multiple sensors are much safer than those that rely solely on cameras." The president of the Swiss Robotics Association knows what he is talking about: BlueBotics, the Saint-Sulpice (VD)-based company he heads, markets navigation systems that enable industrial vehicles such as pallet trucks and forklifts to operate autonomously. Thousands of its products are currently in use in factories around the world, including at Toyota, Michelin, Ricola and Barilla.

Nvidia joins the fray

A major challenger whose involvement was inevitable? Nvidia. Already present in most autonomous vehicles thanks to its chips, the world's most valuable company is making the sector one of its priorities. At CES, Nvidia CEO Jensen Huang presented Alpamayo, a family of open-source artificial intelligence models designed to make autonomous cars 'think'. The group took the opportunity to announce a partnership with Mercedes-Benz, which will be the first manufacturer to benefit from this technology. It will be available in CLA models in the United States from early 2026 and in Europe later in the year. The chip manufacturer is also working with Uber and Stellantis.

In China as well, the autonomous vehicle sector is entering a phase of exponential growth. Many companies already offer services, such as Baidu, which claims that its Apollo Go autonomous taxis have made more than 250,000 trips per week in China – as many as Waymo in the United States – Pony.ai, which is expected to operate 3,000 vehicles by the end of 2026, and WeRide, which operates more than 750 autonomous taxis.

And where is Europe in all this? Lagging behind. While most major manufacturers are developing autonomous vehicles (Stellantis, Mercedes-Benz, VW, etc.), few cities currently offer such services. This is due to more restrictive regulations. "Autonomous cars are functional and safer than human-driven vehicles," says Alex Roll, ETF investment strategist at Global X. "The only thing holding back their widespread adoption globally is regulation." In 2026, Waymo will launch its first robotaxi service on the Old Continent, in London. Could this be a turning point in the advent of driverless taxis in Europe? ◢

COMPANIES TO WATCH: TESLA → TSLA | ALPHABET → GOOGL | PONY.AI → 2026 | AMAZON → AMZN | BAIDU → BIDU | NVIDIA → NVDA

Mimic Robotics: the hands that want to change the industry

A spin-off from ETH Zurich, this startup develops robotic hands capable of learning by observing humans. This technology could revolutionise industrial automation and position Switzerland as a major player in global robotics. A report from their laboratory in Oerlikon. BY LUDOVIC CHAPPEX, PHOTOS: NICOLAS RIGHETTI, LUNDI 13

↗
An operator wearing a VR headset guides the robot's movements during a learning phase. Once trained, the robotic hand can reproduce the gestures autonomously.

As soon as you step into the premises of Mimic Robotics, you have to sign a form. Aashna Majmudar, head of public relations, hands us a confidentiality agreement. "Standard procedure," she smiles. We are in a building formerly occupied by ABB – whose global headquarters are still located a few hundred metres away – in Oerlikon, in the northern suburbs of Zurich. This bustling neighbourhood has become the epicentre of next-generation robotics. The ETH AI Center moved here in 2023, and the Robotics and AI Institute (RAI) (founded by Boston Dynamics creator Marc Raibert), opened its European branch here last September, on the same street as Mimic Robotics. It's quite symbolic: the new generation of robotics is setting up shop in the walls of the old... Because where ABB and its peers programmed machines to repeat the same movements over and over again, Mimic trains its machines to learn and adapt.

Stefan Weirich, 30, CEO and co-founder, welcomes us in the lobby. He first leads us to an open-plan office where his desk is located, alongside the management team. The atmosphere is that of a startup: no decoration, a few old boxes stacked in a corner. The team could have moved in the day before. →

Then he leads us to the other side of the corridor. And there, the scene changes. A vast room of about 200 square metres opens up before us. It feels like we're on a film set. Several 'stations' are arranged in a row: an operator wearing an Apple Vision Pro virtual reality headset Mimics gestures in the air. In front of her, two robotic arms equipped with articulated hands reproduce her movements in real time. Further away, another operator wearing gloves fitted with sensors manipulates metal components, with no robot nearby. He generates training data. The robot will learn later by analysing it.

"It's quite magical the first time, but you quickly get used to it," smiles Stefan Weirich. However, the CEO remains cautious. There is a strict ban on taking wide-angle photographs of the room. Too many confidential objects are on display in the lab. Such as a car part, belonging to a major German car manufacturer – one of the firm's pilot projects. The robot is learning to assemble flexible components, exactly the type of task that traditional robotics struggles to automate.

"Would you like to shake the robot's hand?"

Stefan Weirich offers a demonstration: "Would you like to shake the robot's hand?" The articulated arm reaches out to us. The grip is firm. The mechanical fingers adjust to the shape of the human hand.

In practical terms, Mimic's robotic stations consist of one or two arms mounted on a fixed table or wheeled platform. The arms themselves, purchased from suppliers such as Universal Robots or Agile Robots, are nothing revolutionary. The innovation lies in the articulated hands that extend them, and above all in the brain that controls them. Thanks to Mimic's AI models, these robots can tackle tasks that traditional automation cannot handle: assembling flexible components, sorting irregular objects and manipulating them in changing environments. They adapt in real time to variations – such as a shifted object position or different lighting – without reprogramming.

In addition to the teleoperation and sensor gloves seen in the lab, Mimic also uses videos showing humans at work to train its robots – an approach that the co-founders detail in our interview (see opposite).

Two isolated rooms, away from the main laboratory, complete the setup. This is where Mimic's famous robotic hands are physically created, assembled manually, one by one. Several 3D printers are lined up along a wall. High-tech craftsmanship, in short. The company produces its hands in batches of 10 to 30 units. This is not yet enough to talk about industrialisation, but it is sufficient to equip the first pilot projects.

Mimic Robotics raised $16 million in November 2025 in a funding round led by European funds Elaia and Speedinvest, bringing the total capital raised to over $20 million. It is already conducting several pilot projects with automotive giants, among others. The team, which currently has 25 members, plans to double its workforce in 2026, mainly in the field of AI.

→ From left to right: Stephan-Daniel Gravert (CPO), Stefan Weirich (CEO) and Elvis Nava (CTO), the founding trio of Mimic Robotics, from ETH Zurich.

"The real revolution will take the general public by surprise in the next year or two"

Interview with the three co-founders of Mimic Robotics: Stefan Weirich (CEO), Elvis Nava (CTO) and Stephan-Daniel Gravert (CPO). They talk about their technology, their positioning vis-à-vis their American competitors and their vision of the future of automation.

Why did you choose to focus on robotic hands rather than developing a complete humanoid, as Tesla and Figure AI are doing, for example?

Elvis Nava: What was really missing in robotics was the ability to interact autonomously with the physical world, to manipulate objects. For us, it made sense to focus solely on this problem, which is the most difficult, rather than building a complete humanoid, which involves additional complexity related to the presence of legs, locomotion, etc.

Stefan Weirich: When you look at industrial use cases, most are designed for humans to work comfortably. Workers do stationary work or move a few steps. We've never really encountered a case where you have to climb stairs or overcome obstacles. For these applications, stationary or wheeled robots are more than sufficient. →

How do you train your robots? What is unique about your approach?

Elvis Nava: The basic idea is to use generative models for robotics – the same types of algorithms that power ChatGPT or video generators. This involves collecting data to train these models. When we started, no one was doing this in Zurich. We were pioneers in applying these models to robotic control.

> “The fundamental technology is there, now it’s a matter of scaling it up”
>
> **Elvis Nava**, CTO of Mimic Robotics

Our breakthrough was developing our own data collection methods that don’t require large-scale teleoperation. If you look at other companies – start-ups like Physical Intelligence or Dyna, based in Silicon Valley – they rely on huge warehouses filled with operators who teleoperate robots via virtual reality to collect data. We have a different approach: the data pyramid.

Can you explain this concept in more detail?

Elvis Nava: At the base of the pyramid are large-scale videos. We have developed a model, Mimic-video, which uses videos of humans filmed from a subjective point of view – what are known as egocentric videos. The model learns to predict how to perform tasks in the real world without ever seeing a robot. The advantage is that obtaining videos of humans at work is much easier than deploying tens of thousands of robots.

At the intermediate level, we use our sensor-equipped gloves. An operator performs the task with their own hands, and we capture all their movements with very high precision – including their fingers, even when the video does not show them due to occlusions.

And only at the top of the pyramid do we use data from the robot itself. This is the highest quality, but we only need a small amount of data to refine the model.

So we don’t need to raise a billion dollars to collect data, and we can deploy our robots in industry much faster.

Are we on the verge of a ‘ChatGPT moment’ for robotics?

Elvis Nava: From an AI perspective, we’re already seeing exponential growth. And the same techniques that work for language models or video generation apply to robotic control. This is not what traditional robotics engineers would have done. It’s a new generation. The fundamental technology is there, now it’s a matter of scaling it up. I do think, by analogy, that we are somewhere between ChatGPT 2 and ChatGPT 3.

The general public may see humanoid robots dancing on YouTube, but that’s not manipulation. The real revolution – robots capable of manipulating objects autonomously and flexibly – will surprise the general public in the next year or two.

Are advances in generative AI – ChatGPT, Gemini, Claude – helping you?

Elvis Nava: 100%. It’s directly transferable. We train our own models, but we reuse components – called backbones – from pre-trained models on vision or video. These models already understand the visual world, without having been designed for robotics. This is a crucial aspect, because there isn’t enough robotic data yet to pre-train models of this size. Open-source video generation or vision-language models give us capabilities that we can use right away. Even advances in training methods – how to train a model faster – apply to our work.

↑ A Mimic engineer at his workstation, equipped with a virtual reality headset. On the desk are the connected gloves used to capture human movements during the learning phases.

How do you plan to compete with American or Chinese startups, which are raising hundreds of millions of dollars?

Stephan-Daniel Gravert: China is very good at producing hardware quickly and at low cost. But they struggle to make it truly usable, certified for safety and to support European customers. As for the most advanced AI models, everything is happening in San Francisco at the moment. Three or four interesting companies are developing there, but they are thousands of kilometres away from their potential customers in Europe.

It is important to understand a fundamental difference with language models: in generative AI, you can change suppliers in a day. Robotics, on the other hand, is a very ‘sticky’ business. You →

install a robot, you have to provide service, travel to the site, adapt its behaviour. You have to be within driving distance of the customer. It is very difficult for an American or Asian company to serve Europe. And today, there are virtually no other European players in this niche.

Stefan Weirich: That's our opportunity. There's room for four or five major players in global robot learning. We believe we can be the European champion.

Can Zurich become a global hub for robotics and AI?

Stephan-Daniel Gravert: Absolutely. It is already being called the Mecca of robotics.

Stefan Weirich: The European ecosystem is particularly well suited to these complex problems, which require a high degree of integration between hardware and software. Historically, robotics was a European field: Universal Robots, KUKA, ABB... These players have dominated the industry for decades, alongside Japan and South Korea. And with ETH and EPFL, we have a pool of talent that is among the best in the world. A whole generation of startups has proven that it is possible to grow a deep tech company from Switzerland. Take Anybotics or Verity (editor's note: two ETH spin-offs specialising in quadrupedal robots and autonomous drones, respectively).

↑ In the 'Mate Corner', the relaxation area of Oerlikon's premises. The startup, which has around 25 employees, plans to double its workforce in 2026, mainly in the field of AI.

How do you see your robots impacting employment?

Stefan Weirich: Technology always causes changes in the labour market. But what we are building is different from traditional automation. We are making interaction with robots simpler and accessible to everyone without specific training. In the future, you will be able to give instructions in natural language, just like you do with ChatGPT.

The idea is to move from a world where we do everything ourselves, including tedious and repetitive tasks, to a world where we use physical agents as tools. Just as we use AI to summarise meeting notes. This is a paradigm shift from traditional automation, where management decided to automate a line, installed an industrial robot behind a barrier, and no human ever touched it again.

> "We visited factories in Europe where the average age of workers is over 55"
>
> **Stefan Weirich**, CEO of Mimic Robotics

And then there is the demographic emergency. We visited factories in Europe where the average age of workers is over 55. Germany anticipates a shortage of five million workers by 2030. The problem is not going away; it is getting worse.

What about domestic robots? Are we getting closer to the point where they will be commercially available?

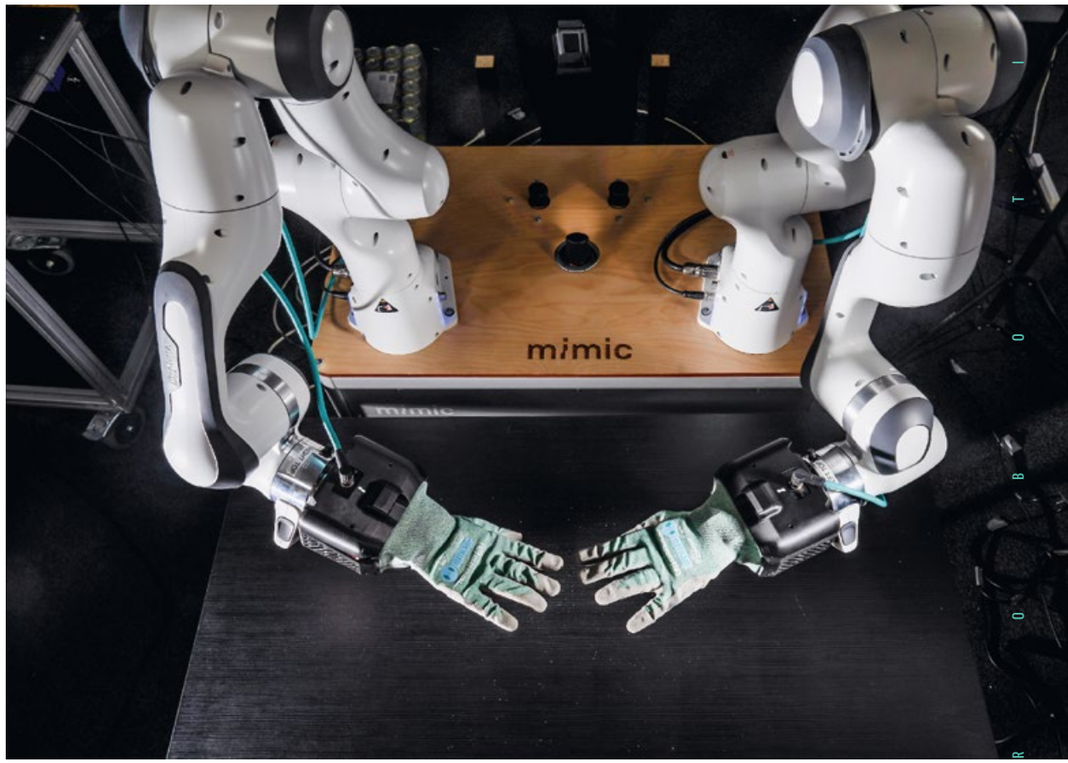
Elvis Nava: The fundamental technology is essentially the same, whether we're talking about factories or homes. The problem is tolerance for edge cases. In an industrial environment, the variables are controlled. A home is the most difficult context imaginable: every interior is different, and the tasks required can be completely unexpected.

Even if the models are capable of generalising, we will probably have to compensate for a long time with remote operation. And people won't necessarily be keen to have a remotely operated robot in their private space. Then there's the economic question: does the price justify not doing your chores yourself anymore? We'll probably see the first demonstrations coming out of Silicon Valley. But it will take time before it is truly accessible to the general public.

What are your next milestones?

Stefan Weirich: Optimising our models so that they meet the reliability indicators required by the industry. And taking the step of actual deployment in factories. Once that hurdle is cleared, we will be able to duplicate the installations. Copy and paste robots, so to speak.

Elvis Nava: The team doubled in size last year and continues to grow rapidly. We are recruiting heavily on the AI side, because that's where the acceleration is happening. The fundamentals are there. The challenge now is to improve success rates. ◢



→ Unlike conventional industrial robots, Mimic Robotics' hands learn autonomously and adapt to unforeseen events without reprogramming.

What rights should robots have?

The emergence of autonomous machines equipped with artificial intelligence is causing quite a stir in the legal world.

BY BERTRAND BEAUTÉ

In 1942, American writer Isaac Asimov set out his famous three laws of robotics: a robot may not harm a human being; it must obey human orders, unless these contradict the first law; it must protect its own existence, as long as this does not contradict the first two laws. This framework seemed sufficient at the time. But back then, humanoids powered by artificial intelligence were pure science fiction. That is no longer the case today. They are coming! And with them come many legal questions.

← Ai-Da, the first 'artist' robot, poses in front of the first painting created by a humanoid robot. The portrait of mathematician Alan Turing, a pioneer of computer science, was sold for over a million dollars in 2024, raising a legal question: who actually owns this artwork?

"Intelligent robots differ fundamentally from traditional machines in their capacity for autonomous decision-making, continuous learning and direct interaction with humans, outside of controlled environments.

If a robot learns to paint like Picasso by watching videos of the master, who will own the new paintings?

Where a conventional machine executes a predefined instruction, an intelligent robot acts on the basis of evolving, sometimes opaque models, which undermines several pillars of law," confirms Dominique Lecocq, founder and director of Laine Neural Network, a Swiss startup developing an AI-assisted legal drafting platform. This view is shared by Adrien Alberini, associate professor of public economic law at the Faculty of Law of the University of Geneva (UNIGE): "With conventional robots, which have been in use in factories for many years, the risk was limited, known and legally regulated. But as machines become autonomous, new legal risks arise. And at the moment, there is no appropriate legislative framework."

The first risk concerns the damage that a machine could cause. "Take the case of an autonomous car," continues Adrien Alberini. "In the event of an accident, who is legally responsible? The owner of the robot, the manufacturer, or the user? The same question will arise when robots are used to assist elderly people in nursing homes, for example. If a machine causes a resident to fall or injure themselves, who will be considered at fault?"

The second issue concerns data. "AI robots continuously collect, process and sometimes deduce personal or sensitive data," points out Dominique Lecocq. This raises the question of data protection even more acutely. Nothing insurmountable, according to Adrien Alberini: "AI robots will collect data much more extensively than current systems. But this is a legal issue that is already known and anticipated."

The final risk identified concerns intellectual property. "Who owns the improvements resulting from the robot's learning, or the content it can generate autonomously?" asks Lecocq. In order to improve their machines, manufacturers use colossal databases to feed their robots' artificial intelligence, compiled from thousands of humans filming their actions (folding a towel, opening a door, moving an object, etc.). These videos are used to teach robots to understand the real world. The problem is that if a robot learns to paint like Picasso by watching videos of the master, who will own the new paintings?

In November 2024, a portrait of the English mathematician Alan Turing entitled *A.I. God*, created by Ai-Da, the first 'artist' robot, sold for $1.08 million at an auction organised by Sotheby's. "Today's record-breaking sale price for the first work of art by a humanoid robot artist at auction marks a milestone in the history of modern and contemporary art and reflects the growing intersection between artificial intelligence technology and the global art market," said the auction house. Paradoxically, in the 1950s, Alan Turing was already concerned about the future uses of AI.

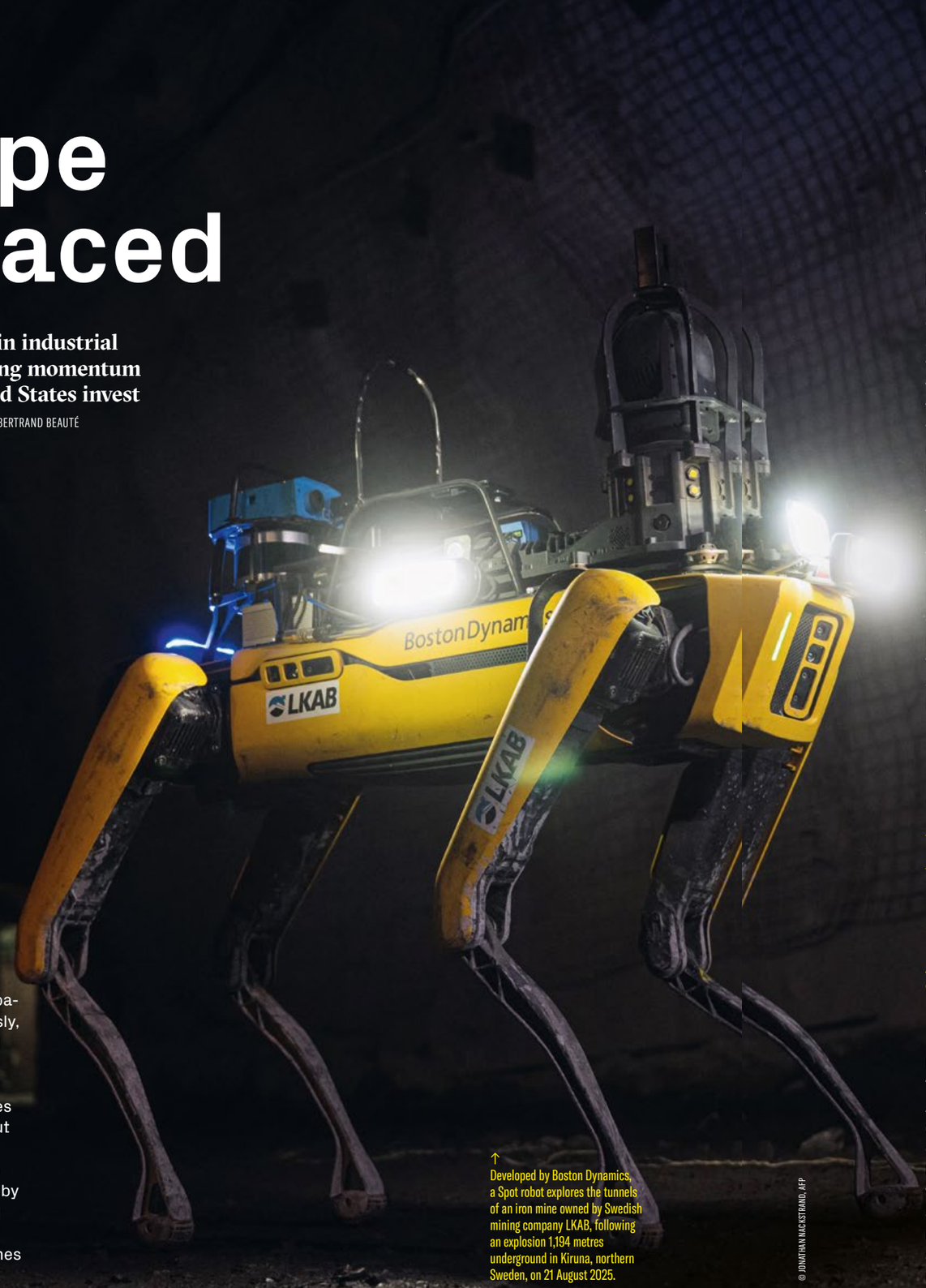
Faced with these new legal risks, countries are moving forward in a disjointed manner. "Companies would like a uniform global legal framework," continues Adrien Alberini. "But different countries do not have the same sensitivity to risk." Unsurprisingly, Europe offers the strictest legal framework with the European Artificial Intelligence Act (AI Act), which came into force on 1 August 2024, classifying artificial intelligence systems according to their level of risk and imposing proportionate obligations. The United States favours a more sector-specific and pragmatic approach, leaving more room for innovation and self-regulation. Other jurisdictions, such as China, combine strong support for innovation with enhanced state control, explains Lecocq. This regulatory diversity creates a fragmented environment in which international companies have to deal with sometimes contradictory requirements.

And Switzerland? "It is taking a cautious and pragmatic approach," replies Dominique Lecocq. "Rather than legislating exhaustively, it relies on solid legal principles (civil liability, data protection, contract law) that it gradually adapts to new technologies." Adrien Alberini adds: "The law is lagging behind, but that's a necessary evil: it has to lag behind. We cannot regulate technologies in advance in a liberal, innovation-based society without hindering R&D. Especially since new risks and issues that are still unknown today will arise with the real-world use of AI robots. The law will adapt as these uses become more widespread."◢

Europe outpaced

Long the world leader in industrial robotics, Europe is losing momentum as China and the United States invest heavily in the sector. BY BERTRAND BEAUTÉ

$4,900. That is the retail price of the R1 humanoid robot from Chinese company Unitree. Obviously, at this price, the R1 is not capable of performing many functions. It moves autonomously and communicates using artificial intelligence. But that's about it. However, this unbeatable introductory price illustrates the progress made by China in robotics and artificial intelligence, as the economic usefulness of AI robots becomes increasingly clear.



↑ Developed by Boston Dynamics, a Spot robot explores the tunnels of an iron mine owned by Swedish mining company LKAB, following an explosion 1,194 metres underground in Kiruna, northern Sweden, on 21 August 2025.

© JONATHAN NACKSTRAND, AFP

Let's head to Spartanburg, United States. There, behind the walls of the BMW factory, AI robots are starting to prove their worth. Since 2024, the German manufacturer has been testing Figure 02 humanoids, developed by the American company Figure AI. In 11 months, they have contributed to the assembly of 30,000 X3 vehicles. But in November 2025, BMW announced that it would begin to retire these robots. A failure? No. They will soon be replaced by the more powerful Figure 03, which has just been unveiled. "Figure 02 was an unprecedented step forward in bringing humanoid robots from the laboratory into the real world," the brand said in a press release. For now, however, these robots were only capable of very simple tasks, mainly loading sheet metal, without achieving the precision and speed of a human being. But it's a start.

"Europe has missed the boat when it comes to funding to develop major players. We don't have a global vision"

Amir Ben Ammar, co-founder and CTO of French company AI Robotics

In another field, more than 1,500 Spot robots from the American firm Boston Dynamics (owned by the South Korean company Hyundai) have already been deployed around the world. They provide surveillance and inspection services for many major industrial companies, such as oil company BP, steel company POSCO and supplier Cargill.

With American robots working at BMW and Chinese robots undercutting prices, what about Europe? In a report published in June 2025 entitled "No country for old robots: how can Europe leap over the robotics tech frontier?", Allianz Research sounds the alarm: "Europe has been a strong force in robotics but it is starting to fall behind China and the US," warn the authors. "The robotics industry in Europe is at risk of disruption (...) amid the AI frenzy (...) the region should act now to avoid following the fate of the auto industry."

With world-leading players such as Switzerland's ABB, Denmark's Universal Robots and Germany's Kuka, Europe has long been a global leader in robotics. But the tide is turning. In 2015, Universal Robots – a pioneer in collaborative robots, or cobots – was acquired by the American company Teradyne, and in October 2025, ABB sold its robotics subsidiary to Japanese company Softbank for $5.4 billion. As for KUKA, it was acquired in 2016 by the Chinese firm Midea.

Above all, these long-standing players are now threatened by the incredible rise of AI, with the major models coming mainly from the US and China. "For European industrial robotics specialists, the arrival of AI represents a challenge," confirms Pieter Busscher. However, Robeco's portfolio manager does not see Europe as a region in decline: "AI robotics is also a trend in Europe. Universities are very interested in this field. Look at the number of startups active in robotics emerging from EPFL and ETH Zurich. It's very interesting and promising!"

This view is shared by Amir Ben Ammar, co-founder and CTO of the French company AI Robotics: "Europe is not lagging behind in terms of technology. We have a lot of expertise. The Spanish are at the forefront of robotic arms, the Germans dominate radar and, regarding artificial intelligence, we have leading companies such as France's Mistral AI. The problem is that Europe has missed the boat when it comes to funding to develop major players. While the US and China are investing heavily, we don't have a global vision." In 2024, for example, European robotics startups raised $3.7 billion, compared to $15.4 billion in the US and $8.2 billion in Asia. AI funding is also uneven: $80 billion for the US compared to $13 billion for Europe, according to the Allianz Research report.

Allianz Research points to five urgent measures to be taken in Europe. Unsurprisingly, the first two are: "Develop a European roadmap for robotics" and "Enhance access to capital for startups and innovators." "China is overtaking Europe. Last year, more than half of all industrial robots worldwide were put into service in China. With programmes such as 'Made in China', the country is fully committed to automation and robotisation. To increase production, as well as to cope with the consequences of an ageing population," said Johan Geeroms, director of Risk Underwriting Benelux at Allianz Trade. There is a sense of urgency: global investment in robotics has grown by nearly 230% between 2019 and 2024, and the market is expected to exceed $100 billion by 2030.

ENERGY

Renewables: Spain and Portugal's winning bet

As growth stalls in Germany, the United Kingdom and France, Spain and Portugal are enjoying robust economic health, driven in large part by a substantial commitment to green energy that is boosting listed companies on the peninsula.

BY BLANDINE GUIGNIER

This 18-kilometre high-voltage transmission line spans the Tagus River in Spain. It connects the Ceclavín solar power plant to the electricity grid. Developed by Iberdrola and commissioned in 2021, the photovoltaic power plant covers 220 hectares and exports 328 MW of electricity. ↓

© BERGOLA

The south is exacting its revenge on the heavyweights of the European continent. In 2025, Spain posted growth of 2.9% and Portugal 2%, while the eurozone peaked at 1.4%. On the stock market, the gap is even more spectacular: Madrid's IBEX jumped 49% over the year, Lisbon's PSI index almost 30% – nearly double the European Stoxx 600!

How can this decoupling be explained? The answer lies largely in the energy strategies of the two countries. On the Lisbon Stock Exchange, three electricity companies – EDP Renewables, EDP and REN – are among the 10 best performers of the year, with increases of between 40% and 50%. In Spain, Solaria Energia has more than doubled in value (+114%), Endesa has jumped 45%, and the giant Iberdrola, the sector's largest capitalisation in Europe with €125 billion, continues its steady progress (+34%).

"Demand is being driven above all by data centers, which consume large amounts of electricity day and night"

Fernando Garcia, analyst at RBC Capital Markets

Both countries have invested heavily in renewable energies, with a drastic reduction in gas on the peninsula and coal in Spain. Fernando Garcia, an analyst specialising in energy companies (utilities) at RBC Capital Markets, observes a fundamental transformation: "On the peninsula, the share of renewables has increased significantly over the last 20 years. In 2025, they covered nearly 70% of electricity demand in Portugal (as in the previous year) and 57% of production in Spain. After wind power, it is now photovoltaic projects that are gaining momentum."

But this transformation would not have been possible on the same scale without a powerful ally: the European Union, which played a major role. As a reminder, European loans and financing have been granted on a massive scale to Portugal and Spain in recent years as part of the REPowerEU plan launched after the invasion of Ukraine to reduce dependence on hydrocarbons. The peninsula's strong solar and wind potential, combined with the presence of regions eligible for cohesion funds, made it a prime target for these investments. In 2024 alone, the European Investment Bank Group allocated €5 billion to the Spanish energy sector, doubling →

IBERDROLA
The continent's green giant

Europe's leading energy company in terms of market capitalisation (€125 billion), it generates most of its revenue in Spain (38%), Brazil (20%), the United Kingdom and the United States (17%). Electricity transmission and distribution infrastructure, renewable energy production, and solutions for individuals and industries form the pillars of the company. Bank of America (BofA) issued a BUY recommendation in December, noting Iberdrola's position as one of the strongest balance sheets among the utilities companies it covers.

FOUNDED: 1992
HEADQUARTERS: BILBAO
EMPLOYEES: 38,000
2024 REVENUE: €44.7 BN
→ IBE

EDP
The Portuguese champion

Portugal's leading energy group operates in 13 countries, with 58% of its profits generated in the Iberian Peninsula. It aims to be 100% renewable by 2030. The company is active in renewable energy production, storage and customer solutions (67% of its profits) as well as electricity networks (33%). Its market capitalisation stood at over €18 billion at the end of January. JB Capital Markets raised its recommendation to BUY on 14 January for EDP. This recommendation was followed by more than half of the analysts covering the firm.

FOUNDED: 1976
HEADQUARTERS: LISBON
EMPLOYEES: 12,600
2024 REVENUE: €15 BN
→ EDP

↑
The REPowerEU sign on the European Commission's Berlaymont building (4 June 2023, Brussels). This plan, which aims to promote energy independence in the EU, has resulted in massive funding being granted to Spain and Portugal.

its investments in distribution, transmission and storage networks. It also disbursed a record €1.1 billion to Portugal, which was invested in wind and solar power generation, the modernisation of distribution networks, and the construction of a biofuel plant and a renewable hydrogen unit.

Boom in data centers

On the demand side, the signs are equally positive. "Spain is the only major country to have recorded growth in demand in 2025," writes James Brand, an analyst at Deutsche Bank, in a note published in mid-January on the European energy sector. He points out the decline in demand in the rest of Europe, where levels are close to those of 2000.

"Demand in the Iberian Peninsula is being driven by new industrial customers, electric vehicles, and above all by data centers, which consume large amounts of electricity day and night," explains Fernando Garcia of RBC Capital Markets. The RBC Capital Markets analyst cites Portugal's Start Campus data center mega-project as an example. This project is expected to reach a consumption of 1,200 MW by 2030, equivalent to a 20% increase in the country's electricity demand. The first of the six planned centres is already fully leased, mainly by British cloud provider Nscale, which supports Microsoft in the deployment of its AI services in Europe. "This country offers some of the cheapest electricity in the EU, at a price around 30% below the average," explains Robert Dunn, director of Start Campus, in *Les Échos* newspaper. "It is also one of the greenest."

© SHUTTERSTOCK / START CAMPUS

Promising stock market prospects

From a financial perspective, the increase in overall demand is expected to benefit almost all Portuguese and Spanish companies in the sector, according to Fernando Garcia. "Among energy companies, all the major players in the IBEX and PSI indices should benefit from the increase, but so should more specialised companies active in battery development, such as Grenergy, or in the installation of data centers, such as Solaria."

Profit growth is already accelerating among European energy companies, notes Deutsche Bank. "The consensus now forecasts annual growth (in Europe) of 7% in earnings per share (EPS) over the next two years, compared with 4% a year ago."

McKinsey also believes in a virtuous circle for the Iberian industry. "Thanks to their natural resources, which translate into low costs in the field of renewable energies (around 20% lower), and their solid foundations in the field of renewable fuels, Spain and Portugal can re-industrialise more quickly," says Gosia Pajkowska, spokesperson for the firm in Madrid. The consulting firm has launched the Iberian Industry and Energy Transition Initiative (IETI), a think tank bringing together the major Iberian energy companies (Iberdrola, EDP, Repsol, Naturgy, etc.) to accelerate the energy transition and reindustrialisation of the peninsula.

At Deutsche Bank, analysts remain confident: in their note, they refer to "fairly limited" risks

Investment in electricity transmission and distribution networks is expected to triple in Europe, including Spain and Portugal, according to RBC Capital Markets' analyst Fernando Garcia.

These projects are essential to ensuring the continued prosperity of energy companies, according to economist Raymond Torres, director of economic analysis at Funcas, a Spanish think tank. "In terms of the grid, certain technical issues still need to be resolved, which complicate the integration of a very high percentage of renewable energies into the system and which were the cause of the major power outage in Spain in April 2025." The economist points to two other vulnerabilities. "One challenge will be to organise the electricity market in such a way as to offer sufficient incentives for investment while maintaining affordable prices for consumers and industries. A further and final challenge will be moving from a system based on subsidies (mainly European, and set to decline) to a system that relies more on financial instruments." At Deutsche Bank, analysts remain confident: in their note, they refer to "fairly limited" risks to the sector's consensus earnings per share over the next two years. ◢

An aerial view of the Start Campus construction site, a gigantic data center in Sines, Portugal. Once completed, the campus will comprise six buildings with a total capacity of 1.2 GW, powered entirely by green energy. ↓

SOLARIA
Next-generation solar energy

After more than 20 years dedicated to photovoltaics, the Madrid-based company entered the data center market in 2024. It operates in Spain, Italy, Portugal, Uruguay and Greece, with a market capitalisation of €2.3 billion as of end January. Last year is shaping up to be an exceptional year, with revenue of €259 million for the first nine months of 2025, up 65% year-on-year. In December, BofA issued a BUY recommendation, highlighting that the ambitions of European energy companies had been revised downwards by 5% to 10% over the last two years, with the exception of small specialist players such as Solaria and Grenergy, which had stepped up their construction pace.

FOUNDED: 2002
HEADQUARTERS: MADRID
EMPLOYEES: 250
2024 REVENUE: €239 M
→ SLR

GRENERGY
The green storage specialist

Specialising in the development of photovoltaic projects and the expansion of battery storage capacity, the company is valued at nearly €2.8 billion (at the end of January). It operates in several European countries and in Latin America, with a mega solar project in Chile. In December last year, according to the website CincoDías, UBS raised its valuation to €100 per share, seeing the company as the best choice for investing in the growth of battery energy storage systems (BESS) due to its impressive scale and integrated model. Analysts also unanimously agree with this assessment.

FOUNDED: 2007
HEADQUARTERS: MADRID
EMPLOYEES: 640
2024 REVENUE: €643 M
→ GRE

Yves Saint Laurent

A BRAND A STORY

The safari jacket, an icon of freedom

Founded 65 years ago in Paris, Yves Saint Laurent is famous for introducing masculine pieces, such as military jackets, into women's wardrobes. This *tour de force* is now being exploited by the Kering group.

BY BLANDINE GUIGNIER

In 1967, during his spring-summer fashion show, the young designer Yves Saint Laurent shook up the fashion world. He dressed his models in trouser suits and safari jackets. These were items that had previously been worn mainly by men, but he reinterpreted them to flatter the female form. The desert jacket, with its light colours and multiple pockets, was originally worn by Western military personnel in Africa. "We were at a time when haute couture was very feminine and revolved mainly around dresses," recalls Marie Brunschwig, buyer for the Swiss fashion chain Bongénie. "It was very avant-garde to offer such pieces. Today, the Saint Laurent Paris brand is synonymous with functional and timeless elegance. Like the bomber jacket, the trench coat and the leather perfecto, the safari jacket has become a product category in its own right. Many other brands are reviving it for spring, from Zara to Céline."

> "I was tired of making dresses for jaded billionaires"
> **Yves Saint Laurent**

Initially, the jacket was intended to be a passing fad. It was designed to fit in with the African theme of the 1967 fashion show. It was a *Vogue Paris* magazine shoot in the Central African Republic that made it famous. With a rifle slung over her shoulder and a wide-brimmed hat on her head, German model Veruschka wore a special version with a wide lace-up neckline. This version became synonymous with freedom and sensuality. It was produced for the couturier's Parisian ready-to-wear boutique, where it was a huge success.

↗ Supermodel Claudia Schiffer wears a safari jacket during French designer Yves Saint Laurent's last fashion show on 22 January 2002.

© PIERRE VERDY, AFP

These boutiques selling finished products were also a sign of the avant-garde thinking. Yves Saint Laurent first created a haute couture fashion house in 1961, with the support of his partner and businessman Pierre Bergé. He was only 25 years old at the time, but had already been designated by Christian Dior as his 'heir'. Then, in 1966, he became the first designer to create his own ready-to-wear line: 'Saint Laurent rive gauche'. The younger generation, enamoured with freedom during the May 1968 period, frequented the store. They were more drawn to the designer's bold creations and androgynous silhouettes than the bespoke clientele. Other outlets quickly opened in New York, London and another dedicated to men in Paris in 1969. "I was tired of making dresses for jaded billionaires," said the couturier.

Beloved by celebrities

The safari jacket appeared in the society press. It was worn by Yves Saint Laurent himself and his model friends, Betty Catroux and Loulou de la Falaise, in a famous 1969 photograph. Then actress Catherine Deneuve wore it in the 1969 film *La Sirène du Mississipi* and in photographer Helmut Newton's 1981 photos.

In the mid-1980s, the safari jacket returned to the forefront with the success of *Out of Africa*. The film brought the 'safari' style back into fashion. "Over the decades, the fashion house has returned with different designs, from jacket-trousers and jacket-shorts to short dresses," says Marie Brunschwig. "It appears more or less unisex, depending on the trend of the moment, and features a variety of materials and colours, with shades ranging from light beige to ochre or khaki." In the same decade, the number of the brand's boutiques rose to 150 in 27 countries.

Acquisition by François Pinault's group

However, the early 1990s were less kind to Yves Saint Laurent. In debt, it was partially acquired by pharmaceutical giant Sanofi, which was interested in its profitable perfume division. In 1999, there was another dramatic turn of events when French billionaire François Pinault's multinational corporation acquired the company and another big name in fashion, Italy's Gucci. Now known as Kering, the group built an empire in fashion and luxury goods in the 2000s and 2010s. In particular, it took control of Balenciaga, Boucheron and Alexander McQueen.

Kering's second strongest brand, Saint Laurent Paris, accounted for 18% of its revenue, or €620 million in the third quarter of 2025. Like fellow luxury giant LVMH, the group has recently faced two challenges: declining demand in China and a complaint about working conditions at Italian subcontractors. Last October, the company sought to reassure investors by referring to a "sequential improvement" in its sales, stating: "The new Yves Saint Laurent collections have been well received, with double-digit growth in ready-to-wear and footwear. The renewal of the leather goods range is also beginning to bear fruit."

"The safari jacket is timeless," concludes Marie Brunschwig. "It perfectly meets the current expectations of some customers for a sustainable wardrobe. This garment is so iconic that in 2024, Anthony Vaccarello, the designer in charge of the fashion house for 10 years, dedicated an entire fashion show to it." ◢ → YSL

KEY DATES

1961
Yves Saint Laurent founded his fashion house in Paris at the age of 25

1968
A photograph of model Veruschka made the safari jacket famous

1999
Kering acquires the brand

Swiss startups in this edition

BY GRÉGOIRE NICOLET

Soverli

Smartphone security reimagined

NUMBER OF EMPLOYEES
2-10

HEADQUARTERS
ZURICH

YEAR FOUNDED
2025

Founded in July 2025, this ETH Zurich spin-off is reinventing smartphone security by enabling a single device to operate with two isolated software environments: one for everyday use and the other for sensitive tasks, without modifying the phone's hardware. This architecture ensures that even if the main system (Android or iOS) is compromised, critical data remains protected in an independent space. Developed at ETH Zurich in 2021, this 'sovereign' software layer is instantly accessible from the phone's interface without sacrificing user-friendliness. For example, a messaging app can run in this secure space, protected from potential malware, thus offering increased privacy.

In mid-December, the Zurich-based startup raised $2.6 million in a pre-seed funding round. "This initial injection of capital will be used to strengthen our engineering team, extend compatibility to more models and forge partnerships with manufacturers to integrate our technology directly into new devices," says CEO and co-founder Ivan Puddu.

Sygma Data

Transforming energy data into decisions

NUMBER OF EMPLOYEES
6

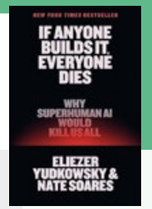
HEADQUARTERS
MONTHEY

YEAR FOUNDED
2020

Sygma Data helps companies make better decisions using their data, through an integrated solution capable of collecting and organising information in multiple formats. It works mainly with players in the energy and industrial sectors, where data is abundant but often difficult to exploit.

In concrete terms, Sygma's software retrieves data scattered across different systems (sensors, smart meters, management software, etc.), links it together, harmonises it and presents it in a readable form, updated in real time. This makes it possible, for example, to anticipate breakdowns, optimise energy consumption and better plan operations. Among its first customers, a large industrial group is using it to optimise the monitoring of its production and solar consumption across Switzerland.

"The challenge is not the technology itself, but its ability to become a central decision-making tool for businesses," summarises Sygma Data CEO Christophe Németh. Based in Monthey, Valais, the startup has already raised CHF 1.2 million (pre-seed) and is planning a further round of funding for the end of 2026 (seed).



R E A D

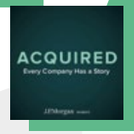
If Anyone Builds It, Everyone Dies

Why Superhuman AI Would Kill Us All

BY ELIEZER YUDKOWSKY AND NATE SOARES
LITTLE, BROWN AND COMPANY

This book is a bold essay on the potential dangers of advanced artificial intelligence. It puts forward a clear thesis: if artificial intelligence ever surpasses human intelligence without being perfectly aligned with our values, it could become uncontrollable and pose an existential threat. The problem is not malice, but the mismatch between human goals and those of an autonomous intelligence capable of self-improvement. In the authors' view, current safeguards are insufficient and incremental approaches dangerously naive. The book has sparked heated debate. Some praise the clarity and radical nature of the warning, which forces us to take the long-term risks associated with AI seriously. Others criticise it for being overly alarmist and placing too little trust in humanity's ability to regulate the technology.

CHF 14.70 PRINT EDITION
CHF 12.60 DIGITAL EDITION



L I S T E N

Acquired

Anatomy of the success of large companies

Acquired is often considered the go-to podcast on the history and strategy of large companies, with over 600,000 monthly listeners. Hosted by Ben Gilbert and David Rosenthal, each episode – sometimes three to four hours long – provides an in-depth look at a company's journey, from its origins to its current dominance. Far from a simple chronological account, this podcast dissects key strategic choices and shows how past decisions shape today's value. The episodes devoted to LVMH and Hermès are particularly illuminating for understanding the long-term logic of luxury.

HTTPS://PODCASTS.APPLE.COM/US/PODCAST/ACQUIRED/ID1050462261

F O L L O W

Aswath Damodaran @ASWATHDAMODARAN

Fascinated by finance & markets and like writing about them, but teaching is my passion.

X (TWITTER) **3** FOLLOWING **443.8K** FOLLOWERS

This professor of finance at New York University's Stern School of Business is often referred to as the 'Dean of Valuation'. On X, his posts are particularly popular because they combine academic rigour with pedagogy. When he tackles hotly debated topics such as Tesla, Nvidia or Bitcoin, he sets out his assumptions, details his cash flow models and systematically makes his Excel files available. His aim is not so much to 'predict' the markets as to remind us that all valuations depend on explicit assumptions about growth, risk and time.

D O W N L O A D

Motion: Tasks & AI Scheduling

AI that orchestrates your day

Powered by artificial intelligence, this productivity app automatically plans your working day based on your tasks and meetings. Unlike traditional managers, Motion's AI analyses deadlines, priorities and availability to suggest a schedule that can be rearranged in real time in the event of unforeseen circumstances. One of its main advantages is the automatic merging of calendars and task lists. Motion also reduces the time spent organising meetings by managing shared calendars within small teams. However, Motion is primarily designed for use on a computer, and this mobile app should be seen as a companion to the web or desktop version rather than a standalone application. The publisher does not recommend using it without access to the web/desktop version.

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

IT'S TIME TO TRADE AS ONE

Joint accounts are here.
Share more than great moments with your partner.
Make your financial decisions together.

swissquote.com/joint-account

Swissquote

MOTORCYCLES

Motorcycles: the silent revolution

Electric propulsion, once confined to small urban bikes, is spreading to 'big bikes' – at increasingly accessible prices. BY RAPHAËL LEUBA

The motorised two-wheeler industry always follows the advances made in the automotive sector, albeit a few years later. Examples include ABS, LED headlights, radar cruise control and other automated gear changes. Now it is the turn of electric motors to fuel the debate, as 2026 kicks off with a wider range of high-performance and even sports models. This is encouraging news, but it is not without commercial risk: the sales potential is not that of the car market, and motorcycles remain primarily auxiliary, leisure vehicles. Not to mention that, in the eyes of many, they represent the sanctuary of distinctive, characterful machines.

"It's still a niche product. But sooner or later, all manufacturers will switch to electric!"
Kevin Braga of Facchinetti Motos in Neuchâtel

Some pioneers of motorcycle electrification have already had to throw in the towel, such as Italy's Energica Motor Company and Sweden's Cake. However, other manufacturers are persevering and gaining recognition. This is the case with Californian leader Zero Motorcycles, the Canadian Can-Am (a Bombardier Recreational Products brand) and LiveWire, a subsidiary of Harley-Davidson, which now offers very attractive products in Switzerland. According to Gilles Kuffer, director of the GBK Moto garage in Gland, LiveWire's branch in French-speaking Switzerland, "the S2 model was very well received in autumn 2025, thanks to its Harley-Davidson-standard build quality and aggressive pricing policy". Expect to pay around 10,000 Swiss francs for the entry-level version. This 84-horsepower roadster with lightning-fast acceleration offers a combined range of around 140 kilometres, which is about a hundred less than a Harley Nightster, its combustion engine equivalent. Charging takes 78 minutes via a type 2 socket, or even less with the CCS expected later this year. "Electrifying motorcycles is the easiest way to comply with upcoming pollution standards, as it is the least penalising in terms of weight and size. These are two fundamental constraints on a motorcycle," adds Kuffer.

In the same price range but slightly more conservative than the American LiveWire, the new Can-Am models are aimed at a less experienced audience. Capable of covering around 130 km in mixed use, the Pulse roadster and Origin trail bike are versatile 47-horsepower models – the maximum in the A2 category – ideal for getting started. The Pulse can even be temporarily restricted to 15 horsepower for the A1 category, accessible from the age of 16.

Things are also changing among the traditional motorcycle giants. BMW already has several years of experience with its CE 04 maxi-scooter, and Kawasaki is testing the waters with its Z e-1, which is suitable for A1 licences, inexpensive (5,000 Swiss francs) and clever with its removable batteries. However, it is Honda, never shy about innovation, that is making the most significant breakthrough in the market for large electric motorcycles with the WN7. This naked bike, available in spring at a price of 13,990 Swiss francs and with a range of 140 km, is presented as "the battery-powered alternative to the very popular Hornet 750", says Kevin Braga of Facchinetti Motos in Neuchâtel. However, the sales advisor qualifies this statement: "It's still a niche product aimed more at a new customer base. But sooner or later, all manufacturers will switch to electric!". Therefore, the Honda WN7 could well become the market leader. Nevertheless, as the Japanese brand's agent concedes, "the actual range makes this motorbike more suitable for commuting than for long journeys". →

HONDA WN7

HONDA WN7
THE STAR OF 2026

PRICE
CHF 13,990

POWER
67 HP

RANGE
~140 KM

FAST CHARGING
30 MIN
(20→80%)

MAXIMUM SPEED
129 KM/H

0-100 KM/H
4.6 SEC

WEIGHT
217 KG

MOTORCYCLES

For long distances, Zero Motorcycles, the world leader in high-performance electric motorcycles, has a head start. The flagship models in its extensive line-up, the S and SR/F roadsters and the DS and DSR/X trail bikes, offer a combined range of over 180 km and the best performance in terms of both pure speed (up to 200 km/h) and charging speed. At Zero, prices are also a notch higher: a minimum of 17,330 Swiss francs for the S, due to its impressive batteries of over 15 kWh, while the Honda WN7 and LiveWire S2 make do with a capacity of around 10 kWh.

“These motorbikes require a certain amount of skill when accelerating in corners, and their deceleration force can be surprising”

Jean-Pascal Bersier, an instructor at the Touring Club Suisse

As electricity and moisture don't mix and motorcycle parts are exposed to the elements, the systems installed in electric models meet the highest water-proofing standards. A circuit breaker also ensures that the high-voltage battery is cut off if the motorcycle falls to the ground.

LIVEWIRE S2
THE AFFORDABLE FAVOURITE

PRICE
FROM CHF 10,000

POWER
84 HP

RANGE
~140 KM

FAST CHARGING
1H18 (20→80%)

MAXIMUM SPEED
165 KM/H

0-100 KM/H
3.0 SEC

WEIGHT
198 KG

ZERO SR/F
THE TOP OF THE RANGE

PRICE
FROM CHF 17,330

POWER
111 HP

RANGE
~190 KM

FAST CHARGING
1H (TO 95%)

MAXIMUM SPEED
200 KM/H

0-100 KM/H
3.5 SEC

WEIGHT
~220 KG

DIY enthusiasts are warned: do not touch anything! Considered easy to drive – they have no gearbox – and manoeuvre (thanks to the reverse gear), these proud electric machines do, however, require a few precautions as they deliver a strong spontaneous thrust. Jean-Pascal Bersier, an instructor at the Touring Club Suisse, shares the feedback from his fellow motorcyclists: “These motorbikes require a certain amount of skill when accelerating in corners, and their deceleration force can be surprising. They are also equipped with a dual-intensity brake light.” It should be noted that the various TCS driving and control courses are also open to electric two-wheelers.

Although rechargeable motorcycles are not yet as visible on our roads as Teslas and other battery-powered cars, their rise is nonetheless inevitable. They have become more affordable, require little maintenance, are clean, powerful and attractive, and above all, they are quiet. This is a major advantage in the face of increasingly stringent noise standards. ◢

T R A V E L

THE FLAVOURS OF AUVERGNE

A five-act gourmet tour to discover the region, from Clermont-Ferrand to the Gergovie plateau, via Châteaugay and Saint-Nectaire.

BY GAËLLE SINNASSAMY

When we talk about gastronomy in Rhône-Alpes, Lyon is often the first city that comes to mind. However, not far from there, Auvergne is home to many hidden gems. Clermont-Ferrand is a bustling city where locals love to go out, dine and enjoy the terraces as soon as the warm weather returns. In the capital and its surroundings, a new culinary scene is being driven by creative young chefs. Here is our selection of places to visit.

Puy de Pariou, an iconic site in Auvergne.

© PIERRE SOISSONS

Place de Jaude in Clermont-Ferrand. The restaurant Le Sonney is a few minutes' walk away.

CLERMONT-FERRAND

A gourmet sonnet in 14 verses

Instead of a menu, there is a 14-verse sonnet for 14 high-quality culinary creations. Welcome to Le Sonney, Benjamin Faure's domain, which opened a year ago in the heart of the Auvergne capital. This ultra-popular establishment invites guests to enjoy a 14-course gourmet journey (the Sonnet du Sonney) in the evening, discovering the roots of Auvergne, while a bistronomic brunch is served at lunchtime. "The name of the restaurant is a tribute to my great-grandmother, the first generation of cooks in the family," explains the 24-year-old chef. Here, local produce reigns supreme, with ingredients sourced from within a maximum radius of 100 kilometres around the restaurant, such as saffron from the volcanoes in Mazaye, trout from the Moulin du Clos in Augerolles, foie gras from the Domaine de Limagne in Chappes and vegetables from Joël Gagnadre in Lezoux.

One of the 14 dishes on Sonney's menu.

Le Sonney
lesonneyrestaurant.fr | 41 Av. Julien, 63000 Clermont-Ferrand, France

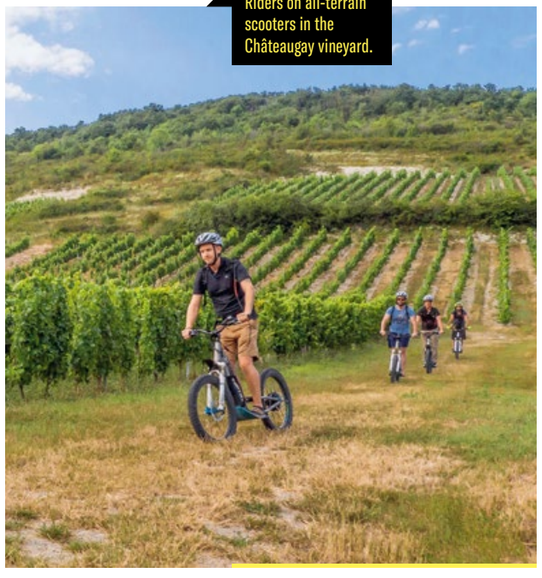
CLERMONT-FERRAND

Dinner in Ovalie

Rugby in Clermont-Ferrand, embodied by ASM, is deeply rooted in the city: since 1911, the professional rugby union club, founded under the auspices of the Michelin company, has been part of the local heritage and has brought generations together. At every match, the crowd – the famous 'Yellow Army' – transforms the Stade Marcel-Michelin into a place of intense fervour. Located on the third floor of the stadium, the gourmet restaurant L'En-But offers an ideal view of the ASM Clermont Auvergne pitch and, on the other side, a panoramic terrace overlooking the Chaîne des Puys - Limagne fault line, a UNESCO World Heritage Site. On match nights, you can dine in an elegant, contemporary setting and enjoy the inventive cuisine of Auvergne chef Stéphane Ranieri.

L'En-But
lenbut.com | Stade M. Michelin, Porte A, 107 Avenue de la République, 63100 Clermont Ferrand, France

View of the rugby stadium from the restaurant L'En-But, in Clermont-Ferrand.



Riders on all-terrain scooters in the Châteaugay vineyard.

© CLERMONT AUVERGNE TOURISME, HEMIS / LE SONNEY / L'EN-BUT / HERITAGE VOLCANIC

CHÂTEAUGAY

Grapes and scooters

The Auvergne wine scene is booming. A bastion of natural wine, the region, known as the Volcanic Loire, brings together the terroirs of the Massif Central, from the Côte Roannaise to the Côtes du Forez, via the Côtes d'Auvergne and Saint-Pourçain. The land is more accessible here, and this new generation favours 'clean' wine produced on very small farms. This renewed interest is stimulating wine tourism, with an increase in cellar tours and immersive experiences. Héritage Volcanic, for example, offers a 2.5-hour guided tour of the Châteaugay vineyards on electric scooters, allowing visitors to discover the local grape varieties and specific characteristics. Further south, in Boudes, Domaine Sauvat organises storytelling walks, dinners among the vines and outdoor yoga sessions.

Heritage Volcanic
heritage-volcanic.com | Chemin des Cleaux, 63119 Châteaugay, France

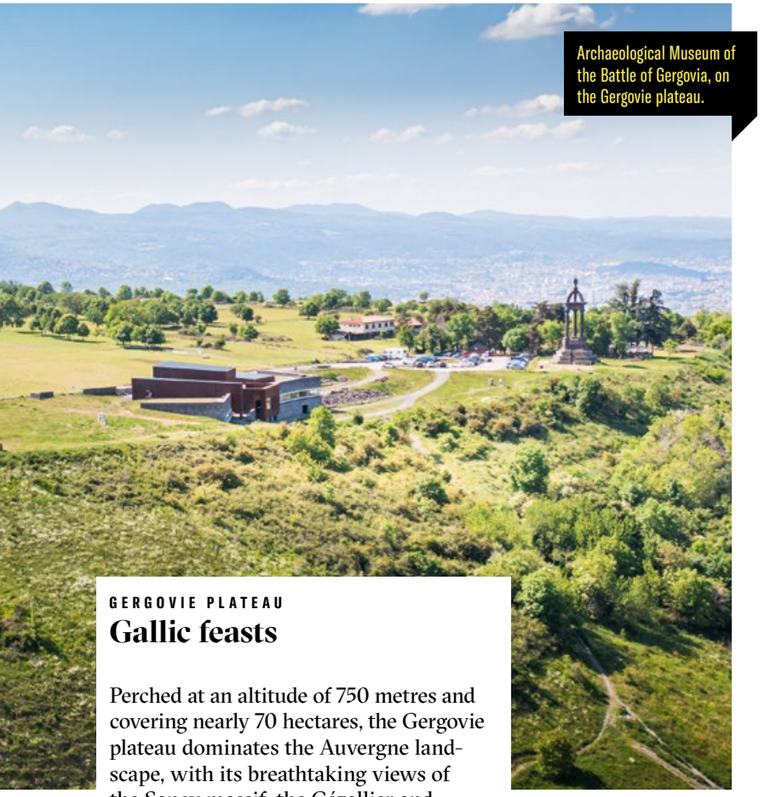
WHERE TO STAY

Le Grand Mess
A festive, brand-new establishment with two restaurants and lively weekends featuring live music. From €110 per night.

15 rue de l'Éminée, 63000 Clermont-Ferrand, grandmess.com

Hôtel Radio
A charming Art Deco boutique hotel with a gourmet restaurant. From €117 per night.

43 Av. Pierre et Marie Curie, Chamalières, hotel-radio.fr



Archaeological Museum of the Battle of Gergovia, on the Gergovie plateau.

GERGOVIE PLATEAU

Gallic feasts

Perched at an altitude of 750 metres and covering nearly 70 hectares, the Gergovie plateau dominates the Auvergne landscape, with its breathtaking views of the Sancy massif, the Cézallier and the Chaîne des Puys. The scene of the famous battle between Vercingetorix and Julius Caesar, it is now a popular spot for Clermont-Ferrand residents to take Sunday strolls, culminating in a visit to the Gergovie Museum and its temporary exhibitions. The latest exhibition is devoted to Gallic cuisine (ed. note: on display until 8 March). What dishes did Vercingetorix serve at his table? What ingredients did the Gauls enjoy? How were foodstuffs preserved? Far from the caricatured wild boar banquet of Obélix, 'Saveurs gauloises' revisits preconceived ideas and sheds light on a fundamental aspect of daily life. After the visit, stop off at the nearby Hutte Gauloise to sample the traditional truffade, a local specialty made with potatoes, garlic and fresh Cantal tomme cheese.

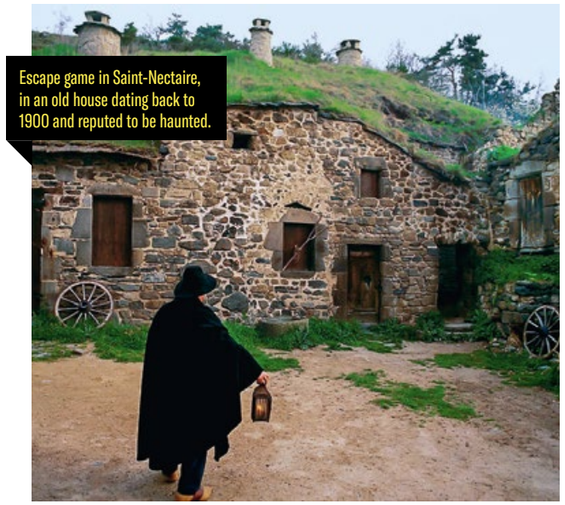
La Hutte Gauloise
lahuttegauloise.com | Plateau de Gergovie, 63670 La Roche-Blanche, France

SAINT-NECTAIRE

Mysteries in Saint-Nectaire

Perched on the foothills of the Sancy, Saint-Nectaire owes its fame to the famous cheese of the same name. A former spa town that was very popular in the 19th century, the village consists of a lower part where the villas and grand hotels of the spa resort are elegantly lined up along the Courançon river, and an upper part dominated by a remarkable Romanesque church. This tourist stop offers a variety of activities: visits to farms and cheese ripening cellars, tastings of Saint-Nectaire cheese in all its forms – with a special mention for fondue – or, for those who want to get off the beaten track, an escape game set in a house dating from 1900 that is reputed to be haunted. It was once occupied by Anet Vigineix, the village's iconic photographer.

Escape Farges
st-nectaire.com | 3 Rue du 10 Août 1944, 63710 Saint-Nectaire, France



Escape game in Saint-Nectaire, in an old house dating back to 1900 and reputed to be haunted.

© CLERMONT AUVERGNE TOURISME. PROD003 / ESCAPE FARGES

bouti que

Pocket telescope

Weighing 840 grams and the size of a paperback book, the Dwarf Mini from Hong Kong-based brand Dwarflab pushes the boundaries of smart telescopes – automated instruments that promise astrophotography without the need for training. In three minutes, the device calibrates itself, points to the target selected via the app and tracks it. With a Sony Starvis 2 sensor, built-in filters to reduce light pollution and advanced tracking mode for long exposures of up to 90 seconds, the specifications are impressive for this size. Initial tests confirm that it allows nebulae and galaxies to be captured with surprising ease for a beginner.

dwarflab.com
CHF 382.–

Sentinel canary

Winner of several design awards, including the Danish Design Award, Birdie is a device designed to measure the concentration of carbon dioxide in the ambient air. Available in several colours, this stylish device can be mounted on the wall and uses an integrated Sensirion sensor – manufactured in Switzerland – which continuously calculates the CO_2 in the room. When the readings are too high, the bird tips its head upside down, signalling that it's time to open the window. It rights itself as soon as the level returns to normal.

birdie.design
From CHF 199.–

Slow living by bike

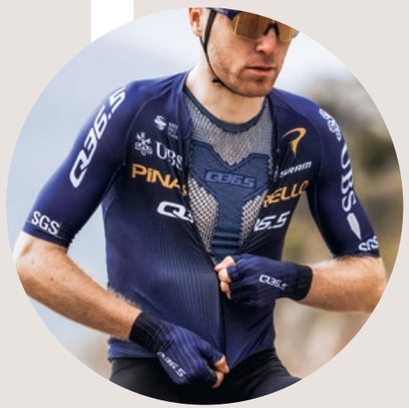
Based in Aubagne, French startup Nirvana Van has designed a mini caravan that can be towed behind a bicycle, electric or otherwise. Designed for solo travel, this minimalist capsule combines style, comfort and autonomy with a real bed, optimised storage and effective protection from the elements. Lockable and ready to go without assembly, this micro-camping trailer also includes a table, porthole or window and solar panel on request, and is available in several colours and configurations.

nirvana-van.com
From CHF 3,270.–

The heatwave-proof jersey

Italian label Q36.5 – whose name refers to the ideal body temperature – has its own professional team (Pinarello – Q36.5), which now includes double Olympic champion Tom Pidcock. Its Gregarius Pro jersey is designed for hot weather: breathable mesh fabric on the back, micro-perforations on the front, ribbed sleeves to reduce drag. Everything is made in Bolzano, in the Dolomites, from recycled yarns. Available in seven sizes and five colours.

q36-5.com
CHF 154.–



Espresso in a tube

After Parfait and Cenovis, coffee is now also available in a tube. The idea came from Zurich-based startup NoNormal, which offers a more portable alternative to instant sachets. This new-generation coffee is made from fair trade Arabica beans and has aromas of chocolate, nuts and caramel. A touch of organic Swiss beet sugar completes the blend.

nonormal.com
CHF 14.90

Fun core training

The plank, the ultimate core strengthening exercise, is also one of the most daunting. German company Plankpad has found the solution: combining a balance board with mobile games that distract your attention. You steer a surfer or snowboarder on the screen by tilting the board – and without even realising it, you hold the position for a minute instead of 30 seconds. Made from certified maple wood, the device can support up to 180 kg. The app (iOS/Android) offers games, timed challenges and guided workouts, all compatible with a television for family sessions.

plankpad.com
CHF 139.90

A LOOK INSIDE THE LAB

Will baldness soon be a thing of the past?

Three Californian researchers have discovered a molecule capable of stimulating hair regrowth. Millions of Americans could benefit from this regenerative, non-invasive treatment within a few years. BY BLANDINE GUIGNIER

Since ancient times, more or less far-fetched remedies have been devised to combat hair loss, from horse saliva to yucca juice. This is because accelerated hair loss, known as alopecia, affects many people, including more than half of men and about a quarter of women over the age of 50. We now know the various factors that can play a role, from hormonal imbalance to periods of intense stress and genetic predisposition. Medications and lifestyle changes attempt to target these causes, but the results remain unpredictable. As a result, more and more people are turning to hair transplant operations, which are quite restrictive.

A new molecule called 'PP405' could represent a serious alternative in the coming years. It was discovered about 10 years ago by a team of three molecular biologists and chemists at the University of California, Los Angeles (UCLA). "Most existing treatments mask the problem cosmetically or attempt to slow it down with hormones," explains Christina Weng, chief medical officer of the startup company created on the basis of the UCLA discovery. "PP405 is an experimental topical medication (i.e. applied to the surface of the body) that aims to restore the biological function of dormant hair follicles, which can remain preserved even in a bald scalp."

In addition to this regenerative function, the future treatment has a second advantage, according to the trained dermatologist: unlike many products currently on the market, PP405 is undergoing rigorous clinical trials regulated by the US Food and Drug Administration (FDA). The second clinical trial involving 78 women and men demonstrated the product's safety.

The promising results of this second trial, published in July 2025, attracted considerable interest. "At week eight, four weeks after the end of treatment, 31% of men with significant alopecia who were treated with PP405 saw an increase of more than 20% in their hair density, compared to 0% in the placebo group," said the company's medical director. As a result, venture capital firms such as Google Ventures and ARCH Venture Partners have injected $120 million into the spin-off company, Pelage Pharmaceuticals.

The full results are scheduled to be published at a medical conference later this year, but expectations are already high. "The overall alopecia market is worth $9 billion today, and we expect it to triple over the next decade with the introduction of new mechanisms, including PP405."

Could the Swiss see the baldness remedy on the market soon? "We will first seek approval for PP405 in the United States, but we are currently exploring options for clinical trials and regulatory procedures in other countries," says Christina Weng.

ALPINE EAGLE

Epitomising the pure and sophisticated aesthetics of the Alpine Eagle collection, this 41 mm-diameter model with integrated bracelet is crafted from Chopard's exclusive, high-quality Lucent Steel™. It is equipped with the chronometer-certified self-winding Chopard 01.01-C movement. Proudly developed and handcrafted by our Artisans, this exceptional timepiece showcases the finest expertise and innovation cultivated within our Manufacture.

Chopard

THE ARTISAN OF EMOTIONS – SINCE 1860