Europe Is Behind with AI: Could That Be a Good Thing?

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Billions, soon to be trillions, of dollars are being invested into all forms of what is broadly known as artificial intelligence (AI). And it's being invested with what skeptics about the amount of money pouring into the sector have recently described as "irrational exuberance," born of "a wave of hype" about an "AI gold rush."

AI applications in general are able to find patterns in data much more quickly than any human and then use those patterns to make predictions and problem solve. A subset of AI known as generative AI, often referred to as "gen AI," sees applications use that predictive ability to produce text, music, videos, or images. Because of what it can do—create attention-getting songs in the style of Taylor Swift, for example, or produce fake videos featuring Donald Trump misbehaving—generative AI has driven a lot of the hype around the technology over the past 18 months.

"The GenAI summer of 2023 was characterized by unprecedented scientific advancements and economic successes in AI research, development, and deployment," Raluca Csernatoni, a Brussels-based fellow at the think tank Carnegie Europe and expert on disruptive technologies, wrote in a March 2024 policy briefing. "Yet, amid the lofty aspirations, hyped narratives, and pledges on the geopolitics of AI, various challenges, gaps, and inherent limitations of the technology have emerged."

Investors have noticed. Over the past few months, a number of leading banks and market analysts started to express doubt about the huge and ongoing investments into AI they were seeing, asking when they would see some returns on all that money.

American investment bank Goldman Sachs made global headlines in July 2024 after releasing a report titled "Gen AI: Too much spend, too little benefit?" In it, the bank advised investors that it was going to take a long time for investments to pay off—if they ever did.

Other major Wall Street investment banks and venture capital funds asked similar questions, while consultancies like Deloitte pondered what sort of return adding generative AI to your operations could even bring. "This spending has little to show for it so far," the latter warned. "As of the halfway point in 2024, the potential for monetization remains in question."

But could what sounds like bad news for AI-interested venture capital funds actually be good news for Europeans?

For years, the European Union (EU) has been a laggard when it comes to AI.

As a number of observers have previously noted, in 2015, the Digital Single Market strategy formulated by the European Commission, the EU's executive arm, didn't even mention AI.

It wasn't until 2018 that the Commission came up with more of an AI strategy and not until 2021 that it set out more ambitious goals in its statement "Communication on Fostering a European Approach to Artificial Intelligence."

In January 2024, the EU announced a special package of measures to make it easier for smaller companies to access technology funding for AI. And currently the EU's goal is to invest €20 billion ($22 billion) into AI per year by 2030.

But there's quite a way to go to achieve that.

In 2023, private investment into AI totaled $11 billion in the EU and the United Kingdom (UK), Stanford University's 2024 AI Index notes. Meanwhile $67.22 billion was invested in the US. Most private equity or venture capital investment also still goes to US companies.

That disparity in investment is even more pronounced when it comes to generative AI, the AI Index notes, with the US spending around $21 billion more than the EU in 2023. The EU only spent around $2 billion.

Stanford's Index also notes that in 2023, there were 897 newly founded AI companies in the US and less than half that number—368—in the EU and UK.

Additionally, around three-quarters of the large language models—important AI applications like ChatGPT that are capable of responding to and generating human language by processing vast amounts of text data—are being developed in the US. The EU has only two, thanks to French AI company Mistral. Even if the Europeans did have more of these, they would likely be dependent on products, like cloud computing services, provided by US tech giants like Google.

So it's clear that Europe is a long way behind compared to the US and, increasingly, China.

But now, as the hype about AI fades and skepticism about AI investment grows, might that somehow work in the EU's favor?

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Innovation Flashback

January 16, 1969—The Soviet Union's Soyuz 4 and Soyuz 5 spacecraft dock together in what is considered the first orbiting space station. The 4½-h joint flight allowed two of Soyuz 5's crew members, Yevgeny Khrunov and Aleksei Yeliseyev, to spacewalk to the other craft, where they joined Soyuz 4's cosmonaut, Vladimir Shatalov, for the return flight to Earth. Seventeen years later, on February 20, 1986, the Soviets launched a new generation of modular space stations when they placed the initial base block for Mir into orbit. The long-term research platform focused on developing technologies crucial to humanity's permanent presence in space, and included collaborations with American and other international astronauts—a model for the later International Space Station (ISS). Although Mir was deorbited in 2001, and 2030 is expected to see the ISS phased out, several new space stations are in the works, with China first out of the gate with its Tiangong station, whose initial module launched in 2021.

January 22, 1970—The inaugural passenger flight of the Boeing 747 Jumbo Jet, the first wide-body airliner, takes off from New York, bound for London, and kicks off a new era in long-distance air travel. Pan Am Airlines, which operated that first flight, played a large role in the new jet's introduction, with a splashy $525 million initial order for 25 of the planes. The 747's larger capacity—it was more than twice the size of its largest competitors at the time—meant airlines could fly more people at lower per-passenger mile costs, meeting growing demand with more affordable fares. For decades that equation drove purchases of Boeing's updated versions of the 747, including military and cargo models, but the pioneering jet eventually was overtaken by similar or even better unit costs from smaller two-engine jets, such as the Boeing 787 and Airbus A350, that incorporated innovative designs and new materials. Boeing delivered the final 747—number 1,574 in its 54-year production run—to a customer in January 2023.

January 24, 1950—Raytheon employee Percy Spencer patents the microwave oven, building on his accidental discovery that a chocolate bar in his pocket started to melt while he stood in front of a magnetron in a company laboratory. Spencer followed up with two experiments that demonstrated the device's potential and limitations as a cooking tool, one involving a bag of popcorn kernels that popped quickly, and the other a raw egg in its shell that exploded. Introduced in 1947, Raytheon's first commercial version, the Radarange, weighed about 750 pounds, stood 6 feet tall, and cost $3,000, more useful for large restaurant kitchens than home use. The first practical, and more affordable, home models didn't come on the market until the 1960s, but their speed and convenience helped the microwave oven catch on as essential kitchen equipment. Today, at least 80 percent of home kitchens in the United States, Canada, Japan, and Europe include one, with Portugal topping out at 93 percent.

February 14, 1854—Horace Smith and Daniel Wesson patent a movable loading tray for firearms that becomes the basis for the first repeating rifle, sold as the Volcanic rifle through their first Smith & Wesson company. Financial difficulties forced the pair to sell the business—which eventually became known as the Winchester Repeating Arms Co., maker of the famous Winchester rifle—but Smith and Wesson persisted, starting up a new namesake company in order to produce a repeating revolver with interchangeable parts. This second Smith & Wesson company may be best known for its .38 Military and Police revolver, a firearm that has been in continuous production since its 1899 debut.

February 15, 1897—Karl Ferdinand Braun publishes a paper in the journal *Annalen der Physik und Chemie* that describes his invention, a cold-cathode diode that is the earliest version of the cathode-ray tube (CRT). Braun envisioned using it as a display device, making him one of the fathers of television. Still known as the Braun tube in many parts of the world, the CRT was a key element of 20th-century televisions, computers, and other screen devices, until the advent in the 2010s of lighter, thinner, and less costly liquid-crystal displays and other flat-panel technologies. Braun also helped develop radio technology, and shared the 1909 Nobel Prize in Physics with Guglielmo Marconi for their work in that field.

It's complicated. Despite recent headlines asking when AI will become profitable and truly improve productivity, most observers and experts argue that the EU must continue to invest in AI. It's a long-term project that requires patience, they all say.

Europe is at a crossroads, consultants at the McKinsey Global Institute wrote in a October 2024 article titled "Time to place our bets: Europe's AI opportunity." "Europe's participation in the current AI boom is important not merely for today's gains but also to secure a foothold in future technological advances," they argued. "History, after all, can point to examples of the snowball effect of technology, in which pioneering innovations typically emerge from existing industries with related capabilities."

A 2019 analysis, written by three EU-based economics professors for Europe's Centre for Economic Policy Research, would appear to indicate that the bloc still has some time to get it right. Looking at which sorts of innovations become widespread and achieve legitimacy most quickly, they found that, "the riskier types of novel technology ideas—i.e., those resulting from the recombination of dissimilar, unfamiliar, and science-based technology components—while having a larger number of follow-on inventions, require a longer time to kick-off."

In assessing their comparative lack of AI champions, EU policymakers also need to consider what the AI Now Institute, a New York-based, technology-focused think tank, calls "the elephant in the room."

"As it stands today, there is no AI without Big Tech," AI Now experts Frederike Kaltheuner and Leevi Saari wrote in a July 2024 policy briefing. "While European AI startups espouse aspirations to compete, they must contend with the reality that large US and Chinese-based tech companies control core AI infrastructure for both development and deployment: computing, data, talent, and most importantly, access to the consumer."

A large part of the reason that US and Chinese tech companies are so far ahead with AI is because of the unregulated access they have had to data on which to train their AI models, the AI Now Institute stresses. With far-reaching regulation of privacy, monopoly, and digital surveillance, that's something the EU has been far more cautious about.

But Europe would be wrong to back away from AI adoption because others are more advanced, researchers Zack Meyers and John Springford at the Center for European Reform have argued. "It is too early to conclude that a few technology firms will dominate markets in AI foundation models in the same way that they dominate more established digital markets like search engines."

In fact, as they point out, the history of industrialization shows you don't need to have the most money or the most innovation to succeed with new technology. At the turn of the nineteenth century, rather than coming up with their own innovations, Americans focused more on using European innovations in US industry, Meyers and Springford suggested, and to great effect.

"The EU may be better off focusing on diffusing AI," they continued, by which they mean making sure that European organizations and businesses start using it. "If the cost of adapting and deploying models is low, then European markets are likely to become more dynamic."

There's also something positive to be said about not being quite so involved in what is usually referred to as "the AI arms race" where the winner supposedly takes all.

An October working paper from the Brussels-based think tank Bruegel explained the idea of such an "arms race" further. Investors "downgrade the stocks of companies that show any sign of slowing down on AI investment, even when profits are under pressure," Bruegel senior fellow Bertin Martens wrote. They know "new technologies are subject to hype-cycles of exuberance and crashes. But they will want to ride the cycle until the very last moment before the crash."

Meanwhile, national governments are motivated by the idea of AI as a form of military superiority. "Mastery of the most advanced AI technologies will determine the outcome of future conflicts," Martens explained. "The US and China are locked in an AI arms race they cannot abandon, whatever the costs."

Because it's so far behind, Europe might take a different approach and reassess how it can best use and fund this impactful technology.

Rather than focusing on how far behind it is, European policymakers need to consider asking different questions about artificial intelligence, AI Now co-executive director Amba Kak told members of the German Green party in April 2024 at a conference on the topic.

The EU "needs to think more proactively, rather than reactively, by investing in what we call public interest AI industrial policy," Kak said. "If we play the game by big tech's rules, we are doomed to lose, given the concentration of capital and resources in their domain . . . The solution is also not merely to create European national champions instead, rather to invest in a decentralized, and resilient national innovation ecosystem that goes where the current AI industry is not incentivized to go on its own," she concluded.

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