France: A European Pioneer in the Geopolitics of Technology

Under Emmanuel Macron's leadership, France has emerged as a European pioneer in the geopolitics of technology. The French government is also acting as a driving force in Brussels, aiming to advance the EU's technological sovereignty. France will likely continue this proactive course after the presidential elections in April 2022.

By Sophie-Charlotte Fischer

The mastery of key technologies such as artificial intelligence (AI), cloud computing and 5G is playing an increasingly important role in international relations. On the one hand, emerging technologies, with their numerous applications, promise to significantly strengthen the economic power and military capabilities of states. On the other hand, these technologies also have sociopolitical implications; both their use and their regulation can amplify either democratic or autocratic tendencies. One needs to look no further than the competition between the US and China over technological superiority, and its role in the continued struggle for economic, military, and geopolitical superiority, to see the significant impacts emerging technologies have. In addition, the controversy over the use of Chinese technology in the rollout of 5G networks and the disruption of global supply chains caused by the COVID-19 pandemic have highlighted the national security risks of dependencies in critical technology areas.

The EU and its member states were initially reluctant to address the geopolitical dimension of emerging technologies. France, however, is an important exception. The government of incumbent French President Emmanuel Macron believes that political sovereignty in the 21st century is in-

French President Emmanuel Macron delivers a speech during a visit to the startup campus "Station F" in Paris. Ludovic Marin / Reuters

herently linked to a state's technological capabilities. Against this backdrop, the Macron government has launched numerous initiatives over the past five years aimed at strengthening the country's capacity for innovation and technological resilience and reducing dependencies on global technology leaders like the US and China.

France's tech geopolitics also has a pronounced European dimension. Within the EU, the French government has been a central driving force on technology issues. Currently, France is using the framework of the EU Council presidency to pursue its technology goals. Beyond the borders of Europe, the Macron government is trying

to distinguish itself as an initiator for multilateral technology governance initiatives. The aim of France's combined national, European and international approach is to secure its resiliency and capacity to act independently also in the future.

France is an interesting example of how states are realigning their policies across departments to respond to the increasing linkage between geopolitics and technology. Their example may prove particularly instructive in revealing what opportunities and challenges this adaptation presents. In addition, understanding the Macron government's role in shaping these policies provides valuable insight into the possibilities of Europe's technological future and global technology governance. Looking at all three levels – national, regional, and international – raises the question of how France's approach to the geopolitics of technology will evolve in the longer term after the upcoming presidential election.

France's Toolbox
During Emmanuel Macron's term in office, the French government placed increasing emphasis on the link between geopolitics and technology. This is reflected not only in speeches by the president, but also in numerous initiatives aimed at strengthening France's ability to act in the technology sector. The three central building blocks of Macron's tech geopolitics are the promotion of France as a technology hub, strong regulation of US technology platforms, and the targeted development and protection of selected strategic technologies. In these three areas, the government uses innovative instruments from diverse policy fields to achieve its goals.

A key element is to make France a more attractive location for technology investment and thus increase the country's innovative capacity and economic strength. Despite a long-standing fascination with the American Silicon Valley for various French presidents, the country seemed to be far from having its own equivalent before Macron took office. Among investors and entrepreneurs, France was primarily known for its high taxes and complex bureaucracy. Another weakness was limited funding opportunities for startups.

Macron, who is considered as business-friendly, established an innovative tech visa shortly after taking office, in addition to tax relief for companies and a flexibilization of French labor law, to make France more attractive for foreign professionals, founders

and investors. The French government also improved funding opportunities for startups by mobilizing government and private capital. For example, Macron announced a significant increase in late-stage investments in 2019, responding to a previous blind spot in the investment landscape that often made it difficult for startups to scale up. Privately funded initiatives, such as the world's largest startup campus – "Station F" – in Paris, are expected to further contribute to France's attractiveness as a business location and enable the development of French tech giants.

While France under Macron significantly expanded support for startups in France, the government's relationship with US tech giants Google, Amazon, Facebook, Apple and Microsoft (GAFAM) is complicated. On the one hand, the president actively solicits investment from the companies, for example at the annual "Choose France" summit at the Palace of Versailles, and with great success. Numerous tech companies, including Google, Amazon, and Facebook, have significantly expanded their presence in France during Macron's tenure.

On the other hand, France has been among Europe's harshest critics and regulators of "big tech." The government has repeatedly criticized the market dominance of GAFAM as anticompetitive and threatening French technological sovereignty. Accordingly, France's competition regulators have imposed heavy fines on US tech giants in recent years. In 2020, for example, Apple was fined a record sum of 1.1 billion EUR for illegal distribution agreements with two wholesalers of Apple products. The reliance on GAFAM for managing sensitive information, such as cloud services for storing French data, is also controversial. As part of the "Trusted Cloud" strategy unveiled in 2021, the Macron government decreed that foreign providers could only offer certain cloud services in cooperation with French companies.

As reflected in numerous strategy documents, the government is also specifically supporting a number of critical technologies whose mastery is considered particularly important. These include, for example, blockchain, cloud technologies, artificial intelligence, micro- and nanoelectronics, and quantum technologies. However, it is important to highlight that the government is aware not only of the economic but also the military implications of these tech-

nologies. France, for example, was the first country in Europe to develop a separate military AI strategy to exploit the potential of AI for the defense sector as well. In addition, the government has tightened its control mechanism for foreign direct investments several times in recent years in order to better check and, if necessary, prevent the takeover of companies in critical sectors, such as AI.

The results of the numerous national initiatives have been mixed so far. On a positive note, the perception of France as a business location has improved significantly. In recent years, a study by the consulting firm Ernst & Young has repeatedly named France the most attractive country in Europe for international investors. The nu-
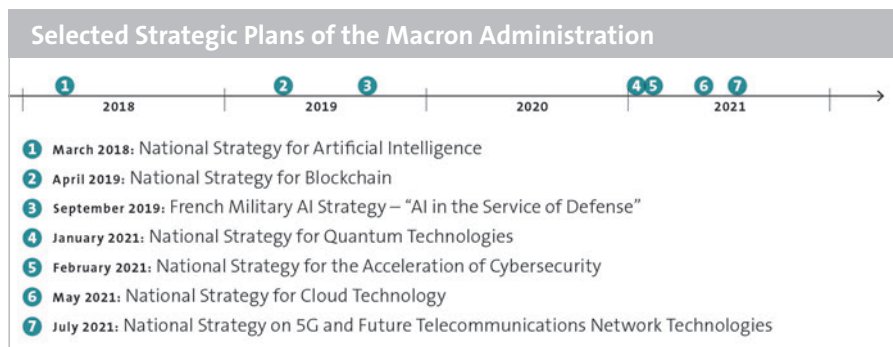
> **The Macron government placed increasing emphasis on the link between geopolitics and technology.**

merous investments by globally active technology companies in France also attest to this development. Furthermore, the new and improved technology ecosystem in France has already produced some success stories. In 2019, President Macron announced a goal for France to have 25 so-called unicorns by 2025, referring to technology companies valued at least 1 billion EUR. However, France achieved this goal in 2022.

At the same time, the country continues to lack significant initial public offerings or sales of French technology companies, which are necessary to validate the long-term success of France's technology ecosystem. It is also noticeable that the financial resources the government provides to implement its technology strategies often lag behind those of other European countries. In addition, Macron is criticized for continuing to allow American companies to participate in French cloud projects, thus jeopardizing the security of French data.

Driving Force in the EU
Beyond the national level, the EU is an important lever to help the French government advance its technology goals. France has wisely connected its national technological goals and strategies with its broader aim of supporting a strong Europe. Currently, France is using its presidency of the Council of the European Union to advance its technology goals in Brussels.

Selected Strategic Plans of the Macron Administration

	2018	2019	2020	2021
	①	② ③		④⑤ ⑥⑦

① **March 2018:** National Strategy for Artificial Intelligence

② **April 2019:** National Strategy for Blockchain

③ **September 2019:** French Military AI Strategy – "AI in the Service of Defense"

④ **January 2021:** National Strategy for Quantum Technologies

⑤ **February 2021:** National Strategy for the Acceleration of Cybersecurity

⑥ **May 2021:** National Strategy for Cloud Technology

⑦ **July 2021:** National Strategy on 5G and Future Telecommunications Network Technologies

The Macron government's central message at the EU level is the need to make Europe technologically sovereign – especially *vis-à-vis* the US and China. However, France's particular understanding of European technological sovereignty is controversial. So far, the EU member states have not been able to agree on a uniform definition, which makes developing any policy prescriptions or initiatives difficult. Nevertheless, France's principled goal of making the EU more technologically independent and to strengthen its capacity to act is gaining increasing support from other member states. As part of its presidency of the Council of the EU, France is proposing that the EU's digital sovereignty is defined by four pillars: Europe's ability to innovate, its ability to create a level playing field through regulation and to strengthen the accountability of tech companies, the promotion of open technologies and standards, and lastly, its ability to protect the data and security of European citizens and companies in cyberspace.

Within these four areas, France has launched or played a key role in shaping various initiatives at the EU level over the past few years, which are often closely intertwined with French national policies. For example, in order to strengthen the innovation capacity of the EU in critical technology fields such as semiconductors and cloud technology, France has been supporting so-called Important Projects of Common European Interest (IPCEI) with a total of 8 billion EUR. IPCEIs are a funding instrument of the European Commission that can be used to pool the resources of various European governmental and non-governmental players.

Beyond these selected technology areas, the French government is also promoting the development of a more dynamic European technology ecosystem, as it does at the national level. According to Macron, the goal for Europe should be that at least ten European tech giants worth 100 billion EUR emerge by 2030. To this end, France, together with seventeen other EU members, has launched a 10 billion EUR umbrella fund as part of the "European Tech Champions Initiative". This is intended to enable the scaling of European start-ups, particularly through late-stage investments. France also advocates for the establishment of a "European Tech Talent Service Desk" to better inform foreign tech talents about opportunities to settle in the EU.

Another key concern of the French government at the EU level is to curb the market power of technology platforms. To this end, France has co-initiated the development of two EU regulatory instruments – the Digital Markets Act (DMA) and the Digital Services Act (DSA). The DMA aims to curb the market power of so-called gatekeeper companies and create fairer competitive conditions in the EU. The DSA aims to refine the legal framework for illegal content on social media platforms and establish clear boundaries of liability for companies. Both instruments are to be finalized during France's EU presidency.

For the implementation of the third pillar of technological sovereignty, openness of technologies and standards, the French government is working together with other member states on a "European Initiative for Digital Commons." Digital Commons refers to non-rivalrous, non-exclusive goods such as data and technological infrastructure that are managed by a community. This step is intended to make the EU less dependent on the proprietary technologies of American and Chinese technology giants over the long term, while at the same time demonstrating openness to the outside world and the possibility of cooperation.

Recently, France has also been stepping up its efforts to protect European data and EU citizens and businesses in cyberspace. During its Council presidency, for example, France aims to advance a reform of the EU's Network and Information Security Directive to enhance cybersecurity within the EU. Improving the protection of European data through European cloud solutions is also under discussion.

The French government is positioning itself within the EU as a key player in shaping a pan-European approach to technology and geopolitics tech. It is still too early to judge whether the numerous initiatives at the European level will ultimately have their intended effect. However, France has managed to bring a new urgency to the issue and has gained increasing support from other member states for French technology initiative.

Global Ambitions

France's ambition to shape the emerging technology landscape is also evident beyond the borders of the EU. Under Macron's leadership, France successfully spearheaded various technology governance initiatives at the international level. For example, in 2018, France announced the creation of the "Global Partnership on AI" together with Canada in the framework of the G7. This is an initiative to promote the responsible development and use of AI and has been supported by 25 countries to date. Together with the New Zealand govern-

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ment, France also launched the "Christchurch Call" in 2019, an agreement against the spread of extremist and terrorist content on online platforms. 46 countries and a number of technology companies and international organizations have now signed the agreement. France's technology ventures at the global and European level are underscored by its active digital foreign policy, currently represented by the ambassador for digital affairs Henri Verdier.

Outlook

A key question is how French tech geopolitics will evolve in the long term. Under President Macron, the country has been very active in shaping national, European, and international technology initiatives. However, in the lead up to the 2022 presidential elections, technology issues have

not been a central topic. Nevertheless, some trends on the future of French tech geopolitics can be deduced from the party platforms and public statements of the candidates.

One issue that is likely to continue to receive a lot of attention after the elections is the regulation of large technology plat-

Elements of Macron's tech geopolitics will continue to shape French political decisions.

forms. For example, candidates Valerie Pécresse *(Les Républicains)* and Marine Le Pen *(Rassemblement National)* call for France to take an even tougher stance on GAFAM and Chinese tech giants, especially when it comes to storing sensitive French data.

Strengthening France's capacity for innovation, particularly with regard to critical technologies, is also emerging as an enduring issue. Last fall, Macron unveiled an investment strategy for France until 2030,

which includes investing in industrial sectors such as robotics to create French high-tech champions. Also, left-wing candidate Anne Hidalgo *(Parti Socialiste)* is calling for a much more active industrial policy to create French tech companies.

The protection of French technologies is also an issue that ties in with Macron's previous policies. For example, Pécresse calls for the creation of a "High Council for Economic and Digital Sovereignty" to guard against foreign direct investments in French companies even more closely than under the Macron government.

At the EU level, the Russian invasion of Ukraine and China's ambivalent role in the war add further weight to French demands for EU technological sovereignty. It also underscores the risk of dependencies in critical areas of the economy. This has major implications for the technology sector, as indicated by the Versailles Declaration of March 2022 signed by EU heads of government. The document underlines, for ex-

ample, the need to invest in innovative technologies to underpin European economic and military strength and to further reduce strategic dependencies.

Against the backdrop of the changing strategic environment at the European and global level, as well as the positions of the various presidential candidates, it can be expected that elements of Macron's tech geopolitics will continue to shape French political decisions even after the presidential elections. It remains to be seen, however, whether technological sovereignty will continue to hold as an important role as it did under Emmanuel Macron, who declared technology a top priority of his presidency.

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