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# GOVTECH, THE NEW FRONTIER IN DIGITAL SOVEREIGNTY

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1. T. Gomart, J. Nocetti and C. Tonon, “L’Europe: sujet ou objet de la géopolitique des données?” [Europe: Subject or Object in the Geopolitics of Data?], *Études de l’Ifri*, Ifri, July 2018.

2. T. Gomart and C. Tonon, “Le futur d’une ellipse. Le vain débat français de politique étrangère”, *Hérodote*, Vol. 170, No. 3, 2018.



# Abstract

The COVID-19 crisis has been a catalyst for a surge in the GovTech market, while triggering debate around the use of new technologies in the public health response to the pandemic. More broadly, the health crisis has shed a new light on the strategic importance of some domains relevant to GovTech such as HealthTech, smart cities and EdTech.

The French State has developed a comprehensive policy of government digitization but still suffers from a lack of investment in the GovTech sector: so far, it has been unable to nurture a GovTech ecosystem comparable to the French defense technological and industrial base.

At the European level, the rise of GovTech solutions could deepen existing divides between member states, as shown by the uncoordinated development of tracing apps by European countries during the crisis. In the long run, the lack of European industrial and political strategy focusing on GovTech could turn Europe into a battleground for Chinese and American actors, which benefit from governmental support at home and abroad.

The rise of GovTech companies challenges deeply rooted ideas on the meaning of the public sector and the role of the State. It underlines how technology can affect the values and core principles of democratic societies. In that sense, the growing technological competition between the US, China and Europe means much more than economic rivalry: it is a real threat to European democracy and strategic autonomy.





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# Introduction

GovTech (a contraction of “government technology”) is widely understood as “the use and purchase of innovative technological solutions by a state actor”.<sup>3</sup> For its advocates it presents opportunities to improve how the State functions and creates more responsive and efficient public services for citizens.

Internationally, the origin of the idea can be traced back to three distinct trends: firstly, the development of e-government, designed to digitize public services to improve their cost-effectiveness, which was promoted in the early 2000s by international institutions, such as the Organization for Economic Cooperation and Development (OECD), the International Monetary Fund (IMF) and the World Bank,<sup>4</sup> to increase efficiency in the public sector around the “Government as a Platform” (GaaP) concept.<sup>5</sup> Secondly, CivicTech, which is a specific ecosystem of businesses that experienced strong growth in the early 2010s, focused on the issue of greater transparency in the public sector, and a revitalization of democratic processes through technology. This approach was endorsed by the “Open Government Partnership” launched at the United Nations by eight countries in 2011. Lastly, the most recent GovTech trend is mainly generated by investment funds and major Anglo-American strategy consultancies that propose bringing together common issues faced by startups investing in traditional public sector areas.

The global GovTech market (which covers several specialist segments, such as HealthTech in healthcare, EdTech in education, security and defense, etc.) is currently estimated to be worth approximately \$ 400 billion, with a rapid growth of 15% per year that is expected to bring it up to about \$ 1,000 billion in 2025.<sup>6</sup> Most studies on the subject show

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3. R. Berger/PUBLIC, “GovTech en France: état des lieux et perspectives”, November 2019.

4. The OECD has set up a program around digital government, establishing the “OECD Open, Useful and Re-Usable Data Index” focused on Open Data policies (France is ranked 2<sup>nd</sup> in the 2019 edition behind South Korea). In 2019, the World Bank launched a program called the GovTech Global Partnership to improve governance in developing countries.

5. In his 2011 paper, “Government as a Platform”, the researcher Tim O’Reilly defines Government as a Platform as “the reorganization of government work around an API (Application Programming Interface) network and shared components, open standards and authentic data sets, so that civil servants, businesses and other actors can deliver radically better, more secure, efficient and accountable services to the public,”

6. N. Ismail, “GovTech to Hit \$1 Trillion by 2025”, *Information Age*, [www.information-age.com](http://www.information-age.com).

the Europeans lagging behind American, and increasingly Chinese, actors – Europe is reported to account for only 5% of GovTech contracts as opposed to 67% for the United States and 7% for China, which is rapidly catching up<sup>7</sup> – while highlighting the potential of a market that is still too fragmented among Member States with different public sector cultures.<sup>8</sup> The United Kingdom is the leader in GovTech deployment in the European market, which is estimated at approximately € 22 billion.<sup>9</sup> This success reflects an early and coherent strategy by the authorities (cf. below): the British government is estimated to be behind 42% of “Business-to-Government” (B2G) technology contracts in Europe (way ahead of France in second place at 11% and Sweden at 8%).

The COVID-19 health crisis has been a catalyst for a surge in GovTech companies and has brought new issues and concerns to light, particularly stemming from crisis management “narratives” in Southeast Asia, based on an extensive use of new technologies. The development of tracing apps in Europe has also brought to light European contradictions and lack of thinking regarding the concept of digital sovereignty. More generally, the health crisis has demonstrated the strategic importance of three specific sectors, which present major challenges and generate new divides for investigation: e-health, the development of smart cities and e-education.<sup>10</sup> The objective of the first part of this paper is to examine the geopolitical issues caused these segments within a “strategic triangle” made up of Europe, the United States and China.

Behind the GovTech label, a trend is emerging with far-reaching consequences, unprecedented in Western political history: the sharing of the State’s monopoly in delivering, or even designing key public services and sovereign functions (public health, defense, border control, etc.). This intertwining of public and private actors may trigger increased dependence on a handful of companies able to challenge the State’s freedom of action and influence its long-term choices. In a world of open data, it also raises questions about the hybridization of public sector data management, in both the sense of personal data collected in delivering a public service and data produced by the government as part of its own processes, including the most sensitive data. In the post-COVID world, healthcare and

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7. Accenture, “Transforming Public Service with AI. A GovTech Ecosystem Approach”, 2019, [www.accenture.com](http://www.accenture.com).

8. PUBLIC, “Why Europe Will Lead the GovTech Revolution”, October 18, 2019, [www.public.io](http://www.public.io).

9. Accenture, *op. cit.*

10. With regard to France, R. Berger/PUBLIC’s above-mentioned report, “GovTech en France: état des lieux et perspectives”, shows that even before the health crisis, the most active sectors in fundraising between 2012 and 2019 were: HealthTech (€ 678.7 million raised), smart cities/new mobilities (€ 204 million raised) and EdTech (€ 194.1 million raised).

educational data, which are archetypal of this kind of hybridization, require renewed thinking about collection, processing, storage and control methods in a European context, while monopolistic giants in e-health and e-education are emerging on both sides of the Pacific.

With the European e-Government Action Plan for 2016-2020 and the Tallinn Declaration, the European Union (EU) seems to have addressed the issue of GovTech companies via a double approach of standardizing the Single Market and protecting its citizens' rights. However, the fragmented European market, its relatively small size despite its dynamism<sup>11</sup> and the lack of industrial or political strategy on the issue could turn Europe into a battleground for deployment by Chinese or American GovTech actors, which benefit from support and experience gained with powerful domestic organizations (federal government and states, proactive cities in the United States, Chinese central government and provinces), but also companies from other Asian countries, such as Singapore and South Korea. These countries have often included GovTech as part of a coherent and aggressive industrial sovereignty strategy. The objective of the second part of this paper is to assess the strategies implemented by several leading countries in this field – Singapore, the United Kingdom, Estonia, China and the United States – to control public sector digitization and, in different ways, make it a vector of influence.

The third part of this study focuses on the French and European response to the development of GovTech companies. The French State has a robust institutional framework for digital technology, but still suffers from limited capacity to conduct a proper GovTech industrial policy that allows national and European ecosystems to develop, such as the Defense Technological and Industrial Base (BITD) in the military field. More broadly, the uncoordinated development of European GovTech raises the political issue of new internal divides emerging within the EU, emphasized during the COVID-19 crisis with the disorganized development of tracing apps. Europe's lack of an industrial GovTech strategy and political dialog on the subject creates a medium-term risk about the Europeans' ability to maintain their strategic autonomy, retain their freedom of democratic decision-making and attract value creation in sectors that were previously thought to be non-transferable, such as education or health.

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11. The Nordic countries Denmark (1<sup>st</sup>), Finland (4<sup>th</sup>), Sweden (6<sup>th</sup>), as well as Estonia (3<sup>rd</sup>) and the Netherlands (10<sup>th</sup>) rank among the top 10 nations in the 2020 United Nations' "E-Government Index". The United Kingdom remains in 7<sup>th</sup> place and France drops by ten places compared to 2018 and is ranked 19<sup>th</sup>. Germany, lagging behind in the GovTech market and digital government, only comes in at 25<sup>th</sup> place.

It also raises a series of questions about European integration itself. Firstly, fragmented national GovTech ecosystems and the lack of a genuine Digital Single Market may lead to increased costs in pooling policies adopted by Member States, making it more difficult to merge potentially incompatible tools and data (this is the “interoperability” issue advocated by the European Commission). Industrial competition is also increased as a result. Secondly, the involvement of private firms at the heart of sovereign policies could lead to European states being manipulated by foreign powers with political and economic agendas- a trend that we mainly see today around conventional defense and sovereignty technologies.<sup>12</sup> Finally, ignoring or underestimating the issue could lead European countries to fall far behind in a new diplomatic game driven by the internationalization of GovTech companies, as they impart values, norms and technological standards, but also potentially create close and lasting political relations comparable to those developed through arms exports.<sup>13</sup>

This study ends with consideration of the impact of GovTech companies on democracy, and more broadly on the European cultural model: an uncontrolled digital government is indeed likely to be susceptible to “functional influence” (that is to say, from outside of the democratic debate), from actors that are conveying different ideas of public services, citizenship and personal rights (this is what is at stake with the internationalization of the Chinese “safe city”, c.f. below). Secondly, government technologies could alter the democratic process by vesting more power in technological actors who give precedence to efficiency over the complex balance of power at the heart of the concept of “common good” traditionally guaranteed by the State and its government. This tension has been clearly illustrated by the European debate about tracing apps during the COVID-19 crisis. Finally, GovTech companies could shed new light on the concept of “digital sovereignty”, which can be defined as the ability to control key technologies and to enforce principles such as reversibility, transparency and openness – all with the goal of maintaining, at all times and ultimately, the State’s freedom of choice and decision-making.

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12. Without raising the issue of G5 and Huawei, which is the target of an explicit show of force by the United States, the political-media movement that has led a large number of European governments to adopt the protocol designed by Apple and Google to develop their tracing apps, raises the question of new forms of pressure at work on European democratic governments in terms of technological choice.

13. Franco-Vietnamese cooperation on digital identity and cybersecurity is worth studying from this perspective. Development of this type of cooperation could give rise to a public services debate about possibly nominating “digital *attachés*” along the model of defense *attachés*, responsible for managing bilateral relationships and acting as a link with the national GovTech ecosystem.

# GovTech sectoral challenges: e-health, digital education and development of smart cities

## Healthcare technologies

The health crisis has highlighted the strategic nature of health technologies and use of people's medical data, while demonstrating the differences in approach between Europe, the United States and China. With the General Data Protection Regulations (GDPR), Europe has an extremely protective framework for health data, described as "sensitive", and subject to a specific regulatory regime.<sup>14</sup> However, the quality of the European welfare states' databases (France has one of the most comprehensive health databases in the world)<sup>15</sup> is attracting the attention of international actors and contrasts with the relative inertia in terms of governance and development of e-health solutions.<sup>16</sup>

In France, although the law of January 26, 2016 has helped to consolidate governance of health data, it is still requiring a clear definition of the roles between the State and companies that may take several years to become established. A Digital Health Directorate was attached to the Minister of Health's office in 2019, with the task of managing the ministerial Digital Health Roadmap up to 2022 and overseeing the Digital Health Agency, which is responsible for establishing benchmarks, developing database interoperability, but also for ethical and cybersecurity issues. The flagship project, Health Data Hub, which has been ramped up during the health crisis, has, nevertheless, highlighted three major vulnerabilities in the French and European approach to health technologies: firstly, the lack of clear policy and the vulnerability of inter-ministerial safeguards in a period of upheaval caused by the health crisis.<sup>17</sup>

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14. Article 9 of Regulations (EU) 2016/679 of the European Parliament and Council of April 27, 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulations).

15. Interview with a senior civil servant conducted by the author in September 2020.

16. For more on the issue of e-health in France and in Europe, see Institut Montaigne's recent report, "E-santé: augmentons la dose", published in June 2020, [www.institutmontaigne.org](http://www.institutmontaigne.org).

17. This resulted in a fast-track purchasing process by the Public Procurement Agency, UGAP, rather than via a European call for tender, raising the broader question of what is the appropriate market type for the deployment of GovTech.

Secondly, the difficulty in developing an alternative to the US cloud actors to ensure a level of service (particularly for Platform as a Service or PaaS apps) that complies with the government's demanding specifications, French authorities being reluctant to adopt an incremental approach based on less advanced national or European actors. Lastly, the shortcomings of the European normative model based on GDPR in light of the continent's industrial lag, and its dependence on actors subject to the US Cloud Act<sup>18</sup> or other intrusive regulatory requirements.<sup>19</sup>

Except for any regulatory updates based on the European model,<sup>20</sup> the United States appears to be moving towards an accepted model of subcontracting health data processing to large technology companies (GAFAM and specialist companies). Nonetheless, major public debate has been sparked about protecting healthcare data after revelations about the “Nightingale Project”, a secret contract between Google Cloud and healthcare giant Ascension (a Catholic network of some 2,600 hospitals and clinics) that involved the transfer of nearly 50 million Americans' healthcare data at the end of 2019 to feed artificial intelligence applications.<sup>21</sup> The next legal and political battle will be about a person's ability to sell their data that has been extracted by connected objects in real time. With this in mind, the Trump administration has made no secret of its wish to promote the interoperability of health databases and real-life data collection to facilitate the development of the digital sector.

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18. The annulment of the Privacy Shield by the European Court of Justice (ECJ) on July 16, 2020, which regulates the transfer of personal data between the European Union and the United States, is a new step in the transatlantic regulatory power struggle (see J. Martinez, “Invalidation du Privacy Shield par la CJUE et les grands défis de Schrems II”, *Lexbase Hebdo édition affaire*, September 2020). In its submissions on the Health Data Hub issue, dated October 8, and sent to the Council of State, the French Data Protection Agency (CNIL) draws the following conclusion from this new situation: “The Commission concludes that the concern raised in its opinion issued on April 20, 2020, is now based on a legal obligation, as the Schrems II ruling should, in its view, result in the case of health data, and particularly in its centralization, being exempt from the possibility of being shared with the intelligence services [...]”. In his hearing on October 8, 2020 before the Senate's Committee of Inquiry into the management of the health crisis, Cédric O stated, “work was underway to transfer Health Data Hub to French or European platforms”.

19. Particularly, Article 702 of the *Foreign Intelligence Surveillance Act* and Presidential Decree No. 12333.

20. This was one of the issues in the US presidential elections in November 2020, with the Democrat presidential ticket of Joe Biden and Senator Kamala Harris, having submitted an ambitious bill to reform the Health Insurance Portability and Accountability Act (HIPAA) last year, which is the federal law on social security. This 1996 Act has been amended several times and does not fully address the latest technological capabilities in healthcare data processing, particularly those made possible by the Internet of Things.

21. R. Copeland, “Google's ‘Project Nightingale’ Gathers Personal Health Data on Millions of Americans”, *The Wall Street Journal*, November 11, 2019.



In its management of the health crisis, the White House has encouraged positioning technology companies close to the government in order to build a database in competition with the one used by the Centers for Disease Control, that in principle are the sole recipients of data from the country's hospitals. Palantir Technology, whose CEO Peter Thiel is a long-term supporter of the president, was chosen to build this national system, called "HHS Protect", based on more than 200 datasets from three-quarters of the country's 8,000 hospitals. Donald Trump has publicly reiterated his enthusiasm for the progress made possible by e-health on several occasions, and has promised regulatory and budgetary reforms after the crisis. Specialist American companies, in particular the GAFAMs, are already engaged in massive investment in artificial intelligence (AI) in healthcare, with an estimated year of maturity for the main applications by 2030: they are expected to account for nearly three-quarters of investments in the sector (73.3%), followed by China (14.8%), the United Kingdom (3.8%) and Israel (2.5%).<sup>22</sup>

Since the mid-2000s, the Chinese regime has embarked on rapid development in e-health, particularly with a view to improving coverage of extensive rural areas, with considerable involvement by major technology actors supporting the governments' efforts. As part of the "Healthy China 2030" plan, the Chinese government has been actively promoting the building of national databases in response to a highly regionalized system. In June 2016, the Chinese State Council issued an inter-ministerial directive to promote and regulate the use of big data in the health sector, including advocating for the sharing of data resources across sectors and regions in the country. The extensive investment – increased during the COVID-19 crisis – in health technologies, particularly in analysis and big data by Alibaba, Baidu, Tencent, Huawei and DiDi, reinforces the dual nature of the Chinese health system, with an underperforming public sector and private actors which hold critical amounts of data to stay at the forefront of technology.<sup>23</sup> The Chinese system's appetite for data generates a major diplomatic effort in terms of industrial standardization<sup>24</sup> to open up access to highly regulated markets, such as Europe. To achieve this,

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22. Research and Markets, "Global Digital Health Outlook 2020", October 2019.

23. For more on the innovation model in post-COVID health systems and their use by Chinese actors during the crisis, see E. Grass, "Le Covid-19 va transformer radicalement nos systèmes de santé", *Les Échos*, March 2020.

24. China's influence in some international technical standardization bodies, such as the International Organization for Standardization, the International Electrotechnical Commission or the International Telecommunication Union, is very well known, particularly in France through John Seaman's work. See for example: J. Seaman, "Normes et standards chinois, nouveau facteur de puissance. Une puissance technique conquérante", *RAMSES 2019. Les chocs du futur*, Paris, Ifri/Dunod, 2018. The Chinese government is expected to publish its strategic plan "China Standards 2035", focusing on civil-military dual-use technologies before the end of the year.

“cooperation on standardizing data protection rules has become one of the main topics of discussion for Chinese diplomats in international bodies”.<sup>25</sup>

## Digital education

The health crisis has highlighted the importance of digital education, with nearly half of the world's students having used a form of distance learning, according to figures from the United Nations Educational, Scientific and Cultural Organization (UNESCO). This trend confirms the unexpected emergence of digital actors in the cognitive development of billions of people, in a vibrant market whose post-COVID average annual growth rate has been re-evaluated at 16-18% per year by most market intelligence companies.<sup>26</sup> It could also be a future area of US-Chinese rivalry, as the market appears to be coalesced around actors from these two countries, that together account for 75% of EdTech investments, raising concerns that the EU will be marginalized in the medium term. Despite its dynamism, the European EdTech market continues to lag behind that of the United States and China, due to fragmented education systems and the prominent role of government bodies in their organization. London remains the most dynamic place with an ecosystem estimated at \$ 3.4 billion, far ahead of Paris (\$ 1.9 billion) and Berlin (\$ 0.8 billion).

In France, the EdTech services and resources market was estimated at € 89 million in 2017 with a potential of € 156 million in 2022.<sup>27</sup> For companies, the French market appears fragmented with medium-sized actors (OpenClassrooms, Klaxoon, etc.) and several dozen smaller organizations with fewer than ten employees. For buyers, the sector, which is very decentralized, is characterized by the dominance of actors with relative autonomy (elementary, middle and high schools) that alone account for 95% of the purchases of innovative digital solutions.

While the law of July 8, 2013 for the Reform of the National Education System introduced a state digital educational service, the controversy caused by storing schools' data – whose legal status is not specifically protected by GDPR – on Amazon Web Service servers in 2018, led the French Ministry of Education to reinforce monitoring of the many apps and digital devices.<sup>28</sup> The government set up a new body in October 2019,

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25. R. Creemers, “Comment la Chine projette de devenir une cyber-puissance”, *Hérodote*, Vol. 177-178, No. 2, 2020.

26. See for example: [www.holoniq.com](http://www.holoniq.com) and [www.prnewswire.com](http://www.prnewswire.com).

27. Deloitte Digital/Caisse des dépôts et consignations, “Le marché EdTech scolaire et parascolaire français (2018-2022)”, June 2018.

28. See the conclusions from the IGEN-IGAENR report, “Données numériques à caractère personnel au sein de l'éducation nationale”, February 2018, [www.education.gouv.fr](http://www.education.gouv.fr).

the Educational Resources Access Manager (*Gestionnaire d'accès aux ressources*), whose role is to provide, “a secure filter controlling data exchanged with resource providers,” a Data Protection Officer (*Délégué à la protection des données*) and an ethics and digital data expertise committee, reporting to the Minister of Education. However, the problems encountered with distance learning in France during the health crisis led the Minister of Education to hold a conference on digital educational technology in November 2020, from which 40 national objectives have emerged, from creating an environment of trust between private companies and the education community to promoting the French EdTech ecosystem abroad. Both in France, and other European countries, where actors outsource data analysis from online courses to US artificial intelligence companies,<sup>29</sup> the aim is to develop a domestic industry from storage to processing, subject to GDPR and reinforced ethical principles.

The United States remains the world leader in the field and in 2010 implemented a “National Educational Technology Plan” with the aim of becoming the leading nation in digital education by 2020.<sup>30</sup> The country also has the most dynamic ecosystem in the world with specialist giants like Coursera, while the emergence of the GAFAM in the EdTech sector is now a fait accompli. Nonetheless, this domination of the global online education market could be challenged in the short term by the rise of Chinese actors.

Since the early 2000s, China has been investing substantially in the development of e-education,<sup>31</sup> which has enjoyed unprecedented growth during the health crisis: more than 200 million primary and secondary school students attended online courses during the COVID-19 pandemic. TAL Education is one of the largest companies in the field in China and its private online courses were watched more than 500 million times during the first two weeks after the virtual start of the school year.<sup>32</sup> China now has strong ambitions in e-education. These ambitions are both ideological on the part of the Chinese Communist Party, which is using increasingly sophisticated technological methods for total thought control, and political with expected gains in the ongoing “intellectual competition” with the United States. As TAL Education’s CEO said, during the acquisition of an

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29. C. Authemayou, “Pour la CNIL, la France doit garder la souveraineté de ses données scolaires”, *l'Étudiant EducPros*, 2017, [www.letudiant.fr](http://www.letudiant.fr).

30. As Karen Cator, Director of the Office of Educational Technology, said at a presentation on the strategy in 2010.

31. In 2018, China reportedly invested \$ 4.5 billion in digital education, compared to \$ 1.9 billion for the United States. For more information, see M.-C. Levet, “Préserver notre souveraineté éducative”, *The Digital New Deal*, November 2019.

32. D. Wei and J. Hong, “Parents Grapple with E-Learning as Chinese Schools Stay Shut”, *Bloomberg*, February 2019, [www.bloomberg.com](http://www.bloomberg.com).

Israeli actor in 2018, “Education is a major part of China’s international influence, and we would like to make it a way of linking China to the world.” To pursue its ambitions, China can draw on nine of EdTech’s 20 global “unicorns” (eight in the United States, two in India, one in Canada and none in Europe)<sup>33</sup> and a captive market of 283 million middle school pupils that is unparalleled in the world.

## Smart cities

The development of “smart cities” or “hyper connected cities” was unexpectedly highlighted by the health crisis. Whereas up until now, the use of new technologies in urban settings has mainly been viewed in Europe and the United States from a perspective of sustainable urban planning or the fight against terrorism, the various Asian apps have made major advances in terms of healthcare and social control. Furthermore, the issue of 5G and technological decoupling between the United States and China has led to the growing view of smart cities as a highly geopolitical issue, where political, social and industrial aspects converge in a new way.<sup>34</sup>

It is important to note that the development of China’s first smart cities occurred after the SARS (Severe Acute Respiratory Syndrome) epidemic in 2003. In 2012, the 12<sup>th</sup> Five-Year Plan accelerated this trend, begun ten years earlier, and made smart city development a national priority through several pilot projects in Wuhan, Shenzhen, Tianjin or Xi’an, while increasing the internationalization of the Chinese model.<sup>35</sup> Following the outbreak of the COVID-19 epidemic, the government made the Chinese smart city a key element in its “narrative” of managing the health crisis by highlighting the deployment of innovative solutions and sometimes novel applications: connected drones, facial recognition, development of V2X (Vehicle-to-Everything) technology, enabling vehicles to interact with their environment in smart districts, issuing the first licenses for autonomous taxis, etc. Besides the BATX,<sup>36</sup> the defense industry is also investing in the Chinese smart city, which in official language, as well as in practice, is primarily considered as a “safe city”. For instance, Norinco and China Electronics Technology Group Corporation (CETC), two defense conglomerates, are offering off-the-shelf infrastructure and services for a “safe and smart” city. As part of its post-

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33 . HolonIQ, “Global EdTech Unicorns”, September 2020, [www.holoniq.com](http://www.holoniq.com).

34. For more on the subject of the geopolitical aspect of the deployment of smart cities, see A. Ekman, “La smart city chinoise. Nouvelle sphère d’influence?” [China’s Smart Cities: The New Geopolitical Battleground], *Études de l’Ifri*, Ifri, December 2019.

35. Since 2013, 116 smart city projects including Chinese companies are reported to have been approved in more than 70 countries. For more information, see J. Kyng and N. Liu, “From AI to Facial Recognition: How China Is Setting the Rules in New Tech”, *Financial Times*, October 2020.

36 Acronym used to describe Baidu, Alibaba, Tencent and Xiaomi, the Chinese technology majors.

COVID propaganda, the export of surveillance technology is also a way for the Chinese government to spread its “digital authoritarianism”<sup>37</sup> model, particularly in buyer countries in Central Asia, the Middle East and Africa.<sup>38</sup>

Europe is a battleground for the US-China showdown on smart cities, despite EU institutions being willing to support the development of specifically European solutions<sup>39</sup> and the establishment of national networks of technological actors in the field.<sup>40</sup> The United States has urged its allies not to develop 5G networks based on Huawei’s technology and services related to the Chinese safe city (surveillance and video protection equipment, new mobility, etc.) Relinquishing Huawei would give the Europeans a choice between either buying off-the-shelf American solutions developed by the GAFAMs or implementing an ambitious industrial policy to develop a European smart city that reflects European values, its political system and approach to personal data. If, as Alice Ekman states, “the smart city is emerging as a field of political and geostrategic competition, pitting different spheres of influence against each other in a period of prolonged tensions between China and the United States”,<sup>41</sup> it also raises the issue of a European technological solution that is taking on a new urgency in the post-COVID world.

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37. A. Polyakova and C. Meserole, “Exporting Digital Authoritarianism: The Russian and Chinese Models”, *Brookings Institution*, August 2019.

38. J. E. Hillman and M. McCalpin, “Watching Huawei’s ‘Safe cities’”, *CSIS Briefs*, November 2019, [www.csis.org](http://www.csis.org).

39. This is the aim of the European Innovation Partnership on Smart Cities and Communities supported by the European Commission. More information at: <https://ec.europa.eu>.

40. With actors such as Thales and Engie Ineo (Angers, Nice) or Bouygues and Keolis (Dijon).

41. A. Ekman, “La *smart city* chinoise. Nouvelle sphère d’influence?” [China’s Smart Cities: The New Geopolitical Battleground], *op. cit.*



# Controlling the development of GovTech companies: National strategies

Several countries have developed coherent strategies for deploying GovTech. In Asia, while South Korea and Taiwan are leading countries in this field, Singapore, by instigating a widespread move to digitize its public services in the 1980s, was able to benefit from this during the health crisis. In Europe, the United Kingdom and Estonia, along with Denmark and France, offer effective models of e-government, despite failures and conflicting priorities. China and the United States, currently engaged in a technology war, started internationalizing their GovTech companies at an early stage to support their respective influence strategies, as well as deploying them domestically which was accelerated by the health crisis.

## Singapore

The city-State's efforts to digitalize public services are longstanding. Since the 1980s, the government launched the National Computerisation Programme led by a National Computer Board to automate the simplest procedures and build public databases. The multi-year strategy for digital government, launched in 2017, is based on several underlying principles: a digital identity for everyone, e-payment, "Moments of Life" platform (to make everyday life easier), the installation of sensors throughout Singapore and smart cities.

Singapore set up a GovTech Agency in 2016 with more than 2,500 employees. This agency's role is to centralize the government's expertise in cybersecurity and digital project management (which would make it the equivalent in France of a combination of the French National Cybersecurity Agency [ANSSI], the Interministerial Directorate for Digital Services [DINUM] and part of the French Institute for Research in Computer Science and Automation [INRIA] see below). In addition to digitizing public services and improving the interoperability of government databases and software, the Agency has launched several ambitious programs on smart cities (including the installation of thousands of sensors in public areas to improve its knowledge of the urban environment). Finally, the

Agency has set up offices abroad, particularly in California, to try to benefit from the expertise of the Singaporean diaspora in Silicon Valley.

As part of the COVID-19 pandemic, the Singaporean government has established a crisis management “narrative” that is largely based on the effectiveness of its hyper-technological government model and the success of its TraceTogether tracing app. This narrative has been analyzed in depth and used by other Southeast Asian countries threatened by China's rise, such as Taiwan and South Korea: “it aims to counterbalance Chinese propaganda by emphasizing the possible connection between democratic society and technological containment of the disease”<sup>42</sup> This “war of narratives”<sup>43</sup> is all the more significant in the case of Singapore, where it is a pendulum swing in mutual influence between the two countries, since Lee Kwan Yew’s Singaporean model directly inspired Deng Xiaoping’s reforms at the turn of the 1990s. The issue of the use of new technologies by Asian governments crystallizes a new intellectual and cultural competition between two models of society shaping the balance of power in the Indo-Pacific region.

## United Kingdom

The United Kingdom is one of the most advanced European countries in terms of digital government, regularly coming in the “top 5” in United Nations and OECD surveys on e-government.<sup>44</sup> In the wake of the seminal report, “Directgov 2010 and Beyond: Revolution Not Evolution”, written by Martha Lane Fox, founder of Lastminute.com, the country has introduced new incentives to open up government procurement to innovative small and medium enterprises (SMEs) (the stated objective is 33% of public procurement to be awarded to SMEs) and in March 2011 it set up a Government Digital Service (GDS) with a broad remit.

The GDS led the introduction of services such as gov.uk verify (digital identity) and gov.uk pay (simplified and secure payment by users), while supervising the opening up of public services to private actors, such as the startup CaseLines that enables British courts, including the Supreme Court, to automate the reading and sorting of some documents. In the aftermath of the government’s Artificial Intelligence Sector Deal in 2018, the Departments of Culture and Industry also set up an Office for Artificial Intelligence, responsible for leading an interministerial group on AI and

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42. Interview with a senior civil servant conducted by the author in July 2019.

43. *Ibid.*

44. Despite slipping in the 2019 OECD rankings, with a 19-place drop since 2017 caused by a decrease in government support for data reuse.



embodying the British position on related ethical and normative issues internationally.

In 2017, the government undertook two major initiatives to boost its digital government drive. Firstly, two strategic documents established a coherent policy on the use of new technologies by the government: Government Transformation Strategy 2017-2020 and UK Digital Strategy. A new version of the UK Digital Strategy should be published in the fall of 2020 to be adapted to the post-COVID setting, as well as a new strategy for data management, one of whose challenges will be designing the transfer arrangements with the EU that will be adopted after Brexit. This technological aspect of Brexit “shows the loss for the European Union of a major political, industrial and security actor: industrial with the loss of London, Europe’s top spot for innovative startups; political, with a nation with a digital sovereignty agenda close to France’s; and security, with a major actor in cybersecurity”.<sup>45</sup> The National Data Strategy, issued on September 9, 2020, completes this strategic corpus and establishes a Data Standards Authority and a Government Data Quality Hub responsible for developing interoperability and data usability between ministerial departments. Finally, the British government wanted to create the financial conditions to develop the sector by launching the GovTech Catalyst Fund with more than € 20 million to invest in innovative SMEs. The aim was to create a leverage effect to mobilize private funds and boost an already fast-growing venture capital sector (+189% in value from 2012 to 2016).

## Estonia

In the wake of its post-Soviet, democratic transition, Estonia has based its identity on an innovative GaaP model, due to an enabling environment and innovative public programs outlined in the “Digital Agenda 2020 for Estonia”.<sup>46</sup> The Estonian model is based on the roll-out of an e-identity combining a digital identity card and identification number – available to e-residents since 2014, enabling foreign companies and individuals access to certain rights and services – and an open-source storage and data exchange system called X-Road, allowing total interoperability between nearly 1,000 state and private institutions. The development and security of X-Road are overseen by the State Information System Authority (RIA) that is part of the Ministry of Economic Affairs and Communications.

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45. Interview with a French senior civil servant conducted by the author in July 2020.

46. On this topic, see A. Picron’s report, “L’E-Estonie, modèle d’un État plateforme e-gouverné. L’exemple de la transformation totale d’un État grâce au numérique”, Institut Sapiens, July 2018.

Digital identity has gradually become inherent in Estonian democracy with Internet access included as a citizen's right in the constitution in 2002, and in 2005, organization of digital voting in a national election based on e-identity. The digitization of the Estonian state has also been accompanied by a major drive by the authorities to ensure the digital divide is bridged through a digital tools' training policy from a very early age, and an emphasis on transparency of use and governmental tools, helping to build strong trust among Estonians in their form of e-government. Kersti Kaljulaid, Estonia's president said at the GovTech Summit in 2019: "Nowadays, I don't understand why citizens place more trust in Google and Facebook than their government. You just need to show that digital is more secure than paper and create the appropriate legal framework for technology to serve the nation and not just the few."<sup>47</sup>

After the 2007 cyberattacks, which exposed the vulnerabilities of its GaaS model, Estonia has continuously advocated with its EU and NATO (North Atlantic Treaty Organization) partners for reinforced collective protection and offensive capabilities, while developing a national ecosystem of "unicorns" to ensure its technological autonomy.<sup>48</sup> Consequently, in terms of development of GovTech companies, the Estonian model deserves to be studied for its comprehensive nature, combining reform of state apparatus, strategic thinking and genuine societal change: "Estonia's evolution as a digital country [...] has been both substantial and continuous, starting initially with the digital transformation of the country's public sector bodies [...] and then, driven by the 2007 attacks, focusing on the security of pre-existing systems, developing a reinforced legal framework in civilian and military areas, and finally implementing new solutions to develop systems hand in hand with new technologies".<sup>49</sup>

## United States

As candidate, Barack Obama, had made e-government one of his campaign themes and, from his first day in office,<sup>50</sup> he implemented a digitization

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47. P. Berthoux, "GovTech: les États ont-ils dépassé le Proof-of-Concept?", *Alliancy*, November 15, 2019.

48. For instance, during the health crisis Estonia chose to entrust the development of a decentralized tracing app compatible with the protocol developed by Apple and Google to a consortium of nine national companies (Bytelogics, Cybernetica, Fujitsu Estonia, Guardtime, Icefire, Iglu, Mobi Lab, Mooncascade, Velvet).

49. L. Ronzaud, "E-Estonie, le 'nation-branding' numérique comme stratégie de rayonnement international", *Hérodote*, Vol. 177-178, No. 2, 2020.

50. On January 21, 2009, on his first day in office, Barack Obama issued a memo on e-government and the digitization of public services.

policy unprecedented in the recent history of the United States, focusing on both accessibility of services, data transparency (with the creation of the data.gov site) and on citizen participation in public decision-making (challenge.gov platform). The GaaP concept, developed by Tim O'Reilly in his essay "Government as a Platform" was also used in 2012 in the roadmap "Digital Government: Building a 21<sup>st</sup> Century Platform to Better Serve the American People". However, the failure of the development of the healthcare.gov site in 2013,<sup>51</sup> resulted in the White House reviewing the internal delivery of digital projects. In 2014, the United States Digital Service was set up – and then retained by Donald Trump. Its operating mode is modeled on the one used by Silicon Valley developer teams and maintaining a hybridization of methods and staff (indeed, most of the engineers commute between the GAFAMs and the federal government).

The government also promoted the establishment of a close GovTech ecosystem with an unparalleled volume of government purchasing easily directed at SMEs (Buy American Act and Small Business Act) by the federal government and its agencies, but also states and very proactive cities (Pittsburgh, Seattle, San Francisco, etc.). The dynamism of the venture capital sector has also led to the rise of specific actors, such as the GovTech Fund, which announced the creation of a € 450 million joint-venture with the European fund, Sunstone Technology Ventures, to invest in startups in Europe.

GovTech is also an integral part of the country's economic intelligence policy at a time of heightened technological rivalry with China. The Central Intelligence Agency's (CIA) investment fund, In-Q-Tel, which was founded in 1999, is reported to invest € 120 million on average each year in startups in the security sector and to be behind the success of Facebook, Google Earth (originally developed by Keyhole) and the growth of Palantir Technology, which completed its IPO on the New York Stock Exchange on September 30, 2020. Generally, the symbiotic relationship between the military-industrial complex and the major American digital actors, a consistent policy reaffirmed during the COVID-19 crisis, "has become such that the security apparatus now explicitly links national security and the GAFAM's ability to stay at the forefront of technology in all areas (data storage and processing, but also health, information, environment, smart cities, etc.)",<sup>52</sup> implying a "total technological war" against Chinese equipment manufacturers and digital giants. The United States intends "to

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51. A technical cornerstone of Obamacare, the healthcare.gov site malfunctioned barely two hours after it went online because of the number of connections being five times higher than was expected.

52. Interview with a senior civil servant specialized in security, conducted by the author in July 2019. It is the purpose of the Pentagon's Third Offset Strategy (TOS), published in 2015.

extend this technological bloc approach to its allies, now seen as indistinguishable from the political and military alliance with the United States”.<sup>53</sup>

## China

The development of GovTech in China since the early 2000s is inseparable from the regime’s switch to “surveillance capitalism” permeating all areas of social life. The country has identified the outlines of its power policy in the 2015-2025 “Made in China” plan and the 13<sup>th</sup> 2016-2020 Five Year Plan, which make information and AI technologies a priority for the national economic effort. While anticipating the development of national capacity in all major strategic areas – the US-China decoupling in the semiconductor industry is accelerating this trend – these plans show an increasingly close interplay between the BATX and the Chinese state apparatus,<sup>54</sup> as highlighted by the health crisis.

In their fight against the COVID-19 epidemic, both the central and local Chinese authorities have made extensive use of the new technologies. These now saturate the public domain, forming an increasingly interconnected surveillance ecosystem. The health crisis has led to the deployment of methods for tracing and recognizing people, accelerating government efforts to combine health data, mobile geolocation, facial recognition and thermal scanning. Various ministries, as well as the state defense conglomerate, CETC, have developed a tracing app, “Close Contact Detector”, to aggregate these different types of data to accurately detect people’s movements and prevent potential outbreaks. Local governments (provinces and cities) have also uploaded their own apps, accessible on the networks of major Chinese platforms: Alipay (Alibaba), WeChat (Tencent) and Baidu.<sup>55</sup>

For Beijing, exporting GovTech solutions worldwide more than ever seems to be a strategic tool of influence. Hence, the importance of the Digital Silk Road, which is the spearhead of this strategy and is expected to become even more influential in the post-COVID world. Firstly, the attractiveness of the Chinese model for managing the health crisis, based on the use of social control technology, could result in reinforced demand

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53. *Ibid.*

54. This interplay has become so close that a public policy of the scale of universal digital identity sought by the government would be led by Alibaba and Tencent, [www.weforum.org](http://www.weforum.org).

55. These apps, which require the provision of biometric data, work in a similar way: the algorithm allocates a color code (green, yellow or red), readable via an individual QR code, specifically based on the history of the person’s movements and their state of health. This code then determines the quarantine period for 14 or 7 days, as well as access to some areas or services.

for cooperation in this area.<sup>56</sup> Secondly, the economic shock caused by the Coronavirus, could severely affect China's ability to invest and lend abroad as part of the New Silk Roads. If its ability to invest in major infrastructure projects were to be affected, Beijing would maintain its interest in telecommunications projects and the deployment of GovTech, that are cheaper and of high strategic importance.

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56. In Europe, the 17+1 format bringing together 17 Central and Eastern European countries and China together, could be a preferred channel for this cooperation. Even before the health crisis, the theme of the 4th ministerial conference on innovation of the 17+1 format in October 2019 was "the smart city and urban mobility". See A. Ekman and C. de Esperanza Picardo, "Towards Urban Decoupling? China's Smart City Ambitions at the Time of Covid 19", *Institute for Security Studies*, May 2020.



# GovTech in France: combining the strategic State and Government as a Platform

“Contrary to what people may think, the digitization of the French state goes back a long way.”<sup>57</sup> It goes back to the early 1960s, even before the launch of the first *Plan Calcul* (Computing Plan) in 1966 after the shock caused by the acquisition on July 22, 1964 of the French computer manufacturer, Bull, by the US group General Electric. The *Plan Calcul* specifically stipulated the appointment of a General Delegate for Information Technology, reporting to the Prime Minister, a position held by Robert Galley and then Maurice Allègre, both of whom were responsible for setting the main guidelines in response to the “problems raised by the development of a national computer industry”<sup>58</sup> The General Delegation for Information Technology was abolished in 1975 after the failure of the European “Unidata” project to establish a computing giant based around *Compagnie internationale de l’informatique*, Philips and Siemens.

The first coherent state digitization programs were not launched until the early 2000s: the Government Action Program for the Information Society (*Plan d’action gouvernemental pour la société de l’information*, PAGSI) was behind the service-public.fr website, and then the “ADELE” (*Administration Électronique* [E-Government] 2004-2007) Plan in 2004. This last program provided the first proper multi-year and coordinated framework for the development of e-government in France. In September 2014, the role of General Data Administrator was created to design a policy for data produced or used by public sector bodies, based on three main areas: provision, flow and use to improve the effectiveness of public services in an open data approach. The Law for a Digital Republic, enacted in October 2016, intended “to give France a head start in the digital field by nurturing a policy of openness in data and knowledge”.<sup>59</sup> Finally, the Public Action 2022 program, launched on October 13, 2017, set an objective of 100% digitized public services by 2022. It is set out in an Interministerial

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57. Interview with a senior civil servant conducted by the author in July 2019.

58. Summary of the Select Council decisions dated July 19, 1966 for the development of high-tech sectors.

59. Explanatory Memorandum of Act No. 2016-1321 of October 7, 2016 for a Digital Republic.

Digital Transformation Strategy, tech.gouv 2019-2022, and sectoral strategies, such as the Defense-Connect Digital Transformation Plan of April 2018 for the Ministry of the Armed Forces.<sup>60</sup>

The government has also set up several bodies to regulate, control and implement the public digitization policy:

- The National Cybersecurity Agency (ANSSI), which replaced the Central Directorate for Information Technology System Security in 2009, is a department with national authority attached to the Secretariat-General for National Defense and Security (SGDSN). ANSSI's role is to defend the State's IT systems, but it also provides advice and support to public sector agencies and essential operators (OIV), particularly through its product certification and qualification procedures for trusted service providers.
- With regard to digital transformation, in 2019 the government set up a cross-functional department, the Interministerial Directorate for Digital Services (DINUM, formerly the Interministerial Directorate of Digital and Information System and Communication of the State – DINSIC), whose role is to support the ministries in their digital transformation, advise the government and develop solutions, such as the government's interministerial network, shared digital identity (which FranceConnect is the first stage of) and the government's open data (with the Etalab project and the data.gouv.fr platform), all within a GaaP approach (one of whose features is the api.gouv.fr portal, allowing private actors to freely use public sector databases).<sup>61</sup> It is also responsible for managing the tech.gouv 2019-2022 roadmap, one of whose priorities is "controlling IT systems".<sup>62</sup> Finally, it has a strategic role in overseeing ministerial departments' major technology projects: its approval must be sought by every public sector body for IT projects worth more than € 9 million. However, DINUM's gatekeeper role is limited to a value analysis method (MAREVA) and does not constitute an opportunity assessment of the project in question. DINUM has also been unable to prevent divergence in ministerial practices, reinforced by the diversity and overall attrition of each department's internal management skills.

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60. These strategies have been accompanied an accelerated increase in projects related to artificial intelligence and big data in the public sector for the past two years, such as the Health Data Hub already mentioned, but also Sport Data Hub, the 3D project of the General Directorate of Customs and Indirect Taxation (DGDDI) or the Artemis project of the Ministry of the Armed Forces.

61. Henri Verdier, DINSIC from 2015 to 2019, made the Government as a Platform concept popular in France with his book, co-written with N. Colin, *L'Âge de la multitude, Entreprendre et gouverner après la révolution numérique*, Paris, Armand Colin, Paris, 2012 [2<sup>nd</sup> éd. 2015].

62. The tech.gouv strategy particularly states "we must ensure that we control IT systems, architecture, software and data assets to increase the government's digital autonomy and security. Strengthening this technological directly contributes to preserving national sovereignty."



- Finally, INRIA, the French Institute for Research in Computer Science and Automation which was created by the 1966 Plan Calcul, has the threefold task of establishing a research center of excellence for algorithms and software, of leading a close academic and entrepreneurial ecosystem<sup>63</sup> and of being the “the State’s strong arm in terms of digital sovereignty”.<sup>64</sup> In its four-year strategic plan, “Ambition INRIA 2023”, INRIA asserts its last role as the AI plan coordinator, prioritizing the security-defense sector, in partnership with ANSSI and the Defense Innovation Agency (AID), while emphasizing its contributions in digital control together with the General Directorate of Enterprise (DGE) at the Ministry of Economics and Finance. At an operational level, INRIA has set up joint organizations with DINUM, including LabIA, whose role is to provide technical support to government bodies in the most difficult use cases.<sup>65</sup>

Despite these advances, French public sector bodies are struggling to consider GovTech as a strategic topic, apart from, firstly the longstanding reform and digitization movement within the government and, secondly the framework fixed by the public procurement code. Several cases of very different natures that have been reported in the media,<sup>66</sup> but which allow us to draw some general conclusions, have shown “a certain lack of knowledge of digital issues by some of the French public sector elite, but also the fragmentation of organizations and procedures for controlling the government’s technology projects”.<sup>67</sup> Indeed, the State’s ability to develop a real digital industrial policy facilitating the development of national and European ecosystems, while improving its own action is currently being questioned and is hampered by several organizational factors:

- An underlying trend is attrition of the State’s human resources for digital project management, in a period of competition for talent and budget cuts,<sup>68</sup> in turn leading to extensive use of digital services companies (Ss2I) with little knowledge capitalization by the public sector.

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63. INRIA was very involved in founding the FrenchTech ecosystem.

64. Objectives and Performance Contract 2019-2023 between the State and INRIA signed on February 18, 2020.

65. 21 public sector bodies have already benefited from LabIA’s technical expertise, including the National Gendarmerie and the Council of State.

66. This particularly concerns the DGSi (General Directorate for Internal Security) contract with the US company, Palantir, which was renewed in 2019, and the granting of the Health Data Hub public sector/hosting administration contract to Microsoft Azure in June 2020, that has recently been called into question (cf. above).

67. Interview with a senior manager of a company in the new technology sector, conducted by the author in September 2020.

68. For more see Tome II du rapport public annuel 2020 de la Cour des comptes, “Le numérique au service de la transformation de l’action publique”, February 2020.

- At the same time, there is a determination to maintain a high level of control over specifications entirely drawn up by the public sector “in a world where innovation is no longer seen as an unequivocal answer to a technical question but needs detailed knowledge of the requirements to provide a tailor-made response that can change if necessary”.<sup>69</sup> This trend is sometimes reinforced by political time pressures, resulting in a preference for use of “turnkey” solutions offered by US actors with undeniable technological advance in terms of the quality and variety of services available, particularly in terms of Cloud apps (PaaS).<sup>70</sup>
- The public procurement framework is relatively inadequate for the development of GovTech companies, despite adaptations for innovative markets as a result of the Villani report.<sup>71</sup>
- The State’s lack of an expert buyer capable of running digital solution programs with an industrial strategy for the sector, leading an ecosystem of GovTech companies and coordinating ministerial usage policies such as, in the defense industry, the French Defense Procurement Agency (DGA).<sup>72</sup> DINUM’s institutional position, reporting to the Minister of Digital Transformation and Public Administration, also does not allow it “to develop openness to the international market and to strategic and industrial topics”.<sup>73</sup>
- More generally, the lack of knowledge among public sector managers on digital issues, both in terms of rudimentary basics and security, strategic and industrial issues, should be developed through the curricula at the public administration graduate schools and as part of ministerial human resources planning (HRP) processes.<sup>74</sup> More than the lack of hard knowledge (data engineers, data scientists...), it is the lack of “product owners” at the higher and intermediate levels of government, who understand the new digital tools, that hampers the development of digital government, particularly in terms of public data and AI policy<sup>75</sup>.

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69. Interview with a business leader in the new technologies field, conducted by the author in August 2020.

70. “The public sector bodies are caught in a contradiction between the AI strategy and the Cloud strategy, to assert an objective of sovereignty, which is all the more important as their data is considered sensitive (health, education, tax data, etc.)” Interview with Étienne Grass, Executive Vice President at Capgemini Invent, conducted by the author in October 2020.

71. Decree No. 2018-1225 dated December 24, 2018 on various measures concerning public procurement contracts.

72. Interview with a senior manager of a company in the new technology sector, conducted by the author in September 2020.

73. Interview with a senior civil servant conducted by the author in September 2020.

74. Human resources planning, based on the model of British government practices which included changes to the civil service professions early on in AI development.

75. For more about these human, cultural, legal and political constraints, read the Bothorel inquiry’s progress report on public data policy dated October 8, 2020, available at [mission-open-data.fr](https://mission-open-data.fr).

The development of a French GaaP, equipped with strategic tools and an adequate national industrial ecosystem to maintain control over its gradual opening up, is therefore a major sovereignty issue, but also a key element in France's ability in influencing the European model being developed in a post-Brexit setting: "We firstly need to create the conditions to develop national champions, such as a company like OVH. The regulatory instrument would be a second phase. And the issue of a Europe-wide project, such as Gaia-X could be, would only occur in a third phase by building on Member States' strengths."<sup>76</sup>

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76. Interview with Étienne Grass, Executive Vice President of Capgemini Invent, conducted by the author in October 2020.



# The European Union and GovTech: Toward an awakening of the “Geopolitical Commission”?

The European Union traditionally considers the subject of GovTech by focusing on two areas: standardizing the Single Market and protecting its citizens’ rights. The Juncker Commission made the Digital Single Market one of its key objectives by specifically promoting the free flow of non-personal data within the EU to nurture innovation. GovTech is seen in this context as a key tool for standardizing the Single Market (particularly by emphasizing the interoperability of services for business). As part of its strategy for a Digital Single Market,<sup>77</sup> the EU has adopted an eGovernment Action Plan 2016-2020, incorporating the principles of digital-by-default, “once-only”, inclusion, interoperability, accessibility, cross-border nature of public services and security. The Commission’s deliberations led to the 2019 Directive on Open Data and the Re-use of Public Sector Information (PSI Directive),<sup>78</sup> adopting an explicitly economic approach to the open government issue of nurturing private sector innovation.

The other area explored by the Commission is e-government as a vector for transparency and efficiency for European citizens.<sup>79</sup> The Malmo (2009) and Tallinn (2016) Declarations on e-government reiterate the underlying principles on the use of digital technology in public services to make them more “open, efficient and collaborative”.

By emphasizing in January 2020 that “to be a geopolitical actor, you have to be able to guarantee your technological sovereignty”, the von der Leyen Commission intends to move beyond a purely prescriptive response given the geopolitical and industrial challenge posed by the United States

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77. Communication from the European Commission to the European Parliament, Council, Economic and Social Committee and the Committee of the Regions, “A Digital Single Market Strategy for Europe”, May 2015, <https://eur-lex.europa.eu>.

78. Directive (EU) 2019/1024 of the European Parliament and Council of June 20, 2019 regarding Open Data and the Re-use of Public Sector Information.

79. “By 2020, the European Union should have open, efficient and inclusive public services and institutions that will provide all EU citizens and businesses with user-friendly, personalized and borderless end-to-end digital public services.”

and China.<sup>80</sup> Under the leadership of the Commissioner for the Internal Market, Thierry Breton, the European Commission presented its artificial intelligence and data strategy on February 19, 2020, which details its objective of developing nine joint European data areas, one of which is expected to “promote innovative applications in the field of public service technologies (GovTech)”. This industrial objective is backed by € 10 billion for the Franco-German Gaia-X trusted cloud infrastructure project, which aims both to improve control of data stored in Europe, but also to develop interoperability of European data for industrial purposes.<sup>81</sup>

In terms of funding, the development of an innovative GovTech ecosystem is expected to be addressed within the new multi-year financial framework, by redirecting part of the Horizon 2020 programs towards a funding mechanism more adapted to “disruptive innovation”. With this in mind, France is advocating establishing a “European Agency for Disruptive Innovation” intended to be “a European-style DARPA [...], as it is essential that Europe is able to take a position on artificial intelligence, autonomous vehicles, blockchain and all future disruptive innovations by having a proper common funding policy for this technological progress”.<sup>82</sup> The European Council on October 2, 2020, mainly focused on the issue of digital sovereignty, confirmed this change in European thinking<sup>83</sup> and applied political pressure on the European Commission, whose progress in this area will be examined by the heads of state and government in March 2021.

Although this new industrial ambition has yet to be translated into action, the health crisis “demonstrated the political limitations” of the Europeans’ digital sovereignty project and the Commission’s inability to drive the development of a uniform tracing app, despite early technical coordination at working group level, supervised by the General Directorate for Health and the publication of guidelines focused on the interoperability

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80. In her State of the Union address on September 16, 2020, the President of the Commission included digital public services in the three priorities for the future “common plan for digital Europe by 2030”. While reiterating the risk for Europe of becoming a “digital colony”, she announced the introduction of a secure digital identity for all European citizens and proper planning to carry it out: “We need a common plan for Digital Europe, with clearly defined goals for 2030, particularly such as connectivity, skills and digital public services. We need to follow clear principles: the right to privacy and connectivity, freedom of expression, free flow of data and cybersecurity.”

81. The French Minister of the Economy and Finances, Bruno Le Maire, explained during the press conference at the Gaia-X launch on June 4, 2020: “To develop an autonomous car, you need a lot of data on road safety. Being able to easily exchange data between European manufacturers due to compatible infrastructure, such as Gaia-X can therefore make the task considerably easier.”

82. Emmanuel Macron’s speech at the Digital Summit in Tallinn on September 29, 2017.

83. “To be digitally sovereign, the EU must build a truly digital single market, reinforce its ability to define its own rules, to make autonomous technological choices and to develop and deploy strategic digital capacities and infrastructure. At international level, the EU will leverage its tools and regulatory powers to help shape global rules and standards.” European Council Conclusions on COVID-19 epidemic, economic policy and the European Union’s external relations, October 2, 2020.

and protection of personal data.<sup>84</sup> The lack of a discussion format on strategic digital issues to debate alternatives to the Google–Apple solution, as well as the lack of a culture of dialog on these issues between Member States and the Commission, have contributed to the varying practices and the Europeans’ inability to agree on a common and interoperable solution.<sup>85</sup>

Due to the lack of a cooperation mechanism between the Member States and the Commission on the issue of GovTech, the crisis has exposed the risk of new emerging economic and industrial divides that its uncoordinated deployment raises for Europe. More significantly, it has exposed the ambiguity underlying the concept of digital sovereignty in Europe,<sup>86</sup> whose poor consistency will only be resolved by the development of a common strategic culture that now goes far beyond the spectrum of military tools.

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84. European Commission, “Mobile Applications to Support Contact Tracing in the EU’s Fight against COVID-19. Common EU Toolbox for Member States”, April 2020, <https://ec.europa.eu>.

85. Cédric O said rather meaningfully during his hearing on October 8, 2020 before the Senate Committee of Inquiry on management of the health crisis: “Why didn’t we cooperate with other European countries? Because we had a rather binary choice: either we chose to cooperate and all we had to do was rely on Apple and Google, or we chose not to cooperate with them and we remained sovereign.”

86. Regarding the ambiguity surrounding the concept of digital sovereignty in Europe, read D. Danet and A. Desforeges’ article, “Souveraineté et autonomie stratégique en Europe: du concept aux réalités géopolitiques”, *Hérodote*, Vol. 177-178, No. 2, 2020. It includes this significant quote by Angela Merkel at the Internet Governance Forum in November 2019: “Of course, digital sovereignty is very important. But we may all have understood something different, even if we use the same term.”





# Conclusion

The rise of GovTech companies challenges our attitude towards the State and, more broadly, to the values promoted by technology: “Besides the industrial battle [...] a cultural battle is also looming that will largely revolve around the issue of data.”<sup>87</sup> Technology, particularly when it concerns state functions traditionally assigned to the public sector, such as health, education, town planning, security and defense, is not impartial: it is a “set of rules that determines all the others” and “shapes democratic debate”.<sup>88</sup> Although “digital technology functions physically based on computing power, it also conveys symbols and human ideas, and in this sense, it is a deeply political vector”<sup>89</sup> In the time of the “Corporate-State”,<sup>90</sup> several driving forces can be identified which define Govtech companies’ destabilizing potential, and that call for a geopolitical strategy to be developed to inform the industrial and political initiatives.

Primarily it is a cultural and symbolic driving force. GovTech opens up the opportunity for actors to potentially promote different ideas of public service, citizenship and individual rights, and to influence modes of governance and public action through technology. This is what is at stake in the “Digital Silk Road” and the ideas promoted by the Chinese safe city already discussed. There is already an intense war of narratives between Chinese surveillance capitalism and the Southeast Asian hyper technological democracies. This is also at the heart of the widening gap between the United States and Europe on the concept of privacy and personal data: in that matter, the meaning given to the 4<sup>th</sup> Amendment of the US Constitution by Silicon Valley actors differs greatly from the European thinking driven by GDPR. In his speech at the Sorbonne in September 2017, Emmanuel Macron expressed this feeling of a widespread threat, through digital technology, overshadowing the very nature of European civilization: “Europe has this singular attachment to a

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87. General Data Administrator, “La donnée comme infrastructure essentielle”, Rapport au Premier ministre sur la donnée dans les administrations 2016-2017, *La Documentation française*, April 2018.

88. During his hearing before the Committee on Constitutional Laws, Legislation and General Administration of the Republic of May 27, 2020 about the StopCovid app, Cédric O said: “There is social media that embeds our daily lives in Anglo-American culture and law. There are search engines that prioritize our access to information and shape our democratic debate. Finally, there are thousands of other examples that demonstrate the importance of putting digital technology at the heart of our institutions’ work. Not just as an issue in itself, but as a system that determines all the others.”

89. Interview with a senior civil servant conducted by the author in September 2020.

90. P. Musso, *Le Temps de l’État-Entreprise: Berlusconi, Trump, Macron*, Paris, Fayard, 2019.

continuous balance between freedom, solidarity and security, and this is precisely what is at stake in the digital revolution. [... It is essentially] France's and Europe's intellectual ability to shape their imagination that is at stake with digital technology, so as not to depend on the imagination of others."<sup>91</sup>

There is a second driving force regarding the democratic process. With GovTech, Western democracies are destabilized by the surge of technological actors in public services that give precedence to the “narrative” of efficiency over the complex balance of power at the heart of the concept of common good, traditionally guaranteed by the State and its public sector. During the health crisis, this pressure was clearly demonstrated by calls for “pragmatism” from defenders of the decentralized solution put forward by Apple and Google, highlighting both its presumed greater efficiency and the risks to freedoms allegedly posed by a centralized solution. The fact that in a democratic society, the State has a greater legitimacy than private digital giants to supervise a health tracing system, additionally allowing it to improve its crisis management for everyone's benefit, had little impact compared to the crisis in democratic trust experienced in Western countries.<sup>92</sup> Ultimately, the health crisis has indirectly revealed the lack of space for national and European democratic debate on technological issues,<sup>93</sup> prompting digital technology to be considered not as a methodological or procedural matter (“digital democracy”), but as a matter of deliberative democracy in its own right.

To conclude, the emergence of GovTech companies tells us something about the widespread and equivocal term of “digital sovereignty”. Firstly, it emphasizes the continuation, in the digital field, of the strategic identity of nations, of their greater or lesser willingness to “retain their freedom of decision-making and autonomy under duress”.<sup>94</sup> During the health crisis, the United Kingdom, like France, is one of the only European governments to have chosen to develop a sovereign tracing app, before backtracking for technical reasons. As Cédric O said during the parliamentary debate about StopCovid, this alignment is no coincidence: “To date, twenty-two countries have chosen to develop a contact tracing solution using the interface developed by Apple and Google. Twenty-two countries, but

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91. Interview with a senior manager of a company in the new technology sector, conducted by the author in September 2020.

92. According to an Accenture opinion poll (2018) focusing on the United Kingdom, United States, Australia, Singapore, France and Germany, only 31% of citizens trusted their government to use AI ethically and responsibly. Only 23% consider that AI-based public services protect personal data better.

93. The parliamentary debate on the StopCovid app here is a welcome, although too sensitive exception.

94. Interview with a senior manager of a company in the new technology sector, conducted by the author in September 2020.

neither France nor the United Kingdom, which is surely not a coincidence, as they are also the only two European countries with their own nuclear deterrent – that is ultimately the acme of national sovereignty.” German pragmatism leaning towards the solution of the two GAFAMs raises the question of the future of post-Brexit European technological cooperation, and a much-needed dialog between France and Germany on shared interests in this area.

Secondly, in technical terms, GovTech companies conceptually allow us to go beyond the dialectic between closed and open models: they lead us to a network or “capacity”<sup>95</sup> approach to digital sovereignty, “where control of key technology points is more important than controlling the entire chain”.<sup>96</sup> Control of these key points or “key technologies”,<sup>97</sup> whose identification and regulation should be a priority for the government (“choosing which battles can be won and which bargaining leverage they permit”) will perhaps help define the guiding principles of a real industrial policy that Europe needs now more than ever<sup>98</sup> to preserve its identity in the digital realm.

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95. For more on this concept of “capacity sovereignty” as envisaged in the digitization of the Ministry of the Armed Forces, read the very comprehensive article by Arnaud Coustillère in No. 2020/2 of the journal *Hérodote* entitled “La transformation numérique du Ministère des Armées”.

96. In the case of StopCovid, the hearing on September 22, 2020 of Bruno Sportisse, CEO of INRIA, before the Senate Commission of Inquiry on health crisis management, shows that smartphone operating systems (particularly Android and iOS) are such a “technological node” whose regulation could improve the freedom of action of various European private and public sectors.

97. Of which cryptography and algorithms are key elements and sensor probe technology.

98. The principles of reversibility, portability, openness, transparency and interoperability.

