European Commission

JRC SCIENCE FOR POLICY REPORT

GovTech Practices in the EU

A glimpse into the European GovTech ecosystem, its governance, and best practices

Joint Research Centre

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Foreword

The experiences during the Covid19 pandemic have emphasised the importance of well-functioning digital Public Administrations, as the public sector is in charge of key areas for our societies, like education or health. The European Union responded to this challenge in a variety of ways. We can see this focus on the digital transformation of the public sector for example in the vision spelled out in Europe's Digital Decade as well as in the reforms and investments under the Recovery and Resilience Facility.

The rapid development of technologies such as Artificial Intelligence, Internet of Things, and Blockchain are adding a new dynamic to public sector transformation. These emerging technologies are offering great opportunities for transforming the ways public administrations interact with citizens and deliver key public services, while making the public sector more resilient and more inclusive. At the same time however, these emerging technologies come with a new set of risks and challenges.

Capturing the opportunities of these technologies for better education, personalized healthcare, more efficient administration and more, while addressing their challenges and mitigating the risks requires a more profound digital transformation of the public sector. It is not enough to create digital copies of our bureaucracies. We need to use the opportunities offered by digital transformation and emerging technologies to rethink our processes and to innovate public services. One way to do it is through GovTech – the partnership of public sector organisations with innovative start-ups and SMEs to solve societal problems.

More and more governments in Europe are setting up GovTech programmes for innovating in the public sector while helping start-ups and entrepreneurs. The European Commission will support this development by launching a European GovTech Incubator under the Digital Europe Programme. This new GovTech Incubator complements wider efforts for innovation at European level, such as the European Innovation Council and its Accelerator programme.

The European GovTech Incubator will provide opportunities to national GovTech initiatives to collaborate and develop new innovative solutions. It will support the emergence of an EU-wide GovTech marketplace, offer more opportunities for start-ups to scale-up and transform innovations into market-ready products, as well as strengthen the collaboration between EU Member States while ensuring interoperability by default, cross-border and cross-domain exchange and reusability of solutions.

This report shares best practices and supports mutual learning across the EU, and offers inspiration as well as concrete guidelines and recommendations for how governments can create or update their own GovTech programmes. It is therefore an important contribution to innovating the public sector through digital technologies.

Johannes Hahn

European Commissioner for Budget and Administration

Mariya Gabriel

European Commissioner for Innovation, Research, Culture, Education and Youth

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Abstract

To support governments in the EU embracing GovTech, this report provides an overview of the diversity of GovTech programmes and shares lessons learnt for setting up government-run GovTech programmes. While the focus of this report is on national GovTech programmes, its findings and conclusions can be applied to other levels of government as well.

The term GovTech refers to the use of emerging technologies and digital products and services by government from start-ups and SMEs - instead of relying on large system integrators. There are many - oftentimes competing - definitions of the term GovTech. Despite this diversity, most definitions share the following three common elements:

- **the public sector engages with start-ups and SMEs to procure innovative technology solutions,**
- **for the provision of tech-based products and services,**
- **in order to innovate and improve public services.**

This report presents an overview of how existing GovTech programmes are set up in different EU member states and introduces practical case studies. This is followed by a discussion of the rationale of governments' investment in GovTech and the barriers countries have encountered when engaging with the GovTech ecosystem. The report then distils important lessons learned for setting up government-run GovTech programmes. This report is aimed at anyone wanting to understand how governments are already supporting GovTech, and especially public sector managers who are looking for a starting point for establishing or improving a GovTech programme. It is part of two twin reports on GovTech developed by the JRC with support from the ISA^2 programme.

Executive summary

Policy context

This report is published in the context of Europe's Digital Decade, as well as the post-COVID-19 recovery plan NextGenerationEU. Functionally, it stems from the European Commission's ISA^2 programme which focuses on finding interoperability solutions for public administrations, businesses, and citizens. It aims to contribute to the implementation of the European GovTech Incubator, developed under the Digital Europe Programme, will enable cross-border and cross-domain experimentation. Finally, it answers to the growing domestic interest in GovTech from governments at central, regional, and local levels.

Key conclusions

The emerging landscape of European GovTech programmes is quite heterogeneous. It consists of a growing number of national and local GovTech programmes that come in different shapes and sizes, but share some pertinent problems related to, .e.g., vendor lock-in, procurement, and legacy IT infrastructure. The European GovTech ecosystem varies in its maturity level, and adopts a wide range of tools and practices that may be shared, transformed, and taken up in other countries or at different levels of government. When building new support mechanisms and programmes, it is important to acknowledge existing practices and focus resources on areas where Member States have strategic advantages to provide access to infrastructure, hedge regulatory risks early on, embed incentives in its funding mechanisms, or foster peer-learning networks.

Related and future JRC work

This report is part of a larger research effort at the European Commission's Joint Research Centre on innovation of public services, new governance models, emerging technologies, and innovation in society and economy. In this context, GovTech is a crucial piece of the puzzle to understanding how we can improve public services with the help of digital technologies. This report is one of two twin reports on GovTech in the EU published at the beginning of 2022..

Quick guide

This report starts by introducing how governments across Europe are already supporting GovTech, followed by a number of concrete case studies. This is complemented by an overview of the rationale(s) behind governments' investing in GovTech and the most common barriers experienced by the public sector. Lastly the report distils lessons learned and makes recommendations for setting up GovTech programmes.

1 Introduction

Many experts, practitioners, and policy makers pin their hopes for transforming government and public services on the application of digital technologies. The experiences during the COVID-19 pandemic have reinforced this conviction. However, after almost two decades of efforts on e-Government in Europe, another reflection is equally important: as much as digital technologies are crucial for transforming the government and improving public services, technology alone is not enough. Next to technology, governments need to work on transforming organisational culture, improving processes, and stakeholder engagement in order to create public value. It is in this context that GovTech – a market valued at more than €350B globally[1], - has emerged.

There are many - oftentimes competing - definitions of the term GovTech. Despite their differences, most definitions share the following three common elements:

- **the public sector engages with start-ups and SMEs to procure innovative technology solutions,**
- **for the provision of tech-based products and services,**
- **in order to innovate and improve public services.**

Governments are looking towards the world of start-ups and SMEs for providing products and services for new, creative and innovative solutions, more agile ways of working, and for having more choices beyond the offers of established large IT (service) providers.

However, engaging with the world of GovTech comes with its own set of unique challenges for public sector organisations. Among those challenges are the divergence between the organisational culture of the public sector and start-ups, complex procurement procedures that discourage smaller stakeholders from engaging with the public sector, and unique market dynamics that differ significantly from other areas such as FinTech[2] or HealthTech[3]. To address those challenges and to reap the benefits of engaging with smaller and innovative tech providers, governments have started setting up dedicated GovTech programmes.

This report presents an overview of how existing GovTech programmes are set-up and run in different EU member states and introduces practical case studies. This is followed by a discussion of the rationale of governments' investment in GovTech and the barriers governments encounter when engaging with the GovTech ecosystem. The report then distils important lessons learned for GovTech practitioners in government. This report is aimed at anyone wanting to understand how governments are already supporting GovTech, and especially public service managers who are looking for a starting point for establishing or improving a GovTech programme.

This report is based on qualitative interviews with experts in the GovTech space who are aiming to bring innovation into government through traditional and non-traditional procurement instruments. Experts interviewed for the purpose of the report draw predominantly from the government sector. We interviewed heads of national GovTech programmes (3), government digital transformation advisors/heads (4), directors/ partners of acceleration programmes (3), head of innovative procurement agency (1), and a director general of the Ministry of Science (1).

The interviewees were asked about: their experience with GovTech programmes; the governance of GovTech programmes; the variety of tools and mechanisms different GovTech programmes use; and challenges of setting up and running GovTech programmes. These rather open-ended interview questions were designed to capture insights into how the interviewed experts have been navigating and making sense of the emerging GovTech space.

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1. Accenture & Public, GovTech – Europe's next opportunity (2018) Accessible here

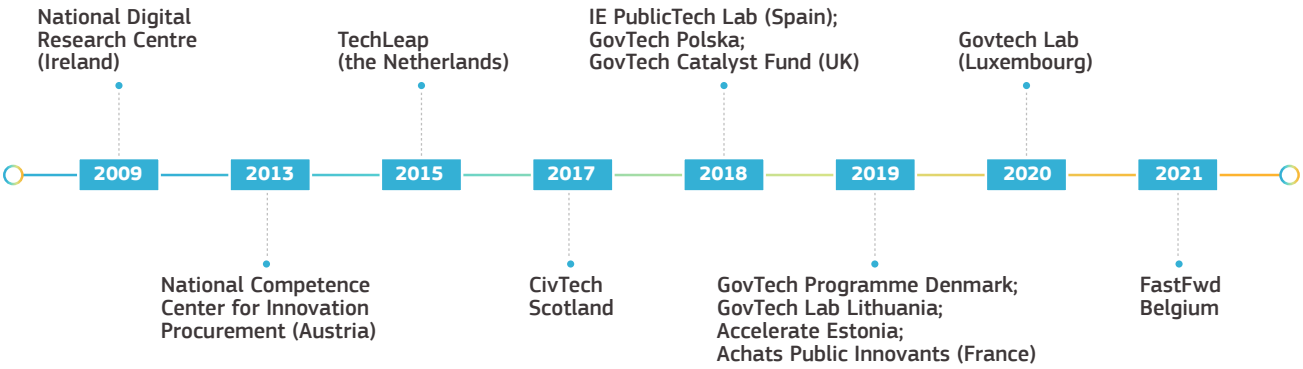
2. We understand FinTech as 'the term used to describe any technology that delivers financial services through software, such as online banking, mobile payment apps or even cryptocurrency'. Source

3. We undestand HealthTech as 'any technology-enabled healthcare product and service that can be delivered or consumed outside of a hospital or physician's office—one notable exception being hospital and practice management software'. Source

Figure 1: Map of GovTech programmes in the EU

Source: own elaboration based on public sources

Figure 2: Timeline of the initiation of GovTech programmes



Source: own elaboration based on public sources

4. This map shows a selection of GovTech Programmes in Europe at the time of writing. Since this is a rather dynamic field, we do not claim completeness.

2 National GovTech Programmes

To procure innovative technology and to capitalise on the potential benefits of a productive GovTech ecosystem, national governments are applying a great variety of approaches, set-ups, and services when they set up their own GovTech programmes. In this chapter, we provide an overview of the different setups and their activities in order to show the breadth of possibilities. This will be complemented by compact descriptions of case studies that were analysed for this report. While in this report we focus on GovTech programmes at national level, the findings can to a large extent also be applied to other levels of government.

2.1 Set up

Some GovTech programmes are situated directly within the central government (e.g., CivTech Scotland), others at arm's-length – e.g., in government-managed agencies (e.g., Digital Israel) - or co-sponsored by several entities (e.g., Accelerate Estonia). Others are operating as independent, government-backed charities (e.g., NDRC, Ireland). One trait that they all have in common, is the level of political backing and trust that makes their work effective, and grants them credibility among the civil service.

Their stories of origin differ too – some were started as experiments by entrepreneurial individuals (e.g., GovTech Lithuania), others are an effect of scaling up successful pilot programmes (e.g., GovTech Polska). Some of the programmes were established as a side product of a governmental commitment within a wider international governance effort (e.g., Presidency of the European Council, G7/G20 Presidency).

We found that a persistent policy entrepreneur stands behind most of the programmes. Those individuals had either interacted first-hand with similar programmes internationally and strived to implement them at home, or worked in the private sector and wanted to adapt best practices witnessed elsewhere in technology development and client service. The majority of the programmes analysed for this report started with very limited budgets (< EUR1M/year), as experiments or pilots, and were scaled up only upon proving their business models to be successful. Some of the programmes would have a 3–4-year grace period, during which financial performance was not measured to allow for experimentation. Performance has then become an important factor after the incubation period. It has been consistently underlined that a degree of independence is key for the success of a GovTech programme. This may be manifested through the ability to experiment and to go against the rules at times, while prioritising outcomes over process. However, too much independence, and less proximity to decision-makers can prove detrimental.

GovTech programme leaders differ in the way they see their programmes' role in the system, and where in the process they want to intervene. Some view their institutions as merely facilitators and door openers (e.g., between public and private sector; between federal and local government levels; horizontally between ministries), others aim to become a central node of public sector innovation (e.g., managing technology development, funnelling grant-making and investment). This variety of origin stories and governance set-ups, contributes to the diversity of the GovTech ecosystem, and has an influence over the range of engagement models.

2.2 Activities

Many of the GovTech programmes state that their role is to provide services to early-stage businesses that want to interact with the public sector. Such support varies in level of complexity, and the ability to control the outcomes. Below we are presenting some of the most common service offers and activities in GovTech programmes today.

Challenges and prizes

Open competitions to solve problems that at present lack solutions.

Challenges and prizes are by far the most popular way of GovTech programmes interacting with external stakeholders. Challenges and prizes stem from a long-standing tradition of offering a reward to whoever most quickly or effectively solves a given problem.[5] Used as a method to attract new innovators, prizes "challenge incumbents to redirect their efforts or think about a problem in a new way [and] lead to breakthrough solutions, creation of new cohorts of innovators, and can result in systemic change."[6] Within the context of GovTech, challenges can be standalone, or could be a part of broadly defined Missions (e.g., the case of Accelerate Estonia). Their specifics vary, but most of them include the GovTech programme canvassing public sector entities (e.g., ministries or publicly owned companies) in search of 'problems' these entities struggle with. Once these are known and well-articulated, a decision on prioritisation is made, taking into consideration social and political factors. Such a shortlist is then formulated in the form of 'Challenges' that are made known publicly, encouraging innovators and start-ups to develop solutions for them within a given timeframe. In return, the best solutions can be rewarded financially. In addition, innovators might be offered the ability to test them (for example, through funding a pilot project), privileged access to decision makers, the ability to use the public sector's infrastructure and services user base. Many of the interviewees underlined that there's a sense of prestige attached to winning a challenge competition that is highly valued by start-ups and SMEs. The benefits of Challenges for the GovTech ecosystem include allowing public sector organisations to hedge the risk (as compared to regular tenders), to target stakeholders that are smaller in size, and allow to check both technology and cultural fit early on. Its downsides may include risks related to start-ups' unpredictability, and necessity to cultivate more heterogeneous skills in house for assessing the viability of pilots and experiments. Some organisations, after running several successful challenge competitions, build guidelines and frameworks[7] that could be used independently by others.

Hackathons

Time constrained design sprints aimed at rapid prototyping of solutions.

Design sprints are often used for 'solving' problems that are software-related, and could be rapidly prototyped over a limited period of time. Similar to 'challenges', a public sector organisation identifies bottlenecks or problems together with its partners, and issues an open call for a set date and time (e.g., 48-72 hours), during which teams that apply are welcome to create prototypes of its proposed solutions at the organizer's premises. Such a sprint finishes with a set of presentations, and the best solutions would usually be offered monetary prizes, or the opportunity to scale their solution through a contract. The GovTech ecosystem benefits from hackathons as a way to rapidly mobilize a lot of external talent and energy, test team composition and resilience in practice, and create mock-up solutions in a cost-effective way, before committing to its full development. Traditionally, hackathons are skewed towards software development, which may be considered a downside in contexts that require non-software services or products. Internal capacity on the side of the government is needed to be able to keep the engagement level after the hackathon is concluded and to convert the result of a hackathon into an operational product.

5. Mergel, I., & Desouza, K. C. (2013). Implementing open innovation in the public sector: The case of Challenge. gov. Public administration review, 73(6), 882-890.

6. Challenge Prizes: A Practice Guide, Nesta, 2018, Link

7. ibidem

Acceleration programmes

Structured, time constrained personal and business development programmes, offered by both private and public sector entities, with the aim of 'accelerating' growth of already existing entities.

Lasting from a few weeks to close to a year, acceleration programmes are usually cohort-based (several companies are admitted to the programme at once), heavily focused on mentorship and personal growth of founders, and finish with a demo day (public presentation to senior government executives, funders, and investors). Acceleration programmes are usually highly structured and work intense, and can be thematic or general in scope. Best practise of acceleration programmes includes a well-thought-out process and goals, a roster of high-level mentors and technical experts available to participants, roadshows and presentations for potential public sector clients, and some level of funding (e.g., in a form of non-equity grant) to allow participants to fully focus on the programme. It has been underlined several times in our interviewees that the most testing moment for public-sector oriented start-ups and SMEs comes immediately after the Demo Day and the conclusion of the acceleration programme. At this point the intense support period finishes, but public sector clients are not yet committed to the product or service. This has been identified in the innovation studies literature as the 'Valley of Death'[8]. Benefits of the acceleration programmes include the ability to interact with the founders systematically over several months and adjust the offering on the go according to their individual needs. Such an approach is naturally resource-intense, and requires certain maturity on the side of the government, including through, i.e., securing the right circumstances for the public sector entities to become first buyers of the products and services created through the acceleration programmes.

Piloting

Non-dilutive[9] funding to experiment with state infrastructure.

This form focuses on dispersing non-equity grants to start-ups and SMEs to run pilots with public sector organisations, usually under strict rules that oblige both parties to achieve certain results within a given timeframe. For piloting to be successful, the public sector needs to open up its infrastructure (e.g. databases, research and development facilities) in a way that provides meaningful access for external parties. This may require certain cybersecurity provisions or other legislative amendments. Similar to 'challenges,' this form requires quite specific in-house capabilities, to be able to assess the market fit between companies - but if done right - allows the public sector to test products and services early on, before committing extensive resources.

Research and development grants

Non-dilutive early-stage funding to accelerate research and development.

A relatively easy and popular way to help a GovTech ecosystem flourish is through giving away small to medium sized non-equity grants. The best programmes offer minimal paperwork and do not constrain the recipients in the ways they use the funds. Such early-stage grants are seen as a way to hedge the risks away from private sector investors, and instil a culture of experimentation within the public sector.

While public sector early-stage grant funding is a very much needed method of incentivizing supply of innovations, it is not distinct for the GovTech ecosystem and provides relatively little interaction between the start-ups and the public sector. R&D grants require patience on the side of political leadership, as their results often cannot be captured within one electoral cycle.

8. Yoshitaka Osawa & Kumiko Miyazaki (2006) An empirical analysis of the valley of death: Large-scale R&D project performance in a Japanese diversified company, Asian Journal of Technology Innovation, 14:2, 93-116.

9. Non-Dilutive Funding is any kind of funding that does not require you to give away a piece of your company, so you maintain 100% control and ownership over your company." Source: https://fundingfounders.ca/dilutive-vs-non-dilutive/

Ecosystem building

Strategic convening, networking, matchmaking and advisory services to ease interactions between private and public sector.

Several GovTech programmes focus on opening access to decision makers, policy owners, and technical experts who can offer pro bono advice, provide feedback on early-stage ideas, and clarify rules related to procurement or formal acceleration programmes. According to the interviews, successful practices include conscious creation of opportunities for various stakeholders of the GovTech ecosystem to interact through: publishing guidelines; cultivating mailing groups; holding monthly office hours; incentivizing the culture of making introductions and connections; and introducing informal check-ins for the most important stakeholders.

Ecosystem building is a constant effort that has to do a lot with the organisational culture, and trust between the stakeholders. It requires dedicated resources that at first may be challenging to justify, as the benefits are neither quantifiable nor immediately visible.

3 Case studies of European GovTech programmes

After having described above some of the common characteristics of GovTech programmes, next, six case studies show how different countries applied their GovTech practices during the last few years. The European GovTech programme' cases included here are from Poland, Lithuania, Ireland, Estonia, Scotland, and Austria.

The cases were selected to show a variety of approaches in this field.

GovTech **Polska**

Year of inception
2018

Team size[10]
15

Institutional setup
Department at the Chancellery of the Prime Minister of Poland.

Activities
Challenges and prizes; Hackathons; Ecosystem building.

Unique features
GovTech Polska managed to scale as a programme relatively quickly, becoming a fully-fledged ministerial department with secured multiannual funding.

Strengths and challenges
Reporting directly to the Prime Minister, the programme has a significant political backing; its ambition to become a Polish equivalent of the UK Government Digital Services (GDS) will require significant human resources (e.g. GDS has a team of 860 FTE).

Other
- The programme originated from a hackathon organized by the Ministry of Finance to solve problems related to tax evasion. With (then Minister of Finance) Mr. Mateusz Morawiecki stepping through the governmental ranks, eventually becoming Prime Minister in December 2017, GovTech became an increasingly important part of wider innovation policy efforts.
- In late 2019, the GovTech Polska Programme was adopted by the government with the aim of developing innovative models for obtaining data about the needs of the citizens; financing projects that improve the effectiveness of the public sector; and increasing public sector's innovation-related expertise.
- With the Ministry of Digitisation being scaled down as a separate entity in October 2020, it is likely that GovTech Polska as a department within the Chancellery of the Prime Minister will gain further prominence and traction.

Learn more: Link

10. In this and other examples, we are referring to FTE at the time of research. With COVID-19 pressures and dynamic growth of GovTech programmes the numbers of employees should be treated as estimates.

GovTech **Lab Lithuania**

Year of inception
2019

Team size
5

Institutional setup
Part of the Lithuanian Agency of Science, Innovation and Technology.

Activities
Challenges and prizes; Ecosystem building; Acceleration programmes

Unique features
GovTech Lab originated and was scaled up through the public sector's talent programme Create Lithuania.

Strengths and challenges
Well-articulated mandate for the programme to be the facilitator of the innovation sourcing; Small team size that prevents the programme from facilitating as many challenge competitions as it would want.

Other
- GovTech Lab Lithuania was created as a capstone project of its current manager, during her involvement with 'Create Lithuania' – a public sector programme started in 2012 that attracts professionals with international experience to return to the country and work for the government.
- For 12 months, participants of Create Lithuania advise public sector bodies on national and regional issues in areas such as the improvement of Lithuania's image, the enhancement of competitiveness and business environment, the promotion of entrepreneurship, and foreign direct investment.
- After the GovTech Lab was incubated within the Ministry of the Economy and Innovation, it found its home at one of the executive agencies - the Lithuanian Agency of Science, Innovation and Technology. Current partners of challenge competitions include i.a. Bank of Lithuania, Lithuanian Energy Company Group, Lithuania Travel, and Kaunas 2022 (the agency overseeing Kaunas' preparations to become Europe's cultural capital).

Learn more: Link

National Digital Research Centre – NRDC (Ireland)

Year of inception
2009

Team size
15

Institutional setup
External contractor funded by the Department of the Environment, Climate and Communications.

Engagement types
Acceleration programmes; Ecosystem building.

Unique features
Ability to engage private sector figures as mentors in its acceleration programme.

Strengths and challenges
Clear focus on start-ups and SMEs as the main clients, with only limited ad hoc engagements with public sector entities; Programme operated by an external party selected through an open competition for a five-year contract, a period shorter than that often required to see returns on start-up investment.

Other
- In 2020, the contractor to run NRDC changed after 13 years. A new consortium to run NRDC has announced its commitment to run the programme through a network of regional hubs, rather than one central location; and to introduce new support formats for founders, including rapid prototyping weekend gatherings, regular office hours, as well as pre- and post-acceleration support.

Learn more: Link

Accelerate Estonia

Year of inception
2019

Team size
10

Institutional setup
Co-owned by the government, the city of Tallinn, and Tallinn University of Technology.

Engagement types
Challenges and Prizes; Ecosystem building.

Unique features
Commitment to the claim that innovative ideas can originate everywhere, and a support structure that reflects it.

Strengths and challenges
Direction setting through broader Missions, rather than narrowly defined Challenges; Forthcoming (2022) transition to the model that might include necessity of income generation and self-sufficiency.

Other
- Accelerate Estonia is deliberately focused on finding scalable solutions to wicked problems, while presenting economic opportunity, and creating systems level change through the public sector. It does so by defining wide Missions (e.g. Green Turn and Mental Health in 2021), and providing privileged access to policy owners at minimum friction.

Learn more: Link

CivTech Scotland

Year of inception
2017

Team size
10

Institutional setup
Part of the Digital Directorate of the Scottish Government.

Activities
Challenges and Prizes; Acceleration programmes; Ecosystem building; Piloting.

Unique features
Its challenge competition is often considered to be best practice.

Strengths and challenges
CivTech Scotland launched and fosters CivTech Alliance, an international network of civil servants working on public sector innovation; its important international convening role may require resources that surpass the scope of the programme.

Other
- CivTech Scotland differentiates itself from other commercial accelerators by guaranteeing a client for products created through the programme; deliberately not demanding any equity in the teams accepted to the programme and priding itself in unusually high success rates (only 1 out of 36 teams has failed to develop and sell its product through the programme).
- Since 2020, CivTech Scotland has taken a more active role internationally, helping to create the CivTech Alliance, attempting to build an international accelerator in partnership with other leading national GovTech programmes.

National Competence Centre for Innovation Procurement (Austria)

Year of inception
2013

Team size
5

Institutional setup
Part of BBG (Austrian federal procurement corporation).

Engagement types
Challenges and Prizes; Research and Development grants; Ecosystem building.

Unique features
Creation of a certified marketplace for start-ups and SMEs that want to sell to the public sector. The marketplace has significantly streamlined the procurement processes.

Strengths and challenges
Its Innovation Procurement Network serves as a resource for public sector officials on all levels of administration, engaging in advisory work and knowledge exchange; relatively small team may hinder organisation's ambition to create systemic change at the level of the federal government.

Other
- Its innovative partnership platform could be considered a benchmark for creating a one-stop-shop knowledge exchange and challenge competition hub for the public sector, providing advanced functionalities and high-quality user experience.
- The organisation is an active member of the Procure 2 Innovate (P2I) project, which enables knowledge exchange between five established and five emerging national procurement programmes.

Learn more: Link

4 Reasons for government investment in GovTech

Valued at more than €350B globally,[11] the GovTech sector is gaining traction among EU Member States, with a wave of new offices, programmes and accelerators launched at national, regional, and local levels in the last few years. Yet, it is still unclear what governments gain from investing in GovTech. Based on expert interviews with representatives of the GovTech ecosystems, the underlying motivations of governments to invest their resources in this space can be identified. These include among others:

Increasing demand for agility and innovation in government

With the rise of comparative studies, reports and indexes - such as EU's Digital Economy and Society Index (DESI), or World Bank's GovTech Maturity Index - governments' digital preparedness and performance is subject to constant scrutiny. Matched by consistent calls for increased effectiveness, and the changing landscape of service delivery - due to shifting demographics, new ways of working, and public health challenges - public administrations are forced to change, improve and adjust their modus operandi. This could be manifested by attempts to increase government's openness towards external stakeholders through passive methods (process transparency measures; opening APIs and databases) or active methods (public consultations; agile procurement). By working with start-ups and SMEs, and by adjusting processes to facilitate this interaction, GovTech is expected to increase agility and innovation in government.

Change underlying architecture of public IT infrastructure

One of the motivations for governments investing in the GovTech space is to modernize their digital infrastructure, and hence become more efficient and user-friendly. While this can be achieved through means of conventional procurement, it is compelling for governments to engage with stakeholders that are considered innovative and engaged in developing frontier technologies. Goals vary, but may include attempts at reducing the constraints of legacy IT infrastructure, preventing vendor lock-in, and increasing the user experience of the public sector's infrastructure.

Intervention in a quasi-monopolistic market

Some of the interviewees pointed out that existing government IT solutions tend to mostly come from a handful of large and established providers. Hence, another driver for the exploration of the investment into GovTech from the side of the government might be to increase market dynamism. This could be done by creating competing products to introduce more competition into the market and reduce complacency, as well as increase innovativeness of the market participants. This can be achieved through cultivating intrapreneurship, adjusting procurement processes, and building designated outreach programmes towards start-ups and SMEs.

Incentivize European innovation

Another driver for governments' interest in GovTech might be to build a more robust economy. This should be achieved for example by creating competing products in a market that is strongly influenced by non-EU companies. By creating acceleration programmes and incubators for domestic start-ups and SMEs, governments attempt to build a counterweight to the observed market dominance of non-EU companies. These considerations are similar to aims for digital sovereignty at EU level as part of the Digital Single Market.

11. Accenture & Public, GovTech – Europe's next opportunity (2018) Accessible here

Filling a gap in the market

Governments occupy a privileged position that allows them to understand societal needs for which markets do not provide the solution yet. Governments can therefore incentivize the markets, by identifying the needs, incorporating the needs into their mission and mandate; actively searching and placing bets on the potential solutions, bearing the initial investment costs of their development, and serve as a test-bed as well as becoming the first buyer.

Attractive framing to mobilize resources

Finally, we found that one of the repeated motivations revolving around leveraging the prominence and buzz around the emerging term of GovTech, is to promote agile public procurement of innovation – topics that otherwise do not attract political attention needed to accumulate resources and promote policy change. Similarly, with governments having to make trade-offs on where to direct their attention and resources, GovTech is considered as a space that provides a high return on investment, by contributing to better service provision, resource efficiency and user experience.

5 Barriers to GovTech development

The development of a productive GovTech ecosystem is facing significant roadblocks that need to be addressed. These barriers relate to the way the market is structured, the challenges created by public sector procedures, and cultural barriers related to a lack of shared language and common understanding between public and private sector actors. Below some of the most common barriers that stand in the way of the development of a European GovTech ecosystem are listed. These barriers include:

Growth expectations in a limited market space

Venture capital (VC)[12] plays a significant role, for start-ups in the GovTech space. There are different types and amounts of capital that can be accessed at different stages of the development of a company (with a larger pool of money going towards late-stage funding), However, reliance on venture capital pressures founders to create growth that can unlock further levels of funding, and even towards achieving mergers and acquisitions.

At the same time, the mandate to grow market share for VC-supported GovTech companies has severe limitations. Selling to governments means that there might be only one customer for a specific product per country. If a solution is aimed at the defence sector, there can only be one ministry of defence per country. Hence, two obvious growth strategies are to expand to other countries or target different levels of government.

Since GovTech space growth remains limited to customized services that a company can offer a state, it is the service around the existing product that needs to be customized to diffuse the product to other countries, states, or municipalities. In the European market, we found that this customisation of the service most often requires changing the language, as well as adapting to different regulatory contexts.

Market dominance of large-scale system integrators

Another important barrier are existing, well established IT providers in the market, that newly founded GovTech players need to compete with. Often, the result is that GovTech start-up companies are fairly quickly acquired, before reaching maturity and becoming full-fledged competitors. Some GovTech start-ups may benefit from being incubated by publicly funded incubators, before being acquired by already successful private sector firms that are already vendors to the public sector. Such consolidation of the market through acquisitions of potential competitors, allows large players to expand their portfolios and integrate solutions and knowledge along their own perceived value chains. It might, however, go against the interest of governments in fostering innovation and creating a more dynamic market.

Lock-in through reliance on legacy software

The path dependency of software is based on the decisions governments have made in the past, which might stifle innovations in the GovTech space today. New companies are often limited to building their solutions on top of existing legacy systems. This hampers their possibility to innovate and much effort needs to be spent on being compliant with existing systems. Hence, any new company or start-up needs to be aware that any of their own developments are tightly knit to the software decisions governments have made before. Long standing business relations, convenience, established habits of the users, and large opportunity costs stand in the way of addressing the issue of legacy systems and introducing more cost-effective or novel solutions.

12. We understand Venture Capital as equity investment that innovative and growth-oriented companies would typically want to acquire from external sources to expand, break into new markets or grow faster. Source

Discouraging procurement processes

Procuring technology today can translate into lock-in to lengthy projects that do not reflect the dynamics that the changing technological landscape deserves. Large volume, multi-annual tenders that require significant bureaucratic resources on the side of the bidder, and often ask for credentials and turnover that start-ups can't meet, stand in the way of a more competitive landscape. As we found out, sometimes lack of in-house digital capacities on the side of the government gives leverage to external vendors and existing contractors over the content of technical specification, further discouraging start-ups and SMEs from participating in request-for-proposal processes.

Different working cultures

Existing mismatch between the working cultures of public and private sector actors may influence the success rates of GovTech efforts. We found that several start-ups considered their interaction with the public sector to be far from the communication style and interaction with clients they are used to. Particular disappointment was expressed with the long response times to queries, heavy paperwork, or the necessity to interact with the multiplicity of governmental actors to complete relatively simple tasks.

Cross-border harmonisation difficulties

While underlying rules of public procurement are harmonised across the EU, there are still significant differences in the actual implementation. For a start-up that wants to sell its products or services to different EU countries, this practically translates into a necessity of understanding legal intricacies of procurement of 27 countries and their sub-national administrations. The challenge of following regulatory requirements in multiple jurisdictions can limit selling GovTech solutions across borders, even inside the Single Market. It therefore limits the de facto size of the market and possible contracts.

6 Lessons learned

Based on numerous interviews with a variety of stakeholders (e.g., civil servants, politicians, start-up founders, acceleration programme leads, procurement managers) we distilled some of the early learnings from their initial experiences operating European GovTech programmes. These lessons learned are based on an analysis of national GovTech programmes. To a large extent however, they can also be applied to other levels of government.

Proximity to executive power

Most successful GovTech programmes value a close relationship with executive power and draw their legitimacy from direct political mandates. With politicians as sponsors of programmes and drivers of change, GovTech programmes engage successfully with national bureaucracies. Proximity to political power attracts and shortens distance with stakeholders, while focusing on results and securing high prioritisation.

Variety of models

GovTech programmes come in all shapes and sizes. Some programmes focus on improvements of innovation creation, some on mission support, others are interested in market creation, and others are only interested in applying the outcomes of acceleration programmes. GovTech programmes embrace a number of methods for interacting with the outside world, including but not limited to: challenges, acceleration programmes, R&D grants, missions, hackathons, piloting and advisory matchmaking. There is no one size fits all formula for creating a successful GovTech programme.

Lean teams

The majority of the programmes we have come across either started off with a fairly small, lean team and then scaled up, or persist to maintain a small set up by design – arguing that limited size of the team allows them to stay agile and foster a start-up work environment. Some programmes allow for secondments and rotation with the private sector to secure a steady supply of talent, and influence the internal culture of the GovTech programme. At the same time, we found that a lack of proper resourcing of a GovTech programme could become one of the bottlenecks for its development.

Individual changemakers

The majority of the programmes that were analysed for this report were launched by persistent individuals and policy entrepreneurs. Some had interacted first-hand with similar programmes internationally and aimed to implement them at home. Others had worked in the private sector and attempted to help the public sector adapt some of its best practices when it comes to technology development and client service. Regardless of the individual background, these programmes benefitted from the drive and initiative of individual change makers.

Crystal clear goals

GovTech programmes - often started as experiments - face the urgency to prove their worth to the wider public sector from the very beginning. We found that some programmes achieved that through setting well-identified goals and KPIs that allowed them to communicate success in a clear manner internally (e.g., to secure political buy-in), and externally (e.g., to help build the ecosystem).

Public value

Many GovTech programmes focus on the reduction of redundancy, simplification of administrative procedures, better user experience, and economic growth in order to make the public sector more innovative, and results-oriented. An emerging trend among GovTech programmes currently re-focuses some of the efforts towards wider public value, such as sustainability, circular economy, citizen centricity, public health, and education. Focussing on wider public value can help increase buy-in from a larger group of stakeholders – this focus on broader public values objectives however should not come at the expense of clearly defined goals.

Right funding at the right stage

Funding is an important aspect of innovation building. However, with the wide availability of private sector funds (e.g., angel investors and venture capital), the most important bottleneck is not about the lack of available funding in general, but making sure that public sector resources are dispersed at the right stage (e.g., wherever private sector resources lack). This may mean providing easily accessible, non-dilutive funding and grants at the early stages, being the first buyer for emerging companies, and allowing experimentation in a controlled environment (e.g., sandboxes[13]).

Rules do not apply

GovTech programmes are embedded within national bureaucracies and subject to respective domestic and international regulations. Yet, they are also outcome driven, characterized by high process flexibility, and focused on finding solutions to even the most pertinent problems. This can lead to clashes with internal rules. Embracing these tensions can allow GovTech programmes to serve as a test-bed for innovating administrative procedures.

Standard setting

The GovTech market is heavily dominated by large system integrators that vacuum up smaller competitors vertically and horizontally to solidify its dominant position. Some of the programmes aim to level the playing field by setting standards that decrease barriers to entry, and allowing market solutions to be easily plugged into existing platform by following the initial standard (e.g. CivTech Alliance).

13. Regulatory sandboxes refer to a limited form of regulatory waiver or flexibility for firms for public sector organisations, enabling them to test new business models with reduced regulatory requirements. Sandboxes often include mechanisms intended to ensure overarching regulatory objectives, including consumer protection. Source: Attrey, A, M Lesher, and C Lomax (2020), "The role of sandboxes in promoting flexibility and innovation in the digital age", Going Digital Toolkit Policy Note, No. 2. Link

7 Conclusions

European governments are increasingly establishing GovTech programmes with the aim to deliver better digital public services, modernize legacy IT infrastructures, and find solutions to some of the most pertinent global challenges. In this report, the different approaches governments in Europe use to engage with GovTech were highlighted, as well as the drivers and challenges, and lessons learned.

The landscape of European GovTech programmes at national level varies in its maturity level and adopts a wide range of practices that may be equally suitable for adoption by other Member States and at other levels of government. In this emerging field, there are many competing views about the most effective level of intervention into the GovTech market. Some argue for the benefits of experimenting in a smaller and less complex environment such as at the municipality or local government level. Others view the central government as the only entity able to achieve meaningful digital change at scale. This is just one of the debates that show the novelty of this emerging policy field. However, the procedural diversity we found is a testament to the richness of the ecosystem and is reflected on the organisational side in form of a multiplicity of governance set-ups. Those range from designated governmental departments through public-private partnerships to independent non-profits, and on the activity side from hackathons and challenges to grant-making and piloting.

At the same time, major bottlenecks for the effective use of GovTech remain. Including lack of agility of procurement procedures and reliance on large IT providers; cross-border harmonisation challenges that make the EU market fragmented; and funding models that nudge founders towards mergers and acquisitions, instead of focusing resources on delivering the best products and services.

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There is a clear benefit of streamlining joint procurement efforts at the EU level, e.g., through identifying areas where single governments cannot provide value on their own. One of the identified ideas is to create a platform for finding cooperation partners for joint procurement efforts (e.g., if ministries in two different Member States are looking for solutions to a similar problem).

Market entry and participation in government procurement processes is especially difficult for start-ups and SMEs with little experience and by definition a low number of staff. The question is how to incentivize the participation of those who might potentially be the ones to develop innovations that can't or won't be supplied by large suppliers. This is one of the focus areas of a twin report on GovTech by the JRC (Mergel et al, 2022).

One of the most distinct traits of the European GovTech landscape is its organic growth and high-level of international cooperation between the stakeholders. With more and more Member States launching their own programmes, and the European Commission planning support mechanisms such as the European GovTech Incubator, some of the pain points will be addressed. In this context, sharing of knowledge and experience between governments will be crucial.

With that in mind, the most potential for successful GovTech interventions by governments are expected to be in areas where governments can play to their unique strengths. That is for example by allowing experimentation with public infrastructure, hedging regulatory risks early on, providing patient capital at the right stage, or fostering peer learning networks. These efforts have the potential to contribute to the transformation of the organisational culture of government in order to source cutting edge innovations in any shape and form.

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