GovTech Snapshot:
Data-driven Insights into an Emerging Sector

StateUp

Summer 2020

Introduction

GovTech—an emergent ecosystem of small, innovative technology firms providing products and services for the public sector—has attracted growing attention over the past 3 years. Yet granular insights into the state of GovTech companies remain limited. Policymakers, even if enthusiastic to try new approaches, need evidence to de-risk taking chances on younger companies. Entrepreneurs and investors seeking to serve a public purpose can have difficulty spotting gaps and opportunities.

To fill this research gap, since early 2020 the StateUp team has been analysing innovative GovTech startups creating products and services for the public sector. Our growing dataset, the basis for our future research, includes almost 300 firms from 30 countries working in 20 high growth GovTech subsectors. Our data is deliberately selective and diverse: we include firms of all sizes; geographic locations; at various stages of their funding lifecycle; and creating products, offering services, and everything in between. The main thread that ties together these young companies is a commitment to bringing high quality, thoughtful digital innovation to public sectors.

This document presents two key findings drawn from our analysis of the data so far. The first is a subsector breakdown, which gives a sense of major growth areas in the GovTech sector. Local and urban tech performs particularly strongly. The second is an overview of the key technologies startups are developing for the government market. Artificial Intelligence, perhaps unsurprisingly, is consistently cited as the primary technology being used across subsectors. We also present preliminary findings on a key GovTech subsector: government procurement and supply chain management.

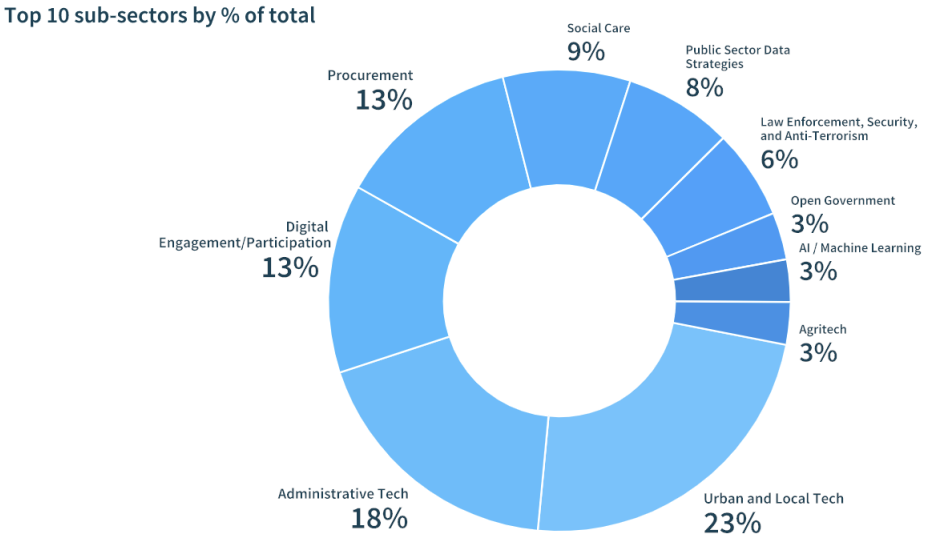
Why does this research matter?

Policymakers and public procurement officers are increasingly tasked with the uptake of digital and emerging technologies. The aim, often, is to improve efficiency, accountability, sustainability or social impact. Developing an understanding of key developments within the GovTech space can help busy decision makers to focus their attention on how specific technologies could both help them to serve citizens and shape (and sometimes constrain) their policy options. Entrepreneurs and investors, meanwhile, can use this research to better understand, and direct, how their products and services sit within the broader government technology market. Improving information quality on the supply and demand side is critical for enhancing the services that citizens ultimately receive.

The data presented in this document offers a snapshot in time, providing insights that reflect the sector in Summer 2020. For more information on our methodology, please see page 5.

Primary GovTech Subsectors

Visualisation 1: Primary GovTech subsectors



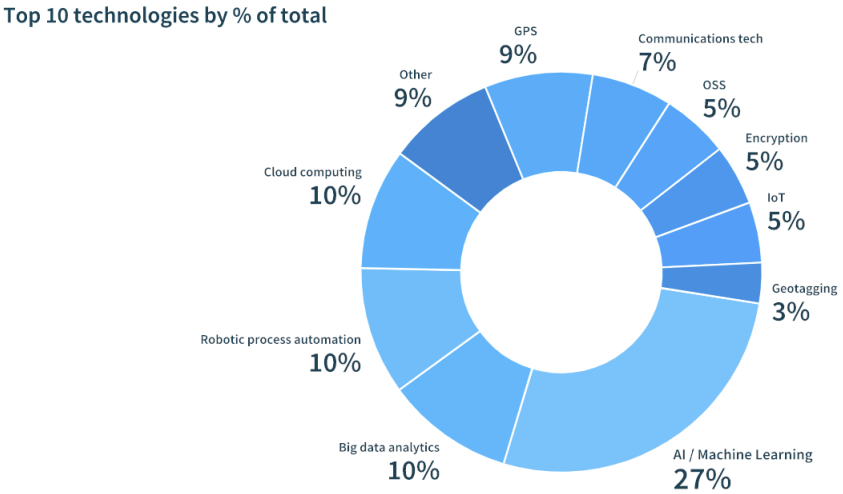
This chart shows the main GovTech subsectors in which firms in our dataset currently operate. Many startups work at the intersection of more than one subsector, so some companies are counted more than once.

Urban and Local Tech is the largest subsector, making up 23% of companies. This subsector is characterised by a large number of firms that currently operate primarily at a local or national level. In some cases, they have already spread to countries that share a language, political system, border, or other cultural elements.

Administrative Tech forms the second largest subsector in our dataset, comprising 18% of startups listed. This wide-ranging category includes firms that help manage human capital, track budgets, and streamline procurement activities. It is common for companies in this subsector to serve a variety of industries in both the private and public sectors. **40% of administrative tech firms report having some AI/ML or Robotic Process Automation component to their work**, typically related to facilitating data collection, analysis, or manipulation.

Products and services that facilitate digital engagement/participation and procurement are tied for third place, with around 13% each. **Participatory technologies have become the subject of increased attention as legislative bodies continue to seek innovative ways of meaningfully engaging with the public.** This is a trend we observed directly when working with the UK Parliament on digitally engaging citizens in the select committee system. We believe Procurement to be a growing subsector because of increasing recognition of the potential for digital and emerging technologies to better facilitate transparency, trackability, and supply chain management to improve the efficiency and effectiveness of procurement exercises from start to finish (see P. 04). Healthtech and Edtech, large domains in their own right, has been excluded from this research document.

Visualisation 2: What core technologies are GovTech companies using?



This chart provides a breakdown of the various technologies startups self-report using or developing. The use of Artificial Intelligence is, perhaps unsurprisingly, a major trend across a wide range of subsectors within the GovTech space. Our term 'AI / ML' encompasses a broad swath of related technologies under the AI umbrella, including Machine Learning and Deep Learning. **Of our top three subsectors (Urban and Local Tech, Administrative Tech, and Digital Engagement/ Participation), AI / ML is the most frequently cited technology that startups claim to be using.**

The most popular application of AI technology is to sort and analyse data. For instance, CitizenLab, a citizen participation startup, uses Natural Language Processing to automatically classify and summarise citizen stakeholder feedback.

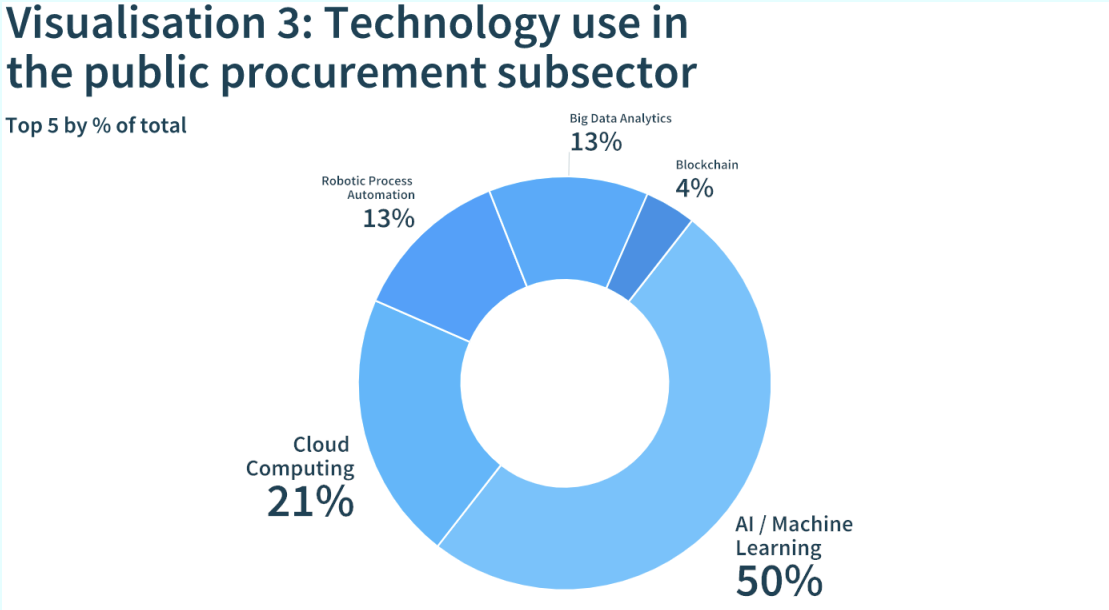
Despite the predominant focus on data analysis, our database shows that GovTech firms are using AI for a diverse range of applications (see Gianluca Misuraca's 10 'AI typologies' for more information; 2020, p24) and to meet varied needs.

For example, CityLife is a PaaS startup that provides municipalities with voice assistants to more efficiently field citizen inquiries. Public safety solution Carbyne leverages AI and ML technology to help first responders handle emergencies more quickly and effectively.

Often based on AI, Robotic Process Automation (RPA) is tied with Big Data Analytics as the second most popular category of tech developed by startups in our dataset. RPA is particularly prevalent in our Administrative Tech subsector, with startups aiming to automate repetitive administrative tasks. Emblematic of GovTech applications of RPA is healthcare app Flynotes, which uses RPA to streamline the process through which clinical patients provide digital consent.

Finally, there appears to be increasing use and development of Open Source Software in the GovTech space, which may offer a low-cost option for government organisations keen to adopt and scale new technologies. We will continue to track tech innovations as they emerge within the GovTech context and provide research updates.

Procurement and Government Supply Chain Management - Subsector Analysis



The current crisis is underscoring the criticality of procurement reform, which may be facilitated by the careful use of advanced technologies. There is growing acknowledgement of the urgency of engaging remote sensing technologies, for example, to assist in tracking and managing emergency procurement spending. Blockchain technology is being proposed to support management of critical PPE (personal protective equipment) supplies. Technology uptake could have a role to play in recovery and resilience-building processes, including reducing resource inefficiency, mitigating corruption risks, and bolstering trust in government.

Innovative companies within this subsector provide varied services, including supply chain visualisation, accelerating the sourcing of goods and services, and supplier management. Firms either focus exclusively on products and services for public procurement or may have developed relevant technologies for the private sector that they are pivoting to address public sector needs, while taking into consideration the differences in procurement practices and policies across the sectors.

Based on our data, the procurement subsector is heavily focused on AI and machine learning, cloud computing, and big data analytics. 83.3% of companies in this subsector say that they use at least one of these as a key technology. This trend comes as no surprise given the nature of the services govtech procurement companies seek to provide. Take, for example, SmartProcure. Their database uses big data analytics to compile and organize U.S. Government purchase orders, which allows for greater transparency between government contractors and tech suppliers.

It is important to remember that the technologies that these companies are developing cannot 'solve' procurement-related challenges alone, but are likely to be most useful when developed alongside broader reform agendas and cultural shifts.

Methodology

How did you determine the subsector categories?
When deciding on subsector categories for our dataset, our goal was to reflect broad patterns in the GovTech landscape. We wanted to keep the number of subsectors to a manageable number while being as specific as possible, settling on 20 subsectors, the top 10 of which are discussed here. They are a general guide rather than a rigid list that comprehensively describes the GovTech sector. Because the most innovative firms often do not fit into rigidly defined categories, it is possible that a single startup is listed under more than one subsector.

How did you determine the tech used categories?
We believe our tech used categories represent the key technology trends that are shaping the GovTech space. Software, pervasive throughout the sector, is not a specific focus here. We chose 17 focused and specific categories, and we plan to add more as an increasing range of digital and emerging technologies are applied in public sector contexts.

What biases are there in the data you collected?
While we made a concerted effort to minimise biases in the data collection process, it is difficult for any effort at this scale to be completely objective. There might be a bias towards firms operating in English and Spanish-language environments, stemming from the team's backgrounds. There might be a selection bias towards companies directly involved in activities related to the projects we've undertaken and/or StateUp's main practice areas. And startups with information publicly accessible might be overrepresented.

Why is AI / Machine Learning (AI/ML) included as a subsector as well as a tech used category?
AI / ML represents a major area of development in the GovTech space. To reflect cases where a company is developing AI/ML products across public sector domains, we have also included AI / ML as a subsector.

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