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## Policy Brief #34

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# The role of govtech in the achievement of the Sustainable Development Goals: state of play and perspectives

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Govtech and  
public transparency

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2023

The ideas contained in this study are responsibility of their authors and do not represent the official position of CAF.

## Executive summary

This document explores the role that govtech plays in the achievement of the Sustainable Development Goals (SDGs) in Latin American (LATAM) and its contribution towards strengthening the take up of the data and the Artificial Intelligence (AI) economy within the region. The analysis draws on the experiences of several Latin American countries, regions, and cities which have recently adopted govtech strategies and compares their lessons learnt, failures, and successes in order to identify some key recommendations for the future. This policy brief is particularly built on literature review and key informant interviews with experts from the following public authorities: the city of Cordoba in Argentina, the federal government of Brazil, the government of Colombia, the State of Jalisco in Mexico, and the government of Scotland.

The document also leverages on examples and insights from the first meeting of the govtech Leaders Alliance, held on the 7th of October 2021. This newly established Alliance aims at promoting common principles for govtech strategies around the globe and at ensuring that lessons derived from their implementation are shared and made available to others embarking on this approach. The Alliance is open to countries from all geographies and all levels of public administrations (national, regional, local) but focuses especially on public authorities from the LATAM region. During the first meeting, participating public authorities were invited to contribute with a short presentation outlining how govtech initiatives help to achieve the SDGs. Examples and evidence shared by delegates during the meeting has been used all through this policy brief.

Govtech is defined as *“the ecosystem in which governments cooperate with startups, SMEs and other actors that use data intelligence,*

*digital technologies, and innovative methodologies to provide products and services to solve public problems”.*

The Sustainable Development Goals (SDGs) represent a key compass for govtech initiatives, as they point to specific public problems demanding urgent and priority action. **Experiences from the public sector show that govtech strategies constitute steppingstones for the achievement of the SDGs because they a) help governments to deliver on SDGs priorities, b) develop innovative solutions to key SDGs challenges and c) create new data and evidence via digitalization of public services and policies.** Available evidence further suggests that govtech solutions have a proven impact on all SDGs which relate to delivery of sectoral public services and solutions (e.g., SDG 4 - Quality education, SDG 6 - Clean water and sanitation, and SDG 13 - Climate change), but also on transversal SDGs such as SDG 16- Peace, justice and strong institutions and SDG 17 - Partnerships for the goals.

Overall, this paper argues that govtech can be a strategy to help public administrations construct exogenous digital capacities that they can tap upon as needed and in their contracting terms, while ensuring a flexible way to build a high value-added startup and SME sector.

## Govtech: towards a common understanding and definition

In the past years, the concept of govtech has been increasingly discussed worldwide, reaching its peak of popularity just before the COVID-19 crisis<sup>1</sup>, and continuing to gain traction during the pandemic, as a possible response to its challenges. While it has generated an indisputable growing interest, this

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<sup>1</sup> Source: Google Trends, data retrieved on the 03/12/2021

concept has also been defined and used in many different ways by different governments, organizations, and countries. Sometimes it is even used interchangeably with other parent concepts, such as CivTech<sup>2</sup>. Even within single governments, govtech might mean different things to different people: the United Kingdom for example mapped five different definitions, all of which are currently in use within its public administration<sup>3</sup>.

Part of the confusion around this term stems from its relationship with an ecosystem of broader and mostly “traditional” concepts such as *public innovation, digital government, and CivTech*. To gain clarity, and to establish a common understanding of govtech, one therefore needs to start by clarifying all these terms.

- The concept of **public sector innovation** has been around for decades. The OECD defines it as “significant improvements to public administration and/or services”<sup>4</sup> brought by innovative solutions. Technological innovation is one way, amongst others, to deliver such improvements. Within the broader context of public innovation, the concept of **digital government**, defined as “the use of digital technologies, as an integrated part of governments’ modernization strategies, to create public value”<sup>5</sup> has emerged more recently, brought by the acceleration of the technological revolution.
- The concept of **Civtech (or Civic Tech)** on the other hand has a different degree

of relationship with govtech. CivTech was initially the predominant term, and is still used sometimes interchangeably with govtech. Today however, it has gained a different meaning. As described very well by a recent blog post: “*there are many subtle differences between Civic Tech and govtech, but the main thing to remember is this: while govtech includes a wide range of technologies provided to governments to increase the efficiency of their internal operations, CivicTech focuses on informing citizens, connecting them with each other and getting them to engage with their government in order to work together for the public good*”<sup>6</sup>. The key focus of civtech is therefore on citizens’ needs while in the case of **govtech the spotlight is on governments’, and specially through their contractual relations with innovative startups to deliver a policy or service**. The two concepts are hence related: govtech solutions can support civtech initiatives and deliver a positive impact on citizens and, in turn, civtech overlaps with govtech in the establishment of an ecosystem comprising citizens. However, it must be clear that they are not synonymous anymore.

Bearing in mind its relation with the abovementioned concepts, govtech can be defined as “*the ecosystem in which governments cooperate with startups, SMEs and other actors that use data intelligence, digital technologies, and innovative methodologies to provide products and services to solve public problems... They propose new forms of public-private partner-*

<sup>2</sup> The term CivTech, compared to govtech, puts the emphasis on the citizens as ultimate beneficiaries of disruptive technologies used by governments. This is a trademarked concept which emerged in Scotland following the development and launch of the [CivTech programme](#).

<sup>3</sup> <https://www.gov.uk/government/publications/technology-innovation-in-government-survey/technology-innovation-in-government-survey#appendix-govtech-definitions-and-ecosystem>

<sup>4</sup> OECD (2018), Oslo Manual 2018, Guidelines for Collecting, Reporting and Using Data on Innovation, 4th Edition

<sup>5</sup> OECD (2014), Recommendation of the Council on Digital Government Strategies, OECD/LEGAL/0406, OECD, Paris, <https://legalinstruments.oecd.org/en/instruments/OECDLEGAL-0406>.

<sup>6</sup> Apolitical (2019), *What’s the difference between Civic Tech and GovTech?*, <https://apolitical.co/solution-articles/en/whats-the-difference-between-civic-tech-and-govtech>

<sup>7</sup> *The govtech Index 2020, Unlocking the Potential of govtech Ecosystems in Latin America, Spain and Portugal, CAF and Oxford Insights, 2020*

ships for absorbing digital innovations and data insights to increase the effectiveness, efficiency, and transparency in the delivery of public services<sup>7</sup>.” Key in this understanding is the fact that **govtech does not refer to the development of a specific sector, but rather to the establishment of a space supporting a better adoption and use of technology in the sectors in which public administrations are involved**, i.e. from intelligent irrigation in agriculture, and efficient mobility through sensors, to virtual reality for emergency management, and fintech for financial inclusion.

**It follows from this understanding that the core of govtech strategies does not lie on the use of technology by governments per se but rather on the relations that governments build with innovative players for integrating technological and disruptive innovation in their activities, as a new mode of delivery, in the whole of the public sector ventures.**

By leveraging the knowledge of public authorities participating in the newly launched CAF **Govtech Leaders Alliance**, the next section explores govtech country experiences in the LATAM region, highlighting their commonalities and differences, and focusing on the three key govtech pillars identified by CAF: *startups industry, government policies, and procurement systems*<sup>8</sup>.

## Govtech experiences in LATAM: commonalities and differences

### Startup industry

When looking specifically at the relation between government and startups, what seems to characterize govtech efforts in LATAM is the *strong and shared willingness of all governments to establish long term and sustainable partnerships between the public sector and*

*the local start-up/entrepreneurial ecosystem, as well as to support the development of this ecosystem as a meaningful counterpart of government.* As one of the interviewees put it, “*the mere encounter of supply and demand around solutions for a particular public sector need does not constitute per se an innovative ecosystem*”. To build such an ecosystem, countries need to strengthen the long-term relationships between local stakeholders and also to provide opportunities for startups and entrepreneurs to better understand the public sector.

Within Latin America and in other parts of the world, many countries working in this area are willing to go beyond a narrow interpretation of govtech, by working towards a more institutionalized collaboration between public authorities and the private sector in the long run and to build resilient local, national, and regional govtech ecosystems, as exemplified by the experiences reported below.

#### Box 1: Examples of public sector outreach to local start-up/entrepreneurial ecosystems

In Colombia, **Innpulsa**, the national agency for innovation and entrepreneurship, has taken the lead on govtech initiatives. The agency is leveraging its connections and expertise to generalize knowledge across the public sector on how to work with start-ups and entrepreneurs.

In Argentina, the city of Cordoba has established a Smart City of Cordoba initiative, which aims at strengthening the city’s links with startups and entrepreneurs. The city started this journey by carrying out a capacity mapping of its local startups and entrepreneurial ecosystem to identify its strengths and characteristics. This led to focusing on specific themes and areas

<sup>8</sup> *The govtech Index 2020, Unlocking the Potential of govtech Ecosystems in Latin America, Spain and Portugal, CAF and Oxford Insights, 2020*

(e.g., environment, transport, culture) in which startups and entrepreneurs are more mature and for which they can offer better solutions. The city is also creating a specific cybersecurity hub to foster connections between private sector, academia, and government on this key topic.

In Mexico, the State of Jalisco works very closely with its local ecosystem of entrepreneurs to accelerate the adoption of digital solutions by municipal authorities and it also leverages the international govtech community to share their lessons learned and acquire knowledge.

In Brazil, the country's digital transformation strategy pushes for a cultural shift within the public sector, moving towards a "government-as-a-platform" approach which entails opening up government agencies to collaborating with startups and entrepreneurs on the delivery of public policies and services. This cultural shift requires a profound modification in the way partnerships between the public and private sector are formed.

The Lithuanian Govtech Lab was created a few years ago after the government realized that, on the one hand, the public sector often had money and challenges to address them but did not know how to spend the resources appropriately and, on the other, entrepreneurs often had ideas but no access to engage with the public sector. The Govtech Lab works with public authorities at all levels to connect the public and private sector, with two specific objectives in mind: 1) to bring solutions to the public sector and 2) to bring economic opportunities to start ups and Small and Medium Enterprises (SMEs). The Lab is therefore the space through which public sector authorities and startups connect.

While most countries in the region share this broader understanding of govtech and a strategic focus on enhanced collaboration between government and startups, that is in

the process, as well as in the product, they implement different solutions for bringing the public and private sector closer, ranging from establishing specific collaboration programs to updating the legal framework and working on public sector's demand and procurement approaches, as illustrated below.

#### Box 2: Examples of government efforts to increase public-private partnerships

Innpulsa, for instance, focuses on **structuring the demand for solutions** to public sector needs by strengthening the capacity of public sector officials and their ability to work and negotiate with private entrepreneurs. It does so by developing a methodology for proposing and working on public sector needs.

The city of Bogota, in Colombia, has developed **several programs to foster connections between universities, government actors, and startups**. These include different actions such as the organization of speed dating between public officials and entrepreneurs and the involvement of high school and university students in the development of challenges and solutions.

Brazil invests considerably on **improving the legal frameworks** within which the public and private sector operate, so that collaboration improves over time. This includes establishing new legal frameworks for startups and entrepreneurs, as well as new rules in terms of innovative procurement and digital government, as further detailed below.

In Cordoba, Argentina, the city aims to **bring the public and private sector together around specific themes and through specific engagement mechanisms**, such as demo days, challenges, and permanent hubs. Considerable attention has also been paid to establishing a favorable legal and policy framework which enabled contacts between public authorities and startups.

This broad menu of mechanisms for establishing a public-private ecosystem around govtech constitutes an advantage from a public sector perspective as different governments can select what fits best in their local context and given the characteristics of their startups and entrepreneurs. These characteristics in fact, and not only the technology, have an influence on the way through which governments can absorb new solutions and the quality of the govtech local ecosystem.

## Government policies

Govtech government policies within the LATAM region are still nascent as some countries have not adopted such strategies and others have just started their journey. Those strategies and policies which have already been established share some commonalities and differences, both from a strategic and implementation perspective.

What govtech policies in LATAM often have in common is that they are backed up by **strong political commitment**, that they seek an institutionalized **collaboration of several governmental departments for their effective implementation and that they have a holistic vision to their implementation as a whole-of-government frameworks**.

Authorities in charge of govtech strategies differ from one context to another: they can be investment/innovation agencies (as it happens at the national level in Colombia), political cabinets (as in the State of Jalisco in Mexico), or specific departments and programs (as occurs at the national level in Argentina and Brazil). Their proximity to decision makers thus

also varies and so does their mandate and the partnerships they establish with other parts of government. The close link with politicians and ties to the political agenda can be both a strength and a weakness for the success of govtech approaches.

### Box 3: Examples of intra-government ties to strengthen govtech initiatives in LATAM

In Cordoba, Argentina, the strong political support received by the department of the city in charge of govtech strategic planning and implementation allowed collaborating effectively with other public sector departments and facilitated fast and effective implementation of the work plan envisaged for the last two years.

In Brazil, the Secretary of Digital Government (which is closely linked to the President's cabinet) represents the main sponsor and driver for the delivery of the Digital Government Transformation strategy and ensures effective collaboration across relevant departments.

For the State of Jalisco (Mexico), working with 125 different local authorities on the adoption of digital platforms means dealing with political change following elections and therefore needing to regain the buy-in of decision makers (i.e. in terms of acquisition of software solutions) periodically.

It is also interesting to note that, in certain contexts, the institutional set-up of the bodies in charge of govtech strategies exposes them to risks in terms of long term stability. One of the major paths forward in the sector, is the need to institutionalize political commitment into concrete regulations, that can give governments adequate mandates, establish specific activities and responsibilities throughout government, and give the programmatic financial sustainability to carry out a for long-term digital transformation policy, such as govtech.

Another common feature of government initiatives around govtech in LATAM is the breadth of programs and solutions explored. Very often, govtech plans include a variety of actions spanning from funding activities in startups solutions (via challenges), to training and capacity building for public sector employees, and various forms of stable collaboration between startups and governments (e.g., incubators). Furthermore, there is new evidence that the newest form of govtech action, from the government side, is coming in the form of public investment, such as in the case of Cordoba. These initiatives have a fourfold objective of: turning governments into investors of first resort in areas directly related to government's own capacity and efficiency, catalyze the incipient govtech startup market, bridge existing market failures for the participation of venture capital in govtech businesses and detonate impact investment in business that can have positive social externalities. A greater understanding and strengthening of this trend will be of paramount importance to channel the needed financial resources from all sectors for the achievement of the SDGs.

**Box 4: Examples that showcase the breadth of govtech programs and solutions in LATAM**

Cordoba, Argentina, created the first public govtech investment fund in LATAM: *Fondo Córdoba Ciudad Inteligente*. The mechanism is funded with 1% of the annual industry tax in the municipality and has three investment modalities: equity, convertible notes, and through non-refundable contributions, through which startups can provide training or other services to the municipality as a way to repay the investment.

The state of Jalisco, together with strategic partners (such as Bloomberg Philan-

thropies), invested in the development of platforms and solutions for local authorities (being *VisorUrbano its flagship platform*) and in providing public sector officials the skills to use and manage them. This followed a diagnostic showing the extremely uneven level of digital skills of officials, as well as of connectivity and use of technologies across local authorities. For this State, govtech efforts thus need to be concentrated on increasing digital savvy of public authorities and even provision of digital solutions to businesses and citizens.

The city of Medellin, in Colombia, has established a city innovation lab which implements a specific methodology for prototyping solutions to societal challenges and “pick winners.” The outcome of this process allows the city not only to benefit from better and innovative public policy solutions but also to strengthen the startups and entrepreneurs collaborating with the public authority.

Amongst the many govtech initiatives envisaged by Brazil in the review of its Digital Government Strategy, the incorporation of govtech approaches into existing programs aimed at supporting entrepreneurship in the country stands out as a very interesting solution for rooting govtech practices into government's strategic and long term spending.

Finally, stakeholders from the regions stress the **importance of governments' intervention for establishing “govtech friendly” legal and regulatory frameworks**. Experts emphasized in particular that having a solid legal ground for collaboration between public sector and startups (e.g., laws focused on startups, public procurement rules and data sharing) is a precondition for govtech strategies to succeed.



**Box 5: Examples of policy and regulatory frameworks to catalyze govtech**

By approving an updated policy framework for public-private collaboration, the city of Cordoba was able to collaborate more effectively with companies to improve services such as retirement processes and property registration documentation.

In São Paulo, new procurement rules were adopted allowing the public sector to tap into innovative instruments, such as competitive dialogue. These new rules, coupled with the new general startup law adopted by the Brazilian government, allow the public sector to establish partnerships with startups and test solutions together. These legislative changes were needed to unlock experimentation and allow the public sector to better tackle technological risks.

To sum up, govtech policies in LATAM generally rely on strong political willingness and collaborative approaches between many different government actors. They also tend to be very broad in terms of policy actions and solutions which can be deployed and, to be successful, they need to be rooted in broader and favorable policy and regulatory frameworks. At the same time, the extent to which these policies are embedded within government varies considerably depending on the specific country and institutional set up and the frequent dependency on political support might expose govtech initiatives to long-term sustainability challenges. Official govtech strategies paired with public or hybrid investment funds for startups, could be the

right combination for the future of govtech in the region.

## Procurement systems

Finally, and from a procurement perspective, most countries have set aside funding to support their govtech strategies, both at the coordinating level and to procure specific solutions in sustainable and scalable ways. However, many public authorities regret the lack of sufficient resources for funding govtech solutions and the acquisition of new technologies and they underline the fact that such resources cannot be considered as secured in the long term. Despite increasing evidence showing the clear return on investment for governments' spending in govtech (e.g., 37.2:1 ROI in Colombia<sup>9</sup>, 21% increase in tax revenue over the prior year in Jalisco<sup>10</sup>, 22:1 ROI in Scotland<sup>11</sup>), the amount dedicated to innovative procurement spending can be improved significantly across the region.

Even in the absence of sufficient funding, governments still invest in upgrading or reinterpreting existing public procurement rules and legislation and upskilling public sector officials. Outdated procurement rules and practices in fact can have a significant negative impact on collaboration between startups and the public sector. As one of the experts pointed out: *"startups and SMEs love working with governments but hate the procurement process."* To address this challenge, several LATAM countries have recently adopted new measures aimed at modernizing public procurement and improving the government's capacity to source technologies and solutions from start-ups and SMEs.

<sup>9</sup> [https://scioteca.caf.com/bitstream/handle/123456789/1539/GovTech\\_y\\_el\\_futuro\\_del\\_gobierno\\_el\\_caso\\_de\\_Datasketch\\_en\\_Colombia.pdf?sequence=1](https://scioteca.caf.com/bitstream/handle/123456789/1539/GovTech_y_el_futuro_del_gobierno_el_caso_de_Datasketch_en_Colombia.pdf?sequence=1)

<sup>10</sup> [https://scioteca.caf.com/bitstream/handle/123456789/1485/Govtech%20y%20el%20futuro%20del%20gobierno\\_el%20caso%20de%20Visor%20Urbano%20en%20M%C3%A9xico.pdf?sequence=1](https://scioteca.caf.com/bitstream/handle/123456789/1485/Govtech%20y%20el%20futuro%20del%20gobierno_el%20caso%20de%20Visor%20Urbano%20en%20M%C3%A9xico.pdf?sequence=1)

<sup>11</sup> Expert interview, 01/12/2021

### Box 6: Examples of legal frameworks to facilitate the acquisition of innovative solutions from start-ups and SMEs

In 2020, Colombia approved a new law (Law 2069 from 2020, known as 'Ley de Emprendimiento' or Entrepreneurship Law) aiming at facilitating the government's acquisition of technological and innovative solutions from startups and SMEs. The law directly establishes that state entities should seek to make investments and purchases that involve new technologies, technological tools, and innovation that allow them to generate better services for citizens, foster the technological development of the state, and promote in national companies and entrepreneurs the need to innovate and use technology in their business. The law also defines new criteria and procedures for SMEs and startups: these companies will benefit from a different approach for the provision of documentation to the public sector and different assessment methods to consider their size.

In Brazil, the new public procurement law (Ley compras públicas 14.133/21, entered into force in April 2021) aims at fostering innovative procurement by facilitating contacts and negotiations between public sector and startups/SMEs. By establishing a clear process for businesses to participate in public procurement opportunities and by centralizing the access to information through a common web portal, this law helps innovative SMEs and startups to participate in the public sector market and submit their proposals. By fostering startups and SMEs' participation in public procurement, the government intends to benefit from a wider and more innovative range of solutions.

These measures are examples of a recent global trend towards accelerating Public Procurement of Innovation Frameworks, which are being used as procuring mechanisms for innovative technologies in commercial and

pre-commercial stages. Recently, CAF published the report *Public Procurement as Catalyst of Govtech Ecosystems*, analyzing the state of innovative procurement in Latin America, Spain and Portugal. As its main findings and recommendations, relevant for this document, are the need to link the SDG and Public Procurement of Innovation agendas, strengthen institutional leadership and skills and promote high level political commitment towards the reform and reinterpretation of specific procurement regulations aimed at digital startups and SMEs.

Finally, and regarding public sector capacity, experts from the region pointed out that procurement skills are lacking across the public sector and need to be reinforced, especially in the context of innovative procurement. Thus, training and capacity building programs concerning innovative procurement are often part of govtech initiatives as exemplified by the cases below.

### Box 7: Examples from governments upskilling government procurement

In Brazil, the National School of Public Administration and the Digital Government Secretariat collaborate closely around the question of skills and capacity building for public procurement. While the new public procurement law (abovementioned in Box 6) sets the ground for clearer rules and there is an increasing appetite for innovative solutions within the public sector, what is still slowing the adoption of innovative procurement practice is a) the lack of concrete/illustrative end-to-end cases and examples and b) fears from public officials to do things wrong and be brought in front of judicial courts for their financial mistakes. By providing practical examples and working on training public procurement specialists in technology and technology specialists in public procurement, the National School of Public Administration is currently trying

to address these challenges. Additionally, one of the forthcoming govtech initiatives (under the updated Digital Government Strategy) will specifically aim at systematizing and disseminating knowledge on innovative procurement.

Innpulsa, in Colombia, recognizes public procurement skills as a key component for the success of govtech initiatives and digital government transformation. It focuses on supporting public officials acquire new competencies in order to manage product and service innovation, to understand the potential of new technologies for solving public sector challenges, and to work more effectively with the private sector.

## Govtech and SDGs: characterisation of a strong relationship

There is overwhelming consensus, amongst the experts consulted for this brief, on the fact that govtech policies and strategies are closely tied to the achievement of the Sustainable Development Goals (SDGs). The SDGs represent a key target for public intervention; some experts even argued that their achievement should constitute the ultimate goal for any govtech initiative. As one of the interviewees put it *“the SDGs are the framework within which we should work on govtech.”*

Bearing this in mind, experts identify different ways and mechanisms in which this close relation transpires. Notably govtech initiatives are deemed to contribute to the achievement of the SDGs by:



## Delivering for the Sustainable Development Goals

Govtech strategies constitute a key tool for governments to **deliver on the SDGs and implement high quality policy and services, by tapping into the concrete solutions and capacities for delivery through data and technology of the innovative private sector.** In LATAM, as in many parts of the world, austerity measures and budgetary impacts have decreased the size of public administrations while increasingly complex challenges imply they should do more, with less. With the pandemic exacerbating these trends, plus the need to work online and provide digital solutions to citizens, govtech initiatives and startups have helped, and are helping, the public sector strengthen the delivery of public policies and services in a digital world, as the examples below suggest.

### Box 8: Examples of govtech initiatives delivering for the SDGs

The government of Colombia has been working on two specific govtech solutions to deliver on SDG1 - no poverty.

- One solution concerns the use of blockchain for secure monetary transactions, targeting vulnerable populations. Various financial programs in Colombia provide monetary relief to vulnerable populations, such as the elderly. Nonetheless, several thousands of seniors are still not receiving subsidies due to their low banking rates and medical conditions. Govtech solutions based on blockchain technologies help address this challenge and deliver financial aid where it is needed.
- The second solution relates to access to the financial system for financially vulnerable business and citizens. Access to credit products for SMEs and low-income populations is still very

difficult to ensure. FinTech solutions strengthen financial inclusion and help reach 18% of Colombia’s population, which is still excluded from the financial and banking system.

The city of Cordoba, in Argentina, developed a new mobility app jointly with local entrepreneurs to improve how citizens plan their journeys with various forms of transports. This app helps the local government to deliver on SDG 11 - Sustainable cities and communities, as it increases the mobility choices of citizens and optimizes their journeys, thus making city transports more sustainable and efficient and reducing CO2 emissions.

As the examples above suggest, govtech can support different SDGs, depending on countries’ needs and priorities. Countries have a clear understanding of which SDGs are the most urgent for them to address and, tapping into exogenous skills brought about by the govtech ecosystems, governments embed new technologies in their operations and deliver better policies and services in these domains. Today, existing govtech solutions cover the whole breadth of SDGs: startups and entrepreneurs have been developing solutions for supporting governments in delivering on most, if not all, of them. The literature provides numerous other examples of govtech solutions addressing specific SDGs as shown in the table below.

Table 1: Examples of govtech solutions matching SDGs

SDG 1 - No poverty	Incluyeme, in Spain, promotes inclusive jobs in Latin America by facilitating the entrance of disabled people in the labor market.
SDG 2 - Zero Hunger	EncantadoDeComerte, in Spain, links food suppliers with final consumers to create a marketplace for food surplus from hotels and restaurants.
SDG 3 - Good health and well being	Predicto, in Colombia, uses computer vision to measure changes in the blood flow of a patient's face through their cell phone camera.
SDG 4 - Quality Education	Blended, in Argentina, is a mobile first school- parent communication system serving over 200 schools in the country.
SDG 5 - Gender equality	Medicapt works in 46 countries by using data, encryption, and cybersecurity mechanisms to reveal patterns of large-scale sexual violence.
SDG 6 - Clean Water and Sanitation	Aquosmic, in Mexico, uses satellite data and AI to measure water quality anywhere in the world.
SDG 7 - Affordable and clean energy	Sitema.bio, in Mexico, is a prefabricated modular biodigester that includes a full suite of biogas appliances and connections to turn organic waste into renewable biogas.
SDG 8 - Decent work and economic growth	Workana, in Argentina matches jobseekers with labor needs.
SDG 9 - Industry, innovation and infrastructure	Connect Robotics, in Portugal, helps to automate delivery through drones.
SDG10 - Reduced inequalities	Acivilate in the United States, is a Software-as-a-Service (SaaS) company committed to reducing recidivism.
SDG11 - Sustainable cities and communities	Vikua, in Latin America, supports the evolution to smart cities using IoT and AI to create a modular City Management Software that can be contextualized to the needs of any government.
SDG 12 - Responsible consumption and production	Alquilab, in Perú, connects used products with interested parties to create a circular and sustainable economy.

<b>SDG 13</b> - Climate action	Green Urban Data, in Spain, is a software platform with a global database with environment parameters for decision making processes.
<b>SDG 14</b> - Life below water	RanMarine, in the United States is developing water drones to help governments clean water and monitor water quality in real time.
<b>SDG15</b> - Life on Land	Munidigital, in Argentina, created an app so that citizens can georeference trees in their communities and achieve a better management of municipalities' land and natural resources.
<b>SDG 16</b> - Peace Justice and Strong Institutions	OS City, in Panama, developed 'Smart CID' a platform to support the government with answers to citizen requests of information with AI.
<b>SDG 17</b> - Partnership for the goals	Govtech Lab Platform, from CAF, is the first regional initiative aimed at supporting the govtech ecosystem in Latin America and beyond, through technical and financial support from governments, regional investment initiatives and actionable knowledge to help strengthen the delivery of public policies to achieve our shared global goals.

Fuete: *Apolitical*<sup>12</sup>

As the examples listed above suggests, there is a broad range of govtech solutions helping governments to deliver on specific/sectoral public services (i.e. SGD 1 - No poverty, SDG 10 - Reducing Inequalities and SDG 13 - Climate change). Additionally, recent evidence suggests that govtech solutions also support transversal SDGs such as **SDG 16 - Peace, justice and strong institutions and SDG 17 - Partnerships for the goals.**

Concerning SDG 16, govtech impact concerns primarily the targets related to the strengthening of public institutions (reduction of bribery and corruption, promote laws and policies for sustainable development and develop effective, accountable and transparent institutions at all levels). For example, the State of Jalisco in Mexico focuses heavily on the SDG target

16.5 (Substantially reduce corruption and bribery) and has launched a series of govtech initiatives (such as the abovementioned Visor Urbano platform) to respond with specific solutions to this issue. This newly established business license platform for instance helped to reduce corruption by 74% and diminished the waiting times for citizens and businesses

by 84% to receive key documents from a few weeks to a few days.

Regarding SDG 17, by empowering coalitions of players at the local, national, and international level and by ensuring the private sector participates in the SDGs through partnering with the public sector, govtech strategies and solutions also represent a specific asset for this SDG related targets<sup>13</sup>. In line with this objective, they enable cross-country and cross-sector collaboration at different governance levels, starting from local ecosystems and going up to international initiatives. This is particularly true in LATAM where experts acknowledge the importance of coalitions of players and considerably value international collaboration on govtech. The international projects initiated by the State of Jalisco in Mexico, in collaboration with international actors such as Bloomberg Philanthropies and CAF, are an illustration of how local initiatives can contribute to international peer exchanges and create coalitions which can advance the work on all the seventeen goals. Beyond LATAM, initiatives such as the abovementioned **CivTech Alliance COP26 Global Scale-Up Programme**, which is also focused in Govtech, brought

<sup>12</sup> <https://apolitical.co/solution-articles/en/govtech-startups-sustainable-development-goals>

<sup>13</sup> <https://sdgs.un.org/goals/goal17>

together 9 countries from all over the world to demonstrate the the power of joining efforts to address common SDGs challenges (which in this case focused environmental resilience, food waste and decarbonizing transports and reducing emissions).

As argued above, the breadth of govtech solutions currently available already supports governments in the delivery of all Sustainable Development Goals and experts believe that the full potential of govtech in this respect has yet to be reached. At the same time, the development of govtech solutions should also be guided by the availability of a market for such solutions and by business sustainability. In the context of some SDGs, the replicability, commerciability, and scalability of govtech solutions have to be proved and strengthened with evidence as to its adequacy for a flexible and cost-efficient vehicle of delivering results.

Understanding the role of the public sector as a buyer and investor, as well as the multifacet scheme of digital startups as both as business-to-government and business-to-business companies will be key to design initiatives that can truly unlock the value of govtech to solve SDG related problems.

## Developing innovative solutions to SDGs challenges

Besides using govtech for the delivery of concrete policies and services aiming to achieve the SDGs, governments can also leverage govtech strategies **for identifying and promoting the emergence of new and innovative solutions to the SDGs challenges.**

To exploit the potential of govtech in this respect and incentive startups and entrepreneurs to work on new (and needed) SDGs related

solutions, a few countries like Colombia or Portugal, chose to use the SDGs as a strategic criterion for the selection of specific projects to fund<sup>14</sup>. Other countries invested in govtech labs and scale up programmes to steer the govtech ecosystem to work on new solutions which can be put at the service of the SDGs. The table below contains a few examples of these possible approaches.

### Box 9: Examples of government initiatives to provide solutions to specific SDGs

The city of Bogota, in Colombia, has recently established a govtech lab, with the support of CAF, whose main objective is to progress on the SDGs and solve societal challenges through technology.

Lithuania is now carrying out the 4th edition of the govtech challenges initiative. During the first three editions more than 20 challenges were solved. This 4th edition includes 40 challenges and offers prizes to each startup to build and test their proposed solutions. The challenges do not necessarily need to be linked to the SDGs but they are often, for instance, focused on education and environment.

In 2021, ahead of the UN Climate Change Conference (COP26), the Scottish government, together with 9 other governments from around the world, launched the **COP26 Global Scale-Up Programme**. The program encompassed several challenges on environmental resilience, food waste, and decarbonising transport (related to SDG 13) and companies were invited to submit solutions which could be pitched to all participating governments and public authorities.

<sup>14</sup> For more information on the Portuguese govtech programme see the description made by the OECD Observatory for Public Sector Innovation: <https://oecd-opsi.org/innovations/govtech/>. Portugal is not a member of the govtech leader alliance at this stage.

Another way through which govtech initiatives contribute to the development of innovative solutions for tackling the SDGs is by strengthening government officials' skills and their capacity to collaborate effectively with the private sector. In many LATAM countries, boot-camps, workshops, and other capacity-building initiatives targeting public officials are integral part of govtech strategies. Furthermore, participation in govtech initiatives helps expose civil servants to divergent thinking and business mindsets thus contributing to a cultural shift within the public sector towards a more risk accepting rather than risk averse approach to innovation. Improving officials' ability to work with the private sector is important for governments to deliver on the SDGs, as public servants need to be able to confidently tap into the potential of govtech solutions and the exogenous skills brought by startups and entrepreneurs.

**Box 10: Examples of govtech initiatives contributing to the development of innovative solutions for tackling the SDG**

In Brazil, the city of Sao Paulo has established an Innovation Lab specifically aimed at creating capabilities within the government and transferring knowledge to public officials. The objective of the Lab is to make governments' officials better equipped to respond to citizens' needs, also in the context of the SDGs.

Brazil's national Digital Transformation Strategy also focuses heavily on education and skills: being digital for the Brazilian government does not mean simply applying technologies to existing processes but rather conceiving the state as a digital service provider which can meet the new and increasing expectations of citizens towards public services. To meet such expectations, governments need to be more knowledgeable, open, and faster to integrate skills and experiences from the private sector.

In Poland, the GovTech Centre of the Polish Government was initially established to focus on digital transformation of governments but soon realized that skills, capacity building and education were pivotal for making progress on building better policy and service solutions. It is now investing considerably on education and skills and has even extended its competences to aspects related to youth employment.

In the State of Jalisco, Mexico, levels of digital skills amongst public officials are considered to be generally low. The COVID-19 pandemics and the need to work from home exacerbated the importance of having digitally skilled public sector workforce. The State's Directorate of digital inclusion delivered countless training during the pandemics, from basic IT training to more advanced classes. This allowed the public sector to continue to function during the crisis and to build resilience and skills for meeting citizens' expectations in the future.

## Creating new data and evidence that can be used for monitoring the SDGs and policy planning

The generation of new data and evidence is a positive spillover of govtech initiatives which also contributes to the achievement of the SDGs. By digitizing certain services and establishing new platforms, govtech leads the development of new data sources and data infrastructures that can be used not only for SDGs monitoring but also and especially for policy planning.

While this data/evidence spillover is not always sought intentionally when developing new services and policies, several examples from LATAM governments demonstrate how govtech initiatives can lead to greater availability and use of data.

### Box 11: Examples where data generation and govtech initiatives crossover

In Cordoba, the new mobility app developed jointly by the public sector and local entrepreneurs counts four times more users than the previous public sector app and generates a higher amount of data on journeys and priority routes, which the city will use to improve transport planning. While the focus for the city concerning this app was first and foremost on improving the service for citizens, the return on investment in terms of data is remarkable and constitutes a bonus for public authorities, especially considering the acceleration of the AI and data economy which will be further discussed in the next section.

A “side effect” of the government of Colombia initiatives to address SDG challenges related to poverty and financial inclusion was the generation of relevant and up-to-date data on the beneficiaries of the newly established policies. Such data could be leveraged for improving the newly adopted measures and plan for the future.

In the State of Jalisco (Mexico), the government launched an application called “Ciudadapp” helping citizens to flag to the authorities where illegal constructions are happening. This led to gathering firsthand and valuable evidence on such illegal activities thus influencing the government’s ability to respond to this phenomenon.

As they create such new data and evidence, govtech solutions also play a role in supporting governments to reap the benefits of the new AI and data revolution. They do so by contributing to strengthening three building blocks of this transformation: *data, skills, and technologies availability*:

- **Data:** The adoption of govtech solutions (such as platforms, apps, software, and IoT solutions) for addressing public sector needs increases the amount of data available within the public sector and therefore contributes to the creation of new and more databases which can be leveraged for evidence-based decision-making and for nurturing the emerging data economy. Furthermore, as govtech relies on collaboration between public and private stakeholders and the establishment of extended ecosystems, it can contribute to encouraging data sharing across different public and private players, thus impacting the availability of data even further.
- **Skills:** according to the experts consulted in the context of this work, govtech strategies in LATAM have a tremendous impact on digital/data skills and capacity of public sector officials within the region. Evidence suggests that countries with higher levels of such skills perform better in the data and AI economy<sup>15</sup>.
- **Technologies:** in most cases, govtech solutions involve the setup of technologies and tools which can be leveraged by the public sector to generate and analyze more data, either directly or indirectly. Govtech projects establishing digital platforms, IoT solutions, and blockchain infrastructures, among others, contribute to extending the use of relevant AI and data technologies within the public sector and building a technologically upgraded infrastructure for data collection, sharing, and analysis.

The examples below illustrate how govtech solutions improve governments’ ability to collect, process and analyze data, also leveraging AI technologies.

<sup>15</sup>See for instance the Digital Economy and Society Index (DESI) developed by the European Commission for more information on the link between human capital and countries’ performance in the digital economy: <https://digital-strategy.ec.europa.eu/en/policies/desi>



**Box 12: New frontiers on data, the role of govtech in the AI and data revolution**

The **Apollo.AI govtech solution** is designed to enhance the safety of all first responders (law enforcement, firefighters, EMS & dispatch personnel) while maintaining an engaging environment and delivering mission critical information when first responders need it most. It does so by helping them find the fastest route and inform respondents about weather conditions on the location, identifying the closest intervention unit, providing information on the situation on the location and any prior intervention which took place in the area. As such, it leverages a multitude of data points to inform first responders and enhance their reaction capacity.

**Hayden AI** combines sensors and AI technologies to support local governments in making traffic flow more efficient and less dangerous. This solution maps an entire urban environment to create a duplicate virtual space that local leaders can use to get a better sense of the challenges they face and improve quality of life for their community. Through spatially aware perception systems, capable of seeing and reasoning in 3D, Hayden AI is an ally for local decision makers facing increasing pressure to address mobility challenges in their cities.

To conclude, by affecting governments' ability to deliver on the SDGs, by addressing SDGs related challenges and by creating new data and evidence, govtech strategies can be understood as steppingstones towards the achievement of the Sustainable Development Goals. They contribute to raising the bar in terms of governments' performance thus facilitating the tackling of policy challenges within the region and spreading a culture of innovation and experimentation.

## Recomendaciones

A few key actions can be taken by public authorities and by international organizations to strengthen the impact of govtech initiatives, reinforce their ties with the delivery of the Sustainable Development Goals and support the uptake of the data and AI economy in the region. Startups, entrepreneurs, and private investors all have a role to play in this respect.

Key recommendations for public authorities:

- 1. Institutionalize govtech policies to build implementation capacities in public administrations.** Govtech policies should also have clear financial planning so as to avoid sustainability challenges over time. As ecosystems of public private players cannot be built overnight, the certainty provided by a clear institutionalization of govtech initiatives is a necessary ingredient for building trust and long-term relationships between stakeholders.
- 2. Focus on gaining leadership support on govtech efforts and fostering a cultural shift within governments, leading to increased collaboration between public and private players.** Having a cultural shift within the public sector and towards technology-oriented solutions is both a precondition for govtech to succeed and a byproduct of the success of the govtech initiatives. By recognizing the importance of this cultural shift, by ensuring that political leaders and public sector management support govtech initiatives and by socializing public officials to work with startups, governments will increase their chances to succeed in delivering better policies and services to their citizens in an increasingly digitized world.
- 3. Establish clear links between govtech initiatives and the SDGs but also between govtech initiatives and the green and digital agenda.** Govtech initiatives should be closely tied to governments' efforts to

fight climate change and digitalize their economies. While the close links between govtech and climate objectives, and govtech and the AI/Data economy are widely recognized by experts, they are rarely made explicit in programming documents and strategies. Nonetheless, highlighting the dependencies between different (green and digital) policy initiatives and actions would help increase coherence within government interventions and strengthen collaboration between public sector departments.

4. **Increase investments in the development of SDG specific govtech initiatives and the establishment of innovative procurement programs focused on the SDGs**, thus further increasing the demand for innovative solutions and supporting the work of startups and entrepreneurs in these domains. Public, private, and hybrid capital and impact investment programs could sustain these efforts.
5. **Support startups and entrepreneurs which have developed innovative solutions in scaling them up and selling them to other governments or public organizations**. By embedding support to startups and entrepreneurs in their trade diplomacy, countries can strengthen their local ecosystems but also contribute to the uptake of best practices for tackling the SDGs.
6. **Through govtech initiatives, invest further in upgrading skills and infrastructure to incentivize data use**. Limited/uneven capacity building and skills as well as outdated IT infrastructures are perceived as a major hurdle for the implementation of innovative and technologically driven policy solutions by the public sector. Govtech initiatives provide an opportunity to carry out key capacity building activities and build new platforms and IT systems which meet the increasing citizens' demands in terms of service delivery.
7. **Organize govtech events, fora, and meet-ups** for local startups and entrepreneurs to structure the local 'offer' ecosystem, exchange best practices in

working with the public sector, and discuss common challenges.

Key recommendations for international organizations:

8. **Generate and disseminate information on best practices and successful approaches for establishing govtech ecosystems**. While there is increasing evidence and material on govtech initiatives given the success of this concept in recent years, public authorities might still lack access to clear information on what works and what does not and what are the most successful approaches for building a thriving ecosystem. Furthermore, knowledge on the link between govtech and SDGs needs to be further built and shared. For these reasons, international organizations could support the **compilation of a global report on the use of govtech for the SDGs**.
9. **Increase the visibility of effective govtech solutions by facilitating the connection of supply and demand**. An **Innovation Radar Platform** could serve this purpose by identifying high potential solutions for addressing SDGs challenges and forming a type of **govtech marketplace**. This would allow supply and demand for govtech solutions to meet and enable local startups and entrepreneurs to advertise and sell their products and services to other countries/governments.
10. **Build up knowledge exchange opportunities sharing between countries, regions, and cities to develop international partnerships and coalitions around govtech**. Knowledge sharing between countries and international cooperation represent a way to accelerate govtech strategies adoption and strengthen experts' understanding of the opportunities and value they bring for the public sector. In this context, international organizations should **strengthen existing fora for discussing best practices and sharing knowledge**. Initiatives such as the Govtech Leaders Alliance promoted by CAF can help: a) to work on a common set of principles concerning govtech to make

a stronger case about what it is and why it matters, especially in the context of the SDGs and b) to shed a light on the return on investment of govtech strategies and how to make them sustainable over time. These two topics are closely linked: the possibility to sustain govtech initiatives in the long term depends on the availability of evidence concerning their value, efficiency, and effectiveness in addressing societal challenges and supporting the achievement of the SDGs.

**11. Identify and exploit high-level political events to increase visibility of govtech as a means to achieve the SDGs.** Events of high profile should be leveraged to bring the topic of govtech in front of countries' decision makers and gain traction for the development of govtech strategies. The United Nations High-Level Political Forum and its Regional Forums for Sustainable Development, as well as the ITU World Summit on the Information Society Forum and the OECD eLeaders meetings are initial suggestions to explore and lay the groundwork for govtech to disseminate amongst other communities.

Key recommendations for startups, entrepreneurs, and private investors:

**12. Lobby public sector authorities at the country level to steer the development of a govtech strategy** (if one does not exist yet) and/or participate in the implementation of the existing strategy. Startups and entrepreneurs should particularly feed the discussion around the characteristics of the local private sector ecosystem and point at

areas of excellence or specific domains in which they have relevant solutions that can be easily put at the disposal of the public sector. Startups and entrepreneurs, through sectoral associations if relevant, should also join efforts to be more vocal on their pain points and challenges in working with the public sector, especially from an innovative procurement perspective.

**13. Collaborate with the public sector in the definition of financial programs aimed at addressing investment gaps occurring in specific sectors or geographical areas.** Investment gaps might be higher for SDGs targeting solutions which have more limited chances to be scaled up and replicated, i.e., because they have a more limited market or uptake potential due to their geographical or content characteristics. To fill these gaps, private investors in particular should explore opportunities to join efforts with governments via hybrid capital programmes and other innovative financial instruments (e.g., green bonds).

**14. Invest time and efforts in sharing knowledge, approaches and experiences with public sector officials, especially concerning innovative thinking, technological absorption, and risk management.** These efforts will contribute to the abovementioned cultural shift within governments and to raise officials' confidence in experimenting and taking risks. The cultural shift within the public sector in fact will not happen in the absence of greater exposure to private sector thinking and methodologies.





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