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# GovTech Maturity Index

2022 Update

# Trends in Public Sector Digital Transformation

December 2022

Supported by the GovTech Global Partnership (GTGP) and the KDI School (Republic of Korea)

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# Preface

In 2019, the World Bank launched the GovTech Global Partnership ([GTGP](#)) Initiative to support client countries in efforts to harness the opportunities of digital for public sector modernization. While the World Bank has been helping client countries utilize technology for governance for decades, it was evident that the lessons learned by leading GovTech countries could inform and influence development pathways and had great potential to aid the achievement of the twin goals of the World Bank Group: ending extreme poverty and boosting shared prosperity.

GovTech is a whole-of-government approach to public sector modernization that promotes a simple, efficient, and transparent government with the citizen at the center of reforms. The GovTech approach represents the current frontier of digital government transformation. As part of the GovTech Initiative, the World Bank Group provides financial and technical assistance to low- and middle-income countries worldwide to support the implementation of GovTech solutions.

The GovTech Maturity Index ([GTMI](#)) was introduced as a part of the GTGP Initiative. It measures countries' maturity in digital government transformation in four GovTech focus areas: (i) core government systems and shared digital platforms, (ii) online service delivery, (iii) digital citizen engagement, and (iv) GovTech

enablers. The GTMI is not intended to create a ranking or assess a country's readiness for or performance of GovTech; rather, it is intended to complement existing tools and diagnostics by providing a baseline and benchmark for GovTech maturity and identifying areas for improvement.

This 2022 GTMI report presents an updated global snapshot of digital government transformation. The GTMI collects this information from 198 economies worldwide and includes direct participation from many government officials. It is the most comprehensive measure of digital transformation in the public sector. This iteration captures many changes and initiatives that were launched in the last two years. The COVID-19 pandemic and subsequent recovery efforts have emphasized the value of digital for government and development outcomes.

This is a key moment for GovTech. Governments are beginning to recover from the COVID-19 pandemic while facing bold challenges on fiscal space, peace, stability, and climate change. Debt levels are increasing while fiscal resources are stretched. GovTech is an investment that can benefit governments and citizens alike. I believe the GTMI will remain an essential tool for client countries to understand the gaps in their GovTech approach, and to inform deliberations on how to tackle constraints.

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Arturo Herrera Gutiérrez

Global Director, Governance Global Practice  
The World Bank

# Abbreviations

AFR	Sub-Saharan Africa
AI	artificial intelligence
API	application programming interface
DCEI	Digital Citizen Engagement Index
CGSI	Core Government Systems Index
EAP	East Asia and Pacific
ECA	Europe and Central Asia
EGDI	e-Government Development Index
EPI	e-Participation Index
GEA	government enterprise architecture
GIF	government interoperability framework
GSB	government service bus
GTC	GTMI calculated using weights based on correlation analysis with standardized scores
GTE	GTMI calculated using weights based on expert opinion
GTEI	GovTech Enablers Index
GTF	GTMI calculated using weights based on factor analysis with standardized scores
GTMI	GovTech Maturity Index
G2B	government to business
G2C	government to citizen
G2G	government to government
HCI	Human Capital Index
HIC	high-income country
IBRD	International Bank for Reconstruction and Development
ICT	information and communication technology
IDA	International Development Association
ID4D	Identification for Development
IoT	Internet of Things
IT	information technology
LAC	Latin America and the Caribbean
LIC	low-income country
LMIC	lower-middle-income country
MIC	middle-income country
MENA	Middle East and North Africa
OECD	Organisation for Economic Co-operation and Development
OSI	Online Service Index
OSS	open-source software
PSDI	Public Service Delivery Index
SAR	South Asia
TII	Telecommunication Infrastructure Index
UMIC	upper-middle-income country
UN	United Nations
URL	universal resource locator



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## Executive Summary

As part of the [GovTech Global Partnership](#) research agenda, the World Bank has placed a focus on measuring GovTech maturity around the world. These efforts culminated in the first edition of the [GovTech Maturity Index](#) (GTMI) launched in 2021. The construction of the GTMI is primarily based on the World Bank's [GovTech Dataset](#), which is publicly available through the World Bank Data Catalog.

The GTMI is a composite index that uses 48 key indicators (including eight external indicators) to measure critical aspects of four GovTech focus areas in 198 economies: supporting core government systems, enhancing service delivery, mainstreaming citizen engagement, and fostering GovTech enablers.

**GTMI is not intended to create a ranking or assess a country's readiness for or performance of GovTech. It is intended to complement existing tools and diagnostics by providing a baseline for GovTech maturity and identifying areas for improvement.**

The 2021 [GTMI Report](#) and underlying dataset provide opportunities to replicate the study, identify gaps in digital transformation by comparing the differences among economies and groups of economies, and track changes over time in a transparent way. The dataset will be updated every two years to reflect developments in the GovTech domain.

This 2022 GTMI update report and the accompanying dataset and new data dashboard present the progress within the last two years, highlight some of the good practices, and identify existing gaps for possible improvements in countries at the technology frontier. As with the 2020 edition, economies are grouped, not ranked, to illustrate the state of GovTech focus areas globally.

For the 2022 GTMI update, the GTMI team followed a different approach from previous years. First, the

GTMI methodology was reviewed, and indicators were revised and extended to explore the performance of existing platforms and cover less-known areas in consultation with development partners and WBG experts involved in digital government transformation. An online survey was conducted to provide secure access to relevant country officials to reflect the latest developments, including implementation progress and achievements in their GovTech initiatives. Data collection and validation phases took about six months, with direct participation of government officials. This overview report presents a summary of the approach, how the 2022 GTMI dataset update is different, improvements in the GTMI dataset contents and visualization tools and GTMI group calculations, and initial findings and key messages.

## Methodology

The methodology for the 2022 GTMI has been updated but remains consistent with the previous approach, which comprised five main steps: (i) definition of indicators, (ii) data collection and index construction, (iii) data analysis, (iv) validation of observations, and (v) results reporting. The current version involves a broader consultation with development partners and designated country representatives at various stages, in the interest of transparency and with the goal of improving the quality of the index. The details of index construction and updated parts of the methodology are explained in Chapter 2.

The 2022 GTMI survey included 40 updated or expanded GovTech indicators measuring the maturity of four GovTech focus areas. Additionally, eight highly relevant external indicators, comprising all three components of the United Nations (UN) [e-Government Development Index](#) (EGDI), the UN e-Participation Index (EPI), the ITU's [Global Cybersecurity Index](#) (GCI), and three indicators from the [Identification for Development](#) (ID4D) dataset, were used in the calculation of GTMI. A list of indicators is presented in Table 2.1.

The 2022 edition is for the most part reliant on the results of an online survey providing secure country-

specific access to relevant government officials for the collection of indicator data, together with supporting links and documents. For this edition, a Central Government (CG) GTMI online survey was launched in March 2022, and some 850 officials from 164 countries participated in this exercise. Additionally, a pilot subnational government (SNG) GTMI online survey was launched with the participation of more than 350 SNG officials from 20 interested countries. Both survey platforms were available for data entry until the end of August 2022. In all, 135 economies submitted their responses through the CG GTMI online survey. The GTMI data of 63 non-participating economies was collected remotely. Additionally, 122 SNG entities from 17 countries submitted their GTMI data through the survey tool.

Once data collection and validation processes were completed, the GTMI groups were calculated and validated with the participating country teams. The validated data was used to update the GovTech Dataset in October 2022. A new GTMI Data Dashboard was launched in November 2022 to provide maps and graphs aimed at helping the end-user digest and explore the findings of the GTMI, as well as the updated GovTech Projects Database.



# Main Messages

- The global average of the GTMI value has risen, but gaps remain.

The global average of the GTMI value has risen from 0.519 in 2020 to 0.552 (out of 1) in 2022. This translates to an overall improvement in GovTech maturity across economies. However, despite progress in online service delivery and underlying shared platforms, the digital divide widens.

- **Fifty-two economies improved to the next level of maturity, but some have regressed.** In 2022, 136 economies out of 198 (69 percent) remain in their GTMI group compared to 2020, whereas 52 economies (26 percent) moved up one level and 10 economies (5 percent) moved down one level.
- **Regional disparities persist.** At the regional level, economies in Europe and Central Asia (ECA), South Asia (SAR), Middle East and North Africa (MENA), and Latin America and the Caribbean (LAC) generally registered higher scores, while Africa (AFR), followed by East Asia and Pacific (EAP), recorded the lowest scores.
- **Income plays a role.** High- and upper-middle income economies dominate the group of GovTech Leaders (Group A), whereas only 16 percent of both lower-middle and low-income economies were represented in Group A. Conversely, about 40 percent of the lowest performing came from low-income economies. The correlation of income and GovTech maturity implies that earmarking adequate finances for GovTech activities is essential for public sector digital transformation. The results indicate that there is an urgent need to support the digital transformation needs of the lower-income and IDA countries to address growing digital divide challenges.
- **There is measurable improvement on public service delivery.** Within focus areas, the subindex on public service delivery recorded the highest average score (0.649). Likely a product of the COVID-19 pandemic, more than 150 countries placed greater emphasis on e-services to provide continued access to necessary services.
- **However, digital citizen engagement remains an area for development globally.** Despite anecdotal evidence on increased interaction with citizens and improved communication and engagement services and channels, the subindex on citizen engagement yields the lowest global average score (0.449).
- **Applying a whole-of-government approach is the objective of the majority of countries.** A total of 140 economies (70 percent) have committed to a whole-of-government approach for transformation, and 85 economies (about 43 percent) are institutionalizing the approach. Dedicated digital government/GovTech institutions have been established in 154 economies to lead the digital transformation agenda.
- **Attention is needed in fragility, conflict, and violence (FCV) countries to raise the level of GovTech maturity.** Eighty-six percent of FCV countries are in the bottom half in terms of GovTech maturity. While this is not surprising, it confirms the need to create specific solutions for low-tech environments.

The team welcomes readers to explore the GovTech Dataset and findings presented here and to visit the corresponding [GTMI Data Dashboard](#) to further their knowledge.





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# Introduction

Governments have been using technology to modernize the public sector for decades. The World Bank Group (WBG) launched the [GovTech Initiative](#) in 2019 to support the latest generation of these reforms. GovTech is a whole-of-government approach to public sector modernization that promotes simple, efficient, and transparent government, with citizens at the center of reforms.

As part of the [GovTech Global Partnership](#) research agenda, the World Bank has placed a focus on measuring GovTech maturity around the world. This culminated in the first edition of the [GovTech Maturity Index](#) (GTMI), launched in 2021. The GTMI is a composite index that uses 48 key indicators (including 8 external indicators) to measure critical aspects of four GovTech focus areas in 198 economies: supporting core government systems, enhancing service delivery, mainstreaming citizen engagement, and fostering GovTech enablers. The GTMI also assists practitioners in the design of new digital transformation projects.

The construction of the GTMI is primarily based on the World Bank's [GovTech global dataset](#), which is publicly available through the World Bank Data Catalog. The

2021 [GTMI Report](#) and underlying dataset provide opportunities to replicate the study, identify gaps in digital transformation by comparing the differences among economies and groups of economies, and track changes over time in a transparent way.<sup>1</sup> The dataset will be updated every two years to reflect global progress in the GovTech domain.

The 2021 GTMI report presented the methodology, constraints in data collection and validation approach, and possible refinements in detail. The 2020 GovTech dataset contained data/evidence collected from government websites using remotely measurable indicators mostly reflecting de jure practices.<sup>2</sup> In general, it was possible to verify the existence of an approved policy or strategy document, an effective law, an established institution, or a system or service. However, ascertaining the implementation status or progress of these platforms over the years was challenging. Hence, the 2020 version of the index did not generally consider whether various economies were implementing some practices or using existing systems effectively, as there was minimal reporting of results and outcomes on the web. Also, some of the existing good practices were not visible on the web.

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1. The 2022 version of the GTMI is not directly comparable with the 2020 version due to the inclusion of new indicators and the expansion of sub-indicators to capture performance measures, as explained later in this report.
  2. The 2020 GovTech dataset was originally developed using publicly available data and reports on government websites. Collecting data through survey forms or interactions with government officials was not possible due to the broad spectrum of systems and services covered, as well as the COVID-19 restrictions. Some of the capabilities related to citizen participation and feedback are only accessible when a citizen actually signs into the portal, and these embedded features may have been missed while collecting data. Also, the dataset may not capture the presence of a national citizen participation portal in some of the federal countries, although such platforms may exist for different ministries and agencies or at the provincial or state level. These constraints are explained further in this GTMI report.

For the 2022 GTMI update of the dataset, an online survey was conducted to provide secure access to relevant country officials to reflect the latest developments, including implementation progress and achievements in their GovTech initiatives. The same methodology for determining the index in 2021 was used in the 2022 version to ensure consistency with the previous approach. Additionally, there was a review of the methodology and a revision of indicators and sub-indicators to capture several less-known areas. This was undertaken via consultations with development partners and WBG experts involved in digital government transformation, coupled with the participation of government officials who were also directly involved in validating the survey data. This

overview report presents a summary of the approach, how the 2022 GTMI dataset update is different, the improvements in the GTMI dataset contents and visualization tools and GTMI group calculations, and the initial findings and key messages.

To complement the 2022 GTMI update, the [Digital Governance/GovTech Projects Database](#) was also updated to present the WBG investments related to four GovTech focus areas in client countries through the Data Catalog, as well as the new GTMI Data Dashboard.

The findings and conclusions of the GTMI and underlying GovTech dataset are presented on the public [GTMI website](#).

## Approach

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A two-phase approach was followed for the 2022 GTMI update. Key stages of each phase are listed below.

### **Phase I:** Updating the GTMI groups and GovTech Dataset (November 2021–November 2022)

- Establish a multi-stakeholder consultation group to discuss possible improvements in the GTMI methodology and indicators.
- Prepare a database of key GovTech contacts (government officials) from all countries for interactions during the GTMI update. Also, inform all World Bank country offices and regional units about the objectives, deliverables, and timeline of the GTMI update and request support for reaching out to key country officials.
- Review existing methodology and identify possible improvements in key indicators, data collection, index construction and analysis, validation of observations, and publishing results.
- Obtain accreditation from the World Bank Data Privacy Office (DPO) to maintain the GTMI contact list and protect the personal data of participating country officials during the 2022 GTMI update.
- Prepare two online surveys (for central and subnational government entities) based on existing and new indicators and interact with country officials for the collection of GTMI data and relevant evidence.
- Update and expand the GovTech global dataset based on the survey data, complemented by remotely collected data from government websites for those economies not participating in the survey exercise.
- Validate the dataset and observations with inputs from a group of World Bank experts involved in the design and implementation of public sector digital transformation activities globally.
- Share the updated and extended dataset and calculated GTMI scores/groups with country officials for possible adjustments on collected data and evidence before publication of the dataset.
- Finalize and publish the 2022 version of the GovTech dataset through the WBG Data Catalog.



## **Phase II:** Dissemination of findings and key messages (November 2022–June 2023)

- 2022 GTMI update: Prepare an overview report to explain how the 2022 GTMI and underlying GovTech Dataset update was different from the 2020 GTMI and discuss the process, timeline, survey experience, findings (trends/progress in four focus areas), good practice cases (selected country cases to demonstrate the progress), and conclusions.
- 2022 GovTech Projects Database update: Prepare another brief to summarize the status and scope of 1,449 digital governance/GovTech projects funded by the Bank (all practices) in 147 countries since 1995.
- Regional briefs: Prepare regional GTMI briefs to share the progress/trends in all regions using a standard template in consultation with the Country Management Units (CMUs) and Regional Units of relevant Global Practices.
- Country briefs: Prepare country briefs to share the progress/trends in selected countries using a standard template based on the demand, in consultation with the CMUs and Regional Units.
- Central and subnational government GovTech briefs: Prepare combined central government (CG) and subnational government (SNG) GTMI briefs for interested countries (e.g., India, Nigeria), depending on the demand and available resources.
- Organize 2022 GTMI update dissemination events and prepare presentation materials.

# Timeline

The timeline of the first phase of the 2022 GTMI update is presented in Figure 1.1. Following the revision of the GTMI indicators and development of new central government (CG) and subnational government (SNG) GTMI online surveys, the data collection stage was initiated in March 2022. The CG GTMI data was collected through the direct participation of 135 country teams and remotely for 63 non-participating economies. Additionally, 122 subnational government entities (states, municipalities) from 17 countries submitted their SNG GTMI responses. Data collection and validation process was completed in August 2022. The GTMI groups were calculated in September, and the GovTech Dataset was updated in October. Finally, a GTMI data visualization portal was launched in November 2022 to create a dashboard with maps and graphs aimed at helping the end-user digest and explore the findings of the GTMI and the GovTech Projects Database.

This report is structured as follows: Chapter 2 presents the methodology, data collection, and construction of the GTMI, as well as how the 2022 GTMI Update differs from the 2020 GTMI. Chapter 3 expands the findings from the update, looking at the data using a global lens and a regional outlook, income level distribution, borrower category, fragile and conflict-affected situations (FCS) status, and each GovTech focus area. Chapter 4 features good practices from 16 economies to illustrate results on the ground. Lastly, the appendices contain an explainer on the revised GTMI (Appendix A), an overview of the 2022 GovTech Dataset (Appendix B), a comparison with UN e-Government Development Index (Appendix C), and other GovTech references (Appendix D).

>>> **Figure 1.1:**  
GTMI Timeline



Source: World Bank GTMI Team

Note: GTMI = GovTech Maturity Index, SNG= Subnational Government



# Methodology

The 2022 GTMI update closely follows the methodology outlined in the 2021 report.<sup>3</sup> The previous approach comprised five main steps: (i) definition of indicators, (ii) data collection and index construction, (iii) data analysis, (iv) validation of observations, and (v) results reporting. The current version involves a broader consultation with development partners and designated country representatives at various stages in the interest of transparency, as well as to improve the quality of the index. The differences are further explained below.

## How is the 2022 GovTech Maturity Index Update Different?

The GTMI team<sup>4</sup> followed a different approach for the 2022 GTMI update (see Box 1). First, the GTMI indicators were revised and extended to explore the performance of existing platforms and cover less-known areas in consultation with nine relevant organizations<sup>5</sup> and 10 WBG groups ([DD](#), [ID4D](#), [G2Px](#), [MTI](#), ITS, [DEC](#), [SPJ](#), [EDU](#), LEGOP, and [DGRA](#)) from November 2021 to January 2022. For the 2022 update, a central government (CG) GTMI online survey was launched in March 2022. About 850 officials from 164 countries participated in the survey exercise. Additionally, a pilot subnational

government (SNG) GTMI online survey was launched garnering participation of some 350 SNG officials from 20 interested countries. By the end of August, 135 economies submitted their responses through the CG GTMI online survey. The GTMI data of 63 non-participating economies was collected remotely. Additionally, 122 SNG entities from 17 countries submitted their GTMI data through the survey tool. In October 2021, a data validation exercise was completed, benefiting from the clarifications and updates of participants before the calculation of GTMI groups.

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3. Cem Dener, Hubert Nii-Aponsah, Love E. Ghunney, and Kimberly D. Johns. 2021. *GovTech Maturity Index: The State of Public Sector Digital Transformation*. Washington, DC: World Bank.
  4. The GTMI team members are Cem Dener (Task Team Leader), Kimberly D. Johns (Co-TTL), Hubert Nii-Aponsah, Gustavo Alonso Zanabria Gainza, Asami Okahashi, Çağla Giray, Freida Siregar, Susie Youngyun Lee, Charles Victor Blanco, Hunt La Cascia, João Ricardo Vasconcelos, Till Hartmann, and Youngseok Kim.
  5. Organizations include the United Nations (UN) E-Government Development Index team, the Organisation for Economic Co-operation and Development (OECD), the International Telecommunications Union (ITU) Global Cybersecurity Index team, the European Union (EU), United Nations University (UNU), the Development Bank of Latin America (CAF), the International Monetary Fund (IMF), Government Digital Service International (GDSI), and Oxford Insights.

The GTMI survey participants and the World Bank teams involved in this process were regularly informed about its progress during data collection and validation stages through a distribution list (while protecting the privacy of the email addresses of participants). The GTMI team reflected the clarifications and updates provided by relevant government officials in the latest version of the GovTech dataset and completed the GTMI group calculations in October. The draft version of the 2022 GovTech dataset was shared

with all participants on October 12, 2022, for a final review before its public release. Several country teams responded with requests for further updates in some of the sub-indicators without any change in the GTMI groups. The 2022 GTMI update was officially launched on November 16, 2022, through a hybrid event with the participation of survey participants and interested practitioners. Overall, the whole process was inclusive and transparent.



### Box 2.1:

#### How the 2022 GTMI dataset update differs from the 2020 version



##### Consultations

The GTMI indicators were revised and extended to explore the performance of existing platforms and cover less-known areas in consultation with nine relevant organizations and 10 WBG groups involved in measuring the progress in digital transformation.



##### New indicators

Thirty-five out of 40 key GTMI indicators are the same as before, but there are additional key and sub-indicators to measure less-known aspects and reporting of performance/utilization. Also, six out of eight external key indicators are the same as before, but there are two new indicators to measure other important aspects (cybersecurity and digital ID).



##### Data collection

The 2020 version is based on remote data collection (mainly due to the pandemic). The 2022 version is based on an online survey tool to obtain data from the countries themselves, with supplementary information.



##### Data validation

Sufficient time was allocated for data validation (until August 31) to benefit from the clarifications and updates of all survey participants.



##### Inclusion

CG GTMI online survey was launched in March 2022 and more than 850 officials from 164 countries accepted to join this exercise. Additionally, a subnational government (SNG) GTMI online survey was launched in parallel as a pilot implementation and more than 350 officials from 20 interested countries participated in this process.



##### Direct participation

A total of 135 economies submitted their responses through the online survey tool. The GTMI data of 63 non-participating economies was collected remotely. Additionally, 122 subnational government entities (states, municipalities) from 17 countries submitted their SNG GTMI data through the survey tool.



##### Transparency

All survey participants were regularly informed about the updated dataset and the draft GTMI calculations were shared before public release.



##### Data dashboard

A GTMI data visualization portal was launched in November 2022 to provide maps and graphs aimed at helping the end-user digest and explore the findings of the GTMI and the GovTech projects database.

## Definition of New Indicators

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The 2022 GTMI survey included 40 updated or expanded GovTech indicators measuring the maturity of four GovTech focus areas. Additionally, eight highly relevant external indicators measured by other relevant indexes, comprising all three components of the United Nations (UN) [e-Government Development Index](#) (EGDI), the UN e-Participation Index (EPI), the ITU's [Global Cybersecurity Index](#) (GCI), and three relevant indicators from the [Identification for Development](#) (ID4D) dataset, were used in the calculation of GTMI.

The GTMI is the simple average of the normalized scores of four components:

- **CGSI:** The Core Government Systems Index (17 key indicators, including one external indicator) captures the key aspects of a whole-of-government approach, including government cloud, interoperability framework, and other platforms.
- **PSDI:** The Public Service Delivery Index (nine key indicators, including two external indicators) measures the maturity of online public service portals, with a focus on citizen centric design and universal accessibility. One of the external indicators (I-26 on Digital ID) used for the calculation of PSDI is new, and updated values were not available before calculation of the GTMI

groups. This indicator was included without any weight (for information only) and the 2022 values will be updated once the related dataset is released by the ID4D team.

- **DCEI:** The Digital Citizen Engagement Index (six key indicators, including one external indicator) measures aspects of public participation platforms, citizen feedback mechanisms, open data, and open government portals.
- **GTEI:** The GovTech Enablers Index (16 key indicators, including four external indicators) captures strategy, institutions, laws and regulations, digital skills, and innovation policies and programs, to foster GovTech.

While the total number of indicators remained the same, the indicators defined for these four components were slightly different in the 2020 version (CGSI: 15 indicators; PSDI: six indicators; DCEI: 12 indicators; GTEI: 15 indicators). During the revision of key indicators for the 2022 update, the GTMI team adjusted the number of key indicators for each subcomponent in consultation with the stakeholders to cover a broader spectrum of relevant GovTech aspects. Table 2.1 presents the key indicators, possible range of scores, and weights assigned to each indicator. The rationale for the weight differential is explained later in the report.

## Data Collection

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The data collection process for the 2022 GTMI update was substantially improved through direct participation of interested government officials via an online survey, compared to the 2020 version, which was based on remotely collected data from the government websites. Secure country-specific central government (CG) GTMI online survey links (URLs) were used by designated officials for updating the underlying GovTech Dataset. More than 850 respondents provided evidence to substantiate responses. Out of 198 economies, 135 central government teams (68 percent) submitted their

responses through country-specific online surveys directly. For the remaining 63 economies, the GTMI data was collected remotely. The World Bank team validated the responses through iterative consultations and collaborative validation efforts with the selected country teams to ensure a high level of data quality.

Furthermore, a separate SNG GTMI online survey was launched in parallel (as a pilot exercise), and more than 350 officials from 122 subnational entities submitted their completed survey responses directly.

The SNG entities involved in this process were the states and municipalities of 17 countries, including India (32), Nigeria (22), Portugal (20), Türkiye (17), Peru (13), Brazil (6), and Mexico (2). The SNG GTMI dataset was not used in the computation of the 2022 CG GTMI groups, which present exclusively the maturity of digital transformation initiatives at the central government level.

The GTMI team organized eight information sessions (recorded and posted on the GTMI webpage) to present the 2022 GTMI online surveys and respond to the questions of interested participants during data collection. Additionally, bilateral meetings were held with some of the countries, based on their request to clarify their questions on the survey.

>>> **Table 2.1:**  
2022 GTMI key indicators

Ind	GTMI Key indicators	Points	Weight
<b>Core Government Systems Index (CGSI)</b>			
I-1	Is there a cloud platform available for all government entities?	0 - 2	W1
I-2	Is there a government enterprise architecture framework?	0 - 2	W1
I-3	Is there a government interoperability framework?	0 - 2	W1
I-4	Is there a government service bus platform?	0 - 2	W1
I-5	Is there an operational FMIS in place to support core PFM functions?	0 - 2	W3
I-6	Is there a TSA supported by FMIS to automate payments and bank reconciliations?	0 - 2	W3
I-7	Is there a Tax Management Information System in place?	0 - 2	W3
I-8	Is there a Customs Management Information System in place?	0 - 2	W3
I-9	Is there a Human Resources Management Information System with self-service portal?	0 - 2	W3
I-10	Is there a Payroll System (MIS) linked with HRMIS?	0 - 2	W3
I-11	Is there a Social Insurance system providing pensions and other SI programs?	0 - 2	W1
I-12	Is there an e-Procurement portal?	0 - 2	W2
I-13	Is there a Debt Management System (DMS) in place? (Foreign and Domestic debt)?	0 - 2	W3
I-14	Is there a Public Investment Management System (PIMS) in place?	0 - 2	W2
I-15	Is there a government Open-Source Software (OSS) policy/action plan for public sector?	0 - 2	W2
I-16	UN Telecommunication Infrastructure Index (TII)	0 - 1	E1
I-17	Does government have a national strategy on disruptive / innovative technologies?	0 - 2	W2
<b>Public Service Delivery Index (PSDI)</b>			
I-18	UN Online Service Index (OSI)	0 - 1	E1
I-19	Is there an online public service portal? (Also called "One-Stop Shop" or similar)	0 - 2	W2
I-20	Is there a Tax online service portal?	0 - 2	W2
I-21	Is e-Filing available for tax and/or customs declarations?	0 - 2	W2
I-22	Are e-Payment services available?	0 - 2	W2
I-23	Is there a Customs online service portal (Single Window)?	0 - 2	W2
I-24	Is there a Social Insurance/Pension online service portal?	0 - 2	W2
I-25	Is there a Job portal?	0 - 2	W2
I-26	Is there a digital ID that enables remote authentication for (fully) online service access	0 / 1	E2
<b>Digital Citizen Engagement Index (DCEI)</b>			
I-27	UN E-Participation Index (EPI)	0 - 1	E1
I-28	Is there an Open Government web site / portal?	0 / 1	W2
I-29	Is there an Open Data portal?	0 / 1	W2
I-30	Are there national platforms that allow citizens to participate in policy decision-making?	0 / 1	W1
I-31	Are there government platforms that allow citizens to provide feedback on service delivery?	0 / 1	W1
I-32	Does the government publish its citizen engagement statistics and performance regularly?	0 / 1	W2

Ind	GTMI Key indicators	Points	Weight
<b>GovTech Enablers Index (GTEI)</b>			
I-33	Is there a government entity focused on GovTech (digital transform, whole-of-government)?	0 - 2	W1
I-34	Is there a dedicated government entity in charge of data governance or data management?	0 - 2	W1
I-35	Is there a GovTech / digital transformation strategy?	0 - 3	W3
I-36	Is there a whole-of-government approach to public sector digital transformation?	0 - 2	W1
I-37	Are there RTI laws to make data/information available to the public online or digitally?	0 - 2	W3
I-38	Is there a data protection / privacy law?	0 - 2	W3
I-39	Is there a data protection authority?	0 - 2	W3
I-40	Is there a national ID (or similar foundational ID) system?	0 / 1	E2
I-41	Are records in the national ID system stored in a digitized (electronic) format?	0 / 1	E2
I-42	Is there a digital signature regulation and PKI to support service delivery?	0 - 3	W3
I-43	ITU Global Cybersecurity Index (GCI)	0 - 1	E1
I-44	UN Human Capital Index (HCI)	0 - 1	E1
I-45	Is there a government strategy / program to improve digital skills in the public sector?	0 - 2	W1
I-46	Is there a strategy and/or program to improve public sector innovation?	0 - 2	W1
I-47	Is there a government entity focused on public sector innovation?	0 - 2	W1
I-48	Is there a government policy to support GovTech startups and private sector investments?	0 / 1	W2

Source: World Bank data.

Note: The 2022 GTMI is based on 48 key indicators, including eight external indicators.



# Index Construction

The GTMI is the simple average of the four components measuring the maturity of GovTech focus areas, which are computed as the normalized weighted averages of relevant indicator and sub-indicator scores. A detailed discussion of the properties reflected by the axioms of the index is presented in the [2020 GTMI report](#).

The composite GTMI was calculated as follows:

$$(2.1) \quad \text{GTMI} = (\text{CGSI} + \text{PSDI} + \text{DCEI} + \text{GTEI}) / 4$$

Each component index was calculated as the weighted average of relevant key indicator (KI) and sub-indicator (SI) scores:

$$(2.2) \quad \text{CGSI} = \frac{\sum_{i=1}^{17} X(i) * W(i) + \sum_{j=1}^{69} Xs(j) * Ws(j)}{\sum_{i=1}^{17} Xmax(i) * W(i) + \sum_{j=1}^{69} Xsmax(j) * Ws(j)} \quad 17 \text{ KI} + 69 \text{ SI} = 86 \text{ indicators}$$

$$\text{PSDI} = \frac{\sum_{i=18}^{26} X(i) * W(i) + \sum_{j=70}^{96} Xs(j) * Ws(j)}{\sum_{i=18}^{26} Xmax(i) * W(i) + \sum_{j=70}^{96} Xsmax(j) * Ws(j)} \quad 9 \text{ KI} + 27 \text{ SI} = 36 \text{ indicators}$$

$$\text{DCEI} = \frac{\sum_{i=27}^{32} X(i) * W(i) + \sum_{j=97}^{113} Xs(j) * Ws(j)}{\sum_{i=27}^{32} Xmax(i) * W(i) + \sum_{j=97}^{113} Xsmax(j) * Ws(j)} \quad 6 \text{ KI} + 17 \text{ SI} = 23 \text{ indicators}$$

$$\text{GTEI} = \frac{\sum_{i=33}^{48} X(i) * W(i) + \sum_{j=114}^{153} Xs(j) * Ws(j)}{\sum_{i=33}^{48} Xmax(i) * W(i) + \sum_{j=114}^{153} Xsmax(j) * Ws(j)} \quad 16 \text{ KI} + 40 \text{ SI} = 56 \text{ indicators}$$

$X(i)$  denotes the score of key indicator ( $i$ ) (48 in total) and  $Xs(j)$  denotes the score of sub-indicator ( $j$ ) (153 in total) to be used for the calculation of four component indexes.  $W(i)$  is the weight of relevant key indicator, and  $Ws(j)$  is the weight of relevant sub-indicator, both based on expert opinion.  $Xmax(i)$  and  $Xsmax(j)$  are the maximum scores of relevant key indicator and sub-indicator, respectively.

The weighted average for each component index was computed by a variation of the standard weighted average formula to ensure that the values are normalized to fall between 0 and 1. The approach involves dividing the sum of the multiplication of the (sub-)indicators with their respective weights (the numerator) by the sum of the multiplication of the maximum (sub-)indicator values with their respective weights (the denominator).

## Representation of Indicators and Weights

The 2022 GTMI is constructed by explicitly grouping indicators and sub-indicators according to the **source** (GTMI data or External), **type** (Progressive or Binary) and **weight category** (Level 1 or 2). The rationale is to distinguish relatively new and critical dimensions for the GovTech focus areas from existing and new platforms already established in most of the countries. All 48 key indicators and most of the related sub-indicators (except textual and year-based data) were used in the calculation of the 2022 GTMI groups. The details of these calculations are presented in the **CG\_GTMI\_Groups** sheet of the GovTech Dataset.

Specifically, the key indicators and selected sub-indicators (201 in total) used for the GTMI group calculations were grouped into two major types:

- **P - Progressive indicators** (76): These are generally non-binary key indicators or important sub-indicators that are assigned a weight greater than 1.
- **B - Binary indicators** (125): These indicators are binary in nature (0/1) and are assigned a weight equal to 1 (meaning that the scores are maintained). They relate purely to sub-indicators, some of which are converted to binary indicators prior to the computation of the index (score 1 if the response is >=1). The reason for this is that

some of the affirmative responses only provide additional information which does not necessarily reflect a higher level of maturity in digital transformation.

Two weight categories were assigned to the **progressive indicators**:

- **Level 1** - Weights assigned to measure the maturity of relatively new critical dimensions important for four focus areas.
- **Level 2** - Weights allocated to determine the maturity of existing/new platforms already established in most countries.

Accounting for the source of indicators (whether collected by the World Bank team or obtained from external sources) yields seven categories of indicators with different weights (**Table 2.2**). The weight assignment and differentials depend on whether the measure is a level 1 or 2 GTMI key indicator (W1, W2, W3), external indicator (E1, E2), or a level 1 or 2 sub-indicator (S1, S2). While W2 and W3 reflect indicators at the same weight category (i.e., level 2), W2 is assigned a higher weight compared to W3, since indicators under this category have a different maximum possible response point as shown in Table 2.2. This ensures that indicators which fall

**Table 2.2:**  
Weight categories used for the GTMI group calculations



Weight Category	Number of Indicators	Description	Weight	Max Value	Max Score
E1	5	Ext indicator, Level 1	12	1	12
E2	3	Ext indicator, Level 2	1	1	1
W1	13	Key indicator, Level 1	6	2	12
W2	15	Key indicator, Level 2	4.5	2	9
W3	12	Key indicator, Level 2	3	3	9
S1	13	Sub-indicator, Level 1	2	2	4
S2	15	Sub-indicator, Level 2	1	2	2
<b>Total</b>	<b>76</b>				

Source: World Bank data.

under either group (W2 or W3) can ultimately attain the same maximum possible score (when their maximum attainable values are multiplied by their weights). Relatedly, level 1 external indicators (E1) can also obtain the same maximum scores as level 1 GTMI key indicators (W1), since E1 covers composite indices that capture several other aspects of digital transformation. Another level 2 weight category (E2) was assigned to the ID4D-related external indicators, exceptionally with a weight of 1 (similar to the binary indicators) since these are included as additional information.

Most of the progressive (P) indicators (60 out of 76) have a value range of 0 to 2. The values of the remaining 16 P indicators (including 8 external indicators) mostly range from 0 to 1 (except two indicators with a value range from 0 to 3). While calculating the GTMI groups, all indicator values were first normalized, then multiplied with related weights.

All weights are thus based on experts' opinion, although considerations of quantitatively constructed

weights using correlation analysis and factor analysis were made in comparison to minimize subjectivity bias, consistent with the previous approach. The computation of the quantitatively determined weights is explained in [Appendix D](#) of the [previous GTMI report](#). These weights are endogenously determined by the variance of the data itself. They ensure that the weights based on expert opinions are not determined arbitrarily, since the subjective weights identified by experts are guided by the quantitatively constructed weights. However, the expert-opinion weight option is preferred, since it leverages World Bank operational experience to (i) amplify the effects of new indicators highly relevant to the improvement of the four focus areas, (ii) reflect observations from existing studies, and (iii) present a more realistic global view of GovTech maturity compared to the quantitatively generated weights. The weights given to key indicators are presented in [Table 2.1](#), and the weights given to all key indicators and sub-indicators are listed in [Appendix 1](#).

## Data Analysis

The GTMI component scores were calculated with specific weights based on expert opinion to reflect the relative degrees of importance of the selected key indicators and sub-indicators. After normalized GTMI scores reflecting the key aspects of four GovTech focus areas were calculated, the sample of 198 economies included in the GovTech Dataset

was grouped into four categories, A to D (see [Table 2.3](#)). The purpose was not to rank countries in terms of performance, but to illustrate the state of GovTech focus areas globally, identify existing gaps (with respect to countries at the technology frontier) for possible improvements, and highlight good practices.

>>> **Table 2.3:**  
**Definition of GovTech Maturity Index (GTMI) groups**

Group	Score	GTMI	Description of government practices
A	0.75 – 1.00	Very High	GovTech leaders demonstrating advanced/innovative solutions and good practices in all four focus areas.
B	0.50 – 0.74	High	Governments with significant GovTech investments and good practices in most of the focus areas.
C	0.25 – 0.49	Medium	Governments with ongoing activities to improve some of the GovTech focus areas.
D	0.00 – 0.24	Low	Governments with minimal focus on GovTech initiatives.

Source: World Bank staff.

The number of economies falling into each group for the GTMI and its four components, together with the

average scores for all 198 economies, is shown in Table 2.4.



**Table 2.4:**  
**Distribution of GTMI groups, by number of economies and average scores**

Group	#	Avg GTMI	#	Avg CGSI	#	Avg PSDI	#	Avg DCEI	#	Avg GTEI
A	69	0.836	61	0.843	96	0.886	49	0.875	61	0.845
B	46	0.620	60	0.627	46	0.626	35	0.643	48	0.648
C	53	0.347	58	0.372	29	0.400	43	0.358	49	0.362
D	30	0.159	19	0.164	27	0.115	71	0.114	40	0.144
	198	0.552	198	0.575	198	0.649	198	0.449	198	0.536

Source: World Bank staff calculations.

Note: GTMI = GovTech Maturity Index, CGSI = Core Government Systems Index, PSDI = Public Service Delivery Index, DCEI = Digital Citizen Engagement Index, GTEI = GovTech Enablers Index.

The GTMI component scores were calculated using the weights based on expert opinion to reflect the relative degrees of importance of the selected indicators, as determined by the extant literature, observations during the data collection and validation process, and World Bank operational experience.

## Validation of Observations

The online survey provided participants with the opportunity to include evidence to substantiate their responses via URLs, as well as relevant supporting documents. The iterative and collaborative validation exercise focused on ensuring that the questions were understood by the respondents, and that the responses reflected the accurate understanding of the survey questions substantiated with the relevant evidence. Depending on the quality of evidence provided, various responses and related values were adjusted and explained to the respondents for feedback. In parallel, quality assurance was also performed by the World Bank team on the remotely collected data

from the remaining 63 non-participating economies, recognizing the dynamic nature of the underlying dataset. The draft dataset was also shared with all nine international organizations and 10 WBG groups, as well as the regional units and country teams for information ahead of publication.

The SNG GTMI dataset collected through another online survey was not validated, since it was a pilot implementation to explore the interest and applicability of the same survey questions to subnational entities.

# Reporting of Results

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To identify and promote exemplary GovTech initiatives and good practices in four focus areas, the findings of this study are published together with the latest version of the [GovTech Dataset](#) on the GovTech [GTMI website](#). Country officials and practitioners are welcome to comment on the contents and suggest possible improvements for future updates.

## Disclaimers:

- The government officials participating in the CG and SNG GTMI online surveys are responsible for the contents and accuracy of submitted data and supporting documents. The GTMI team members have not been involved in the data entry, and their role was limited to making consistency checks, providing recommendations to survey participants, and requesting clarifications to ensure the accuracy and reliability of the information submitted through online survey forms.
- Broadly, the GTMI showcases a country's overall advancement in digital transformation. It is not intended to create a ranking or assess a country's GovTech performance; it is intended to complement existing tools and diagnostics by providing a baseline for GovTech maturity and identifying areas for improvement. When using the GTMI, readers are encouraged to benefit from the initial pointers presented in the GovTech Dataset

and collect further evidence to better understand the implementation, effectiveness, and reception of GovTech solutions and its enablers in each economy.

- » 2020 and 2022 GTMI groups are not directly comparable, considering the following differences:
- » 35 out of 40 key GTMI indicators remain the same, but 2022 includes additional key indicators and sub-indicators to measure less-known aspects of digital transformation.
- » Six out of eight external key indicators remain the same, but two indicators were added to measure other important aspects (cybersecurity and digital ID).
- » The 2020 dataset is created using remotely collected data. The 2022 dataset is primarily based on the online survey responses.
- » While the methodology remains the same for the calculation of the GTMI groups, the indicator and weight categories have improved from 2020.
- » The 2022 GTMI survey responses and additional sub-indicators resulted in changes in the composition of GTMI groups, as the results show increases in the maturity values of all four focus areas.

# GTMI Data Dashboard

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A GTMI Data Dashboard was launched in November 2022 to present user-friendly maps and graphs aimed at helping the end-user digest and explore the findings of the 2022 CG GovTech Dataset. The data and related maps can be decomposed and analyzed through several available filters, including the year, GTMI groups, region, and income level. The dashboard also entails economy-level and indicator-

level information and filters for users interested in performing more disaggregated analyses or data visualization. Additionally, the users can explore the details of World Bank investments in four GovTech focus areas through another page presenting the 2022 GovTech Projects Database, which includes data on 1,449 digital governance/GovTech projects funded in 147 countries since 1995.



# Findings

This chapter provides an overview of the results of the 2022 GovTech Maturity Index (GTMI) update. A global snapshot and results are provided first, followed by regional results. The findings also examine differences across borrower category. A presentation of the main findings and trends follows. The chapter closes with an assessment of the four subindices within the GTMI.

There are 154 Digital Government/GovTech initiatives around the world, and good practices are highly visible in 69 economies out of 198.

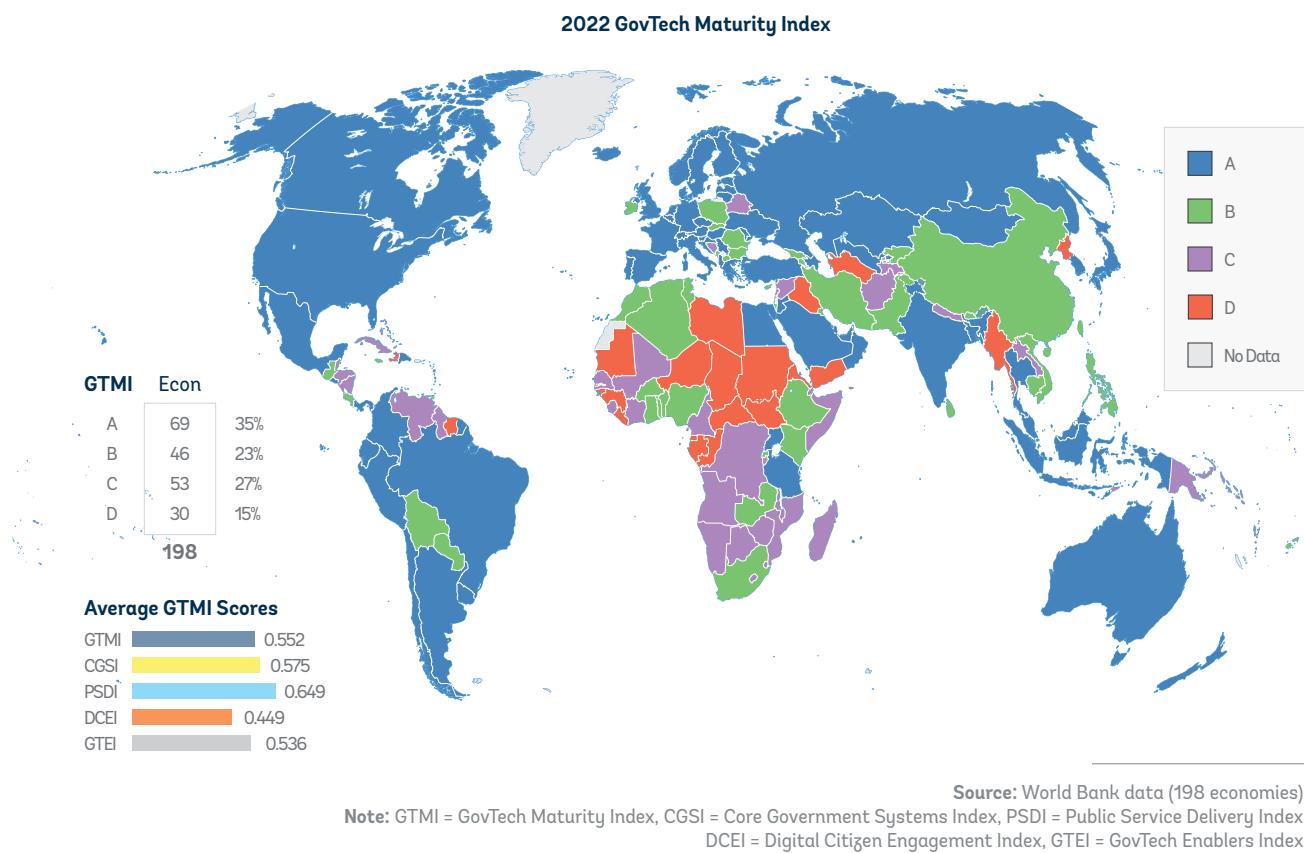
## State of GovTech around the World

The maturity of GovTech in the GTMI groups is depicted on [Map 3.1](#). All 198 economies are grouped from A to D based on their average GTMI score.

As shown in [Table 3.1](#), 69 leading economies in group A (35 percent of the 198 economies analyzed) are using advanced or innovative digital solutions and demonstrating good practices in all four GovTech focus areas, whereas 30 governments in group D (15

percent) have placed minimal or no emphasis on the GovTech agenda. Forty-six economies in group B (23 percent) have made significant investments in various GovTech focus areas but have room for improvement, and 53 governments in group C (27 percent) have ongoing projects to improve maturity but fall behind the current GovTech frontier.

>>> **Map 3.1:**  
State of GovTech around the world, by GTMI groups, 2022



Based on the GTMI data, there are a number of countries that moved groups between 2020 and 2022 ([Table 3.2](#)). A total of 136 economies out of 198 (69 percent) remained in their GTMI group compared to the 2020 data, whereas 52 economies (26 percent) moved up one level (B to A = 29, C to B = 16, D to C = 7) and 10 economies (5 percent) moved down one level (A to B = 3, B to C = 3, C to D = 4). These changes are linked to several factors. First, although 85 percent of GTMI key indicators are the same, there are several critical new key indicators and a large number of new sub-indicators measuring less-known aspects and performance or use of existing platforms in the 2022 GTMI update. Second, the 2020 dataset is created using remotely collected data, whereas the 2022 GTMI dataset is mainly based on the online survey responses provided directly by participating

economies. Third, while the methodology for the calculation of the GTMI groups is similar, two indicator types and two weight categories were defined to reflect the importance of new indicators.

These changes resulted in a comprehensive and detailed measurement of the GovTech maturity levels in most of the economies. Some of the economies not participating in the online survey moved one level down in the GTMI groups, mainly due to the lack of mechanisms supporting the whole-of-government approach and limited evidence on monitoring and reporting the performance and use of existing platforms. Also, it was not possible to collect relevant data about new key indicators and sub-indicators remotely from their government websites.

**Table 3.1:**  
An overview of GovTech maturity, 2022



Group	GTMI	Countries or economies in group	Economies	%
A	Very High	GovTech leaders	69	34.8%
		Albania; Argentina; Australia; Austria; Azerbaijan; Bahrain; Bangladesh; Belgium; Brazil; Cabo Verde; Canada; Chile; Colombia; Croatia; Czech Republic; Denmark; Dominican Republic; Ecuador; Egypt; El Salvador; Estonia; Finland; France; Germany; Greece; Hungary; Iceland; India; Indonesia; Italy; Japan; Jordan; Kazakhstan; Korea, Republic of; Latvia; Lithuania; Luxembourg; Malaysia; Malta; Mauritius; Mexico; Moldova; Mongolia; Netherlands; New Zealand; Norway; Oman; Panama; Peru; Portugal; Qatar; Russian Federation; Saudi Arabia; Serbia; Singapore; Slovenia; Spain; Sweden; Switzerland; Tanzania; Thailand; Türkiye; Uganda; Ukraine; United Arab Emirates; United Kingdom; United States of America; Uruguay; Uzbekistan		
B	High	Significant focus on GovTech	46	23.2%
		Algeria; Armenia; Benin; Bhutan; Bolivia; Brunei Darussalam; Bulgaria; Burkina Faso; Cambodia; China; Costa Rica; Cyprus; Ethiopia; Fiji; Georgia; Ghana; Guatemala; Hong Kong SAR, China; Iran; Ireland; Israel; Jamaica; Kenya; Kosovo; Kuwait; Kyrgyz Republic; Montenegro; Morocco; Nigeria; North Macedonia; Pakistan; Paraguay; Philippines; Poland; Romania; Rwanda; Slovak Republic; South Africa; Sri Lanka; St. Lucia; Taiwan, China; Togo; Trinidad and Tobago; Tunisia; Vietnam; Zambia		
C	Medium	Some focus on GovTech	53	26.8%
		Afghanistan; Andorra; Angola; Antigua and Barbuda; Bahamas; Barbados; Belarus; Belize; Bosnia and Herzegovina; Botswana; Burundi; Cameroon; Comoros; Congo, Democratic Republic of; Côte d'Ivoire; Cuba; Djibouti; Dominica; Eswatini; Grenada; Guyana; Honduras; Lao People's Democratic Republic; Lebanon; Lesotho; Liechtenstein; Macao SAR, China; Madagascar; Malawi; Maldives; Mali; Monaco; Mogambique; Namibia; Nepal; Nicaragua; Papua New Guinea; Samoa; San Marino; Senegal; Seychelles; Sierra Leone; Solomon Islands; Somalia; St. Vincent and the Grenadines; Syrian Arab Republic; Tajikistan; Timor-Leste; Tonga; Vanuatu; Venezuela, República Bolivariana de; West Bank and Gaza; Zimbabwe		
D	Low	Minimal focus on GovTech	30	15.2%
		Central African Republic; Chad; Congo, Republic of; Equatorial Guinea; Eritrea; Gabon; Gambia; Guinea; Guinea-Bissau; Haiti; Iraq; Kiribati; Korea, Democratic People's Republic of; Liberia; Libya; Marshall Islands; Mauritania; Micronesia, Federated States of; Myanmar; Nauru; Niger; Palau; São Tomé and Príncipe; South Sudan; St. Kitts and Nevis; Sudan; Suriname; Turkmenistan; Tuvalu; Yemen		

Source: World Bank data.

Note: % (of economies) = % of 198 economies included in the relevant group.

&gt;&gt;&gt;

**Table 3.2:**  
**Changes in the GTMI groups, 2022**

<b>One level up:</b> 52 economies (49 participated in the 2022 CG GTMI online survey)
<b>B to A</b> > 29 economies: Albania; Azerbaijan; Bahrain; Bangladesh; Cabo Verde; Czech Republic; Dominican Republic; Ecuador; Egypt; El Salvador; Hungary; Iceland; Indonesia; Jordan; Kazakhstan; Latvia; Mauritius; Moldova; Mongolia; Oman; Panama; Qatar; Russian Federation; Saudi Arabia; Serbia; Tanzania; Uganda; Ukraine; Uzbekistan
<b>C to B</b> > 16 economies: Algeria; Benin; Brunei Darussalam*; Burkina Faso; Cambodia; Ethiopia; Fiji; Guatemala; Iran; Kosovo; Kuwait; Nigeria*; St. Lucia; Togo; Trinidad and Tobago; Zambia
<b>D to C</b> > 7 economies: Comoros; Congo, Democratic Republic of; Djibouti; Lao People's Democratic Republic; Samoa; San Marino*; Somalia
<b>One level down:</b> 10 economies (9 did not participate in the 2022 CG GTMI online survey)
<b>A to B</b> > 3 economies: Hong Kong SAR, China*; Israel*; South Africa*
<b>B to C</b> > 3 economies: Belarus*; Honduras; Nepal*
<b>C to D</b> > 4 economies: Haiti*; Myanmar*; St. Kitts and Nevis*; Suriname*
<b>No change:</b> 136 economies (85 participated in 2022 CG GTMI online survey)
<b>Group A</b> > 40 economies: Argentina; Australia; Austria; Belgium; Brasil; Canada*; Chile; Colombia; Croatia; Denmark; Estonia; Finland; France; Germany*; Greece; India; Italy; Japan; Korea, Republic of; Lithuania; Luxembourg; Malaysia; Malta; Mexico*; Netherlands*; New Zealand; Norway*; Peru; Portugal; Singapore; Slovenia; Spain; Sweden; Switzerland; Thailand; Türkiye; United Arab Emirates; United Kingdom; United States of America*; Uruguay
<b>Group B</b> > 28 economies: Armenia; Bhutan; Bolivia; Bulgaria*; China*; Costa Rica; Cyprus; Georgia; Ghana; Ireland*; Jamaica; Kenya; Kyrgyz Republic*; Montenegro*, Morocco; North Macedonia; Pakistan*, Paraguay; Philippines; Poland; Romania; Rwanda; Slovak Republic*; Sri Lanka; Taiwan, China*; Tunisia; Vietnam*
<b>Group C</b> > 42 economies: Afghanistan*; Andorra*; Angola; Antigua and Barbuda; Bahamas; Barbados*; Beliğe; Bosnia and Herzegovina; Botswana*; Burundi; Cameroon; Côte d'Ivoire; Cuba*; Dominica; Eswatini; Grenada; Guyana*; Lebanon; Lesotho; Liechtenstein*; Macao SAR, China*; Madagascar; Malawi; Maldives; Mali; Monaco*; Mogambique*; Namibia; Nicaragua; Papua New Guinea; Senegal*; Seychelles; Sierra Leone; Solomon Islands*; St. Vincent and the Grenadines; Syrian Arab Republic*; Tajikistan*; Timor-Leste; Tonga*; Vanuatu; Venezuela, República Bolivariana de*; West Bank and Gaza; Zimbabwe
<b>Group D</b> > 26 economies: Central African Republic*; Chad*; Congo, Republic of*; Equatorial Guinea*; Eritrea*; Gabon*; Gambia; Guinea*; Guinea-Bissau*; Iraq; Kiribati; Korea, Democratic People's Republic of*; Liberia*; Libya*; Marshall Islands*; Mauritania; Micronesia, Federated States of; Nauru*; Niger*; Palau; São Tomé and Príncipe*; South Sudan*; Sudan*; Turkmenistan*; Tuvalu*, Yemen*

Source: World Bank data.

Note: Economies highlighted with (\*) did not participate in the 2022 Central Government GTMI online survey.

Most of the economies improved on their respective CGSI and PSDI scores. However, there was a reduction in the DCEI and GTEI scores of many economies, as presented in Table 3.3. Despite substantial investments on core government systems, shared platforms, and online service portals, the progress in digital citizen engagement and strengthening

the enabling environment for digital transformation appears to have reduced within the last two years. Overall, the average 2022 GTMI scores increased in many countries, but the inequalities between high-performing economies (Groups A and B) and the remaining groups (C and D) are highly visible.

**Table 3.3:**  
Changes in four GTMI component scores, 2022



Changes (# of economies)	GTMI	CGSI	PSDI	DCEI	GTEI
Increase in average scores	108 55%	158 80%	115 58%	80 40%	92 46%
Decrease in average scores	90 45%	40 20%	83 42%	118 60%	106 54%

Source: World Bank data (198 economies).

Note: GTMI = GovTech Maturity Index, CGSI = Core Government Systems Index, PSDI = Public Service Delivery Index, DCEI = Digital Citizen Engagement Index, GTEI = GovTech Enablers Index.

On average, countries in Group A have the highest GTMI score, and the gap between A and D is wide, as presented in [Figure 3.1](#). Similarly, a substantial gap exists between the average GTMI scores of high- and low-income countries, whereas the average scores

for upper- and lower-middle-income countries are close, as shown in [Figure 3.2](#). Like the 2020 data, the graphs based on the 2022 GTMI data indicate that the digital divide remains wide.



**Figure 3.1:**  
Average GTMI scores, by GTMI groups



**Figure 3.2:**  
Average GTMI scores, by income levels



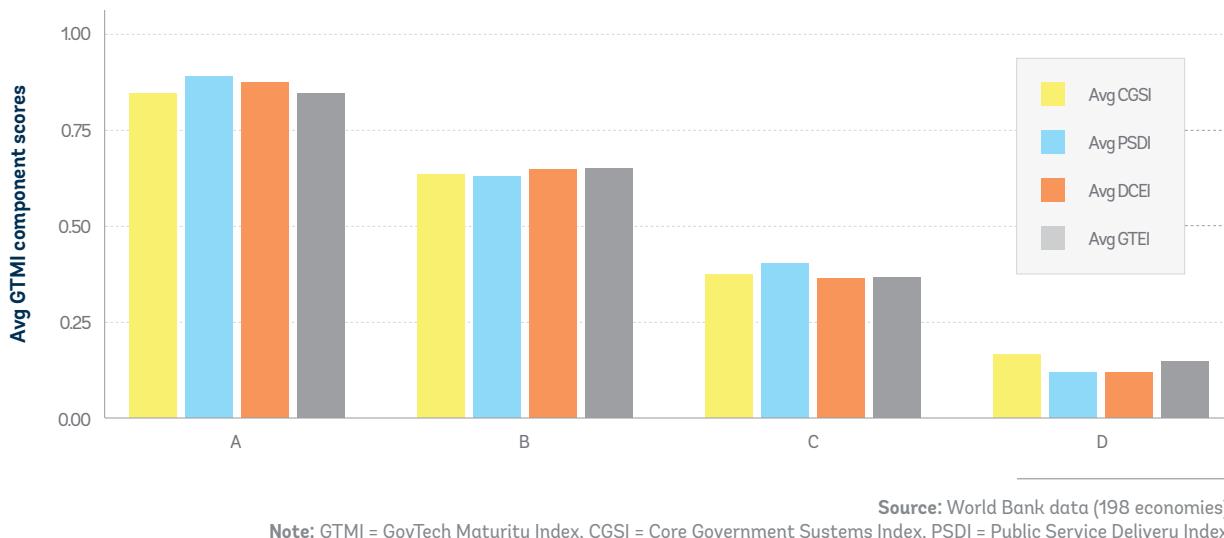
Source: World Bank data (average scores for 198 economies).

Note: GTMI = GovTech Maturity Index, H = high-income countries, L = low-income countries, LM = lower-middle-income countries, UM = upper-middle-income countries.

Across GTMI groups, [Figure 3.3](#) indicates that countries generally score higher on core government systems, online services, and GovTech enablers than on citizen engagement, except for economies in Group A. Countries in other groups record their lowest scores on citizen engagement, which suggests that governments may be making relatively lower investments in GovTech solutions to enhance their engagement with citizens.

The maturity of GovTech initiatives is presented next from four different perspectives. First, the regional distribution for 168 World Bank client countries and other economies in the regions is presented, followed by the income-level distribution for 198 economies, borrower categories, and fragile and conflict-affected situations.

>>> **Figure 3.3:**  
Average GTMI component scores, by GTMI groups, 2022



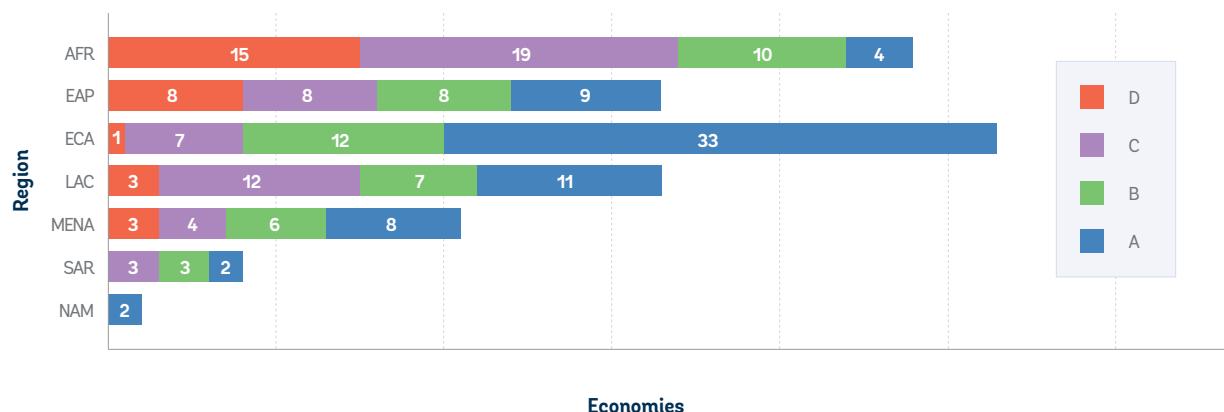
## Regional Outlook

[Figure 3.4](#) demonstrates the state of GovTech in the regions, together with the total number of countries in each region. The largest group of countries that generally concentrated on public sector digital transformation across all focus areas is in the Europe and Central Asia (ECA) region—33 out of 53 (62 percent) of these countries fall in Group A. Other regions follow, with 11 countries in Latin America and the Caribbean (LAC), 9 in East Asia and Pacific (EAP), 8 in Middle East and North Africa (MENA), 4 in Sub-Saharan Africa (AFR), and 2 in both South Asia (SAR) and North America (NAM).

The regional variation of the GTMI component scores is presented in [Figure 3.5](#). The ineffective use of technology for citizen engagement, followed by lack

of adoption of the whole-of-government approach, can be seen in the largest gaps. In the Africa region, a relatively small group of countries has made significant investments in all GovTech focus areas. However, most countries have a substantial gap in citizen engagement, service delivery, and GovTech enablers. Europe and Central Asia is the most advanced region regarding the GovTech maturity, despite the gaps in citizen engagement and enablers in several countries. In four regions—East Asia and Pacific, Latin America and the Caribbean, Middle East and North Africa, and South Asia—nearly half of the countries demonstrate progress in all GovTech focus areas, but notable gaps are evident in the areas of citizen engagement, and service delivery in the remaining half.

**Figure 3.4:**  
State of GovTech in the regions, by GTMI groups, 2022



Economies

**Figure 3.5:**  
Average GTMI component scores in the regions, 2022



Source: World Bank data (168 client countries and other economies in the regions).  
**Note:** AFR = Africa, EAP = East Asia and Pacific, ECA = Europe and Central Asia, LAC = Latin America and the Caribbean, MENA = Middle East and North Africa, NAM = North America, SAR = South Asia, GTMI = GovTech Maturity Index, CGSI = Core Government Systems Index, PSDI = Public Service Delivery Index, DCEI = Digital Citizen Engagement Index, GTEI = GovTech Enablers Index.

## Income Level Distribution

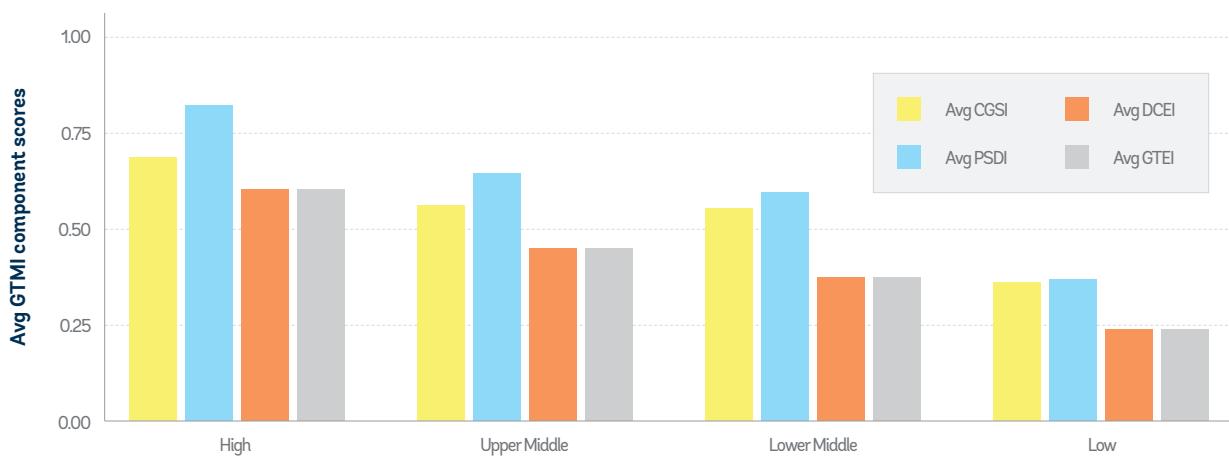
The maturity of GovTech based on income level is shown in [Figure 3.6](#). Most of the GovTech leaders—40 out of 62 (65 percent)—are from high-income countries. Most upper-middle-income and lower-middle-income countries are in Groups B or C. Most of the low-income countries have minimal focus on GovTech; 22 out of 28 are in Groups C or D.

The income-level distribution of the GTMI component scores is presented in [Figure 3.7](#). Substantial investments of high-income countries on shared digital platforms and citizen-centric online public services are visible from relatively higher scores, together with possible improvements in citizen engagement and GovTech enablers. This pattern is consistently visible for other income levels as well.

>>> **Figure 3.6:**  
Income level distribution, by GTMI groups, 2022



>>> **Figure 3.7:**  
Average GTMI component scores by income levels, 2022



Source: World Bank data (198 economies).

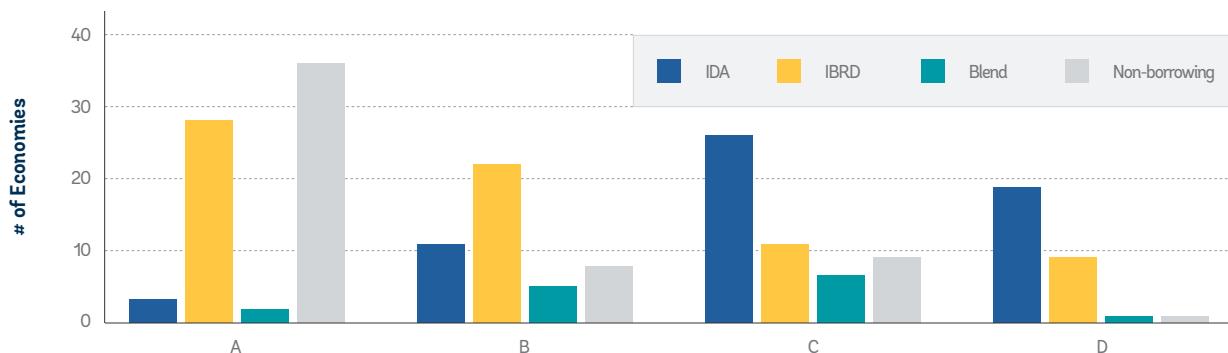
Note: GTMI = GovTech Maturity Index, CGSI = Core Government Systems Index, PSDI = Public Service Delivery Index, DCEI = Digital Citizen Engagement Index, GTEI = GovTech Enablers Index.

## Borrower Category Distribution

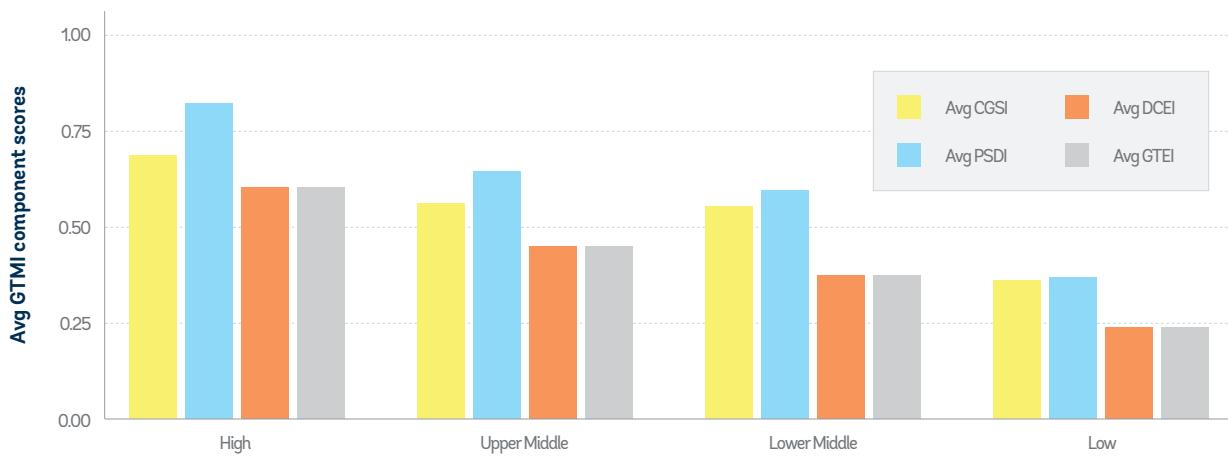
The maturity of GovTech in 144 borrowing countries of the World Bank is shown in Figure 3.8, together with the 54 non-borrowing economies. Most of the countries in the International Development Association (IDA) (49 out of 59, or 76 percent) are in Groups C and D, whereas most of the IBRD countries (50 out of 70, or 71 percent) are in Groups A and B. Twelve out of 15 Blend countries (80 percent) are in Groups B and C. This distribution shows the urgent need to support the digital transformation needs of the IDA countries as a priority to address growing digital divide challenges.

The distribution of the GTMI component scores according to the borrower categories is presented in Figure 3.9. Most of the IDA countries are scoring much lower than the IBRD and Blend countries in all GovTech focus areas, and the lack of policies and resources to improve citizen engagement and GovTech enabling environment is more visible. On the other hand, most of the IBRD countries have relatively high GTMI component scores in all four areas, indicating better focus on GovTech foundations and improvement of online services, despite gaps in citizen engagement in about half of the countries in this category. Nevertheless, borrowing countries have relatively lower scores compared to non-borrowing economies.

**Figure 3.8:**  
**Borrower category distribution by GTMI groups, 2022**



**Figure 3.9:**  
**Average GTMI components, by borrower categories, 2022**



**Note:** IDA = International Development Association, IBRD = International Bank for Reconstruction and Development, CGSI = Core Government Systems Index, PSDI = Public Service Delivery Index, DCEI = Digital Citizen Engagement Index, GTEI = GovTech Enablers Index.

Source: World Bank data (198 economies).

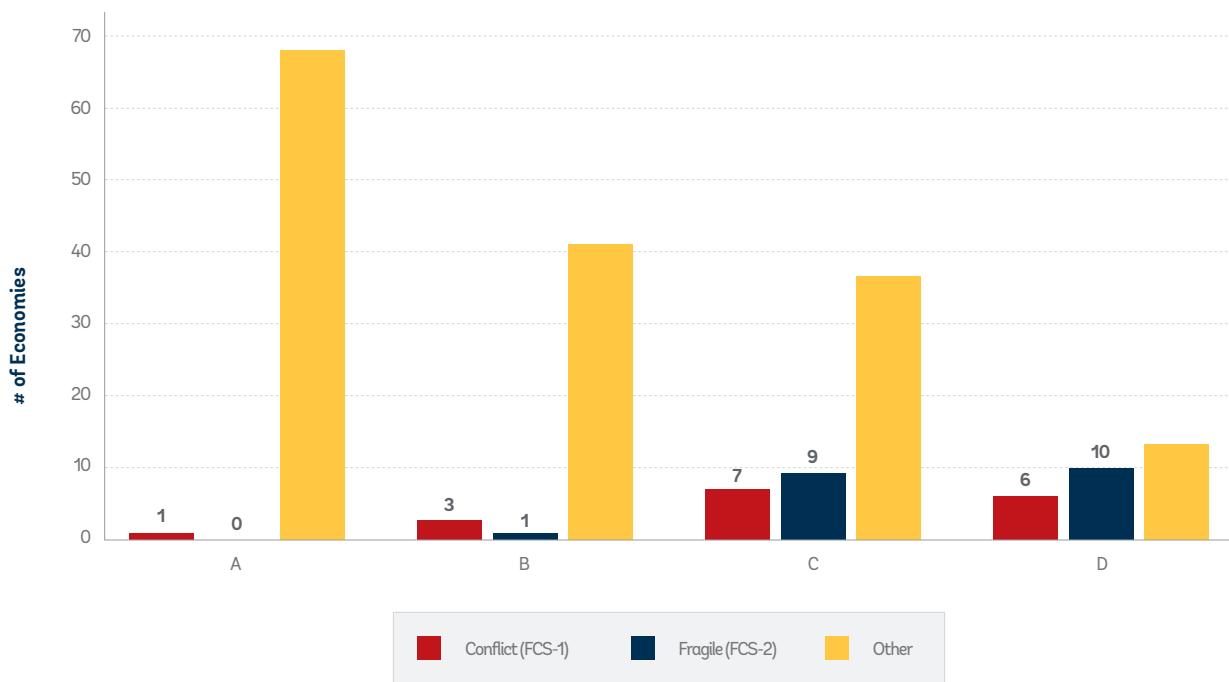
## Fragile and Conflict-affected Situations

The World Bank Group updates the list of fragile and conflict-affected situations (FCS) annually to inform strategic and operational decision-making. The GovTech dataset captures the changes in two FCS categories historically (2020 and 2022) and presents the state of GovTech maturity to inform policy decisions and the design of new activities. According to the 2022 GovTech Dataset, 32 out of 37 (86 percent) fragile or conflict-affected countries are in Groups C or D ([Figure 3.10](#)).

This low level of GovTech maturity has important implications for designing and implementing the basic digital infrastructure and core systems and improving institutional capacity and digital skills in difficult environments.

The distribution of the GTMI component scores by FCS categories is presented in [Figure 3.11](#). Based on the remotely collected GTMI data for fragile and conflict-affected economies, most of the GovTech investments are supporting the improvements in core PFM systems and ICT infrastructure to support basic functions, and there is little focus on citizen engagement and strengthening of necessary institutional and regulatory framework. Exceptional country cases include Ukraine (A), Burkina Faso (B), Ethiopia (B), Kosovo (B), and Nigeria (B), where substantial investments on core government systems, shared platforms, and online public services are visible based on the evidence provided through the 2022 GTMI online survey.

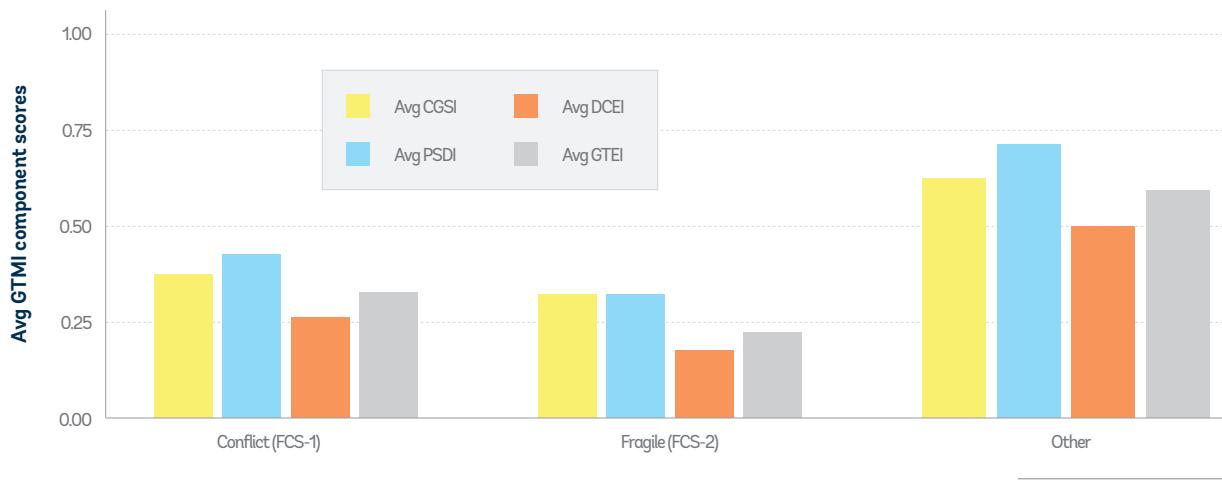
>>> **Figure 3.10:**  
FCS category distribution, by GTMI groups, 2022



**Note:** FCS = fragile and conflict-affected situations, FCS-1 = conflict, FCS-2 = institutional and social fragility, Other = other economies not in the FCS list (Table B.2), CGSI = Core Government Systems Index, PSDI = Public Service Delivery Index, DCEI = Digital Citizen Engagement Index, GTEI = GovTech Enablers Index.

Source: World Bank data.

**Figure 3.11:**  
Average GTMI components, by FCS categories, 2022



Note: FCS = fragile and conflict-affected situations, FCS-1 = conflict, FCS-2 = institutional and social fragility, Other = other economies not in the FCS list (Table B.2). CGSI = Core Government Systems Index, PSDI = Public Service Delivery Index, DCEI = Digital Citizen Engagement Index, GTEI = GovTech Enablers Index.

Source: World Bank data.

## Main Findings

- The global average of the GTMI value has risen from 0.519 in 2020 to 0.552 (out of 1) in 2022. Despite progress in online service delivery and underlying shared platforms, the digital divide widens. The maturity of core government systems, service delivery platforms, and most of the GovTech enablers has improved substantially in Group A and B countries. However, there is little improvement in the maturity of four focus areas in most of the Group C and D countries. This reflects the widening gap, potentially due to lack of adequate policies and resources for launching key digital transformation initiatives and monitoring and reporting on the performance and use of existing platforms.
- Twenty six percent of economies improved their GovTech maturity as reflected in the groupings. A total of 136 economies out of 198 (69 percent) remain in their GTMI group compared to the 2020 data, whereas 52 economies (26 percent) move up one level. Ten economies (5 percent) move down one level. Some of the economies not joining the online survey moved one level down in the GTMI groups, since it was not possible to collect relevant data remotely from their government websites, especially data about new performance-related key indicators and sub-indicators.
- At the regional level, economies in the ECA, SAR, MENA, and LAC regions generally registered higher scores, while AFR and EAP recorded the lowest scores. However, there is greater variation when looking at the four subindices.
- At the regional level, there is also variation in the areas of focus of GovTech investments. In the AFR region, economies in Group A concentrated on improving core government systems, whereas Group A countries in ECA prioritized enhancing the delivery of public services. Like ECA, the Group A economies in the SAR, MENA, and LAC regions also focused mostly on improving public service delivery. Therefore, same-group economies did not necessarily focus on the same areas across regions.

- **High-income and upper-middle-income economies dominated Group A (with respective proportions of 58 percent and 26 percent), whereas only 16 percent of both lower-middle and low-income economies were represented in Group A.** Conversely, about 40 percent of Group D economies are classified as low-income economies. Thus, from the income level perspective, the distribution of economies across groups shows a positive correlation between income and GovTech maturity. This further implies that earmarking adequate resources and financing for GovTech activities in digital strategies and plans is essential to the advancement of public sector digital transformation.
- **In the World Bank borrower category, the results indicate that there is an urgent need to support the digital transformation needs of IDA countries as a priority to address growing digital divide challenges.** Most of the IDA countries (76 percent) are in Groups C and D, whereas most of the IBRD countries (71 percent) are in Groups A and B. Twelve out of 15 Blend countries (80 percent) are in Groups B and C. IDA countries lack more, comparatively, regarding policies and resources to improve citizen engagement and GovTech enabling environment.
- **According to 2022 GTMI data, the GovTech foundations are weak in the majority (86 percent) of the fragile and conflict-affected economies. Focusing on these key enablers can ensure that** proposed digital solutions have a strong base and additional investments remain fit-for-purpose and effective in these difficult settings.
- **Within focus areas, the public service delivery index registered the highest average score (0.649).** This indicates that globally, economies focused their digital transformation activities relatively more on public service delivery. More than 75 percent of governments already have public service portals online, of which about 50 percent are transactional.
- **The citizen engagement index had the lowest average score (0.449). More than 150 countries placed greater emphasis on interaction with citizens and improved their communication and engagement services and channels** during the COVID-19 pandemic. In addition, around 50 percent of governments have implemented mechanisms or digital platforms to enable citizen feedback. However, there is little evidence of utilization of

these platforms, and only about 30 percent of the economies are publishing reports or data about the performance of their service delivery platforms. Globally, this indicates that economies have focused their digital transformation activities more on public service delivery than on citizen participation and feedback. There is room for improvements, especially in digital citizen engagement.

- **Dedicated digital government/GovTech institutions have been established in 154 economies to lead the digital transformation agenda.** About half of these key entities (69) are under a “Digital” Ministry, 39 units are under the President’s or Prime Minister’s Office, nine units are autonomous bodies, and the remaining 37 entities are under different line ministries. However, only about half of these institutions are focused on the whole-of-government approach for public sector digital transformation.
- **Adoption of a whole-of-government approach to public sector digital transformation is visible in the digital strategy documents of 140 economies (70 percent), and 85 economies (about 43 percent) have institutionalized the approach.** However, only 48 economies (24 percent) declared publishing the progress in their whole-of-government initiatives and 11 declared having this information internally. Substantial room for improvement can be found in this area, since publicly available information on the performance of the whole-of-government approach contributes to transparency and accountability toward the citizens on the policies being adopted. There are also limited cross-government forums organized to discuss the approach, as the larger share of economies (58 percent) indicated that there is no such forum.

## Trends

The line graphs showing the diffusion of digital government/GovTech initiatives, selected government institutions, and systems over time are presented in [Figures 3.12 and 3.13](#) respectively.

**Institutions.** Based on the 2022 GovTech Dataset, there are 165 dedicated digital government or GovTech entities with approved strategies or action plans (154 already established, and 11 in progress). Similar to the 2020 findings, most of the new GovTech units have been established close to the center of government (President's or Prime Minister's Office) to promote a whole-of-government approach, improve the coordination of GovTech interventions, and develop cost-effective sustainable solutions. Additionally, there is a growing interest in establishing dedicated data governance bodies for strategic planning, developing rules and standards, compliance and enforcement, and monitoring and guiding the implementation of a whole-of-government approach to data governance.

**Systems and shared platforms.** Core central government public financial management (PFM) institutions and systems are in place in many economies. Modernization and interoperability of these platforms are the focus areas of improvement in most of the countries. Also, there is a growing interest in developing separate public investment management systems (PIMS) linked with FMIS, e-Procurement, and other systems for effective planning, execution, and monitoring of critical infrastructure investments, including the GovTech shared platforms and service portals.

New GTMI indicators measuring the presence of social insurance systems (non-health) supporting pensions (including the public sector), and other social insurance programs revealed that such systems and operating institutions have also been established in almost all economies (96 percent). However, most of these systems are still fragmented and disconnected, and future GovTech programs should focus on improving the interoperability of core systems using shared platforms (e.g., government service bus).

Despite substantial investments in shared platforms (e.g., government cloud, enterprise architecture, interoperability platforms, government service bus) and the availability of core government systems

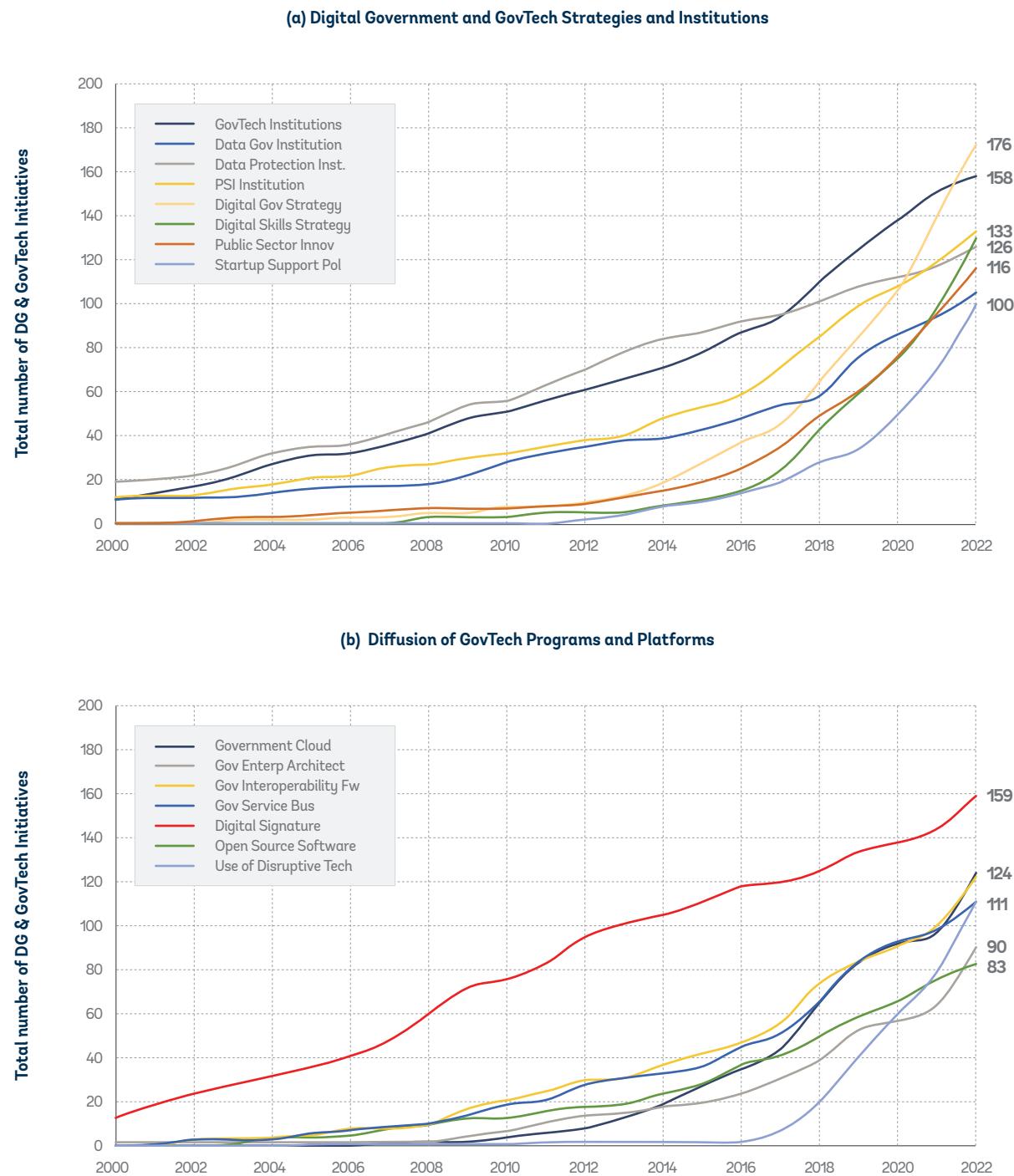
and service portals, many governments continue to face challenges in providing broader access and monitoring the use and performance of existing platforms, mainly due to the capacity and resource constraints, data privacy concerns, cybersecurity issues, and other factors.

**Performance and use of existing platforms.** The 2020 GTMI data revealed that few governments record and report transparently the full details of government investments in GovTech initiatives and the results achieved, or challenges faced. Therefore, new GTMI indicators were included in the 2022 GTMI update to measure these dimensions for existing information systems, online service portals, established institutions, digital strategy action plans, and more. Based on the 2022 GTMI data, only about 15 percent of the 198 economies are disclosing information about the governance and performance/use of their institutions, shared platforms, and online service portals. Similarly, reporting of operational performance and results is a bit higher (about 25 percent), but still low, for core central government systems (e.g., FMIS, tax, customs, human resources management information system (HRMIS), e-procurement)—a clear indication of the substantial gap in transparency and accountability.

**Digital skills and innovation.** 2022 GTMI data revealed that there is a growing interest in improving digital skills and innovation in the public sector, especially in Group A and B economies, compared to the 2020 version. About 130 economies (65 percent) have digital skills and innovation strategy documents and/or programs, as well as dedicated government entities focused on public sector innovation. However, only about 20 percent of these institutions are publishing public information about the results achieved in these programs.

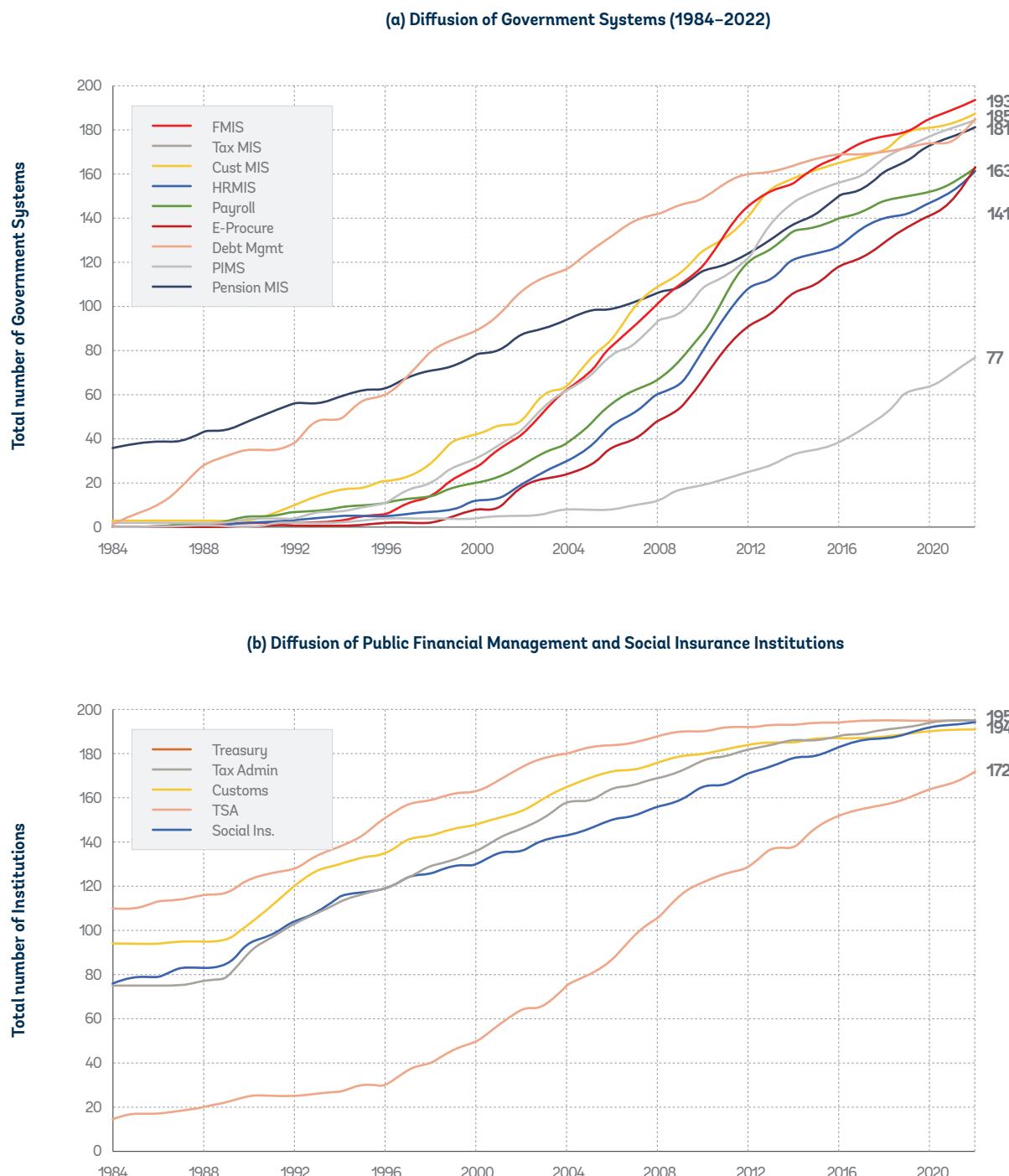
**GovTech startups.** The 2022 GTMI data includes new indicators related to the government policies and e-procurement incentives provided for supporting the GovTech startups and small and medium-sized enterprises (SMEs). It appears that 101 economies (51 percent) have specific policies to support startups and/or SMEs, and the progress is being published by 47 economies (23 percent). There is room for improvement in GovTech enablers in most of the economies.

>>> **Figure 3.12:**  
Diffusion of digital government and GovTech initiatives, 2022



Source: World Bank data (198 economies).  
Note: DG = digital government, PSI = public sector innovation, Inst = institution,  
Innov = innovation, Pol = policy, Enterp = enterprise, Fw = framework

**Figure 3.13:**  
**Diffusion of selected government institutions and systems, 2022**



Source: World Bank data (198 economies).

Note: FMIS = financial management information system, Cust = customs, MIS = management information system, HRMIS = human resources management information system, e-Procure = e-Procurement, Debt Mgmt = debt management, PIMS = public investment management system, Tax Admin = tax administration, TSA = treasury single account, Social Ins = social insurance.

# A Closer Look at the GovTech Focus Areas

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The progress made in four GovTech focus areas is presented below to provide a more detailed view of the trends and gaps identified in each category. A comparison of the 2022 GTMI findings with the 2020 version is not included in this section. Instead, progress and gaps identified in all four GovTech focus areas are summaries focusing on selected key indicators highly relevant to the digital divide in GovTech domain.

## State of Core Government Systems

The current status of core government systems and shared platforms based on the CGSI is presented in Map 3.2.

### Main findings

**Government cloud.** A total of 83 out of 198 economies (42 percent) have a cloud platform available for all government entities, and 42 economies (21 percent) have a cloud strategy/policy in place. There is a substantial increase (38 percent) in the number of economies investing on government cloud platforms compared to the 2020 GTMI data.

**Interoperability framework and government service bus.** A total of 85 economies (43 percent) declared having a government interoperability framework (GIF) in place and 40 economies acknowledged having an extensively used GIF. Eighty-nine economies (45 percent) have a government service bus (GSB) and 65 economies declared that it is being extensively used. Although the 2022 GTMI results show the relevance of interoperability as a key GovTech building block, substantial investments are needed to mainstream it in the vast majority of countries surveyed.

**Core government systems.** On average, more than 90 percent of the 198 economies already have core public financial management and other government systems in place (e.g., financial management information system, 95 percent; tax, 91 percent; customs, 93 percent; HRMIS, 80 percent; payroll, 84 percent; social insurance, 96 percent; e-procurement, 82 percent; debt management, 92 percent; public investment management systems, 34 percent) to support central government operations. The number of economies with public investment management systems increased by 8 percent over the past two years, whereas there was no notable change in the number of existing core government systems.

**Shared platforms.** Despite substantial investment in all core government systems, most of these platforms are still disconnected and data exchange is not sufficiently automated using web services or application programming interfaces. Further investments on shared digital platforms, such as government cloud and service bus, and the development of interoperability frameworks are needed to substantially reduce the operational costs and improve the efficiency of existing platforms.

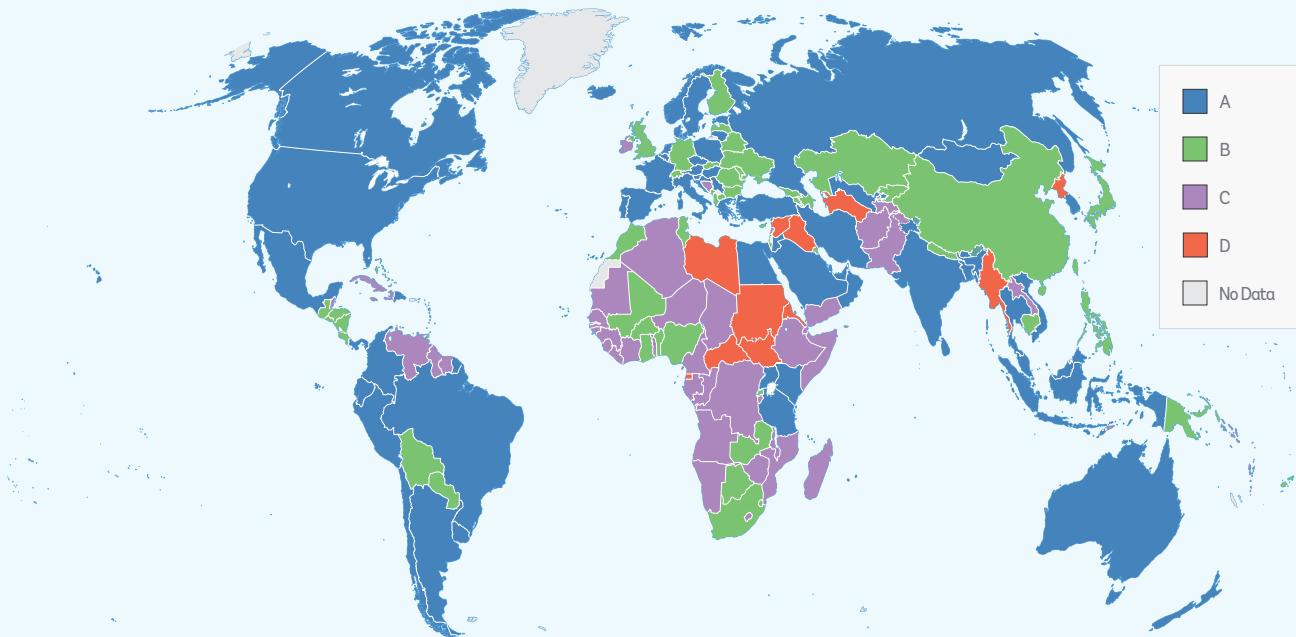
**Open-source software.** A total of 83 economies (42 percent) declared having an open-source software (OSS) policy/action plan for the public sector (18 mandatory, 65 advisory/research and development). The remaining 115 economies don't have any OSS policy in place for the public sector. Regarding its effective use, only 11 economies declare having an extensively adopted policy and 46 recognize having it partially adopted in several sectors, which demonstrates that, globally, there is substantial room for improvement in the effective use of OSS in the public sector.

**National strategy on disruptive/innovative technologies.** Even though 147 economies (74 percent) reported having an approved digital transformation strategy, only 79 economies (40 percent) have an approved national strategy focused on innovative/disruptive technologies such as artificial intelligence, blockchain, internet of things. Thirty-three economies (17 percent) are working on their strategies. The number of economies with such a strategy increased by 49 percent over the past two years. Most economies (64 percent) indicated they have not committed funding for the disruptive technology strategies. Few countries (25 percent) are publishing cases of disruptive technology applications to encourage adoption.

**Map 3.2:**  
**State of core government systems, by GTMI groups, 2022**



2022 GTMI Core Government Systems



Source: World Bank data (198 economies).

## Summary



**Progress.** Most of the economies already have core public financial management systems and social insurance information systems in place, as presented under the main findings above. There is a growing interest in shared digital platforms (e.g., government cloud, interoperability frameworks, government service bus) and use of open-source software and disruptive technologies to support public sector digital transformation.



**Gaps.** Additional efforts and investments are needed to improve the interconnectivity and interoperability of existing government systems benefiting from cost-effective shared platforms. There is little focus on monitoring and reporting of the performance or use of existing platforms, governance mechanisms, and results achieved. Also, most of the economies do not yet have a government open-source software policy and action plan, enterprise architecture framework, and national strategy for disruptive and innovative technologies.

## State of Public Service Delivery

Transition to citizen-centric services that are universally accessible is in progress, mainly in GovTech leaders and several other countries (Groups A and B) where the design of online services considers device- and internet-access limitations, digital literacy, cultural norms, and other factors that might inhibit access. The current status of public service delivery based on the PSDI is presented in [Map 3.3](#).

## Main findings

**Online service portals.** More than 82 percent of economies (162 out of 198) have an online service portal that provides access to all available public services. Portals of 113 economies provide transactional services, referring to requests that can be submitted online after a secure sign-in process. However, these are limited in their user-centricity. Ninety-eight economies have not involved users in the design process yet. A further 49 economies provide only information and forms. Mobile access is growing, as 107 economies have released mobile apps<sup>6</sup> for citizens to access public services. Considering the increasing demand on one-stop services, more economies need to modernize their online service portals to more advanced and integrated platforms.

**Tax online services and e-filing.** A total of 165 economies (83 percent) declared that they have e-tax portals, and more than 127 economies provide access to registration, filing, and payment services, which are an indicator of the improvements made compared to the 2020 GTMI data. Additionally, e-invoicing services are fully implemented in 62 economies and partially in 52 economies. E-filing services are available in 146 economies (73 percent) and are linked with e-payment services in 113 out of 146 economies. However, currently, only 96 e-filing platforms are connected to business information systems.

**Customs online services (single window).** A total of 99 economies (50 percent) confirmed the existence of integrated customs online services or “single window” portals providing access to registration, declaration, payments, and other services. The implementation of similar portals is in progress in 36 other economies. This is another improved indicator compared with the 2020 GTMI data that includes evidence of just 40 single window platforms.

**E-payment services.** A total of 149 economies out of 198 (75 percent) confirmed the availability of e-payment services. Additionally, 125 of these e-payment platforms can be used for government/treasury payments. This is an improvement compared with GTMI 2020 data, where 94 economies had an online e-payment platform. But considering that 85 economies have a centralized shared platform and 63 economies have fragmented or multiple platforms, there is room to develop more convenient e-payment services.

**Social insurance/pension online services.** Responses submitted for this new indicator indicate that 127 economies (64 percent) have online social insurance/pension service portals and most of these platforms support registration, benefits, payments, and other services. Ten other economies are implementing similar portals.

**Job portal.** As one of the new indicators, 138 economies (70 percent) have developed a job portal and 104 economies have advanced transactional services, including registration, searching, and application. This shows that many economies are trying to apply GovTech solutions to creating value in the job market and decreasing the mismatch between employers and employees.

**Citizen-centric and universally accessible services.** Only about 35% of the economies confirmed the involvement of citizens in the design of various online service portals. Similarly, about 40% of the economies declared that universal (omnichannel) access and support for users with disabilities are available in their service portals. There is minimal focus on these critical aspects, even in high-performing economies.

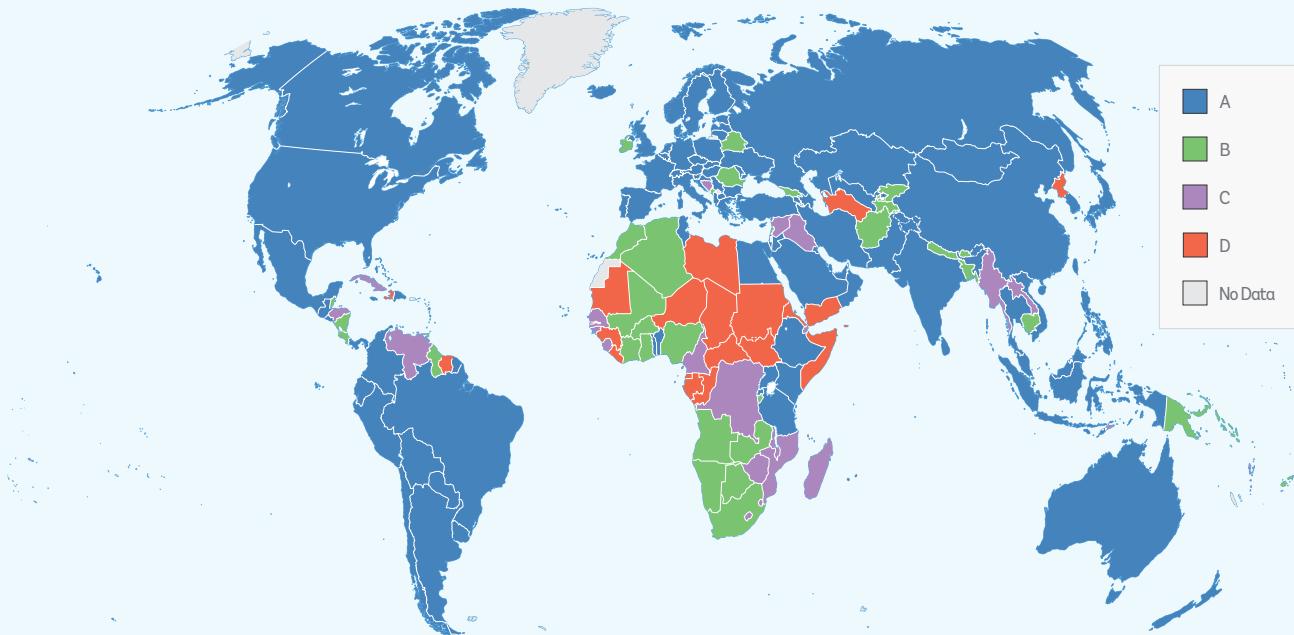
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6. The GovTech team's upcoming how-to-note on Mobile Government (mGov) can provide detailed knowledge on how to develop and manage mobile solutions and encourage economies to design better mobile-based public service delivery.

**Map 3.3:**  
**State of public service delivery, by GTMI groups, 2022**



2022 GTMI Public Service Delivery



Source: World Bank data (198 economies).

## Summary



**Progress.** Online service portals providing access to most of the available services (one-stop shops) and supporting transactional services are available in many economies. Additionally, specific service portals are visible in about 70 percent of economies (e.g., tax online services, e-payment portal, social insurance/pension services, job portal).



**Gaps.** Despite substantial investments in online service delivery portals, most of the services are not transactional, and strong government commitment and coordinated efforts are needed to improve the interoperability of existing platforms. Also, economies generally lack a social insurance/pension online service portal (despite having social insurance systems), as well as an integrated custom online service portal (single window), both of which require sufficiently developed digital infrastructure and seamlessly connected government systems. Additionally, there is little focus on citizen-centric service design and providing universal access.

## State of Digital Citizen Engagement

The new GTMI sub-indicators defined for measuring the scope and results of digital citizen engagement platforms revealed that about half of the governments in 198 economies provide opportunities for [e-participation](#) and [e-feedback](#), mainly in countries in Groups A and B. The current status of citizen engagement based on the DCEI is presented in [Map 3.4](#).

## Main findings

**Open government portals.** A total of 119 economies (60%) have open government portals and/or are involved in Open Government Partnership, and most of these are in Group A and B (101 out of 119). There is little focus on open government portals in Group C and D countries (mostly from the Africa region). About half of these platforms are updated annually and mostly provide basic information or documents, indicating the need for more frequent updates and more comprehensive disclosure of data.

**Open data portals.** Open data portals are visible in 152 economies (77 percent) and the update frequency of these platforms has been improved; 84 economies update their open data portals on a quarterly, monthly, or weekly basis. However, only 59 economies provide access to a rich set of data, while others provide basic information—mostly annual statistics—and 41 portals are updated dynamically via application programming interfaces (APIs). There is room for improvement in most economies to enhance the contents, improve update frequency, and extend the API services of existing open data portals.

**E-participation.** A total of 97 economies (49 percent) confirmed having national platforms that allow citizens to participate in policy decision-making, demonstrating the commitment of governments to use digital solutions to further involve their constituencies. Sixty-eight economies confirmed the possibility of submitting petitions online.

Nevertheless, only 40 economies confirmed they publish government's responses to citizens or businesses, limiting accountability and transparency. In Groups C and D, citizen engagement documented the lowest average scores. This helps explain the digital gap, given the relatively higher concentration of Group A and B countries investing in digital citizen engagement. The results reveal minimal investment in opportunities for e-participation beyond providing information. Further, limited options are available for communicating with the government on existing websites.

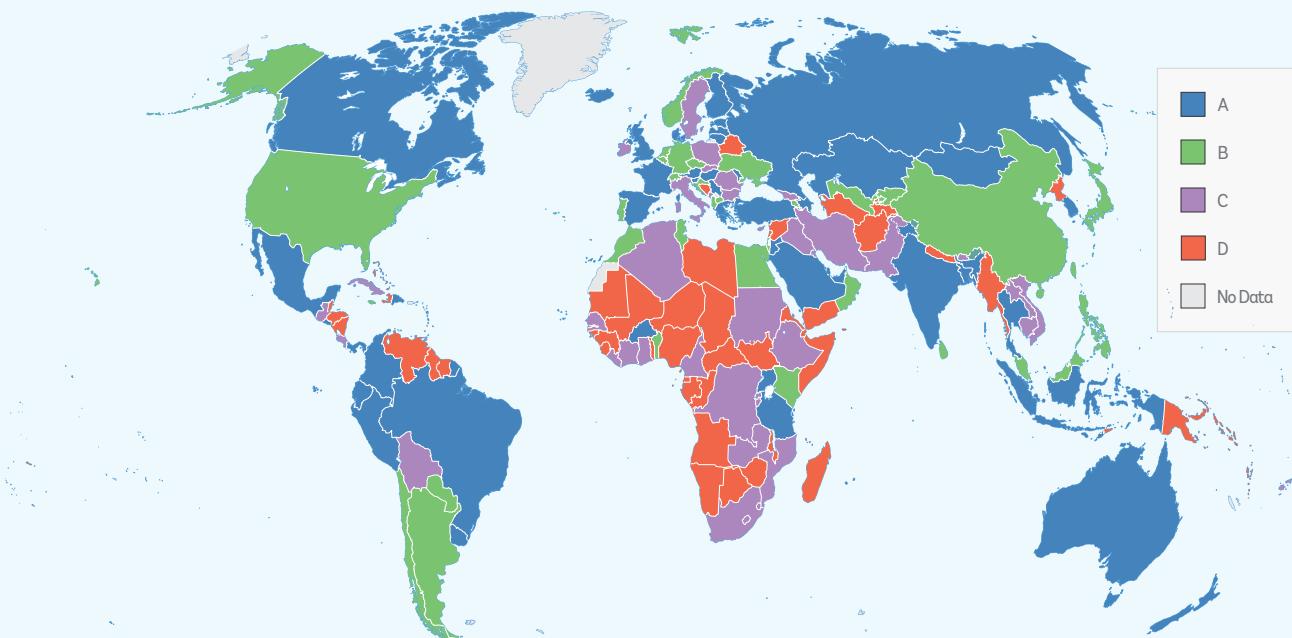
**E-feedback.** A total of 109 economies (55 percent) confirmed the existence of government platforms that allow citizens to provide feedback on service delivery (e.g., compliments, complaints, suggestions, requests for information). More specifically, 73 economies provide universal accessibility (omnichannel access), and 39 economies declared using advanced technology (e.g., chatbots or AI-enabled discussion forums) to improve citizen engagement, demonstrating the efforts of some governments to mainstream CivicTech.

**Government response.** Only 60 economies (30 percent) confirmed publishing their citizen engagement statistics and performance regularly. Service delivery performance indicators and government initiatives to improve the representation of vulnerable groups are visible in only 25 percent of the economies, demonstrating substantial room for improvement.

**Map 3.4:**  
**State of digital citizen engagement, by GTMI groups, 2022**



2022 GTMI Digital Citizen Engagement



Source: World Bank data (198 economies).

## Summary



**Progress.** Most governments have made progress in terms of having open government portals and open data portals. E-participation and e-feedback platforms are visible in about half of the 198 economies, and the capabilities of these platforms have been enhanced in a relatively small number of Group A and B economies.



**Gaps.** E-participation and e-feedback platforms have limited capabilities in general (there are no online forms available for submitting a petition, publishing citizens' inputs, allowing for anonymous feedback, or posting the government's response in a timely manner). Governments don't generally publish their citizen engagement statistics and performance data on a regular basis, and national platforms that allow citizens to participate in policy decision-making are limited.

## State of GovTech Enablers

The GTEI measures the state of several crosscutting drivers of the digital transformation agenda in the public sector: strong enabling and safeguarding institutions, legal and regulatory regime, digital strategy, digital skills in the public sector, and an environment that fosters innovation in the public sector and provides incentive for GovTech startups. The current status of GovTech enablers based on the GTEI is presented in [Map 3.5](#).

## Main findings

**GovTech institutions.** A total of 154 economies (78 percent) have established dedicated Digital Government/GovTech institutions to lead the digital transformation agenda. However, only about half of these institutions are focused on the whole-of-government approach for public sector digital transformation. Only 71 economies (36 percent) declared that they annually publish the progress of their GovTech implementation performance.

One hundred and five economies (53 percent) declared having a coordinating body such as a steering committee or a council leading GovTech initiatives. Considering the importance of crosscutting government coordination, the 2022 GTMI results show that despite more than half of the GovTech countries committed to this objective, it remains an important building block that is missing in the remaining 93 economies.

**Data governance institutions.** A total of 81 economies (41 percent) have established a dedicated Data Governance institution, and another 27 economies (14 percent) are in the process of establishing a new entity. The number of economies having a dedicated data governance body increased by 65 percent over the past two years. Forty-nine institutions (45 percent) are autonomous, whereas the remaining bodies are operating under another government entity. Seventy percent of these institutions are providing guidance to the whole government, whereas a multilevel data governance approach is adopted in the remaining economies. Only 60 economies (30 percent) have a data governance policy in place, and another 30 economies are developing a new policy. Also, only 23 percent of these institutions prepare an annual progress report on data governance.

**Digital strategy.** More governments are embarking on the journey of digital transformation, as demonstrated by 2022 GTMI data on the prevalence of GovTech and digital transformation strategies in the countries surveyed. Currently, 176 economies (about 90 percent) have or will soon have a GovTech or digital transformation strategy. Although 147 economies (74 percent) reported having an approved digital transformation strategy, only 49 percent documented that the strategy was developed within the last five years.

**Whole-of-government approach.** Overall, 140 economies (70 percent) responded positively to pursuing a whole-of-government approach to public sector digital transformation and about 43 percent (85 economies) have institutionalized the approach. However, only 48 economies (24 percent) declared publishing the progress in their whole-of-government initiatives and 11 declared having this information internally. Substantial room for improvement can be found in this area, since publicly available information on the performance of whole-of-government approach contributes to transparency and accountability toward citizens on the policies being adopted. There are also limited cross-government forums organized to discuss the approach, as the larger share of economies (58 percent) indicated that there is no such forum.

**Laws and regulations.** There has been good progress in about 140 economies (70 percent) on the adoption of right-to-information and data protection laws and regulations, and the establishment of data protection agencies. However, only a few economies (around 30 percent) report progress in the use of existing laws or performance of data protection authorities.

**Digital signature.** A total of 96 economies (49 percent) reported having digital signature platforms used for online public services. Additionally, 28 economies have established the necessary infrastructure (including Public Key Infrastructure/PKI) and 35 economies have adopted the regulations and are working on their infrastructure. The number of economies using digital signature for service delivery has increased by 39 percent over the past two years. In 73 economies, digital signature is linked with digital ID/mobile devices. Also, 52 economies (26 percent) publish information about the utilization of digital signature.

**Digital skills strategy or program.** A total of 133 economies (67 percent) indicated having a digital skills strategy or program. There is a relatively similar focus on advanced digital skills and literacy (33 percent), as opposed to basic digital skills and literacy (32 percent). The programs were mainly public sector programs rather than academic or private/CSO ones. Most of the programs are not mandatory and 41 percent of economies reported having free programs available for citizens and in schools. However, only 18 percent are publishing results on the progress of the programs toward defined objectives.

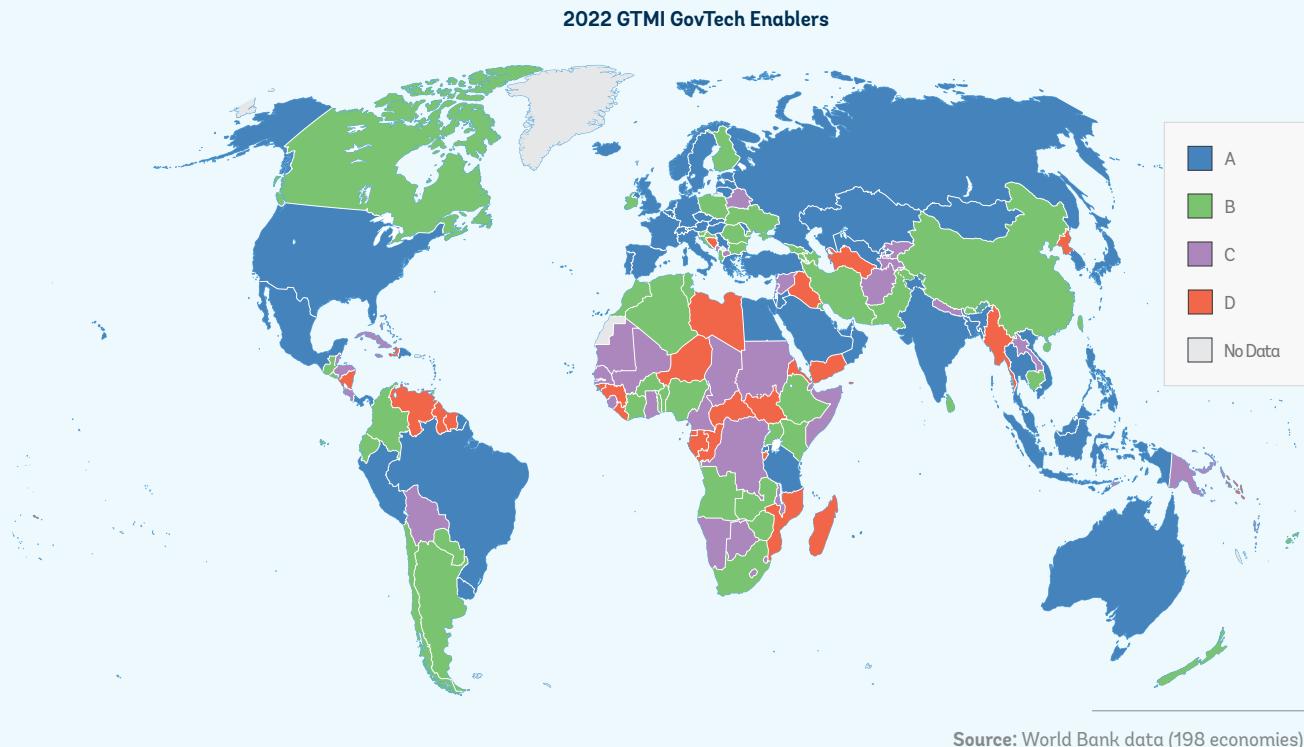
**Public sector innovation strategy or program.** A total of 116 economies (59 percent) reported having a public sector innovation (PSI) strategy or program. However, only 21 percent of the economies are publishing results on the annual progress of their public sector innovation programs.

**Public sector innovation entity.** A total of 122 economies (62 percent) declared having a government entity leading the activities on PSI. Most of these entities are focused on both strengthening of digital skills and fostering innovation in public sector. Sixty-two economies indicated that they are providing financial support for GovTech startups. However, only a few economies (around 18 percent) publish annual progress reports on the activities of PSI institutions.

**GovTech startups.** A total of 101 economies (51 percent) reported having a government policy to support GovTech and other technology startups. Only 40 economies have a procurement policy prioritizing startups and/or SMEs, and 45 countries are publishing results in supporting startups.



>>> **Map 3.5:**  
**State of GovTech enablers, by GTMI groups, 2022**



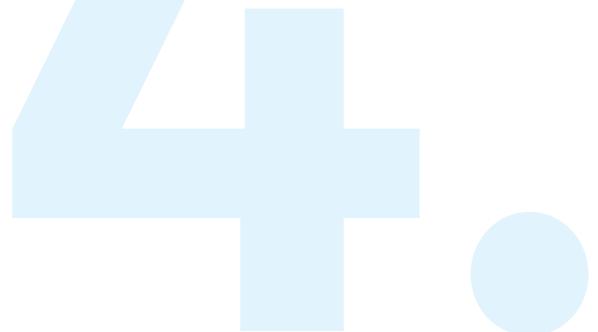
## Summary



**Progress.** Digital government/GovTech institutions, digital strategy, and action plans with a focus on whole-of-government approach, as well as data protection/privacy laws and data protection authorities, are visible in more than 70 percent of the economies. About 48 percent have digital signature platforms supporting online public services and another 32 percent are establishing the necessary infrastructure to support various services. Also, more countries confirmed the existence of digital skills and innovation strategies and programs compared to two years ago. About half of the economies have adopted policies to support GovTech startups.



**Gaps.** Institutionalization of the whole-of-government approach is progressing slowly even in high-performing countries because of difficulties in allocating necessary resources, coordinating large-scale digital governance initiatives, and monitoring and reporting of results. Economies broadly lack a dedicated entity for data governance and data management, and a strategy and/or program to improve public sector innovation and digital skills. Also, there is substantial room for improvement in disclosing publicly available information about the performance of the whole-of-government approach and the opportunities provided for GovTech startups.



# Good Practices

Based on the findings of the 2022 GTMI update, this chapter highlights 16 selected good-practice cases related to GovTech focus areas ([Table 4.1](#)).<sup>7</sup> Emerging GovTech good practices entail the following:

- Moving one level up in the GTMI groups and participation in the CG GTMI online survey
- Promotion of a whole-of-government approach while modernizing or integrating core government systems and online services
- Monitoring and publishing of the performance and use of existing platforms, and progress and results of the GovTech institutions and programs
- Support for citizen-centric services that are universally accessible
- Promotion of digital citizen engagement or CivicTech activities and the effective use of existing service portals for citizen participation and feedback
- Focus on improving the local GovTech ecosystem supporting local entrepreneurs and startups to develop new products and services for the government
- Use of new or disruptive technologies for public sector modernization
- Support for public data platforms and promotion of the use of open public data by individuals and firms to create value.

7. Well-known good-practice country cases, such as those in Brazil, Denmark, Estonia, India, Republic of Korea, the United Kingdom, and the United States, are documented in the latest EU, OECD, and UN reports. They are not included here to avoid repetition and provide more room for less-known country cases.

>>> **Table 4.1:**  
Selected good practices, by group, income level, and region, 2022

Group	#	Economies with GovTech good practices
A	10	Bangladesh, Ecuador, Egypt, Iceland, Mauritius, Mongolia, Oman, Tanzania, Uganda, Uzbekistan
B	4	Benin, Cambodia, Ghana, Guatemala
C	2	Angola, Nepal
Income Level	#	Economies with GovTech good practices
High income	2	Iceland, Oman
Upper-middle income	3	Ecuador, Guatemala, Mauritius
Lower-middle income	10	Angola, Bangladesh, Benin, Cambodia, Egypt, Ghana, Mongolia, Nepal, Tanzania, Uzbekistan
Low income	1	Uganda
Region	#	Economies with GovTech good practices
Africa	6	Angola, Benin, Ghana, Mauritius, Tanzania, Uganda
East Asia and Pacific	2	Cambodia, Mongolia
Europe and Central Asia	2	Iceland, Uzbekistan
North and South America	2	Ecuador, Guatemala
Middle East and North Africa	2	Egypt, Oman
South Asia	2	Bangladesh, Nepal

Source: World Bank staff.

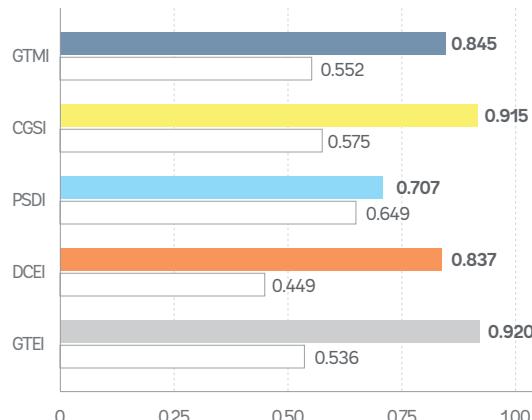
This chapter presents selected good-practice cases, together with the GTMI component scores and links to relevant websites, to highlight the relevant initiatives and platforms using a similar format.

# Bangladesh

Progress: GTEI, CGSI, DCEI;  
Moved up from Group B to A.

- The Department of Information and Communication Technology ([DICT](#)) is the key GovTech entity leading the Digital Bangladesh agenda since 2012, with a focus on improving online services, shared platforms, and the enabling environment.
- The Bangladesh Computer Council (BCC) manages the National Data Center ([NDC](#)) to provide reliable cloud services (since 2019; IaaS, PaaS, SaaS) and support shared platforms as part of the whole-of-government approach. NDC is also involved in data governance and cybersecurity in collaboration with the Bangladesh Computer Council ([BCC](#)).
- The Bangladesh National Digital Architecture ([NDA](#)) provides access to the [National e-Service Bus](#) to connect important and heavily used citizen services/e-services for secure automated data exchange using APIs.
- Citizens can register through their mobile devices for access to all online public services available in the [MyGov](#) portal (one-stop shop) and via mobile app, linked with the [digital signature](#) infrastructure.

## Bangladesh 2022 GovTech Maturity



**NDC**  
NATIONAL DATA CENTER  
BANGLADESH

+88-02-5506840 datacenter@bcc.gov.bd

**ICT DIVISION**  
FUTURE IS HERE

**BCC**  
DIGITAL BANGLADESH  
COMPUTER FOR EVERYTHING

**Proud to Serve The Country Toward Realization of DIGITAL BANGLADESH**

99.982% uptime | Power Outage Cover: 72 Hours | N+1 fault tolerance | <1.6 hours of downtime / annum | Disaster Recovery Capacity | IP/ASN Capacity | Object Storage | Security : 2 Level of Firewall, 2 Level of NGIPS, WAF, Email Security Gateway, Domain Protection, Sensors, Malware Sandboxing, Netflow, Syslogs, Anti DDoS | ISO 27001 Certification | ISO 20000 Certification | ITILv2 Compliance |

Computing General Accelerated  
Storage Mixed SSD OBS  
Network Security Backup  
Distributed Resources

The National Data Center (NDC) is the certified Tier-3 standard data center established in 2009. NDC provides GOVERNMENT CLOUD SERVICES [Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS)]

- First to bring SUPER COMPUTER facility to Bangladesh
- Bangladesh's First TIER-3 CERTIFIED DATA CENTER
- First GOVERNMENT CLOUD SERVICE provider
- Managed by CERTIFIED Engineers
- 24/7 monitored by BGD e-GOV CIRT Team
- Cloud Hosting and Service Management provided to Covid-19 Vaccine Management System [[surokkha.gov.bd](#)]

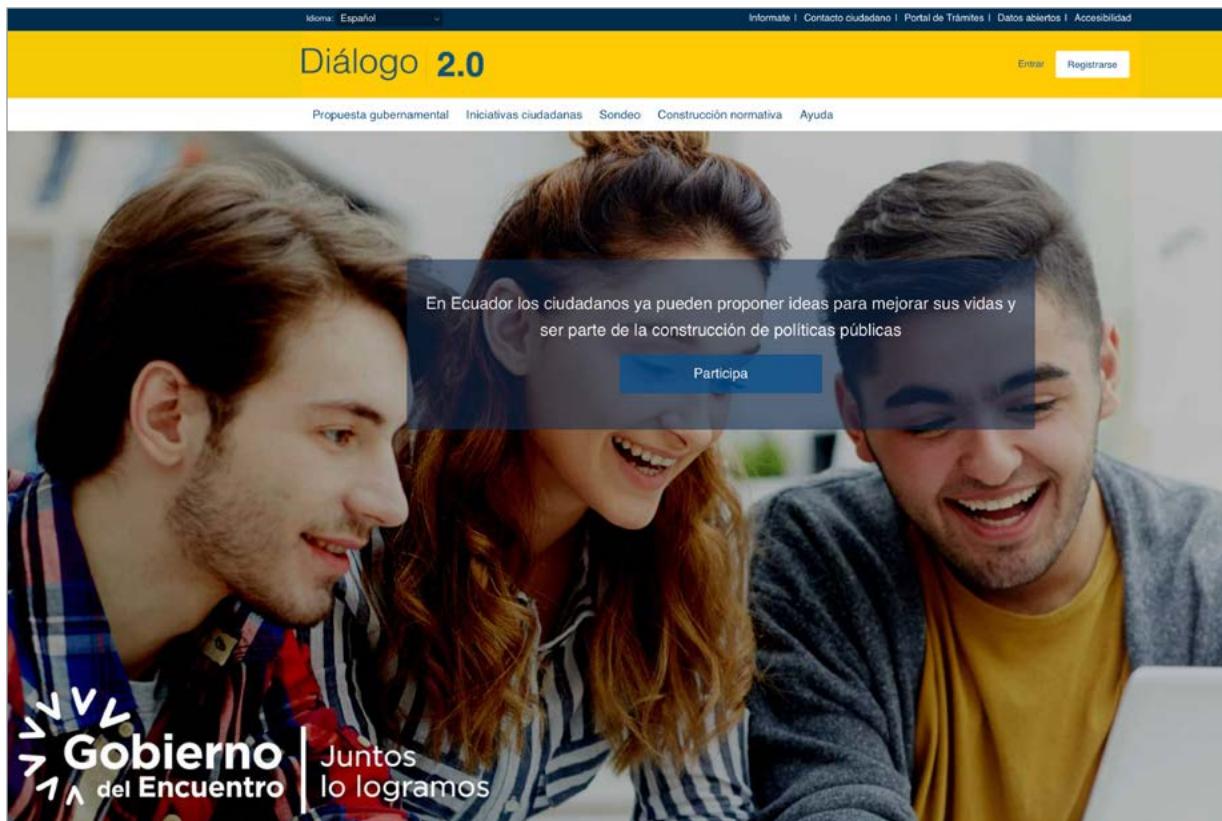
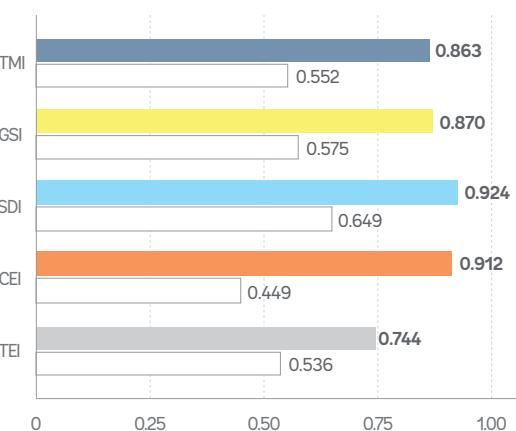
[ndc.bcc.gov.bd](#)

# Ecuador

**Progress:** PSDI, DCEI, CGSI;  
Moved up from Group B to A

- The Ecuadorian Social Security Institute ([IESS](#)) is in charge of implementing the General Compulsory Insurance System, which is part of the national social security system ([Sistema de Pensiones](#)).
- There is a government policy on open-source software for the public sector that was officially approved in 2016 ([Public Software](#)).
- The national platform [Diálogo 2.0](#) allows citizens to participate in political decision-making by proposing ideas to improve their lives and be part of public policy development.
- The whole-of-government approach to the digital transformation of the public sector is led by the [Ministry of Telecommunications and Information Society](#), with initiatives such as the creation of [smart and sustainable cities](#) based on digitalization.

Ecuador 2022 GovTech Maturity

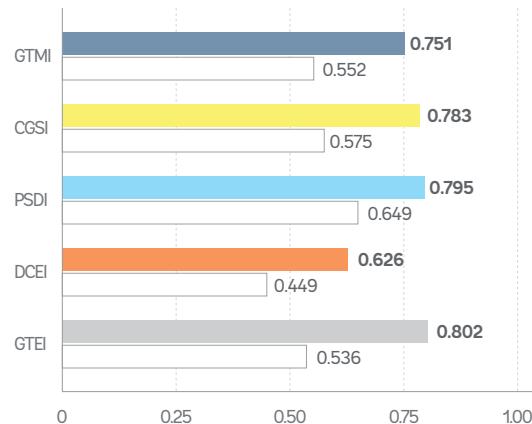


# Egypt

Progress: CGSI, PSDI, GTEI;  
Moved up from Group B to A

- Egypt is one of the leading GovTech economies in Africa, with significant progress in GovTech enablers. The Ministry of Communications and Information Technology is the primary agency in charge of digital transformation in Egypt, and the current strategy is the [ICT 2030 strategy](#).
- There is a stronger focus on GovTech enablers, public service delivery, and core government systems, as opposed to citizen engagement.
- The [Digital Egypt](#) program has launched several initiatives intended to provide training opportunities to young people to prepare them for both national and international labor markets. [The Introduction to Innovation and Technology](#) training program also offers resources to promote innovative thinking, build nationwide entrepreneurship, and strengthen the innovation ecosystem.

## Egypt 2022 GovTech Maturity



**Ministry of Communications and Information Technology**

🔍 ✉️

🏠 Digital Transformation

[f](#) [t](#) [in](#) [whatsapp](#) [ig](#) [envelope](#) [link](#)

**Digital Transformation**

The Ministry of Communications and Information Technology (MCIT) endeavors to build "Digital Egypt" and forge an Egyptian digital society that adopts and integrates technologies in almost every aspect of life. Therefore, MCIT seeks to promote the development of the ICT infrastructure and improve digital services in government agencies, to enhance the performance of ministries and other government agencies, and raise the quality and efficiency of services, by improving the work environment, providing support for the decision-making process and finding solutions to major issues in society.

**Strategic Orientation of Digital Transformation in Egypt**

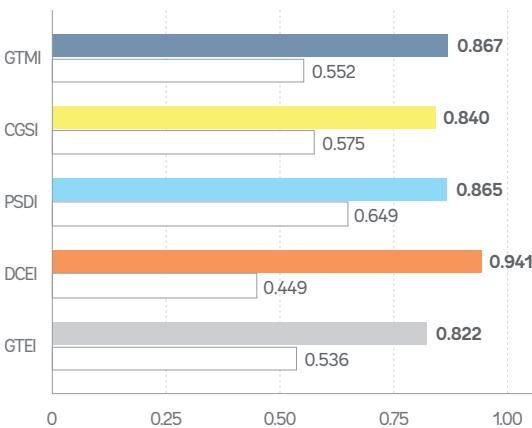
- Improve citizens' quality of life by improving their living conditions and providing multiple electronic services through all digital and non-digital outlets
- Transform the government into a digitally connected government by linking government digital systems and improving work within the state's administrative apparatus to work efficiently and effectively
- Promote e-governance and foster the values of transparency, accountability and oversight for all business through interaction and partnership among the various elements of society, including universities, the private sector, civil society and others

# Iceland

**Progress:** CGSI, PSDI, DCEI, GTEI;  
Moved up from Group B to A

- Iceland is advanced in all four GovTech focus areas and received the highest score on citizen engagement.
- A whole-of-government approach to digital transformation has been institutionalized based on the current strategy (*Digital Iceland Strategy*), which was approved in 2021.
- Iceland has an [open data portal](#) offering comprehensive data that is updated weekly using automated update procedures via APIs.
- The [Reports and Reviews](#) platform uses an AI-enabled chatbot to assist users promptly, and citizen engagement statistics and performance are [published](#).
- There is a focus on “life events” on the citizen service portal ([island.is](#)) providing online access to all available services. Digital certificates allow users to prove their rights with the mobile phone in a convenient and safe way, in case a paper or plastic certificate is forgotten or lost.

## Iceland 2022 GovTech Maturity



**island.is**

Minar síður EN Valmynd <>

### Öll opinber þjónusta á einum stað

Leitaðu á island.is

Stafrafræt pósthólf Skotvopnaleyfi Útlendingastofnun Sjúkraþryggingar

Heilbrigðisstofnun Norðurlands Umsókn um fæðingarorlof Island.is app Sakavottorð

Segdu þína sögu!

#### Lifsviðburðir

Eignast barn Flytja Hefja nám Missa ástvin

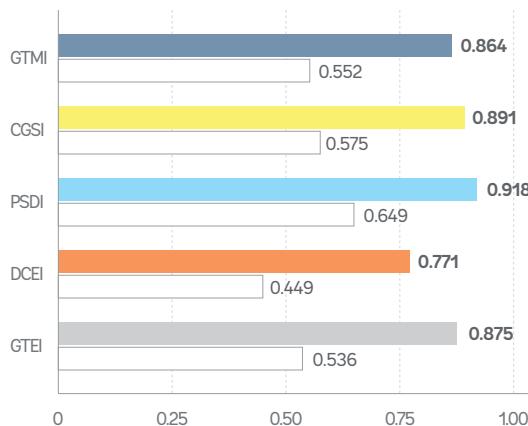
Fara á eftirlaun Út á vinnumarkaðinn Stofna fyrirtæki Samgöngur

# Mauritius

Progress: CGSI, PSDI, DCEI, GTEI;  
Moved up from Group B to A

- In the Republic of Mauritius, the Ministry of Information Technology, Communication and Innovation leads the government's digital transformation, including strategy, eServices, digital skills, and innovation.
- An [online service portal](#) that serves as a one-stop shop for citizens and businesses is available for access to public services, including service portals for [filing taxes](#), seeking [jobs](#), accessing [social insurance](#), reporting [customs information](#), and submitting [e-payments](#).
- A [shared cloud platform](#), and the Government Online Center hosting e-services, common applications, and G2C, G2B, and G2G solutions are also available.
- Mauritius plans to introduce its Government Enterprise Architecture in 2023.

## Mauritius 2022 GovTech Maturity





**CITIZEN SUPPORT**

NEW REQUEST REQUEST STATUS STATISTICS ABOUT NEWS EVENTS HELP SIGN IN



Republic of Mauritius



**COVID-19**  
CORONAVIRUS



Ministère de la Santé  
et du Bien-être

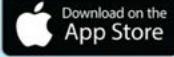
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Après 16h00

<b>8925</b>	Hôpital DR.A.G.Jeetoo - Port-Louis	<b>8928</b>	Hôpital Victoria - Candos
<b>8926</b>	Hôpital SSRN - Pamplemousses	<b>8929</b>	Hôpital J.Nehru - Rose-Belle
<b>8927</b>	Hôpital de Flacq		

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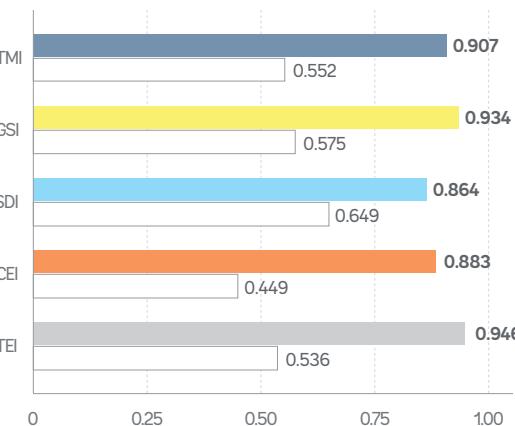


# Mongolia

Progress: CGSI, PSDI, DCEI, GTEI;  
Moved up from Group B to A

- The Ministry of Digital Development and Communications, established in 2004, oversees GovTech in Mongolia, leading on issues from strategy and policy, eGovernment, digital skills development, and innovation.
- The [e-Mongolia](#) platform was launched in October 2020. It is being used by more than 2 million citizens (66 percent of the population) for access to 600+ digital public services provided by 59 government agencies.
- Mongolia has an [Open Government portal](#) containing basic datasets, which it updates on a quarterly or monthly basis. Mongolia also has an [online platform](#) that facilitates public engagement in policymaking and enables users to submit anonymous feedback.
- A separate portal ([11-11.mn](#)) also enables citizens to provide feedback on public service delivery. The portal includes service standards (e.g., response times and procedures) and employs advanced technology to improve citizen engagement. The government also publishes information on how it has responded or incorporated citizen feedback in policies and programs.

Mongolia 2022 GovTech Maturity



**ИРГЭД, ОЛОН НИЙТТЭЙ ХАРИЛЦАХ ТӨВ 11-11**

ЗХЛЭЛ САНАЛ, ХҮСЭЛТ ИЛГЭЭХ САНАЛ, ХҮСЭЛТ ТЕВИЙН ТУХАЙ ТЕВИЙН ҮЙЛЧИЛГЭЭХ ХЭЛЭЛЦҮҮЛЭГ

Нэвтрэх

**Санал, хүсэлт хүлээн авах**  
Таны санал, хүсэлтийг дуудлага, мессеж, чат зэрэг нийт 12 төрлөөр хүлээн авч байна.

<b>Утас</b> 11-11 дугаарт холбогдох	<b>Факс</b>	<b>Дуут шуудан</b> 11-11 дугаарт холбогдон дуут шуудан илгээх
<b>Facebook</b> Фэйсбуук хуудсаар хандах	<b>И-мэйл</b> 1111@gov.mn	<b>Twitter</b> 1111tuv
<b>Биенэлийн</b> ИОНХТ-д биенэр ирэх	<b>Мессеж</b>	<b>APP</b>
<b>Киоск</b> Заагдсан байршилын киоскт очих	<b>Веб хуудас</b> 11-11.mn хуудсаар зочлох	<b>Веб чат</b> 11-11.mn хуудсаар дамжуулан холбогдох

11-11 төвийн системд иргэн нэвтрэх

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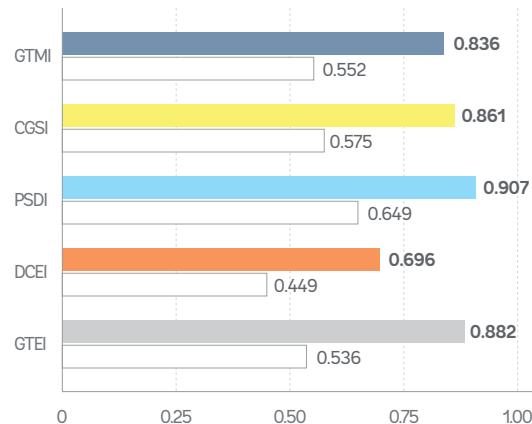
11-11 төвийн системийн өргөдөл, гомдол, санал, хүсэлтийн шийдвэрлэлтийн явцыг харах

# Oman

**Progress:** CGSI, PSDI, GTEI;  
Moved up from Group B to A

- Oman's [online public service portal](#) provides information and transactional level services. Through this portal, citizens can start a business or establish an e-residency.
- Oman also launched an [online job portal](#), which is the primary job portal used for public and private sector employment. On this portal, candidates can register, search for available jobs, and submit applications.
- The Ministry of Transport, Communication and Information Technology is the government entity focused on GovTech issues in Oman, taking charge in matters related to strategy, policy, and e-government.
- While Oman has room to grow in its citizen engagement, it does have promising beginnings—an [open data portal](#) that contains basic data and is updated on a weekly or daily basis. Oman also offers a [portal where citizens can participate](#) in policymaking and provide anonymous feedback to the government.

### Oman 2022 GovTech Maturity



الصفحة الرئيسية < المشاركة الإلكترونية

المشاركة الإلكترونية

يسنعرض هذا القسم أهم المشاريع في مجال المشاركة الإلكترونية في عمان، وتأتي هذه المشاركة كمبادرة من الجهات الحكومية لإشراك أفراد المجتمع والأخذ برأيهم في العديد من المواضيع التي تمسهم وذلك من أجل تأخذ القرارات الصالحة وتعظيم الاستفادة.

كما يوفر هذا القسم قائمة بقنوات التواصل الاجتماعية الخاصة بالمؤسسات الحكومية المختلفة بهدف تسهيل الوصول إليها والتفاعل معها. إضافة إلى عرض لمنصات الشكاوى الإلكترونية والخطوط الساخنة ومنصات التواصل الإلكتروني مع المسؤولين الحكوميين التي تبرز أهمية رأي المواطن واقراراته فيما يتعلق بالخدمات الحكومية.

**السياسات**

- سياسة المشاركة الإلكترونية
- سياسة التواصل الاجتماعي الحكومي (باللغة الإنجليزية)
- دليل المشاركة المجتمعية

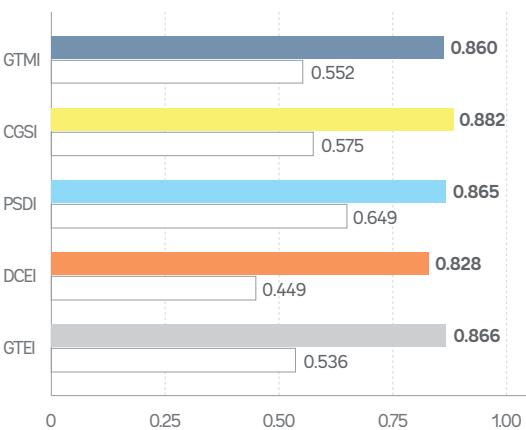
# Tanzania

Progress: CGSI, PSDI, DCEI, GTEI;  
Moved up from Group B to A

- Based on a whole-of-government approach, the [e-Government Authority](#) provides vision and leadership regarding ICT policies, strategies, and operations.
- The Government Communications Network ([GovNet](#)) is a secure shared network connecting 72 ministries, departments, and agencies (MDAs) and 77 local government authorities (LGAs).
- The government e-office system ([GeOS](#)) facilitates day-to-day government administrative processes involving movement of files and documents.
- The [online service portal](#) brings services closer to the public by allowing citizens to apply for passports, permits, and licenses, and to make payments online.
- The government mobile platform ([mGov](#)) offers a one-stop shop center for government mobile services via push (G2P) and pull (P2G) SMS, USSD, and mobile application (Android and IOS).

Tanzania 2022 GovTech Maturity

&lt;&lt;&lt;



The screenshot shows the homepage of the e-Mrejesho website. At the top, there is a banner with the text "Jamhuri ya Muungano wa Tanzania" and "Mfumo wa Kutuma, Kupokea na Kufuatilia Malalamiko, Mapendekezo, Maulizo na Pongezi". Below the banner, there is a navigation bar with links for "Nyumbani", "Mrejesho", "Msaada", "e-Mrejesho App", and "Ingia Kwenye Mfumo". On the right side of the header, there is a search bar with the text "#IAMBIE\_SERIKALI" and a magnifying glass icon. The main content area features a grid of 20 colored boxes, each representing a different government service category. The categories and their colors are:

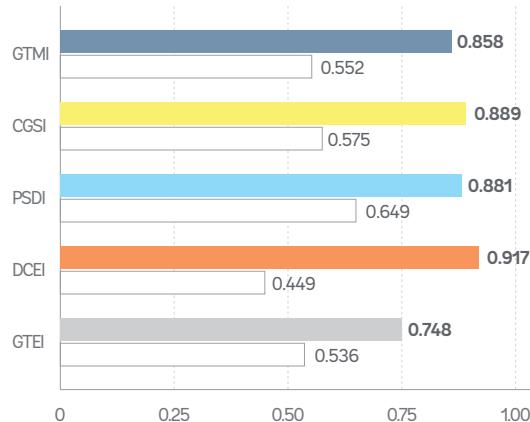
- MAHAKAMA (Blue)
- MAMBO YA NDANI (Blue)
- AFYA (Light Blue)
- WIZARA ZOTE (Purple)
- UTAWALA NA UONGOZI (Teal)
- MIFUGO NA UVUVI (Blue)
- KAZI NA AJIRA (Blue)
- SEKTA YA MADINI (Yellow)
- MAENDELEO YA JAMII (Blue)
- MALIASILINI NA UTALII (Purple)
- SEKTA YA ARDHII (Dark Brown)
- SEKTA YA MAZINGIRI (Green)
- NYARAKA NA TAKWIMU (Purple)
- UJENZI NA UCHUKUZI (Teal)
- MAWASILIANO NA TEHAMHA (Green)
- ULINZI NA USALAMA (Blue)
- VIWANDA NA BIASHARA (Yellow)
- KATIBA NA SHERIA (Brown)
- SANAA NA MICHEZO (Blue)
- SEKTA YA KILIMO (Green)
- ELIMU NA MAFUNZO (Blue)
- WILAYA NA MIKOA (Teal)
- SEKTA YA FEDHA (Yellow)
- SEKTA YA NISHATI (Brown)

# Uganda

Progress: CGSI, PSDI, DCEI, GTEI;  
Moved up from Group B to A

- The National Information Technology Authority ([NITA](#)) is the lead agency on GovTech, with a focus on developing policy and strategy, e-government, digital skills, and digital transformation.
- The Ministry of ICT and NITA recognize and embrace the benefits of a whole-of-government approach and interoperability frameworks as key factors of a successful e-governance and e-services.
- NITA developed and issued clear guidelines on [cloud computing](#) for MDAs. NITA also provides a [National Data Center](#) that includes PaaS, IaaS, SaaS, and Backend as a Service (Baas).
- The Ugandan [eCitizen](#) portal enables access to services such as e-tax, business registration, trading license registration, and social security statements, among others. The portal is structured to offer seamless navigation and quick access to all services.

## Uganda 2022 GovTech Maturity



**NITA UGANDA**  
Driving the IT Revolution

Lives transformed through **eServices Delivery**

Home About Us Services Portfolio Information Hub Opportunities ICT Register Talk To Us Webmail Q

NBI Services Regulation & Compliance

Recent News & Updates

- press Uganda's Digital Transformation improves the as per World Bank's Govtech Index Maturity Report 2022. 23 Nov 22
- press Dissemination of the National IT Survey 2022 Report. 06 Sep 22
- RCIP grand Commissioning and e-services. 26 Aug 22
- umu A unique success story is one by Uganda Martyrs University Fort Portal. 28 Jul 22
- umu A success story is one by FortPortal Regional Blood Bank. 28 Jul 22

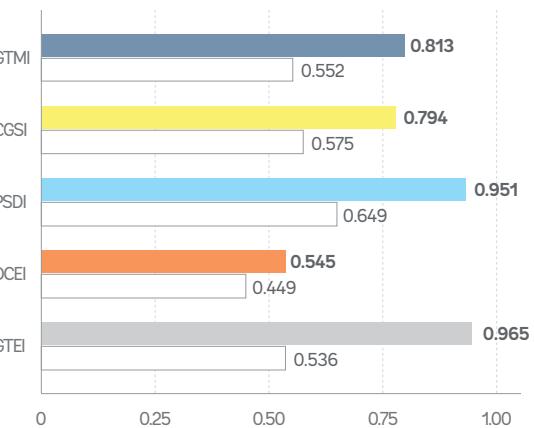
**UGhub Systems Integration Platform**

# Uzbekistan

Progress: CGSI, PSDI, DCEI, GTEI;  
Moved up from Group B to A

- The [Ministry for Development of Information Technologies and Communications](#) spearheads GovTech covering policy, strategy, e-government, public-private partnership, and digital skills development.
- The State Committee on Statistics oversees data governance. In 2020, it published a [data governance policy](#) and a [digital transformation strategy](#), and it has [institutionalized](#) a whole-of-government approach to public sector digital transformation.
- Uzbekistan is also notable for its law on [personal data protection](#), formalized in 2019. It monitors the implementation of and compliance to these laws, and [publishes](#) feedback on data protection and privacy.
- Uzbekistan also has [my.gov.uz](#), an online public service portal, which was designed around the citizen and business user and with omnichannel access. Citizens and businesses can register, file, and make payments on the [online tax portal](#), and electronic invoicing is fully implemented.

Uzbekistan 2022 GovTech Maturity



The screenshot shows the my.gov.uz website. At the top, there is a navigation bar with the logo, sign-up, log-in, and language selection (EN). Below the header, a blue banner reads "Public services for foreign citizens". Underneath, there is a section titled "Electronic services for foreign citizens" featuring a grid of 12 service icons arranged in three rows of four. Each icon has a small description below it.

Row	Column	Service Description
1	1	Acquaintance with credentials of legal entities and individual entrepreneurs
1	2	Registration at the place of temporary residence
1	3	Electronic payment
1	4	Registration of an electronic queue at the Department of Migration and Citizenship Registration (passport office)
2	1	Recording and checking COVID-19 vaccination status
2	2	Registration of a new business entity
2	3	Search for registered mail
2	4	Requisites for single treasury accounts of tax authorities
3	1	
3	2	
3	3	
3	4	

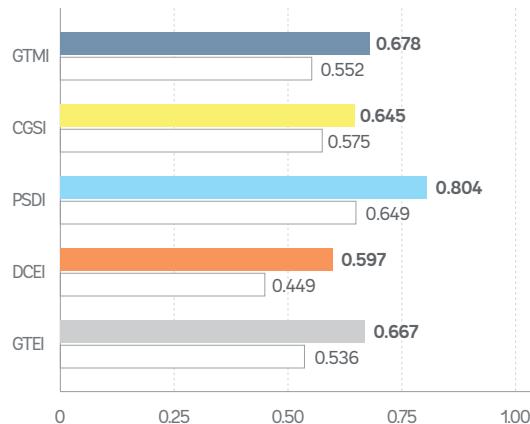
## Significant Focus on GovTech (Group B)

# Benin

Progress: PSDI, GTEI;  
Moved up from Group C to B

- Benin's Agence Nationale de la Sécurité des Systèmes d'Information ([ANSSI](#)) is the lead agency for GovTech. It oversees policy, strategy, e-government, digital skills development, and innovation.
- Benin has [Service-Public.bj](#), an online public service portal where citizens can access a wide range of e-services. This portal was designed around the user and is accessible through multiple channels; it is searchable by keyword, administration, theme, and jurisdiction.
- Benin also has an established [e-payment service](#) and a [job portal](#) where candidates can register, search, and submit applications for public and private sector jobs.
- Benin has a strategy for digital government transformation from 2016. It adopted a whole-of-government approach to this transformation, which was institutionalized; the Ministere du Numérique et de la Digitalisation is currently leading the whole-of-government approach.

### Benin 2022 GovTech Maturity



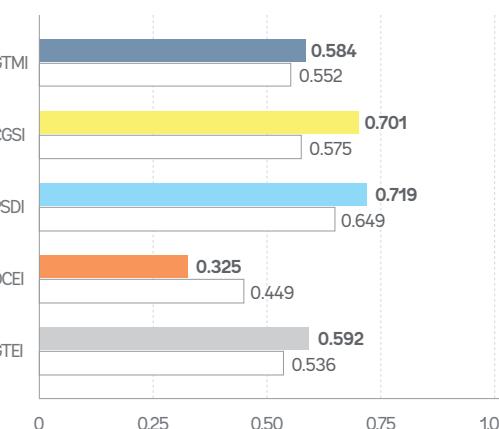
A screenshot of the Service-Public.bj website. The header includes the logo, navigation links for SERVICES, RECHERCHER UN DOCUMENT, SE CONNECTER, CRÉER UN COMPTE, and EN. Below the header are three main categories: E-SERVICES, SERVICES PAR ADMINISTRATION, and SERVICES PAR THÈME. The E-SERVICES section features a large image of yellow fruit and a search bar. The SERVICES PAR ADMINISTRATION and SERVICES PAR THÈME sections are partially visible on the right. The bottom half of the page shows two columns of services. The left column under "Tous les e-services" lists categories: Affaire/Entreprise, Affaires sociales, Affaires étrangères/Diplomatie, Artisanat, Aviation, Cadre de vie, Commerce, and Communication. The right column under "Tous les e-services" lists services: Transformation véhicules 4 roues et plus, Accès au Guichet Unique du Commerce Extérieur, Accès aux indicateurs DOING BUSINESS, Accès aux marchés publics, Accès à la base de données des Entreprises, and Affiliation du travailleur au système de sécurité sociale. Each service item includes a small icon, a title, a "Afficher les détails" link, and a "Faire une demande" button.

# Cambodia

**Progress: CGSI, PSDI;**  
Moved up from Group C to B

- In Cambodia, the Ministry of Post and Telecommunications is the entity focused on advancing GovTech. The Minister chairs the Digital Government Committee, which leads and coordinates the digital transformation of national and subnational government agencies.
- Cambodia established an online service portal, enabling businesses and citizens to make licensing and registration applications remotely. It also has an online tax service portal that enables registration, filing, and payment, and it has partially implemented e-invoicing.
- In 2019, Cambodia established the Cambodia Data Exchange Platform (CamDX), a government service bus which aims to enable integrated service delivery and data sharing within the government. To date, CamDX has been partially adopted. Cambodia monitors and publishes CamDX usage.

Cambodia 2022 GovTech Maturity



 [CamDX](#)

[Home](#) [CamDX](#) [Principles](#) [CamDigKey](#) [Services](#) [F.A.Q](#) [Contact Us](#) [Monitoring](#)

## Cambodia Data Exchange Platform

Securely allow multi-lateral data exchange between different information systems over the Internet.

[Get Started](#) [Monitoring Tool](#)



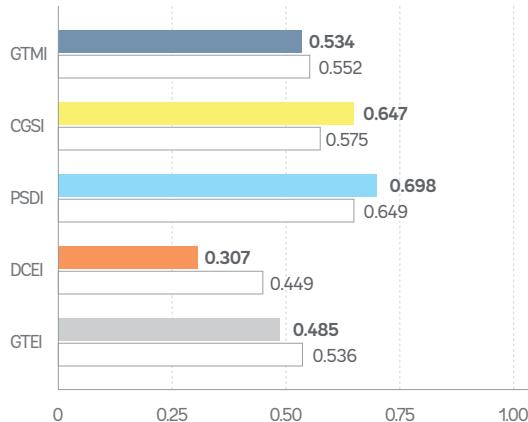
## Significant Focus on GovTech (Group B)

# Ghana

Progress: CGSI, PSDI;  
In Group B (no change)

- Ghana scores above the global average on the PSDI and CGSI. Ghana has a [Digital Services and Payments Platform](#), where citizens and businesses can (among other things) submit applications for immigration services and permits, as well as check the status of their applications.
- Ghana also has an [online tax service portal](#), where citizens and businesses can register, file, and make payments; the system has mandatory electronic invoicing. The portal facilitates all tax types and customs declarations, provides prepopulated returns, and is connected to relevant business information systems.
- Ghana's GovTech is led by the National Information Technology Agency, which was established in 2008. This agency is focused on GovTech policy and strategy, e-services, public-private partnership, and digital transformation.

### Ghana 2022 GovTech Maturity



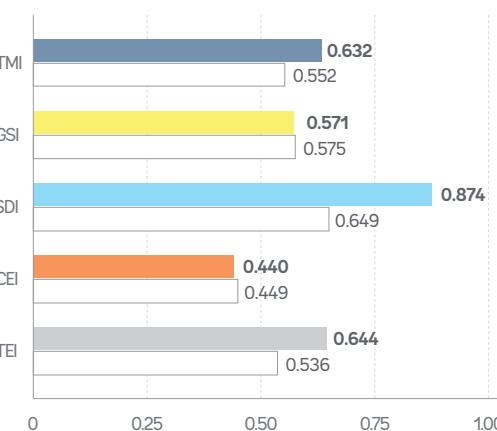
The screenshot shows the homepage of Ghana's Digital Services and Payments Platform. The top navigation bar includes links for GHANA.GOV, ABOUT, FIND A SERVICE, CHECK APPLICATION STATUS, GIVE FEEDBACK, LOG IN, and SIGN UP. The main banner features a photograph of a traditional fishing boat on the water, with the text "Welcome to Ghana's Digital Services and Payments Platform". Below the banner is a search bar with dropdowns for "Search in Gov't Agencies" and "What are you looking for?", and a yellow search button. A "VIEW MORE" link is located at the bottom right of the search area. The "FEATURED SERVICES" section displays three cards: "Ghana Revenue Authority" (with a logo featuring a stylized 'G'), "Passport Office" (with a sunburst logo), and "Ghana Immigration Service" (with a logo featuring a knot). A "VIEW MORE" link is also present in this section.

# Guatemala

Progress: PSDI, GTEI;  
Moved up from Group C to B

- In 2020, the [\*Comisión Presidencial de Gobierno Abierto y Electrónico\*](#) was established under the President's Office as a key entity leading GovTech agenda, with a focus on policy and strategy, e-government, e-services, digital skills, and innovation.
- A [\*data protection/privacy law\*](#) was approved in 2022.
- In 2022, the [\*Ministerio de Economía\*](#) put a policy in place to support GovTech startups and private sector investments.
- Dirección de Crédito Público del Ministerio de Finanzas Públicas launched a hybrid [\*Debt Management System \(DMS\)\*](#) in 2022.
- A [\*Data Governance Strategy\*](#) was approved in 2018, and it publishes [\*progress reports\*](#). A dedicated government entity in charge of data governance or management is also planned for operation beginning in 2024.

## Guatemala 2022 GovTech Maturity

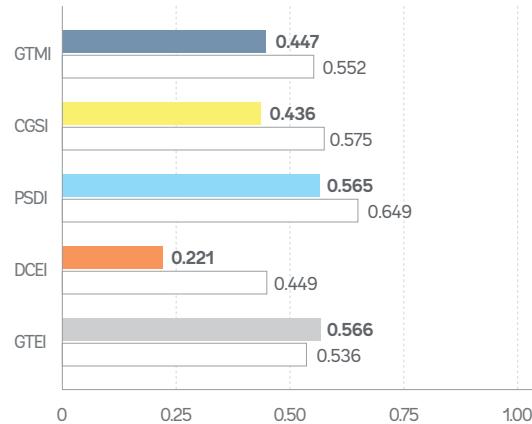


# Angola

Progress: GTEI;  
In Group C (no change)

- Angola's GovTech is overseen by the [National Institute for the Promotion of the Information Society](#) (INFOSI), established in 1997. INFOSI oversees GovTech matters around policy and strategy, e-government, digital skills development, and innovation.
- Angola is comparatively strongest on its GovTech enablers and public service delivery. [Sepe.gov.ao](http://Sepe.gov.ao) is Angola's one-stop shop for accessing e-services, and it links to other portals for public employment, licensing, and company registration.
- The [digital government transformation strategy](#) was updated in 2019. Angola takes a whole-of-government approach to digital transformation, overseen by the Ministério das Telecomunicações, Tecnologias de Informação e Comunicação Social (MINTTICS), which publishes progress updates on its [website](#).

Angola 2022 GovTech Maturity

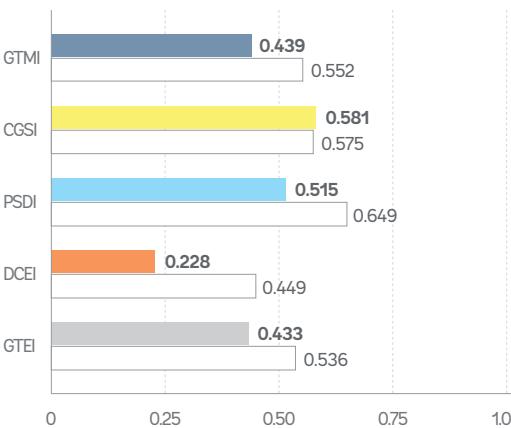


# Nepal

Progress: CGSI;  
Moved from B to C

- The [Ministry of Communications and Information Technology](#) is leading GovTech in Nepal, encompassing issues including strategy and policy, e-government, and digital skills development.
- In 2020, Nepal launched the [Nepal G Cloud](#), a government cloud platform operated by the Department of Information Technology that maintains data within the country.
- In 2011, Nepal launched the [Nepal Government Enterprise Architecture \(GEA\)](#). The GEA is still partially used, but it is a blueprint shared by both central and local governments.
- Nepal also has a Government Interoperability Framework ([Nepal eGIF](#)), which was launched in 2010. To date, it is only partially used, although it is shared by central and local governments.
- Nepal also has a well-functioning FMIS platform, the [DECS/TSA or District Expenditure Control System/Treasury Single Account System](#), which serves to support core PFM functions. It was launched in 2006 and is operated by the [Ministry of Finance](#).

## Nepal 2022 GovTech Maturity



The screenshot shows the homepage of the NITC website. The header includes links for Site Map, Website Guidelines, Contact Information, and Social Media icons. A search bar is present. The main content features a brown banner with the text "Server Colocation" and "GIDC hosts servers of government agencies." Below this is a diagram illustrating the hierarchy of cloud services: IAAS (Infrastructure as a Service) leads to PAAS (Platform as a Service), which leads to SAAS (Software as a Service). The diagram also shows "Co-location" and "Centralized Applications" as outputs. On the right, there's a vertical stack of "NEPAL", "GEA", "DIGITAL NEPAL FRAMEWORK", and "E-GOVERNANCE MASTERPLAN". At the bottom, three red buttons highlight "HIGH AVAILABILITY (HA)", "REDUNDANCY / FAILOVER", and "FAST SECURE SYSTEMS".



# Conclusions and Recommendations

The World Bank's 2022 update of the GovTech Maturity Index (GTMI) shows that despite progress in online public service delivery, underlying shared digital platforms, and core government systems, the digital divide has widened due to lack of policies and resources in most low- and middle-income countries.

The GTMI comes at a time when demands on governments are increasing rapidly. While many economies are still recovering from the COVID-19 pandemic, concerns around prices, peace, stability, and climate change are growing. Debt levels are increasing, and fiscal resources are stretched. As governments rise to meet these challenges, there is more awareness about the potential of digital transformation to make public sectors more efficient, transparent, citizen-centered, and resilient.

The nature of the digital divide is complex and debatable, and its measurement based on relevant indicators is not a trivial task. The 2022 GTMI data revealed that 48 extended indicators can provide a reliable snapshot of the progress and gaps in public sector digital transformation, and they can inform policy decisions to address country-specific digital divide challenges.

Broadly, the GTMI showcases a country's overall advancement in digital transformation. It is not intended to create a ranking or assess a country's readiness for or performance of GovTech; it is intended to complement existing tools and diagnostics by providing a baseline for GovTech maturity and identifying areas for improvement.

Based on the 2022 GTMI survey data, about 78 percent of the 198 economies have launched digital government or GovTech initiatives, and relevant strategies to address country-specific digital transformation challenges have been developed. These initiatives, along with additional investments in shared digital platforms with a focus on improving online service delivery, have helped to reinforce GovTech foundations in most of the countries within the last two years. Despite these efforts, there are significant challenges in four GovTech focus areas, especially in Group C and D economies.

The initial findings of the 2022 GTMI update reveal that the new key indicators in the GovTech global dataset are relevant in documenting the progress made in the public sector digital transformation agenda in most countries. They also help monitor the performance and utilization of existing platforms.

Since the GTMI was introduced to measure the maturity of GovTech initiatives at the central government level, it may not adequately capture the progress and good practices in subnational entities. The 2022 GTMI survey results revealed the difficulty of measuring the GovTech maturity in most economies.

The conclusions and recommendations of the 2021 GTMI Report are still valid. The key messages of the 2022 GTMI update are as follows:

- **Commitment at high government levels and the allocation of necessary resources** are crucial for launching and sustaining priority GovTech initiatives to address the widening digital divide.
- **Large-scale GovTech challenges are more visible in Sub-Saharan Africa** in comparison with other regions, and more substantial resources are needed to reduce the gaps in digital public infrastructure, skills, and governance.
- **There is substantial room for improvement** in most of the economies **regarding the interconnectivity and interoperability of existing systems and services** benefiting from cost-effective shared digital platforms such as government cloud, service bus, and application programming interfaces (APIs).

- **Online service portals could be enhanced to increase the availability of citizen-centric transactional services**, and access to critical services (life events) could be monitored and better reported to improve the quality of services for citizens and businesses.
- **Multifunctional citizen participation platforms could be developed** to deepen the citizen-government relationship, improve accountability, and build public trust in government.
- **Further investments in digital skills development and innovation in the public sector are crucial** to supporting the transition to data-driven culture and building strong technical skills.
- **Governments could provide more incentives and financial support to GovTech startups/SMEs** to promote the private sector involvement in addressing public sector challenges.
- **Governments could promote the use of public data to create added economic value** by establishing public data platforms that individuals and firms can access.
- **The use of frontier and disruptive digital technologies can greatly improve core government operations and online service delivery** once the GovTech foundations are in place.
- **Governments could focus more on measuring the performance and utilization of existing digital platforms and monitor/report the adoption and use of new policies and frameworks** to improve the visibility and impact of ongoing digital transformation activities.

The pandemic has highlighted how critical GovTech solutions can be during times of crisis and need. Indeed, in many countries, GovTech solutions have helped governments continue core operations, provide secure remote access to online services, and support vulnerable people and businesses. By allocating the necessary resources for advancing GovTech maturity, governments are investing in a more efficient and citizen-centered public service network. Investing in GovTech and partnering with stakeholders are an opportunity to better deliver on COVID-19-pandemic recovery and resilience and adapt to the “new normal.”



# Appendices

## Appendix A. Explanation of Revised GovTech Indicators

The maturity level of four GovTech focus areas was measured using 48 key indicators (including eight external indicators). [Table A.1](#) presents all key indicators and related sub-indicators, response options, and associated weights.

>>> **Table A.1:**  
**GovTech key indicators and sub-indicators**

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/Source	New	Weight
Core Government Systems Index (CGSI)					
Government Cloud					
I-1	Is there a shared cloud platform available for all government entities?	0 = No 1 = Only cloud strategy/policy (no platform yet) 2= Yes (platform in use)		-	W1
I-1.1	Name of the government cloud platform	Text		-	-
I-1.2	Cloud platform/strategy URL	URL		-	-
I-1.3	Government cloud was launched/will be launched in (year)	YYYY		-	-
I-1.4	Type of cloud platform established	0 = Unknown 1 = Public (Commercial) 2 = Private (Government) 3= Hybrid	Public: Commercial operators, outside/in country; Private: Operated by government entities, usually on-premise; Hybrid: Combination of public and private	Yes	B
I-1.5	Official name of the entity operating the government cloud platform	Text		Yes	-
I-1.6	Government cloud data hosting policy?	0= No policy/Unknown 1= Keeping data inside the country 2= Keeping data outside the country 3= Hybrid (inside + outside)		Yes	B
I-1.6.1	If there is a cloud hosting policy > Supporting document (report/URL)	Enter URL (public link) or attach relevant report		Yes	-
I-1.7	Cloud services provided	0 = Unknown, 1 = SaaS, 2 = PaaS, 3 = IaaS, 4 = XaaS	SaaS: Software as a Service; PaaS: Platform as a Service; IaaS: Infrastructure as a Service; XaaS: Anything as a Service	Yes	B
I-1.8	Is there one shared government cloud platform or several?	0 = Unknown, 1 = Several cloud platforms (central/local levels), 2= One shared cloud platform			B
I-1.9	Monitoring and publishing of cloud usage, security, savings, etc.?	0 = No, 1 = Yes (internal, not published), 2= Yes (public, published)			S1
I-1.9.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/ Source	New	Weight
Government Enterprise Architecture (GEA)					
I-2	Is there a government enterprise architecture framework?	0 = No, 1 = In draft/Planned, 2 = Yes			W1
I-2.1	Name of the GEA framework	Text			-
I-2.2	GEA framework/draft URL	URL			-
I-2.3	GEA was introduced/will be introduced in (year)	YYYY			-
I-2.4	GEA operational status	0 = Unknown, 1 = Partially used, 2 = Extensively used			B
I-2.5	Scope > Is there a shared GEA?	0 = Unknown, 1 = Fragmented (separate central/local), 2 = Shared central + local (whole-of-government)			B
I-2.6	Which entity is maintaining/extending GEA?	0 = Unknown, 1 = Ministry-level chief information officer 2 = Government CIO, 3 = Other			B
I-2.7	Which entity is monitoring compliance with GEA?	0= Unknown, 1= Ministry level Chief Information Officer 2= Government CIO, 3= Other			B
I-2.8	Monitoring and publishing of GEA usage, compliance, benefits, etc.?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			S1
I-2.8.1	If Yes > Supporting document (report/ URL)	Enter URL (public link) or attach relevant report			-
Government Interoperability Framework (GIF)					
I-3	Is there a government interoperability framework?	0 = No, 1 = In draft/Planned, 2= Yes	European Interoperability Framework (EIF) or similar country specific frameworks		W1
I-3.1	Title of the GIF report	Text			-
I-3.2	GIF report/draft URL	URL			-
I-3.3	GIF was introduced/will be introduced in (year)	YYYY			-
I-3.4	GIF operational status	0 = Unknown, 1 = Partially used, 2= Extensively used			B
I-3.5	Scope > Is there a shared GIF?	0 = Unknown, 1 = Fragmented (separate central/local), 2= Shared central + local (whole-of-government)			B
I-3.6	Is there a data quality framework?	0 = No, 1 = Yes	Data quality framework for ensuring that government data is standardized, not fragmented, and not duplicated.		B
I-3.7	Is there a system to monitor the "uptime" of government information systems?	0 = No, 1 = Yes			B
I-3.8	Is there guidance for replacing legacy government information systems?	0 = No, 1 = Yes			B
I-3.9	Monitoring and publishing of GIF usage, compliance, benefits?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			S1
I-3.9.1	If Yes > Supporting document (report/ URL)	Enter URL (public link) or attach relevant report			-

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/ Source	New	Weight
Government Service Bus (GSB)					
I-4	Is there a government service bus platform?	O = No, 1 = In draft/Planned, 2= Yes (platform in use)			W1
I-4.1	Name of the government service bus platform	Text			-
I-4.2	GSB platform URL	URL			-
I-4.3	GSB platform was launched/will be launched in (year)	YYYY			-
I-4.4	GSB operational status	O = Unknown, 1 = Partially used, 2 = Extensively used			B
I-4.5	Scope > Is there a shared GSB platform?	O = Unknown, 1 = Fragmented (Separate central/local), 2 = Shared central + local (whole-of-government)			B
I-4.6	Monitoring and publishing of GSB usage, security, savings?	O = No, 1 = Yes (internal, not published). 2= Yes (public, published)			S1
I-4.6.1	If Yes > Supporting document (report/ URL)	Enter URL (public link) or attach relevant report			-
Financial Management Information System (FMIS)					
I-5	Is there an operational FMIS in place to support core PFM functions?	O = No/Unknown, 1 = Implementation in progress, 2 = Yes (in use)			W3
I-5.1	Official name of Finance Ministry/ Department operating FMIS	Text			-
I-5.2	Finance Ministry/Department home page URL	URL			-
I-5.3	Name of the FMIS platform	Text	FMIS automates public financial management processes including budget formulation, execution (such as commitment control, debt management, treasury operations), accounting, reporting, and more.		-
I-5.4	FMIS platform URL	URL			-
I-5.5	FMIS was launched/will be launched in (year)	YYYY			-
I-5.6	FMIS functional capabilities	O = Unknown, 1 = Treasury (execution), 2 = T + Budget (preparation), 3 = T + B + Other			B
I-5.7	Scope of FMIS (coverage of budgets)	O = Unknown, 1 = Central government, 2 = Central + Local government			B
I-5.8	Type of FMIS software	O = Unknown, 1 = Custom software, 2 = Commercial/COTS software, 3= Hybrid			B
I-5.9	Name of FMIS software package	Text			-
I-5.10	Is there a unified budget classification/ chart of accounts?	O = No, 1 = Yes (Central government only), 2= Yes (Both central and subnational government)	Unified budget classification (BC)/ chart of accounts (CoA) is used to record/report all budget revenues, expenses, and other transactions		B
I-5.11	Does FMIS capture expenses linked to the SDGs and other strategic goals?	O = No, 1 = Partially, 2= Extensively	Budget expenses linked to the Sustainable Development Goals (SDGs) can be captured using gender, climate change, and other tags (non-financial indicators) in addition to the financial transactions.		B

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/ Source	New	Weight
I-5.12	Does FMIS capture non-financial data (KPIs) on programs/projects?	O = No, 1= Partially (Some of the KPIs for selected programs), 2= Extensively (KPIs captured for most of the programs)	Non-financial data or key performance indicators (KPIs) related to programs/projects/activities.		B
I-5.13	Does FMIS exchange data with other systems?	O = No, 1= Yes (via separate interfaces), 2 = Yes (via government service bus)			B
I-5.14	Governance of FMIS operations (compliance, security, audit trails, etc.)?	O = No, 1 = Yes (internal, not published), 2= Yes (public, published)			S2
I-5.14.1	If Yes > Supporting document (report/ URL)	Enter URL (public link) or attach relevant report			-
Treasury Single Account (TSA) Operations					
I-6	Is there a TSA supported by FMIS to automate payments and bank reconciliation?	O = No, 1 = Implementation in progress, 2 = Yes (in use)			W3
I-6.1	Treasury home page URL	URL			-
I-6.2	Treasury was established/will be established in (year)	YYYY			-
I-6.3	TSA regulation/introduction website URL	URL			-
I-6.4	TSA was launched/will be launched in (year)	YYYY			-
I-6.5	Scope of TSA operations	O = Unknown, 1 = Partially used by the MDAs, 2 = Extensively used by all MDAs	MDAs: Ministries, Departments, Agencies		B
I-6.6	Type of electronic payment systems in place	O = Unknown, 1 = RTGS, 2 = ACH, 3 = Both RTGS and ACH	RTGS: Real Time Gross Settlements, ACH: Automated Clearing House		B
I-6.7	Is there a TSA interface linking FMIS with the Central Bank systems?	O = No, 1 = Implementation in progress, 2 = Yes (in use)			B
I-6.8	Governance of TSA operations (compliance, security, audit trails, etc.)?	O = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			S2
I-6.8.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-
Treasury Single Account (TSA) Operations					
I-7	Is there a Tax Management Information System in place?	O = No, 1 = Implementation in progress, 2 = Yes (in use)			W3
I-7.1	Tax administration home page URL	URL			-
I-7.2	Tax administration was established/will be established in (year)	YYYY			-
I-7.3	Name of the TMIS platform	Text			-
I-7.4	TMIS platform URL	URL			-
I-7.5	TMIS was launched/will be launched in (year)	YYYY			-
I-7.6	Type of TMIS software	O = Unknown, 1 = Custom software, 2 = Commercial/COTS software, 3 = Hybrid (Custom + COTS)			B

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/Source	New	Weight
I-7.7	Does TMIS exchange data with other systems?	0 = No, 1 = Yes (via separate interfaces) 2 = Yes (via government service bus)			B
I-7.8	Governance of TMIS operations (compliance, security, audit trails, etc.)?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			S2
I-7.8.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or Attach relevant report			-
Customs Management Information System (CMIS)					
I-8	Is there a Customs Management Information System in place?	0= No, 1= Implementation in progress, 2= Yes (in use)			W3
I-8.1	Customs administration home page URL	URL			-
I-8.2	Customs administration was established/will be established in (year)	YYYY			-
I-8.3	Name of the CMIS	Text			-
I-8.4	CMIS platform URL	URL			-
I-8.5	CMIS was launched/will be launched in (year)	YYYY			-
I-8.6	Type of CMIS software	0 = Unknown, 1 = Custom software, 2 = Commercial/COTS software, 3 = Hybrid (Custom + COTS)			B
I-8.7	Customs and tax administrations merged?	0 = No, 1 = Yes			-
I-8.8	Does CMIS exchange data with other systems?	0 = No, 1 = Yes (via separate interfaces) 2 = Yes (via government service bus)			B
I-8.9	Governance of CMIS operations (compliance, security, audit trails, etc.)?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			S2
I-8.9.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-
Human Resources Management Information System (HRMIS)					
I-9	Is there a Human Resources Management Information System with self-service portal?	0 = No, 1 = Implementation in progress, 2 = Yes (in use)			W3
I-9.1	Name of the HRMIS platform (public sector)	Text			-
I-9.2	HRMIS platform URL	URL			-
I-9.3	HRMIS was launched/will be launched in (year)	YYYY			-
I-9.4	Type of HRMIS software	0 = Unknown, 1 = Custom Software, 2 = Commercial/COTS Software, 3 = Hybrid (Custom + COTS)			B

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/Source	New	Weight
I-9.5	HRMIS topology	0 = Unknown, 1 = Disconnected, 2 = Distributed, 3 = Connected, 4 = Shared	Disconnected: Separate HRMIS, no data exchange; Distributed: Separate HRMIS sends data for consolidation; Connected: Central and local HRMIS connected for data exchange; Shared: Centralized single HRMIS for all MDAs.	B	
I-9.6	Is there an HRMIS self-service portal for employees and managers?	0 = No, 1 = Yes (but there are still manual processes/paperwork), 2= Yes (most of the services are online/digitized)		B	
I-9.7	Does HRMIS exchange data with other systems?	0 = No, 1= Yes (via separate interfaces), 2= Yes (via government service bus)		B	
I-9.8	Does HRMIS use national ID as primary or secondary identifier?	0 = No, 1 = Yes		B	
I-9.9	Governance of HRMIS operations (registers, security, audit trails, etc.)?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)		S2	
I-9.9.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report		-	
Payroll System					
I-10	Is there a payroll system (MIS) linked with HRMIS?	0 = No, 1 = Implementation in progress, 2 = Yes (in use)			W3
I-10.1	Name of the payroll system (public sector)	Text		-	
I-10.2	Payroll system (MIS) URL	URL		-	
I-10.3	Payroll system was launched/will be launched in (year)	YYYY		-	
I-10.4	Type of payroll system software	0 = Unknown, 1 = Custom software, 2 = Commercial/COTS software, 3= Hybrid (Custom + COTS)		B	
I-10.5	Payroll system topology	0 = Unknown, 1 = Disconnected, 2 = Distributed, 3 = Connected, 4 = Shared	Disconnected: Separate payroll systems, no data exchange; Distributed: Separate payroll systems sending data for consolidation; Connected: Central and local payroll systems connected for data exchange; Shared (centralized single payroll system for all MDAs)	B	
I-10.6	Governance of payroll system operations (registers, security, audit trails, etc.)?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)		S2	
I-10.6.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report		-	

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/ Source	New	Weight
Social Insurance (SI) System					
I-11	Is there a social insurance system (non-health) providing pensions (including public sector) and other SI programs?	O = No, 1 = Implementation in progress, 2 = Yes (in use)	Any public sector agency that operates a (non-health insurance) social insurance program or programs – pensions (including public sector), other social insurance and/or social assistance – where such program(s), individually or collectively, cover at least 5 percent of the population (measured by either number of beneficiaries and/or number of the insured members). If country does not have an agency that covers 5 percent of the population, then such an agency with the highest coverage of such program(s).		W1
I-11.1	Official name of the main public entity operating SI/pension program(s)	Text		-	
I-11.2	Main SI/pension entity's home page URL	URL		-	
I-11.3	Main SI/pension entity was established/will be established in (year)	YYYY		-	
I-11.4	Name of the primary SI/pension system (MIS) solution	Text		-	
I-11.5	Primary SI/pension MIS platform URL	URL		-	
I-11.6	Primary SI/pension MIS was launched / will be launched in (year)	YYYY		-	
I-11.7	Status of public sector SI/pension MIS platform	O = Unknown, 1 = Separate SI/pension MIS for public employees, 2 = Primary pension MIS is used for public employees as well			B
I-11.8	Type of primary SI/pension MIS platform	O = Unknown, 1 = Custom software, 2 = Commercial/COTS software, 3 = Hybrid (Custom + COTS)			B
I-11.9	Is primary SI/pension MIS exchanging data with other systems?	O = No, 1 = Yes (via separate interfaces) 2 = Yes (via government service bus)			B
I-11.10	Does the primary SI/pension MIS use national ID as primary or secondary identifier?	O = No, 1 = Yes			B
I-11.11	Are all SI/pension beneficiary records fully digitized?	O = No, 1 = Partially digitized, 2 = Fully digitized			B
I-11.12	Share of all SI/pension benefit payments deposited digitally to individual bank accounts of beneficiaries (percentage)	Text (% of payments or unknown)			-
I-11.13	Are all active insured public employee records fully digitized?	O = No, 1 = Partially digitized, 2 = Fully digitized			B
I-11.13.1	If digitized > In what year was digitization introduced for the contribution records? (year)	YYYY			-
I-11.14	Can a contribution report and payment be submitted online?	O = No, 1 = Yes			B
I-11.15	Governance of SI/pension MIS operations (registers, security, audit trails, etc.)?	O = No, 1 = Yes (internal, not published), 2= Yes (public, published)			S2
I-11.15.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/ Source	New	Weight
Social Insurance (SI) System					
I-12	Is there an e-procurement portal?	0 = No, 1 = Implementation in progress, 2 = Yes (in use)			W2
I-12.1	Name of e-procurement portal	Text			-
I-12.2	e-Procurement portal URL	URL			-
I-12.3	e-Procurement portal was launched/will be launched in (year)	YYYY			-
I-12.4	e-Procurement portal capabilities	0 = Unknown, 1 = Tender notices + Contracts, 2 = Online tendering + Contracts, 3 = Online tendering + Contracts + Interfaces with other systems			B
I-12.5	e-Procurement data published in line with OCDS?	0 = No, 1 = Yes	OCDS: Open Contracting Data Standards		B
I-12.6	Does the e-procurement portal exchange data with other systems?	0 = No, 1 = Yes (via separate interfaces) 2 = Yes (via government service bus)			B
I-12.7	Any innovative approach in e-procurement?	Text	Examples include participation of SMEs/startups, incentives for open source software solutions, and services procured from SMEs/startups		-
I-12.8	Governance of e-procurement operations (registers, security, audit trails, etc.)?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			S2
I-12.8.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-
Debt Management System					
I-13	Is there a Debt Management System (DMS) in place? (Foreign and domestic debt)	0 = No, 1 = Implementation in progress, 2 = Yes (in use)			W3
I-13.1	Official name of Debt Management System (DMS) operator	Text			-
I-13.2	DMS platform/operator home page URL	URL			-
I-13.3	DMS platform was launched/will be launched in (year)	YYYY			-
I-13.4	Type of DMS software	0 = Unknown, 1 = Custom software, 2 = Commercial/COTS software, 3 = Hybrid (Custom + COTS)			B
I-13.5	Abbreviation of DMS software solution	Text (short)			-
Public Investment Management System (PIMS)					
I-14	Is there a Public Investment Management System (PIMS) in place?	0 = No, 1 = Implementation in progress, 2 = Yes (in use)			W2
I-14.1	Name of PIMS solution (information system)	Text			-

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/Source	New	Weight
I-14.2	PIMS platform URL	URL			-
I-14.3	PIMS was launched/will be launched in (year)	YYYY			-
I-14.4	Type of PIMS software	0 = Unknown, 1 = Custom software, 2 = Commercial/COTS software, 3 = Hybrid (Custom + COTS)			B
I-14.5	PIMS functional capabilities	0 = Unknown, 1 = Only PIM project registry, 2 = Registry + PIM cycle, 3 = Registry + PIM cycle + Project monitoring			B
I-14.6	Does PIMS exchange data with other systems?	0 = No, 1 = Yes (via separate interfaces) 2 = Yes (via government service bus)			B
I-14.7	Publishing of PIMS project database, results?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			S2
I-14.7.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-
Open-Source Software (OSS) in public sector					
I-15	Is there a government Open-Source Software policy/action plan for public sector?	0 = No, 1 = Yes (Advisory/R&D), 2 = Yes (Mandatory)			W2
I-15.1	OSS policy URL	URL			-
I-15.2	OSS policy was approved/will be approved in (year)	YYYY			-
I-15.3	Is there an entity taking decisions on adopting/procuring an OSS solution?	0 = No, 1 = Ministry level chief information officer 2 = Government CIO, 3 = Other			B
I-15.4	What is the level of adoption of OSS policy?	0 = Unknown, 1 = Partially adopted in several sectors, 2 = Extensively adopted			B
I-15.4.1	If adopted > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-
Telecommunication Infrastructure			External Indicator (UN 2022)		
I-16	UN Telecommunication Infrastructure Index (TII)	O to 1 (external indicator extracted from the UN e-Gov Survey)	The UN eGovernment Telecommunication Infrastructure Index (TII) is composed of four indicators: (i) Estimated internet users per 100 inhabitants (ii) Number of mobile subscribers per 100 inhabitants (iii) Active mobile-broadband subscription (iv) Number of fixed broadband subscription per 100 inhabitants.		E1
Disruptive / Innovative Technologies					
I-17	Does the government have a national strategy on disruptive/innovative technologies?	0 = No, 1 = In draft/Planned, 2 = Yes	Disruptive/innovative technology strategy with measurable targets (e.g., artificial intelligence, blockchain)		W2

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/ Source	New	Weight
I-17.1	Title of the latest Disruptive Technology (DT) strategy document	Text			-
I-17.2	DT strategy URL	URL			-
I-17.3	DT strategy was approved/will be approved in (year)	YYYY			-
I-17.4	DT strategy focus area(s) [please select all that apply]	1 = AI/ML, 2 = Blockchain/DLT, 3 = IoT, 4 = Drones, 5 = Other (smart cities, robotics, virtual reality, 3D printers, etc.)		B	
I-17.5	Is there a ministry/department responsible for implementing the DT strategy?	0 = No, 1 = Yes		B	
I-17.5.1	If Yes > Official name (and URL) of the responsible entity	Text/URL (if publicly available)			-
I-17.6	Does the DT strategy have committed funding?	0 = No, 1 = Yes		B	
I-17.7	Publishing of use cases on DT applications?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)		S2	
I-17.7.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-
Public Service Delivery Index (PSDI)					
Online Services			External Indicator (UN 2022)		
I-18	UN Online Service Index (OSI)	0 to 1 (external indicator extracted from the UN e-Gov Survey)	The UN eGov Online Service Questionnaire (OSQ) consists of a list of 148 questions (Yes/No) on: - Information available - Existence of a feature - Ability to do something	E1	

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/Source	New	Weight
Online Public Service Portal					
I-19	Is there an online public service portal? (Also called “One-Stop Shop” or similar)	0 = No, 1 = Yes (Informational: Level 1 or 2), 2 = Yes (Transactional: Level 3 or 4)	Online public service portal, also called “One-Stop Shop” or similar, providing access to all available services including Government to Citizens (G2C), Government to Businesses (G2B), Government to Employees (G2E), and more. Level 1 or 2 is mostly information/forms and some online transactions. Level 3 or 4 is mostly transactional, including single sign-on. Transactional services refer to the requests that can be submitted online after a secure sign in process, ideally with no paper submission or electronic document upload, and it can be processed and completed online. The connected government systems handle the interchange of administrative documents (e.g., filing of administrative forms, delivery, and cross-checking of administrative certificates between end users and service providers) and pull necessary data from relevant registries and databases to complete the service request.		W2
I-19.1	Online service (e-Service) portal URL	URL		-	
I-19.2	Are citizens/businesses involved in the design of e-services (user-centric design)?	0 = No, 1 = Yes		B	
I-19.3	Universal accessibility (omnichannel access)?	0 = No, 1 = Yes		B	
I-19.4	Has the government released any mobile app for the citizens' access to public services?	0 = No, 1 = Yes		B	
I-19.5	Can residents start a business through online service portal?	0 = No, 1 = Yes		B	
I-19.6	Can individuals establish an e-residency through online service portal?	0 = No, 1 = Yes		B	
I-19.7	Publishing of online service delivery performance/user experience?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)		S2	
I-19.7.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report		-	
Tax System Services					
I-20	Is there a tax online service portal?	0 = No, 1 = Implementation in progress, 2 = Yes (in use)			W2
I-20.1	Tax system service portal URL	URL		-	
I-20.2	Available tax online transactional services	0 = Unknown, 1 = Registration + Filing, 2 = Registration + Filing + Payment, 3= Registration + Filing + Payment + Other		B	
I-20.3	Electronic invoicing	0 = No, 1 = Planned/In progress, 2 = Partially implemented, 3 = Fully implemented/mandatory		B	
I-20.4	Are citizens/businesses involved in the design of tax online services?	0 = No, 1 = Yes		B	
I-20.5	Universal accessibility (omnichannel access)?	0 = No, 1 = Yes		B	

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/ Source	New	Weight
e-Filing					
I-21	Is e-filing available for tax and/or customs declarations?	0 = No, 1 = Implementation in progress, 2 = Yes (in use)			W2
I-21.1	e-Filing service URL (or explanation/report)	Enter URL (public link) or attach relevant report			-
I-21.2	Type of e-filing service	0 = Unknown, 1 = Online e-Filing services, 2 = Online e-Filing + e-Payments			B
I-21.3	Available for all tax types and customs declarations?	0 = No, 1 = Yes			B
I-21.4	Available services for interconnectivity with business information systems?	0 = No, 1 = Yes			B
I-21.5	Available pre-populated returns?	0 = No, 1 = Yes			B
e-Payment					
I-22	Are e-payment services available?	0 = No, 1 = Implementation in progress, 2 = Yes (in use)			W2
I-22.1	e-Payment service URL (or explanation/report)	Enter URL (public link) or attach relevant report			-
I-22.2	Type of e-payment service	0 = Unknown; 1 = Fragmented systems, multiple platforms; 2= Centralized shared platform			B
I-22.3	Available e-payment methods?	0 = Unknown, 1 = Bank transfer, 2 = Bank transfer + Credit/Debit cards, 3 = Bank transfer + Credit card + Mobile, 4 = Bank transfer + Credit card + Mobile + Others			B
I-22.4	e-Payment service for government/treasury payments?	0 = No, 1 = Yes			B
Customs System Services					
I-23	Is there a customs online service portal (single window)?	0 = No, 1 = Implementation in progress, 2 = Yes (in use)			W2
I-23.1	Customs system service portal URL	URL			-
I-23.2	Available customs online transactional services	0 = Unknown, 1 = Registration + Declaration, 2 = Registration + Declaration + Payments, 3 = Registration + Declaration + Payments + Other			B
I-23.3	Are citizens/businesses involved in the design of customs online services?	0 = No, 1 = Yes			B
I-23.4	Universal accessibility (omnichannel access)?	0 = No, 1 = Yes			B

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/Source	New	Weight
Customs System Services					
I-24	Is there a social insurance/pension online service portal?	0 = No, 1 = Implementation in progress, 2 = Yes (in use)			W2
I-24.1	Social insurance/pension online service portal URL	URL			-
I-24.2	Available SI/pension online transactional services	0 = Unknown, 1 = Registration + Benefits, 2 = Registration + Benefits + Payments, 3 = Registration + Benefits + Payments + Other			B
I-24.3	Are citizens involved in the design of SI/pension services/portal?	0 = No, 1 = Yes	Involvement of citizens/businesses: Providing feedback on user experience and expectations for the design of SI/pension services		B
I-24.4	Does the government provide any incentives for citizens to join an insurance scheme?	0 = No, 1 = Yes			-
I-24.5	Universal accessibility (omnichannel access)?	0 = No, 1 = Yes			B
Job Portal					
I-25	Is there a job portal?	0 = No, 1 = Implementation in progress, 2 = Yes (in use)			W2
I-25.1	Job portal URL	URL			-
I-25.2	Available online transactional job portal services	0 = Unknown, 1 = Registration + Search, 2 = Registration + Search + Applications, 3 = Registration + Search + Applications + Other			B
I-25.3	Inclusion of public sector positions in the job portal?	0 = Unknown, 1 = Separate job portal for public employees, 2= Primary job portal is used for public employees as well			B
I-25.4	Are citizens/employees involved in the design of services/portal?	0 = No, 1 = Yes			B
I-25.5	Universal accessibility (omnichannel access)?	0 = No, 1 = Yes			B
Digital ID Services			External Indicator (ID4D 2022)		
I-26	Is there a digital ID (credential/system) that enables remote authentication for (fully) online service access/transactions?	0 = No, 1 = Yes	The system provides digital identity verification and/or authentication services (e.g., enabling the verification of certain identity attributes – name, DOB, address, etc. – and/or biometric verification [1:1] against the database or using a chip/barcode on the ID)		E2

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/ Source	New	Weight
Digital Citizen Engagement Index (DCEI)					
Inclusive Participation			External Indicator (UN 2022)		
I-27	UN E-Participation Index (EPI)	0 to 1 (external indicator extracted from the UN e-Gov Survey)	Providing information to its citizens or “e-information sharing,” interacting with stakeholders or “e-consultation,” and engaging in decision-making processes or “e-decision-making.”		E1
Open Government Portal					
I-28	Is there an Open Government portal?	0 = No, 1 = Yes			W2
I-28.1	Open Government portal URL	URL			-
I-28.2	Update frequency of Open Government portal	0 = Unknown, 1 = Annually 2 = Quarterly/Monthly, 3 = Weekly/Daily			B
I-28.3	Content/maturity of Open Government portal	0 = Unknown, 1 = Basic information/datasets, 2 = Comprehensive data catalog			B
Open Data Portal					
I-29	Is there an Open Data portal?	0 = No, 1 = Yes			W2
I-29.1	Open Data portal URL	URL			-
I-29.2	Update frequency of Open Data portal	0 = Unknown, 1 = Annually, 2 = Quarterly/Monthly, 3 = Weekly/Daily			B
I-29.3	Content/maturity of Open Data portal	0 = Unknown, 1 = Basic information/datasets, 2 = Comprehensive data catalog			B
I-29.4	Is the portal dynamically updated (via APIs)?	0 = Unknown, 1 = Yes (mostly manual), 2 = Yes (automated updates via APIs)			B
Citizen Participation					
I-30	Are there national platforms that allow citizens to participate in policy decision-making?	0 = No, 1 = Yes			W1
I-30.1	Citizen participation portal URL	URL			-
I-30.2	Is it possible to submit petitions?	0 = No, 1 = Yes (the same citizen participation portal for petitions as well), 2 = Yes (separate portal for petitions)			-
I-30.2.1	If Yes (separate) > URL of the separate portal for submitting petitions	URL			-
I-30.3	Can citizens/businesses participate in policy decision-making through this platform?	0 = No, 1 = Yes			B
I-30.4	Can citizens/businesses provide anonymous feedback?	0 = No, 1 = Yes			B
I-30.5	Universal accessibility (omnichannel access)?	0 = No, 1 = Yes			B
I-30.6	Are government's responses to citizens/businesses publicly available?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			B
I-30.6.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/Source	New	Weight
Citizen Feedback					
I-31	Are there government platforms that allow citizens to provide feedback (e.g., compliments, complaints, suggestions, information requests) on service delivery?	O = No, 1 = Yes			W1
I-31.1	Citizen feedback/GRM portal URL	URL	GRM: Grievance Redress Mechanism		-
I-31.2	Does the government make the service standards (e.g., response times and procedures) available to the public?	O = No, 1 = Yes			B
I-31.3	Are these platforms universally accessible or do they provide support for users with disabilities (e.g., e-services, availability of voice commands)?	O = No, 1 = Yes			B
I-31.4	Is there any advanced technology (e.g., chatbots or AI-enabled discussion forums) used to improve citizen engagement?	O = No, 1 = Yes			B
I-31.5	Universal accessibility (omnichannel access)?	O = No, 1 = Yes			B
I-31.6	Does the government respond to citizen feedback? (How the government has updated their services in response to citizen feedback)	O = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			B
I-31.6.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-
Government Responsiveness					
I-32	Does the government publish its citizen engagement statistics and performance regularly?	O = No, 1 = Yes			W2
I-32.1	Government response portal URL	URL			-
I-32.2	Are there standards or indicators to measure the performance of service delivery (and compliance)?	O = No, 1 = Yes			B
I-32.3	Does the government publish its citizen engagement performance/results?	O = No, 1 = Yes			B
I-32.4	Any government initiative to improve the representation of vulnerable groups?	O = No, 1 = Yes			B

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/ Source	New	Weight
GovTech Enablers Index (GTEI)					
GovTech Institutions					
I-33	Is there a government entity focused on GovTech (digital transformation, whole-of-government, online services, etc.)?	0 = No, 1 = Planned/In progress, 2 = Yes (Established)			W1
I-33.1	Official name of the main GovTech institution	Text			-
I-33.2	Main GovTech institution URL	URL			-
I-33.3	Main GovTech institution was established / will be established in (year)	YYYY			-
I-33.4	Type of main GovTech organization	1 = Government, 2 = Private, 3 = Investor, 4 = Academia			B
I-33.5	Institutional responsibility for GovTech	1 = Autonomous entity, 2 = President's/ Prime Minister's Office, 3 = MoICT, 4 = MoF/ MoE, 5 = MoI/MoHA, 6 = MoPS/Pub Adm, 7 = Other	PM: Prime Minister, MoICT: Ministry of Information and Communication Technologies or similar, MoF: Ministry of Finance, MoE: Ministry of Economy, MoI: Ministry of Interior, MoHA: Ministry of Home Affairs, MoPS: Ministry of Public Service or similar, Pub Adm: Public Administration		B
I-33.6	GovTech roles and responsibilities (please select all that apply)	1 = Policy/strategy, 2 = e-Government/e-services, 3 = Private sector/PPP, 4 = Digital skills, 5 = KS&L, 6 = Innovation, 7 = OSS, 8 = DT, 9= Other	PPP: public-private partnership, KS&L: knowledge sharing and learning, OSS: Open-Source software, DT: disruptive technologies		B
I-33.7	Other relevant GovTech institution links	URL			-
I-33.8	Is there a coordination body (SC, Council) leading GovTech initiatives?	0 = No, 1 = Yes			B
I-33.8.1	If Yes > Name and/or URL of the coordination body	Text or URL			-
I-33.9	Is there an entity to monitor and report digital/GovTech spending for the whole government?	0 = No, 1 = Yes			B
I-33.9.1	If Yes > Name and/or URL of the public entity	Text or URL			-
I-33.10	Publishing of the GovTech institution's annual progress report (results/spending)?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			S1
I-33.10.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/Source	New	Weight
Data Governance Institutions					
I-34	Is there a dedicated government entity in charge of data governance or data management?	0 = No, 1 = Planned/In progress, 2= Yes (Established)			W1
I-34.1	Name of data governance (DG) institution	Text			-
I-34.2	Data governance institution URL	URL			-
I-34.3	Data governance institution was established/will be established in (year)	YYYY			-
I-34.4	Type of data governance institution	0 = Unknown, 1 = Part of another institution, 2 = Autonomous institution			B
I-34.5	Data governance implementation arrangements	0 = Unknown, 1 = Holistic DG approach, 2 = Multilevel DG approach	Holistic approach: Central DG body supporting all entities; Multilevel DG approach: Central or federal agency for guidelines. DG implemented by each federal/state entity separately.		B
I-34.6	Is there a data governance strategy/policy?	0 = No, 1 = Planned/In progress, 2= Yes (Approved)			B
I-34.6.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-
I-34.7	Publishing of the data governance institution's progress report (results/spending)?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			S1
I-34.7.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			B
GovTech Strategy					
I-35	Is there a GovTech/digital transformation strategy?	0 = No, 1 = Planned/In draft, 2= Yes (old/to be updated), 3= Yes (new/current)			W3
I-35.1	GovTech/digital transformation strategy URL (approved/drafted)	URL			-
I-35.2	GovTech strategy was approved/will be approved in (year)	YYYY			-
Whole-of-Government Approach					
I-36	Is there a whole-of-government approach to public sector digital transformation?	0 = No, 1 = Planned/In draft, 2 = Yes (Institutionalized)			W1
I-36.1	Whole-of-government (WoG) > Relevant policy/strategy URL	URL			-
I-36.2	Is there a Ministry/Department leading the public sector digital transformation/cultural change/WoG approach?	0 = No, 1 = Yes			B
I-36.2.1	If Yes > Name and/or URL of the relevant public entity	Text or URL			-

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/ Source	New	Weight
I-36.3	Is there a cross government forum where strategic WoG topics (digital, data, technology, capacity) can be addressed by senior digital officials across government?	0 = No, 1 = Yes			B
I-36.3.1	If Yes > Name and/or URL of the relevant platform/forum/entity	Text or URL			-
I-36.4	Publishing of the progress in WoG approach/digital transformation (results, spending)?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			B
I-36.4.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-
Right to Information (RTI) Laws					
I-37	Are there RTI laws to make data/information available to the public online or digitally?	0 = No, 1 = Draft/Consultations in progress, 2 = Yes (Effective)			W3
I-37.1	Right to Information (RTI) Law URL	URL			-
I-37.2	RTI Law was approved/will be approved in (year)	YYYY			-
I-37.3	Is there an entity monitoring implementation/compliance?	0 = No, 1 = Yes			B
I-37.4	Publishing of the progress in implementing RTI laws (RTI requests received, granted, etc.)?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			S2
I-37.4.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-
Data Protection/Privacy Laws					
I-38	Is there a data protection/privacy law?	0 = No, 1 = Draft/Consultations in progress, 2 = Yes (Effective)			W3
I-38.1	Official title of the data protection/privacy law	Text			-
I-38.2	Data protection/privacy law URL	URL			-
I-38.3	Data protection/privacy law was approved/will be approved in (year)	YYYY			-
I-38.4	Is there an entity monitoring implementation/compliance?	0 = No, 1 = Yes			B
I-38.5	Publishing of the data protection/privacy complaints and feedback?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			S2
I-38.5.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-
Data Protection Agency					
I-39	Is there a data protection authority?	0 = No, 1 = Not established yet (visible in law), 2 = Yes			W3
I-39.1	Name of the data protection authority	Text			-

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/Source	New	Weight
I-39.2	Data protection authority URL	URL			-
I-39.3	Data protection authority was established/will be established in (year)	YYYY			-
I-39.4	Publishing of the data protection authority performance/results?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			S2
I-39.4.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			0
National ID			External Indicator (ID4D 2022)		
I-40	Is there a foundational unique national ID?	0 = No national ID; 1 = Yes, national ID exists (optional or mandatory)			E2
Digital ID			External Indicator (ID4D 2022)		
I-41	Is there a digital ID used for identification and online services?	0 = No digital ID; 1 = Yes, digital ID exists in different forms	There is a system that allows people to authenticate themselves remotely to access services/transactions (fully) online		E2
Digital Signature					
I-42	Is there a digital signature regulation and PKI to support service delivery?	0 = No; 1 = Regulation approved, no infrastructure yet (PKI, CA); 2 = Regulation and infrastructure in place, not yet used/in progress; 3= Operational, used in practice for e-services	PKI: public key infrastructure; CA: Certificate Authority		W3
I-42.1	Digital signature URL	URL			-
I-42.2	Digital signature was launched/will be launched in (year)	YYYY			-
I-42.3	Use of digital signature in public sector?	0 = Unknown, 1 = Back-office transactions, 2 = Front-office service delivery, 3 = Both back- and front-office transactions			B
I-42.4	Is digital signature linked with digital ID/mobile devices?	0 = No, 1 = Yes			B
I-42.5	Which entities provide digital signature services?	0 = Unknown, 1 = Commercial providers only, 2 = Designated government entities, 3 = Both government and commercial entities			B
I-42.6	Publishing of the digital signature issuance/utilization?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			S2
I-42.6.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-
Cybersecurity			External Indicator (ITU 2020)		
I-43	ITU Global Cybersecurity Index (GCI)	0 to 100 (external indicator extracted from the ITU GCI)	The GCI maps 82 questions on the cybersecurity commitments of 194 (member states + State of Palestine) across five pillars: • legal measures • technical measures • organizational measures • capacity development measures • cooperation measures.		E1

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/ Source	New	Weight
Human Capital					External Indicator (UN 2022)
I-44	UN Human Capital Index (HCI)	0 to 1 (external indicator extracted from the UN e-Gov Survey)	HCI has four components: (i) adult literacy rate (ii) the combined primary, secondary, and tertiary gross enrolment ratio (iii) expected years of schooling (iv) average years of schooling.	E1	
Digital Skills (DS) Strategy/Program					
I-45	Is there a government strategy/ program to improve digital skills in the public sector?	0 = No, 1 = Yes (Only strategy or program), 2 = Yes (Both strategy and program)			W1
I-45.1	Title of digital skills (DS) strategy	Text			-
I-45.2	Digital skills strategy URL	URL			-
I-45.3	Digital skills strategy was approved/will be approved in (year)	YYYY			-
I-45.4	Focus areas of the DS strategy	0 = Unknown, 1 = Basic digital skills, 2 = Basic digital skills + Data literacy, 3 = Advanced digital skills + Data literacy			B
I-45.5	Is there a DS program?	0 = No, 1 = Yes			B
I-45.5.1	If Yes > Type of primary DS program(s)	1 = Academic program, 2 = Public sector program, 3 = CSO/Private program			B
I-45.5.2	If Yes > DS program URL	URL			-
I-45.5.3	If Yes > DS program mandatory for new public employees?	0 = Unknown, 1 = Not mandatory, 2 = Mandatory			B
I-45.6	Are there digital skills programs offered by governments for citizens/schools?	0 = No, 1 = Yes (fee-based programs), 2 = Yes (freely available programs)			B
I-45.7	Publishing of the results/progress in DS programs?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			S1
I-45.7.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-
Public Sector Innovation (PSI) Strategy/Program					
I-46	Is there a strategy and/or program to improve public sector innovation?	0= No, 1= Yes (Only strategy or program), 2= Yes (Both strategy and program)			W1
I-46.1	Title of public sector innovation strategy	Text			-
I-46.2	PSI strategy URL	URL			-
I-46.3	PSI strategy was approved/will be approved in (year)	YYYY			-
I-46.4	Is there a PSI program?	0 = No, 1 = Yes			B
I-46.4.1	If Yes > Type of primary PSI program(s)	1 = Academic program, 2 = Public sector program, 3 = CSO/Private program			B
I-46.4.2	If Yes > PSI program URL	URL			-

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/Source	New	Weight
I-46.4.3	If Yes > PSI program mandatory for new public employees?	0 = Unknown, 1 = Not mandatory, 2 = Mandatory			B
I-46.5	Publishing of the results/progress in PSI programs?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			S1
I-46.5.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-
Public Sector Innovation (PSI) Institutions					
I-47	Is there a government entity focused on public sector innovation?	0 = No, 1 = Planned/In progress, 2 = Yes (Established)			W1
I-47.1	Name of the PSI institution	Text			-
I-47.2	PSI institution URL	URL			-
I-47.3	PSI institution was established/will be established in (year)	YYYY			-
I-47.4	Focus areas of PSI institution (Innovation Lab)	0 = Unknown, 1 = Digital skills, 2 = PSI, 3 = Digital skills + PSI, 4= Other			B
I-47.5	Is there any collaboration on PSI with the private sector?	0 = No, 1 = Yes			B
I-47.5.1	If Yes > Is there any financial support/incentive for private GovTech entities?	0 = No, 1 = Yes			B
I-47.6	Publishing the PSI institution annual performance/results?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			S1
I-47.6.1	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-
Private Sector Involvement in GovTech Initiatives					
I-48	Is there a government policy to support GovTech startups and private sector investments?	0 = No, 1 = Yes			W2
I-48.1	National policy/strategy to support GovTech startups/investments (SMEs)	Text			-
I-48.2	National policy/strategy URL	URL			-
I-48.3	National policy/strategy was approved/will be approved in (year)	YYYY			-
I-48.4	Does the government provide financing to startups/SMEs for innovation?	0 = No, 1 = Yes			B
I-48.5	Capacity of the government to deliver online services via PPPs	0 = No PPP for online services; 1 = Yes, PPP arrangements exist for online service delivery			B
I-48.6	Is there a procurement policy aimed at prioritizing bids from startups/SMEs? (e.g., having a quota for SMEs)	0 = No, 1 = Yes			B

Index #	2022 GTMI Key Indicators and Sub-indicators	Response Options and Data Format	Information Box Contents/ Source	New	Weight
<b>I-48.6.1</b>	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-
<b>I-48.7</b>	Publishing of the results/progress in supporting startups/SMEs for innovation?	0 = No, 1 = Yes (internal, not published), 2 = Yes (public, published)			S2
<b>I-48.7.1</b>	If Yes > Supporting document (report/URL)	Enter URL (public link) or attach relevant report			-

## Appendix B. The 2022 GovTech Dataset

The [2022 GovTech Dataset](#) includes the following 10 workbook sheets presenting details of the central government (CG) and subnational government (SNG) GTMI data collected through online surveys. It also includes GTMI calculations, data visualization tools, and other information as listed in [Figure B.1](#).

>>> **Figure B.1:**  
**Description of the 2022 GovTech Dataset**

Contents	<ul style="list-style-type: none"><li>▶ <a href="#">Workbook contents with links to all sheets</a></li><li>▶ <a href="#">Summary of CG GTMI survey data and calculation of groups</a></li></ul>
CG_GTMI_Data	<ul style="list-style-type: none"><li>▶ <a href="#">2020 and 2022 CG GTMI data (198 economies)</a></li><li>▶ <a href="#">2020 and 2022 CG GTMI groups and component scores</a></li></ul>
CG_GTMI_Groups	<ul style="list-style-type: none"><li>▶ <a href="#">Details of 2022 CG GTMI group calculations</a></li><li>▶ <a href="#">Indicator types and weights identified for all GTMI indicators</a></li></ul>
Stats	<ul style="list-style-type: none"><li>▶ <a href="#">Data visualization tools to explore 2022 GTMI data &amp; results</a></li><li>▶ <a href="#">GTMI scores of economies and details of all indicators</a></li></ul>
Trends	<ul style="list-style-type: none"><li>▶ <a href="#">Trends in diffusion of PFM institutions and systems</a></li><li>▶ <a href="#">Trends in diffusion of GovTech initiatives</a></li></ul>
Metadata	<ul style="list-style-type: none"><li>▶ <a href="#">Detailed explanation of all GTMI indicators</a></li><li>▶ <a href="#">Summary of GTMI groups and scores for all components</a></li></ul>
External	<ul style="list-style-type: none"><li>▶ <a href="#">Details of eight external indicators (UN, ITU, ID4D)</a></li></ul>
SNG_GTMI_data	<ul style="list-style-type: none"><li>▶ <a href="#">2022 SNG GTMI survey raw data (pilot implementation)</a></li><li>▶ <a href="#">122 SNG entities from 17 countries submitted their data</a></li></ul>
Economies	<ul style="list-style-type: none"><li>▶ <a href="#">List of all 198 economies included in the GTMI dataset</a></li><li>▶ <a href="#">List of fragile and conflict-affected situations (FCS)</a></li></ul>
Calculated Weights	<ul style="list-style-type: none"><li>▶ <a href="#">Calculated weights based on correlation and factor analysis</a></li><li>▶ <a href="#">Comparison with GTMI weights based on expert opinion</a></li></ul>

Source: World Bank data.

Note: GTMI = GovTech Maturity Index, CG = central government, SNG = subnational government.

The 2022 CG GTMI survey data is presented in the “CG\_GTMI\_Data” sheet (together with the 2020 GTMI data collected remotely) for 198 economies.

The GTMI survey includes 40 updated/extended GovTech indicators measuring the maturity of four GovTech focus areas. Additionally, there are eight relevant external indicators measured by other relevant indexes, including

- all three components of the United Nations (UN) e-Government Development Index (EGDI) and UN e-Participation Index (EPI),
- the ITU’s Global Cybersecurity Index (GCI), and
- three relevant indicators from the Identification for Development (ID4D) dataset.

A total of 48 key indicators and related sub-indicators are presented in columns D to MP (351 data fields) of the “CG\_GTMI\_Data” sheet.

**Table B.1:**  
**List of 198 economies, by income and region, 2022**



Economy	Region	Income	Economy	Region	Income
Afghanistan	SAR	L	Cameroon	AFR	LM
Albania	ECA	UM	Canada	NAM	H
Algeria	MENA	LM	Central African Republic	AFR	L
Andorra	ECA	H	Chad	AFR	L
Angola	AFR	LM	Chile	LAC	H
Antigua and Barbuda	LAC	H	China	EAP	UM
Argentina	LAC	UM	Colombia	LAC	UM
Armenia	ECA	UM	Comoros	AFR	LM
Australia	EAP	H	Congo, Dem. Rep.	AFR	L
Austria	ECA	H	Congo, Rep.	AFR	LM
Azerbaijan	ECA	UM	Costa Rica	LAC	UM
Bahamas	LAC	H	Côte d'Ivoire	AFR	LM
Bahrain	MENA	H	Croatia	ECA	H
Bangladesh	SAR	LM	Cuba	LAC	UM
Barbados	LAC	H	Cyprus	ECA	H
Belarus	ECA	UM	Czech Republic	ECA	H
Belgium	ECA	H	Denmark	ECA	H
Belize	LAC	UM	Djibouti	MENA	LM
Benin	AFR	LM	Dominica	LAC	UM
Bhutan	SAR	LM	Dominican Republic	LAC	UM
Bolivia	LAC	LM	Ecuador	LAC	UM
Bosnia and Herzegovina	ECA	UM	Egypt	MENA	LM
Botswana	AFR	UM	El Salvador	LAC	LM
Brazil	LAC	UM	Equatorial Guinea	AFR	UM
Brunei Darussalam	EAP	H	Eritrea	AFR	L
Bulgaria	ECA	UM	Estonia	ECA	H
Burkina Faso	AFR	L	Eswatini	AFR	LM
Burundi	AFR	L	Ethiopia	AFR	L
Cabo Verde	AFR	LM	Fiji	EAP	UM
Cambodia	EAP	LM	Finland	ECA	H

Economy	Region	Income
France	ECA	H
Gabon	AFR	UM
Gambia	AFR	L
Georgia	ECA	UM
Germany	ECA	H
Ghana	AFR	LM
Greece	ECA	H
Grenada	LAC	UM
Guatemala	LAC	UM
Guinea	AFR	L
Guinea-Bissau	AFR	L
Guyana	LAC	UM
Haiti	LAC	LM
Honduras	LAC	LM
Hong Kong SAR, China	EAP	H
Hungary	ECA	H
Iceland	ECA	H
India	SAR	LM
Indonesia	EAP	LM
Iran	MENA	LM
Iraq	MENA	UM
Ireland	ECA	H
Israel	MENA	H
Italy	ECA	H
Jamaica	LAC	UM
Japan	EAP	H
Jordan	MENA	UM
Kazakhstan	ECA	UM
Kenya	AFR	LM
Kiribati	EAP	LM
Korea, DPR	EAP	L
Korea, Rep.	EAP	H
Kosovo	ECA	UM
Kuwait	MENA	H
Kyrgyz Republic	ECA	LM
Lao PDR	EAP	LM
Latvia	ECA	H
Lebanon	MENA	LM
Lesotho	AFR	LM
Liberia	AFR	L
Libya	MENA	UM
Liechtenstein	ECA	H
Lithuania	ECA	H
Luxembourg	ECA	H
Macao SAR, China	EAP	H
Madagascar	AFR	L
Malawi	AFR	L
Malaysia	EAP	UM

Economy	Region	Income
Maldives	SAR	UM
Mali	AFR	L
Malta	MENA	H
Marshall Islands	EAP	UM
Mauritania	AFR	LM
Mauritius	AFR	UM
Mexico	LAC	UM
Micronesia, Fed. Sts.	EAP	LM
Moldova	ECA	UM
Monaco	ECA	H
Mongolia	EAP	LM
Montenegro	ECA	UM
Morocco	MENA	LM
Mozambique	AFR	L
Myanmar	EAP	LM
Namibia	AFR	UM
Nauru	EAP	H
Nepal	SAR	LM
Netherlands	ECA	H
New Zealand	EAP	H
Nicaragua	LAC	LM
Niger	AFR	L
Nigeria	AFR	LM
North Macedonia	ECA	UM
Norway	ECA	H
Oman	MENA	H
Pakistan	SAR	LM
Palau	EAP	UM
Panama	LAC	H
Papua New Guinea	EAP	LM
Paraguay	LAC	UM
Peru	LAC	UM
Philippines	EAP	LM
Poland	ECA	H
Portugal	ECA	H
Qatar	MENA	H
Romania	ECA	H
Russian Federation	ECA	UM
Rwanda	AFR	L
Samoa	EAP	LM
San Marino	ECA	H
São Tomé and Príncipe	AFR	LM
Saudi Arabia	MENA	H
Senegal	AFR	LM
Serbia	ECA	UM
Seychelles	AFR	H
Sierra Leone	AFR	L
Singapore	EAP	H

Economy	Region	Income	Economy	Region	Income
Slovak Republic	ECA	H	Togo	AFR	L
Slovenia	ECA	H	Tonga	EAP	UM
Solomon Islands	EAP	LM	Trinidad and Tobago	LAC	H
Somalia	AFR	L	Tunisia	MENA	LM
South Africa	AFR	UM	Türkiye	ECA	UM
South Sudan	AFR	L	Turkmenistan	ECA	UM
Spain	ECA	H	Tuvalu	EAP	UM
Sri Lanka	SAR	LM	Uganda	AFR	L
St. Kitts and Nevis	LAC	H	Ukraine	ECA	LM
St. Lucia	LAC	UM	United Arab Emirates	MENA	H
St. Vincent & the Grenadines	LAC	UM	United Kingdom	ECA	H
Sudan	AFR	L	United States of America	NAM	H
Suriname	LAC	UM	Uruguay	LAC	H
Sweden	ECA	H	Üzbekistan	ECA	LM
Switzerland	ECA	H	Vanuatu	EAP	LM
Syrian Arab Republic	MENA	L	Venezuela, RB	LAC	UM
Taiwan, China	EAP	H	Vietnam	EAP	LM
Tajikistan	ECA	LM	West Bank and Gaza	MENA	LM
Tanzania	AFR	LM	Yemen	MENA	L
Thailand	EAP	UM	Zambia	AFR	L
Timor-Leste	EAP	LM	Zimbabwe	AFR	LM

The “CG\_GTMI\_Groups” sheet presents the details of GTMI calculations.

The GTMI is the simple average of the normalized scores of four components:

- CGSI – Core Government Systems Index (17 indicators; I-1 to I-17) captures the key aspects of a whole-of-government approach
- PSDI – Public Service Delivery Index (nine indicators; I-18 to I-26) presents the state of online portals, e-filing services, e-payment capabilities, and more
- DCEI – Digital Citizen Engagement Index (six indicators; I-27 to I-32) measures aspects of public participation platforms, citizen feedback, and open government/open data portals
- GTEI – GovTech Enablers Index (16 indicators; I-33 to I-48) captures strategy, institutions, and regulations, as well as digital skills and innovation programs

As presented in [Figure B.1](#), the GovTech Dataset includes several sheets displaying the raw data collected using all key indicators in separate columns, together with additional information related to each indicator, such as weblink to the relevant website of the institution or published strategy document, year of establishment or publication, operational status of systems, and level of online services. The Metadata tab explains the details of all data fields, and the header row of the CG\_GTMI\_Data tab also embeds comments or notes in each column header to explain all indicators and the meaning of specific points or other attributes.

The GovTech Dataset has several other tabs, including automatically updated graphs, maps, and tables to visualize data—all graphs and tables are linked to specific fields in the “CG\_GTMI\_Data” sheet. The “Stats” and “Trends” sheets include graphical presentation of all key indicators. Income level and regional distributions are presented together with the borrower and FCS categories ([Table B.2](#)) by the GTMI groups and component scores. The Trends tab presents the diffusion of digital government or GovTech initiatives.

The 2022 GovTech Dataset also includes the raw data collected through SNG GTMI online survey from 122 entities in 17 countries (pilot implementation). This additional dataset is not used for the calculation of the CG GTMI groups. It will be used for the preparation of selected country briefs combining CG and SNG GTMI data for a more comprehensive presentation of the GovTech maturity in federated states.

Finally, the Calculated Weights sheet presents the details of weight calculations based on correlation and factor analysis, similar to the 2020 version of the dataset. These calculations are used for comparative analysis while determining the weights based on expert opinion for all 48 key indicators.

>>> **Table B.2:**  
**List of fragile and conflict-affected situations, 2022**

#	Country	FCS	FY23 FCS Status
1	Afghanistan	FCS-1	Conflict
2	Burkina Faso	FCS-1	Conflict
3	Burundi	FCS-2	Institutional and social fragility
4	Cameroon	FCS-1	Conflict
5	Central African Republic	FCS-1	Conflict
6	Chad	FCS-2	Institutional and social fragility
7	Comoros	FCS-2	Institutional and social fragility
8	Congo, Dem. Rep.	FCS-1	Conflict
9	Congo, Rep.	FCS-2	Institutional and social fragility
10	Eritrea	FCS-2	Institutional and social fragility
11	Ethiopia	FCS-1	Conflict
12	Guinea-Bissau	FCS-2	Institutional and social fragility
13	Haiti	FCS-2	Institutional and social fragility
14	Iraq	FCS-1	Conflict
15	Kosovo	FCS-2	Institutional and social fragility
16	Lebanon	FCS-2	Institutional and social fragility
17	Libya	FCS-2	Institutional and social fragility
18	Mali	FCS-1	Conflict
19	Marshall Islands	FCS-2	Institutional and social fragility
20	Micronesia, Fed. Sts.	FCS-2	Institutional and social fragility
21	Mozambique	FCS-1	Conflict
22	Myanmar	FCS-1	Conflict
23	Niger	FCS-1	Conflict
24	Nigeria	FCS-1	Conflict
25	Papua New Guinea	FCS-2	Institutional and social fragility
26	Solomon Islands	FCS-2	Institutional and social fragility
27	Somalia	FCS-1	Conflict
28	South Sudan	FCS-1	Conflict
29	Sudan	FCS-2	Institutional and social fragility
30	Syrian Arab Republic	FCS-1	Conflict
31	Timor-Leste	FCS-2	Institutional and social fragility
32	Tuvalu	FCS-2	Institutional and social fragility
33	Ukraine	FCS-1	Conflict
34	Venezuela, RB	FCS-2	Institutional and social fragility
35	West Bank and Gaza	FCS-2	Institutional and social fragility
36	Yemen	FCS-1	Conflict
37	Zimbabwe	FCS-2	Institutional and social fragility

## Appendix C. Comparison with UN e-Government Development Index

This appendix compares the 2022 GovTech Maturity Index (GTMI) with the 2022 UN e-Government Development Index (EGDI) to demonstrate the consistency of findings and observations.

### State of Digital Citizen Engagement

The EGDI measures the readiness and capacity of national institutions to use information and communication technologies (ICTs) in delivering public services based on comprehensive survey results and rich datasets. Broadly, according to the 2022 EGDI, 133 out of 193 countries (69 percent) have high or very high scores and offer specific digital services for young people, women, older people, people with disabilities, migrants, and low-income people, contributing to efforts aimed at leaving no one behind.

Since all three components of the United Nations (UN) e-Government Development Index (EGDI)<sup>8</sup> and e-Participation Index (EPI) are highly relevant to the GovTech domain, they were used to calculate the composite GTMI, in addition to 40 indicators defined by the World Bank team and included in the GovTech dataset. The scatter diagram of the GTMI and the EGDI reveals a positive correlation between these scores, as expected (Figure C.1).

**Table C.1:**  
**Comparison of GTMI with UN EGDI, by number of countries and GTMI groups, 2022**



UN EGDI	Countries	A	B	C	D
0.75 - 1.00	60	48	10	2	0
0.50 - 0.74	73	19	27	23	4
0.25 - 0.49	53	2	6	25	20
0.00 - 0.24	7	0	0	1	6
Total	193	69	43	51	30

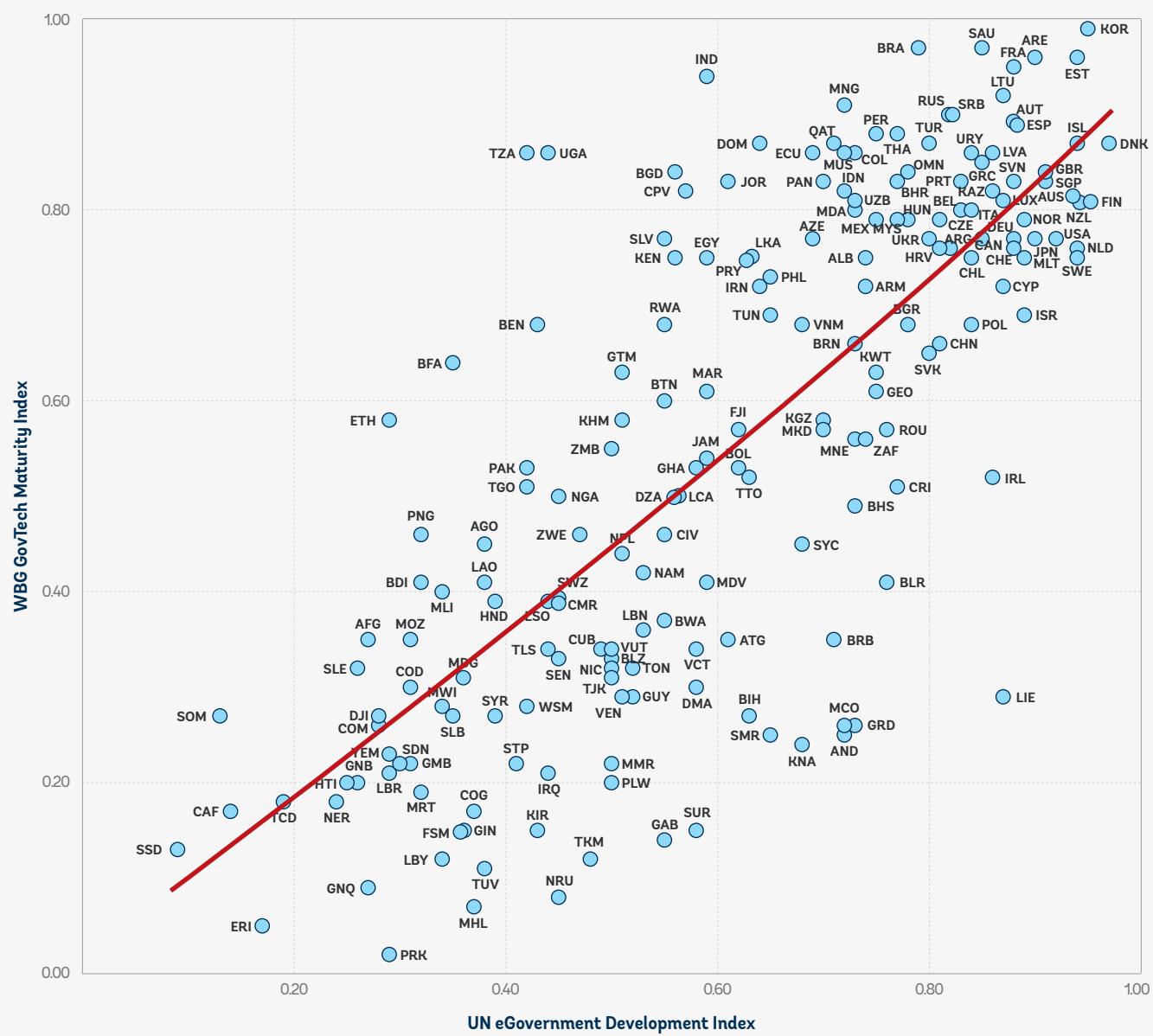
Source: World Bank data (193 economies).

Note: GTMI = GovTech Maturity Index, EGDI = e-Government Development Index.

Table C.1 further presents a cross-tabulation of the groups to indicate the areas of similarity and differences between the GTMI and the UN EGDI for 2022. The shaded region representing the diagonal of the matrix consistently includes the largest number of countries showing more similarity than disparity, especially in A and D groups. Specifically, 48 countries in the A group of the GTMI were also in the very high EGDI group, meaning that approximately 80 percent of the countries in the very high EGDI category were captured by the GTMI. Similarly, the GTMI captured six out of seven countries (86 percent) in the low EGDI group. There were some differences in the middle groups, as the UN EGDI has more economies in the B group. However, both Figure C.1 and Table C.1 generally indicate similarity in the results despite the differences in methodology, which includes the wider scope of GTMI indicators.

8. The 2022 UN [e-Government Development Index](#) (EGDI) measures the scope and quality of online services, the status of telecommunication infrastructure, and existing human capacity in 193 UN member states. The UN e-Participation Index (EPI) is a supplementary index that extends the EGDI by focusing on governmental use of online services to provide information to citizens (e-information sharing), interact with stakeholders (e-consultation), and engage in decision-making processes (e-decision-making).

>>> **Figure C.1:**  
Comparison of the GTMI with the UN e-Government Development Index, 2022



Source: World Bank data (193 economies).

Note: GTMI = GovTech Maturity Index, EGDI = e-Government Development Index. A list of all abbreviations for the country names can be found in the GovTech Dataset's "Economy" sheet.

## Appendix D. GovTech References

- GovTech website: <https://www.worldbank.org/en/programs/govtech>
- GovTech Maturity Index home page: <https://www.worldbank.org/en/programs/govtech/gtmi>
- [\*GovTech Maturity Index: The State of Public Sector Digital Transformation\*](#), WBG, 2021
- [\*GovTech Dataset\*](#), the WBG Data Catalog, October 2022
- [\*Digital Governance/GovTech Projects Database\*](#), the WBG Data Catalog, October 2022
- [\*Service Upgrade: The GovTech Approach to Citizen Centered Services\*](#), GovTech Report, 2022
- [\*CivicTech: Transparency, Engagement, and Collaboration for Better Governance\*](#), GovTech How-to-note, 2022
- [\*Tech Savvy: Advancing GovTech Reforms in Public Administration\*](#), GovTech Report, 2022
- World Bank Open Data portal: <https://data.worldbank.org/>
- [\*World Development Report 2021 on Data for Better Lives\*](#), 2021
- [\*GovTech Procurement Practice Note\*](#), WBG, February 2021
- [\*GovTech: The New Frontier in Digital Government Transformation\*](#); WBG GovTech Guidance Note 1, November 2020.
- [\*GovTech State of Play: Challenges and Opportunities\*](#); WBG GovTech Guidance Note 2, November 2020.
- [\*WBG Digital Government Readiness Assessment Toolkit: Guidelines for Task Teams\*](#), 2020.
- [\*United Nations E-Government Survey\*](#), 2022.
- [\*World Bank Group Policy on Personal Data Privacy\*](#), 2020.
- [\*World Development Report 2016 on Digital Dividends\*](#), 2016.

In addition to the GovTech initiative, other World Bank programs focus on important aspects of the public sector digital transformation agenda, as presented below:

<p><b>GovTech Global Partnership</b> (2019) Whole-of-government approach to public sector modernization  Core government systems • CivicTech Citizen centric services • GovTech enablers</p>	<p><b>ID4D (2014) &amp; G2Px</b> (2020) Digital ID for Citizens &amp; Gov to Person Payments</p>
	<p><b>ITS Technology &amp; Innovation Labs</b> (2016) AI, Machine Learning, Blockchain</p>
<p><b>Digital Development Partnership</b> (2016) Digital government Digital economy enabling environment Data and indicators Connectivity (internet access for all)</p>	<p><b>Digital Economy for Africa</b> (2019) Connectivity Digital Payments Digital Platforms Digital Entrepreneurship and Skills</p>
<p><b>Cybersecurity MDTF</b> (2021) Knowledge, TA, and practical tools to help build cyber and digital security capability and capacity</p>	<p><b>Open Government Partnership</b> (2011) Open Government research &amp; implementation Open Contracting Open Data Anti-Corruption</p>
<p><b>FinTech</b> (2018) Digital Solutions for financial inclusion</p>	<p><b>DEC</b> World Development Report, Data Catalog, and more</p>
<p><b>Other WBG Initiatives</b> Open Learning Campus (2016) Geo-Enabling initiative for Monitoring &amp; Supervision (GEMS) (2018) Data Collaboratives (2018) and more</p>	<p><b>DT4D</b> (2019) Disruptive Technologies for Development</p>

Source: World Bank data.

Note: Web links to the World Bank Group initiatives in the GovTech domain:

[GovTech Global Partnership](#) (GTGP).  
[Identification for Development](#) (ID4D).  
[ITS Technology & Innovation Labs](#) (internal).  
[Digital Development Partnership](#) (DDP).  
[Digital Economy for Africa](#) (DE4A).  
[Cybersecurity Multi-Donor Trust Fund](#) (MDTF).  
[Financial Technology](#) (FinTech).  
[Government-to-person payments](#) (G2Px).  
[Open Government Partnership](#) (OGP).  
[Development Economics](#) (DEC).  
[WBG Open Data Portal](#) (ODP).  
[WBG Data Catalog](#).  
[Disruptive Technologies for Development](#) (DT4D) Challenge.  
[Open Learning Campus](#) (OLC).  
Geo-Enabling initiative for Monitoring and Supervision ([GEMS](#)).  
[Geospatial Portal](#) (internal); [GEMS](#) (internal).  
[Development Data Partnership / Data Collaboratives](#).

## Environmental Benefits Statement

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More information about the Bank's environmental philosophy can be found at <http://crinfo.worldbank.org/wbcrinfo/node/4>.





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