Emerging technology for connectivity

Accelerating digital transformation in LDCs, LLDCs and SIDS

Scalable e-Government Solutions for Developing Countries

via the *GovStack* initiative

2021 July 5th, 10:20AM-12:00PM CEST

Republic of Estonia
Ministry of Foreign Affairs

Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung

dial Digital Impact Alliance

GovStack

1

Emergence of a e-gov. practice

Countries recognized for advanced digital governance are converging towards a proven model: *Government as a platform*

GovStack

A **holistic** (*Whole-of-Government*) digital platform that can be used by any government agency across sectors to build new e-gov. services without the need to redesign, test and operate the underlying systems and infrastructure themselves every time.

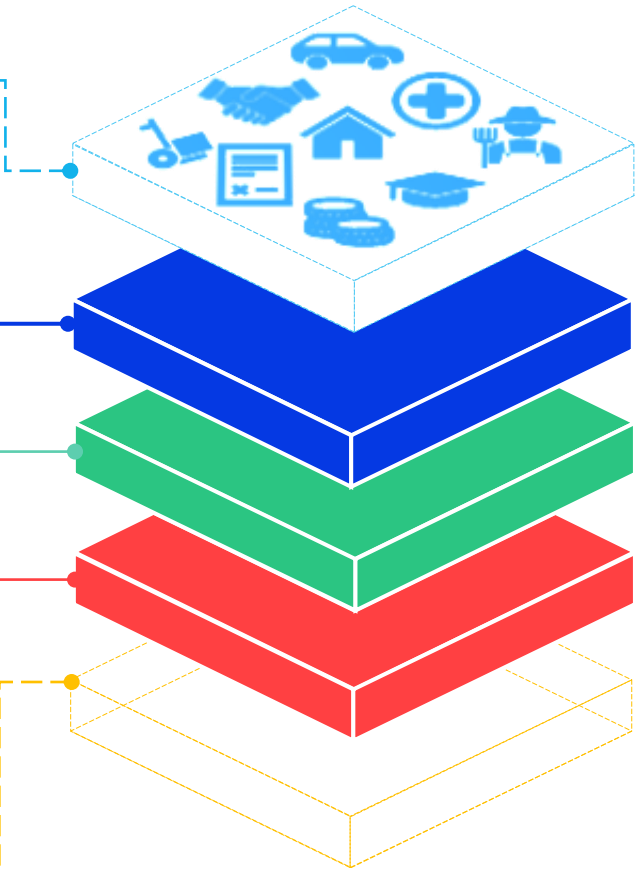
Instead of creating unique and disparate solutions, states w. advanced e-governance are employing a common reusable stack of digital components in national implementation that forms a core digital gov. platform engine and can be contextualized for various e-gov. services on top.

Adaptive shared citizen-centric e-gov. services *facilitated by a service-oriented architecture*

Mediation Middleware *Layer*
Open API Gateway, secure data exchange

Common Applications *Layer*
e-Learning, e-Marketplace, Business Intelligence / Analytics, Workflow, etc.

Foundational *Layer***
Identity/Authentication, Security, Consent, Payment, Registration, Messaging, etc.
*** Digital Public Infrastructure (DPIs) considered part of this foundational layer*



Hosting

Estonia

e-estonia.com/solutions/

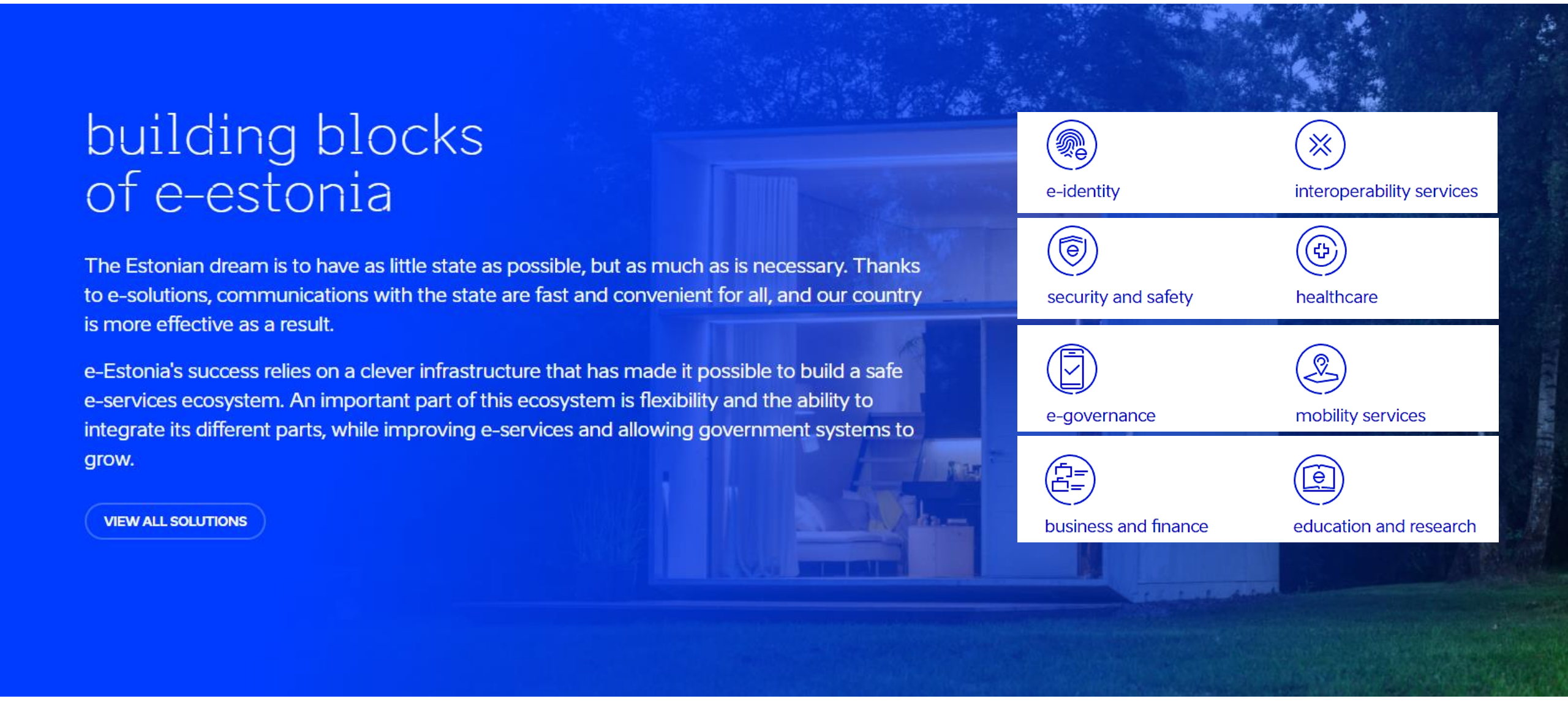
GovStack

building blocks of e-estonia

The Estonian dream is to have as little state as possible, but as much as is necessary. Thanks to e-solutions, communications with the state are fast and convenient for all, and our country is more effective as a result.

e-Estonia's success relies on a clever infrastructure that has made it possible to build a safe e-services ecosystem. An important part of this ecosystem is flexibility and the ability to integrate its different parts, while improving e-services and allowing government systems to grow.

VIEW ALL SOLUTIONS



India

indiastack.org

GovStack

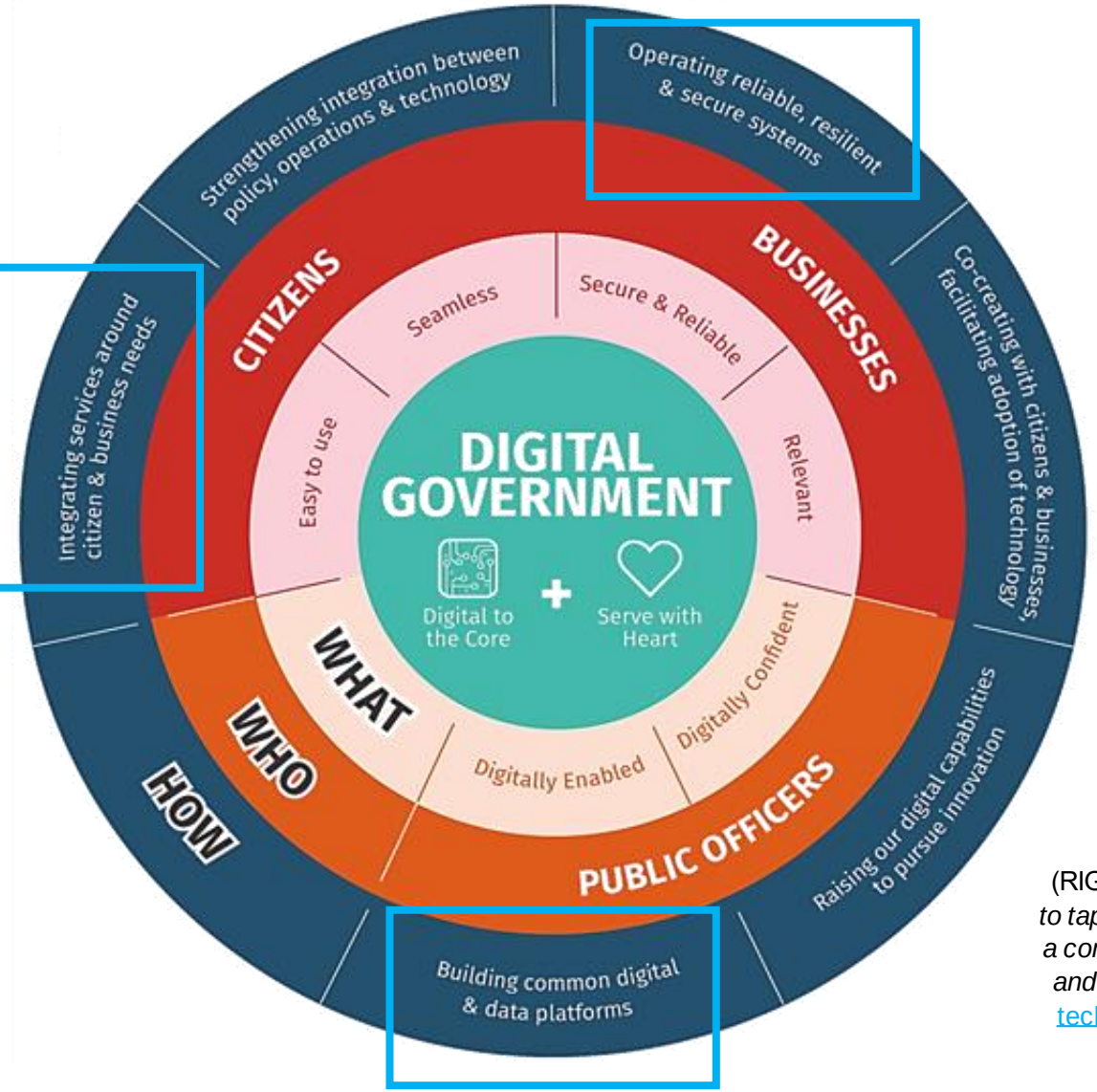
Agile IndEA Building Blocks
Core Building Blocks to be established in WAVE 1
1. **Digital identity** – Enable unique identification and authentication of users, organizations or other entities
2. **Digital Registries** – Centrally manage databases that uniquely identify and describe persons, service providers, facilities, assets, procedures, products, sites or other entities related to the organization.
3. **Integration management** – Provide a gateway between external digital applications and other Building Blocks, thereby ensuring interoperability and implementation of standards, which is essential for integrating various Building Blocks and applications
4. **Messaging** – Facilitate notifications, alerts, or two-way communications between applications and communications services, including short messaging service (SMS), unstructured supplementary service data (USSD), interactive voice response (IVR), email or social media platforms
5. **Cloud Infrastructure** – For hosting data and applications, getting all the benefits of cloud
6. **Security and access** – Provide ICT administrators the ability to centrally configure and manage user and group access permissions to network resources, services, databases, applications, and user devices
Common Solution Building Blocks to be established in WAVE 1
1. **Registration** – Records identifiers and other general information about a person, place or other entity, typically for registration or enrolment in specific services or programmes and tracking of that entity over time
2. **E-Payments** – Implement and log financial transactions receipts and payments online in multiple ways.
3. **Workflow management** – Help to optimize business processes by specifying the rules that govern the execution of a sequence of activities and the exchange of associated information to orchestrate the process flow from initiation to completion.
4. **Case management** – Register or enroll users and provide longitudinal tracking of services, often across multiple service categories, departments and locations
5. **Feedback** – Provide the ability for consumers and providers of services to send, track and address any issues pertaining to service quality, including any kind grievance redressal.
6. **Consent management** – Manage a set of policies allowing users to determine the information that will be accessible to specific information consumers, for which purpose, for how long, and whether it can be shared further
7. **Reporting and dashboard** – Provide pre-packaged and custom presentations of data and summaries of an organization's pre-defined key performance metrics, often in a visual format

With a broad ubiquitous inclusive platform that has no physical presence required, costs are reduced in designing new services with already significant social outcomes incl. rapid growth in bank account ownership, digital ID covering almost all population, and enhanced infrastructure reaching to more mobile devices. [source: digfingroup.com/what-is-india-stack]

Building Block classification from the *Agile IndEA Framework (Version 1.0 | 2019)* by India's Ministry of Electronics & Information Technology [source: negd.gov.in/india-enterprise-architecture]

Singapore

www.tech.gov.sg



(LEFT) "*A Digital Government will be able to build stakeholder-centric services that cater to citizens' and businesses' needs. Transacting with a Digital Government will be easy, seamless and secure*" with tangible setup and benefits incl.:

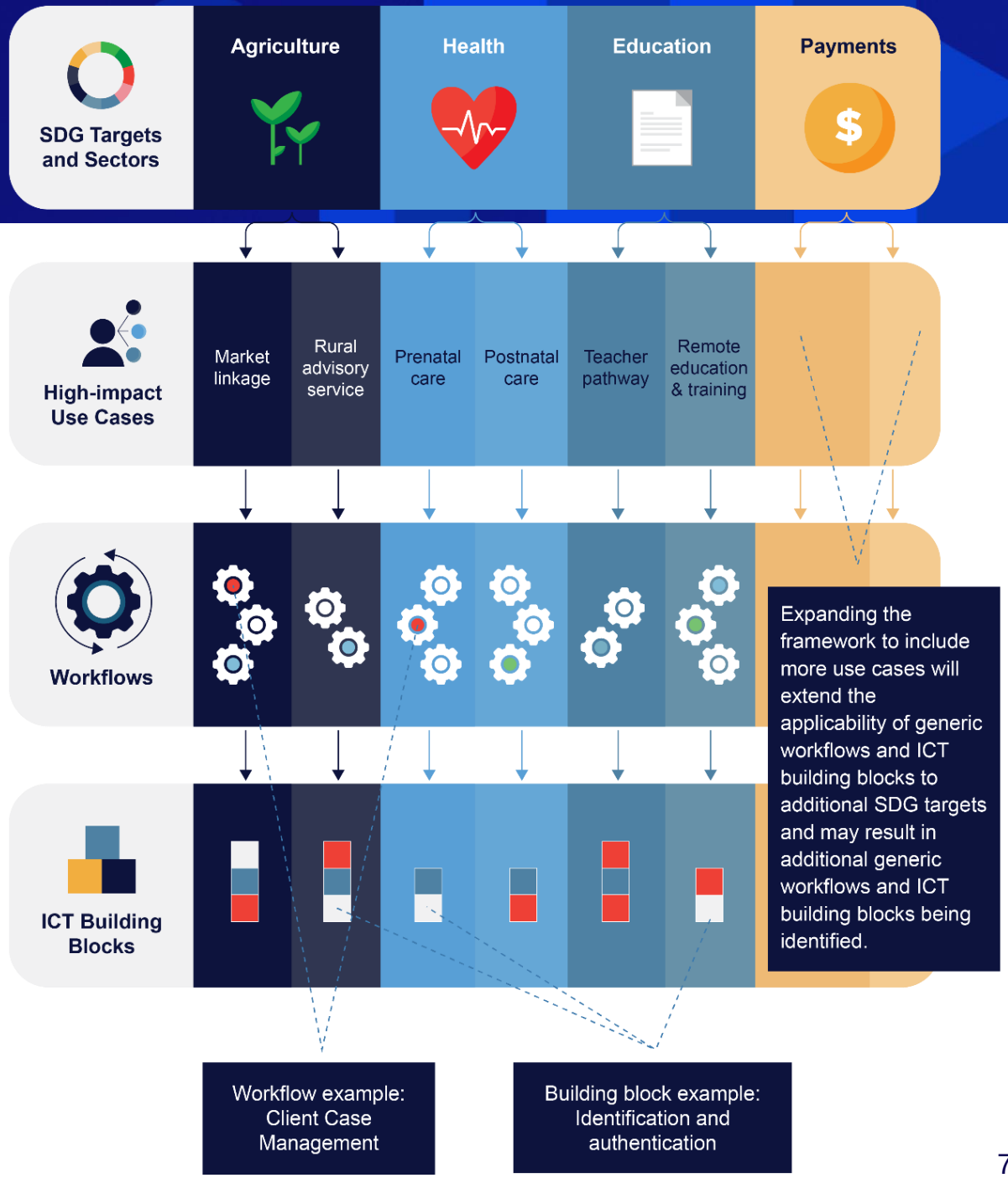
- e-payment and e-signature options for 100% of Government services
- Intuitive, accessible and easy-to-use digital services
- Greater confidence in data as digital services infrastructure continues to be fortified
- More digital services like Moments of Life and Business Grants Portal

[source: tech.gov.sg/digital-government-blueprint]

(RIGHT) "*With SGTS, agencies would be able to tap on a suite of tools and services hosted on a common infrastructure to ensure consistency and high quality of their applications.*" [source: tech.gov.sg/products-and-services/singapore-government-tech-stack]

Through coordinated (re)use of these common digital components…

Ideal: Across sectors and government agencies, subset of same ICT building blocks can be put in place and leveraged. Whereas they are used to deliver one use case, such as agriculture market linkage service, their foundational design can be reapplied to deliver others additional use cases across multiple sectors.



…these *Building Blocks* can be used to create one common platform to deliver various government services digitally...

What are *Building Blocks*?

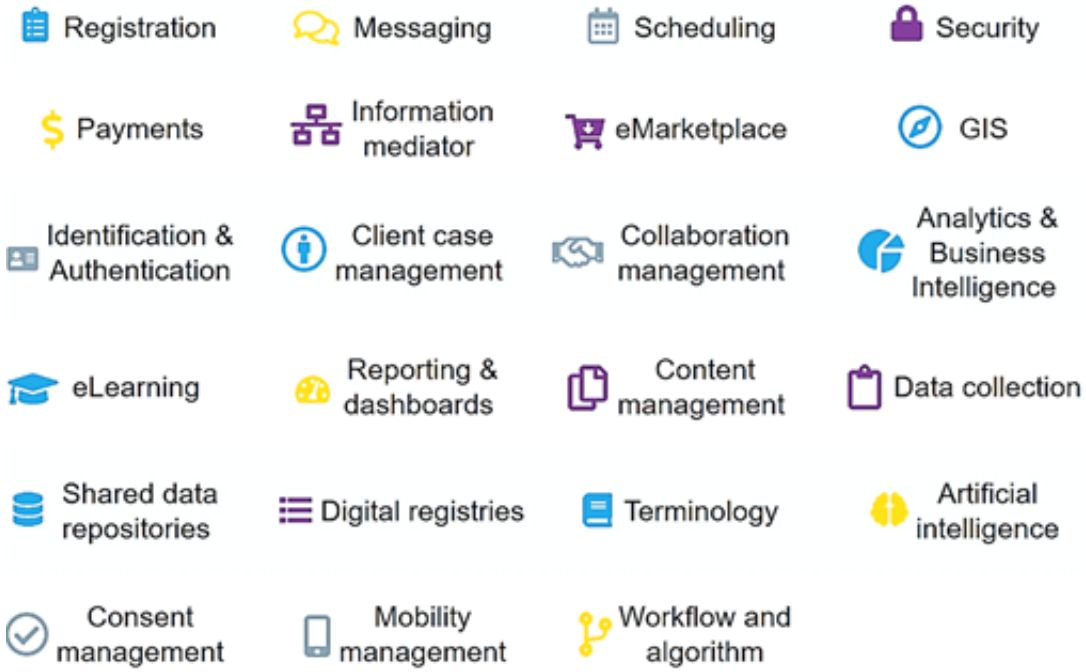
Generically-defined **software components** that in combination provide key functionalities to facilitate generic workflows common across multiple sectors.

What are their characteristics?

- Reusable software components
- Open-source, commercial off-the-shelf (COTS), or freely available with open access to data
- Facilitate one or more generic op. workflows
- Applicable to use cases across multiple sectors
- Interoperable with other *Building Blocks*

Building Blocks set

Identified **components** so far



[refer to: *Building Blocks* section of Govstack.global]

… with real demonstrable economic value or cost optimization with such an approach.

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India

"A report by India's Ministry of Electronics and Information Technology suggested that a business-as-usual approach in India would create $500–650 billion in economic value from digital services by 2025. However, this is significantly less than the **potential $1 trillion that could be generated in the scenario where digital technologies are fully utilized** to unlock productivity, savings and efficiencies **through a cross-sector collaborative approach** across more diverse sectors…" [source: GSMA]

Australia

"… in June 2019, **284 websites and 91 agencies** from all tiers of the Australian government were using the **same content management system, GovCMS**. A model by Deloitte was commissioned by the Digital Transformation Agency to determine WGA cost savings, which showed that the operating cost for the 284 sites would exceed $73 million if hosted independently. Since the total cost of operating GovCMS in 2018–2019 was $5.9 million, this amounted to an **overall saving of $67.1 million**." [source: GSMA]

Saudi Arabia

W. initial estimation in effort to inform their drafted *Sustainable Digital Investment Framework,* implementing **one *Building Block* (Remote Signature) in a holistic cross-gov. approach yielded a tangible total cost of ownership at 17mSAR, compared to 490mSAR if operated individually by 140+ gov. agencies along a 3-year horizon.** "The investment optimization is consequent, 473mSAR for solely the Remote Signature as a *Building Block*." [source: Cost optimization study by the Digital Gov. Authority of KSA, shown during a bilateral meeting between KSA-DGA and GovStack stakeholders]

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The initiative

GovStack is a joint initiative to bring this *Building Block* approach to a broader reality...

What is it?

GovStack initiative is an expert community-driven multistakeholder effort aimed at deriving common technical practice and understanding of the *Building Blocks* approach as seen in implemented countries.

What does it aim to achieve?

By unpacking and simplifying the technical approach that goes into building holistic digital government, GovStack aims to accelerate countries' ownership of e-gov. solutions and in doing so improve services for social well-being.

Where did it come from?

GovStack model is an extension of the SDG Digital Investment Framework, an earlier effort by the Digital Impact Alliance (DIAL) at the UN Foundation and the International Telecommunication Union (ITU).

… brought on by 4 founding partners…

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The **International Telecommunication Union (ITU)**, **Estonia**, **Germany**, and the **Digital Impact Alliance (at the United Nations Foundation)** began a collaboration in 2020 with the goal of accelerating national digital transformation and the digitalization of government services for achievement of Sustainable Development Goals by 2030.

REPUBLIC OF ESTONIA
MINISTRY OF FOREIGN AFFAIRS

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giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

dial Digital Impact Alliance

See our joint declaration here: govstack.global/partnership

… with a unique range of complimentary perspectives:

Opening Statements by

GovStack

ITU

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ACCELERATE **BUILD** **CONNECT**

dial Digital Impact Alliance

Accelerate national digital transformation; **Build** global cooperation; and **Connect**, support, and scale proven solutions

3

What to expect

The initiative has 3 strategic areas.

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	Major Strategic Areas		Goal
1 Specify	Develop and evolve specifications for high-priority Building Blocks, and a Blueprint for an illustrative digital government service that uses them	→	Create technical reference pieces of generic digi. gov enabling components
2 Demonstrate	Invite product / approach demonstration and develop working reference models of the illustrative stack showcasing applicability of digital services, guided by specification outputs from Phase I (Building Blocks and Blueprint)	→	Show how the GovStack approach can employ a set of cross-sector, interoperable, secure and integratable Building Blocks to demonstrate delivery of a pipeline of digital services
3 Apply	Engage pilot countries to inform approach in their larger digital government strategy effort and implementation roadmap, and sustain ongoing advocacy and address country capacity needs	→	Ultimately inform national digi. gov strategy drawing from proposed approach + diff. reference models in their transformation journey

The next two years will be focused on the following, aligned with strategic areas 1 and 2.

Refer to details at Our Solution area of the GovStack website.

Phase i: Reference(s)

OUTPUTS

- Architecture blueprint
- Business requirements and technical specifications for 10-12 *Building Blocks*
- Accompanying open API conditions

Phase ii: Procurement

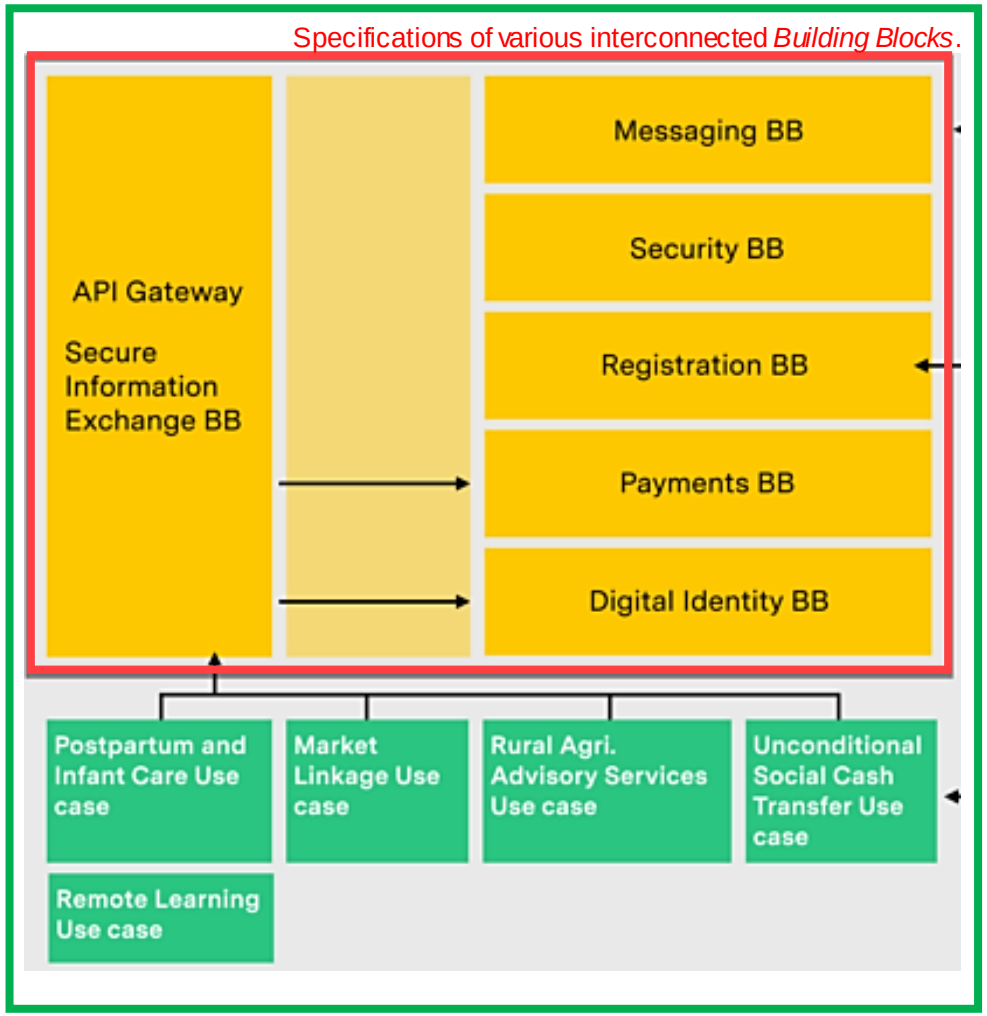
OUTPUTS

- Launch and execution of procurement tender to solicit service in delivering a first GovStack model
- Starting w. survey market capabilities: see RFI call
- Repurposed resources from procurement effort into references to support similar exercise in partner countries

PHASE iii: Platform

OUTPUTS

- Functional software environment demonstrating models / approaches to implementing GovStack by addressing multiple cross-sectoral use cases
- Guidance and manuals for reuse



Living platform with reusable solutions illustrating reference implementations of the GovStack model that support multiple use cases, starting with the 5 listed.

The *GovStack* initiative would like to call on your engagement to jointly develop the approach and support your acceleration.

What Governments can do	What it means
Support technical working groups via active participation, or inform us of your digital government needs	Help the effort of individual technical working groups by contributing experts (from the ICT ministry and others) to formulate common requirements for specific *Building Blocks*, or provide us insight into your digital gov. needs and plans to incorporate country context to ensure applicability in your setting
Publicly express interest in being a champion country (*under-concept*)	Sign a **declaration of interest** or **issue statement** indicating willingness to demonstrate best practices, support capacity building, and advocate for **value** of shared digital infrastructure / DPIs, or to showcase adoption of the approach – e.g. employing *Building Blocks* in line with GovStack's specifications, and technical and financing to realize e-gov platform in-country

A *GovStack Stakeholders Platform* will facilitate open participation from groups around the globe.

Aiming to be a quarterly / biannual convening to allow:

- **Expert working groups and community meetup** in-person and build rapport, exchange knowledge and discuss next steps in the technical direction of the initiative
- The formation and **meeting of the *Advisory Council*** (invitation-only side function) consisted of a balanced spread of stakeholder groups to set the future strategic view and discuss / explore partnerships, review governance elements
- **High-level panel discussions** describing latest trend in e-gov. in relation to GovStack approach and inspiration from the model
- **Open auditorium** (parallel track) with open invitation to general participation by country delegates, technical knowledge grps, industry associations, other relevant stakeholders to share experiences and connect ideas.

First installment being planned at the 2021 Digital Tallinn Summit.

Interest and commitment to adopting the *GovStack* model is also being demonstrated by national, regional and global partners…

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- Overall interest in consideration for member states (potential flagship)

smart africa
CONNECT. INNOVATE. TRANSFORM

- Supporting regional approach to econ. integration under *Single Digital Market* pillar [source: hoainitiative.org]

HORN OF AFRICA INITIATIVE

- Commitment from German Dev. Coop to support GovStack model in these countries

- Informing DIAL support approach to digital strategy and related efforts in partner country (s)

- Largely driven and supported by

European Commission

D4D HUB

- Part of the in-country "Digital Transformation Centers" by GIZ, and other GIZ country programmes

... as part of an overall country-driven effort for digitalization of goverment services (to inform the technical approach to functional digital governance).

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Digital Governance

Policies / Regulations	E-Gov. Platform Infrastructure	Digital Services	Human Capacity	Innovation
Robust uplifted regulatory environment and policies to enable safe and effective use of services and ensuring data protection, LNOB, and human rights	Foundational digital platform setup (*GovStack*) to ensure services are cashless, paperless, presence-less, frictionless, personalized, consent-based, *Once Only* and citizen-centric	Priority and impactful digitalization of government services in Health, Agriculture, Education, Commerce, etc.	Smart workforce and visionary cabinet for Smart Government Change management and political will to support coordinated cross-agency effort Digital literacy to ensure population use and accessibility	Vibrant local innovation ecosystem and digital entrepreneurship to complement digital gov. service delivery

Connectivity and Access
Quality, inclusive and affordable connectivity for all

Cybersecurity
Strong protection to individual and commercial use of data and systems

Data Center and Hosting

GovStack

Accelerating the digital transformation of government services

govstack.global

Get in touch:
info@govstack.global