GovStack

Empowering societies to chart their digital futures

REPUBLIC OF ESTONIA
MINISTRY OF FOREIGN AFFAIRS

Bundesministerium für
wirtschaftliche Zusammenarbeit
und Entwicklung

ITU

digital
impact
alliance

GovStack: Who we are

GovStack is a multistakeholder, community-driven initiative, focused on accelerating national digital transformation worldwide, and drawing on expertise from contributors across the private sector, civil society, and governments all over the world.

The initiative was founded by the International Telecommunication Union (ITU), Estonia, Germany, and the Digital Impact Alliance at the United Nations Foundation in 2020.

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giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
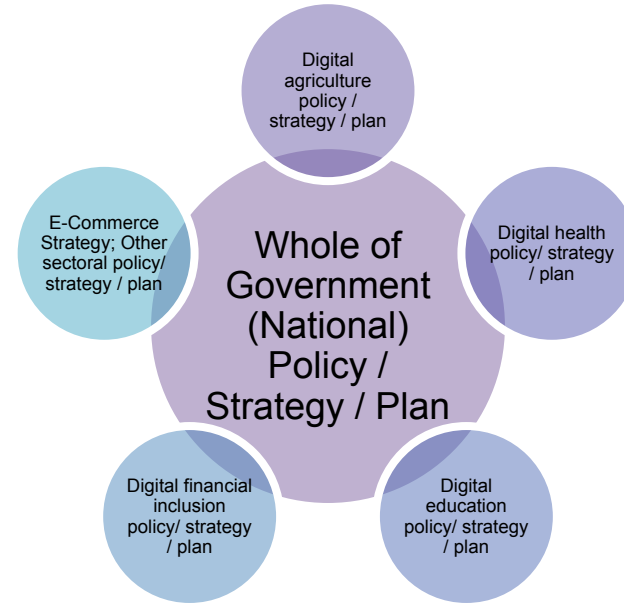
ITU

digital impact alliance

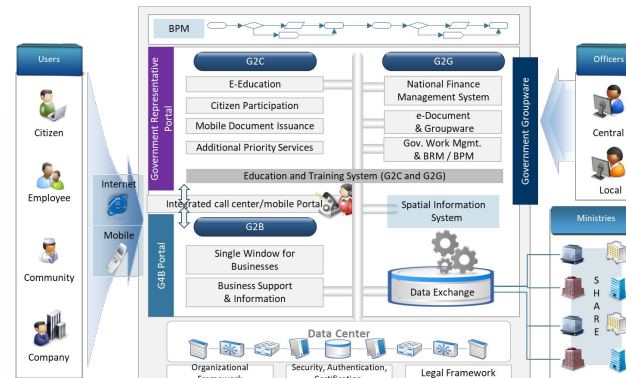# Whole-of-government approach for digital development

National Vision and SDG implementation plan

Whole of Government (National) Policy / Strategy / Plan

- Digital agriculture policy / strategy / plan
- Digital health policy / strategy / plan
- Digital education policy / strategy / plan
- Digital financial inclusion policy / strategy / plan
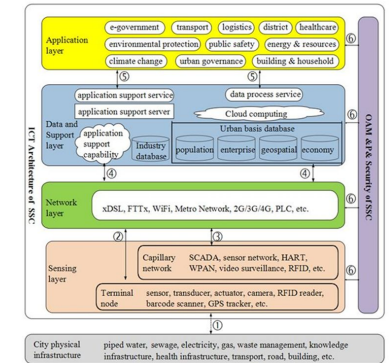- E-Commerce Strategy; Other sectoral policy / strategy / plan
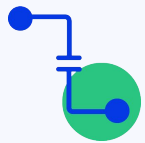
Legislations Regulations

SDG

Customized planning

Smart city

Smart village

Smart Islands

Country governments struggle with the digitization of their public services for several reasons

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SILOES

Siloed investments and duplicative efforts by development partners promote fragmented digital governance and silos in partner countries.

FUNDING FOR PROCUREMENT

Challenges in procuring and implementing affordable IT solutions persist, as do challenges in creating the necessary capital to invest in ICT infrastructure projects.

SCALING

Huge challenges exist in adapting and investing in projects at scale, particularly around the rollout of physical ICT infrastructure, the deployment and use of common data platforms.

COORDINATION

Problems in coordination commonly occur in aligning ICT ministry work with that of other agencies.

From silo ICT investments to reusable software components to digitize governments services at scale

Silo investments, duplication of functionalities
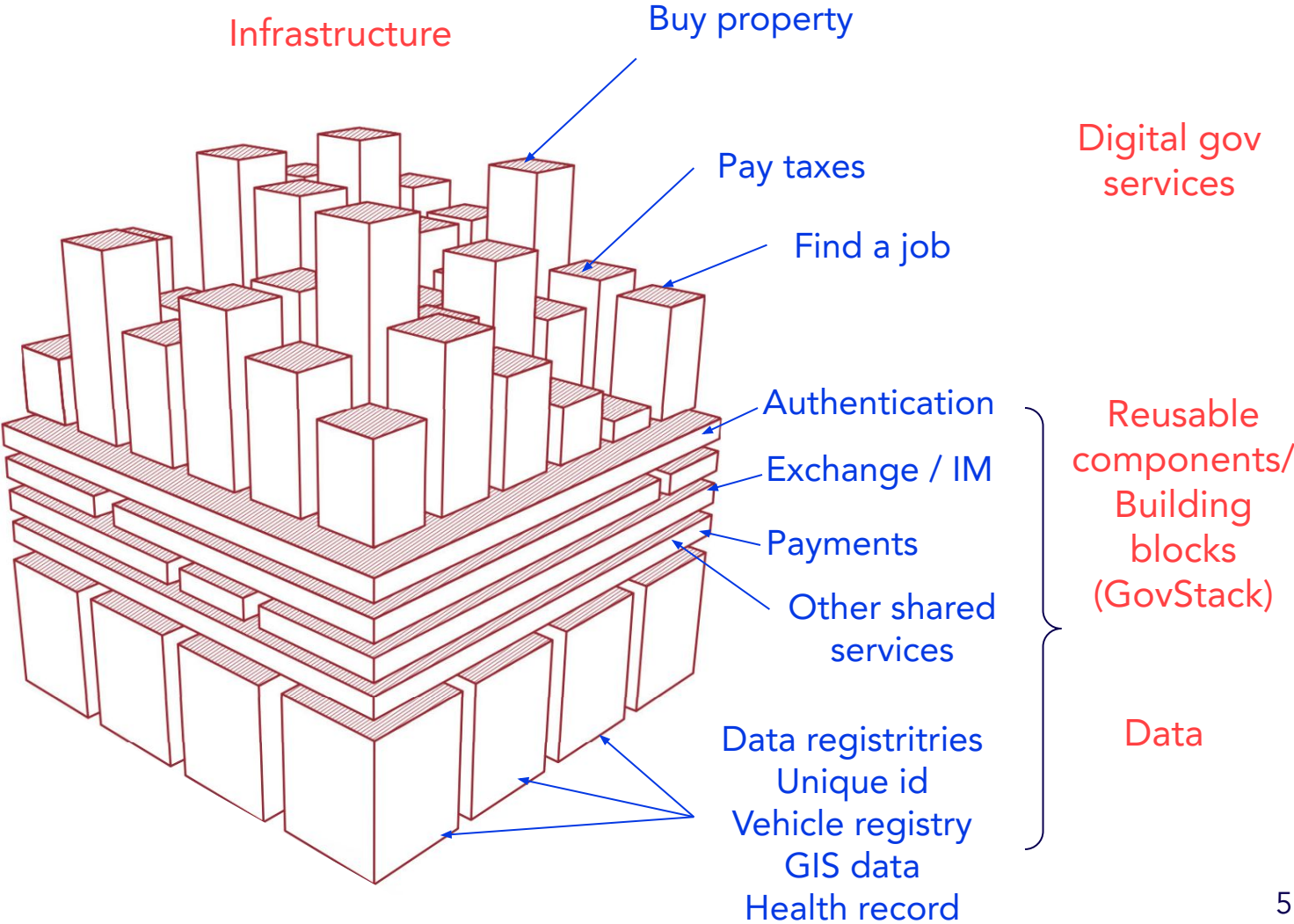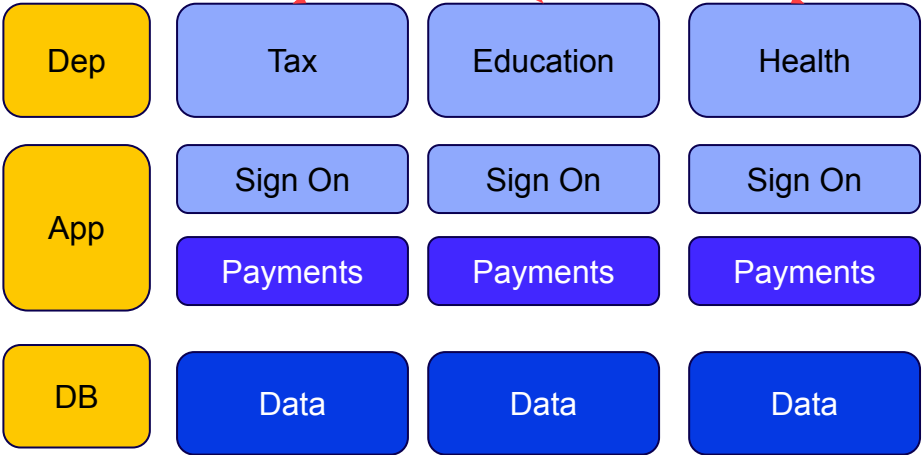
Dep	Tax	Education	Health
App	Sign On	Sign On	Sign On
	Payments	Payments	Payments
DB	Data	Data	Data

Infrastructure

Buy property

Pay taxes

Find a job

Digital gov services

Authentication

Exchange / IM

Payments

Other shared services

Reusable components/ Building blocks (GovStack)

Data registritries
Unique id
Vehicle registry
GIS data
Health record

Data

Source: David Eves, UCL 2023

GovStack implementation framework strengthens institutional mandate, service design and delivery using a BB approach

GOVSTACK CAN BE INCORPORATED INTO POLICY

- Digital Transformation Strategy
- Digital Government Strategy/Policy/Roadmap
- Whole-of-Government Enterprise Architecture

GOVSTACK CAN GUIDE SERVICE DESIGN, PROTOTYPE & SCALING

- Service design (Life Events, User Needs, Journey)
- Prototyping (Optional in Case of Sandbox)
- Procurement
- Piloting/Scaling Up

GOVSTACK DESIGN PRINCIPLES

CAPACITY BUILDING AND COMMUNITY ENGAGEMENT HAPPENS THROUGH IMPLEMENTATION FRAMEWORK

GovStack implementation framework strengthens institutional mandate, service design and delivery using a BB approach

GOVSTACK DIGITAL SERVICE DESIGN AND DELIVERY JOURNEY

DOES THE COUNTRY HAVE PRIORITY SERVICES?

No   Yes

GOVSTACK IMPLEMENTATION JOURNEY

- Understand country context, & current Tech-stack
- Prioritise and Rank Services
- assess user needs & detail 'As-Is' user journey
- Co-design 'To-Be' user journeys
- Design service blueprint & BB archiecture
- Deveop wireframes
- Prototype the service on sandbox
- Launch the service
- Develop scaling strategy

IMPLEMENTING COUNTRY

GovStack's Whole-of-Government approach

There is growing evidence that a whole-of-government approach to digital infrastructure investment can deliver reusable digital services at scale with a greater return on investment.

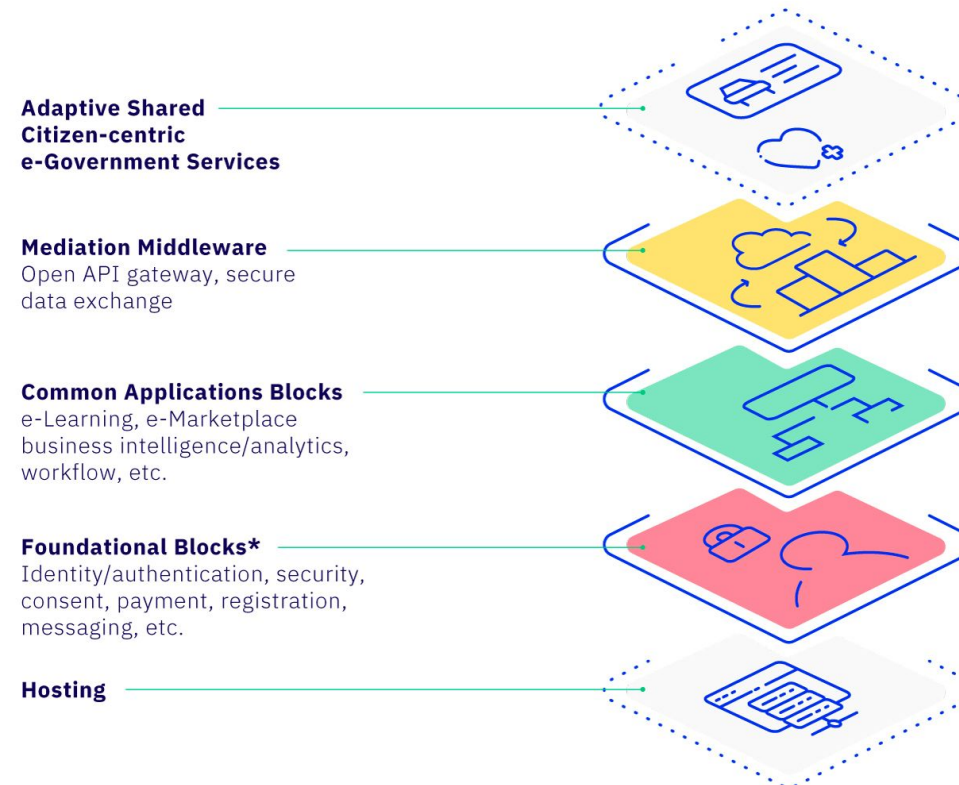ℹ️ Instead of creating unique and disparate solutions, use a common reusable stack of Building Blocks to form the core platform engine and contextualize various e-government services on top.

The approach takes advantage of economies of scale that are not available when taking a piece-meal approach.

Adaptive Shared Citizen-centric e-Government Services

Mediation Middleware
Open API gateway, secure data exchange

Common Applications Blocks
e-Learning, e-Marketplace business intelligence/analytics, workflow, etc.

Foundational Blocks*
Identity/authentication, security, consent, payment, registration, messaging, etc.

Hosting

A "platform of platforms" that can be used by any government agency, department across different sectors to build new government digital services without having to design, test and operate the underlying systems and infrastructure themselves

Designing e-government services with generic Building Blocks
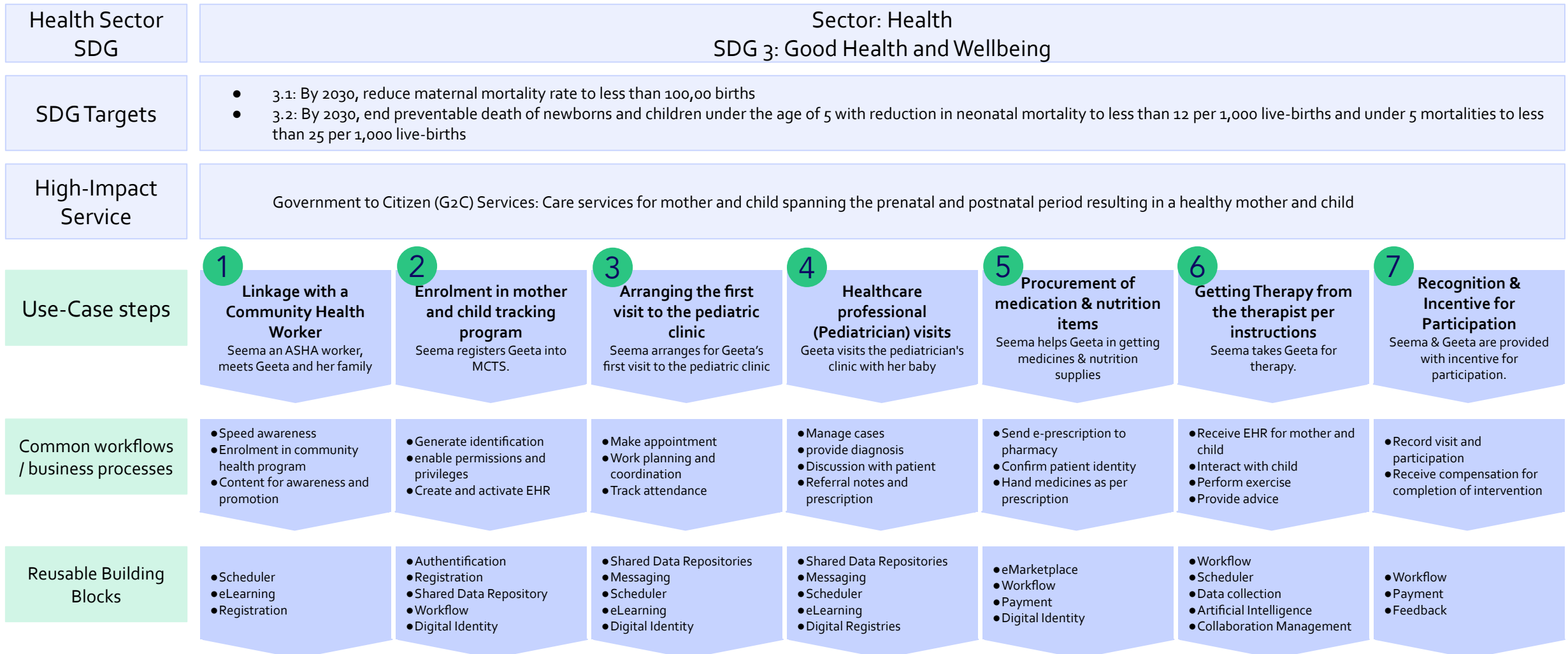
What are *Building Blocks?*

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
- Secure by design, standards-based and interoperable

Registration	Messaging	Scheduling	Security
Payments	Information Mediator	eMarketplace	GIS
Identification & Authentication	Client Case Management	Collaboration Management	Analytics & Business Intelligence
eLearning	Reporting & Dashboards	Content Management	Data Collection
Shared Data Repositories	Digital Registries	Terminology	Artificial Intelligence
Consent Management	Mobility Management	Workflow and Algorithm	

The building block approach can be applied across many sectors to support high-impact use cases

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Health Sector SDG	Sector: Health SDG 3: Good Health and Wellbeing						
SDG Targets	• 3.1: By 2030, reduce maternal mortality rate to less than 100,00 births • 3.2: By 2030, end preventable death of newborns and children under the age of 5 with reduction in neonatal mortality to less than 12 per 1,000 live-births and under 5 mortalities to less than 25 per 1,000 live-births						
High-Impact Service	Government to Citizen (G2C) Services: Care services for mother and child spanning the prenatal and postnatal period resulting in a healthy mother and child						
Use-Case steps	**1** Linkage with a Community Health Worker Seema an ASHA worker, meets Geeta and her family	**2** Enrolment in mother and child tracking program Seema registers Geeta into MCTS.	**3** Arranging the first visit to the pediatric clinic Seema arranges for Geeta's first visit to the pediatric clinic	**4** Healthcare professional (Pediatrician) visits Geeta visits the pediatrician's clinic with her baby	**5** Procurement of medication & nutrition items Seema helps Geeta in getting medicines & nutrition supplies	**6** Getting Therapy from the therapist per instructions Seema takes Geeta for therapy.	**7** Recognition & Incentive for Participation Seema & Geeta are provided with incentive for participation.
Common workflows / business processes	• Speed awareness • Enrolment in community health program • Content for awareness and promotion	• Generate identification • enable permissions and privileges • Create and activate EHR	• Make appointment • Work planning and coordination • Track attendance	• Manage cases • provide diagnosis • Discussion with patient • Referral notes and prescription	• Send e-prescription to pharmacy • Confirm patient identity • Hand medicines as per prescription	• Receive EHR for mother and child • Interact with child • Perform exercise • Provide advice	• Record visit and participation • Receive compensation for completion of intervention
Reusable Building Blocks	• Scheduler • eLearning • Registration	• Authentification • Registration • Shared Data Repository • Workflow • Digital Identity	• Shared Data Repositories • Messaging • Scheduler • eLearning • Digital Identity	• Shared Data Repositories • Messaging • Scheduler • eLearning • Digital Registries	• eMarketplace • Workflow • Payment • Digital Identity	• Workflow • Scheduler • Data collection • Artificial Intelligence • Collaboration Management	• Workflow • Payment • Feedback

GovStack Building Blocks are released in waves

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Sandbox

3rd WAVE
(in progress)

| GIS | eMarketplace | Cloud Hosting | User Interface | eSignature |

2nd WAVE
(Complete)

| Consent Management | Messaging | Scheduling | Workflow |

1st WAVE
(Complete)

| Identification & Authentication | Digital Registries | Information Mediator | Registration | Payments | Security |

Current specifications available at https://govstack.gitbook.io/specification/

The GovStack Building Block approach has wide-ranging benefits

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Speed
Increases speed of delivery by facilitating reuse of core service elements and redirecting resources towards improving citizen outcomes.

Cost-efficiency
Improves procurement efficiency and provides common capabilities cross-departments / -agencies which avoids duplication of efforts, reduces cost to develop new e-gov. services,.

Real economic return
Provides socioeconomic ROI by enabling faster and closer connections from government to addressing needs of citizens and businesses.

ONE government
Enables service delivery that links and invokes different parts of government, providing a connected, consistent and seamless user experience.

Agility + Responsiveness
Enable governments to design and deliver new services quickly to respond to needs and unexpected circumstances (e.g. global pandemic and disasters).

Integration + exchange
Enables integrated transactions and exchange of information across other equivalent stacks and systems through standards and open APIs.

Harmonized policies
Opens possibilities for aggregation of big data for richer insights that would help develop better nonconflicting policies and monitor operations.

Minimized vendor lock-in
Minimizes product 'lock-in' and allows independent services to run where modular Building Blocks could be replaced without impacting overall experience.

[Ref. on other documented rationalization w. AsiaPac. countries examples: <u>GSMA Report "Advancing digital societies in Asia Pacific: a whole-of-government approach"</u>]

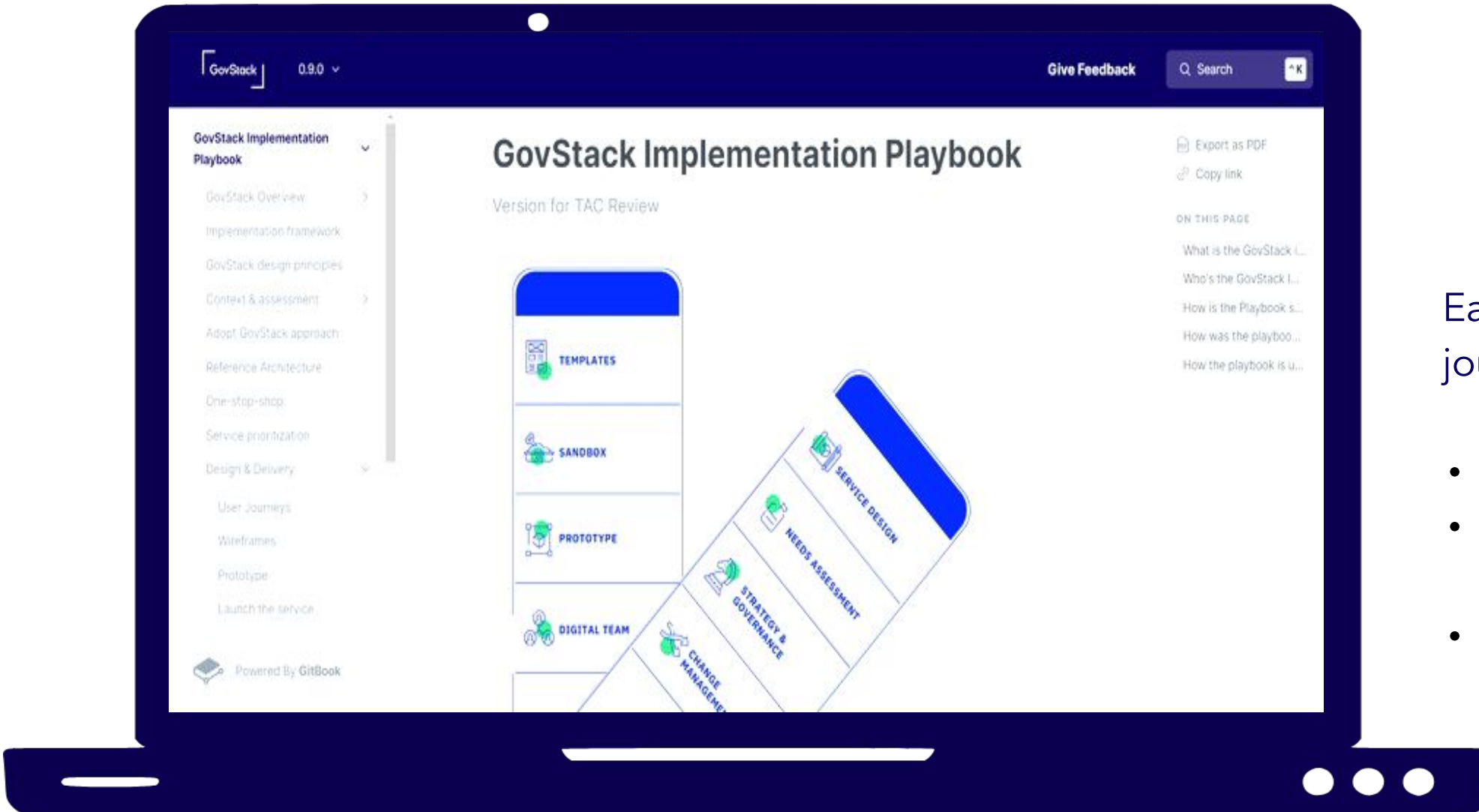# Adapt to existing, to means, to objectives and to context
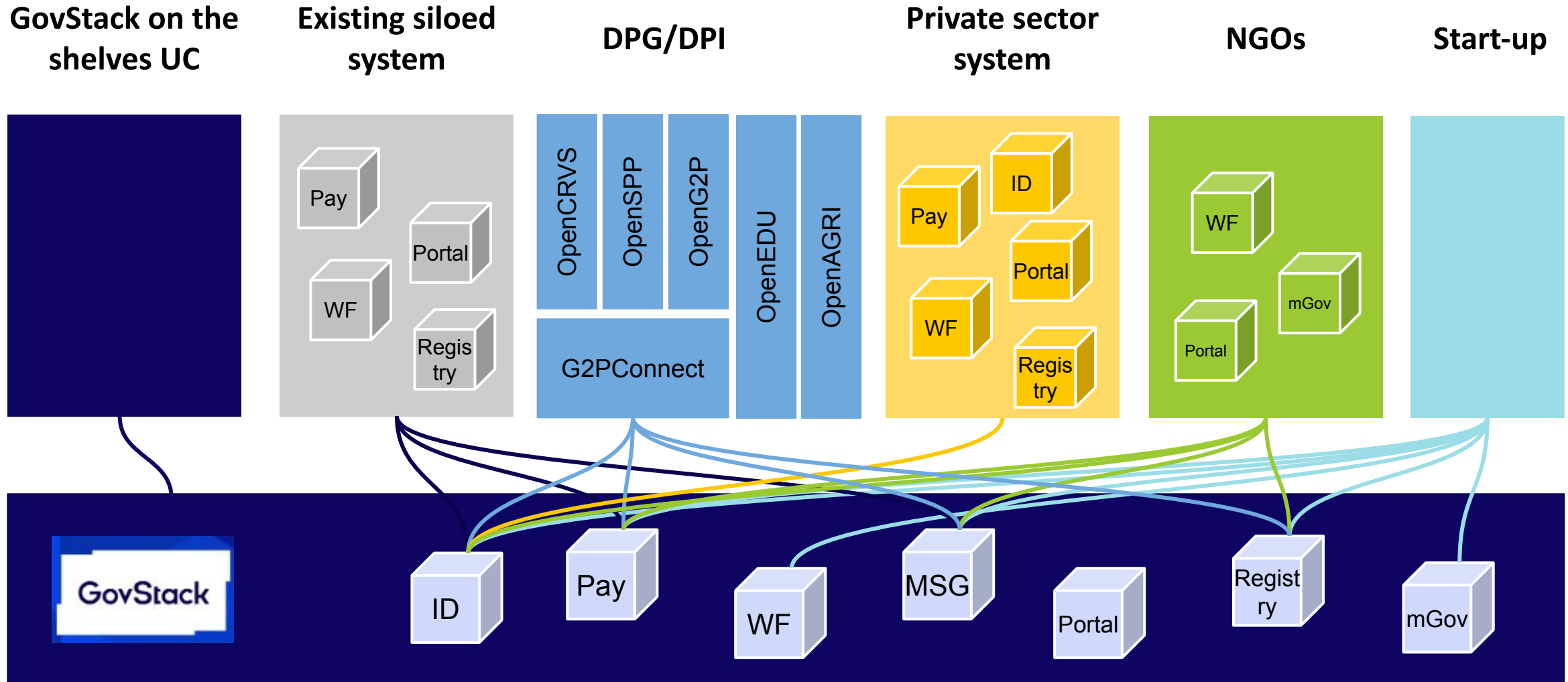
GovStack Implementation Playbook: a step-by-step guide to digital service design using the Building Block approach

Each step within the journey describes of:

- Activities/Resources
- Digital teams roles & responsibilities
- Deliverables

GovStack Engagement

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Current GovStack Partner Countries from…

Egypt	Rwanda	Kenya	Togo
Somalia	Djibouti	Ukraine	Senegal

Algeria	Argentina	Mauritania	Sierra Leone	Peru
Papua New Guinea	Bangladesh	Lao PDR	Cambodia	ASEAN

Several other interests

GovStack Services: We collaborate with governments in the following areas:

Assessing e-government readiness and roadmap development	Piloting of e-government use case	Strengthening local capacity	Contribution of local actors to the Building Block specifications	Participation of local actors in Communities of Practice

GovStack offerings

GovSpecs

GovTest

GovLearn

GovExchange

Country Engagement

Countries build their services based on Building Block specifications Countries may contribute to their development in working groups.

Countries identify and prioritize use cases which can then be demonstrated, tested and explored in sandboxes.

Countries benefit from capacity building (e-learning, implementation playbook, workshops) and exchange knowledge through Communities of Practice.

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Thank You!