



# Country Transformation Accelerating into the Digital Economy

*ICT Innovation inside Government*

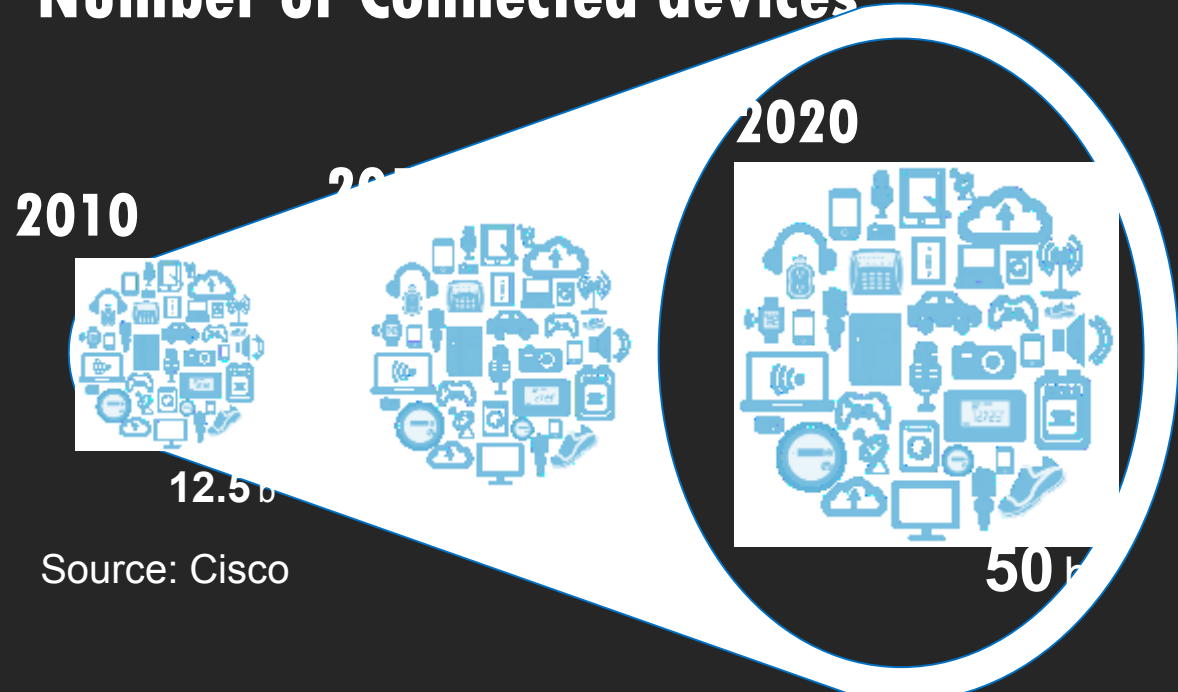
Norberto Mateos Carrascal  
EMEA Government and Education Director

November 2016



# Technology transforms everything...

## Number of Connected devices



**2025**  
Global impact of  
**\$11.1**  
trillion / year

Source: McKinsey

# By 2020

**AVG  
Internet USER**

**~1.5 GB** of traffic per day

**Smart  
hospital**

**3,000 GB** per day

**Autonomous  
automobile**

**4,000 GB** per day... each

**Airplane  
data**

**40,000 GB** per day

**Smart  
factory**

**1,000,000** GB per day

## The Coming Flood of Data

# The New Face of Competition...

**45%** of the 2005 Fortune 500 companies are out of the list today

Average age of firms:

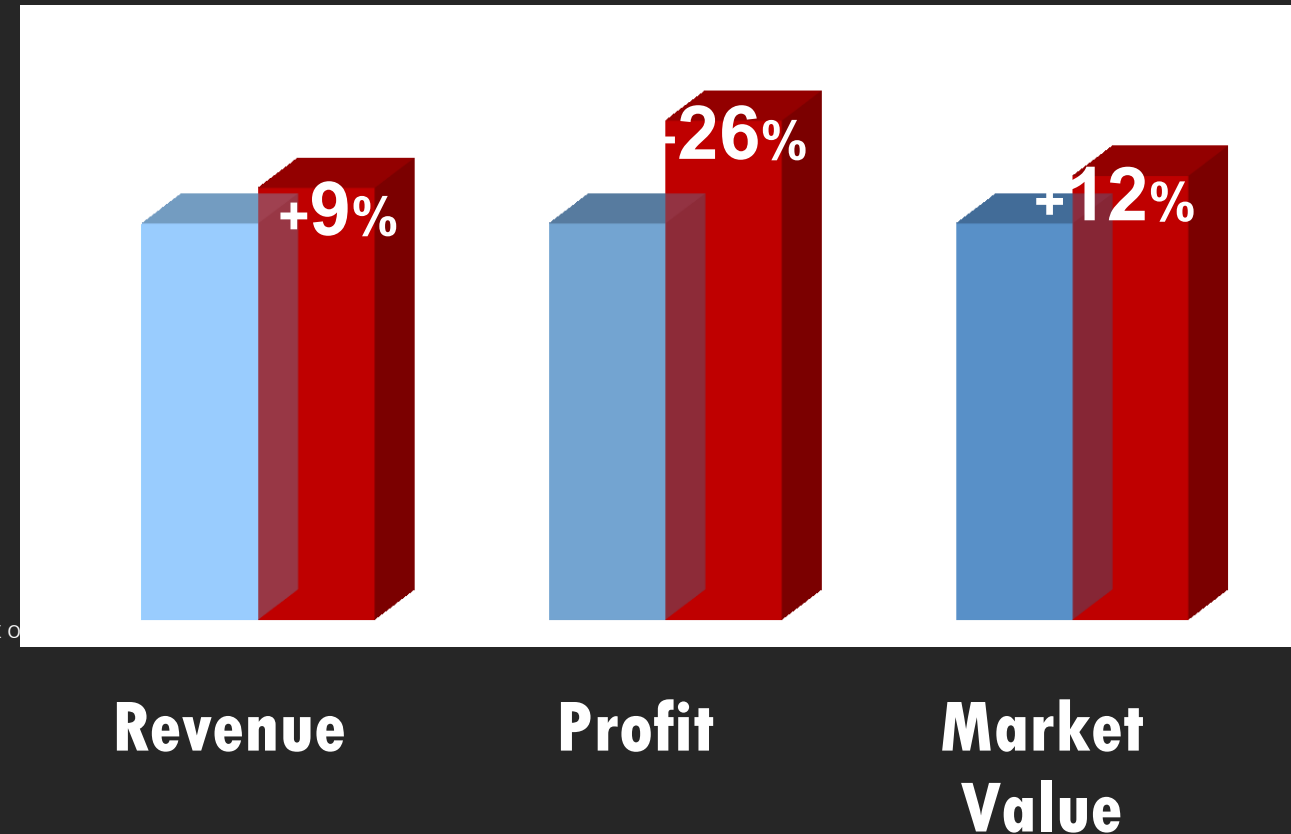
**1990: 60 – 2012: 12**

**1/3** of top 20 firms in each industry will be replaced with new generation of firms in 2018

**3.4%** higher GDP in 2020 in developing economies, as a result of +10 uplift in digital density

**Use of Tech accelerates profits  
Without additional resources**

■ Industry Average   ■ Digitalized Firm



# **The Vortex of change**

**accelerating country transformation**



# What Governments Care About... all will be impacted by the Digital Vortex

**Jobs**

**Capacity building**

**Policies, Regulations, Privacy**

Innovation for SMEs

**Education & Skills**

Country Competitiveness

Income Inequality

Poverty

Provide Crime, Cybercrime, Cybersecurity & Cyber warfare

**Economy**

Healthcare

Security & Defense

**Fiscal pressure – Tax evasion and fraud**

Urbanization & Smart cities

Exponential urban growth affecting city services delivery

**Closing the Digital Divide**

Aging population, Demographic pressure

Climate Change

**Service Delivery to all citizens**

Consumerization of public services

Youth Unemployment

**Country Competitiveness**

Provide services globally to all citizens and companies despite its location

**Social benefits Services**

Efficiencies & Cost reduction

**Broadband expansion**

# What That Means for Government...

					
<b>Jobs</b>	<b>Economy</b>	<b>Skills Development</b>	<b>digital inclusion</b>	<b>Improve government services</b>	<b>Evolve Government IT infrastructure</b>
Millions of jobs will be impacted by the Digital transformation in all industries	Government leaders need to accelerate the transformation of their country into the new Economy	Upgrade education to prepare people for the jobs/skills of the future	Enabling Access & Affordability, Improving Digital Literacy and Financial inclusion	Citizens expectation are at all time high and Gov't need to embrace Digital Services	Modernize & Transform ICT to enable Digital Government eServices Platform foundation

# Innovation drives sustainable advantage



## Germany - industry 4.0

Smart factories use embedded production technologies to dynamically optimize production processes

**€400 m** investment - July 2015

**€90-150 B (1% of GDP)**  
revenue growth annually in 10 yrs

Firms's that employ and scale new technologies stay ahead as economy shifts



# The Vortex of change - accelerating country



*Industry 4.0*  
*Autonomous Vehicle*  
*Smart Cities*  
*Drone*

## **CODE-Ification of Money, Identity and Trust**



*Digital Currency*  
*Electronic ID*  
*Blockchain*



## **Cybersecurity**



*Connected Car*  
*Critical Infrastructure*  
*Data Protection & Privacy*

## **DATA: Raw material of Information Age**



*Real Time Analytics*  
*Precision Agriculture*  
*Precision Medicine*

**Digital Society and technologies will transform Government Economic, Social and Political mandate in unprecedented ways...**

# Headwinds to Change





# What is a digital ready country ?

*“It is a Country where Leaders understand that in the next few years the World will be completely different from today...”*

*...Where leaders are transforming their economy based on industrial revolution toward digitally enabled economy to capitalize on Economic growth and Social benefits for their citizens...*

# What is a digital country?

- **Provide key ICT infrastructure to Citizen and Business**
- **Development of Education and skills for tomorrow**  
(Build Capacity and enable Opportunities)
- **Financial Services that are Digitally enabled & available to all**
- **Investor friendly** – from Private Equity to Venture Capital
- **Stable Institutional Environment** – Political stability, Rule of Law, State of the art governance and corruption free
- **Collaborative** - Increase regional collaboration and partnership among countries
- **Public-Private collaboration** – Partnership to plug the gaps in inadequate infrastructure

# Digital Country Transformation : e-Estonia



Digital Identity  
Digital Signature



X-Road



E-Health



i-Voting



e- Tax



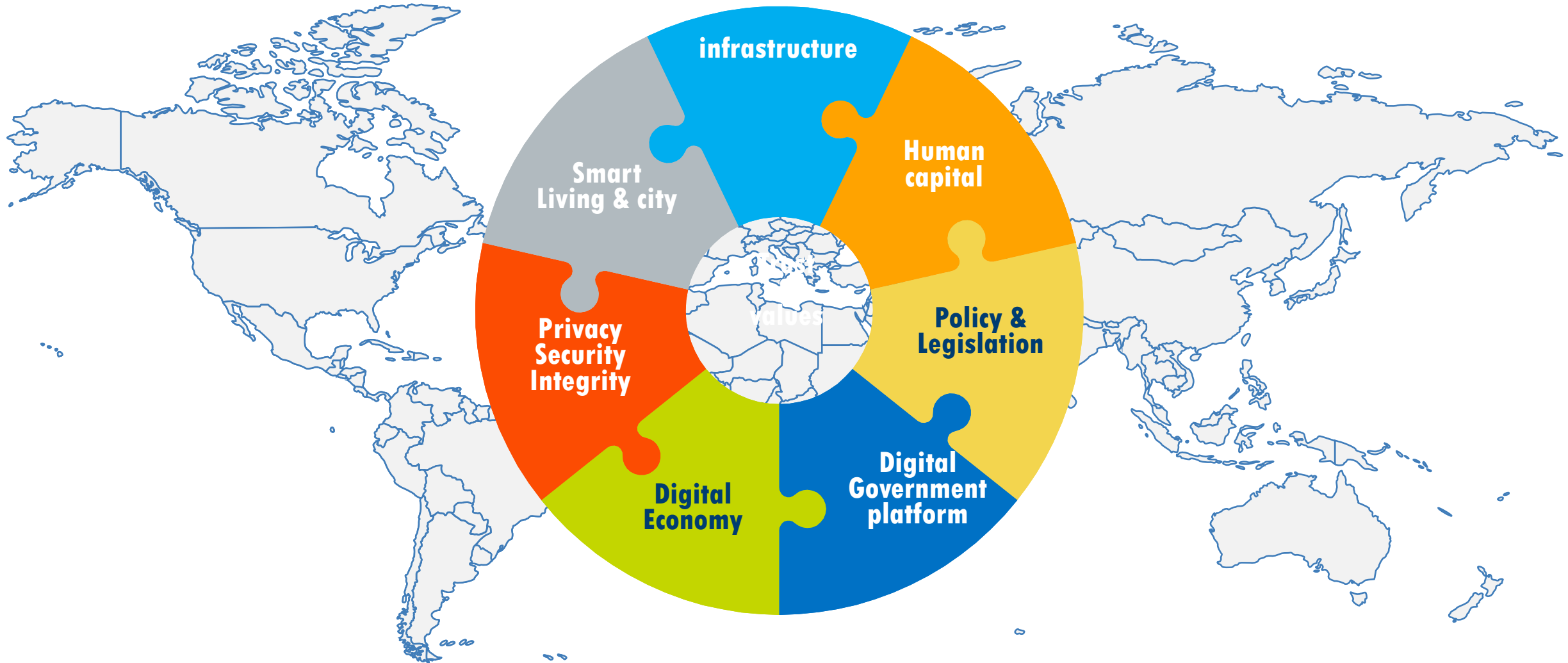
Keyless Signature  
Infrastructure

**Re-imagining the Country for the New Economy**

**E-Residency    Data-Embassy    No Legacy law**



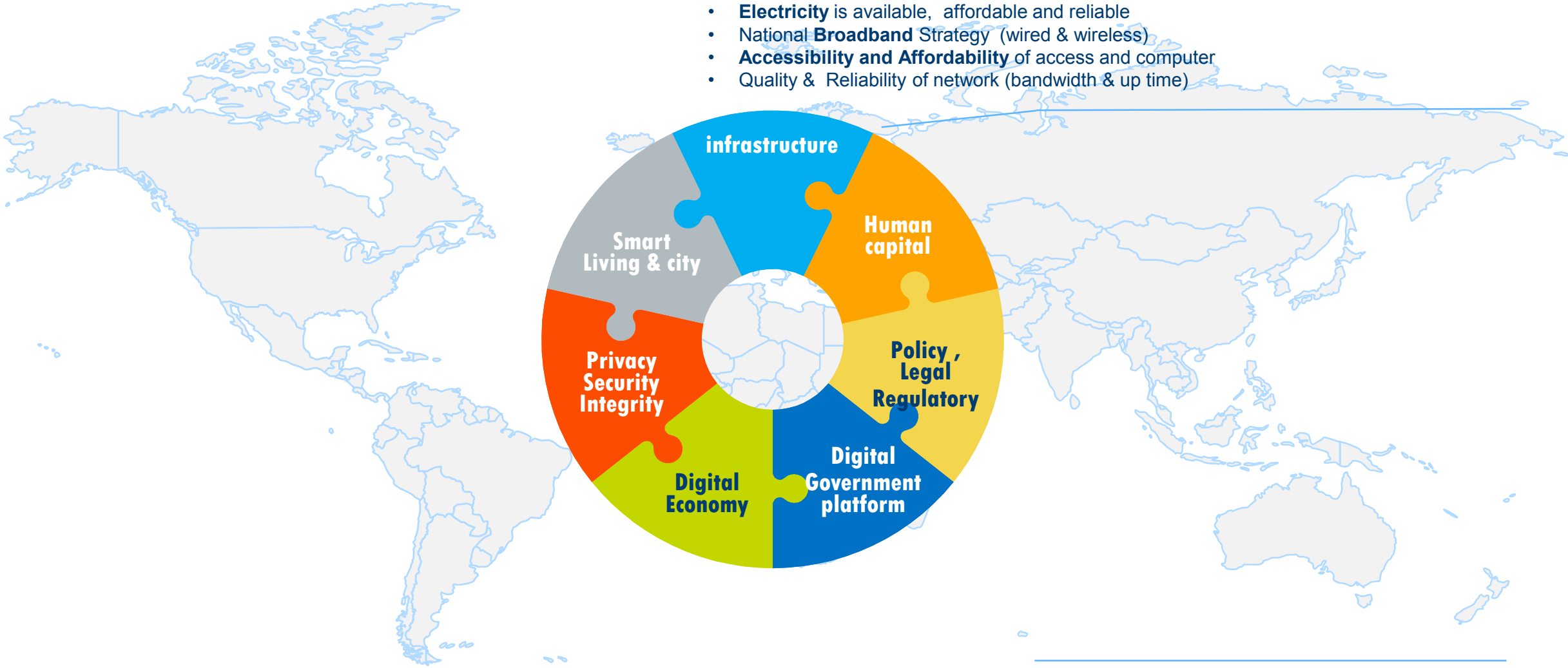
# Key Building Blocks to Digital transformation



# Key Building Blocks to Digital transformation

## Infrastructure

- **Electricity** is available, affordable and reliable
- National **Broadband** Strategy (wired & wireless)
- **Accessibility and Affordability** of access and computer
- Quality & Reliability of network (bandwidth & up time)



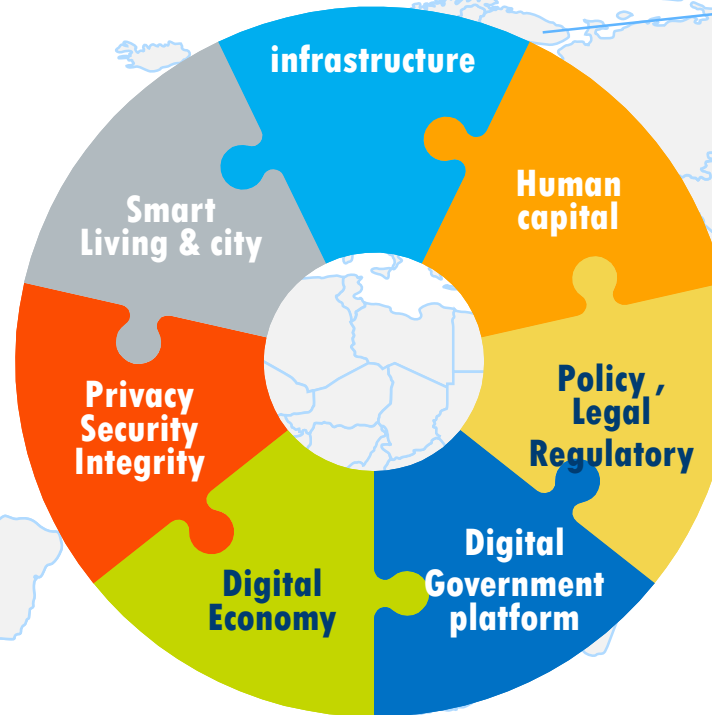
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- Empowered all citizen (women ~ 50% pool of Talent)
- **Digital Literacy** (Technology savviness)
- **ICT capable government employees**
- Capacity Building



# Key Building Blocks to Digital transformation

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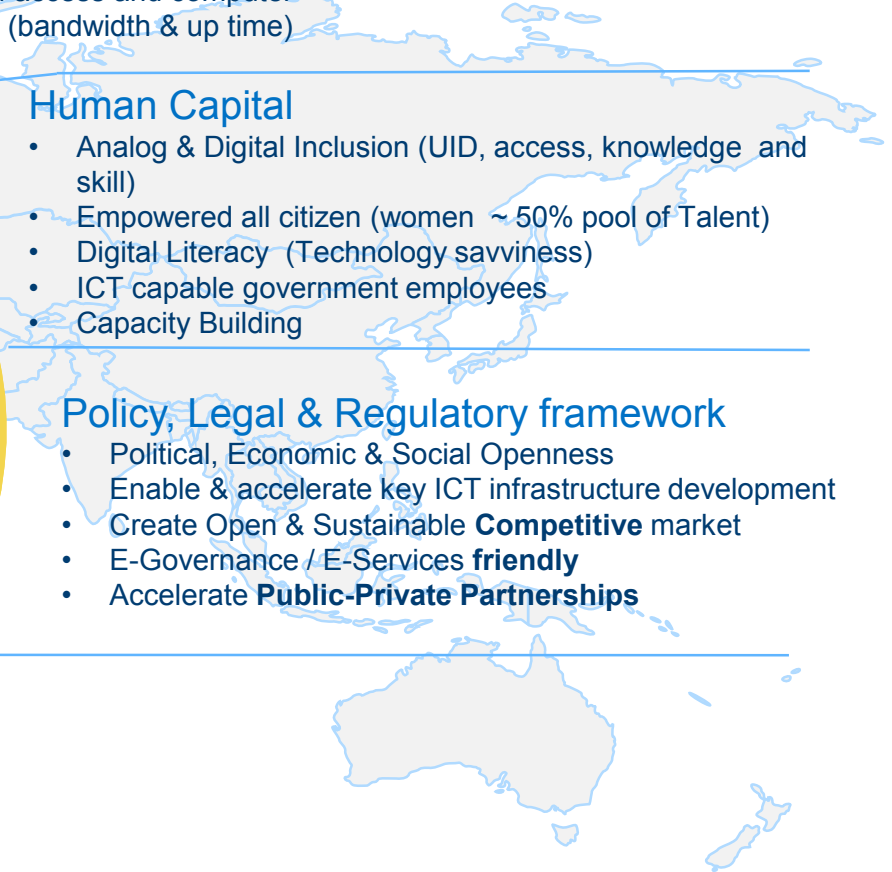
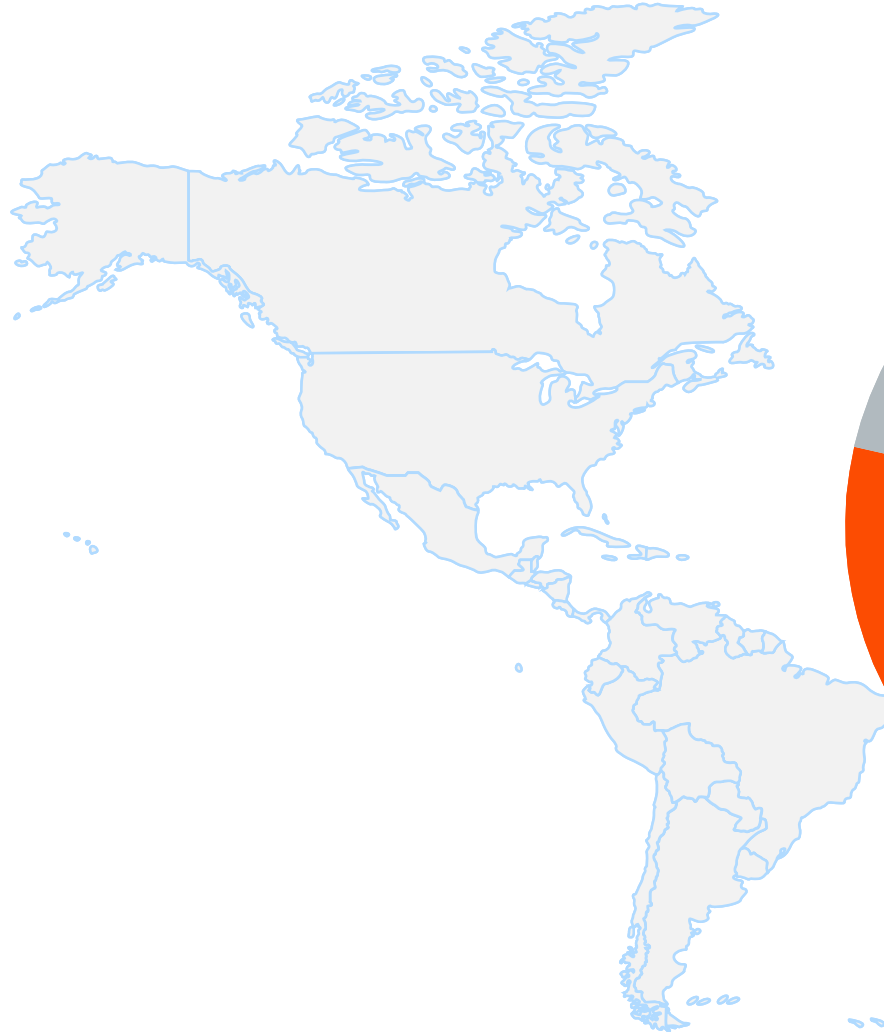
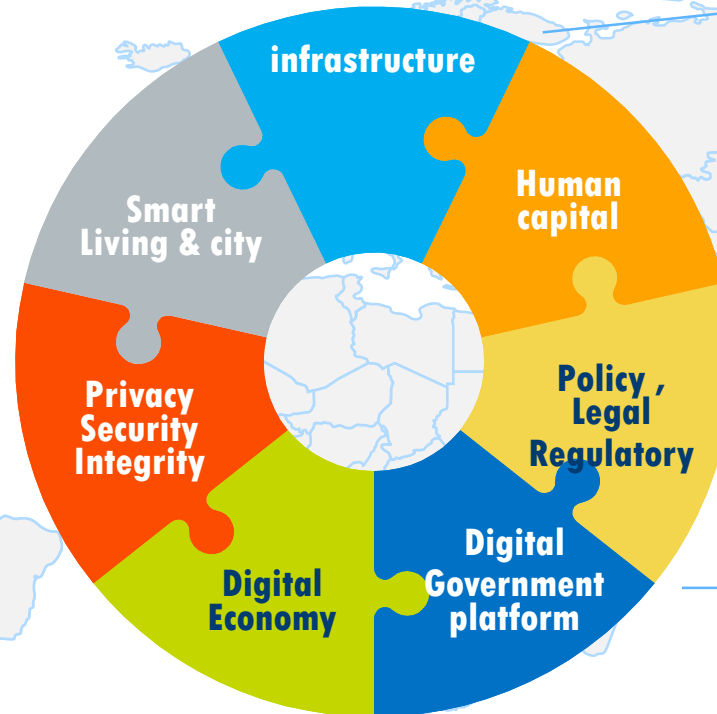
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## Policy, Legal & Regulatory framework

- Political, Economic & Social Openness
- Enable & accelerate key ICT infrastructure development
- Create Open & Sustainable **Competitive** market
- E-Governance / E-Services **friendly**
- Accelerate **Public-Private Partnerships**

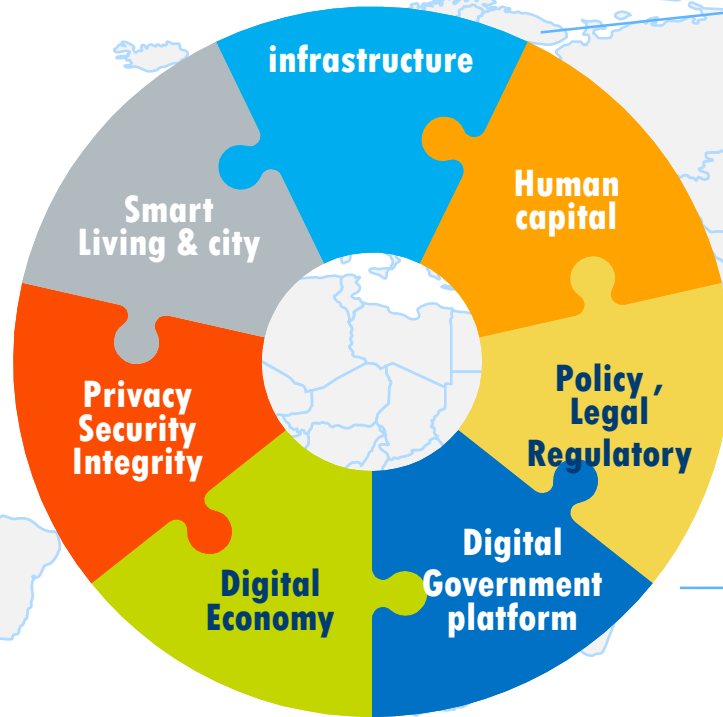


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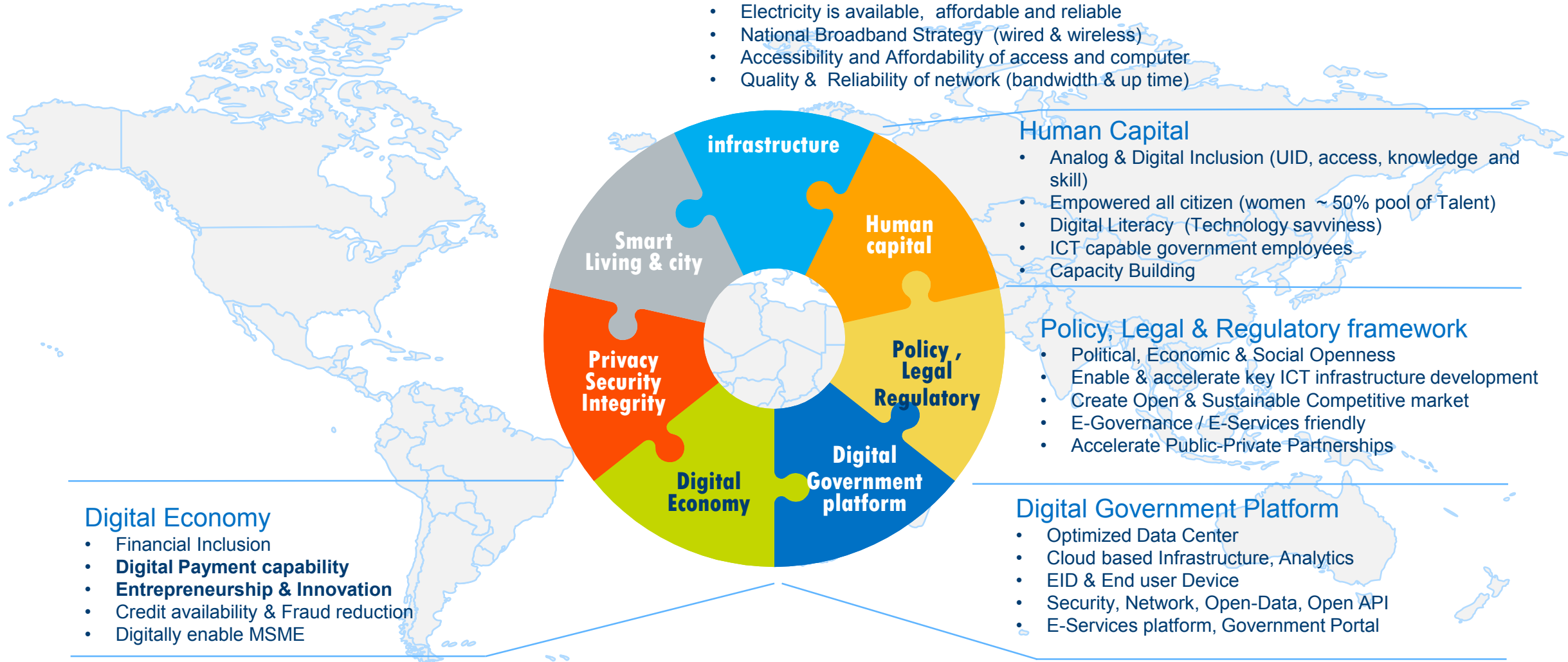
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- Optimized **Data Center**
- **Cloud** based Infrastructure, Analytics
- EID & End user Device
- Security, Network, Open-Data, Open API
- **E-Services platform, Government Portal**



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- **Digital Payment capability**
- **Entrepreneurship & Innovation**
- Credit availability & Fraud reduction
- Digitally enable MSME

## Smart Living & city

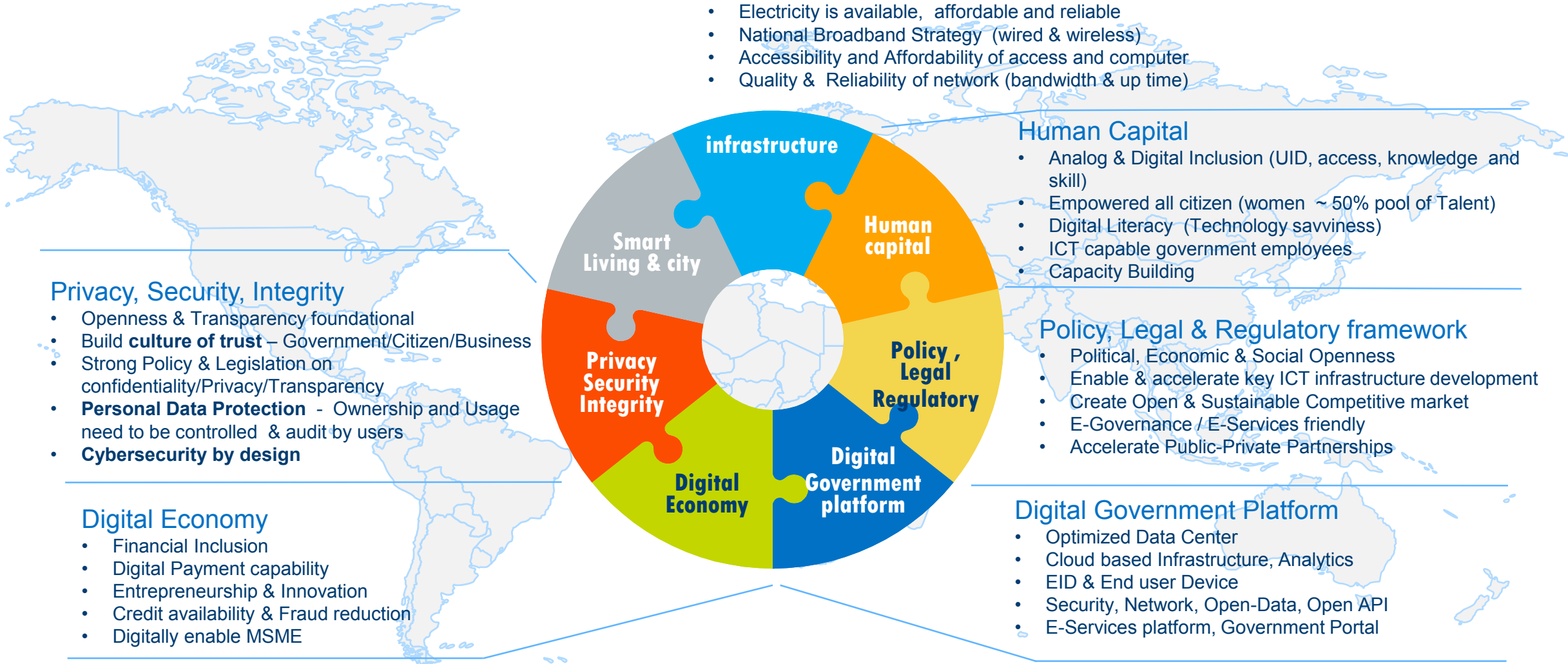
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## Privacy, Security, Integrity

- Openness & Transparency foundational
- Build **culture of trust** – Government/Citizen/Business
- Strong Policy & Legislation on confidentiality/Privacy/Transparency
- **Personal Data Protection** - Ownership and Usage need to be controlled & audit by users
- **Cybersecurity by design**

## Smart Living & city

Smart Living & city

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# Key Building Blocks to Digital transformation

## Smart Living & City

- Create a place where people want to live
- Attract and nurture **human capital**
- Great city will attract talent
- Talent will attract & create great business
- **Smart City** - water, flood, transport, air, energy, emergency, security

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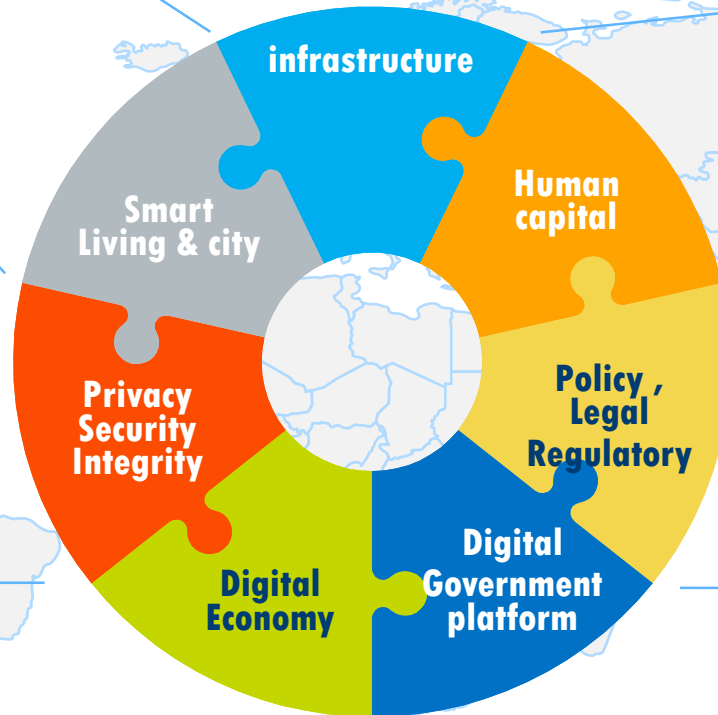
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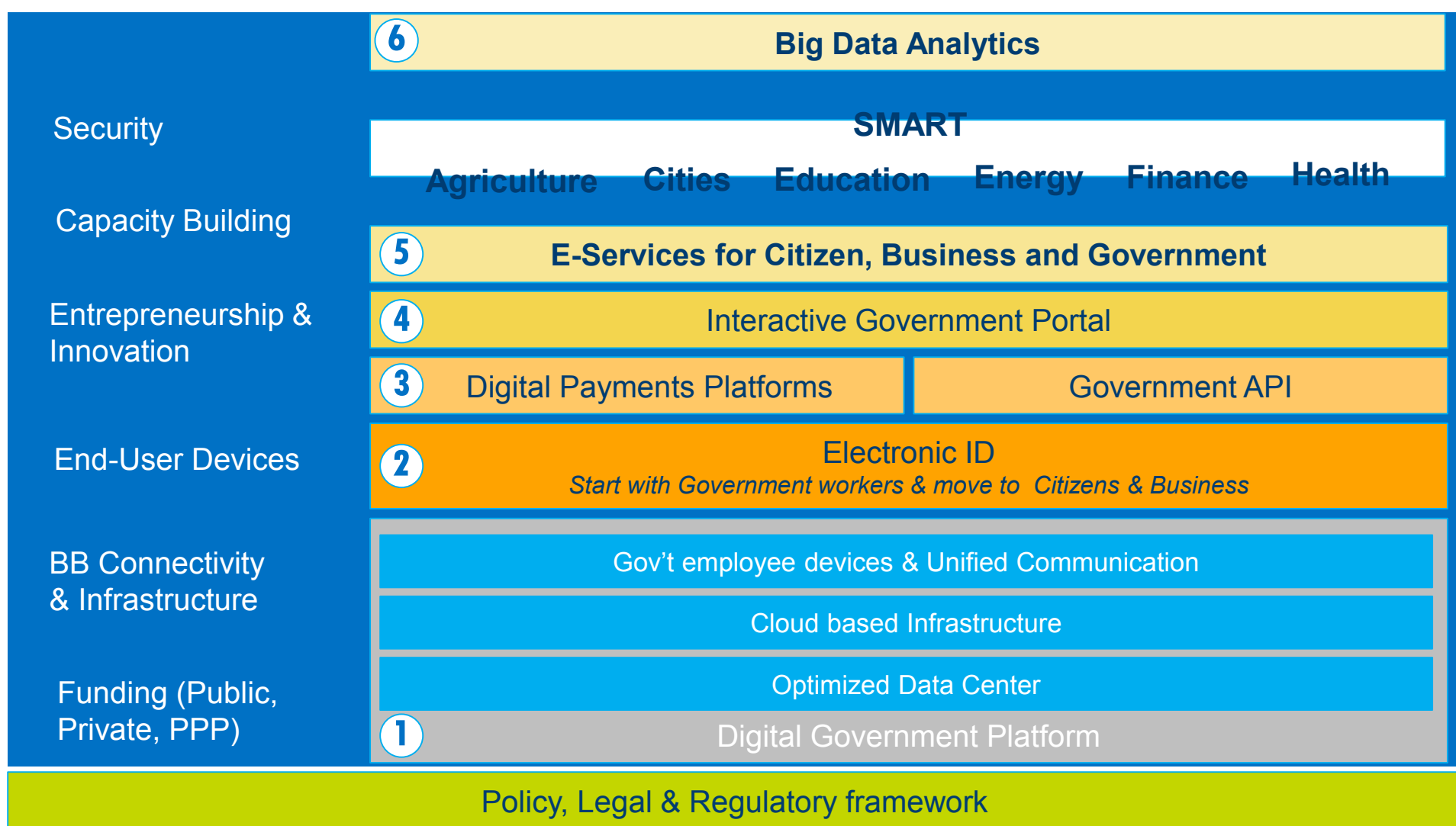
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# Digital Government Framework

## Foundation



## outcomes

- Job Creation & Economic Growth
- Sustainable Development
- Cashless Economy
- Citizen Participation
- Transparency, Trust & Accountability

# Key benefits of digital transformation



## Economic Impact

- GDP Growth, Country Competitiveness
- Job Creation
- Innovation & Capacity building



## Social Impact

- Quality of life & Citizen Happiness
- Services, Education, Healthcare, etc.
- Create Opportunities



## Governance Impact

- Increase Public participation
- Transparency, accountability
- Greater efficiency for better public services



# THE FUTURE IS WHAT YOU



