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Nations**

Department of  
Economic and  
Social Affairs

# Adopting National Data Governance Framework for Sustainable Development

Seminar on “Implementing a Multi-Pronged Strategy for Digital Transformation:  
Lessons from Asia”  
7 July 2022

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# Today's A B C D E

Artificial Intelligence | Automation | AR  
Blockchain  
Cloud | Connectivity  
Drones | Data | Digitalization  
Experience | Ethics

Report of the  
Secretary-General  
Roadmap  
for Digital  
Cooperation  
JUNE 2020

United Nations

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## E-Government Survey 2020

Digital Government in  
the Decade of Action for  
Sustainable Development  
With addendum on COVID-19 Response

**DECADE OF ACTION**

VISUALIZING  
BROADBAND SPEEDS IN  
ASIA AND THE PACIFIC  
SUMMARY

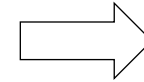
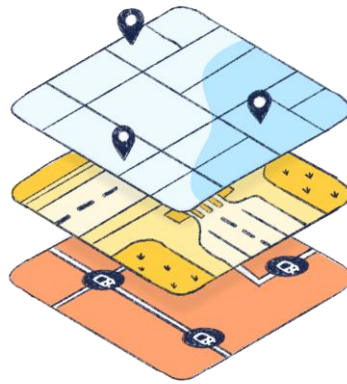
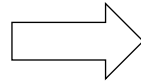
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Economic and Social Commission for Asia and the Pacific

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## Compendium of Digital Government Initiatives in response to the COVID-19 Pandemic 2020

**COVID-19  
RESPONSE**

# Why data? Why national data governance framework?



E-Gov  
Product/App

E-Gov  
Platforms

E-Gov  
Eco-system

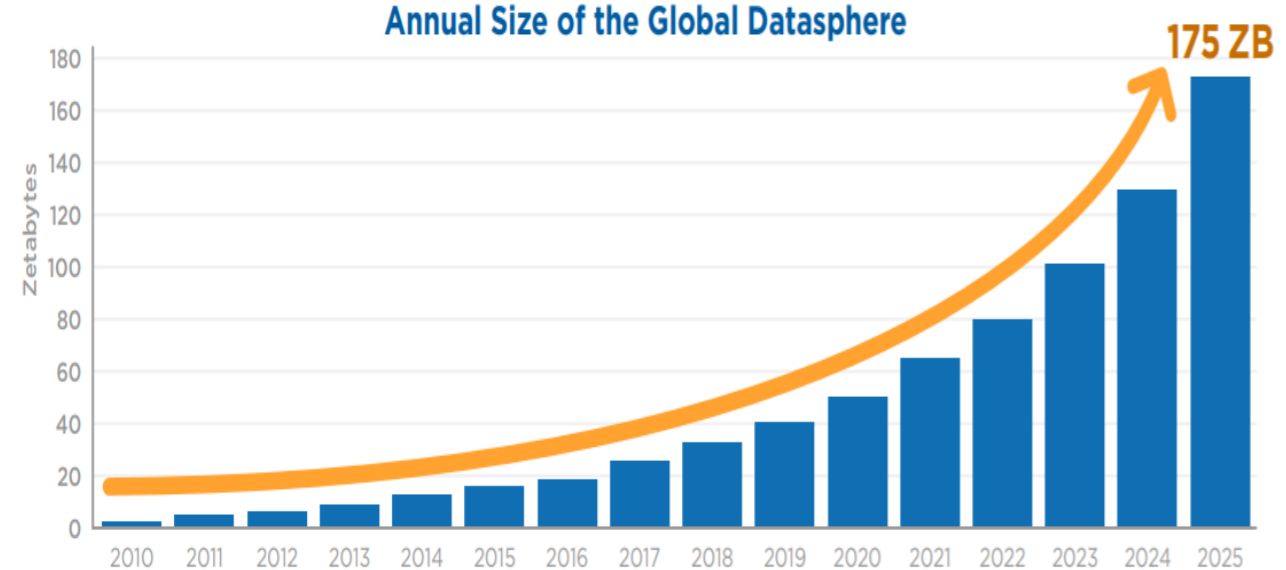
# Data Trends

Digital data is “a reinterpretable representation of information in a formalized manner, suitable for communication, interpretation or processing”, which is authored by people or generated by machines/sensors, often as a by-product (*UN DESA, 2018*)

Data grows rapidly, will increase more than fivefold from 33 zettabytes in 2018 to **175 zettabytes in 2025**

(Note: One zetta is a “1” followed by 21 zeroes)

**Close to 50 per cent will be stored in the public cloud**  
(2020 UN E-Government Survey)



# Paradoxes around government data

1. Data is not only an **input**; but also **output** of e-government
2. Data is used in **both front- and back-office** of e-government
3. **Some data are used; many are not**, including those generated through e-services
4. Data is not used **optimally**; some are **misused**
5. While there is a **lack of data**, there is also **data and information overload**
6. Government's triple role: **producer, consumer and regulator** of data

*“With their ... **volume, variety, velocity and value**, data are sometimes referred to as “oil” or “gold”, reflecting the perception that data represent the **fuel or currency** for government”  
(2020 UN E-Government Survey; chapter 6).*



# Principles of effective data governance for sustainable development

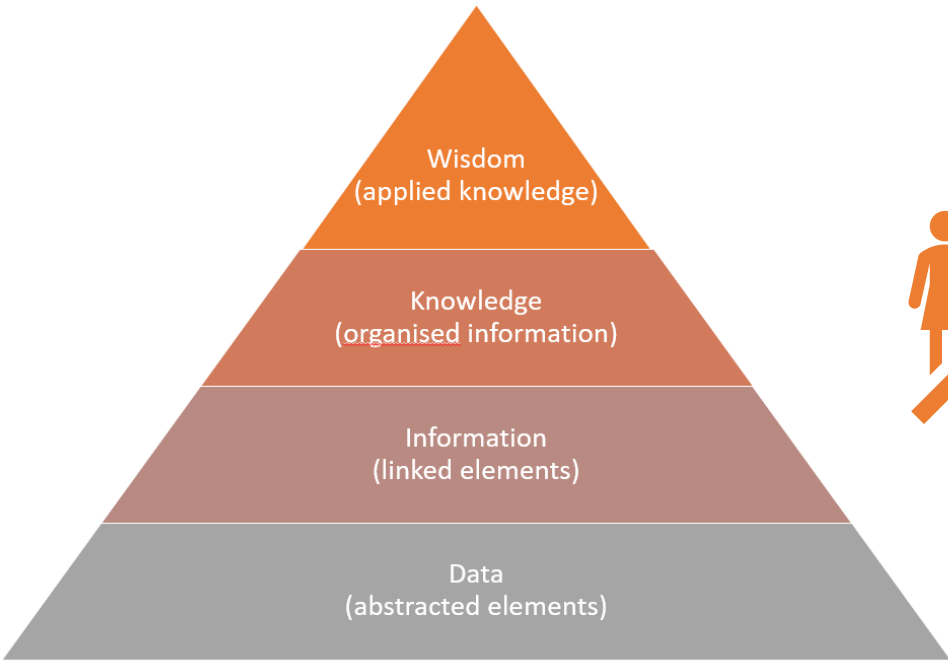
## Effectiveness

## Accountability

## Inclusiveness

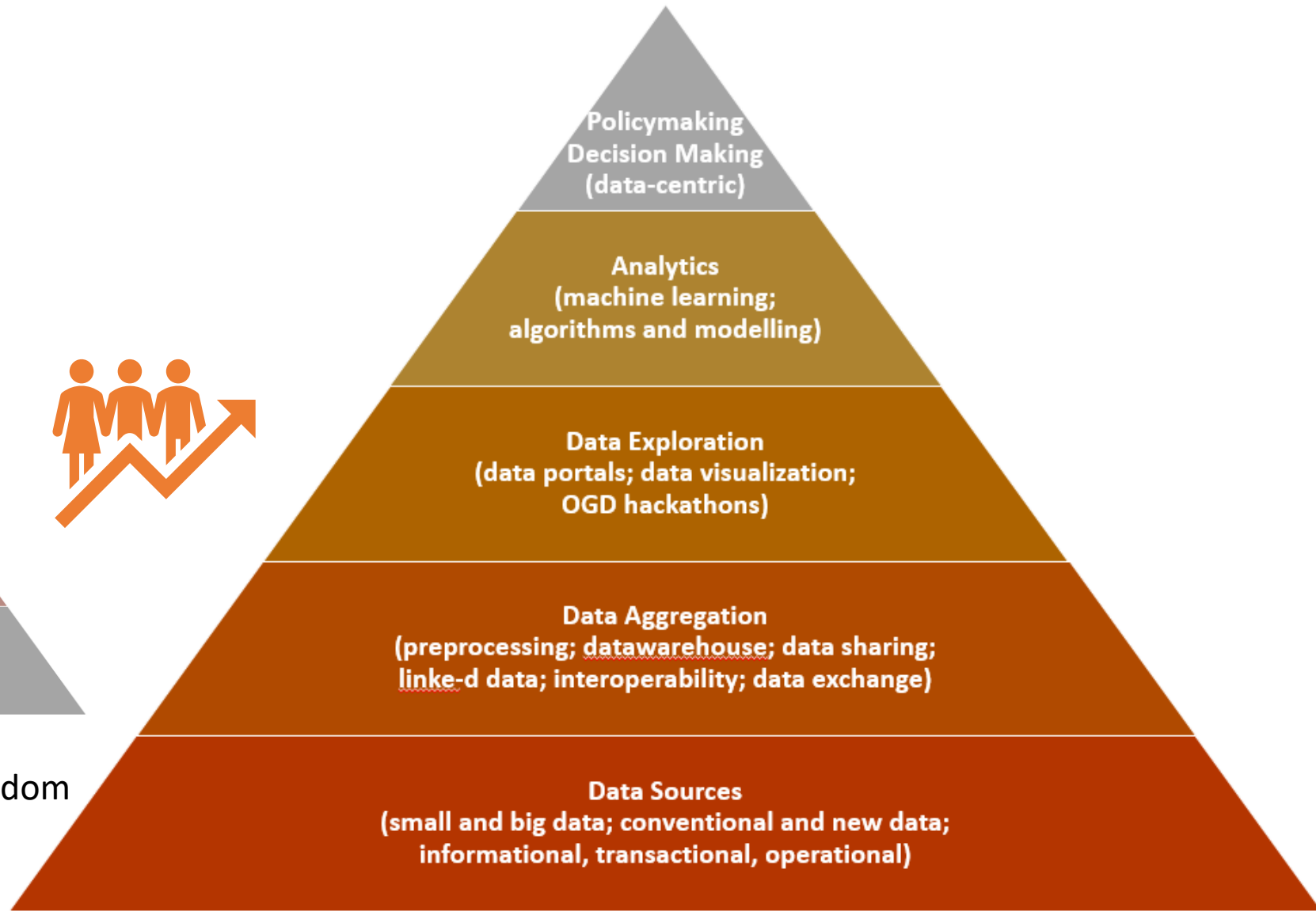
	Commonly used strategies to operationalize the principles	
Essential elements and related principles	Direct relation to data governance, strategies or policies	Indirect relation to data governance, strategies or policies
<b>Effectiveness:</b> competence, sound policymaking, collaboration	<ul style="list-style-type: none"> <li>• Data sharing</li> <li>• Investment in e-government</li> <li>• Strengthening national statistical systems</li> <li>• Monitoring and evaluation systems</li> </ul>	<ul style="list-style-type: none"> <li>• Strategic planning and foresight</li> <li>• Results-based management</li> <li>• Performance management</li> <li>• Financial management and control</li> <li>• Risk management frameworks</li> <li>• Science-policy interface</li> <li>• Network-based governance</li> </ul>
<b>Accountability:</b> integrity, transparency, independent oversight	<ul style="list-style-type: none"> <li>• Proactive disclosure of information</li> <li>• Open government data</li> <li>• Registries of beneficial ownership</li> <li>• Lobby registries</li> </ul>	<ul style="list-style-type: none"> <li>• Budget transparency</li> <li>• Independent audit</li> </ul>
<b>Inclusiveness:</b> leaving no one behind, non-discrimination, participation, subsidiarity, intergenerational equity	<ul style="list-style-type: none"> <li>• Data disaggregation</li> <li>• Universal birth registration</li> </ul>	<ul style="list-style-type: none"> <li>• Accessibility standards</li> <li>• Participatory budgeting</li> <li>• Multilevel governance</li> <li>• Strengthening urban governance</li> <li>• Long-term territorial planning and spatial development</li> </ul>

Source: United Nations, Economic and Social Council, "Relating the principles of effective governance for sustainable development to practices and results: note by the Secretariat", E/C.16/2019/4 (23 January 2019), annex, available at <https://undocs.org/en/E.C.16/2019/4>.



DIKW Pyramid

Data → Information → Knowledge → Wisdom



Data (in Digital Government)

Sources → Aggregation → Exploration → Analytics → Policymaking

# Global Data Governance Trends

- Optimizing the use of data will **increase the productivity, accountability and inclusivity of public institutions**, in line with the principles embodied in Goal 16 of the 2030 Agenda.
- A data-centric government will also help **build trustworthiness and public trust**.
- **Many benefits around government data have yet to be realized**, especially in countries in special situations. The greatest obstacles to progress include a general lack of understanding of data and data science, low political priority and the absence of data leadership, resource constraints, and concerns about data quality, security and privacy.
- **Harvesting public value from data requires a long-term vision and approach** that involves mastering the economics and politics of data governance and management and effectively navigating the evolving data security and privacy landscape. As data governance encompasses much more than technical functions, Governments must employ **a holistic, whole-of-government approach in developing an overarching data governance framework supported by a national data strategy, strong data leadership and a data ecosystem**.

CHAPTER 6 • TOWARDS DATA-CENTRIC E-GOVERNMENT

## 6. Towards Data-Centric E-Government



Photo credit: [pauloz.com](#)

### 6.1 Introduction

The need for government data is nothing new. For decades, the ways in which government data are gathered, secured, used and shared have been of great interest to Governments and to academics in the fields of development and public administration.<sup>1</sup> Government data have always been critically important, but the ways in which data are created and used have changed dramatically, bolstered by the revolution in data technologies and the proliferation of applications of different types and forms of data, including small and big data, real-time data, and geospatial data.

The 2030 Agenda for Sustainable Development has made data a focal point, acknowledging that data are key to effective decision-making and that timely, reliable, quality and disaggregated data are needed to facilitate the measurement of progress towards sustainable development and to ensure that no one is left behind.<sup>2</sup> The latter imperative is reflected in multiple global indicators and entails not only reaching the poorest and most vulnerable groups but also combating rising inequalities within and among countries.<sup>3</sup> Data and related issues and developments in the public sector have become increasingly important in terms of government analysis and operations, academic research, and real-world applicability and acceptance. Data are now integral to every sector and function of government—as essential as physical assets and human resources. Much of the operational activity in government is now data-driven, and many Governments would find it difficult, if not impossible, to function effectively without data.

At the global level, the quantity of data is expected to increase more than fivefold from 33 zettabytes<sup>4</sup> in 2018 to 175 zettabytes in 2025, with 49 per cent stored in the public cloud.<sup>5</sup> Researchers have estimated that the number of devices driven by the Internet of Things (IoT) will reach 10 times the world population (about 75 billion) in 2025.<sup>6</sup> These trends, coupled with the propagation of 5G networks and other next-generation devices, will also equip society with data-centric applications in areas such as artificial intelligence (AI), blockchain, and augmented and virtual reality (AR and VR) and will further boost data supply and demand, moving the world closer to becoming a truly digital society.

The exponential growth and rapid evolution of new digital and data technologies and related applications will unquestionably affect the public sector. Conventional government data sources include censuses, surveys and administrative data, and while those have served administrators well, the future of data holds virtually unlimited promise. Big data, social media, analytics and a wide range of digital technologies can be leveraged to develop cost-effective, time-saving policy solutions

In this chapter:

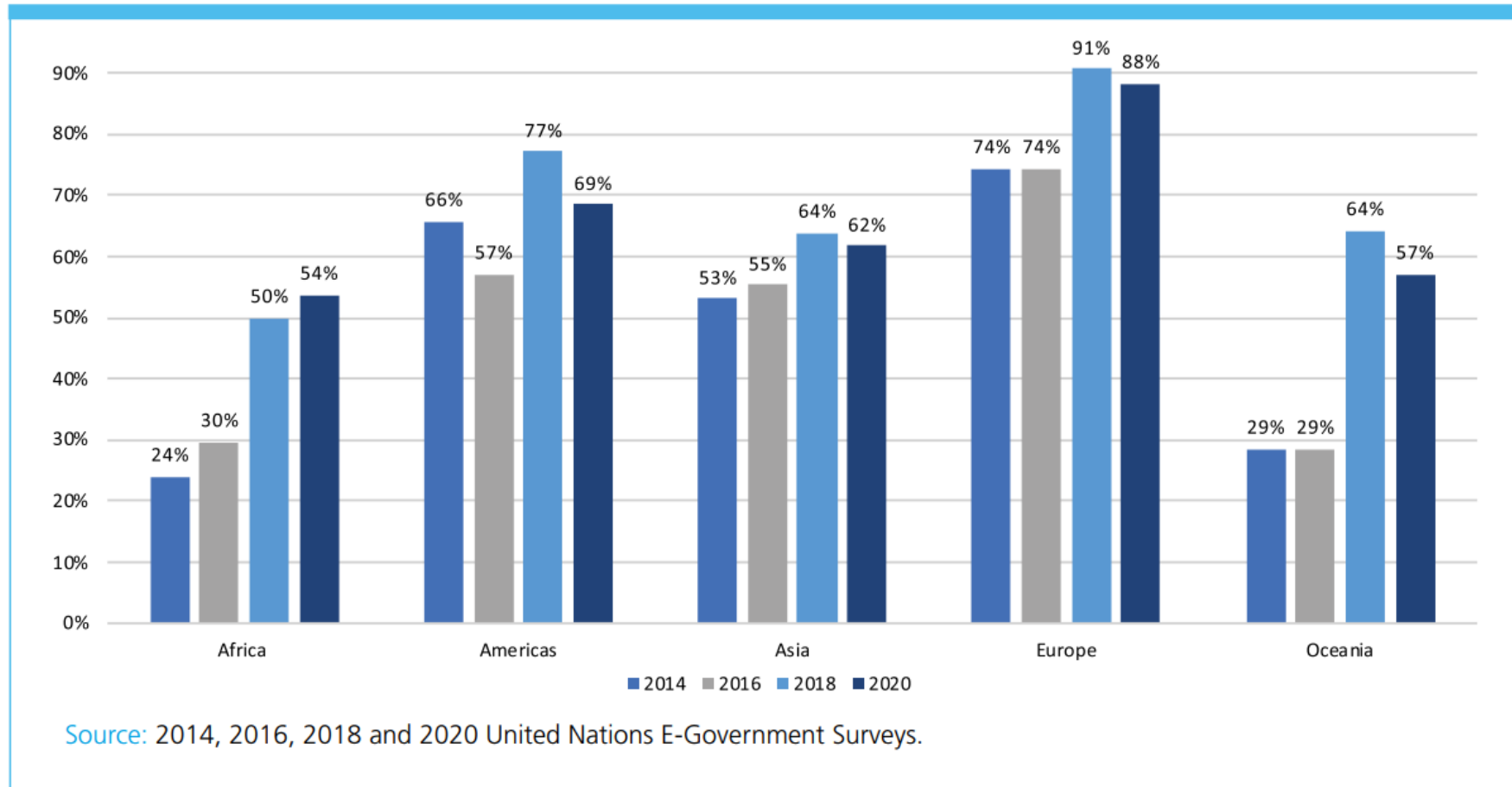
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Chapter 6

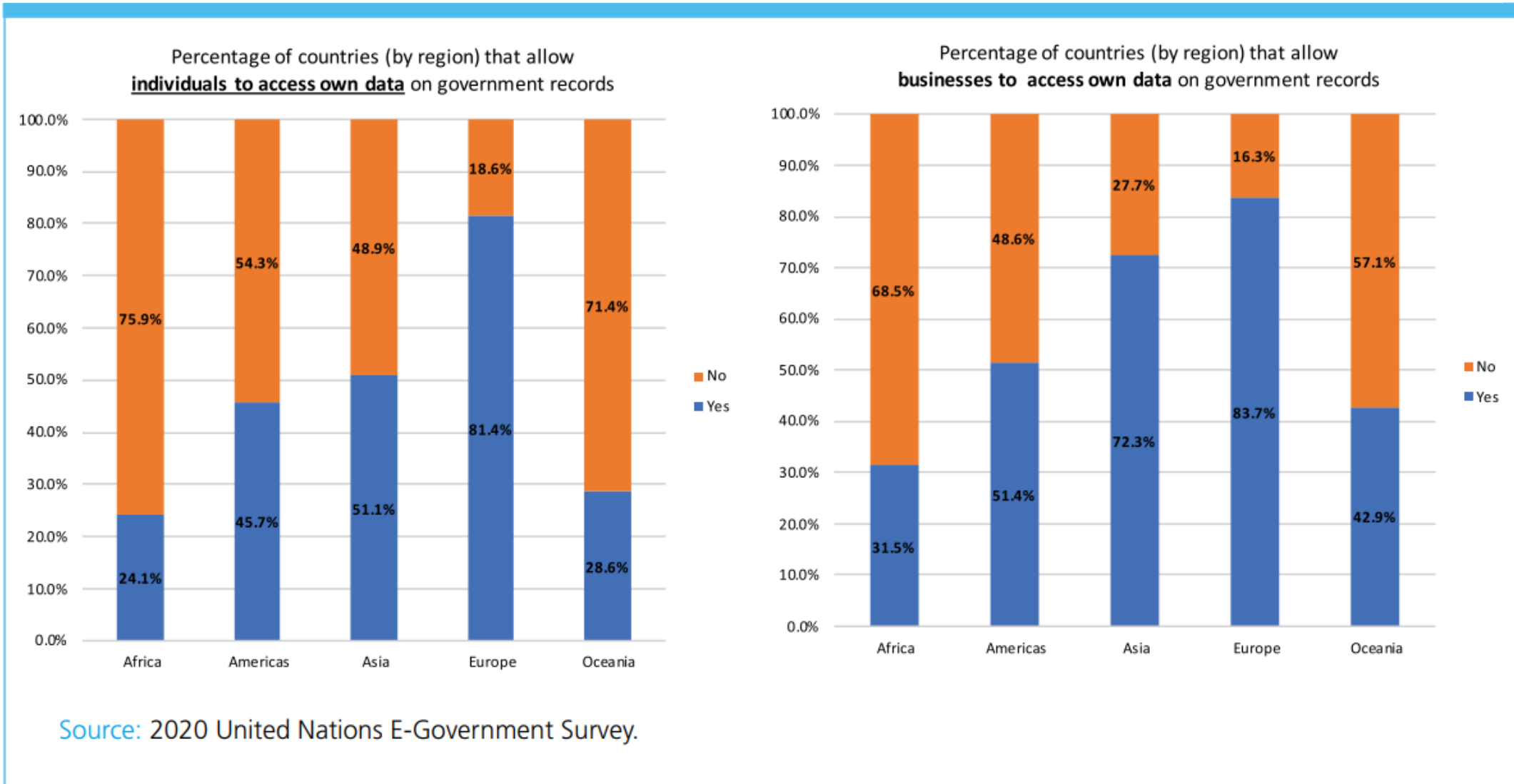


# Data privacy and ethics

## Countries with privacy statements available online



# Countries that allow individuals and businesses to access own data



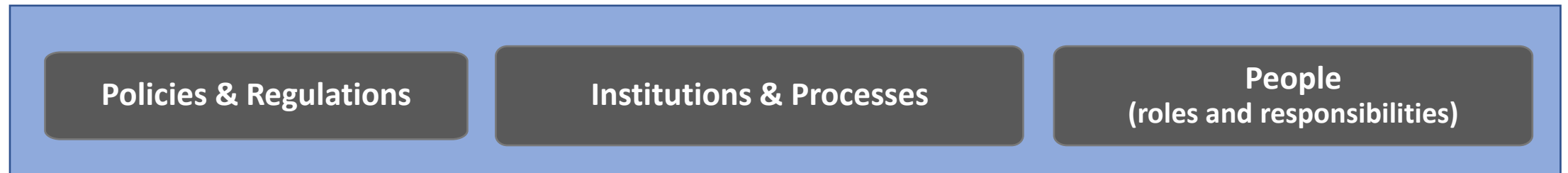
# Adopting National Data Governance Framework

National data governance framework is the organization and implementation of **policies & regulations, institutions and processes, and people (roles and responsibilities)** which outline and enforce rules of engagement, decision rights, and accountabilities for the effective management and governance of data assets.

## ELEMENTS



## PILLARS



## PRINCIPLES



# Building data literacy

<i>Roles (non-exclusive)</i>	<i>Description</i>	<i>Required skillsets</i>
<b>Policymakers and decision-makers</b>	Ministers, Secretaries, Directory General, or any other senior officials with decision-making roles.	Understand and interpret data for insights and decision-making
<b>Data Stewards</b>	Data leadership functions that include: <ol style="list-style-type: none"> <li>1. Chief Data Stewards / Officers (national and/or-subnational)</li> <li>2. Chief Digital Strategy Officer</li> <li>3. Chief Information Officer</li> <li>4. Chief Government Technology Officer</li> <li>5. Chief Evaluation Officer</li> <li>6. Chief Innovation Officer</li> </ol>	Leadership skills (both technical and policy) to provide data oversights, policy and technical frameworks for data governance and the data ecosystem
<b>Policy analysts</b>	Those with analytical skills, especially with domain expertise of specific sectors (e.g. health, education); assist in policy analysis in supporting public policymaking	Sectoral domain knowledge; data analytical skills; using use BI (business intelligence) and self-service analytics tools
<b>Public Officers (administrators)</b>	Majority of public sector employees	Use of data for daily operations or reporting; to be able to benefit from data visualisations, charts, etc.
<b>Data scientists</b>	Technically trained specialists in data analytics and data science; "power users"	Specific skills in Python and other data tools, data services and infrastructure; includes AI, blockchains, big data specialists, etc.

# Data Strategy of the Secretary-General for Action by Everyone, Everywhere

with Insight, Impact and Integrity

2020-22

**Summary: A strategy for data action by everyone, everywhere in the UN family – for insight, impact and integrity.**

## Set strategic foundations

Recognizing that better data use is integral to our future, our **journey** begins with a **vision** of the **data-driven organization**: In building a whole-of-UN data ecosystem that maximizes the value of our data, we will **unlock our full potential**. We make **better decisions** and **deliver stronger support to people and planet** – in the moments that matter most.

In pursuit of our vision, we will focus on **7 outcomes**: The meaningful **long-term changes** we seek for the organization and the people we serve:

- **Stronger** cross-pillar decision-making and thought-leadership
- **Greater** data accessibility and sharing internally and externally
- **Improved** governance and collaboration for impact & integrity
- **Robust** data protection & privacy, and respect for human rights
- **Greater** efficiency in programmes, operations & management
- **Improved** transparency within and across the UN Family
- **Enhanced** data-driven services for clients and stakeholders

All our data action and initiatives will be grounded in **12 core principles** on how to leverage data **collaboratively, responsibly**, with **transparency, stewardship** and **excellence**.

Our principles will form the **foundation of data governance**, so that data is recognized and managed as a **shared strategic asset**.

## Create value with data and focus on priorities

Our strategy pursues a **simple idea**: We **focus not on process, but on learning, iteratively, to deliver data use cases that add value for stakeholders, based on our vision, outcomes and principles**.

**Use cases – purposes** for which data is used – already **permeate our organization**. We will systematically identify and deliver them through dedicated **data action portfolios**, that not only help us add more **value**, but also develop new **capabilities** in the process.

Our strategy provides a **simple framework** for assembling data action portfolios: individual and collective, local and global across the UN family.

At its highest level, our use cases and portfolios will be guided by the **Secretary-General's priorities for 2020/21**:

- **Decade of Action** to deliver the SDGs by 2030
- **Climate action**
- **Gender equality**
- **Human rights and the rule of law**
- **Peace and security**
- **Governance and ethics for the future**
- **Data protection and privacy**
- **UN reform**

## Foster enablers, nurture capabilities, and iterate

As we strive to generate more value from data, we will need to build **new capabilities**, in an iterative and agile fashion:

- **Analytics**: Using data to **better understand** "what happened", "why it happened", "what may happen next" and "how to respond".
- **Data management**: Ensuring everyone can **discover, access, integrate** and **share** the data they need to fulfill our responsibilities to the organization, people and planet.

While better abilities will in part emerge through "**learning by doing**", we also need to foster **stronger enablers**:

- **People and culture**, so we can nurture the skills and talents we need, and spread a culture of collaboration, excellence, openness and sharing by default.
- **Data governance** and **strategy oversight** at the right levels and with the right approaches to ensure data is managed as a **shared strategic asset**.
- **Partnerships** to connect to ecosystems outside the UN family, so we can deliver more value at **scale**.
- **Technology environments** that empower all users in optimal ways, so that data can turn into insight & action.

Getting to a stage where our capabilities are truly **transformative** will not happen overnight. Our **roadmap** is long-term and will engage **everyone, everywhere**.





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谢谢

Thank You

Merci

Спасибо

Gracias

