DiGIT
4 Sustainable Development

4. Implementation

Module 4 – Implementation
Submodule 4.2
Integration and Interoperability
[beta version]

Thus far, you have learned about...

- Concept of Implementation Canvas

- Building blocks of Implementation Canvas

- Theory of Change

- Results Framework

- Steps of developing a Results Framework

In this section, you will learn...

About the Integration in Digital Government

- Concept
- Integration in digital government
- Policy integration
- Vertical integration

About the Interoperability

- What happens without Interoperability
- Open Standards/ TCI/IP as an Open Standard
- Lack of Open Standards can result in
- Interoperability Practitioner's Guide

Objectives

By the end of this submodule, you will be able to understand

- ✓ Importance of Integration in Digital governments
- ✓ Different layers of e-government (vertical & horizontal) integration and best practice studies
- ✓ The evolution from Whole-of-government approach to Whole-of-society approach
- ✓ The value of e-government interoperability and the steps required to achieve effective interoperability.

Completion time

- In total there are around **32 pages** for this submodule. It will take approximately **60 minutes** for each user to complete. This approximation is an indication and can differ per user.

- However, feel free to skip some parts of this submodule if you are already familiar with these contents.

Other Information

- You can read along (PDF) as well as listen to the content (audio) while taking this course;
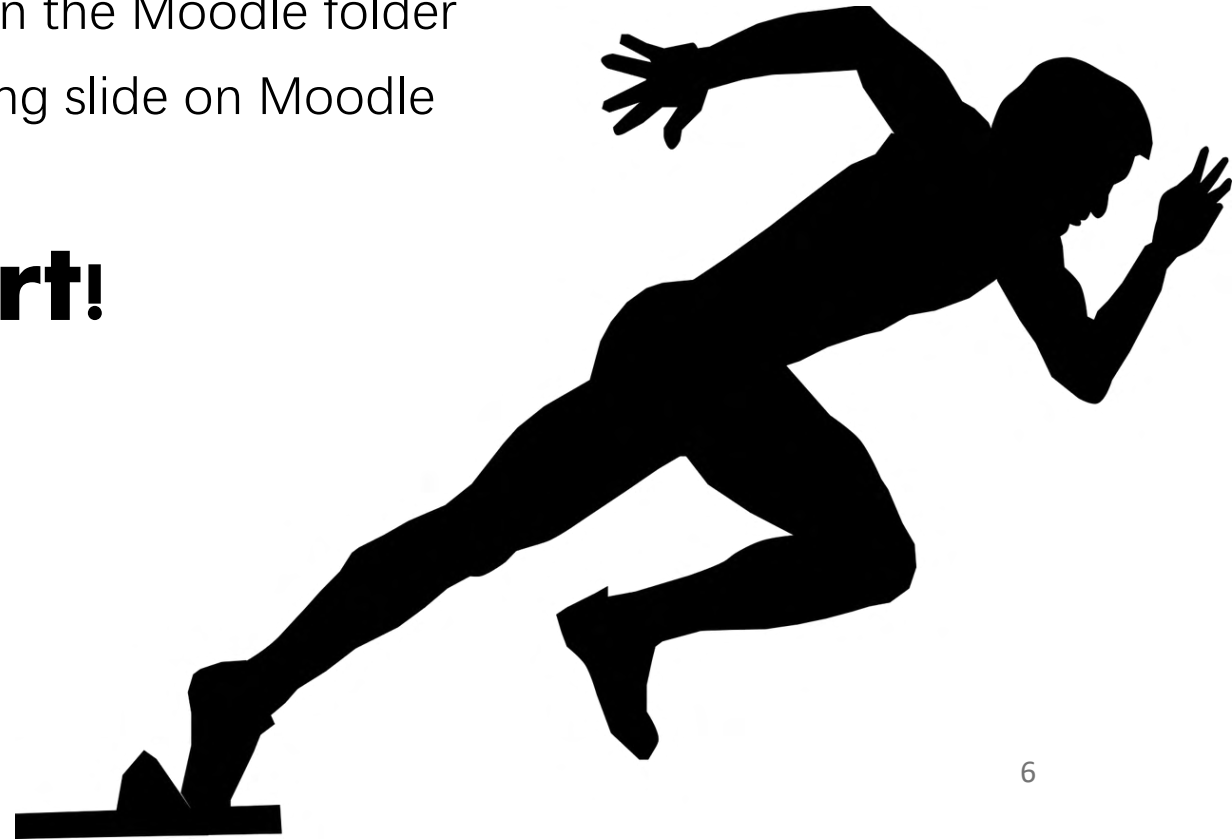
  Course material (PDF) can be downloaded in the Moodle folder

  Audio can be streamed on the corresponding slide on Moodle

Let's start!

What is Integration?

- Refers to the coordination of working arrangements where multiple departments or public sector organisations are involved in delivering a public service or programme.

Integration in Digital Government

- Policy Integration a powerful tool to advance e-government

- Enhanced integration has implications directly relevant digital government

- Case Study: Bangladesh's Integrated Health Data Portal

Policy integration and coherence in e-government approaches
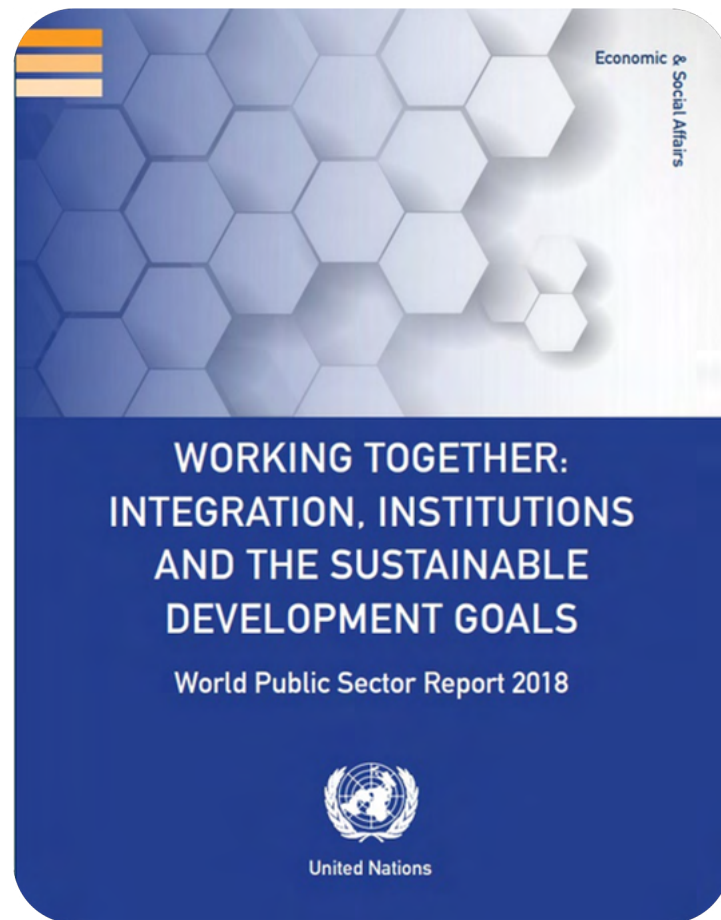
The 2018 UN DESA publication 'World Public Sector Report' analyzed integration efforts
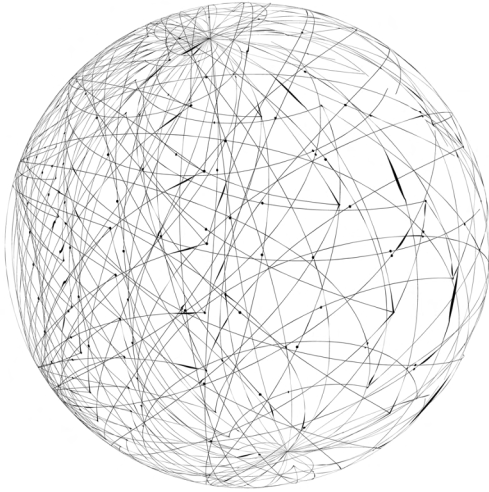
Three dimensions of integration
1. **Horizontal integration**
2. **Vertical integration**
3. **Engagement of all stakeholders**

Download the report here:
https://publicadministration.un.org/publications/content/featured_titles/world_public_sector_rep_2018.html
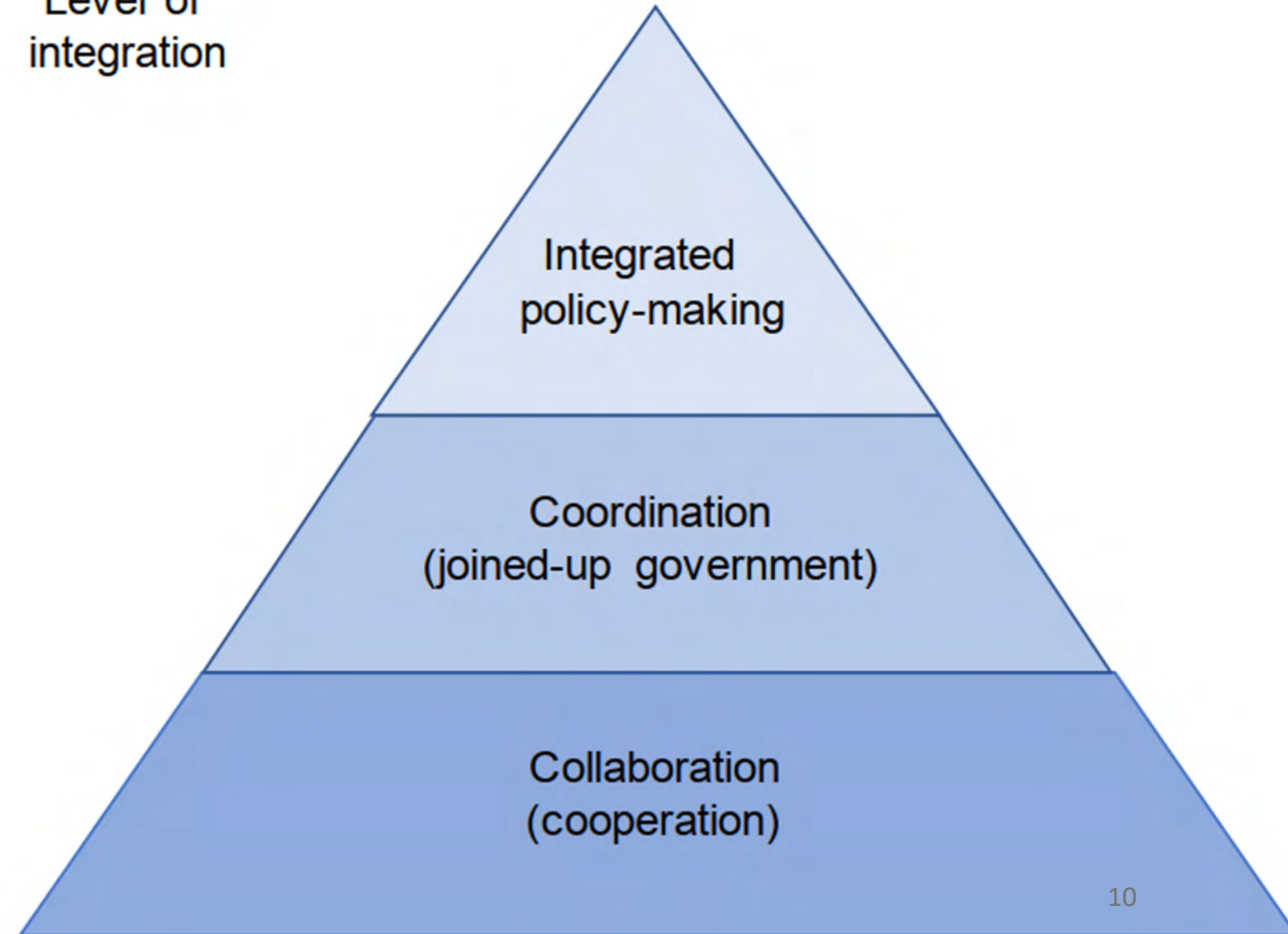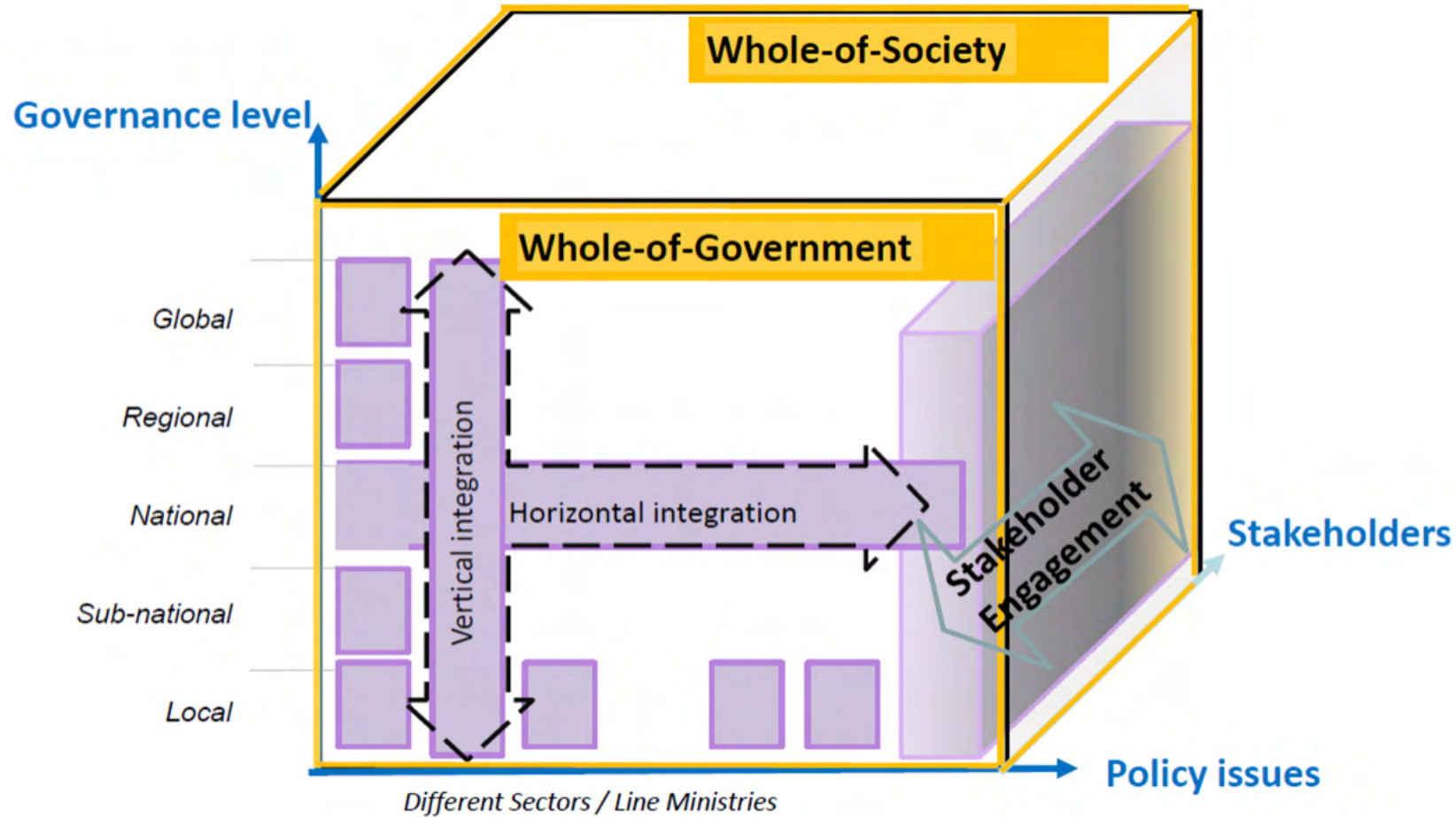
Degrees in Policy Integration

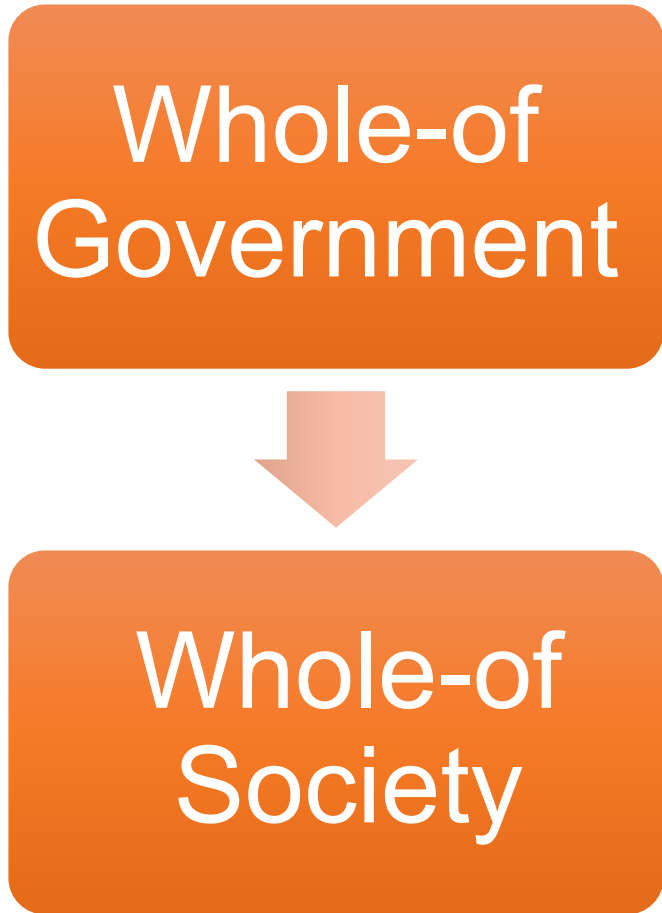**Policy integration:**
- Management of cross-cutting issues in policy-making
- Transcends the boundaries of established policy fields
- Do not correspond to the institutional responsibilities of individual departments.

Source: Stead and Meijers (2009)

Level of integration

Integrated policy-making

Coordination (joined-up government)

Collaboration (cooperation)

10

Policy integration for SDGs

Source: World Public Sector Report, 2018: Working Together: Integration, Institutions and the SDGs

Examples of cross-sector integration

Source: European Strategy for the Baltic Sea Region (EUSBSR)
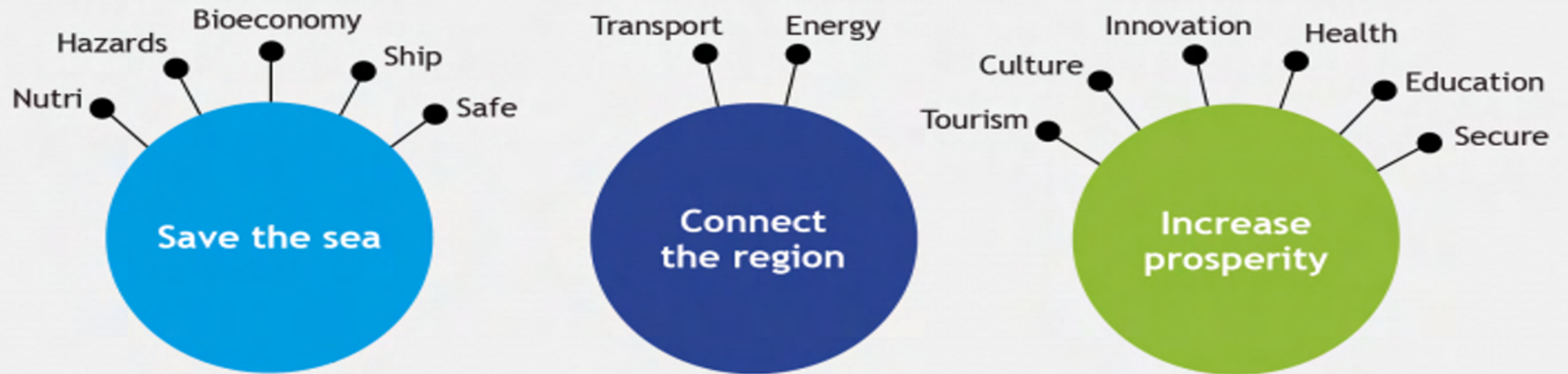
Vertical integration:

linkages between national and sub-national levels

National level

National plans and policies with implications for local governements

National SDG mechanisms that integrate local governments

coordination

Coordinated SDG plans and policies

Local SDG plans and policies with potential for integration into national frameworks

Sub-national level

13

Source: World Public Sector Report 2018
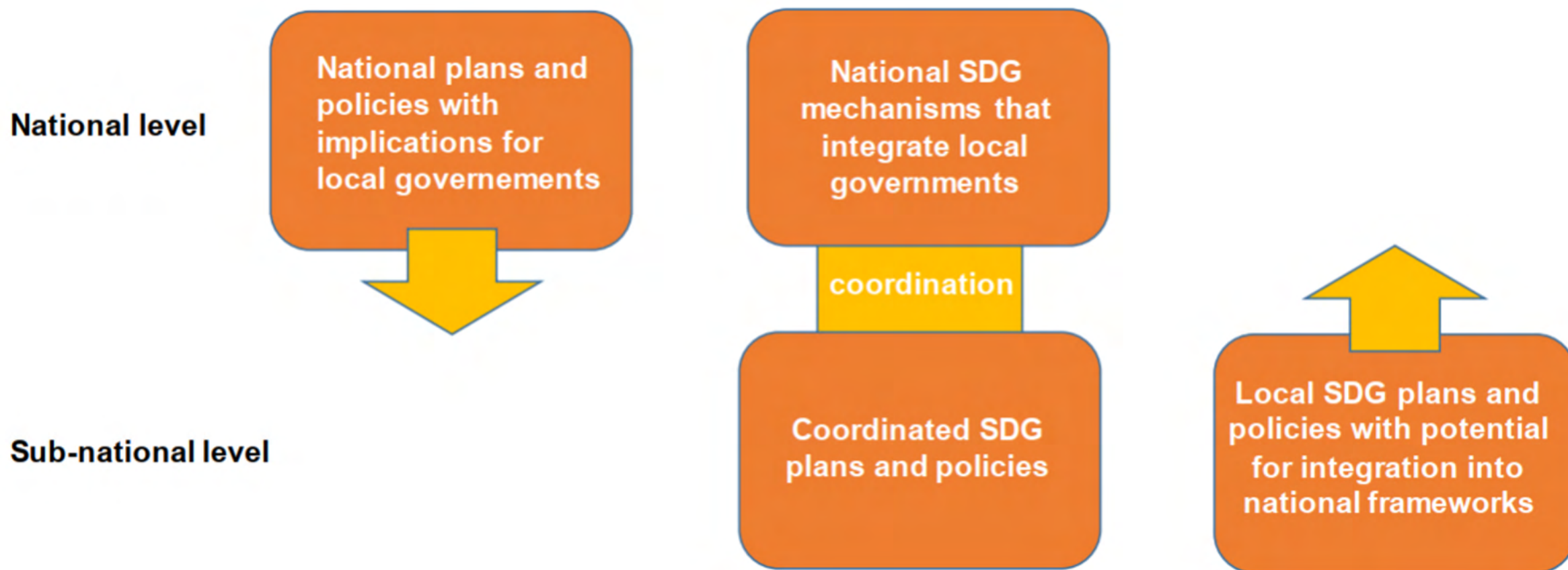
Case Study - India and Austria

Box 1.2.   India: ICT-based land registry and management system

India initiated the Bhoomi ICT-based land registry and management system, implemented by the Government of Karnataka, which has led to land administration reform. The most significant achievement of Bhoomi has come from the electronic integration of the registration department with land-acquiring bodies, banks and other financial institutions. This electronic integration has resulted in streamlined land record administration activities and simplified transactions.

Source: Government of Karnataka, India, 2014

Box 1.3.   Austria: Electronic Data Management (EDM) for integrated environmental services

Electronic Data Management (EDM) is the Austrian Federal Government's integrated e-government system for the entire environmental field. It has a single sign-on for all users and all applications, integrating the entire business process. The development of the system has led to an increase in the exchange of knowledge among the federal government, the provinces, district administrations and other stakeholders, all of whom can communicate via this central e-government platform. According to the Austrian Government, EDM is one of the most modern and effective e-government tools in the whole of Europe. Efforts are contemplated to build cross-sectoral understanding among government institutions.

Source: Mochty, 2009
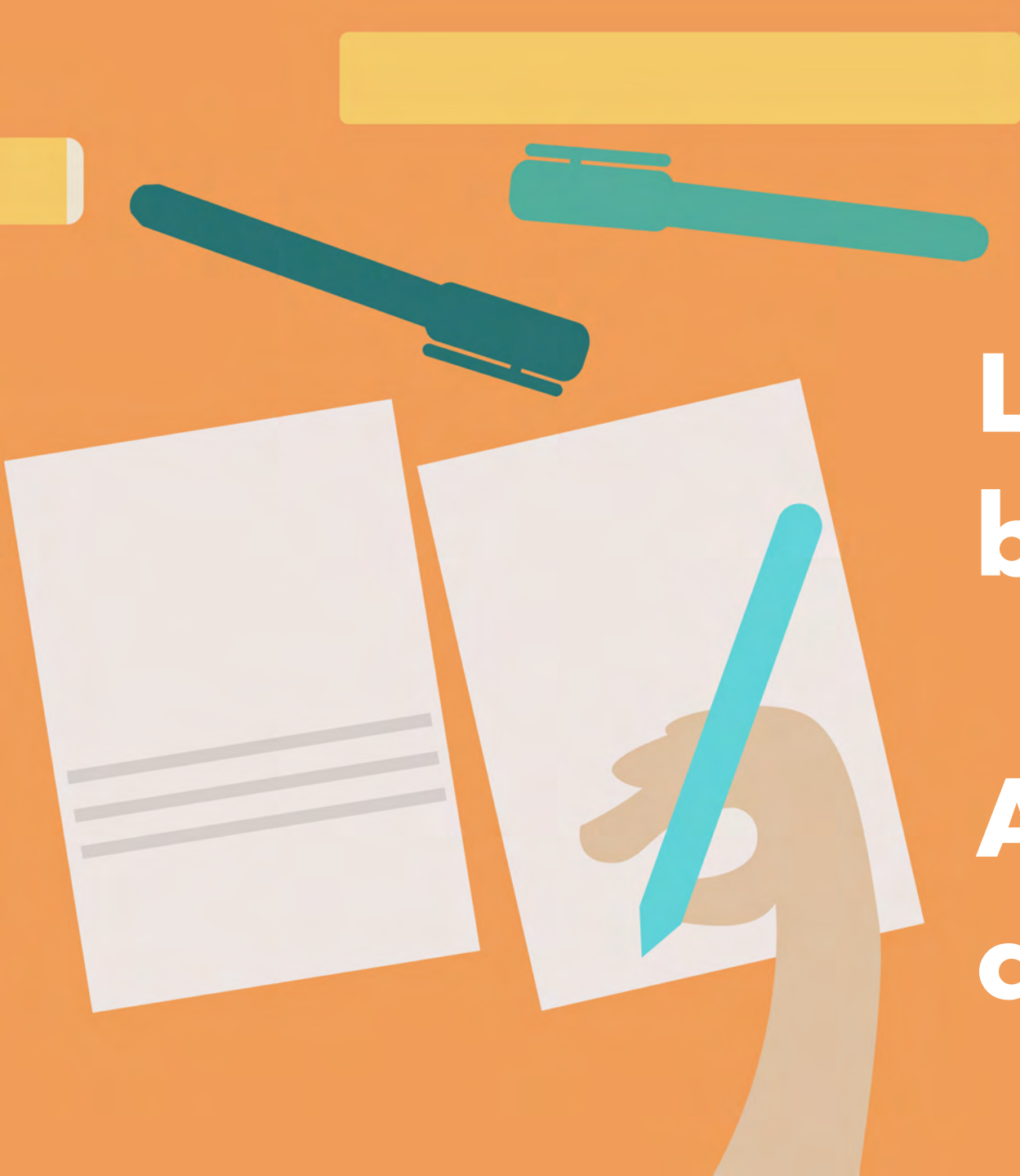
Let's take a break!

Are you up for a challenge?

Question - Arrange the right order

Please arrange the right order of level of integration.

(i) integrated policy-making (or policy integration)

(ii) coordination (or joined-up government)

(iii) collaboration (or cooperation)

What is Interoperability and why it matters?

- Ability to join-up and merge data without losing meaning

- Ability of different information systems, devices or applications to connect, in a coordinated manner, within and across organizational boundaries to access, exchange and cooperatively use data amongst stakeholders

- Refers to a property of diverse systems and organizations enabling them to work together. (Gottschalk 2008)

- Data is interoperable when it can be **easily re-used and processed in different applications**
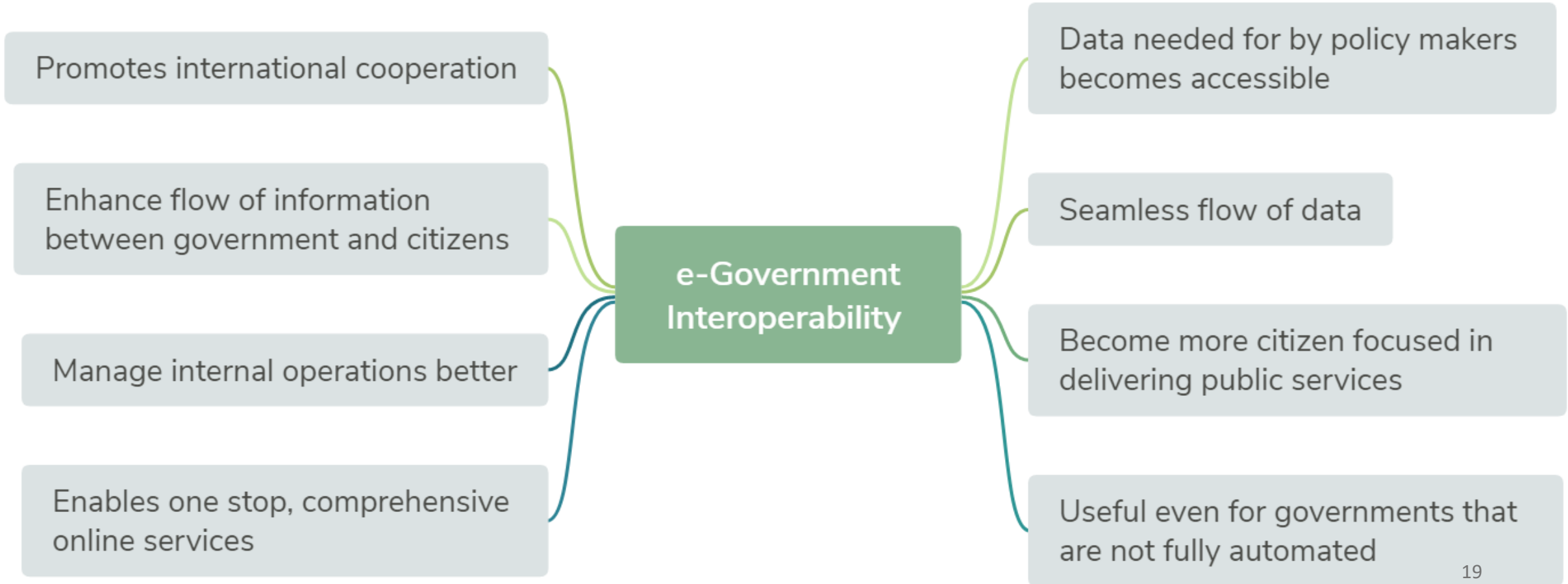
17
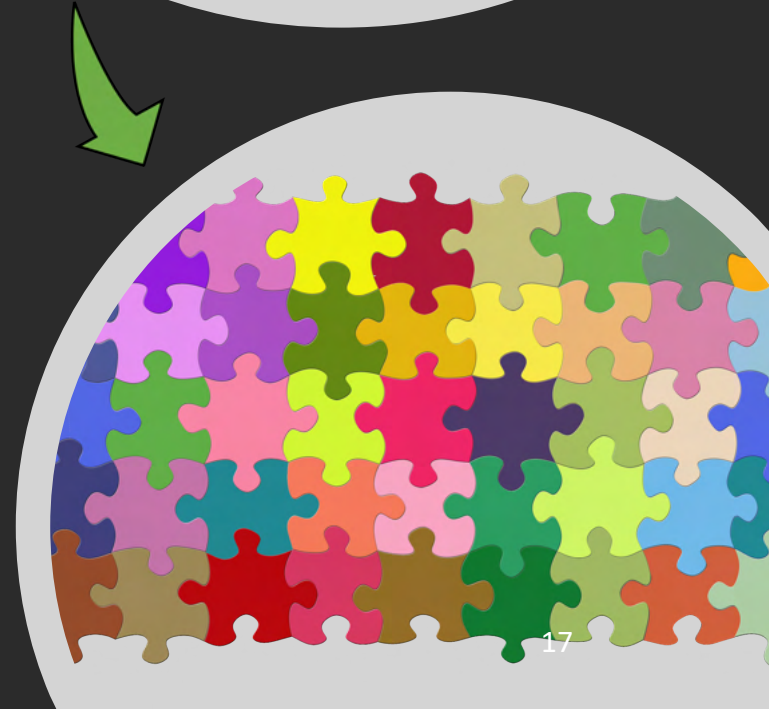
What happens without Interoperability

- Patchwork of incompatible information and communications technology solutions
- Countless systems that do not talk to one another
- Duplication of efforts and waste of resources
- Bad and broken experience for citizens accessing government online services
- Fragmented and insufficient data to support policy-design and decision-making using

Aims of E-Government Interoperability

Promotes international cooperation

Enhance flow of information between government and citizens

Manage internal operations better

Enables one stop, comprehensive online services

e-Government Interoperability

Data needed for by policy makers becomes accessible

Seamless flow of data

Become more citizen focused in delivering public services

Useful even for governments that are not fully automated

19

Standards and Architecture in E-government Interoperability

Adopting Open Standards to Achieve Interoperability

- Standards made available to the general public

- Developed and maintained via a collaborative and consensus driven process.

- Facilitate interoperability and data exchange among different products or services

- Intended for widespread adoption.
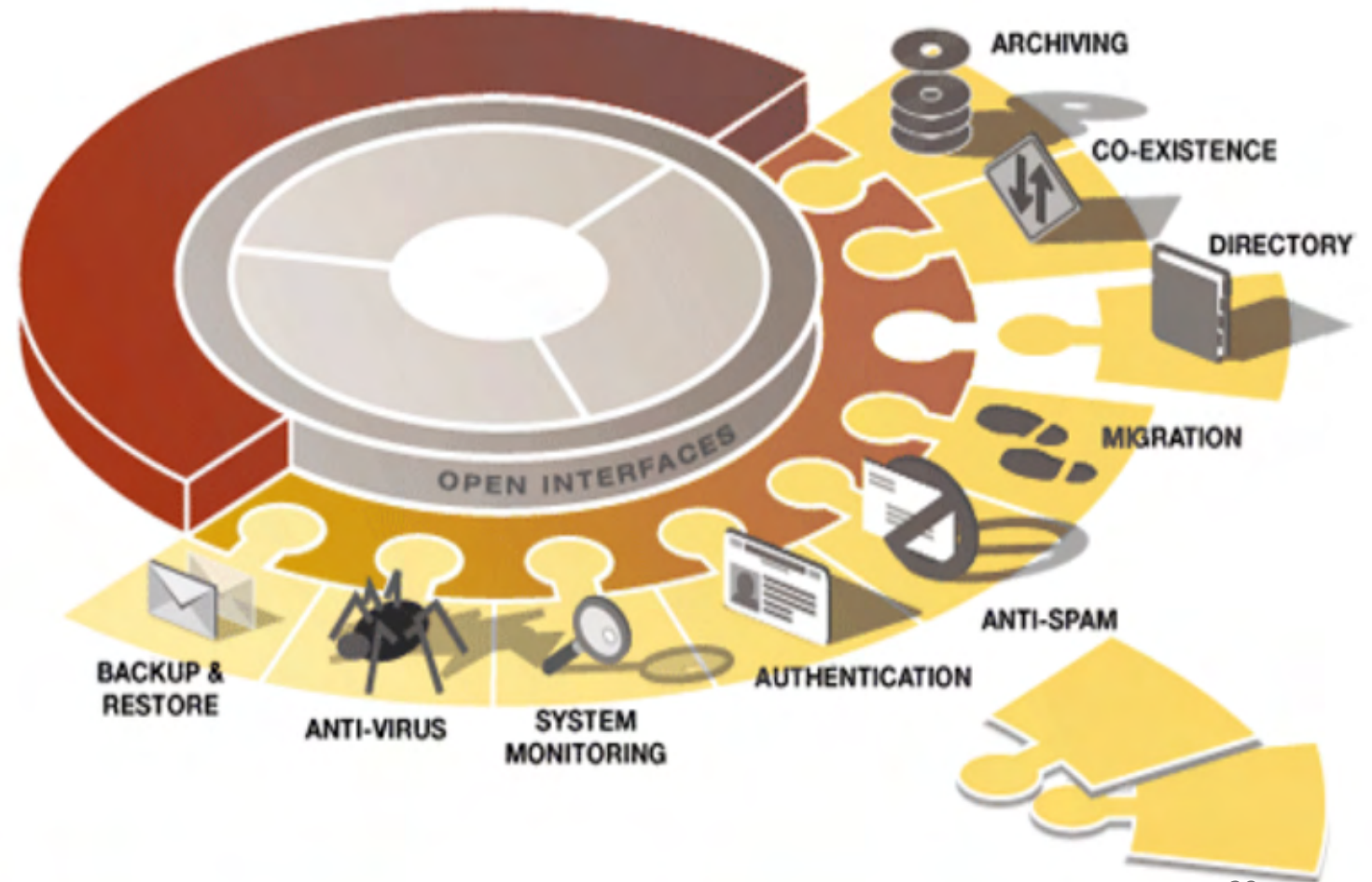
The Six main characteristics of Open Standards

Availability

Maximize end-user choice

No royalty

No discrimination

Extension or subset

Predatory practices

Lack of Open Standards can result in

1. Each institution using their own standards
2. No or poor communication between different systems
3. Confusion in the communication network.

Practitioner's Guide for Implement Data interoperability from UNSD

DATA INTEROPERABILITY: A
PRACTITIONER'S GUIDE TO
JOINING UP DATA IN THE
DEVELOPMENT SECTOR

Luis González Morales & Tom Orrell

Source: Gonzalez Morales & Orrell,

- Data interoperability for development practitioners by United Nations Statistics Division

- Provides a useful starting point for statisticians, government officials, development practitioners responsible for data management

A Roadmap to E-government Interoperability

23

Interoperability versus integration

Integration

- Refers to connecting applications so that data from one system can be accessed by the other one.

- Requires a third party or "middleware" to connect and integrate

Interoperability

- Interoperability is real-time data exchange between systems without middleware

- Have the ability to not only share information, but to interpret incoming data and present it as it was received, preserving its original context.
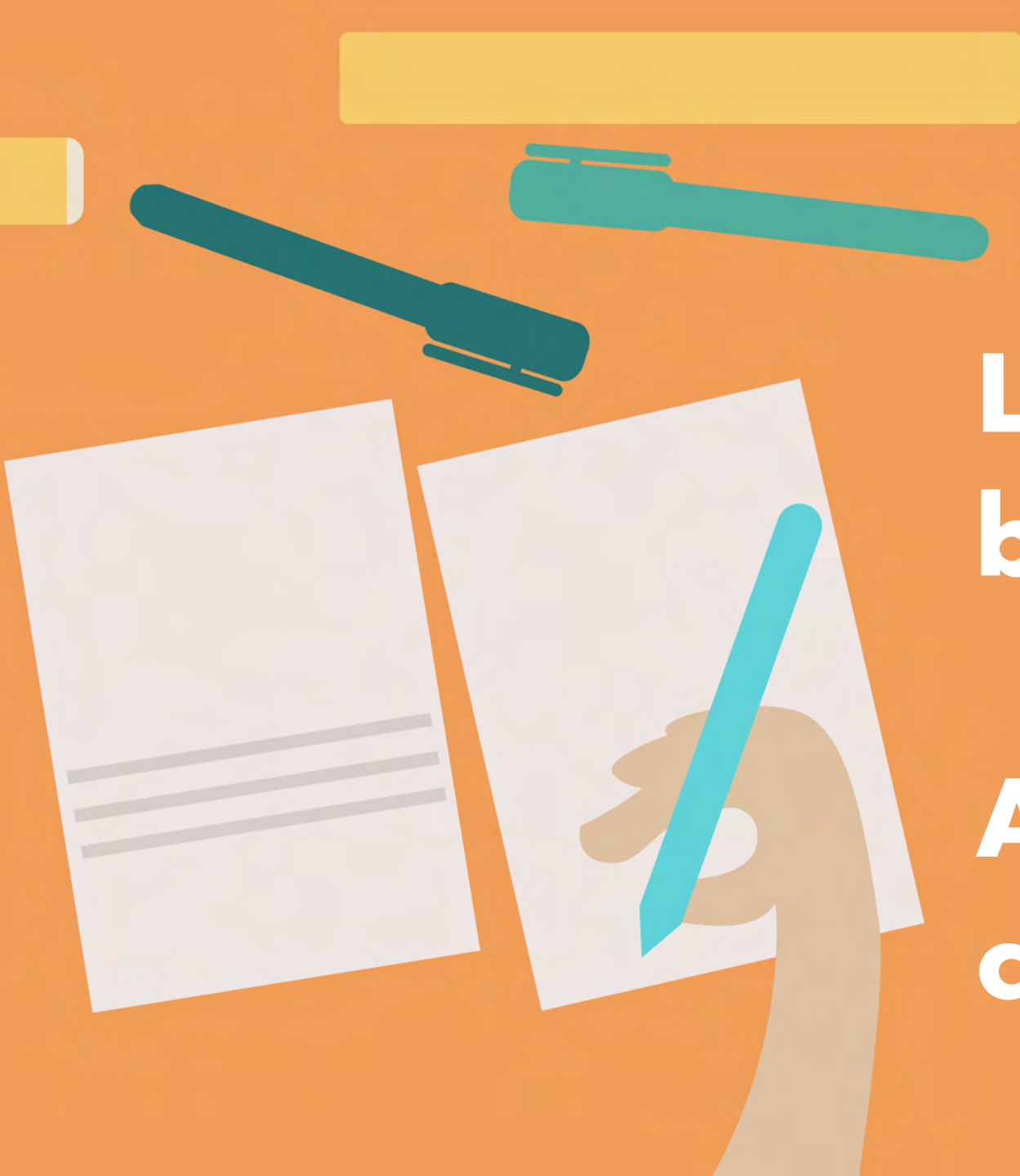
Let's take a break!

Are you up for a challenge?

Question

Problems that arise without Open Standards,

1. each institution using their own standards;
2. no or poor communication between different systems;
3. Confusion in the communication network.
4. All of the above

Discussion Question

- How do you think your country has implemented the integration process in the context of Digital Government?

- Can you think of any example of integration in digital government in your home country?

Conclusion

- Governments cannot achieve the SDGs alone. Integration across both public and private sector while building more inter-connected data/information network within government departments are of great importance in SGD implementation.

- Integration across sectors and interoperability within the institution plays crucial roles in e-government development.

Congratulations!

You have reached the end of submodule 4.2 on the Integration and Interoperability.
Thank you for joining us in this exciting journey.

_____

Under this submodule, you:

✓ learned layers of e-government (vertical, horizontal) integration and best practice studies
✓ Were introduced to the evolution from Whole-of-government approach to Whole-of-society approach
✓ Learned the value of e-government interoperability and the steps required to achieve effective interoperability.

You may proceed to the next submodule 4.3 on Implementation at local level

Sources & Recommended Reading
Please check the PDF in the folder

29

Contact us for inquiries or questions

DPIDG@un.org

Or post your questions/comments in the forum!

Please note that this is a beta version. We appreciate your feedback so we can further improve our toolkit