Accelerating Digital Transformation
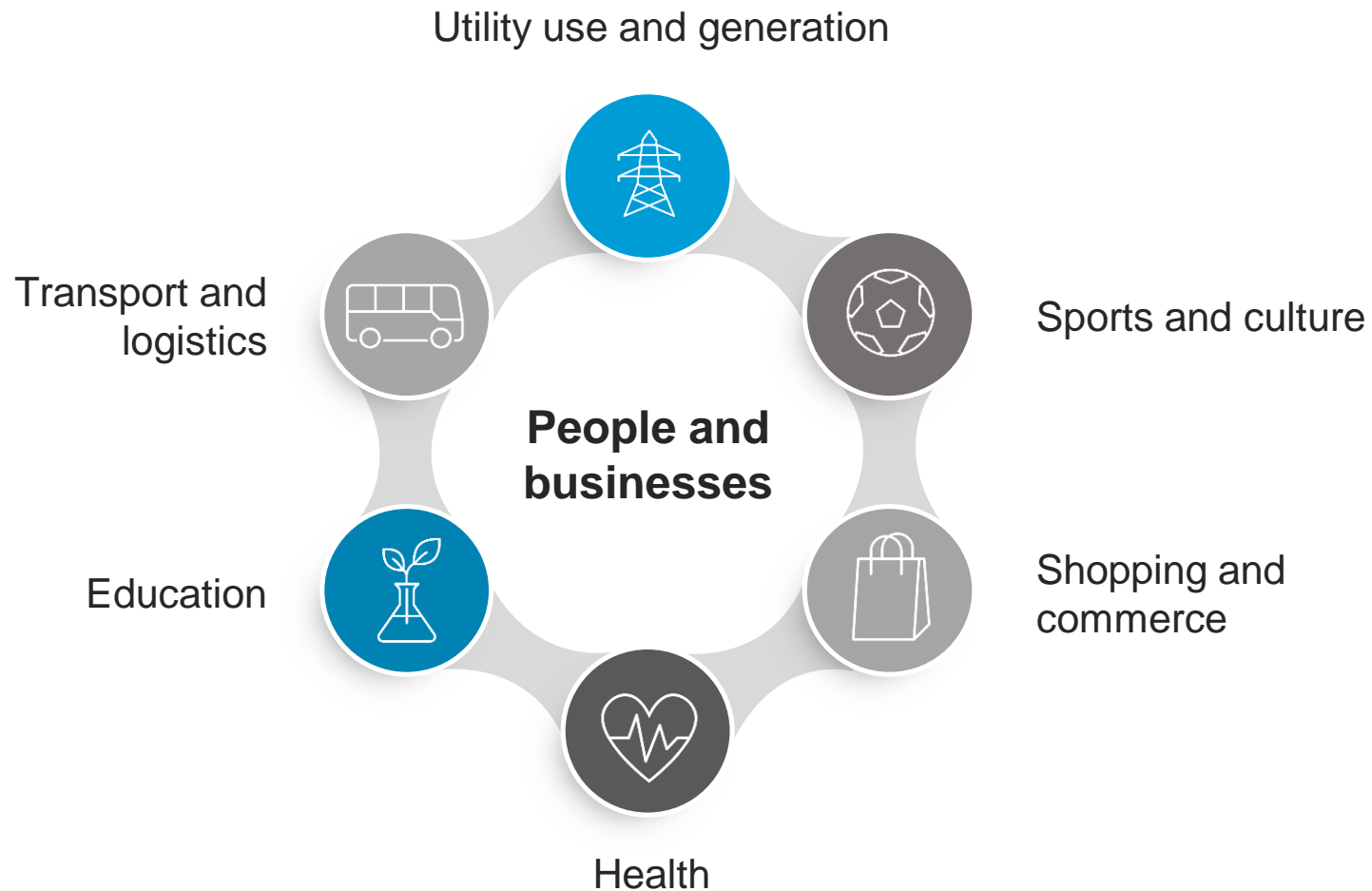
Through Minimal Interoperability Mechanisms

Cristina Bueti
Focal Point on Smart Sustainable Cities, ITU

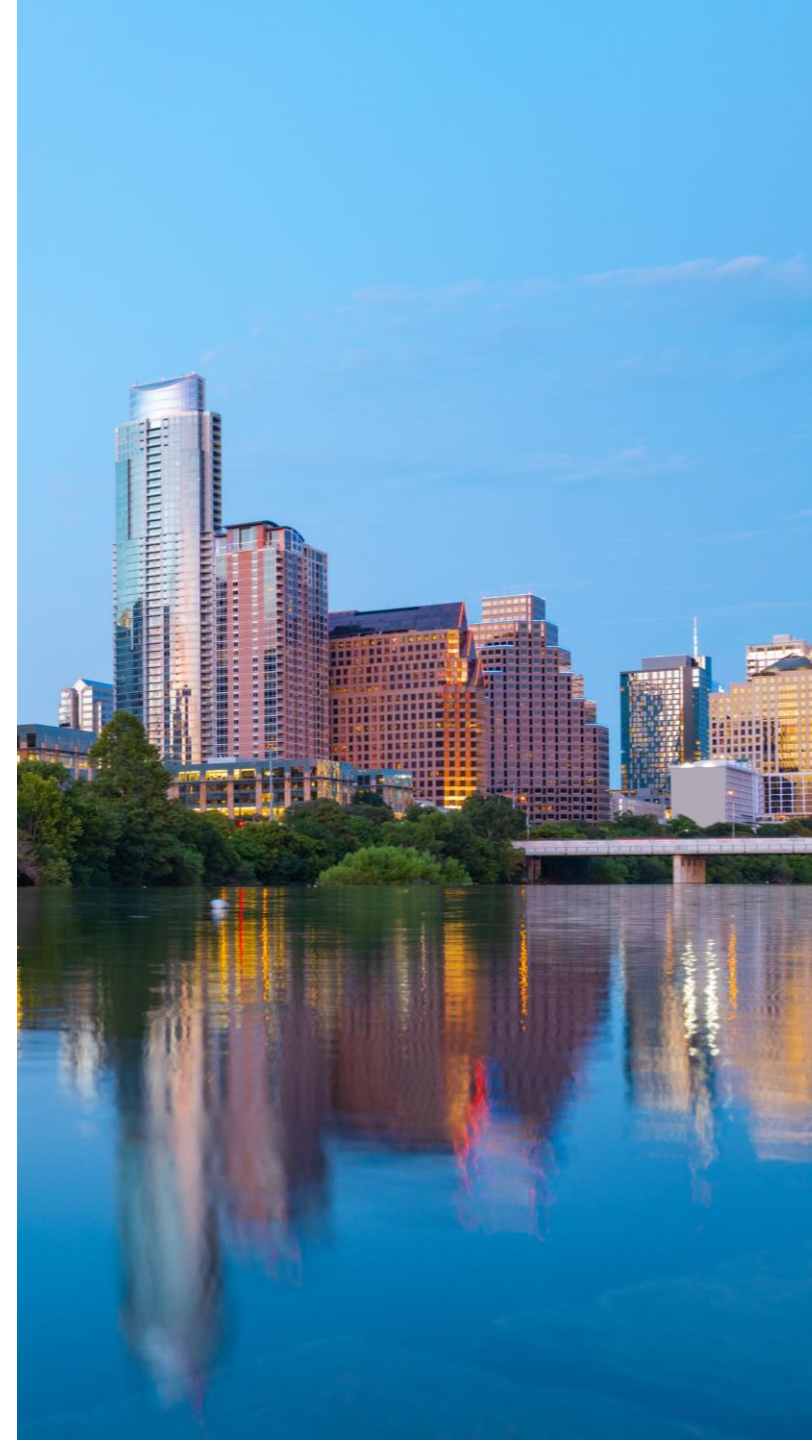June 2023

There is a lot happening in cities

Utility use and generation

Transport and logistics

Sports and culture

People and businesses

Education

Shopping and commerce

Health

The data challenges facing cities and communities

The need to manage increasing complexity

Siloed nature of city and community management

Cities relying on incomplete, inconsistent and unreliable information

The need for affordable and transformative solutions

A local data sharing ecosystem is needed

Where increasing amounts of useful data about a community are collected and used by the public administration, by business, and by the citizen to help the community work better.

Considerations associated with managing local data

How to use data to manage physical assets?

How to link context data?

How to find the data I need?

How to handle data analytics?

How to ensure common data models?

How to combine compliance with conditions for data sharing?

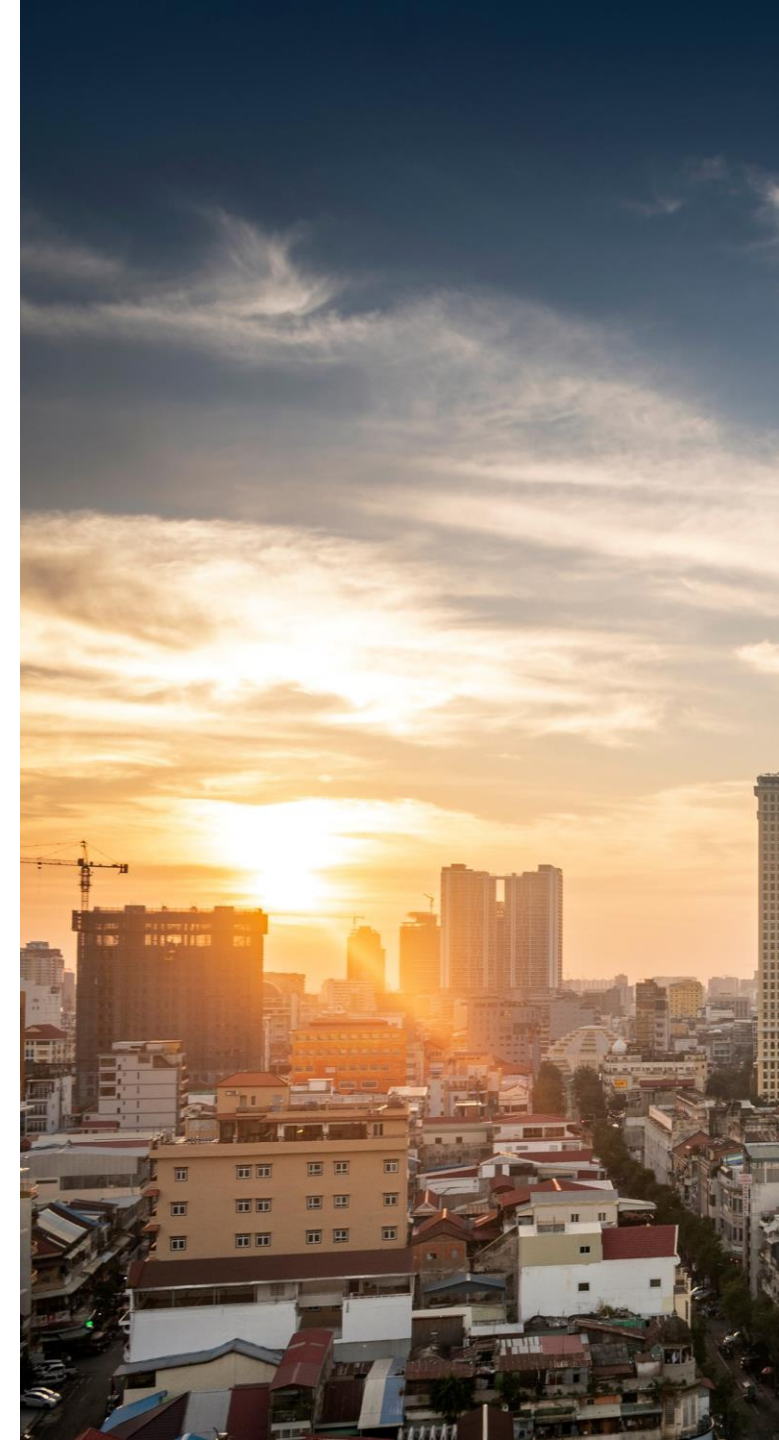How to ensure fair AI?

How to manage personal data?

How to find out about the conditions for data sharing?

How to manage data security?

How to gather data usage information?
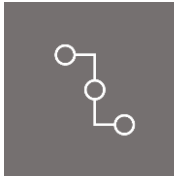
How to ensure data quality?
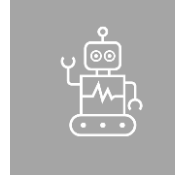
How to manage geospatial data?

The evolving landscape of smart cities

Data life cycle management by default
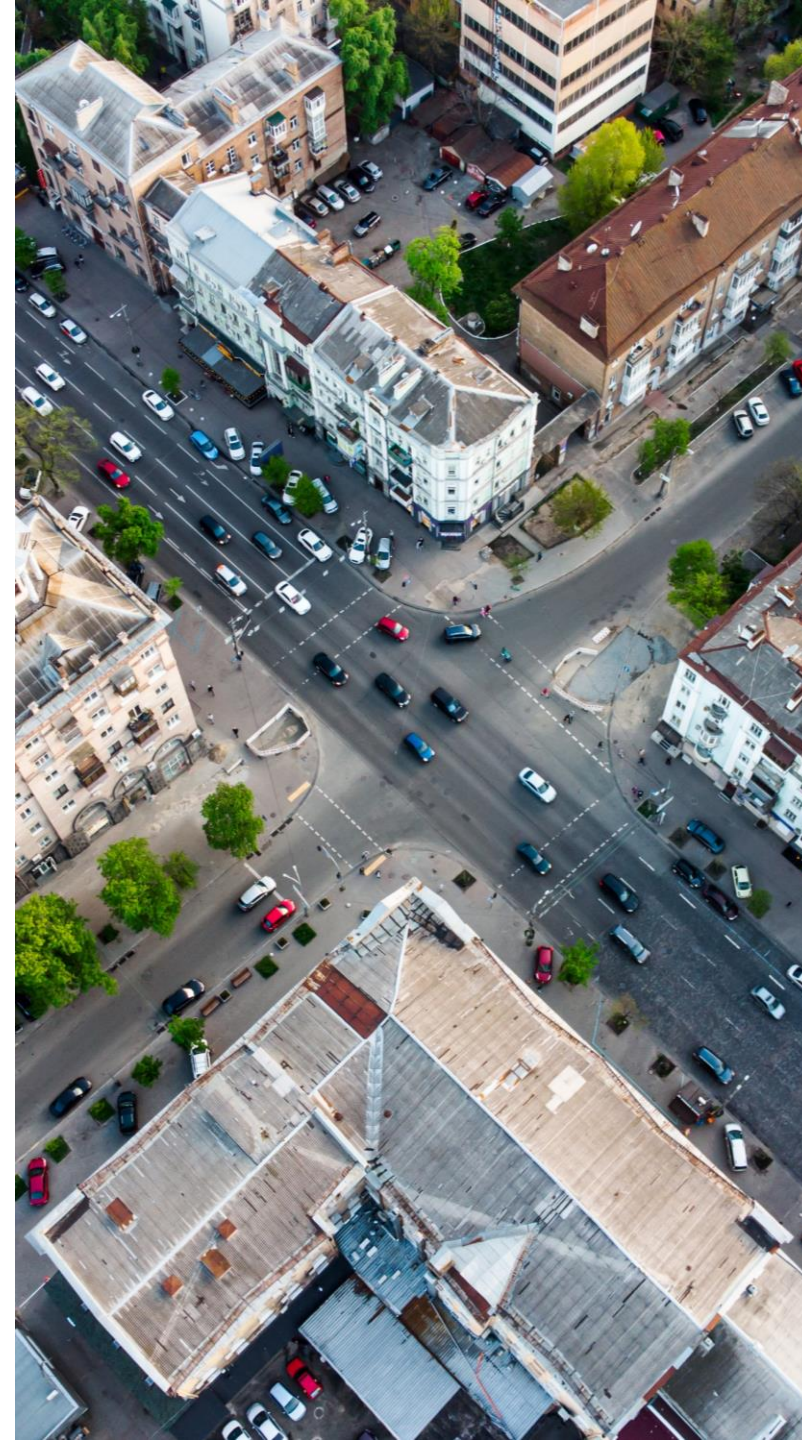
Interoperability

New Technologies

Data-enabled cities and communities
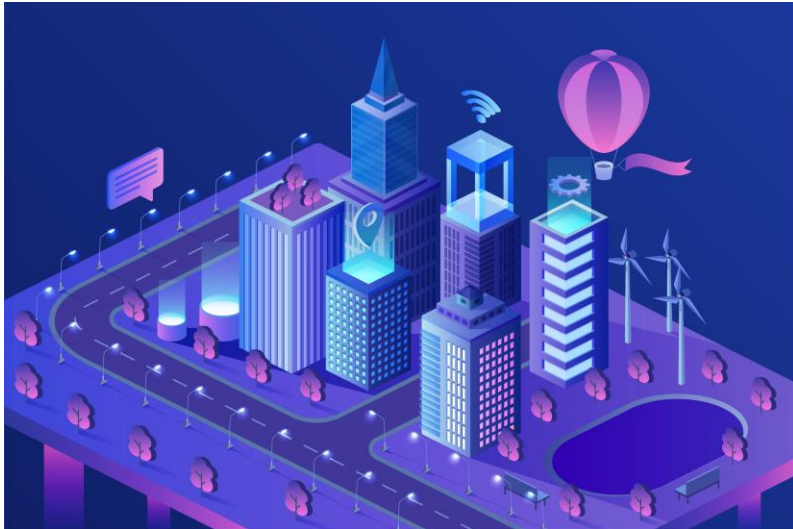
Data lakes and data spaces

Local digital twin

What is the role of MIMs?

Minimal Interoperability Mechanisms to enable all communities, whether large or small, to put in place effective local data sharing ecosystems and to enable solutions to be shared between cities and communities around the world

How MIM can be a practical tool

To be used by communities of any size to tackle challenges of a local data ecosystem

Minimal to ensure:
No unnecessary complexity or time-to-implement

Sufficient Interoperability to allow:
"Good enough" integration of systems

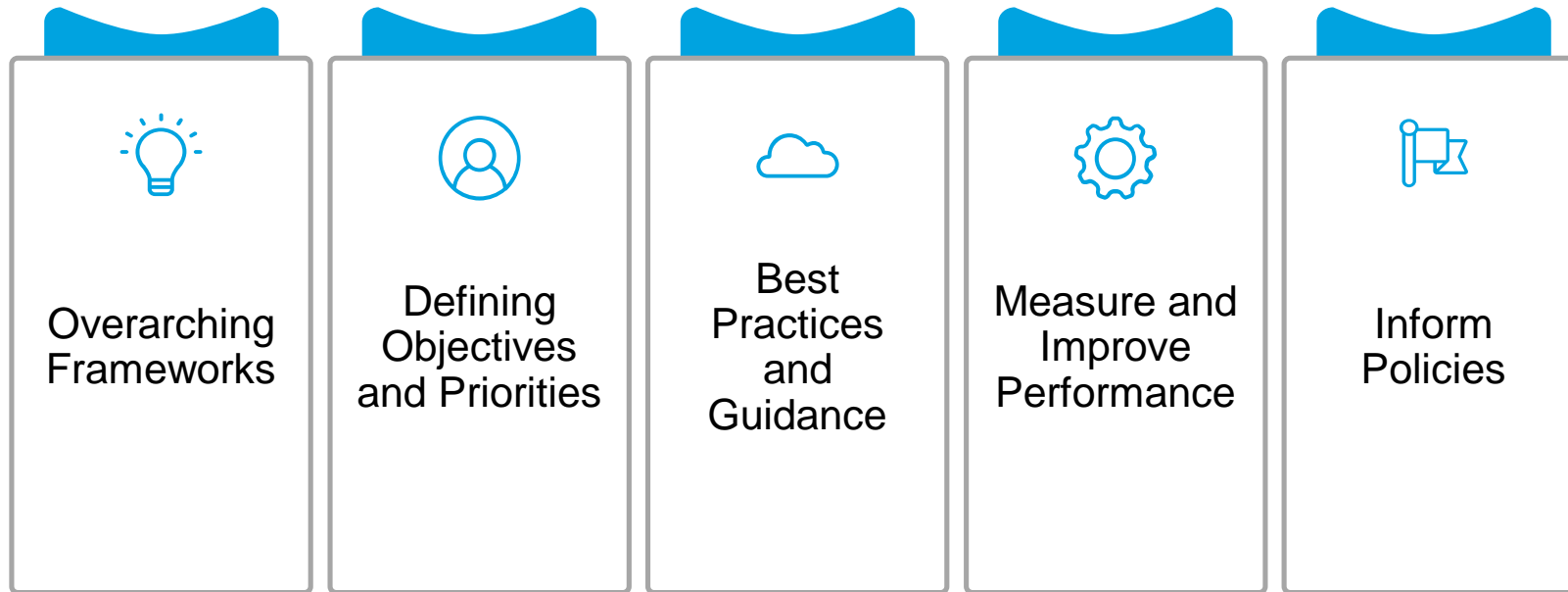**Clearly defined mechanism so that:**
It is easy to determine if a product or service is compliant

There is need for standardization

Overarching Frameworks

Defining Objectives and Priorities

Best Practices and Guidance

Measure and Improve Performance

Inform Policies

How ITU-T supports digital transformation

SG20: Internet of things (IoT) and smart cities and communities (SC&C)

Internet of Things and its Applications	Smart Cities and Communities	IoT Identification	Digital health related to IoT and SSC

Africa Region

Americas Region

Arab Region

EECAT Region

Asia and Pacific Region

Minimal Interoperability Mechanisms for Cities Work Item

[2022-2024] : [SG20] : [Q1/20]

[Declared patent(s)] - [Associated work]

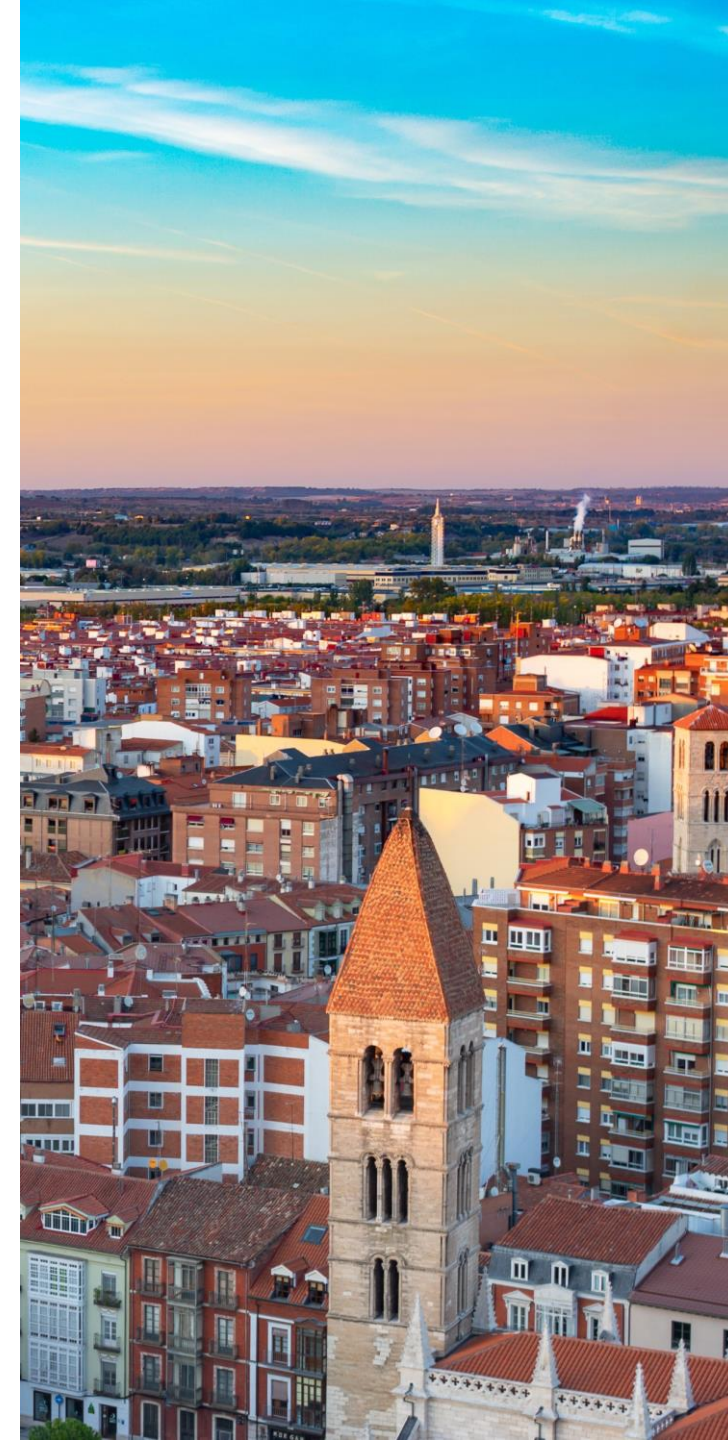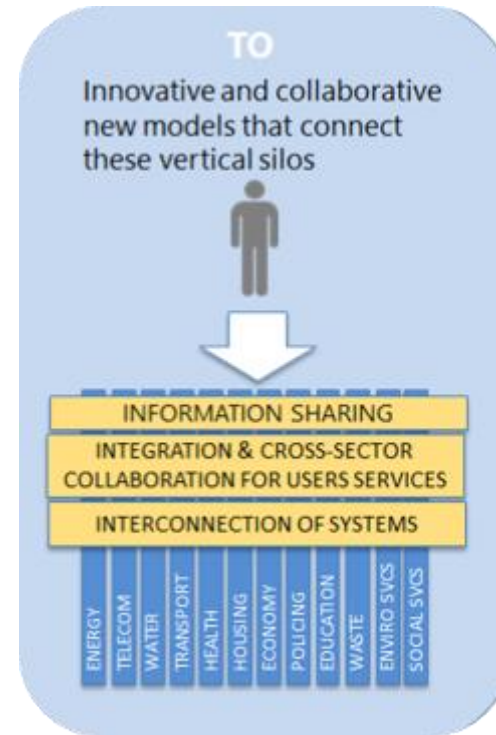|	
Work item:	Y.MIM
Subject/title:	Minimal Interoperability Mechanisms for Smart and Sustainable Cities and Communities
Status:	Under study
Approval process:	AAP
Type of work item:	Recommendation
Version:	New
Equivalent number:	-
Timing:	2024-Q4 (Medium priority)
Liaison:	ISO/TC 268, ISO/IEC JTC1/SC41, IEC SyC Smart Cities, OGC
Supporting members:	Denmark, Spain, European Commission, NEC
Summary:	This draft Recommendation defines such modular mechanisms; Minimal Interoperability Mechanisms (MIMs), that provide the requirements for implementing the minimal but sufficient capabilities needed to achieve interoperability based on a minimal common ground. The value of this approach is becoming widely recognised and several organisations and national and regional agencies are showing interest in the development of MIMs covering a range of different topics. This document uses the existing experience of developing and implementing MIMs to provide a clear definition, define a common format, and provide guidance as to how to develop a MIM.
Comment:	-
Reference(s):	[SG20-TD288-R1/GEN (2022-07) (A.1 TD) 🔒]
	[SG20-TD690/GEN (2023-01) 🔒]
	Historic references:
	[SG20-TD289-R2/GEN (2022-07) 🔒]
Contact(s):	Miguel Alvarez Rodriguez, Editor
	Martin Brynskov, Editor
	Tania Marcos Paramio, Editor
	Michael MULQUIN, Editor
ITU-T A.5 justification(s):	-
	[Submit new A.5 justification 🔒]
	See guidelines for creating & submitting ITU-T A.5 justifications

First registration in the WP: 2022-07-29 11:21:26

Last update: 2023-02-16 10:27:27

How standards can support interoperability

United for Smart Sustainable Cities

U4SSC serves as the global platform to advocate for public policy and to encourage the use of ICTs to facilitate and ease the transition to smart sustainable cities.

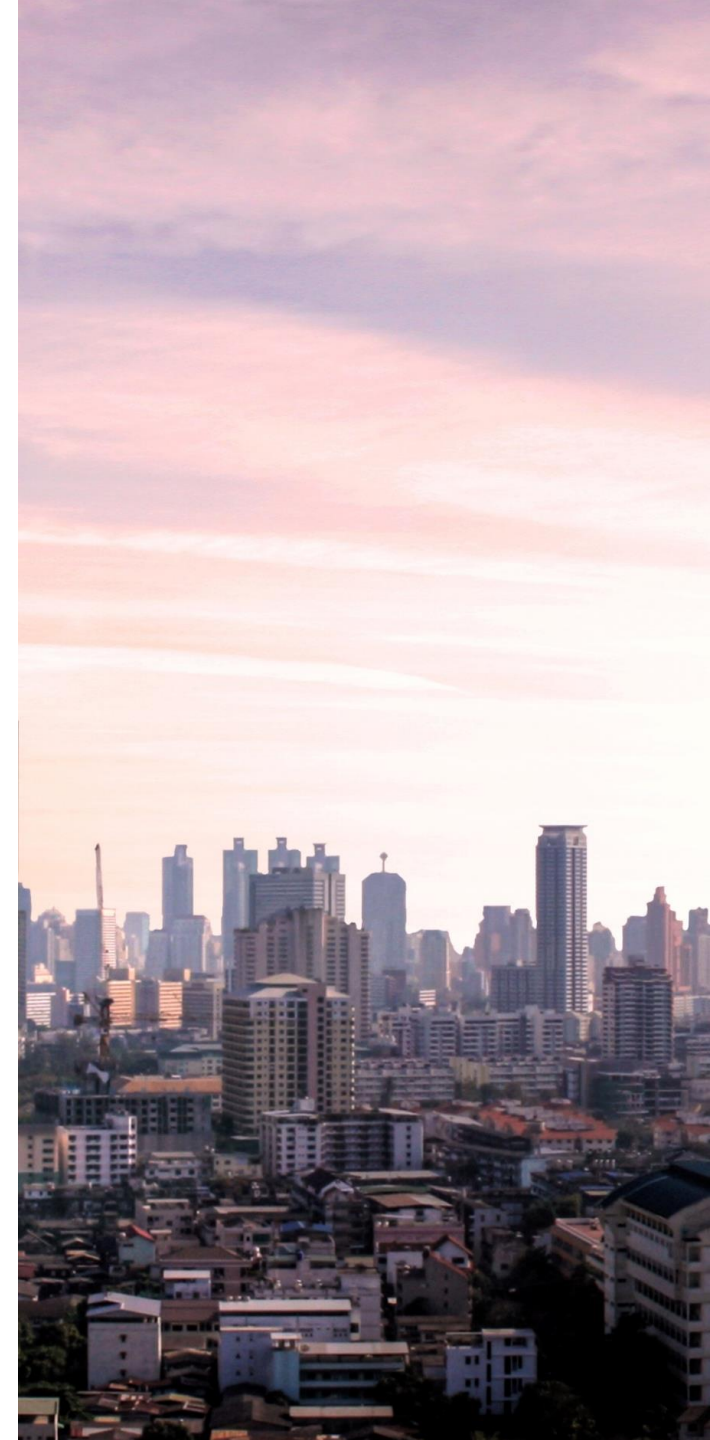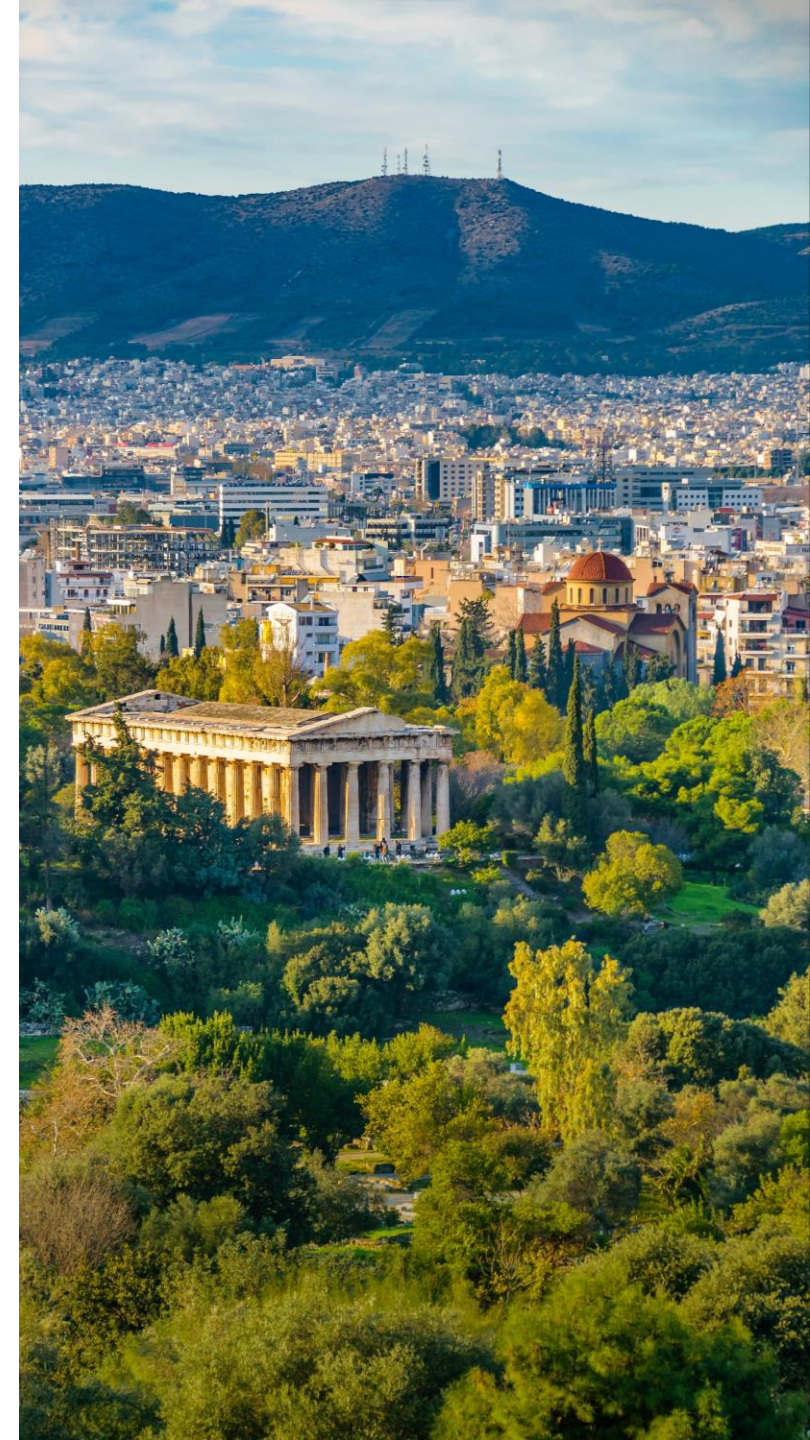| City Platforms | Building Urban Economic Resilience at City Level | Artificial Intelligence in Cities | Procurement for Smart Sustainable Cities | Enabling People-Centred Cities through Digital Transformation |

Redefining smart city platforms

Redefining smart city platforms:
Setting the stage for Minimal
Interoperability Mechanisms
A U4SSC deliverable on city platforms
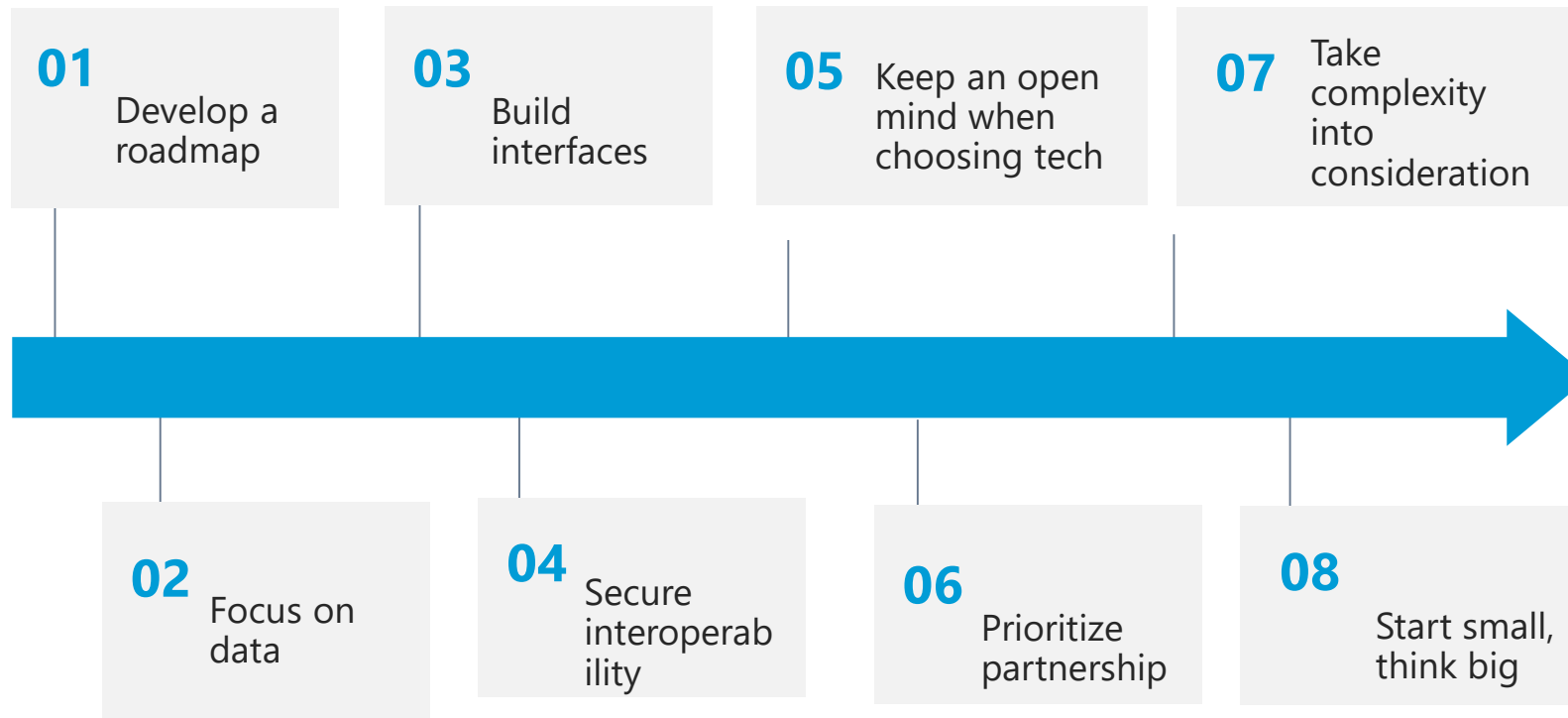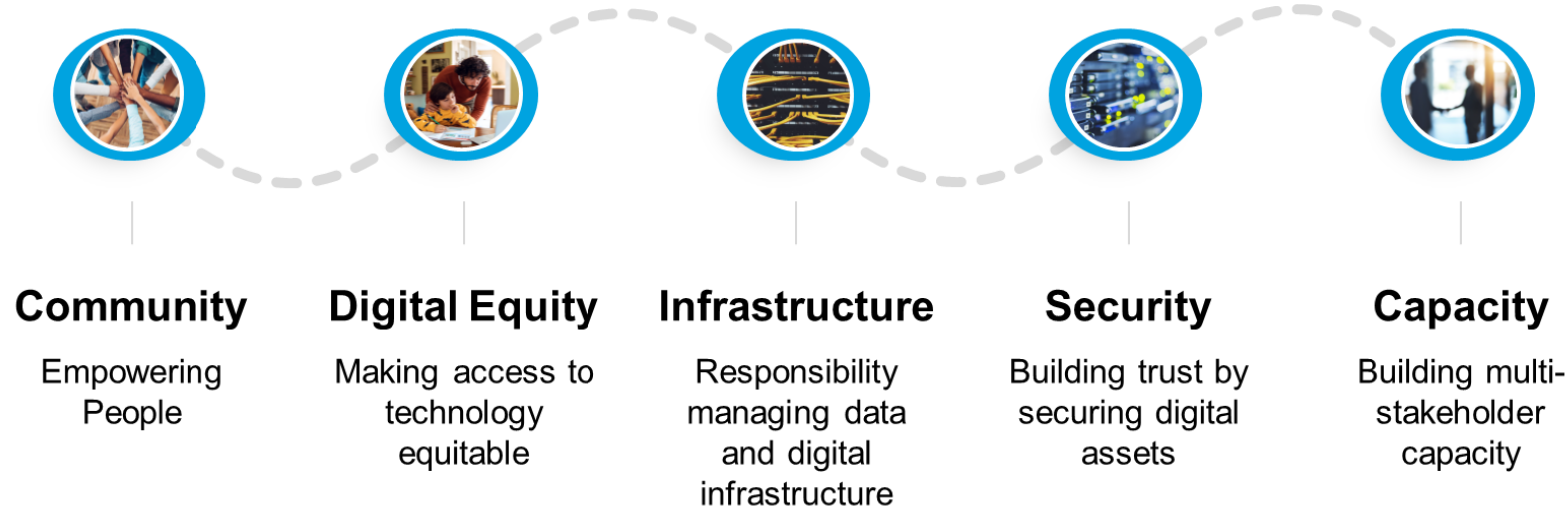
Report provides guidance to governments and cities at all levels on setting up smart city platforms, as well as on procuring the requisite elements for building them.

Eight steps that cities and communities can take

01 Develop a roadmap

02 Focus on data

03 Build interfaces

04 Secure interoperability

05 Keep an open mind when choosing tech

06 Prioritize partnership

07 Take complexity into consideration

08 Start small, think big

Towards people-centred cities and communities

Community

Empowering People

Digital Equity

Making access to technology equitable

Infrastructure

Responsibility managing data and digital infrastructure

Security

Building trust by securing digital assets

Capacity

Building multi-stakeholder capacity

What does the future hold?

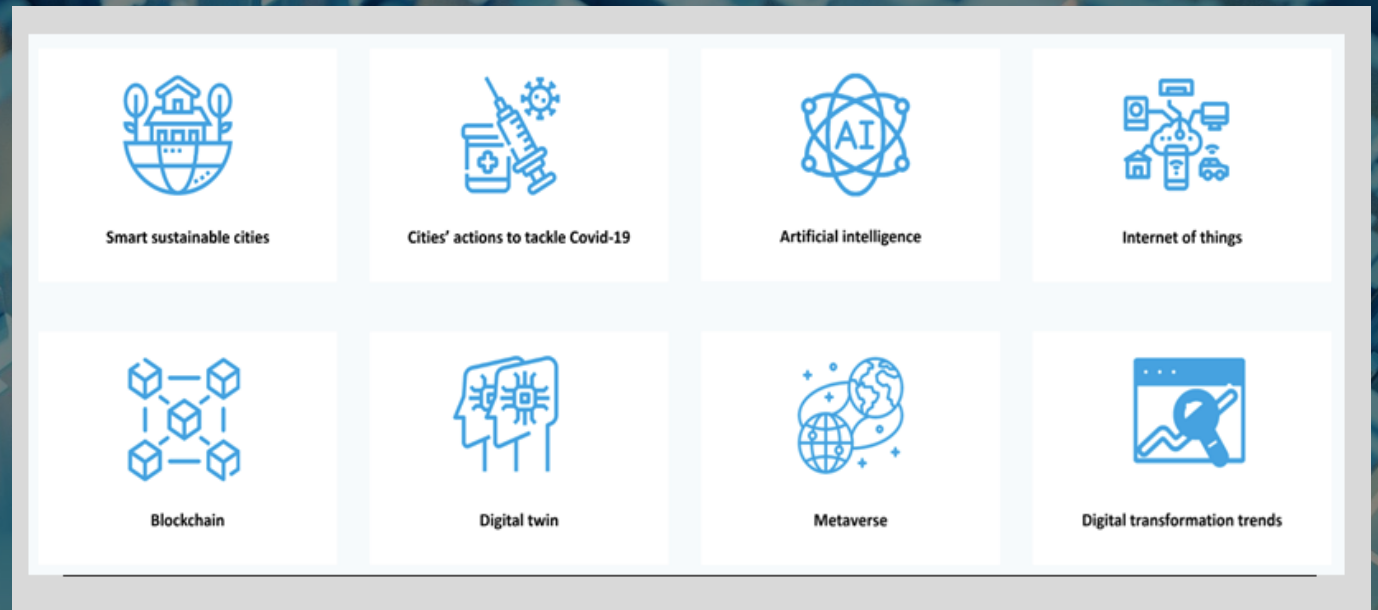*Building an open and interoperable metaverse*

2nd FG-MV meeting: 4-6 July 2023, Shanghai, China
Join the **2nd ITU Forum on "Creating a metaverse for all through international standards"**, 7 July 2023, Shanghai, China

To learn more, please visit: www.itu.itu/go/fgmv

Interested in Learning More?

Visit ITU's Digital Transformation Resource Hub!

Thank you!

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