





# NEW DELHI2024

15-24 October 2024 New Delhi, India

## Overview of ITU-T Study Group 20 during the Study Period 2022-2024

Hyoung Jun Kim Chair, ITU-T Study Group 20

October 2024



## **ITU-T Study Group 20: IoT, Smart Cities & Communities**



### **ITU-T SG20: Key ITU-T Recommendations**

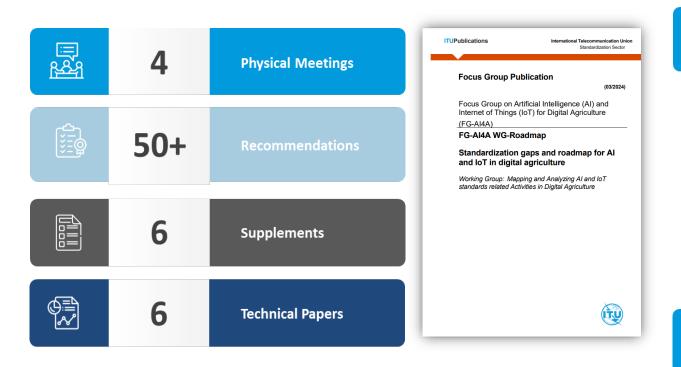
Requirements and use cases	Infrastructure and architecture	Interoperabili	ty Data management and Processing	Evaluation ar Assessment	nd Definitions, Identification and security
Recommendation ITU-T Y.4219 "Accessibility requirements for user interface of smart applications supporting IoT"	Recommendation ITU-T Y.4487 "A functional architecture of roadside multi-sensor data fusion systems for autonomous vehicles"	Recommendation ITU-T Y.4505 "Minimal interoperability mechanisms for smart and sustainable cities and communities"	Recommendation ITU-T Y.4498 "Framework of city- level energy data sharing and analytics among buildings"	Recommendation ITU-T Y.4906: "Assessment framework for digital transformation of sectors in smart cities"	Recommendation ITU-T Y.4052 "Vocabulary for blockchain for supporting Internet of things and smart cities and communities in data processing and management aspects"
Recommendation ITU-T Y.4225 "Requirements and capability framework of digital twin for intelligent transport system"	Recommendation ITU-T Y.4494 "Reference architecture of collaborative decentralized machine learning for intelligent IoT services"	Recommendation ITU-T Y.4605 "Information exchange model for digital twin federation in smart cities and communities"	Recommendation ITU-T Y.4504 "Service framework of prediction for intelligent IoT"	Recommendation ITU-T Y.4909 "Assessment framework of IoT sensing quality"	Recommendation ITU-T Y.4500.3 "oneM2M - Security solutions"
Recommendation ITU-T Y.4228 "Requirements and framework of Industrial IoT (IIoT) infrastructure for smart manufacturing"	Recommendation ITU-T Y.4703 "Internet of things service management application programming interface Representational State Transfer specification"	Recommendation ITU-T Y.4607 "Requirements for the interworking of autonomous urban delivery robots"	Recommendation ITU-T Y.4560 "Blockchain-based data exchange and sharing for supporting Internet of things and smart cities and communities"	Recommendation ITU-T Y.4910 "Maturity model of digital supply chain for smart sustainable cities"	Recommendation ITU-T Y.4809: "Unified IoT Identifiers for intelligent transport systems"

More information available at: <u>https://www.itu.int/ITU-T/workprog/wp\_search.aspx?sg=20</u>

### **ITU-T SG20: Management Team**

Chair:	Mr Hyoung Jun Kim	Korea (Rep. of)	
Vice-Chairs:	Mr Ali Abbassene	Algeria	
	Mr Muath Alrumayh	Saudi Arabia	
	Mr Fabio Bigi	Italy	
	Mr Héctor Mario Carril	Argentina	
	Mr Ramy Ahmed Fathy	Egypt	
	Mr Harinderpal Singh Grewal	Singapore	
	Ms Shane He	Nokia Corporation, Finland)	
	Mr Achime Malick Ndiaye	Senegal	
	Mr Ziqin Sang	China	
	Mr Toru Yamada	NEC Corporation, Japan	
TSB:	Ms Cristina Bueti	ITU	
	Ms Chiara Co	ITU	

### **ITU-T SG20: Main Achievements and results**



Focus Group on "Artificial Intelligence (AI) and Internet of Things (IoT) for Digital Agriculture" (FG-AI4A)

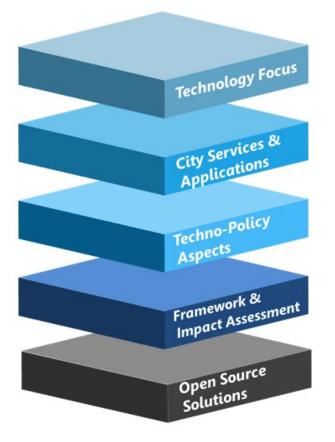
#### 10 Meetings & 5 Deliverables

- FG-AI4A "Glossary Artificial Intelligence (AI) and Internet of Things (IoT) for Digital Agriculture"
- FG-Al4A Technical Report on "Ethical Legal, and Regulatory Considerations relating to the use of Al for agriculture": A European Perspective
- FG-Al4A Technical Report on "Data Modelling for digital agriculture
- FG-AI4A Technical Report on "Use Cases for AI and IoT for Digital Agriculture"
- FG-Al4A Technical Report on "Standardization gaps and roadmap for Al and IoT in digital agriculture"

## Correspondence Group for Artificial intelligence of Things Activities (CG-AIoT)

 Technical Paper ITU-T YSTP.AIoT "Challenges of and Guidelines to Standardization on Artificial Intelligence of Things"

### Accelerating Digital Transformation for Smart Sustainable Cities & Communities



Developing standards for IoT, digital twin, metaverse, AI/ML, & other emerging technologies to enhance digital services through innovation.

Carrying out research and leveraging the development of applications across verticals like education, health, energy, manufacturing, transportation, and more.

Addressing system requirements, infrastructure, interoperability, security and accessibility for smart cities.

Developing frameworks and methodologies for performance measurement, impact assessment, and evaluation of cities and digital services.

Promoting collaboration and innovation through open-source technologies to enable adaptable and cost-effective smart city solutions.

#### Collaboration



## Collaboration



200+ cities worldwide have implemented the U4SSC KPIs based on Recommendation ITU-T Y.4903

## **Global Initiative on Virtual Worlds and CitiVerse**



#### Together with: Digital Dubai and UNICC

#### Launched on 14 June 2024 during the first UN Virtual Worlds Day

The Initiative serves as a global platform that aims at fostering open, interoperable and innovative virtual worlds that can be used safely and with confidence by people, businesses and public services.

#### Pillar 1 - Bringing Virtual Worlds to Life

- Strategic Guidance
- Security and Trust
- Digital Inclusion and Accessibility
- Methodology for Financing
- Evaluation and Assessment
- Awareness Building

## Pillar 2 - Connecting Cities with the Virtual and Real Worlds

- Emerging Technologies
- Use-case Identification
- Sandbox Experiment Facility
- Virtual Worlds Toolkit
- Annual Training

#### Pillar 3 - Tunneling the CitiVerse

- Annual Assembly
- CitiVerse Challenge
- Network of Cities and CitiVerse for SDGs
- Talent Grants Programme for Developing
- Countries

#### **Building Future-Ready, People-Centred Smart Cities**





Organized:

- 34 Webinars
- 4 Fireside Chats
- 7 Ask the Expert Sessions



Digital Transformation Resource Hub

Provides a

comprehensive resource list on smart sustainable cities, AI, IoT, blockchain, digital twins, the metaverse, and digital transformation trends.



Digital Transformation and Cities Digest

 9 Digests issued in 2023-2024 sharing updates on ITU's work in digital transformation, smart sustainable cities, the metaverse and new publications.



Toolkit on Digital Transformation for People-Oriented Cities and Communities

- Consists of 14 modules
- Developed by ITU in collaboration with other 14 UN entities

#### **ITU-T SG20: Conclusion**



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"Thank you to all participants and contributors for your input. Together, through the standards we develop, we can shape people-centred cities, improve lives, and build a more connected, sustainable future."

- Hyoung Jun Kim, ITU-T SG20 Chair



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## Thank you