Future-Ready Cities and Communities

ITU's Role in Localizing the Pact for the Future

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Empowering humanity in the digital era

As the world experiences unprecedented technological advancement, it is imperative to ensure that innovation serves humanity equitably, sustainably, and inclusively. ITU's mission is clear: to empower individuals, communities, and industries through a transformative digital journey that prioritizes people at its core.

Digital technologies like artificial intelligence (AI), the Internet of Things (IoT), digital twins, and virtual worlds hold immense potential to redefine how we live, work, and connect. However, harnessing this potential requires thoughtful planning, robust international standards, and collaboration at every level of society. At ITU, we are uniquely positioned to guide this transformation. Our global standards, capacity-building initiatives, and collaborative frameworks ensure that technological evolution aligns with global priorities, including the Sustainable Development Goals (SDGs) and the ambitious vision outlined in the Pact for the Future.

A people-centered approach to digital transformation is more than a strategy; it is a responsibility. By fostering trust in technology, enhancing accessibility, and addressing critical challenges such as privacy, security, and inclusivity, ITU is shaping a future where no one is left behind. Our initiatives – from supporting cities in their smart sustainable journeys to enabling innovation in industries like manufacturing and virtual worlds – reflect our commitment to empowering stakeholders globally and advancing the principles of the Pact for the Future.

This publication showcases ITU's contributions to building a digital future that resonates with human values and supports the global commitments enshrined in the Pact for the Future. From setting actionable standards to driving policy and innovation, our work exemplifies how digital transformation can be a force for good. As we navigate this complex journey together, we invite you to join us in creating a digital ecosystem that enriches lives and fosters a more sustainable, connected, and equitable world.

Let us embark on this transformative journey, uniting our efforts to create meaningful impact for present and future generations. Together, we can ensure that the digital revolution uplifts humanity and drives lasting progress in alignment with the Pact for the Future.

Seizo Onoe
Director, Telecommunication Standardization Bureau (TSB), ITU

Our future depends on people-centered digital transformation

Transforming lives with digital innovation

Digital transformation is reshaping industries, cities, and societies at unprecedented speed. Innovations like AI, the Internet of Things (IoT), digital twins, and the metaverse are driving this change. ITU's initiatives go beyond cities to include smart manufacturing, virtual worlds, and immersive environments like the CitiVerse.

These technologies have far-reaching impacts:

Transportation

Healthcare

Public Administration

Agriculture

Energy

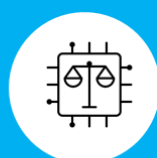Manufacturing

Did you know?

Digital twins are expected to revolutionize urban planning by reducing costs and resource use while improving quality of life.

With opportunity, comes challenges with digital transformation

Data Privacy

Ethical and Accessibility

Regulatory Hurdles

Public Acceptance & Trust

Infrastructure & resources

Interoperability & Standards

Guiding the digital transformation journey

Digital transformation is a journey – a continuous process that evolves with global needs and priorities. ITU plays a vital role in supporting cities, governments, and industries on this journey through resolutions and frameworks designed to drive impactful change.

Leadership through governance

Resolution 197 – Facilitating the Internet of things for smart sustainable cities and communities

Resolution 200 – Connect 2030 Agenda for global telecommunication/information and communication technology, including broadband, for sustainable development

Resolution 98 - Enhancing standardization of Internet of Things, digital twins, and smart sustainable cities and communities for global development

Resolution 78 - Information and communication technology applications and standards for improved access to e-health services

Resolution 105 - Promoting and strengthening metaverse standardization

Resolution 106 - Enhancing standardization activities on sustainable digital transformation

Powering progress

LAYING THE BUILDING BLOCKS

POLICY GUIDANCE

CAPACITY BUILDING

CONTINUOUS INNOVATION

LAYING THE
BUILDING
BLOCKS

Helping cities set the right targets

Cities are at the forefront of digital transformation. ITU provides comprehensive resources that empower city leaders to envision and implement sustainable digital strategies. Cities should work in close collaboration with the various smart sustainable city (SSC) stakeholders to design the overall master plan for the SSC's implementation.

- Developing accessible SSC infrastructure based on technology;
- Engaging inclusively to identify inhabitants' needs;
- Developing key SSC services aligned with those needs;
- Aligning plans with international instruments like the 2030 Agenda;
- Defining and weighting SSC key performance indicators (KPIs);
- Educating stakeholders on SSC benefits and digital transformation;
- Providing technical expertise throughout the project lifecycle.

Guide for smart and sustainable city leaders: Envisioning sustainable digital transformation

Enabling digital transformation in smart sustainable cities – Master plan
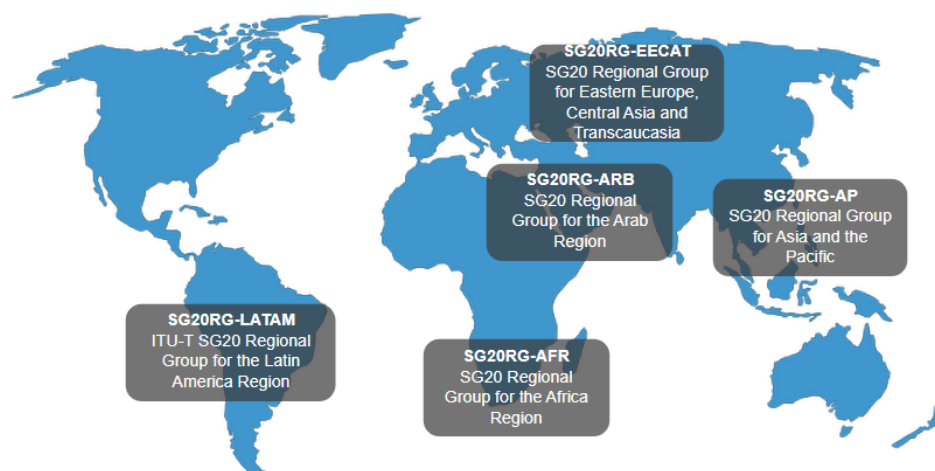
Standards that empower progress

Standards serve as the foundation for sustainable digital transformation. ITU-T Study Group 20 – *Internet of Things, digital twins and smart sustainable cities and communities* leads the charge by developing critical frameworks and guidelines.

ITU-T SG20 is responsible for the development of innovative standards (ITU-T Recommendations), guidelines, reports, methodologies, and best practices for the Internet of Things (IoT), digital twins, and smart sustainable cities and communities (SSC&C), with the goal of accelerating digital transformation in both urban and rural areas.

Internet of Things and Its Application

SSC&C & digital services, energy mgmt., digital twin & citiverse

Lead Roles SG20

Digital Health Related to IoT and SSC&C
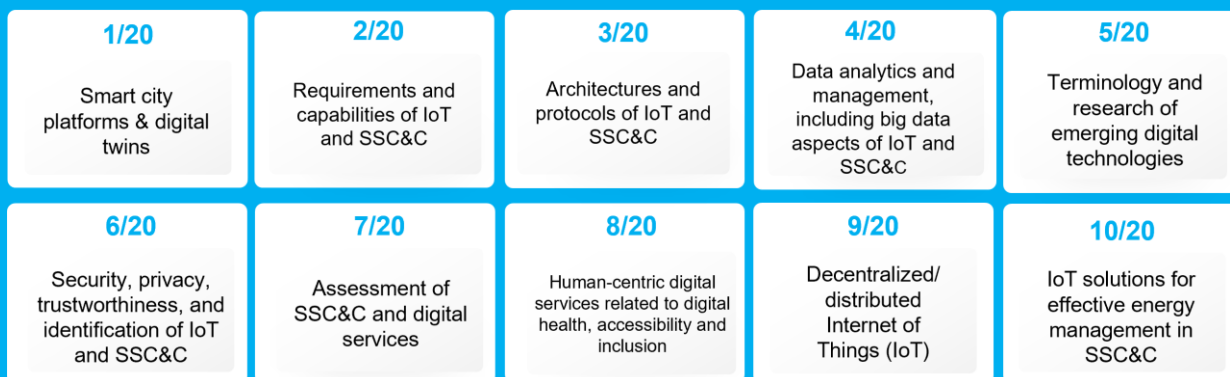
IoT and Identification

To ensure that no one is left behind...

ITU-T Study Group 20 has five regional groups for Africa, Asia and Pacific, Arab Region, Latin America, and Eastern Europe, Central Asia and Transcaucasia, which help ensure that different perspectives can be duly reflected in ITU standards work.

SG20RG-EECAT SG20 Regional Group for Eastern Europe, Central Asia and Transcaucasia

SG20RG-ARB SG20 Regional Group for the Arab Region

SG20RG-AP SG20 Regional Group for Asia and the Pacific

SG20RG-LATAM ITU-T SG20 Regional Group for the Latin America Region

SG20RG-AFR SG20 Regional Group for the Africa Region

ITU-T SG20 Study Group Structure

1/20	2/20	3/20	4/20	5/20
Smart city platforms & digital twins	Requirements and capabilities of IoT and SSC&C	Architectures and protocols of IoT and SSC&C	Data analytics and management, including big data aspects of IoT and SSC&C	Terminology and research of emerging digital technologies

6/20	7/20	8/20	9/20	10/20
Security, privacy, trustworthiness, and identification of IoT and SSC&C	Assessment of SSC&C and digital services	Human-centric digital services related to digital health, accessibility and inclusion	Decentralized/ distributed Internet of Things (IoT)	IoT solutions for effective energy management in SSC&C

Why are standards key to people-centered success?

International standards can provide crucial guidance, and technical and policy recommendations that urban stakeholders can use to set their city's priorities, navigate global challenges and implement innovative solutions to accelerate digital transformation and make cities and communities, and ultimately countries, smarter and more sustainable.

Standards can accelerate digital transformation for more people-centered cities that are inclusive for all.

International Standards

- Data and Privacy
- Interoperability
- Data Sovereignty and Trust
- Data Value Creation
- Building from Openness
- Cyber Security

| It starts with Interoperability	Setting the bar for digital services	Bridging technology and governance	Building trust in a connected world	Leaving no one behind
Interoperability Minimal Interoperability Mechanisms	Requirements and capability frameworks Digital twin Industrial IoT and smart manufacturing	Data sharing City platforms Blockchain	Security Privacy Trust	Accessibility Inclusivity People-centered

It starts with interoperability
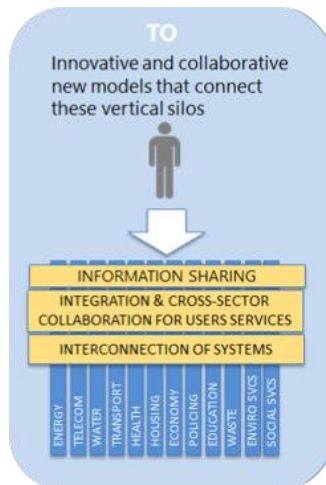
Interoperability standards simplify collaboration between diverse technologies, ensuring that systems across industries work cohesively to deliver seamless services.

Interoperability between these systems and the technologies upon which they are based allows for an increase in the number of services provided along with their quality, ensuring maximum efficiency, scalability and simple integration.

Setting the bar for digital services

Emerging IoT and SSC&C services and applications are placing more and more requirements on networks and the provisioning of new services, resulting in the need to make networks more and more intelligent with the provisioning of new capabilities.

Standards for requirements and digital services define the basic principles for delivering reliable, scalable, and efficient services across smart environments. These ensure that cities and industries adopt a unified approach to leveraging technology.
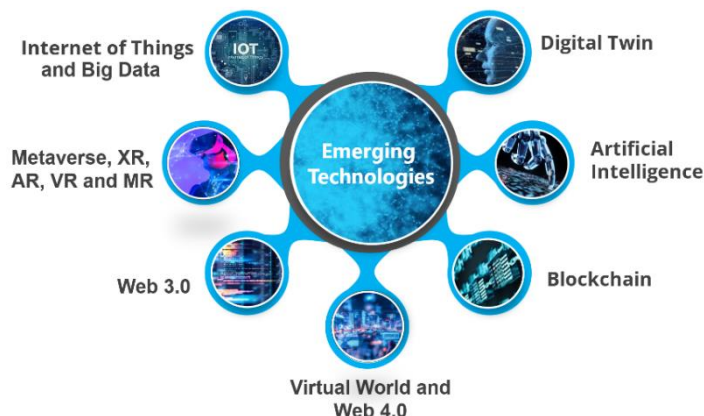
Explore these Standards

ITU-T Y.4200: "Requirements for the interoperability of smart city platforms"

**ITU-T Y.4201**: "High-level requirements and reference framework of smart city platforms"

ITU-T Y.4505: "Minimal interoperability mechanisms for smart and sustainable cities and communities"

ITU-T Y.4225: "Requirements and capability framework of digital twin for intelligent transport system"

ITU-T Y.4228: "Requirements and framework of Industrial IoT (IIoT) infrastructure for smart manufacturing"

Bridging technology and governance

Deriving value from data is central to the evolution of smart sustainable cities to foster better decision-making and gain insights into how different sectors are leveraging information and communication technologies (ICTs). The data challenge in SSCs stems from the massive amounts of data that must be constantly collected, analysed and shared. For cities to be truly smart and sustainable, the network coverage requirements, security and privacy concerns, and reservations linked with data analysis and regulatory necessities, should always be considered.
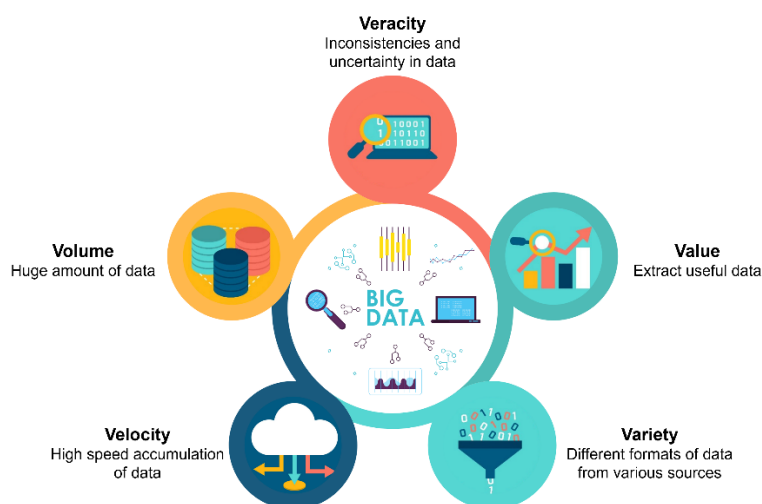
Building trust in a connected world

Digital transformation involves the integration of technology in various aspects of life. While the benefits of these technologies are numerous, it also raises concerns about security, privacy and trust. Security is essential to protect against cyberattacks, which can compromise critical infrastructure, disrupt services, and compromise personal information. Privacy is also a critical issue, as the use of technology in cities can lead to the collection and storage of vast amounts of personal data. Trust is therefore crucial for the successful adoption of digital technologies in cities. International standards can help cities can ensure that the benefits of digital transformation are realized, while also protecting the rights and interests of the inhabitants in alignment with data protection requirements, ensuring overall data security and prevention of data theft.

Explore these Standards

ITU-T Y.4498: "Framework of city-level energy data sharing and analytics among buildings"

ITU-T Y.4560: "Blockchain-based data exchange and sharing for supporting Internet of things and smart cities and communities"

ITU-T Y.4806: "Security capabilities supporting safety of the Internet of things"

ITU-T Y.4807: "Agility by design for telecommunication /ICT systems security used in the IoT"

Leaving no one behind

Accessibility is the fulcrum for driving digital transformation. By prioritizing accessibility, industries can ensure that digital solutions are inclusive, equitable and resilient and provide equal access to services and information for all people, including persons with disabilities and elderly individuals.

Digital technologies can help to reduce barriers and increase accessibility by providing digital solutions that can accommodate all inhabitants. Accessible technology can also improve access to public services and information, making it easier for inhabitants to stay informed, engage with their local government and participate in civic life. This can help to reduce social and economic inequalities, bridge the digital divide and ensure that all inhabitants have equal access to the benefits of digital transformation across sectors.

Use cases for accessibility in digital transformation:

Automated Home Systems

Accessible Collaboration Tools

Smart Urban Mobility

Digital health services

Explore these Standards

ITU-T Y.4204: "Accessibility requirements for the internet of things applications and services"

ITU-T Y.4211: "Accessibility requirements for smart public transport services"

ITU-T Y.4219: "Accessibility requirements for user interface of smart applications supporting IoT"
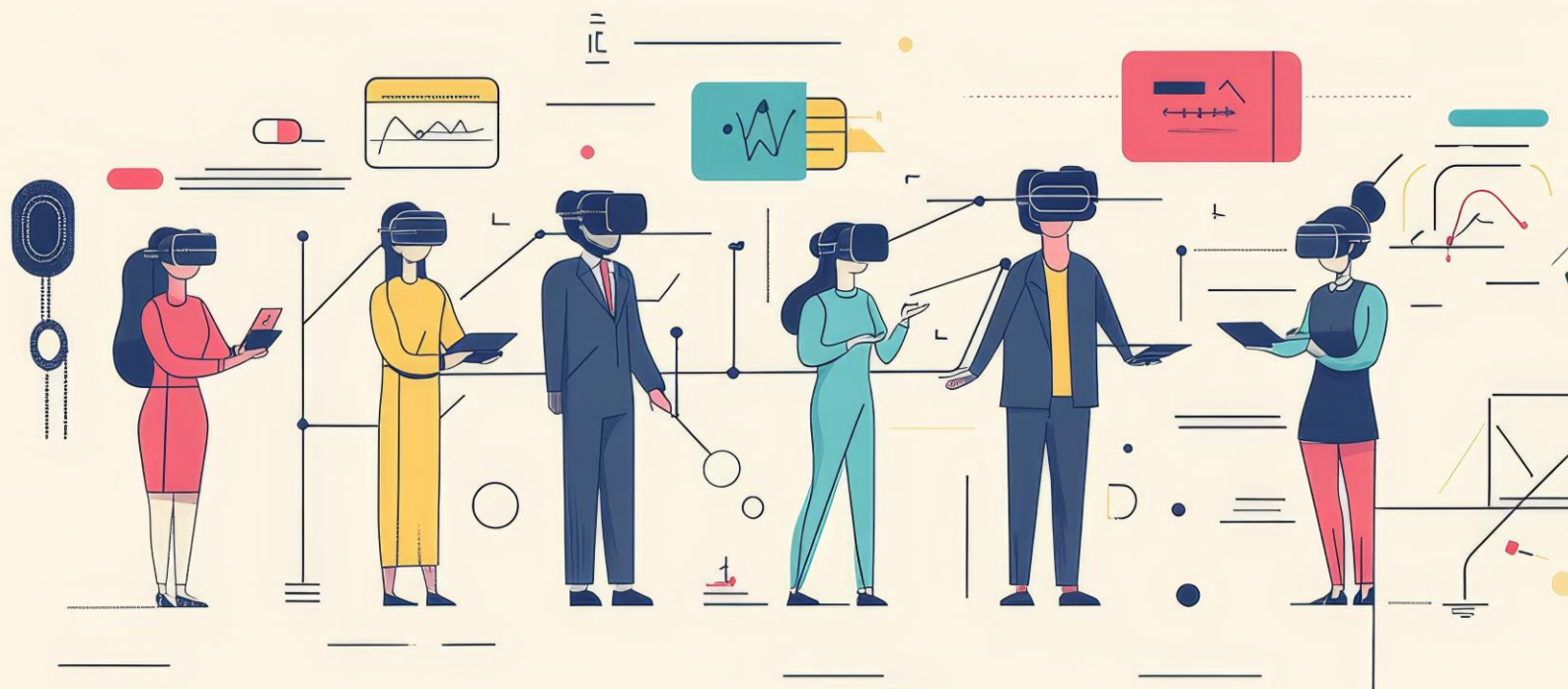
POLICY
GUIDANCE

Policies that drive people-centered transformation

Policies are the cornerstone of successful digital transformation. By creating enabling environments and clear frameworks, policies ensure that technological advancements benefit all sectors of society. The United for Smart Sustainable Cities (U4SSC) initiative is a UN initiative that drives impactful policy development and implementation through key areas.

Coordinated by ITU, UNECE, UNEP and UN-Habitat and supported by 19 United Nations entities, the United for Smart Sustainable Cities (U4SSC) contribute to achieving Sustainable Development Goal 11 – Making cities and human settlements inclusive, safe, resilient, and sustainable and the Pact for the future.

The U4SSC provides city stakeholders with access to invaluable policy guidance and frameworks that can facilitate the use of digital technologies to accelerate people-centered digital transformation. Through U4SSC, cities and communities can harness the power of technology to achieve sustainability, economic growth, and social well-being.

The United for Smart Sustainable Cities serves as a global platform for the exchange of knowledge and policy innovation to create people-centred and resilient cities.

Providing insights to urban challenges

The U4SSC thematic groups develop action plans, technical specifications, case studies, guidelines and offer policy guidance for cities to become smarter and more sustainable while accelerating their digital transformation.

City Platforms

Building Urban Economic Resilience at City Level

Artificial Intelligence in Cities

Enabling People-Centred Cities through Digital Transformation

Digital Wellbeing

New

Future Foresight for Cities

Sustainable Digital Transformation in Buildings and Energy

Social-cultural Sustainability in People-centred City Governance
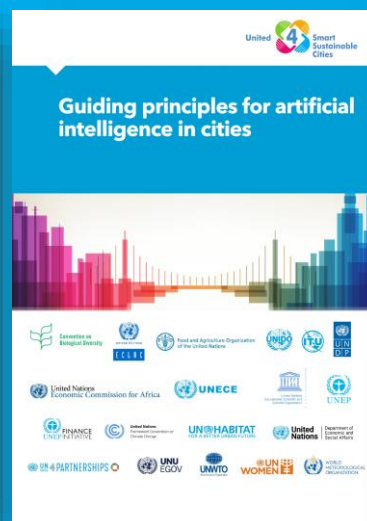
Digital Public Infrastructure for Cities

Explore recent U4SSC publications

Policy benchmarks for digital transformation of people-centred cities

Data and API requirements for centralized smart city platforms

Guiding principles for artificial intelligence in cities

Reference framework for integrated management of an SSC
A U4SSC deliverable on City Platforms
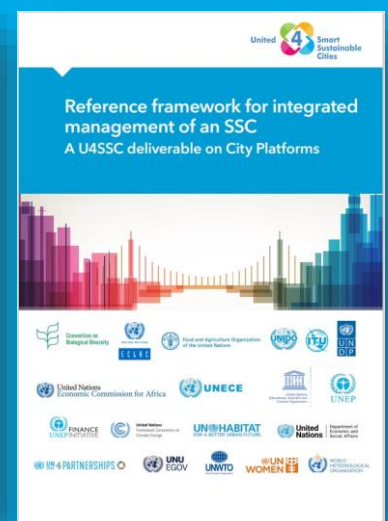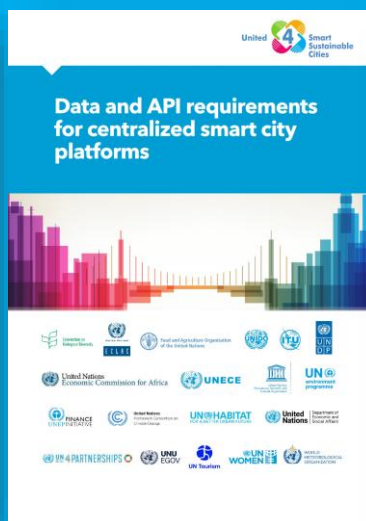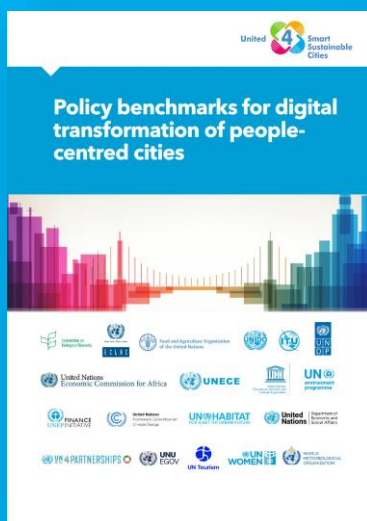
Measuring progress and driving transformation

The Key Performance Indicators (KPIs) for Smart Sustainable Cities program remains a core element of U4SSC's mission, providing cities with a standardized framework to assess and benchmark their progress in becoming smarter and more sustainable. This framework enables cities to track their advancements in areas such as energy efficiency, digital infrastructure, and digital economy, while also helping them identify areas for improvement. Quito, Ecuador is the most recent city that implemented the U4SSC Key Performance Indicators (KPIs) for Smart Sustainable Cities based on Recommendation ITU-T Y.4903 "Key performance indicators for smart sustainable cities to assess the achievement of sustainable goals".

The KPI project now includes over 200 cities globally, each of which benefits from a tailored assessment of their performance against the KPIs. This valuable data helps city leaders develop strategies to improve the quality of life for their inhabitants while aligning with global sustainability objectives. As part of the initiative, the city of Quito is leveraging data-driven insights to guide its journey toward smart city transformation. Through its participation in the KPI programme, Quito aims to make informed decisions that will accelerate its sustainability goals and further its digital transformation efforts.

U4SSC KPIs in action in Quito, Ecuador
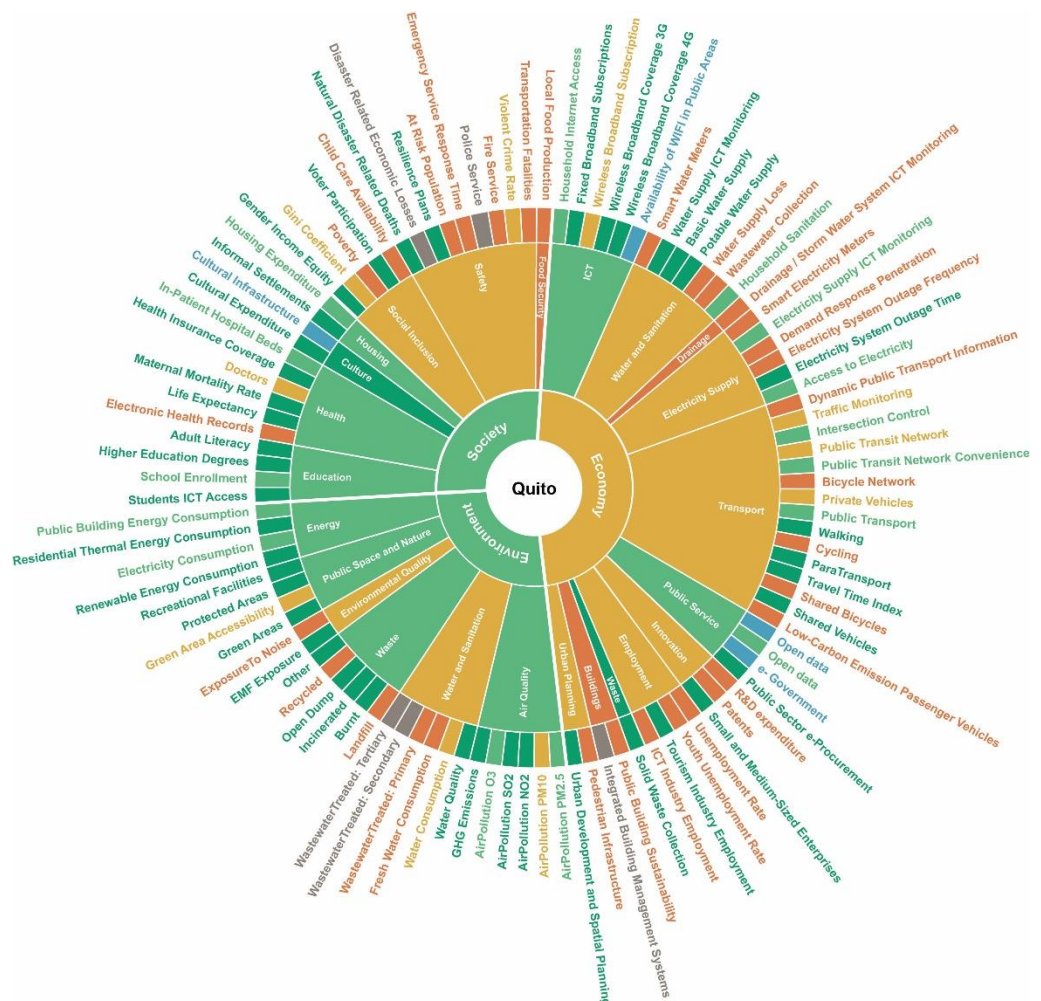
Local impact with global reach

Regional hubs under the U4SSC framework localize global strategies to address unique regional challenges. These hubs provide tailored support, ensuring that policy solutions are contextually relevant and align with international objectives.

By championing these initiatives, ITU empowers policymakers to make informed decisions that foster sustainable and inclusive growth. For example, the U4SSC KPIs are already being implemented in cities across the globe, helping leaders build resilient urban systems that adapt to emerging challenges.

U4SSC Country Hub in Austria

The first U4SSC Country Hub in Europe has been set up in Vienna, Austria, hosted by the Austrian Economic Centre. The U4SSC Austria Country Hub, situated in the heart of Europe, is a hub of innovation for smart and sustainable urban development. The U4SSC Country Hub fosters collaboration between government bodies, businesses, and citizens to pioneer solutions that redefine urban living.

U4SSC Country Hub in Ghana

The first U4SSC Country Hub in Africa was established in Kyebi, Ghana. In the vibrant landscapes of West Africa, the Ghana Country Hub stands as a testament to the country's commitment to smart and sustainable urban growth. The U4SSC Ghana Country Hub strives to shape cities that balance modernization with sustainability, creating a blueprint for the future of urban development in Africa.

CAPACITY
BUILDING

Conversations that matter

Digital Transformation Dialogues

DTD

Webinars | Fireside Chats | Ask the Expert

The Digital Transformation Dialogues disseminate knowledge and expand our understanding about the rapidly evolving landscape of emerging technologies and technical standardization across different fields.

Webinars

Covering topics ranging from Internet of Things (IoT), digital twins, virtual worlds, brain-computer interfaces, cloud computing, and artificial intelligence (AI) to data analytics, these webinars explore how digital technologies can drive positive change and deliver sustainable value. These sessions explore how to harness the power of emerging technologies to support the next digital wave.

Fireside Chats

Designed as informal, engaging conversations, the Fireside Chats bring together industry experts, thought leaders, and professionals to share their expertise on leveraging digital technologies across diverse verticals such as smart cities, transport, health, cybersecurity, and sustainability. These chats provide an interactive platform to explore the possibilities and challenges of the ever-expanding digital landscape.

Ask the Expert

These sessions focus on helping participants gain insights into the vast ITU-T standardization landscape. By putting the spotlight on relevant best practices and emerging trends, these sessions facilitate informed decision-making in the quest for digital transformation, with practical guidance on applying ITU-T standards.

One stop toolkit for people-centered cities

The ITU has partnered with 11 other UN entities to develop a ground-breaking Toolkit that empowers decision-makers to plan and strategize for a sustainable, inclusive and resilient digital future for all.

Packed with essential resources, the Toolkit draws on international standards, cutting-edge research and expert reports to provide a comprehensive guide to the digital transformation of cities and communities. Whether you are a local government leader, urban planner or city official, this invaluable resource offers the tools you need to navigate the complex challenges of digital transformation and unlock the full potential of your community.

Knowledge. Innovation. Action.

The Digital Transformation Resource Hub serves as a vital platform for policy makers. This extensive library of tools, reports, and studies provides crucial guidance for cities on their digital transformation journeys. With resources spanning across smart cities, AI, blockchain, and the metaverse, the hub remains an indispensable source of knowledge for those striving to build a sustainable digital future.

Smart sustainable cities

Digital public infrastructure

Artificial intelligence

Digital transformation trends

Internet of things

Digital twin

Blockchain

Metaverse

CONTINUOUS
INNOVATION

Discovering the Citiverse

The new Global Initiative on Virtual Worlds and AI – *Discovering the Citiverse*, launched by ITU, Digital Dubai, and UNICC, aims to explore and harness the potential of virtual worlds and citiverse. This 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.

Key Pillars

Pillar 1 – Bringing Virtual Worlds to Life
- Strategic Guidance
- Security and Trust
- Digital Inclusion and Accessibility
- Scaling Framework
- Evaluation and Assessment
- Awareness Building

Explore more

Pillar 2 – Connecting Cities with the Virtual and Real Worlds
- Emerging Technologies
- Use-case Identification
- Sandbox Experiment Facility
- Virtual Worlds Toolkit
- Annual Training

Explore more

Pillar 3 – Tunneling the citiverse
- Annual Assembly
- Citiverse Challenge
- Network of Cities and Citiverse for SDGs
- Talent Grants Programme for Developing Countries

Explore more

Backed by an impressive Executive Committee

Chair

H.E. Mr Hamad Al Mansoori
Director General, Digital Dubai

Vice-Chairs

H.E. Mr Jerry William Silaa
Minister, Ministry of Information, Communication and Information Technology, Tanzania (United Republic of)

H.E. Mr William Kabogo Gitau
Cabinet Secretary, Ministry of Information, Communications and the Digital Economy, Kenya

Felipe Fernando Macías Olvera
Mayor, Municipality of Queretaro, Mexico

Manuel Barreiro
Founder and Chief Executive Officer, Aston Group

Karl-Filip Coenegrachts
Chair of the Board of Directors and Executive Director, Open & Agile Smart Cities (OASC), Belgium

Hyoung Jun Kim
Chair, ITU-T Study Group 20 "Internet of Things, digital twins and smart sustainable cities and communities"

Jouni Markkanen
Deputy Mayor, City of Tampere, Finland

Paula Llobet Vilarrasa
Councillor for Tourism, Digital Agenda, Innovation, and Investment, Valencia, Spain

Sameer Chauhan
Director, United Nations International Computing Centre (UNICC)

Jeong Kee Kim
Secretary General, World Smart Sustainable Cities Organization (WeGO)

Unlocking the potential of virtual worlds

The second UN Virtual Worlds Day will take place from 11-12 June 2025 in Turin, Italy. It will bring together governments, cities, and innovators to explore how AI-powered virtual worlds can empower communities and tackle global challenges. Co-organized by ITU alongside 17 UN entities, this event will feature high-level talks, interactive showcases, and collaboration shaping a smarter, more inclusive future.

1st UN Citiverse Challenge
**Citiverse:
Designing digital
public infrastructure
of future cities**

The second edition of UN Virtual Worlds Day will take place on 11-12 June 2025 in Turin, Italy.

More information here.

1st UN Citiverse Challenge

The Citiverse Challenge invites students and startups to reimagine and design innovative solutions that leverage the transformative potential of the citiverse and digital public infrastructure to address pressing global challenges.

Delivering impactful results

The Focus Group on metaverse (FG-MV) has been instrumental in shaping the future of virtual environments. By generating critical publications and actionable recommendations, the group addressed issues such as interoperability, accessibility, and ethical considerations. These efforts ensure that the metaverse evolves as a safe, inclusive, and equitable space for all.

Explore the 52 deliverables published by the Focus Group on metaverse

Defining the metaverse

FG-MV approved the definition of the metaverse, shaping its future.

Definition of metaverse: *An integrative ecosystem of virtual worlds offering immersive experiences to users, that modify pre-existing and create new value from economic, environmental, social and cultural perspectives.*

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ITU Focus Group Technical Report
(06/2024)

ITU Focus Group on metaverse (FG-MV)

FGMV-37

Landscape and use cases for the industrial metaverse

Working Group 2: Applications & Services

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ITU Focus Group Technical Report
(12/2023)

ITU Focus Group on metaverse

Responsible use of AI for child protection in the metaverse

Working Group 6: Security, Data and Personally identifiable Information Protection

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ITU Focus Group Technical Report
(06/2024)

ITU Focus Group on metaverse (FG-MV)

FGMV-35

Building a people-centred CitiVerse

Working Group 1: General

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ITU Focus Group Technical Report
(06/2024)

ITU Focus Group on metaverse (FG-MV)

FGMV-36

The future of travel in the metaverse: landscape and use cases

Working Group 2: Applications & Services

Cultivating innovation in digital agriculture

The Focus Group on AI and IoT for Digital Agriculture (FG-AI4A) completed its mission by holding 10 meetings and releasing 5 key deliverables. These deliverables addressed critical areas, including:

01 Ethical, legal, and regulatory considerations for AI in agriculture.

02 Advanced data modeling techniques tailored to agricultural needs.

03 Comprehensive use cases demonstrating AI and IoT applications in farming.

04 Identification of standardization gaps to guide future innovations.

The group's work has laid a strong foundation for integrating AI into agriculture, helping farmers optimize yields, reduce resource usage, and enhance sustainability. By addressing standardization and ethical issues, FG-AI4A ensures that the benefits of digital agriculture are accessible globally.

Explore the deliverables
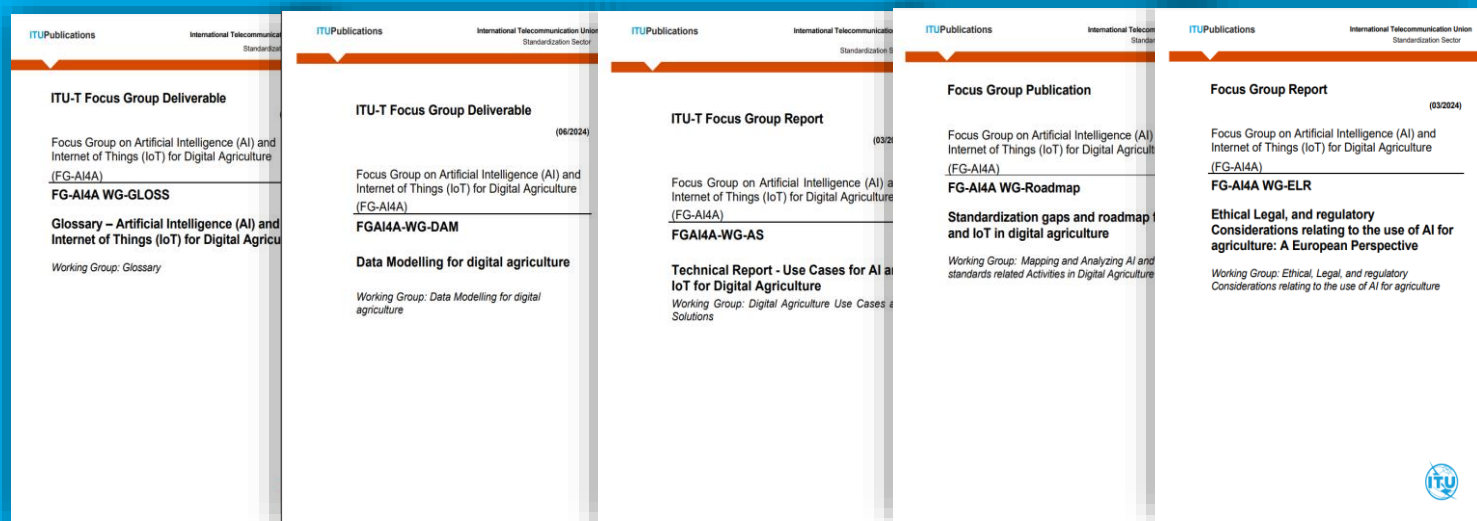
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ITU-T Focus Group Deliverable

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

FG-AI4A WG-GLOSS

Glossary – Artificial Intelligence (AI) and Internet of Things (IoT) for Digital Agricu...

Working Group: Glossary

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ITU-T Focus Group Deliverable

(06/2024)

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

FGAI4A-WG-DAM

Data Modelling for digital agriculture

Working Group: Data Modelling for digital agriculture

ITUPublications — International Telecommunication Union
Standardization Sector

ITU-T Focus Group Report

(03/20...)

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

FGAI4A-WG-AS

Technical Report - Use Cases for AI and IoT for Digital Agriculture

Working Group: Digital Agriculture Use Cases and Solutions

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Standard...

Focus Group Publication

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

FG-AI4A WG-Roadmap

Standardization gaps and roadmap f... and IoT in digital agriculture

Working Group: Mapping and Analyzing AI and standards related Activities in Digital Agriculture

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ITUPublications — International Telecommunication Union
Standardization Sector

Focus Group Report

(03/2024)

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

FG-AI4A WG-ELR

Ethical Legal, and regulatory Considerations relating to the use of AI for agriculture: A European Perspective

Working Group: Ethical, Legal, and regulatory Considerations relating to the use of AI for agriculture

Driving Change Through Unified Efforts

Global challenges demand global solutions. ITU's collaborations with international organizations ensure:

- Alignment of standards
- Sharing of knowledge and resources
- Unified efforts to address people-centered digital transformation and inclusivity challenges

Joint Coordination Activity on Internet of Things, digital twins and smart sustainable cities and communities (JCA-IoT, DT and SSC&C)

The JCA-IoT, DT and SSC&C provides a visible contact point for IoT, digital twins and smart sustainable cities and communities (SSC&C) activities. This would also help to coordinate with external bodies working in the field of IoT and SC&C and enable effective two-way communication with these bodies.

Cooperation with Global Cities Hub

In 2024, the ITU formalized a strategic cooperation agreement with the Global Cities Hub to strengthen collaboration on smart cities initiatives. This partnership aims to leverage the collective expertise to advance smart, sustainable city frameworks. By working together, ITU and Global Cities Hub will support city leaders in adopting international standards, promoting knowledge sharing, and driving innovations that enhance urban resilience, sustainability, and digital transformation on a global scale.

Cooperation with OASC

ITU has also embarked on a new collaboration with the Open & Agile Smart Cities (OASC) network, with a specific focus on implementing Recommendations ITU-T Y.4505 on Minimal Interoperability Mechanisms (MIMs) in cities. By aligning efforts, ITU and OASC aim to accelerate the adoption of standardized frameworks for interoperability, ensuring that cities can scale their digital transformation initiatives efficiently while fostering an open ecosystem that benefits inhabitants and urban communities globally.

Collaboration with oneM2M

ITU and oneM2M collaborate on the development and adoption of IoT standards. oneM2M developed a set of technical specifications for a common M2M service layer that can be readily embedded within various hardware and software, and relied upon to connect the myriad of devices in the field with M2M application servers worldwide. These technical specifications have been transposed into ITU-T Recommendations (Y.4500 series) to avoid market fragmentation and duplication of standardization efforts.

Collaboration with LoRa Alliance

ITU and LoRa Alliance have joined forces to develop vital international standards recognized by the low-power wide-area networks (LPWAN) community for IoT. This collaboration grows the agenda forward for the industry and accelerates digital transformation across economies. Buildings these synergies among standardization efforts to better support the Internet of Things and smart cities and communities. The technical specification from LoRa (LoRaWAN® 1.0.4 Specification) has been transposed into ITU-T Recommendation Y.4480 "Low power protocol for wide area wireless networks".

Join us on this journey

"Together, we can shape a future where digital transformation uplifts lives, empowers industries, and fosters sustainability. Guided by the Pact for the Future, ITU invites you to join the global movement for people-centered innovation."