

# Zoom on ITU's Approaches to Building People-Oriented Cities and Communities

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*ITU Focal Point on Environment and Smart Sustainable Cities & Communities*

# Challenges and Opportunities Facing Cities Today



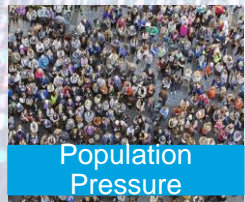
GHG Emissions



Air Pollution



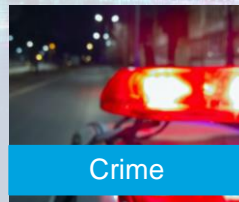
Infrastructure Gaps



Population Pressure



Informal Housing



Crime



Service Gaps



Low Connectivity



Traffic Congestion



Metaverse



Internet of Things



Digital Twin



Artificial Intelligence



Blockchain

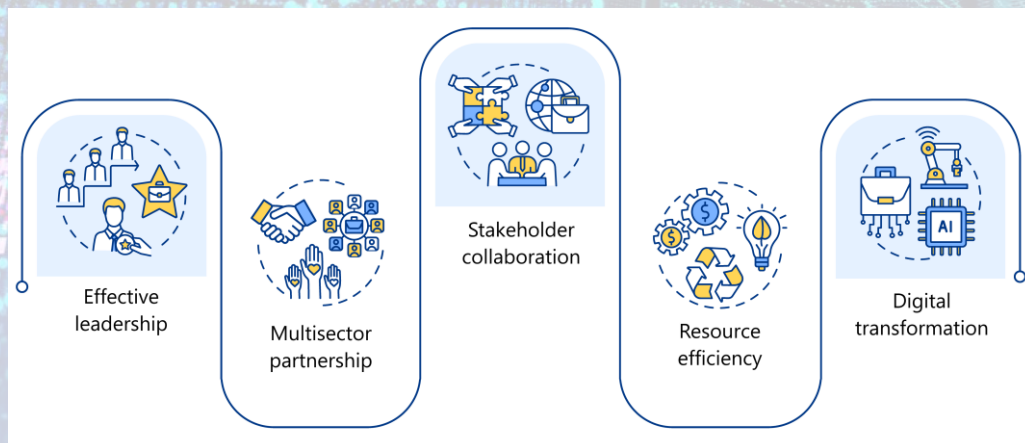


Digitalization and Big Data

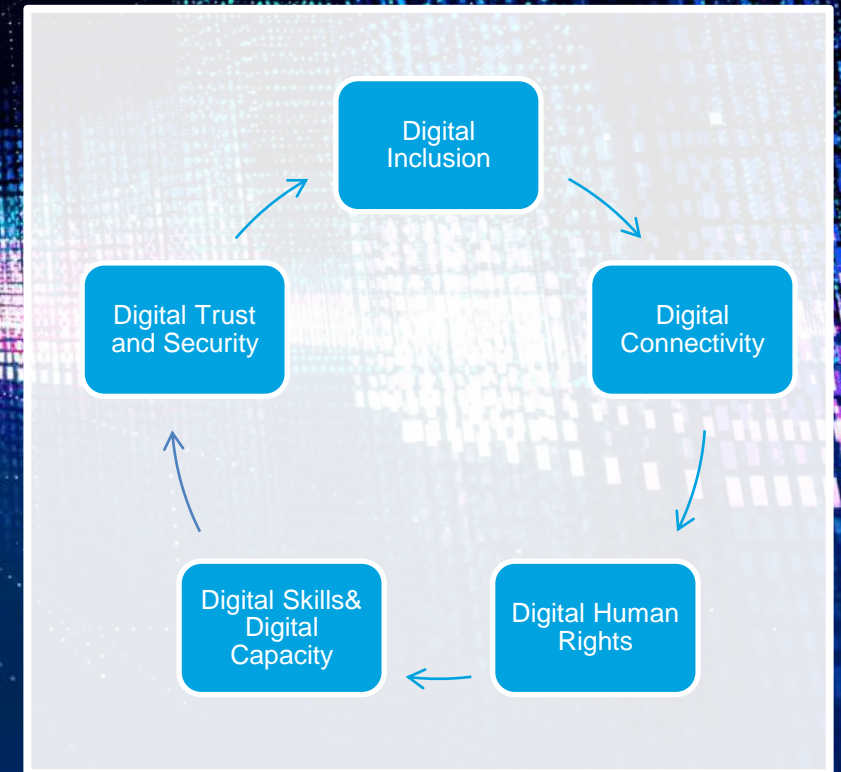
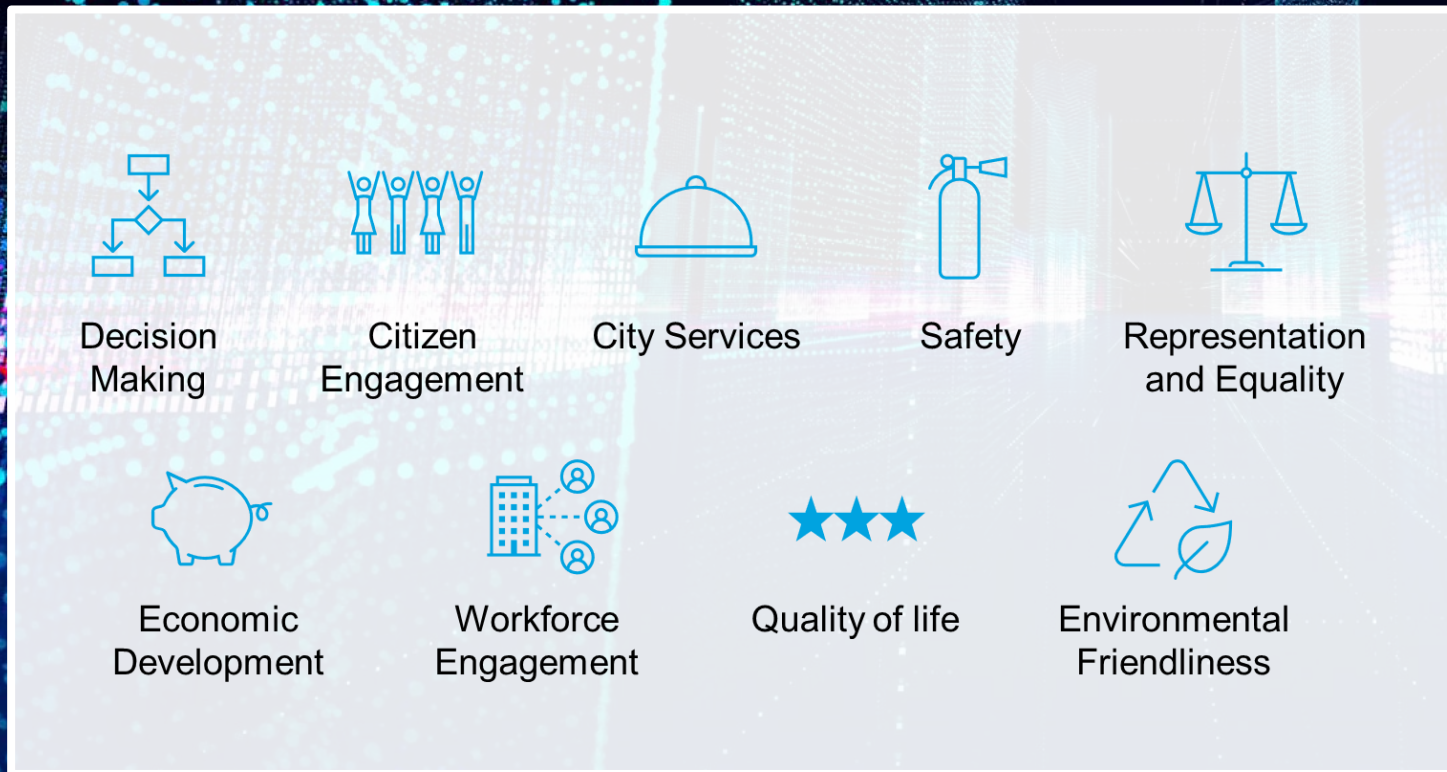


5G

# Digital Transformation for Inclusive Smart Sustainable Cities



# Benefits and Risks of the Digital Revolution



# ITU Supports Smart Sustainable Cities in Three Key Areas



## International Standards

- ITU-T Study Group 20
- Joint IEC-ISO-ITU Smart Cities Task Force



## Research & Partnerships

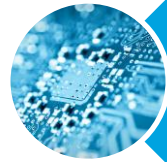
- Correspondence Group on AIoT
- United 4 Smart Sustainable Cities



## Knowledge Dissemination

- Toolkit on Digital Transformation for People-Oriented Cities
- Digital Transformation Webinar Series

# ITU-T Study Group 20 IoT and Smart Cities & Communities



Internet of Things  
and its Applications



Smart Cities and  
Communities and  
related digital  
services



IoT Identification



Digital health related  
to IoT and SSC

• Interoperability and interworking of IoT and SC&C applications and services

Q1/20



• Requirements, capabilities and architectural frameworks across verticals enhanced by emerging DT

Q2/20



• IoT and SC&C architectures, protocols and QoS/QoE

Q3/20



• Data analytics, sharing, processing and management, including big data aspects, of IoT and SC&C

Q4/20



• Study of emerging digital technologies, terminology and definitions

Q5/20



• Security, privacy, trust and identification for IoT and SC&C

Q6/20



• Evaluation and assessment of Smart Cities and Communities

Q7/20



# Accelerating Digital Transformation in Cities with ITU-T Recommendations



## Requirements and use cases

Recommendation ITU-T Y.4208: "IoT requirements for support of edge computing"

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

Recommendation ITU-T Y.4214: "Requirements of IoT-based civil engineering infrastructure health monitoring system"



## Infrastructure and architecture

Recommendation ITU-T Y.4470: "Reference architecture of artificial intelligence service exposure for smart sustainable cities"

Recommendation ITU-T Y.4480: "Low power protocol for wide area wireless networks"

Recommendation ITU-T Y.4500.1: "oneM2M-Functional Architecture" (Y.4500 series)



## Interoperability

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

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

Recommendation ITU-T Y.4805: "Identifier service requirements for the interoperability of smart city applications"



## Data management and Processing

Recommendation ITU-T Y.4461: "Framework of open data in smart cities"

Recommendation ITU-T Y.4464: "Framework of blockchain of things as decentralized service platform"

Recommendation ITU-T Y. 4472: "Open data application programming interface (APIs) for IoT data in smart cities and communities"



## Evaluation and Assessment

Recommendation ITU-T Y.4904: "Smart sustainable cities maturity model"

Recommendation ITU-T Y.4905: "Smart sustainable city impact assessment"

Recommendation ITU-T Y.4906: "Assessment framework for digital transformation of sectors in smart cities"



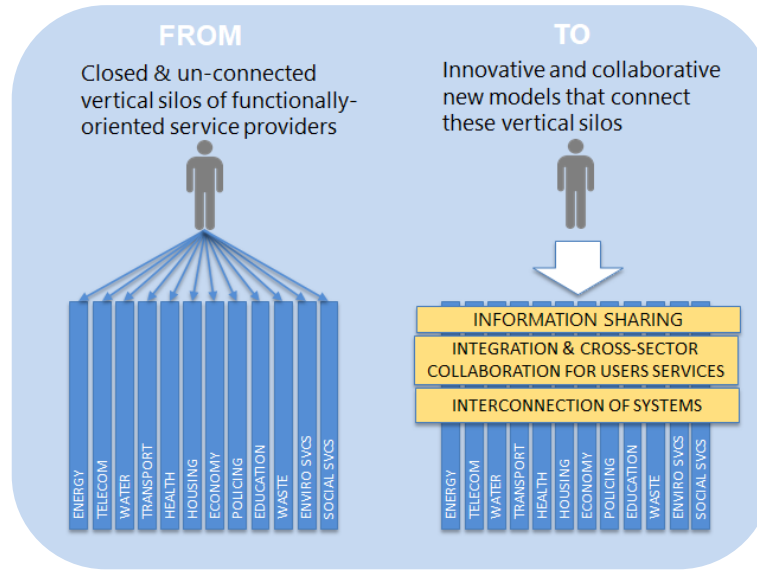
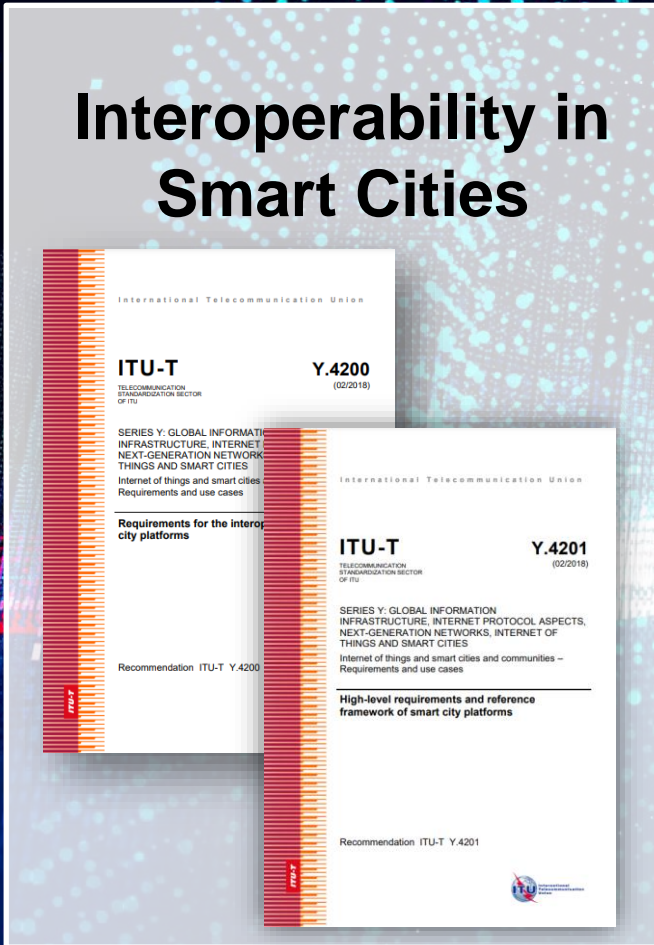
## Identification and security

Recommendation ITU-T Y.4807: "Agility by design for ICT Systems security used in the Internet of Things"

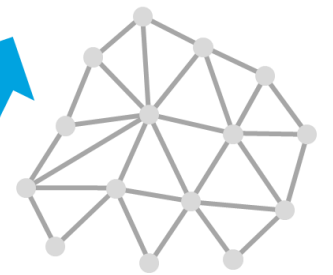
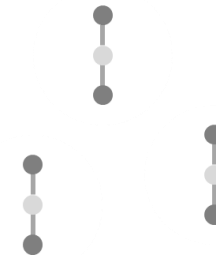
Recommendation ITU-T Y.4808: "Digital entity architecture framework to combat counterfeiting in IoT"

Recommendation ITU-T Y.4809: "Unified IoT Identifiers for intelligent transport systems"

# Interoperability in Smart Cities



“Siloed” platforms and Pilots initiatives



Collaboration, open ecosystem, City-wide deployment

Recommendation ITU-T Y.4200: 'Requirements for the interoperability of smart city platforms'

Recommendation ITU-T Y.4201: 'High-level requirements and reference framework of smart city platform'



# United 4 Smart Sustainable Cities



City Platforms



Building Urban Economic Resilience at City Level



Innovative Financing for Smart Sustainable Cities Projects



Artificial Intelligence in Cities

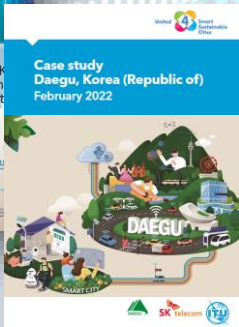
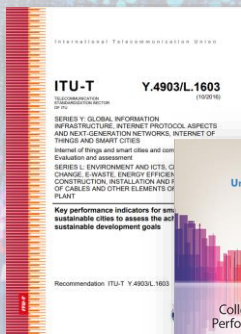


Procurement for Smart Sustainable Cities



Enabling People-Centred Cities through Digital Transformation

# ITU's Implementation of the U4SSC KPIs in more than 150 Cities worldwide



Track progress



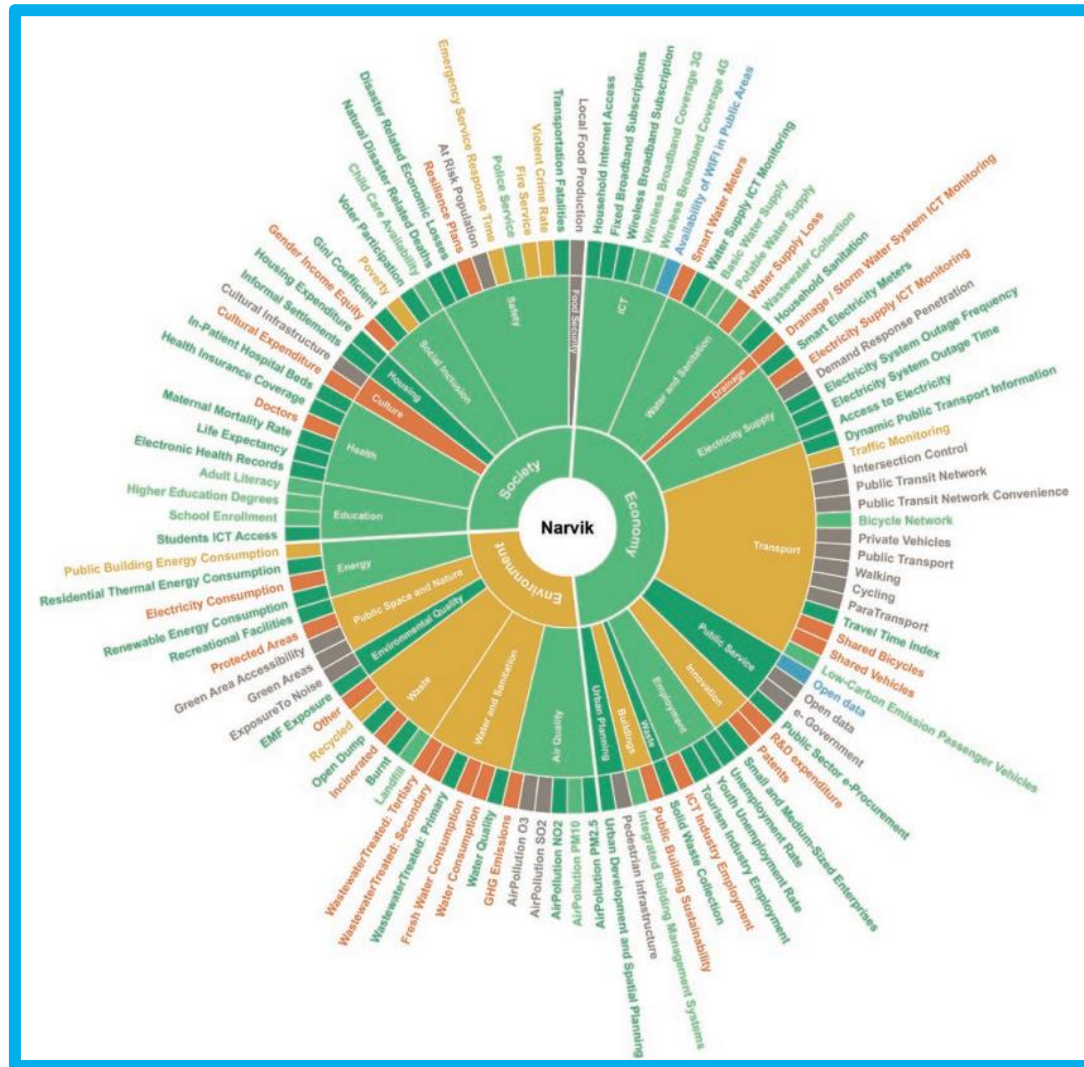
Perform trend analysis



Benchmark performance



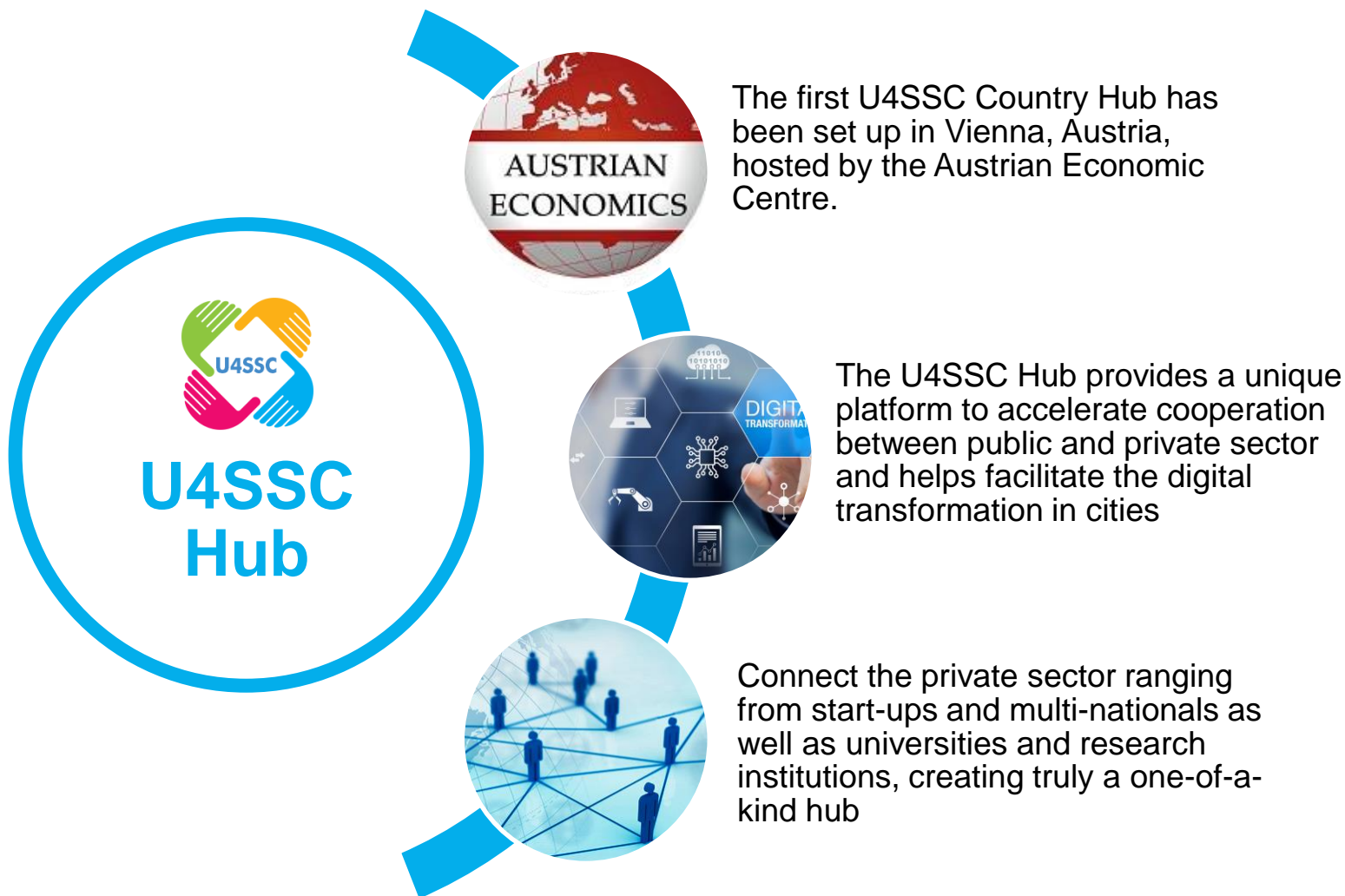
Compare results



# U4SSC Hub in Vienna



H.E. Ms. Karoline Edtstadler,  
Federal Minister for the EU and Constitution, Austria

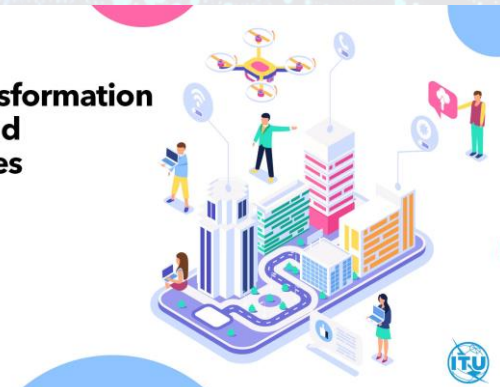


# Standardizing Digital Transformation for People-Oriented Cities

ITUWebinars

## Digital transformation for cities and communities

<https://itu.int/go/dt4cc>



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Standards help cities attain livability, inclusion, resilience and economic prosperity

Cross-sector partnership is key for success

International standards aid all facets of smartness and sustainability in cities

Cities and communities can rely on international standards to support them on achieving the SDGs



# Thank you!

Questions? Interested in learning  
more?  
Let us know!



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**Website**

[ITU-T, Smart Sustainable Cities](#)