Shaping Smarter & More Sustainable Cities

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Vice Chairman, Working Party 2,
ITU-T Study Group 20

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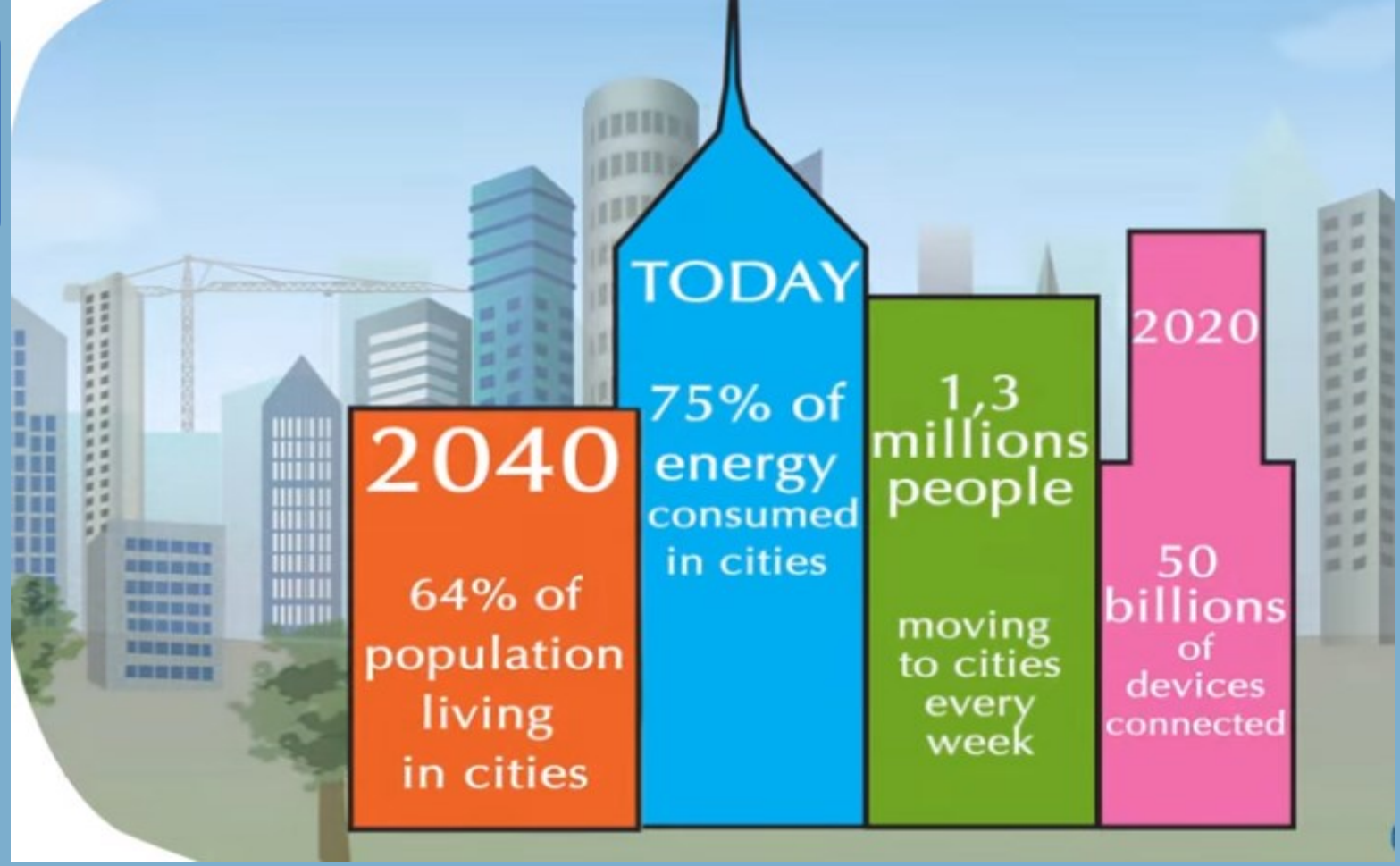
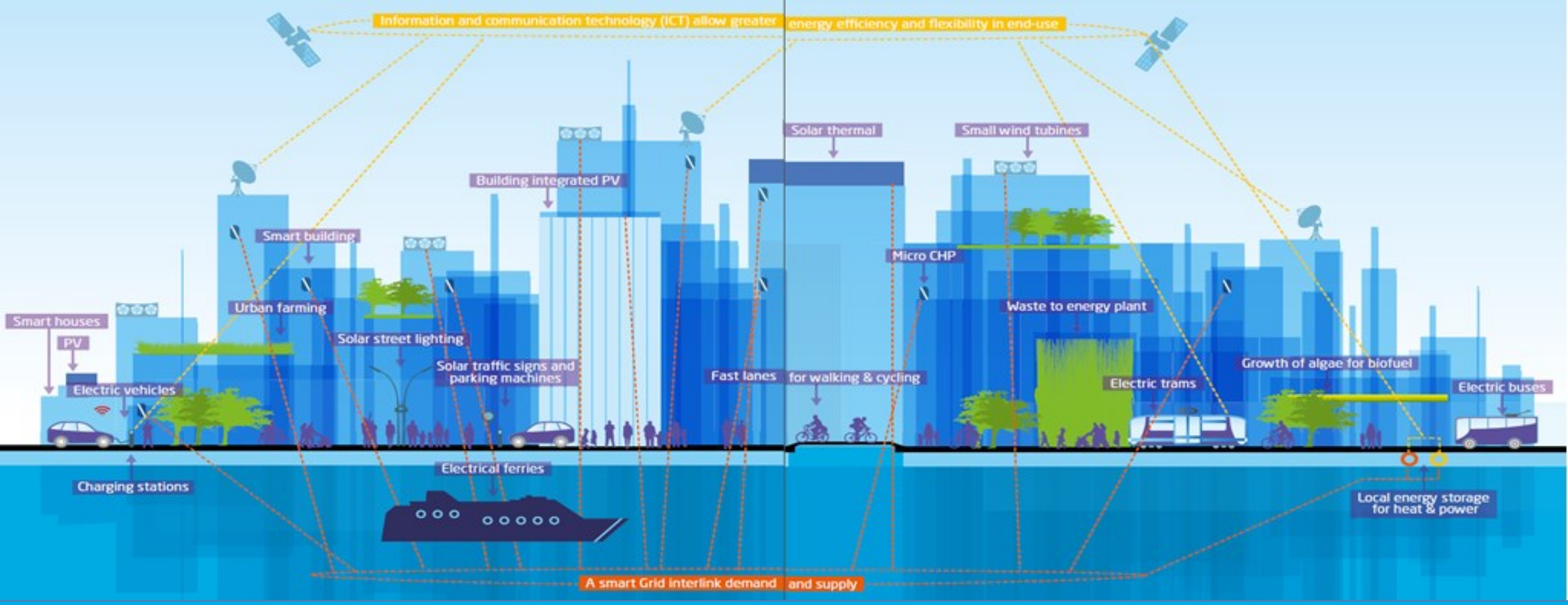
SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD

The rapid increase in population coupled with financial constraints, the convergence of technologies and a desire to reduce environmental impact is creating new challenges and opportunities for cities in areas such as energy use, mobility, security, infrastructure, healthcare and governance.





"A smart sustainable city is an innovative city that uses information and communication technologies (ICTs) and other means to improve quality of life, efficiency of urban operation and services, and competitiveness, while ensuring that it meets the needs of present and future generations with respect to economic, social, environmental as well as cultural aspects".

ITU & UNECE

IoT-enabled smarter cities & communities

WHAT TO DO?

Nurture 'Open Data' platforms that utilize 'Smart Data' as an asset in its own right

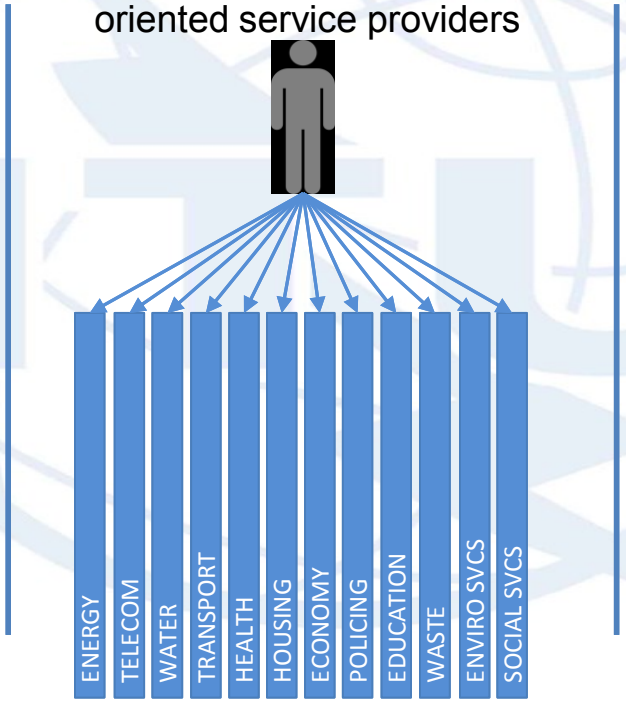
- *to create citizen-centric innovations*
- *driven & managed in collaboration by smart city stakeholders*

GUIDING PRINCIPLES

1. Visionary
2. Citizen-centric
3. Digitalize
4. Openess
5. Collaborative

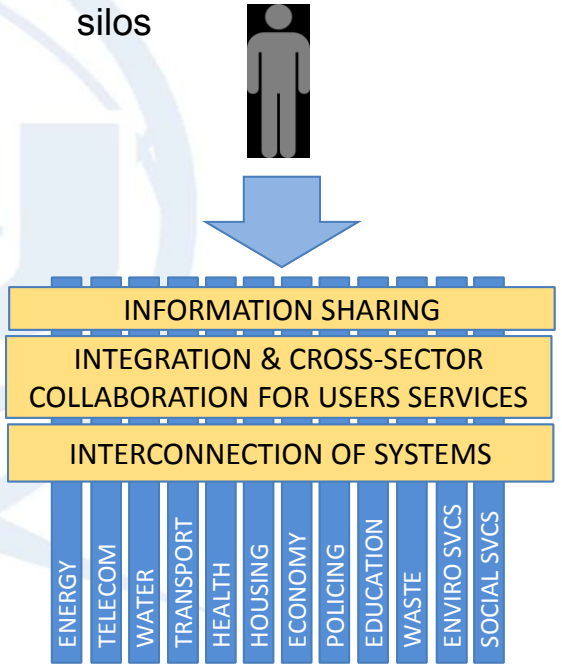
FROM

Closed & un-connected vertical silos of functionally-oriented service providers



TO WHOM

Innovative and Collaborative new models that connect these vertical silos



ITU-T Study Group 20: IoT and its applications including smart cities and communities (SC&C)

Responsible for international standards to enable the coordinated development of IoT technologies, including M2M communications and ubiquitous sensor networks

Q1/20

Research and emerging technologies including terminology and definitions

WP1/20

Internet of Things (IoT)

3 Questions

WP2/20 Smart cities and Communities (SC&C)

2 Questions

SG20 Structure

Questions	Title
PLEN	
Q1/20	Research and emerging technologies including terminology and definitions
WP1/20	Internet of Things (IoT)
Q2/20	Requirements and use cases for IoT
Q3/20	IoT functional architecture including signalling requirements and protocols
Q4/20	IoT applications and services including end user networks and interworking
WP2/20	Smart cities and Communities (SC&C)
Q5/20	SC&C requirements, applications and services
Q6/20	SC&C infrastructure and framework

WP2/20 Smart Cities and Communities (SC&C)

Q5/20: SC&C requirements, applications and services

Topics under study:

- SC&C related ecosystems, applications, services and use cases
- Studies that are directly related to SC&C:

Smart grids	Water	Mobility	Logistic	Waste
Healthcare	e-government	Education	Transport	Utilities

- ICT requirements and the related communications technologies to be taken into account when designing smart city services
- Efficient service analysis, strategic planning, deployment and implementation of SC&C, taking into account different needs of developed and developing countries

WP2/20 Smart cities and Communities (SC&C)

Q5/20: SC&C requirements, applications and services

Recommendations under study:

- Y.pops - Postproduction service of Smart Farming on the network
- Y.psfs - Functional model for production service of Smart Farming
- Y.SC-Interop - Identifier service requirements for the interoperability of Smart City applications
- Y.SC–OpenData - Framework of Open Data in Smart Cities
- Y.SC-Overview - An overview of smart cities and communities and the role of information and communication technologies
- Y.SC-Residential - Requirements of Smart Residential Communities
- Y.smartport – Requirement of smart managements of supply services in smart port
- and more…

WP2: Smart cities and Communities

Q5/20: SC&C requirements, applications and services

Supplements approved:

- ITU-T Y.Supp.34 to ITU-T Y.4000 series **"Smart Sustainable Cities - Setting the stage for stakeholders' engagement“**
- ITU-T Y.Supp.33 to ITU-T Y.4000 series **"Smart Sustainable Cities - Master plan“**
- ITU-T Y.Supp.32 to ITU-T Y.4000 series **"Smart sustainable cities - a guide for city leaders“**
- ITU-T Y.Supp.31 to ITU-T Y.4550 series **"Smart Sustainable Cities - Intelligent sustainable buildings"**

WP2: Smart cities and Communities (SC&C)
Q6/20: SC&C infrastructure and framework

Topics under study:

- General reference models of SC&C
- Spatio-temporal modeling for SC&C
- Frameworks to identify the architectural and service compositions and views on SC&C
- Identification of entities, their functions, and reference points required to provide support to SC&C applications and services
- ICT use for physical infrastructure

WP2: Smart Cities and Communities (SC&C)
Q6/20: SC&C infrastructure and framework

Recommendations under study:

- Y.frame-scc - Framework and high-level requirements of smart cities and communities
- Y.fsn - Framework and Service scenarios for smartwork
- Y.infra - Overview of city infrastructure
- Y.ism-ssc - A Technical Framework of Integrated Sensing & Management for Smart Sustainable Cities
- Y.isw-ssc - The Integrated Sensor Web Resource Metadata for Smart Sustainable Cities
- Y.SC-infra-TS - Telecommunication systems as infrastructure in smart cities and communities
- Y.SC-platform – Platforms interoperability for smart cities and communities

WP2: Smart cities and Communities

Q6/20: SC&C infrastructure and framework

Supplements approved:

- ITU-T Y.Supp.28 to ITU-T Y.4550 series **Integrated management for smart sustainable cities**;
- ITU-T Y.Supp.29 to ITU-T Y.4250 series **Multi-service infrastructure for smart sustainable cities in new-development areas**;
- ITU-T Y.Supp.30 to ITU-T Y.4250 series **Overview of smart sustainable cities infrastructure**;
- ITU-T Y.Supp.27 to ITU-T Y.4400 series **Setting the framework for an ICT architecture of a smart sustainable city**

JCA – IoT and SC&C

- To coordinate the activity on IoT & SCC across ITU-T Study Groups and with ITU-R and ITU-D.
- To seek co-operation from external bodies working in the field of IoT & SCC and enable effective two-way communication with these bodies.
- To maintain a list of cross-SDO IoT & SCC standardization items and associated roadmap.

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Co-Conveners:

- Hyoung Jun Kim (ETRI, Korea)
- Fabio Bigi (Italy)

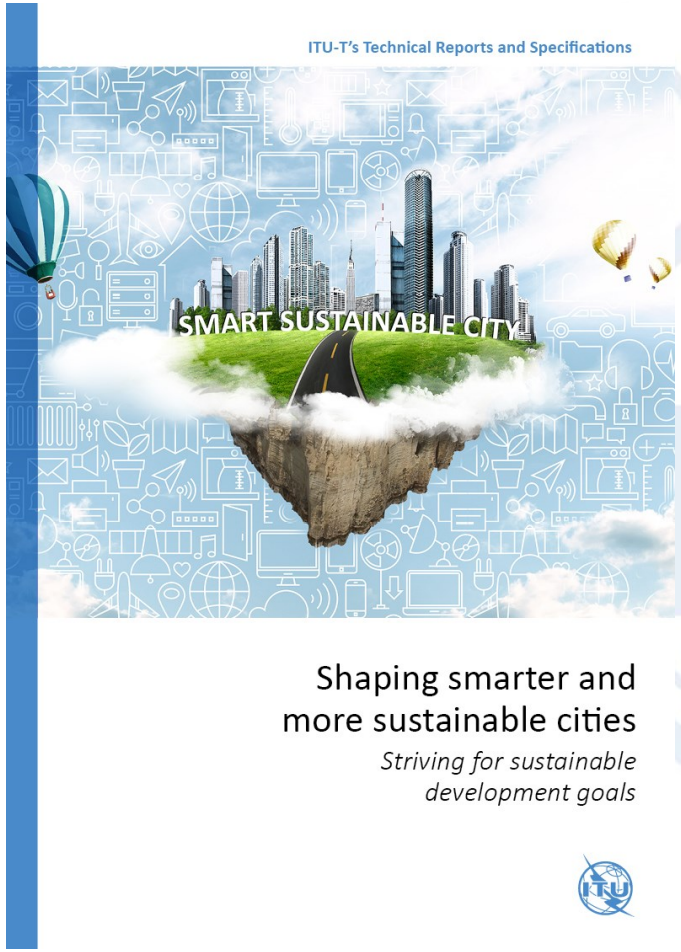
Next meeting: July 2016
Geneva, Switzerland

ITU

Next SG20 meeting

- SG20 Meeting
  - 25 July - 5 August 2016, Geneva
- ITU-UNECE-WEF Forum on Smart Cities & IoT
  - 25 July 2016, Geneva

Flipbook: Shaping smarter and more sustainable cities: *Striving for sustainable development goals*



This compendium of Technical Reports and Specifications details policy and technical considerations relevant to the development of SSC, providing policymakers and engineers with valuable reference material to guide their pursuit of happier, safer life in our cities.

Content

- Empowering SSC Transitions
- Exploring the SSC Infrastructure
- Metrics for Measuring SSC Transitions
- Paving the way for SSC

Access here: http://wftp3.itu.int/pub/epub_shared/TSB/ITUT-Tech-Report-Specs/2016/en/flipviewerxpress.html

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Technical Specifications & Reports

Empowering Smart Sustainable City Transitions

- TR on "An overview of smart sustainable cities and the role of information and communication technologies"
- TR on “Smart sustainable cities: an analysis of definitions
- TR on "Smart sustainable cities: a guide for city leaders“
- TR on "Master plan for smart sustainable cities“
- TR on "Setting the stage for stakeholders’ engagement in smart sustainable cities"

Exploring the Smart Sustainable City Infrastructure

- TR on "Overview of smart sustainable cities infrastructure"
- TS on "Setting the framework for an ICT architecture of a smart sustainable city"
- TS on "Multi-service infrastructure for smart sustainable cities in new-development areas"
- TR on "Cybersecurity, data protection and cyber resilience in smart sustainable cities"
- TR on "Intelligent sustainable buildings for smart sustainable cities“
- TR on "Smart water management in cities"
- TR on "Information and communication technologies for climate change adaptation in cities“
- TR on "Electromagnetic field (EMF) considerations in smart sustainable cities"
- TR on "Integrated management for smart sustainable cities“
- TR on "Anonymization infrastructure and open data in smart sustainable cities"

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Technical Specifications & Reports

Metrics for Measuring Smart Sustainable City Transitions

- TS on "Overview of key performance indicators in smart sustainable cities"
- TS on "Key performance indicators related to the use of information and communication technology in smart sustainable cities"
- TS on "Key performance indicators related to the sustainability impacts of information and communication technology in smart sustainable cities"
- TR on "Key performance indicators definitions for smart sustainable cities“

Paving the way for SSC

- TR on "Standardization roadmap for smart sustainable cities"
- TR on "Standardization activities for smart sustainable cities“

KPIs Project for Smart Sustainable Cities

ITU- UNECE KPIs

International Standard

You cannot manage what you cannot measure!

Assess the smartness and sustainability of the city

Advisory Board and Technical Advisory Group

To be launched on **18 May 2016**

- Dubai
- Singapore
- Manizales
- Montevideo
- Buenos Aires
- Rimini
- Valencia

Measure success

Guidelines and policies recommendations

1st meeting
22 July 2016

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Planned Events for 2016

Dates	Title	Venue
18 – 19 May 2016	Joint ITU-UNECE Forum on "Shaping smarter and more sustainable cities: striving for sustainable development goals"	Rome, Italy
13 July 2016	Joint ISO/IEC/ITU "World Smart City Forum"	Singapore
25 July 2016	Joint UNECE/ ITU/ WEF Forum on IoT and Smart Cities	Geneva, Switzerland
31 August – 1 September 2016	Forum on IoT	Buenos Aires, Argentina
5 – 9 September 2016	6th ITU Green Standards Week	Montevideo, Uruguay
12-15 September 2016	Joint ITU/IEEE Workshop on Smart Cities	Trento, Italy

Smart sustainable cities

By reimagining the role of technology and connectivity in today's cities, we're not only addressing current challenges, but we're creating countless smart and sustainable solutions built for the future.

Thank you