

Shaping tomorrow's smart sustainable cities today



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Building a Sustainable Future



City: a holistic system

The winning paradigm:

- economically competitive
- sustainable growth



“Cities are the greatest creations of humanity” – Daniel Libeskind



Cities account for about two-thirds of **global energy demand**.



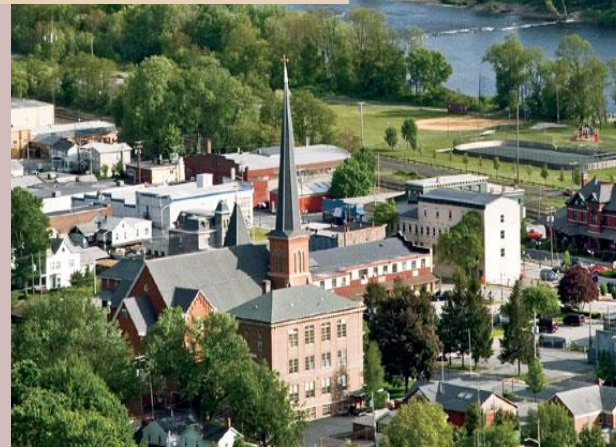
Buildings produce a fifth of the world's **CO2 emissions**.



Cities produce up to 70% of **global greenhouse gas emissions**.

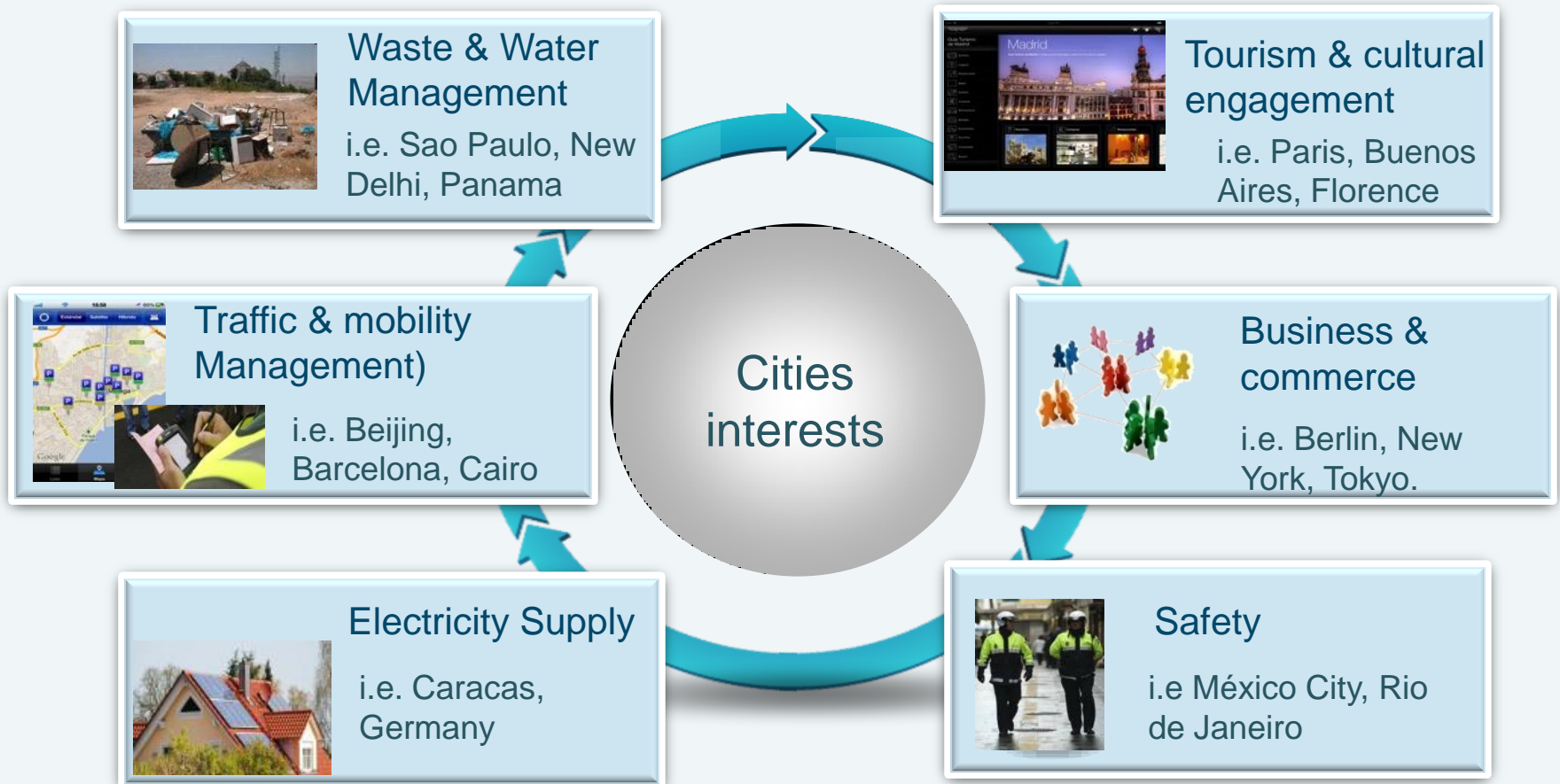


Buildings account for roughly 40% of the world's **energy use**.



An estimated 80% of **global GDP** is generated in cities.

Cities challenges vs citizens interests



From design to implementation



- Every city has **different needs**;
- Engaging all **stakeholders**;
- **Find funds** to scale-up innovation;
- Generating **public support**;
- **Assessing** progress.

Thinking smart, acting sustainable, living fulfilled



“ICTs have transformed the way people live and the manner in which countries develop. They have the potential to enable us to solve many of the critical problems confronting us. If this potential is to be realised, then we must find ways of turning these technologies into a resource for all people despite the challenges they face within their communities.”

Nelson Mandela
@ITU Telecom World 2009



ICT can help... let's move further!

What is ITU doing to shape Smart Sustainable Cities?



Members:

- UN specialized agency for ICTs
- unique public/private partnership
- **193 Member States**
- **Over 700 Private Sector**
- **Over 100 Academia**

Focus Group on Smart Sustainable Cities

- **Established** from **2013** to **May 2015**;
- As an **open platform for knowledge sharing** for smart-city stakeholders;
- Participation was **open to all**.
- **21 Technical Reports and Specifications** have been published



<http://www.itu.int/en/ITU-T/focusgroups/ssc/Pages/default.aspx>

Setting the basis



“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”



First internationally agreed definition...

Technology: turning traditional infrastructure into smart infrastructure



The role of ICT for:

Better data = better decisions

Intelligent infrastructure

Economic competitiveness

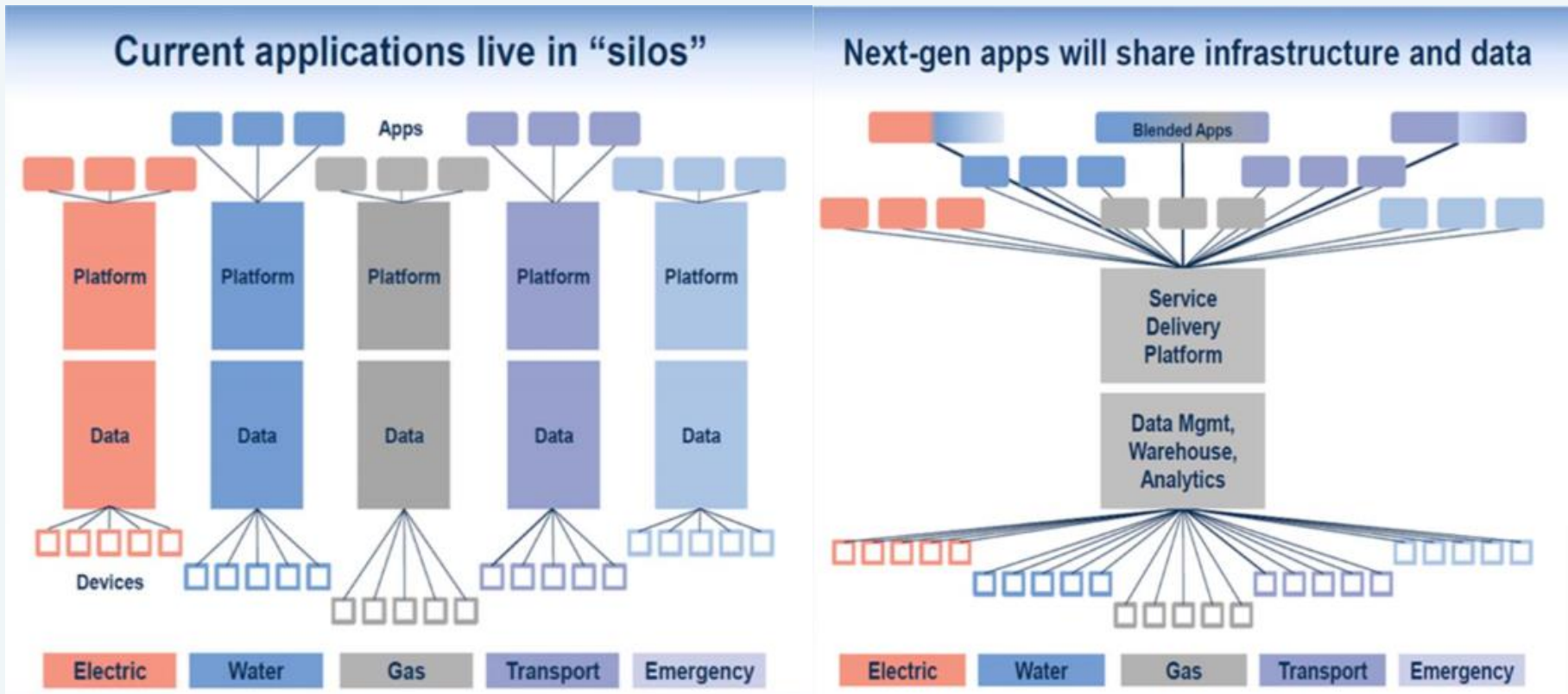
Green and sustainability

Low carbon businesses

Social inclusiveness

Citizens' engagement

Approaches



Developing smart infrastructure and integrated platform

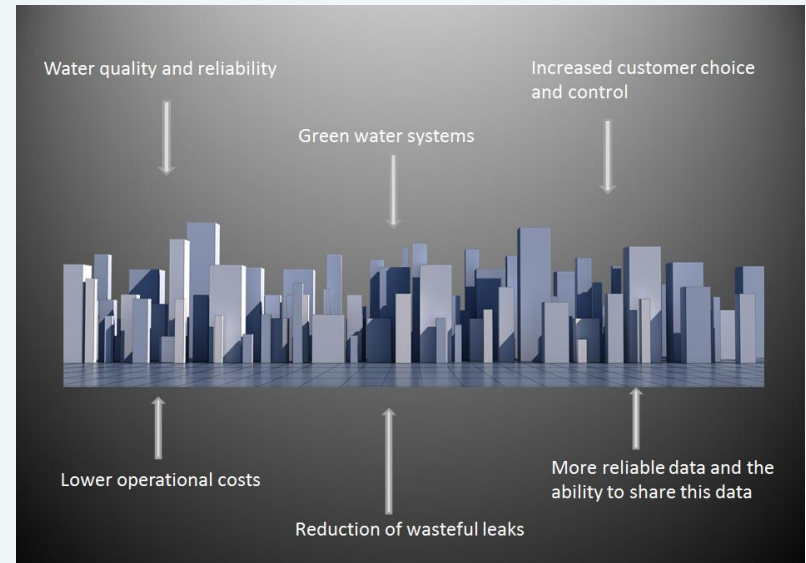
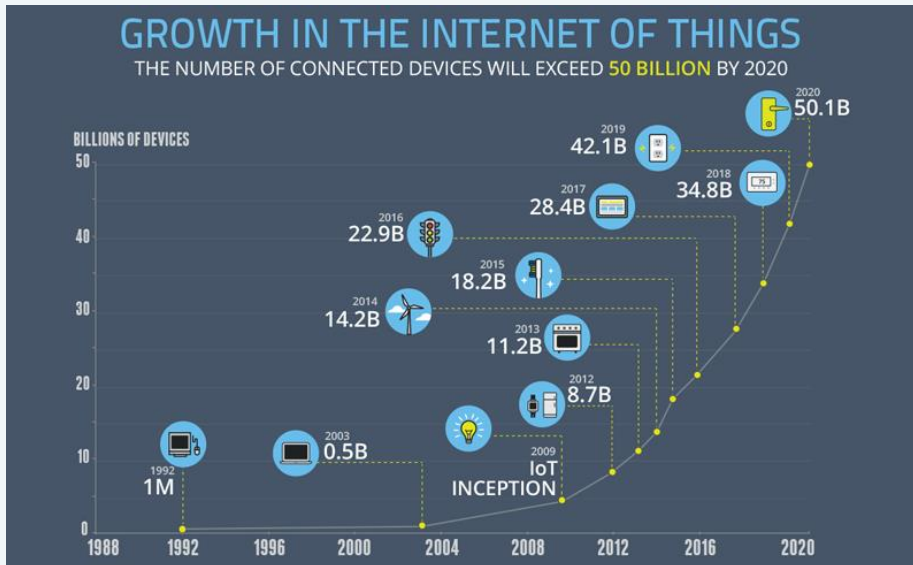
What vision will assist in resolving urbanization problems faced by cities?



Internet of Things:
The way to Smart Sustainable Cities

Smart cities are projected to use 2.7 billion connected things in 2017

IoT will shape smart sustainable cities



IoT is “A global infrastructure for the information society, enabling advanced services by interconnecting (physical and virtual) things based on existing and evolving interoperable information and communication technologies”.

(Recommendation ITU-T 2060).

ITU-T Study Group 20 (SG20) on “Internet of Things and its applications, including smart cities and communities”

- ITU-T SG20 develops international standards to enable the coordinated development of IoT technologies, including machine-to-machine communications and ubiquitous sensor networks.
- The group develops standards that leverage IoT technologies to address urban-development challenges.



**Second meeting: 18-26
January 2016, Singapore**



ITU-T SG20 Structure

	Title
PLEN	
Question 1/20	Research and emerging technologies including terminology and definitions
Working Party 1	Internet of Things (IoT)
Question 2/20	Requirements and use cases for IoT
Question 3/20	IoT functional architecture including signalling requirements and protocols
Question 4/20	IoT applications and services including end user networks and interworking
Working Party 2	Smart cities and Communities (SC&C)
Question 5/20	SC&C requirements, applications and services
Question 6/20	SC&C infrastructure and framework

Forum on “Internet of Things in Smart Sustainable Cities: A New Age of Smarter Living”

This forum will discuss the role that Internet of Things (IoT) in dealing with development challenges and creating a smart world that facilitates sustainable economic development along with a high quality of life within smart sustainable cities.



When: 18 January 2016

Where: Suntec Singapore Convention & Exhibition Centre,
Singapore

Joint Coordination Activity on Internet of Things and Smart Cities & Communities



- To provide a visible contact point IoT and SC&C activities in ITU-T, to seek co-operation from external bodies working in the field of IoT & SCC and enable effective two-way communication with these bodies.
- Maintenance of a list of cross-SDO IoT & SCC standardization items and associated roadmap.



<http://itu.int/en/ITU-T/jca/iot/Pages/default.aspx>

Smart Cities & IoT

ITU is assisting governments and industry in capitalizing on this opportunity, providing a unique platform to influence the development of international IoT standards and their application as part of urban-development master plans.



Shaping Smart Sustainable Cities Worldwide

Guide for City Leaders



Powering Smart Sustainable Cities, Nations & Islands

Pilot the ITU-UNECE's SSC-KPIs in your city

Background

- A global project launched by ITU in cooperation with UNECE to support cities in the implementation and use of the ITU-UNECE's SSC-KPIs.



Dubai first city to trial ITU key performance indicators for smart sustainable cities

Pilot project to assess city progress and inform urban-development policies

**First pilot project
started in May 2015**

Objectives

- To support cities in the implementation and use of the SSC KPIs
- To test and verify the applicability of SSC-KPIs in several cities of the world.
- To develop a global **Smart Sustainable Cities (SSC) Index**.



Defining KPIs, standards and monitoring

Pilot the ITU-UNECE's SSC-KPIs in your city

Benefits

- Cities will get a certificate from ITU and UNECE
- Cities will be able to **measure** current **performance** and identify opportunities to **improve** city services towards sustainability and operational eco-efficiency.



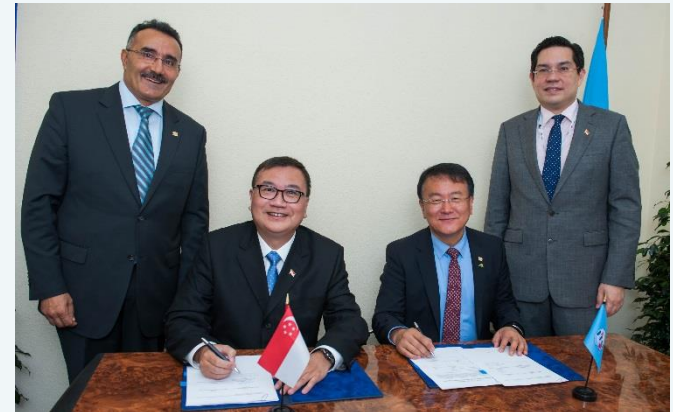
Singapore joins trial of ITU key performance indicators for smart sustainable cities

Trial of indicators to assist development of global smart sustainable city index

MEASURE
SUCCESS



Join ITU' Smart
Sustainable
Cities Initiative!



Climate Change and the New Urban Agenda

One UN solutions for sustainable urbanization



1. Lead with vision
2. Establish a circular economy
3. Achieve inclusive and sustainable industrial development
4. Share knowledge
5. Mobilize expertise
6. Evaluate and measure progress
7. Drive the evolution to smart sustainable cities and communities
8. Provide energy efficiency
9. Mitigate and adapt to climate change
10. Increase efficiency of capacity building
11. Reduce and manage safely E-waste
12. Advance on the Sustainable Development Goals

Joint statement by ITU, UNECE, UNIDO, UNU, ECLAC and Basel Convention (December 2015)

Paving the way to smart sustainable cities



- **Leading with vision** to foster the design and implementation of SSC;
- **Engaging key stakeholders**;
- **Enabling a culture of innovation and collaboration.**



Connecting Minds, Creating the Future

Get-together of
leading specialists



ITU provides a
global platform



IoT enabled

Additional information

- **ITU-T/SG20 “IoT and Smart cities”**
itu.int/go/tsg20
- **ITU-T and Smart Cities**
itu.int/go/ITU-T/ssc

THANK YOU!
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