

Accelerating Digital Transformation in Cities

Ramy Ahmed Fathy
SG20RG-AFR Chairman

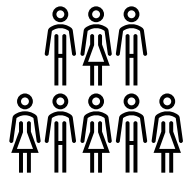
8 June 2023



Challenges Facing Cities Today



2021
50% of the population lives in cities



2022
The world's population reached 8 billion



2050
70% of the population lives in cities



GHG Emissions



Air Pollution



Infrastructure Gaps



Overpopulation



Low Connectivity



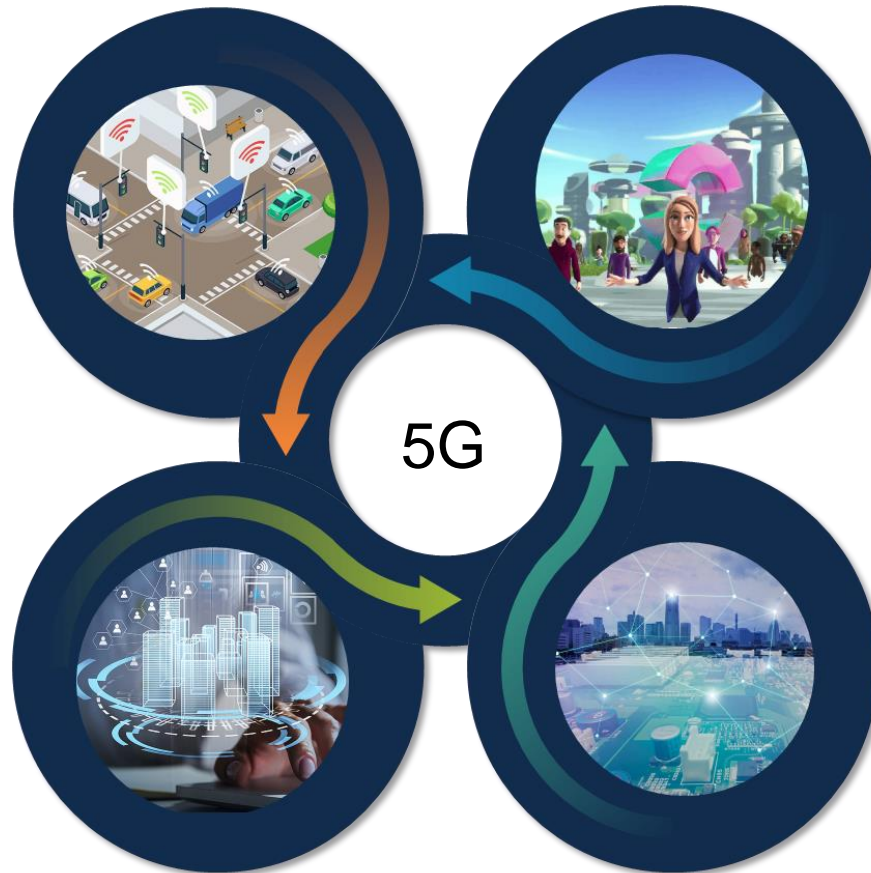
Traffic Congestion



How Digital Technologies Help Cities

Internet of Things

Sensors, actuators and smart devices for better traffic management



Metaverse

Virtual government hall to improve the efficiency of the services

Digital Twin

Disaster risk planning to increase local resilience

Artificial Intelligence

Enhance the safety of power grids and improve performance management



How ITU Support Digital Transformation in Cities



ITU: International Telecommunication Union – the UN specialized agency for ICTs

ITU-T Study Group 20 and its Regional Groups: IoT and Smart Cities and Communities

Correspondence Group on Artificial intelligence of Things

Joint Coordination Activity on Internet of Things and Smart Cities and Communities (JCA-IoT and SC&C)

Joint IEC-ISO-ITU Smart Cities Task Force

U4SSC: United for Smart Sustainable Cities initiative

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



studies relating to Internet of Things (IoT) and its applications, and smart cities and communities (SC&C);



studies relating to big data aspects of IoT and SC&C, digital services for SC&C, and digital transformation relevant IoT and SC&C aspects.



**Africa
Region**



Americas
Region



Arab Region



EECAT
Region



Asia and
Pacific
Region

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

Lead Study Group 20 Roles



Internet of Things and its Applications



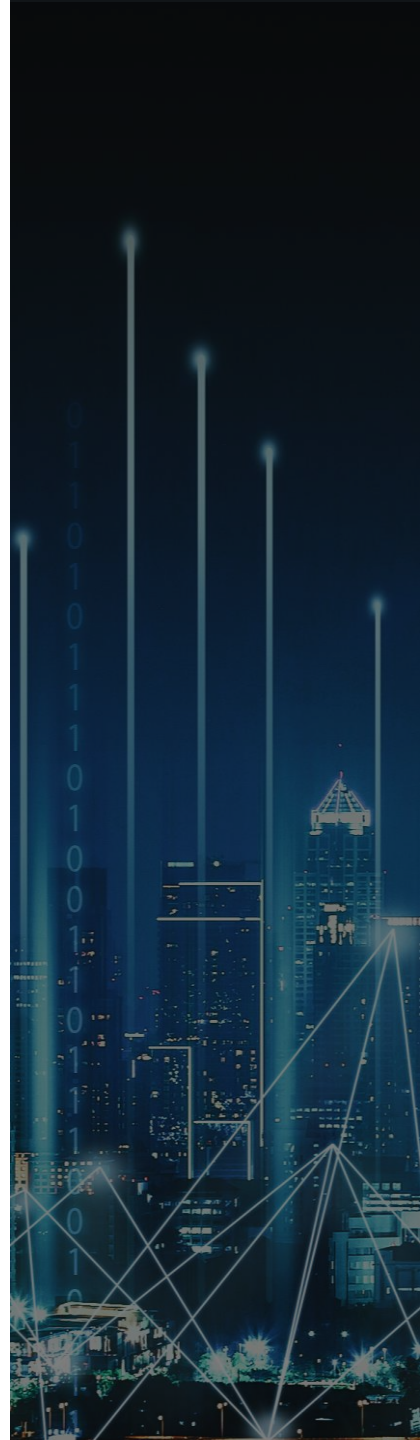
Smart Cities and Communities



IoT Identification



Digital health related to IoT and SSC



ITU-T SG20 - Management Team


Chairman



 **Hyoung Jun KIM**
(Electronics and Telecommunications Research Institute (ETRI))


Vice-Chairmen



 **Ali ABBASSENE**
(Ministère de la Poste et des Télécommunications (MPT))

 **Ramy Ahmed Fathy**
(National Telecom Regulatory Authority)


 **Achime Malick Ndiaye**
(Ministère de l'Économie Numérique et des Télécommunications)

 **Muath ALRUMAYH**
(Communication and Information Technology Commission)


 **Harinderpal Singh GREWAL**
(Infocomm Media Development Authority (IMDA))




 **Ziqin Sang**
(China Information Communication Technologies Group)

 **Fabio Bigi**
(Ministero Dello Sviluppo Economico (Dipartimento Comunicazioni))

 **Shane HE**
(Nokia Corporation)

 **Toru Yamada**
(NEC Corporation)

 **Héctor Mario Carril**
(CeSPI, Universidad Nacional de la Plata)

 **Emmanuel MANASSEH**
(Tanzania Communications Regulatory Authority)

Counsellor

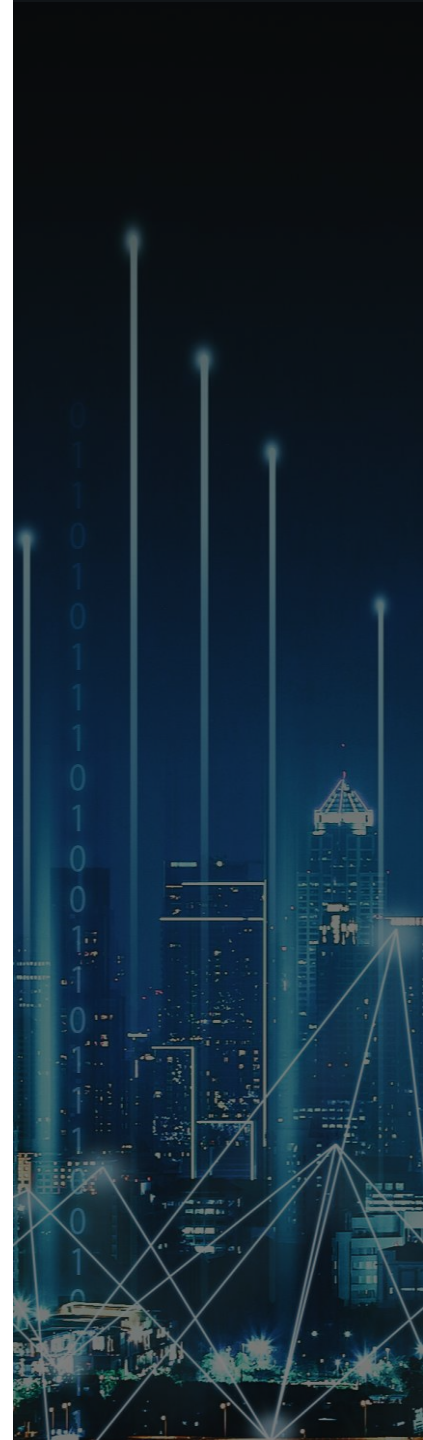


 **Cristina Bueti**
(ITU)

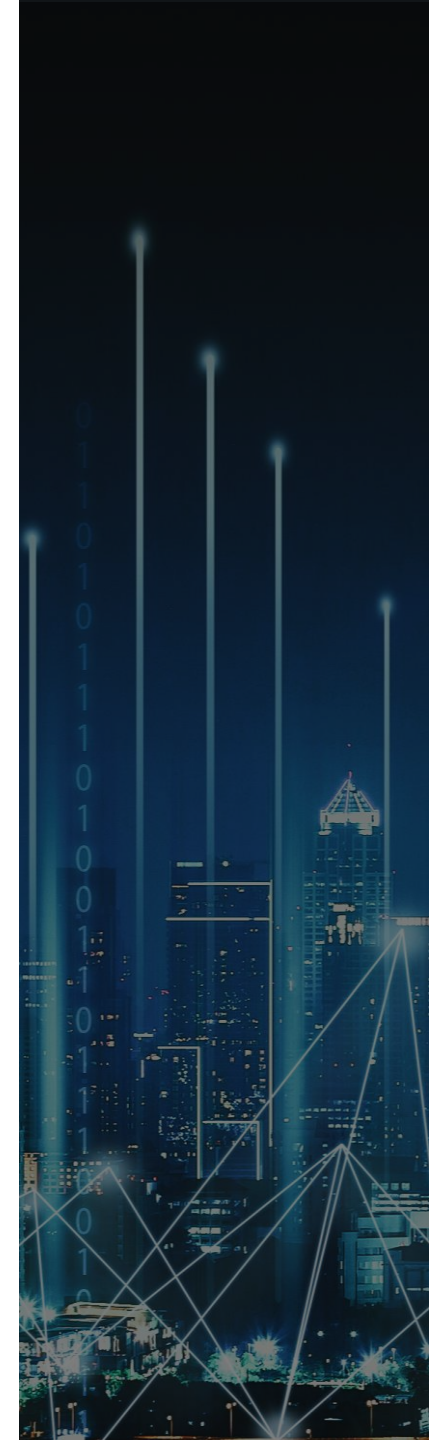
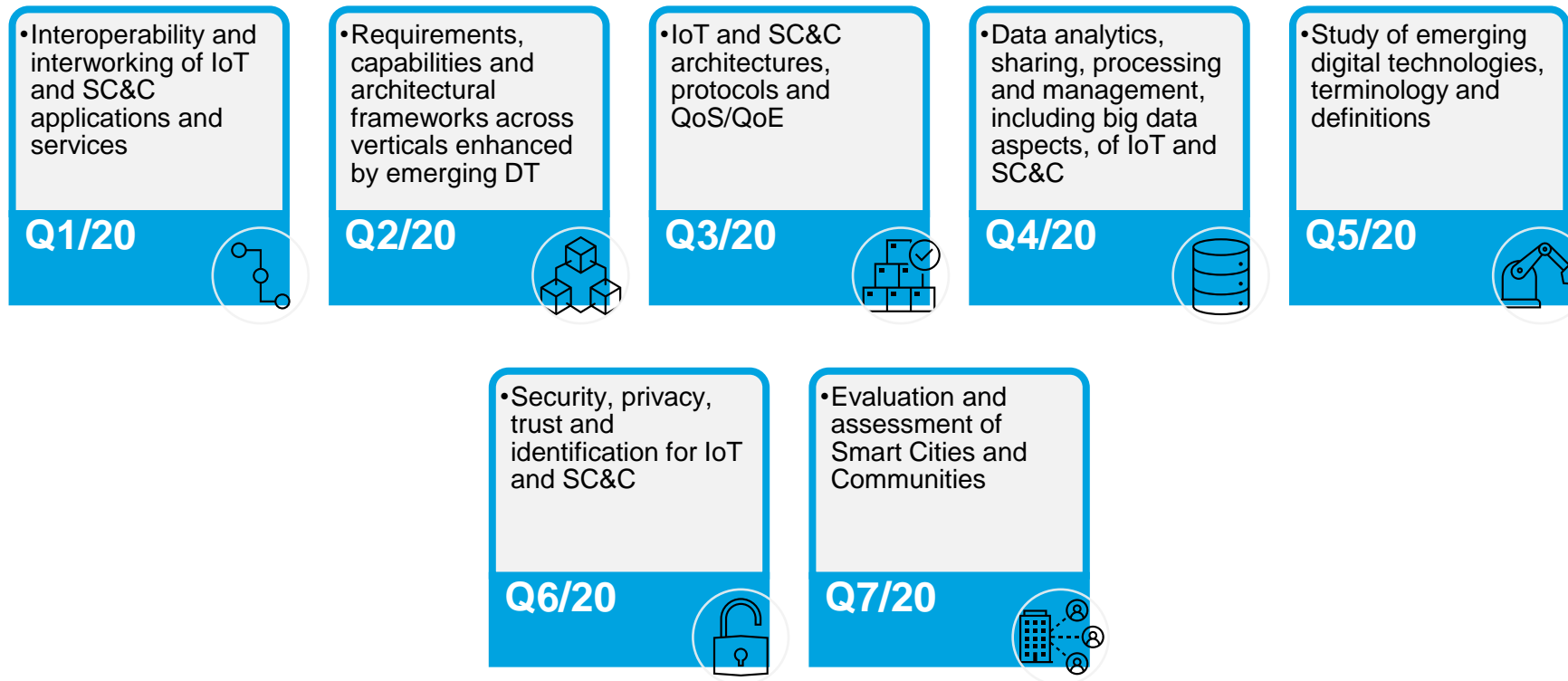
Administrative Assistant



 **Chiara Co**
(ITU)



SG20 - Study Group Structure (Study Period 2022-2024)



Key Topics & 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.4903: "Key performance indicators for smart sustainable cities to assess the achievement of sustainable development goals"

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

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

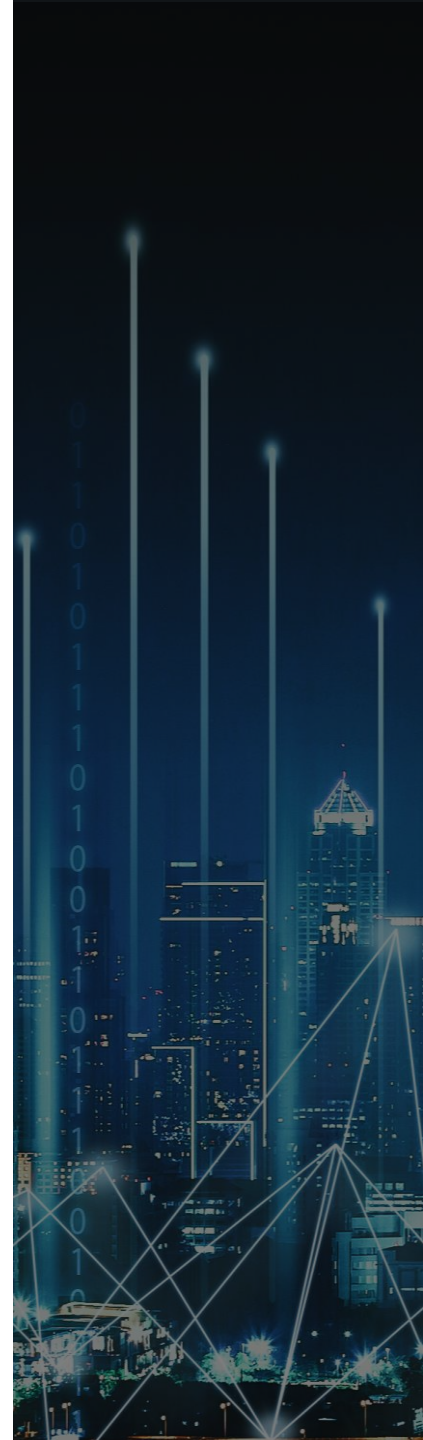


Identification and security

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"



ITU-T SG20 Regional Group for Africa (SG20RG-AFR)

SG20RG-AFR - Management Team

SG20RG-AFR Chairman: **Ramy Ahmed Fathy** (National Telecom Regulatory Authority, Egypt)

SG20RG-AFR Vice-chairmen: **Ali Abbassene** (Ministère de la Poste et des Télécommunications (MPT), Algeria)

Bilel Chabou (Ministère Des Technologies De La Communication Et De L'économie Numérique, Tunisia)


Melvin King (National Telecommunications Commission (NATCOM), Sierra Leone)

Guy-Michel Kouakou (ARTCI, Côte d'Ivoire)

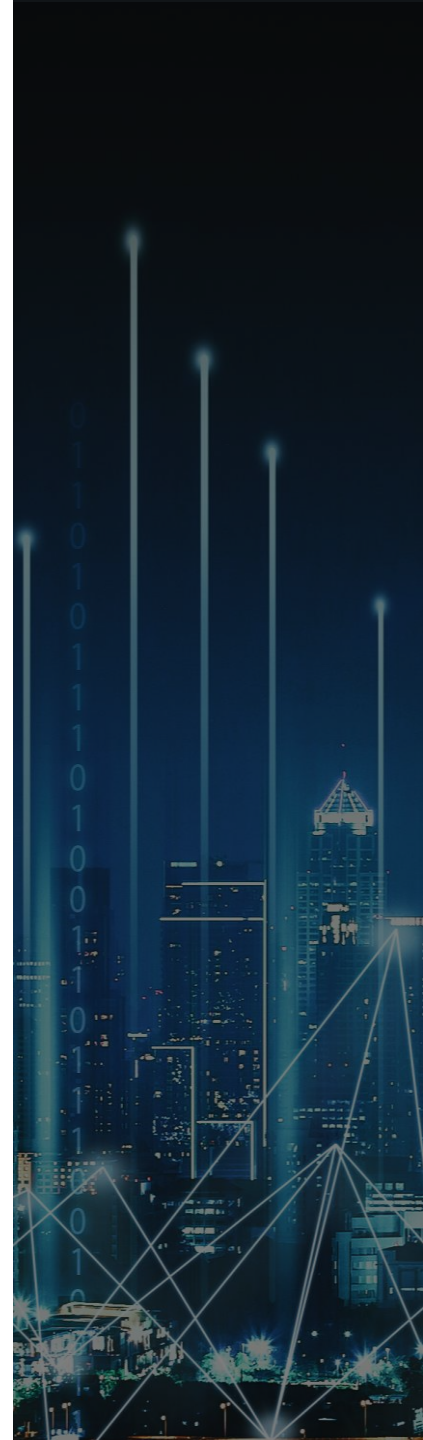
Emmanuel Manasseh (Tanzania Communications Regulatory Authority, Tanzania)

Achime Malick Ndiaye (Ministère de l'Économie Numérique et des Télécommunications, Senegal)

Next Meeting:

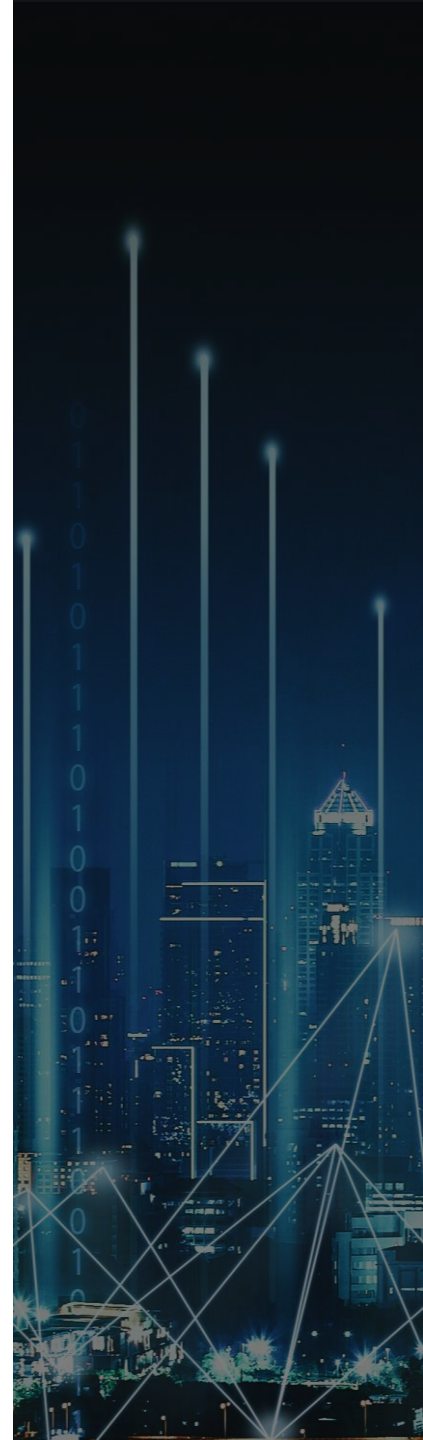
 8 June 2023

 Sharm El-Sheik, Egypt



Terms of Reference of SG20RG-AFR

- To disseminate information on the relevant work of Study Group 20.
- To facilitate the participation of member states, sector members and academia of the region in ITU-T Study Group 20 and related meetings, at least when these meetings are held in the concerned region.
- To act as liaison hub between the region's administrations, regulators, operators, manufacturers and academia in matters as per the SG20 mandate.
- To encourage the active participation of administrations, regulators, academia and operators in the work of ITU-T Study Group 20 and in the implementation of ITU-T Y-series Recommendations.
- To boost the standard developing capabilities of the countries in the region, with a view to facilitate the interoperability of IoT services within smart cities.
- To support any initiative/activities leading to the Group's evolution.
- To act as a liaison body between administrations, operators, regulators and ITU-T on topics relating to IoT and smart cities.
- To encourage substantive contributions from the region to traditional and emerging areas of interest for ITU-T Study Group 20.
- To foster participation of countries in the region to workshops and other ITU-T Study Group 20 related events.
- To strengthen standard-making capabilities within the region in accordance with Resolution 44 on "Bridging the Standardization Gap" (Revised Hammamet-2016).
- To advance on issues such as (but not limited to): interoperability between IoT applications for different IoT verticals; quality of service (QoS) and end-to-end performance for IoT and its applications including SC&C; big data aspects of IoT and smart cities and communities; e services and smart services for smart cities and communities; IoT and SC&C data analytics and intelligent control;
- To identify and study forward looking technologies and trends key for the region with a view to share the results with SG20.
- To collaborate (when required) with African Telecommunication Union (ATU) and other regional groups on IoT and smart city related matters in order to build synergies.

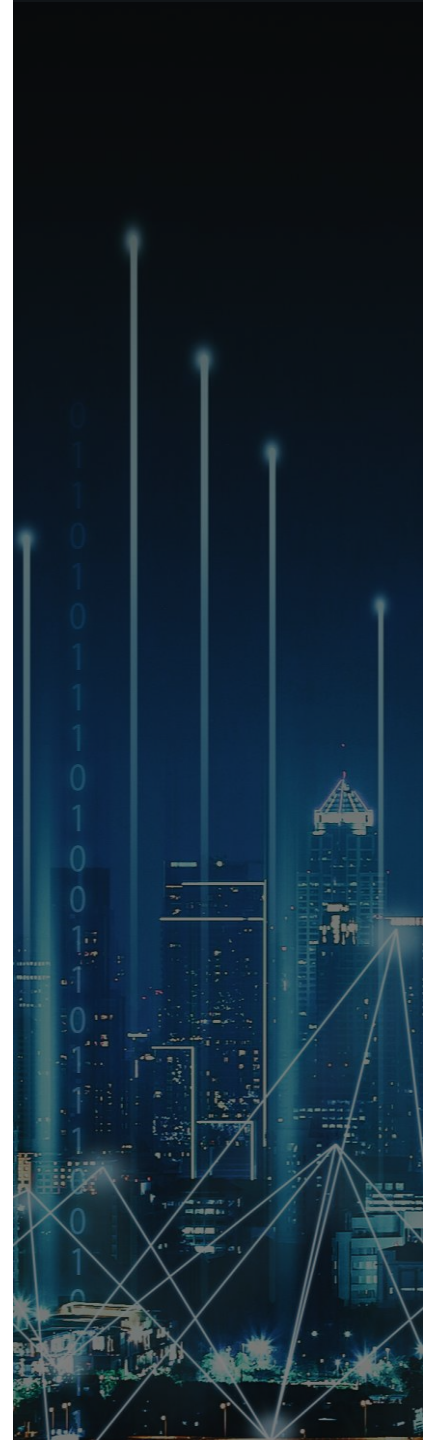
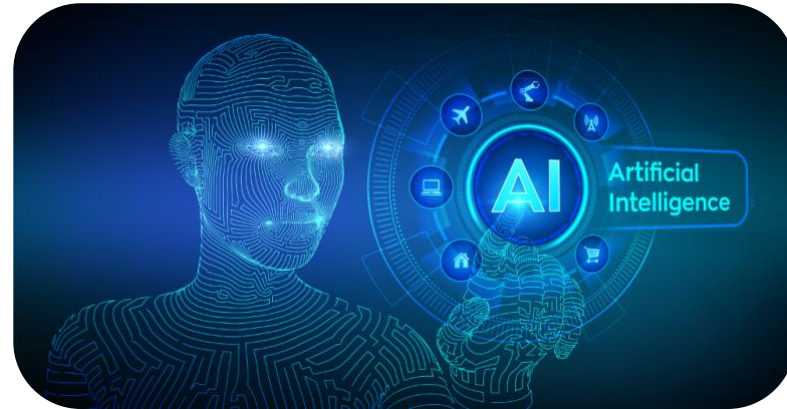


Correspondence Group on Artificial intelligence of Things

SG20, at its October 2021 meeting agreed to continue or set up the Correspondence Group listed below. To subscribe to any of the mailing lists, visit <http://www.itu.int/ITU-T/services/>

Correspondence Group on Artificial intelligence of Things (CG-AIoT)

- Terms of reference: SG20-TD2458
- Convener: Gyu Myoung Lee
- Mailing list: cg-aiot@lists.itu.int



Building Partnerships and Collaboration with SDOs and Industry Fora

IEC-ISO-ITU Joint Smart Cities Task Force (J-SCTF)



Joint Coordination Activity on Internet of Things (IoT) and Smart Cities and Communities (SC&C)



Coordinating ITU-T work on IoT and SC&C

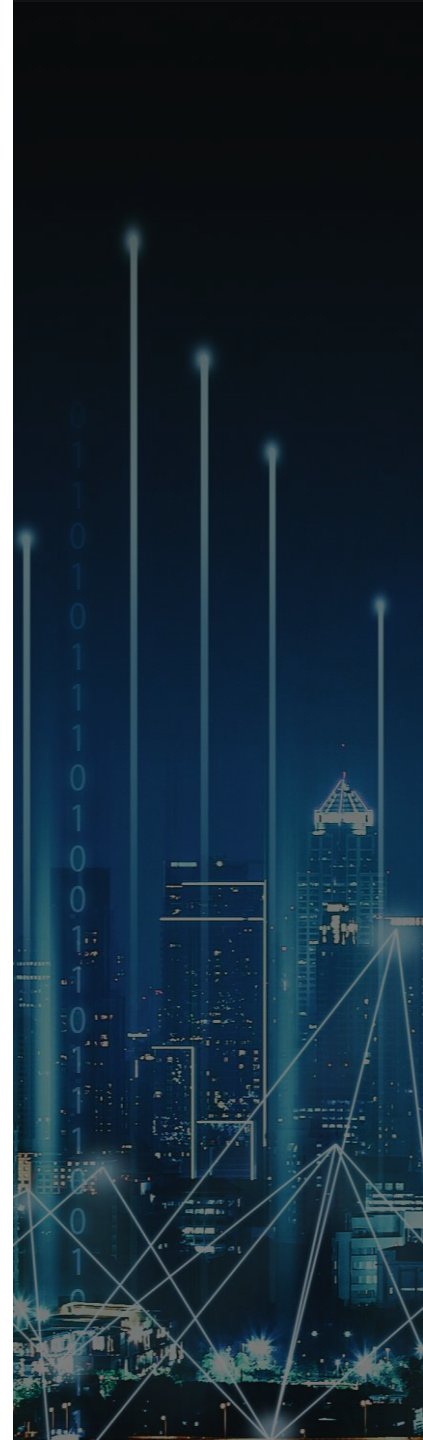


Providing contact point for IoT & applications, including SC&C activities



JCA-IoT and SC&C roadmap

Joint Collaboration is Key



United 4 Smart Sustainable Cities



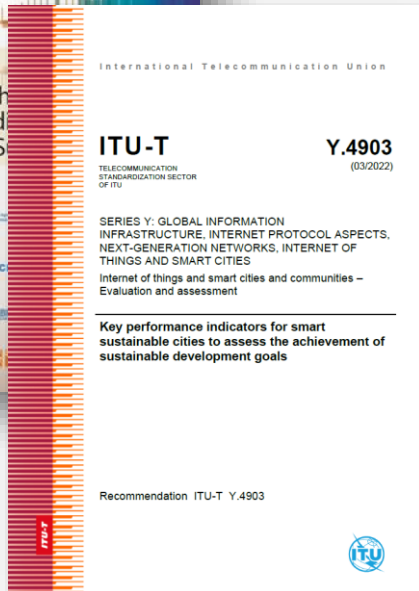
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Newly released!

<https://u4ssc.itu.int/publications/>

U4SSC Key Performance Indicators



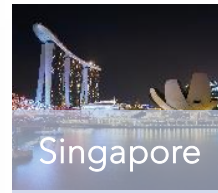
Daegu



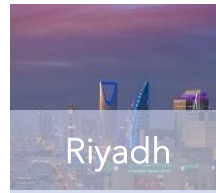
Mashhad



Dubai



Singapore



Riyadh



Valencia



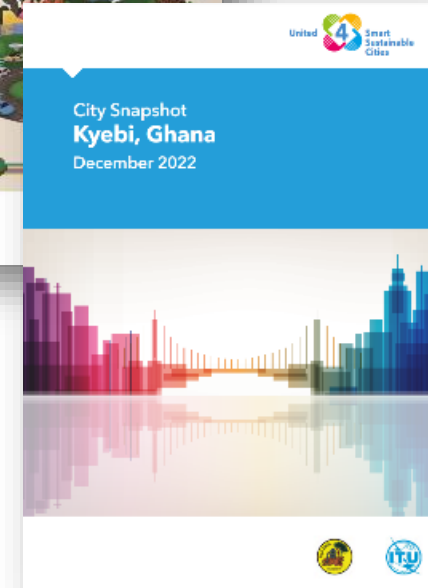
Santa Fe



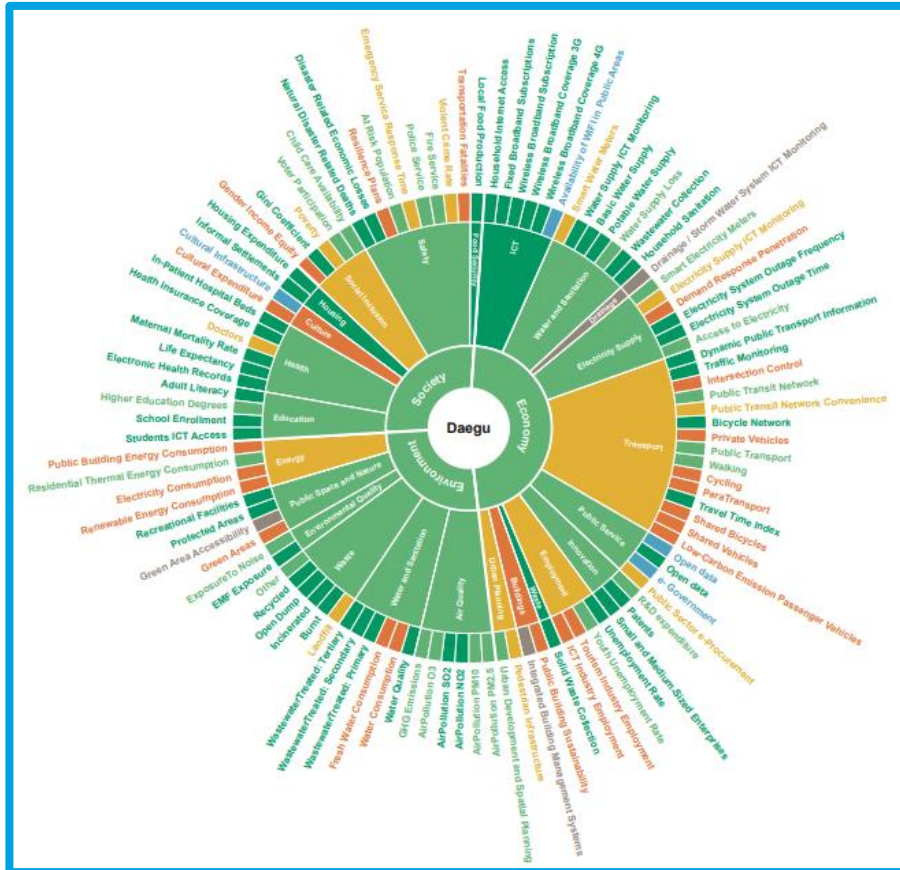
Bizerte



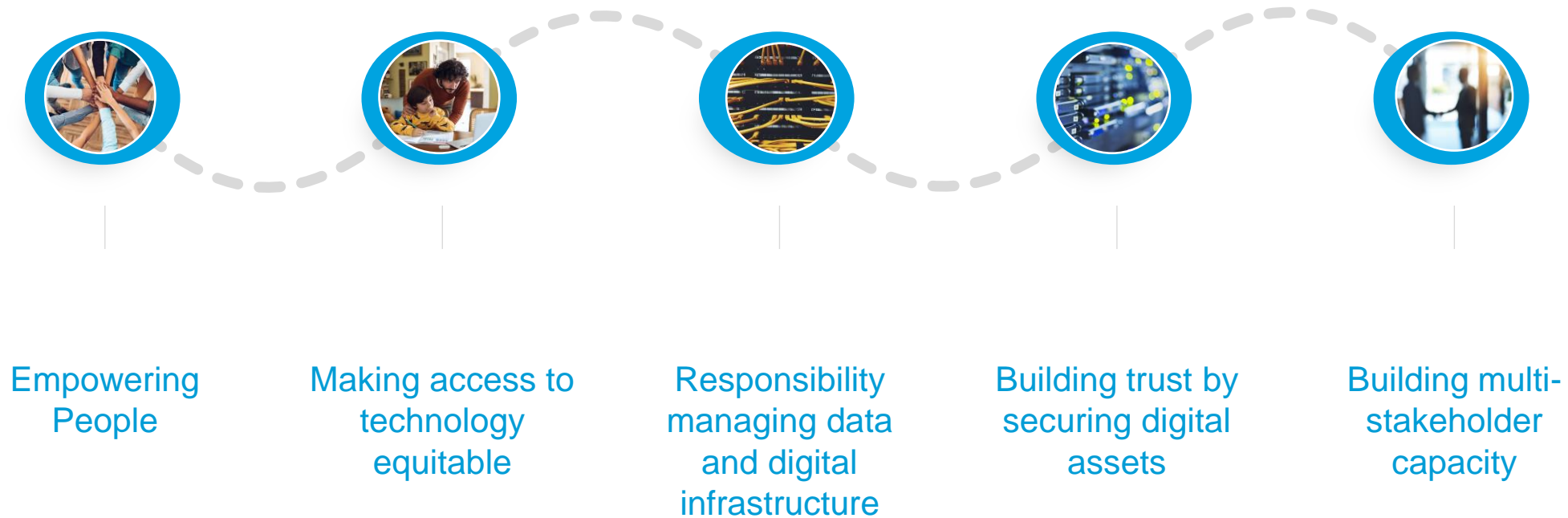
Many more!



The U4SSC KPIs in Action - Daegu, South Korea (Republic of)



Multi-year journey towards people centred cities





Thank you!



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tsbsg20@itu.int



Website

[SG20: IoT and Smart Cities and Communities](#)

