



The way IoT and other frontier technologies protect the environment

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The Internet of Things (IoT)



“The Internet of Things (IoT) can be viewed as a global infrastructure for the information society, enabling advanced services by interconnecting (physical and virtual) things based on existing and evolving interoperable information & communication technologies.”

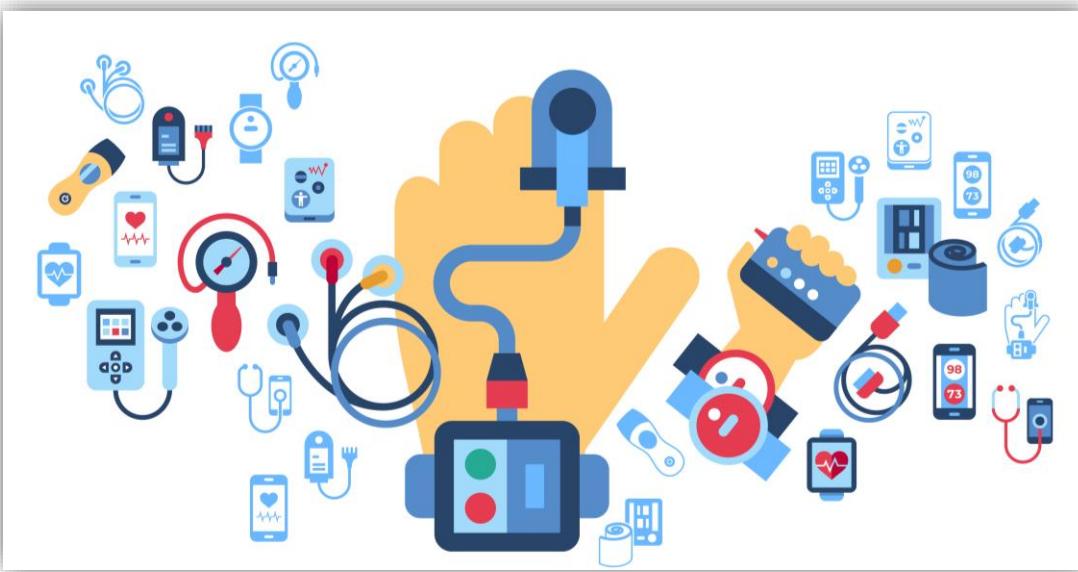
Recommendation ITU-T Y. 2060

IoT: Applications for SDGs



IoT in healthcare

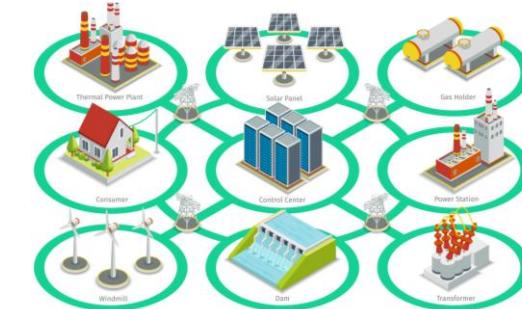
3 GOOD HEALTH
AND WELL-BEING



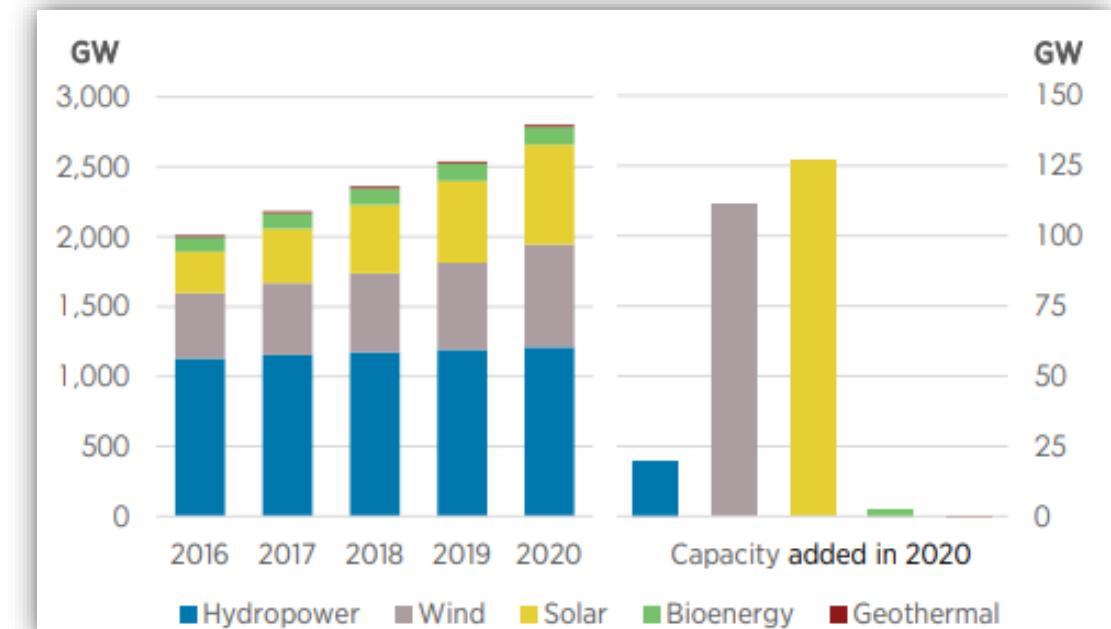
IoT in energy



Cumbria offshore wind farm turbines



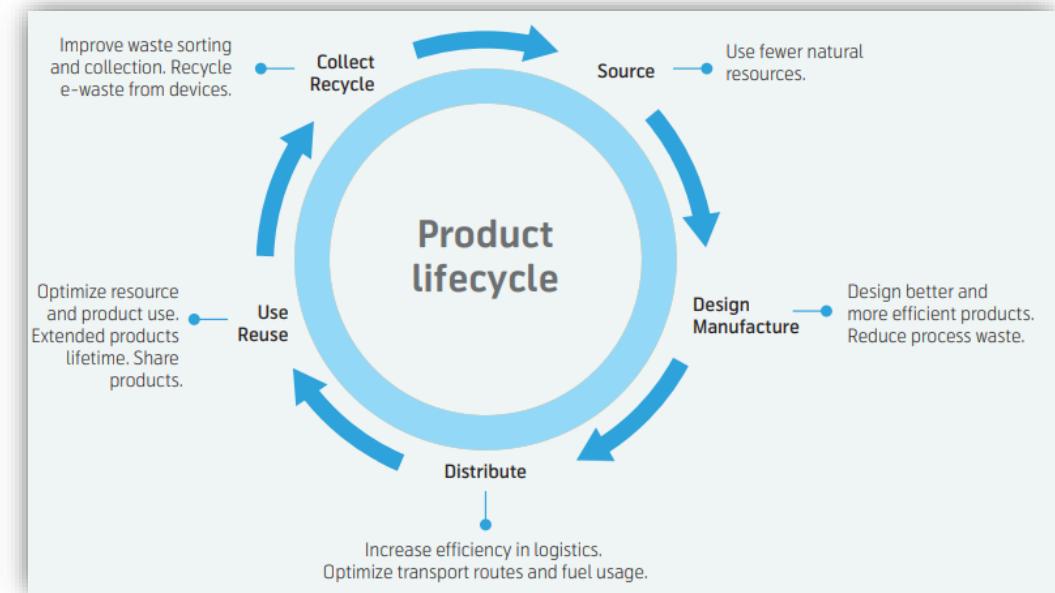
7 AFFORDABLE AND CLEAN ENERGY



Renewable power capacity growth (2020)

IoT in industry

9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



IoT in cities and communities

11 SUSTAINABLE CITIES
AND COMMUNITIES



Smart homes



Smart services
and infrastructure



Smart agriculture



Smart buildings



Smart water

IoT in production and consumption



IoT in environmental monitoring and adaptation



Robotic fish being deployed to monitor marine pollution and measure its impacts



Space 2.0 technology used for monitoring weather patterns

ITU and IoT standardization



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



ITU's global portal on Environment & SSC

Smart sustainable cities

Energy efficient ICTs

**Cities' actions to
tackle COVID-19**

**E-waste and
circular economy**

Frontier Technologies

Climate actions



Conclusion



Thank you!

Questions? Interested in learning more?
Let us know!



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Website

[ITU-T, Smart Sustainable Cities](http://itu-t.org/smartcities)

Additional Slides

ITU-T Study Group 20

- **Lead Study Group 20 Roles:**

- Internet of things (IoT) and its applications
- Smart cities and communities, including e-services and smart services
- Internet of things (IoT) identification

WP1/20

Q1/20 Interoperability and interworking of IoT and SC&C applications and services

Q2/20 Requirements, capabilities and architectural frameworks across verticals enhanced by emerging digital technologies

Q3/20 IoT and SC&C architectures, protocols and QoS/QoE

Q4/20 Data analytics, sharing, processing and management, including big data aspects, of IoT and SC&C

WP2/20

Q5/20 Study of emerging digital technologies, terminology and definitions

Q6/20 Security, privacy, trust and identification for IoT and SC&C

Q7/20 Evaluation and assessment of Smart Cities and Communities



ITU-T Study Group 5

- **Lead Study Group 5 Roles:**

- electromagnetic compatibility, lightning protection and electromagnetic effects
- ICTs related to the environment, climate change, energy efficiency and clean energy
- circular economy, including e-waste

PLEN

- Q8/5** Guides and terminology on environment
- WP1/20** EMC, lightning protection, EMF
- Q1/5** Electrical protection, reliability, safety and security of ICT systems
- Q2/5** Protecting equipment and devices against lightning and other electrical events
- Q3/5** Human exposure to electromagnetic fields (EMFs) due to digital technologies
- Q4/5** Electromagnetic compatibility (EMC) aspects in ICT environment
- Q5/5** Security and reliability of information and communication technology (ICT) systems from electromagnetic and particle radiations

- WP2/20** Environment, Energy Efficiency and the Circular Economy
- Q6/5** Environmental efficiency of digital technologies
- Q7/5** E-waste, circular economy and sustainable supply chain management
- Q9/5** Climate change and assessment of digital technologies in the framework of the Sustainable Development Goals (SDGs) and the Paris Agreement
- Q10/5** Adaptation to climate change and low cost and sustainable resilient information and communication technologies (ICTs)
- Q11/5** Climate change mitigation and smart energy solutions
- Q12/5** Adaptation to climate change through sustainable and resilient digital technologies
- Q13/5** Building circular and sustainable cities and communities

United for Smart Sustainable Cities



11 SUSTAINABLE CITIES AND COMMUNITIES

Accelerating city transformation using frontier technologies
A UA4SSC deliverable

United Nations Smart Sustainable Cities

UN4PARTNERSHIPS

Convention on Biological Diversity

United Nations Economic Commission for Africa

United Nations Framework Convention on Climate Change

United Nations University

United Nations E-Governance

Food and Agriculture Organization of the United Nations

UNECE

United Nations Educational, Scientific and Cultural Organization

UN-HABITAT
FOR A BETTER URBAN FUTURE

UN WOMEN

World Meteorological Organization

ITU

United Nations Development Programme

United Nations Environment Programme

UNDP

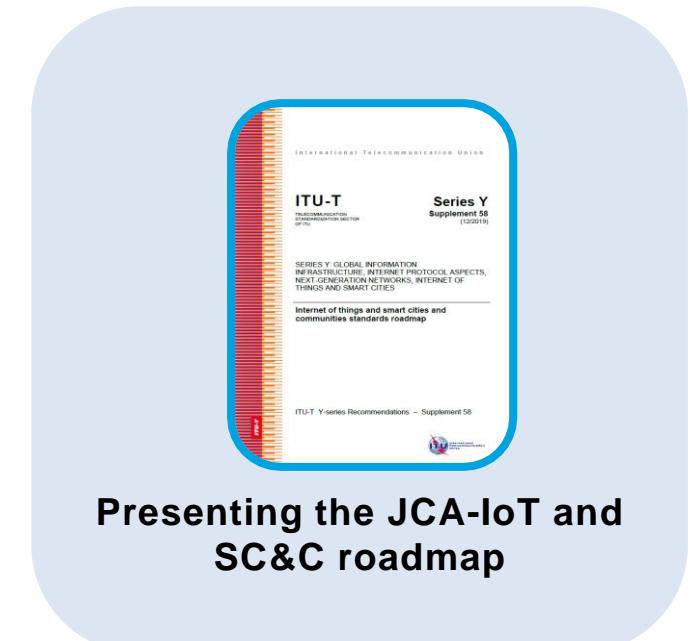
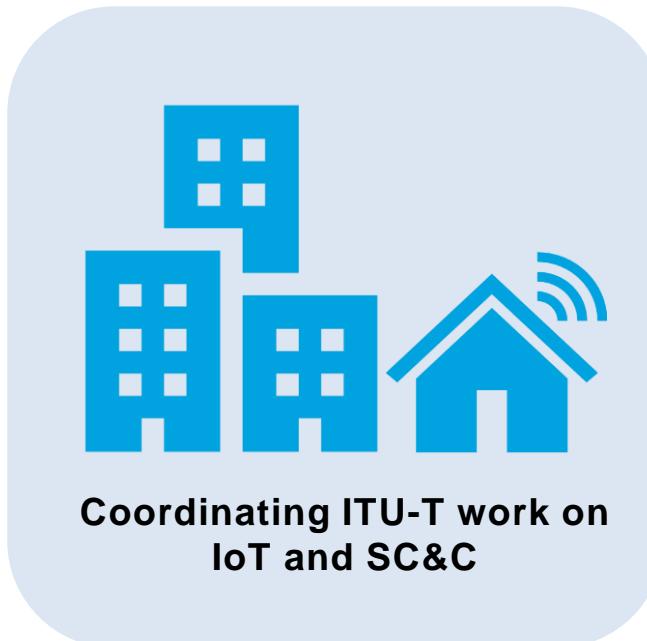
UN environment

UNIDO

ITU



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



Joint Smart Cities Task Force



Publications

