

Climate Action – The role of ICTs in leading a carbon neutral path

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Working Party 2/5 Chairman
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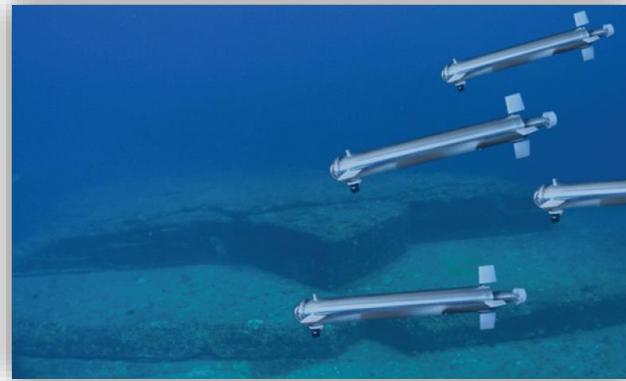
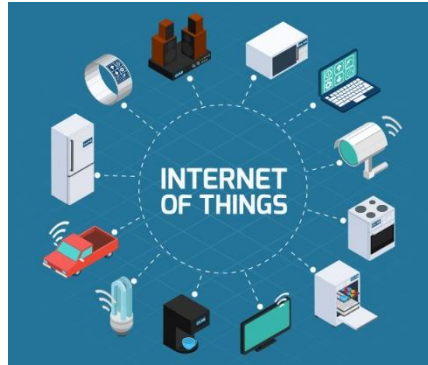




**The ICT sector
accounts for 2% of
global emissions...**

**It can help reduce global
emissions by 15%**

Frontier Technologies can address global challenges such as climate change



ITU is helping the ICT sector move towards a carbon neutral path

International standards: ITU-T SG5: Environment, Climate Change and Circular Economy

Research and pre-standardization work:
FG-AI4EE

Raising awareness:
International events and Reports

Active collaboration
with other entities and UN organizations



Standards helping a green transition

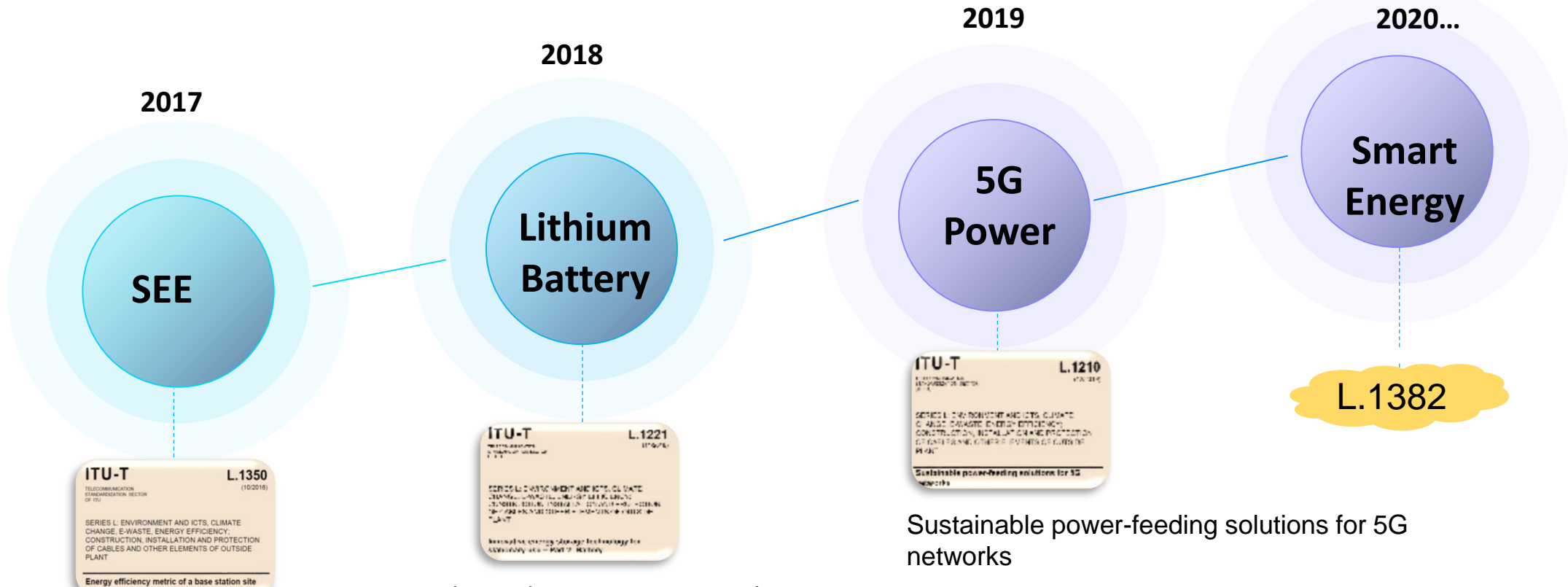


Data centre infrastructure management system based on Big Data and AI technology

Implements intelligence strategies to:

- Use AI to achieve active prediction and automatically managing the infrastructure resources.
- Decrease the system costs and increase the efficiency.

ITU Standards evolution for site development and efficiency



Site energy efficiency metric definition

Site energy efficiency (SEE) represents the site efficiency of the measured site

Innovative energy storage tech.

- Parallel operation: $P_n = N * P_s$
- Mixed hybrid battery technology use option
- Software lock option and antitheft function

Sustainable power-feeding solutions for 5G networks

- Multiple energy inputs and multiple voltage outputs
- Intelligent management and lithium batteries
- Intelligent voltage boosting and peak shaving
- Renewable energy solutions

Why a new standard for telecommunication rooms?

After 5G evolution the new trend will be the evolution of the fixed sites and networks.

F5G evolution all optical

CDN and edge sinking

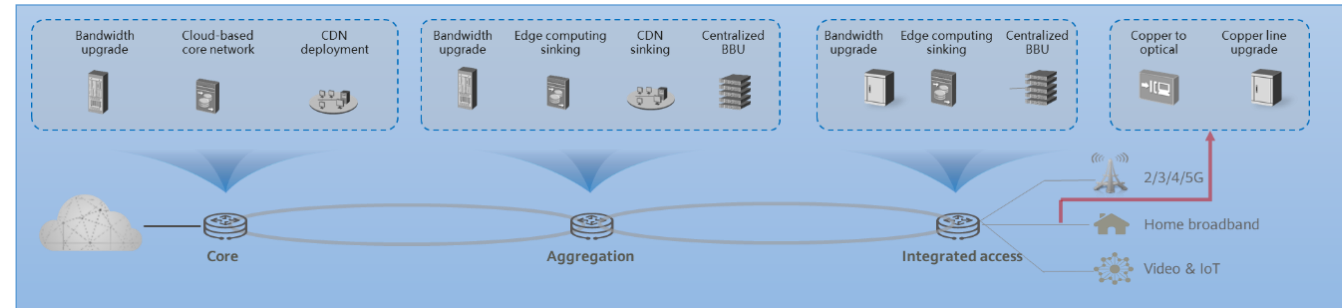
Bandwidth evolutions 10 times more

Cloudification

New IT in telecom room

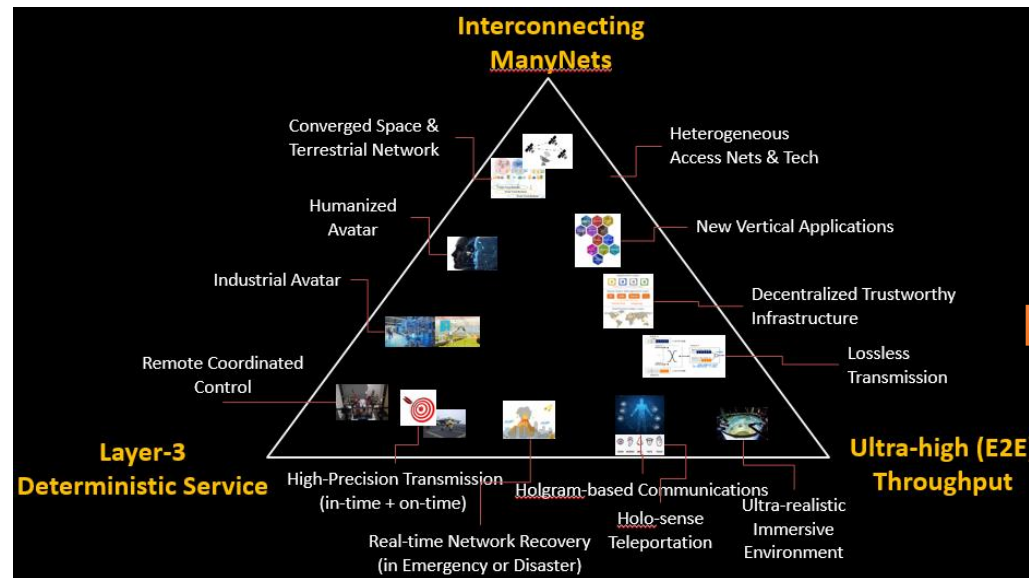
- No possible increase space in short time
- High investment
- High TTM for traditional solution 6/12 Months
- Coexistence of different power networks
- Higher CO2 emission
- Presence of old equipment

Current situation



Facilities trend

- Higher power from 55kW to 1005kW
- Space increase
- Higher maintenance cost
- CO2 emission
- AC and DC power feeding Coexistence



A series of standards on smart energy solutions

Telecom Sites



Data Centre



Telecommunication rooms



- Achieve a Green transition
 - Decrease carbon emissions
 - Increase energy efficiency
 - Extend product life
 - Reduce costs

Helping the ICT sector reduce its GHG emissions

Methodologies for the assessment of the environmental impact of the ICT sector

Provides the methodology for calculating the ICT sector footprint with respect to life cycle GHG emissions; and the methodology for defining GHG emissions budget for the ICT sector considering a 2 °C or lower trajectory.

Helping the ICT sector reduce its GHG emissions

Methodologies for the assessment of the environmental impact of the ICT sector

GHG emissions trajectories for the ICT sector compatible with the UNFCCC Paris Agreement

Based on ITU-T L.1450, Recommendation ITU-T L.1470 on **GHG emissions trajectories for the ICT sector compatible with the UNFCCC Paris Agreement**, provides detailed trajectories of GHG emissions for the global ICT sector and sub-sectors that are quantified for the year 2015 and estimated for 2020, 2025 and 2030.

Helping the ICT sector reduce its GHG emissions

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Guidance to operators of mobile & fixed networks and data centres on setting 1.5°C aligned targets

This guidance supports operators and data centre owners in setting science-based targets for GHGs according to the decarbonisation pathways, described in detail in Recommendation ITU-T L.1470.

Ongoing standardization work



Energy Efficiency and smart energy

- Energy efficiency metrics and measurement methods for data storage equipment, servers, 5G base station.
 - Energy saving technologies and best practices for 5G RAN equipment
 - Energy efficiency and Slicing of 5G

Circular Economy including e-waste

- Environmental Impact of architecture solutions with regards to End of Life and Circular Economy (CE)

Climate change

- Report on Decarbonisation strategies and GHG emissions reductions enabled by actual implementation of ICT projects

Environmental Efficiency for AI and other Emerging Technologies (FG-AI4EE)



First global platform dedicated to studying the ***Requirements; Assessment & Measurement; and Implementation*** of AI and other emerging technologies to ensure environmental efficiency.

Join now!

- Frontier technologies are a key enabler for cities to become smarter, more sustainable, environmentally resilient.
- Keep in mind, *the environmental aspects of frontier technologies are often overlooked.* **A sustainable approach to ETs is needed.**

Frontier technologies to protect the environment and tackle climate change



To become carbon neutral requires
climate actions

**Join us to lead this
path.**

Thank you



[ITU-T Environment,
Climate Change website](#)

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[ITU-T Recommendations](#)

