Session 5: Some Key Insights from Session 1 - Climate and Resource Resilience

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The green and digital transition should generate new business in particular in the area of using IoT and edge computing as enablers to reduce the energy and carbon footprint in vertical industries.

AIOTI focused in the context of the Digital for Climate Task Force, on providing guidelines and a methodology to IoT and Edge Computing technologies and services to stakeholders on making informed choices on (1) how to assess the carbon footprint of solutions and services they use, (2) include selection criteria that are needed to help stakeholders to select the most suitable PCF methodology for each considered scenario, industry sector, initiatives and standards, existing methodologies of measuring ICT carbon footprint and how they can be applied to IoT and Edge Computing, and (3) measure how these methodologies support carbon footprint reduction of their use and (4) measure the avoided carbon emissions in industrial sectors when IoT and Edge computing are applied.

**Key Theme:**

In this session we will show how IoT and Edge Computing business driven scenarios and use cases can support these objectives and challenges, in particular how to deal with current energy crisis, CO2 reduction, support circular economy and digital product passport, impact on manufacturing and data spaces and measuring climate impact.

**Key conclusions:**

- **The definition of an agreed and aligned methodology** to measure the total avoided carbon emissions in industry scenarios, when applying ICT (IoT and Edge computing), is a key requirement for the success of deploying ICT solutions to reduce carbon emissions in industry scenarios:
  - Important is the **willingness of the industry to implement the DPP** (Digital Product Passport) under the ESPR (Eco-design for Sustainable Products)
  - Important to **engage and promote the cooperation globally, between industry, academia and green transition initiatives**

- **Technology** and **Digital innovation** can improve energy and resource efficiency, facilitate the circular economy, lead to a better allocation of resources; reduce emissions, pollution, biodiversity loss and environmental degradation, but:
  - the ICT (IoT and Edge computing) sector must **ensure** the environmentally sound design and deployment of digital technologies by minimising the ICT carbon footprint (e.g., PCF - Product Carbon Footprint)

- Recycling is not only reducing the dependency on primary raw materials, but it is as well reducing the carbon emissions of products and systems.
Questions discussed during the session

- How can we ensure that IoT enabled applications and services have positive impact on the environment?
- How to address sustainability in IoT domain and in general with ICT?
- What are the major areas where IoT can contribute to sustainability?
- What is the most important measure to implement the ESPR (Ecodesign for Sustainable Products)?
- How big is the willingness of the industry to implement the DPP (Digital Product Passport) under the ESPR?
- What can leading IT companies do together to lower carbon emissions practically?
- Are there specific solutions brought by IT companies that you have seen working with significant reduction of carbon emissions?
Thank you for listening

Any questions?
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