EUREKA Cluster Thematic Call on:
Technology Powered Green Transition

Challenges: Energy preservation, Sustainable manufacturing and Bioresources and Environment

TARGETED FOR 2021
Presentation Outline

- Why a Challenge driven call?
- Which technologies qualify for the “Technology driven Green Transition”
- Call timeline
- Questions & Answers
UN Goals: Challenges to be addressed

- **Greener Mobility & Smart Cities (No. 7 & 9, Clean Energy & Infrastructure)**
  - Batteries and mobile applications
  - Hydrogen Fuel cell (production, storage, station) and its applications
  - Smart transportation: 5G/6G, Edge Cloud IT, AI, Bigdata

- **Smarter Housings / Constructions (No. 7 & 11, Clean Energy & Resources)**
  - IT solutions in buildings, smart monitoring, 3D construction, digital twins in housing design
  - Greener building materials with a lower Co2 print

- **Carbon Free Energy Supply (No. 7 & 13, Clean Energy & Climate Actions)**
  - Offshore Wind turbines, bioenergy, solar panels, fuel cells power to-X, energy storage, smart grids
  - Recyclable composites

- **Bio Resources and environment (No. 14 & 15, Biodiversity)**
  - Drone and satellite monitoring systems of land, rivers
  - Sensors, edge cloud computing
  - Raman Mass spectrometry, AI, big data.

- **Sustainable Manufacturing (No. 9, Industry)**
  - Design aimed at manufacturing, assembly, disassembly, remanufacturing, reuse and recycling.
  - Zero Defects Manufacturing approach
  - Reduction on the carbon footprint
  - Manufacturing with less energy and material consumption
Definition: Which ”Technologies” qualify?

In principle all technologies which contribute to:
- reduction of green house gases
- smarter energy systems and energy saving technologies
- preservation of bioresources and biodiversity
- sustainable manufacturing

https://sdgs.un.org/goals
Bio Resources and environment (Biodiversity & bioresources)

Monitoring of land, lakes, rivers & sea: Air and sea drones, satellite monitoring, deep vision, eco-monitoring

Erosion control & Cleaning of pollution of habitats: Industrial robots, sensors,

Measuring of health & population control: Sensors, thermal imaging, GIS, edge cloud computing, Raman Mass spectrometry, AI, big data.
Greener & Smarter Mobility (Energy saving)

**Energy storage:** Batteries, Power2X, heat storage, smart district heating, infrastructure of grids, mobile applications.

**Connected cars:** Smart transportation systems, interconnected vehicle communication, smart cities and traffic congestion, 5G/6G, Edge Cloud IT, AI.
Smarter Housings & Constructions, Better materials, Monitoring & Energy savings

**Materials**: Greener building materials with a lower CO2 footprint and recycle potential

**Smart housing**: IT solutions in buildings, smart monitoring, 3D construction, digital twins in housing design

**Integrated Energy systems**: Smart grids, local energy production & storage, heat pumps
Carbon Free Energy Supply (Energy saving)

**Land & Sea based Wind Turbines:** Recyclable composites, Lidar technology, Sensors, maintenance drones and robots, cobots in production

**Green energy production:** Hydrogen Fuel cell, solar cells, geothermal, integration of energy systems and smart grids (production, storage, convection), monitoring, sensors, political and societal acceptance and integration.
Sustainable Manufacturing

- Cleaner processes, with less resource consumption: materials, energy, lubricants, etc. and reduction of generated waste.
- **Eco-design** approaches for lightweight and disassembly
- Design aimed at manufacturing, assembly, disassembly, remanufacturing, reuse and recycling.
- Processes with **zero emissions and waste**. Towards **zero defects manufacturing**.
- **Industrial symbiosis**: using, recovering and redirecting resources for reuse.
- **Reduction of the carbon footprint of production processes**.
- **Recyclability** of new materials.
Green ICT

- **Energy efficiency of Telecom and IT networks**
  - including new tools for predicting and managing their traffic loads (AI both at edge and backbone, IoT...)

- **Monitoring and reduction of environmental footprint of digital service usages** while preserving the quality of experience. (AI,....)

- **Eco conception of hardware and software infrastructure**
  - Innovative design for Circular Economy, framework for all green transition eco-system parties
  - related Business models, given important ICT equipment constraints
  - innovative modular designs for:
    - hardware (e.g. for networks of antennas)
    - software
  - telecom and IT equipment using renewable energies
  - conception of devices that have more autonomy or even that are energy self-sufficient.

- **Boosting and measuring and the Greening-by-ICT effects**
Call Timeline

- **Launch of call**
  - **17.02.2021**

- **Brokerage event and/or national workshops**
  - **March 2021**

- **Voluntary project check by Cluster experts and/or NFBs**
  - **01. – 30. April 2021**

- **Project Full Proposals Submitted**
  - **01.06.2021 17.00 h CET**

- **Cluster evaluation**

- **National evaluation**

- **Cluster label granted**
  - **20.10.2021**

- **Finalisation of National Funding Processes**

- **Project start as of 01.12.2021**
Questions?

Thank you!