BEREC
Body of European Regulators for Electronic Communications

WG Sustainability

External workshop on the environmental footprint of satellite constellations

Co-Chairs introduction

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SUS WG publications regarding the environmental footprint of electronic communications and ICTs

In 2020, BEREC included in its 5-year strategy a new focus on sustainability to contribute to ICT-related goals of the Green Deal and UN Agenda 2030.

1

Data availability and common indicators for the telecom and ICTs:

- BEREC 2023 Report on Sustainability Indicators or ECN/ECS
- Contribution to DG Connect/JRC work for CoC on telecoms sustainability (ongoing)

2

Contributing to the empowerment of end users through information on ICT products:

BEREC 2024 Report on ICT Sustainability for End-Users and communication campaign.

3

Exploring the ecodesign of digital services for greener networks and ICT:

BEREC 2025 External workshop on the ecodesign of digital services for greener networks and ICTs

4

Providing an overview on the environmental benefits of infrastructure sharing:

BEREC 2025 Report on Infrastructure Sharing as a lever for ECN/ECS Environmental Sustainability.

BEREC work on satellite connectivity

1. **2025 BEREC follow up internal workshop on direct-to-mobile-device satellite connectivity (ongoing)**

2. **2024 BEREC external workshop on usage of satellite technologies in mobile communications**
   - Workshop + presentations
   - Summary report

3. **2023 BEREC external workshop on secure and reliable connectivity from LEO satellite fleets**
   - Workshop + presentations
   - Summary report

4. **2022 BEREC report on Satcom for Universal Service**
   - Outcome public consultation
   - Final report

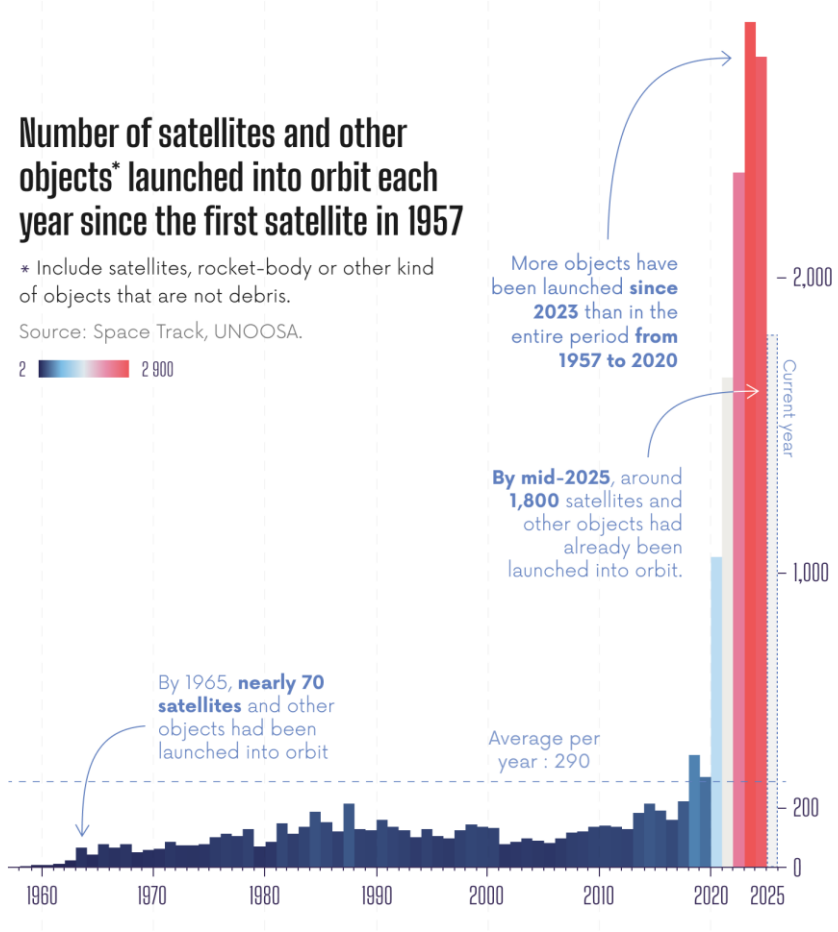
Why this workshop?

•Satellite constellations are growing rapidly → new opportunities, but also new challenges.

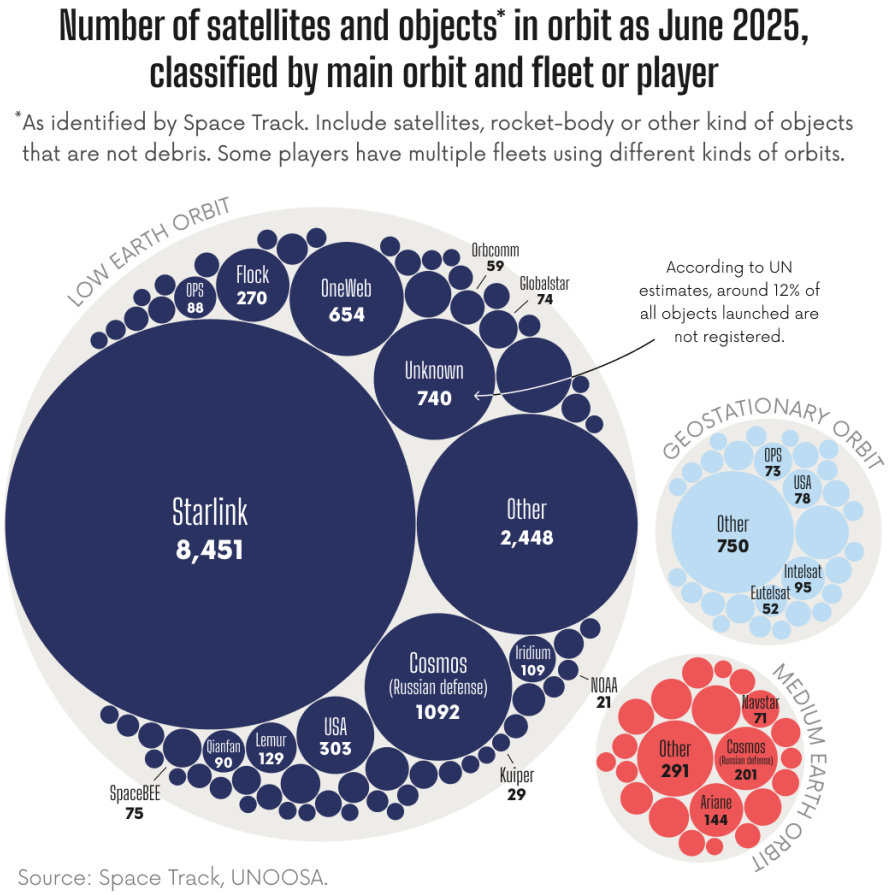
•Environmental footprint spans the whole lifecycle: manufacturing, launch, operation, deorbiting. Impacts across:

- **Earth**
  - Ground infrastructure: dishes, gateways, data centres.
  - Material use, land use, energy demand.
- **Atmosphere**
  - Rocket launch emissions.
  - Re-entry of satellites & debris → chemical/particulate impacts.
- **Space**
  - Space debris & orbital sustainability.
  - Light pollution → astronomy, weather forecasting & ecosystems.
  - Pressure on orbital resources (planetary boundaries).

The growing deployment of satellite constellations raises environmental issues



Source: Arcep, 2025



Source: Arcep, 2025

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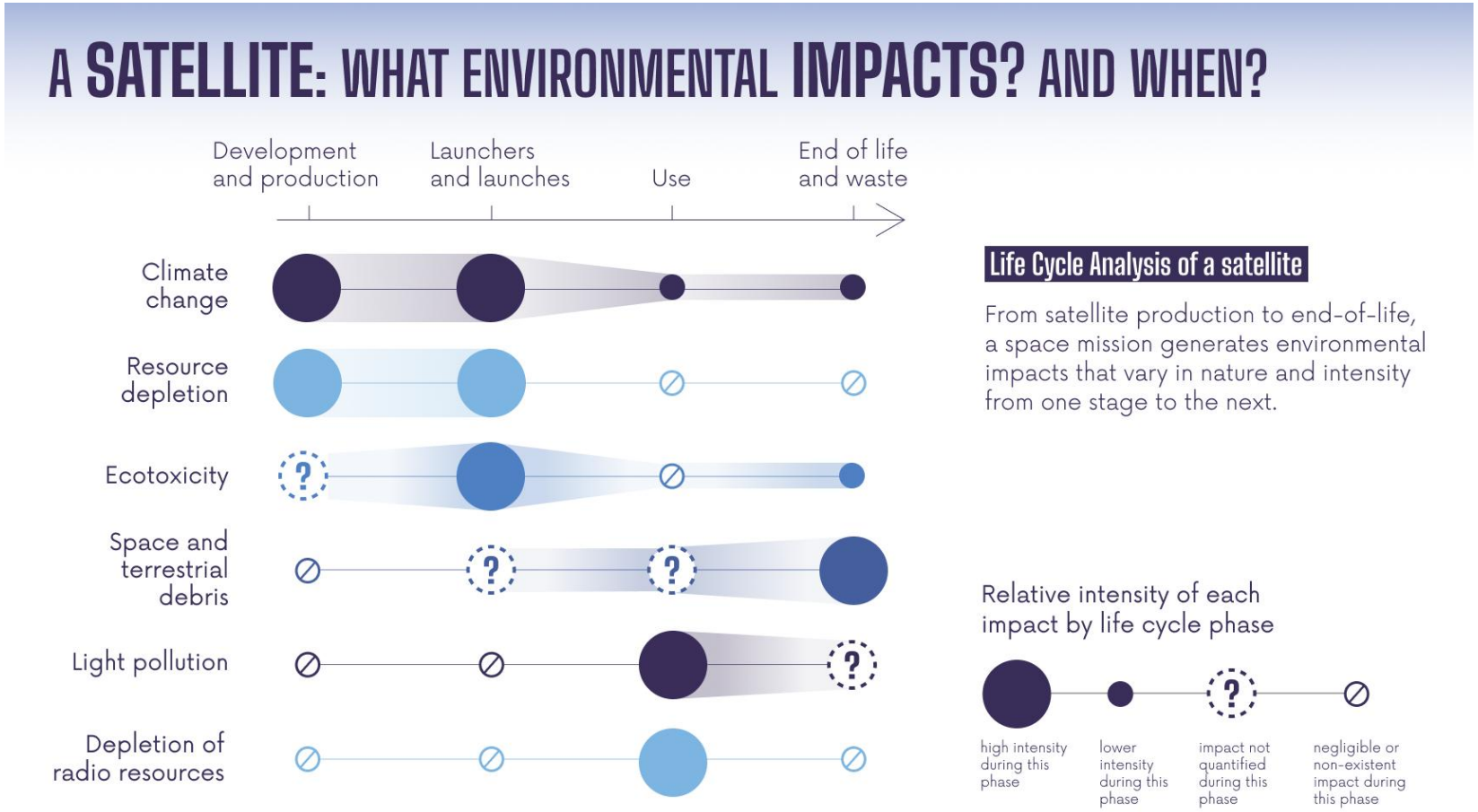
What is the environmental footprint of satellites?



Source: Arcep, 2023

Objectives of today

- Touch upon existing projects/studies
- Discuss challenges
- Showcase innovation: sustainable satellite design & good practices
- Promote dialogue among regulators, industry, academia & international bodies
- The environmental footprint of satellite constellations is a shared challenge – no single actor can address it alone

THANK YOU!

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