EUCNC | 6G Summit
Virtual Conference (Porto, Portugal) ▪ 8-11 June 2021

ECO european communications office

# Spectrum sharing and compatibility studies in the European regulatory context

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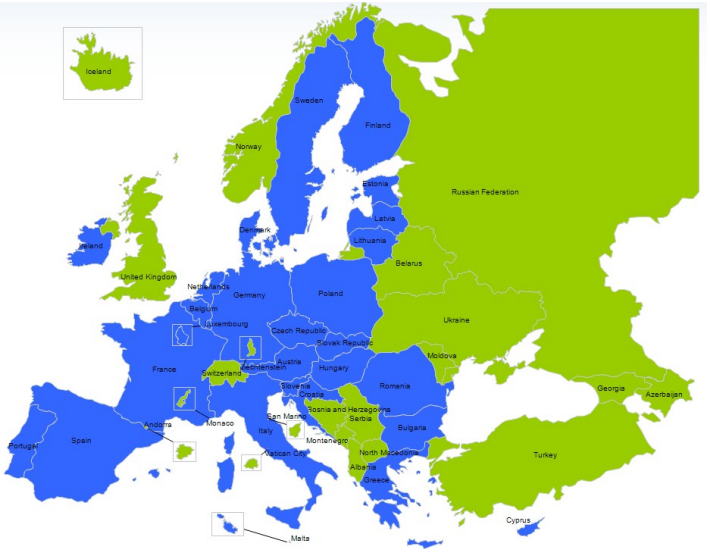
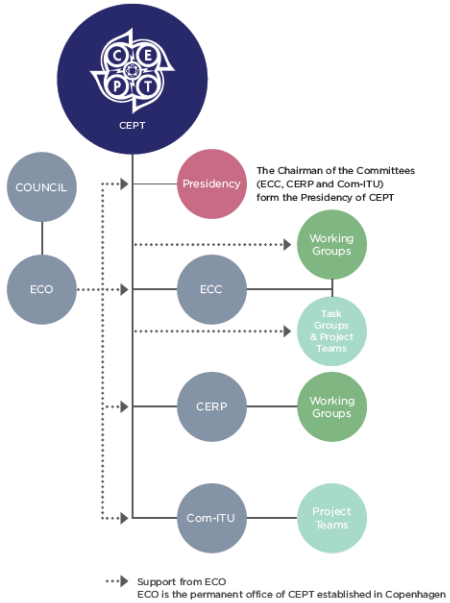
**Spectrum Sharing for the Digital Ecosystem Towards 6G**
**EuCNC & 6G Summit, 8 June 2021**

# CEPT: European Conference of Postal and Telecommunications Administrations

- **CEPT**: Organisation of regulators and policy makers from 48 European countries
- **ECC**: Electronic Communications Committee – main body with responsibility for spectrum and telecommunications
- **ECO**: European Communications Office – CEPT Permanent Office




EU Member States – blue
Other CEPT members - green

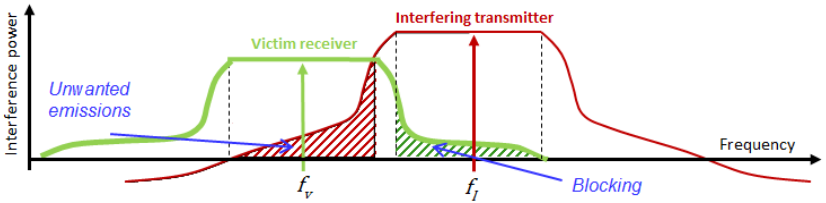


# Presentation outline

1. Characterisation of transmitter and receiver parameters for use in coexistence studies
2. Tools for use in studies - SEAMCAT
3. CEPT Roadmap for 5G and beyond

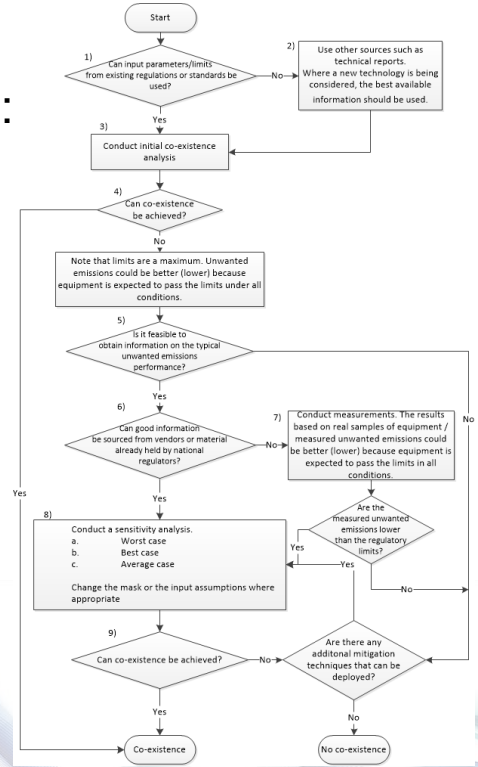
# 1. Characterisation of parameters

- Spectrum regulations are defined based on results of coexistence studies
- Transmitters and receivers both play a role in determining the conditions for coexistence – for both in-band sharing and adjacent band compatibility
- Studies need to take into account suitable and realistic assumptions for these parameters in order to ensure optimum and efficient sharing environment
- CEPT ECC PT SE21 has been working on a number of initiatives to study the role of transmitter and receiver parameters



# 1. Characterisation of parameters

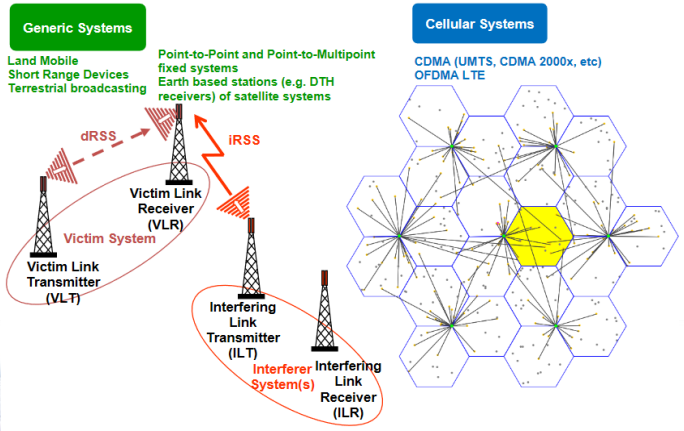
- ECC Recommendation (19)02 provides guidance for incorporation of typical equipment performance in studies:
  - Study parameters should be based on best available information, including measured performance
  - "Sensitivity analysis" is also important
- Framework developed in the context of the European regulatory environment, but also applicable more widely
- Similar framework for **receivers** is under development, based on the conclusions of ECC Report 310



# 2. Tools for coexistence studies

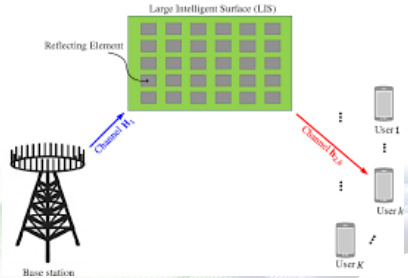
- **SEAMCAT** is the common CEPT software tool for coexistence studies
- Open-source free-of-charge tool – download at www.seamcat.org
- Statistical simulations on a range of system types using the Monte Carlo method
- Results provided as:
  - Probability of interference based on C/I, I/N, (C+I)/N, (N+I)/N
  - Throughput loss for cellular systems
- ECO organises regular training workshops

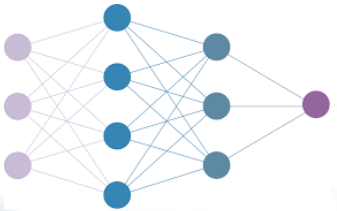
SEAMCAT
Spectrum Engineering Advanced Monte Carlo Analysis Tool



# 3. CEPT Roadmap for 5G and beyond

- ECC Strategic Plan 2020-2025 identifies the need to take a forward looking approach to understand the impact of new technologies in regulation
- The CEPT Roadmap for 5G and beyond has been developed in this context
  - Builds on the ECC's existing activities on spectrum harmonisation for 5G
  - Aims to address both challenges and opportunities of evolution of 5G towards 6G
  - Smart antennas (AAS), intelligent surfaces, 'THz' range communications, AI, blockchain

# Questions?

More info:
[ECC 5G topic webpage]

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