



Bundesnetzagentur

Spectrum Management for Addressing the Spectrum Requirements of Industry Sectors

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www.bundesnetzagentur.de



- **Industry sectors have heterogeneous demand**
- **Demand normally addressed in the following order**
 - Use within existing regulations
 - Review and adapt existing regulations to new requirements
 - Identification of new spectrum solutions
- **Objective of spectrum management: Enabling spectrum options**
- **Guideline:** General **spectrum management principles** like efficient use of spectrum, technology neutrality etc.
- **Objective of market: Choice of best option** for individual requirement



Major frequency options for user

- Use of dedicated spectrum solutions for industry sector
- Use of nationwide public networks
- Use of dedicated local spectrum
- Use of (non-specific) SRD spectrum

Examples of activities in Germany

- Award of spectrum in the 2 GHz and 3.6 GHz bands
- Local licenses in the range 3.7-3.8 GHz in particular to address specific demand of certain industry sectors
- Publication of general licenses for SRD and industry specific solutions (www.bnetza.de/allgemeinzuteilungen)



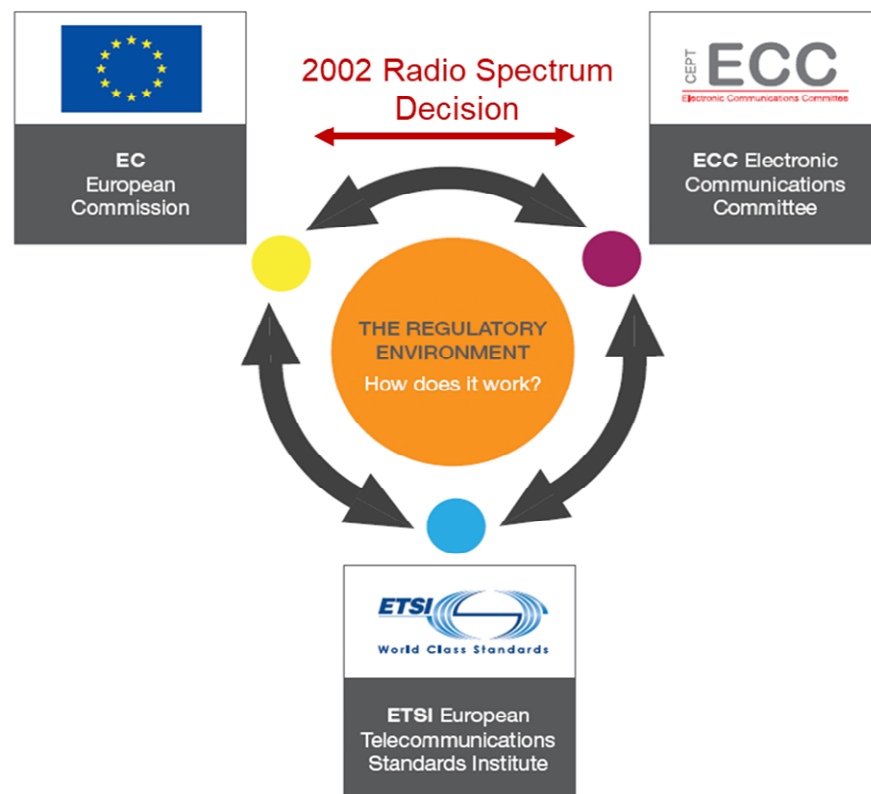
Review of existing regulations helps to

- adapt to new technological and operational requirements
- identify potential regulatory induced barriers

Examples of activities in Germany

- Review of regulatory framework for MFCN regarding the control of drones by MFCN networks
- Review of PMR channel raster to enable more efficient use of spectrum
- Review of PMSE regulations to adapt to new requirements by new WMAS technology

- **Harmonised solutions** are targeted wherever feasible
- The **European spectrum regulatory framework** provides well established procedures for harmonisation
- Subdivision of ECC into WGs and PTs enables **flexible and adaptable structure** to address new requirements
- Framework also provides **platform** for the exchange of **best practices** and **review** of existing regulations





- Industry sectors have **heterogeneous** spectrum **demand**. Therefore, **no one-size-fits-all approach**
- **Spectrum management addresses demand** and may review existing or identify new spectrum options
- **Market chooses options** for individual requirements
- Dedicated solutions for the sector might be the preferred solution for users, but are not always available
- Alternatives: use of public networks, use of dedicated local spectrum, use of (non-specific) SRD spectrum
- **Harmonised solutions** (at least in Europe) **targeted**
- The **European regulatory framework** provides flexible procedures to enable harmonisation for industry sectors



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