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## Regulatory aspects of Spectrum Information and Harmonisation

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### Spectrum Policy Basics

- Spectrum is the basic resource for a mobile telecommunications
- Spectrum is a global issue for mobile applications:  
decisions making processes start 8-10 years prior to system introduction
- Frequency regulation is changing in order to meet actual market developments
- Exact and up-to-date information about spectrum usage and allocation is crucial for the industry

**Spectrum Bandwidth  $\approx$  Market Volume**

$\updownarrow$

**Spectrum Harmonisation  $\approx$  Cost Improvement**

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## Spectrum Information Sources

### Regulatory and Technical Information

- Decisions of the World Radiocommunication Conferences (WRC) together with ITU-R radio regulations and recommendations form the legal basis for spectrum usage and allocation
- Regional and national frequency tables inform about the local spectrum use
- CITELE or APT offer data bases collecting the available spectrum information
- ERO offers an advanced spectrum data base EFIS (European Frequency Information System)

### Information about Regional Policies

- EC or CITELE determine Radio Spectrum Policy for their Member States
- RoW has national policies

### Commercial information

- Systems like cantor.com offer business relevant information about spectrum

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## Printed Information

- The WRC's "Radio Regulations" offer generic spectrum allocation information
- Most regional and national frequency tables are only available in the national language and sometimes incomplete.
- Different parts of the spectrum are often administrated by different authorities:
  - Most administrations still use printed information and do not yet have computer based databases
  - Databases of different countries are not linked together and can therefore not be compared and compiled easily
  - Information about spectrum usage is difficult to obtain
    - E.g. licence duration, interference conditions, etc.

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## Electronic Information

- Databases like EFIS, TRIS in Europe
  - provide sector-specific technical/regulatory information
  - depend on cooperation with national administrations
  - use IDATE questionnaire to meet industry requirements on refarming spectrum, channel plans, authorization, air interfaces etc.
- Commercial information systems like cantor.com
  - A database for spectrum related information
  - Business model: collecting and selling spectrum information

**Electronic spectrum information services are necessary for industry to adopt to modern regulatory rules**

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## Spectrum Harmonisation and ...

- Until today harmonised spectrum and related standards provide a stable business environment for the industry:
  - the industry benefits from global markets,
  - the consumer from global operability of terminals and roaming
- Increasing technology innovation tempts spectrum rules to become more flexible

**What is the right way forward?**

- Avoiding risk of spectrum fragmentation with impacts related to economies of scale, roaming and interoperability

**... Policy Flexibility?**

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## Flexible Regulatory Policy and Future of Business Cases

- Fast access to the market requires fast changes of spectrum availability in every corner of the world
- The product decisions will have to be made case by case depending on the availability of reasonable amounts of spectrum
- At least data bases with complete and reliable spectrum information should be available as soon as possible

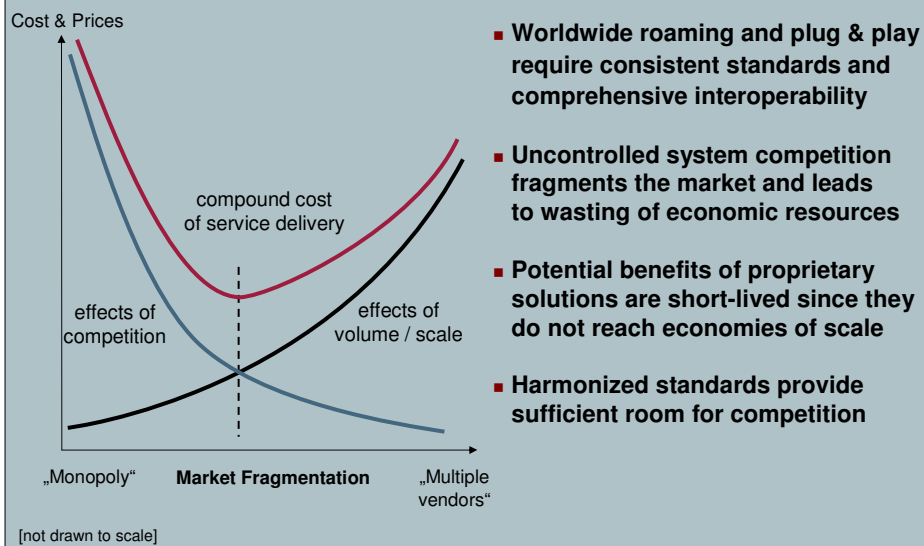
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## Harmonized environment is economically superior



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## The 450 MHz Example in Europe

- In the past, the 450 MHz band were harmonised worldwide for the use of analogue mobile telecommunications.
- Recently it became a CEPT harmonised PMR/PAMR band.
- However - some countries allow to use these frequencies for cellular telecommunication systems
- Now countries restrict these bands to PMR/PAMR only, others allow the use of cellular systems.

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## Conclusions

1. Spectrum is a global issue, but licensed nationally: radio waves do not stop on national borders, therefore harmonisation and coordination is required.
2. Technology-neutrality is not defined yet: we still have the chance to find the right understanding which is important for the industry and the regulators.
3. Spectrum information is important for the industry. Complete technical and regulatory information systems providing detailed data across countries and regions are required.
4. The industry should get the spectrum information free of charge as administrations' service.

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**Thank You!**  
**Any Questions?**

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