Ubiquitous Network Societies

Dipl.-Ing.
Peter Scheele

International Affairs,
Frequency Utilisation
Concepts

Canisiusstr. 21
55122 Mainz
Germany

Tel.:   +49 6131 18 3115
Fax: +49 6131 18 5604
E-Mail: peter.scheele@regtp.de

regtp
Regulierungsbehörde für
Telekommunikation und Post

Chairman of CEPT ECC PT1 on IMT-2000 and beyond

Ubiquitous Network Societies

- Disclaimer: The views expressed in this presentation do not necessarily reflect the views or policies of RegTP or CEPT

  - As chairman of ECC PT1 on IMT-2000 my viewpoint is not always 100% balanced;

  - There a many more people responsible for this in RegTP and in CEPT;

  - Discussions are ongoing within CEPT;

Ubiquitous Network Societies

Government Policy and Strategy for ubiquitous communications

- Spectrum Management (In the past)

- (Some) Objectives of Spectrum Management

- How should the "New" Spectrum Management look like?

- Have Ubiquitous Networks different requirements from Spectrum Management?

Ubiquitous Network Societies

- **Spectrum Management (In the past):**

  - Traditional, "Oldfashioned"
    - Command and Order

  - Some say:
    - Too slow;
    - Too much regulation
    - "Oldfashioned"

Ubiquitous Network Societies

- **Spectrum Management (In the past):**
  - ◆ But:
    - The system worked for decades and not too bad;

  - ◆ However, times are changing:
    - Technology neutral regulations;
    - Convergence;
    - Flexibility;
    - Market driven regulations;
    - Shorter time-to-market.
    - SDR;
    - UWB;
    - Spectrum Trading;
    - …

Ubiquitous Network Societies

- **What's under consideration?**

  - ◆ Command and Control for some areas

    - Military;
    - Radio Astronomy;
    - Science Services;
    - Where global harmonisation is needed;
    - PPDR (Public Protection Disaster Relieve)
    - …..

Ubiquitous Network Societies

- What's under consideration:

  - Common spectrum (License free)

    - 2.4 GHz, 5 GHz range;
    - Some successful applications (Wi-Fi);
    - Some applications need it (SRDs, RFIDs);
    - Do we need more common spectrum?;
    - …..

Ubiquitous Network Societies

- **What's under consideration:**

  - ◆ **Market oriented approach:**

    - ▪ Spectrum trading, secondary market (where appropriate);
    - ▪ Liberalisation (Transfer of spectrum usage rights);
    - ▪ …..

Ubiquitous Network Societies

- **(Some) Objectives of Spectrum Management**

  - ◆ Harmonisation (global) of spectrum use!

  - ◆ Ensure efficient use of spectrum!

  - ◆ Provide a sufficient amount of the right spectrum at the right time for the right application!

  - ◆ Provide flexible and (if possible) technology neutral regulations!
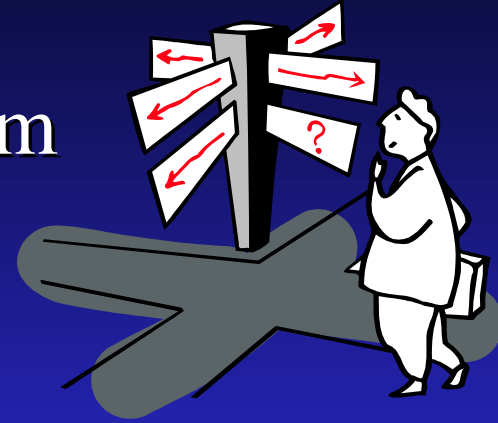
  - ◆ Protect existing services!

Ubiquitous Network Societies

- How should the "New" Spectrum Management look like?
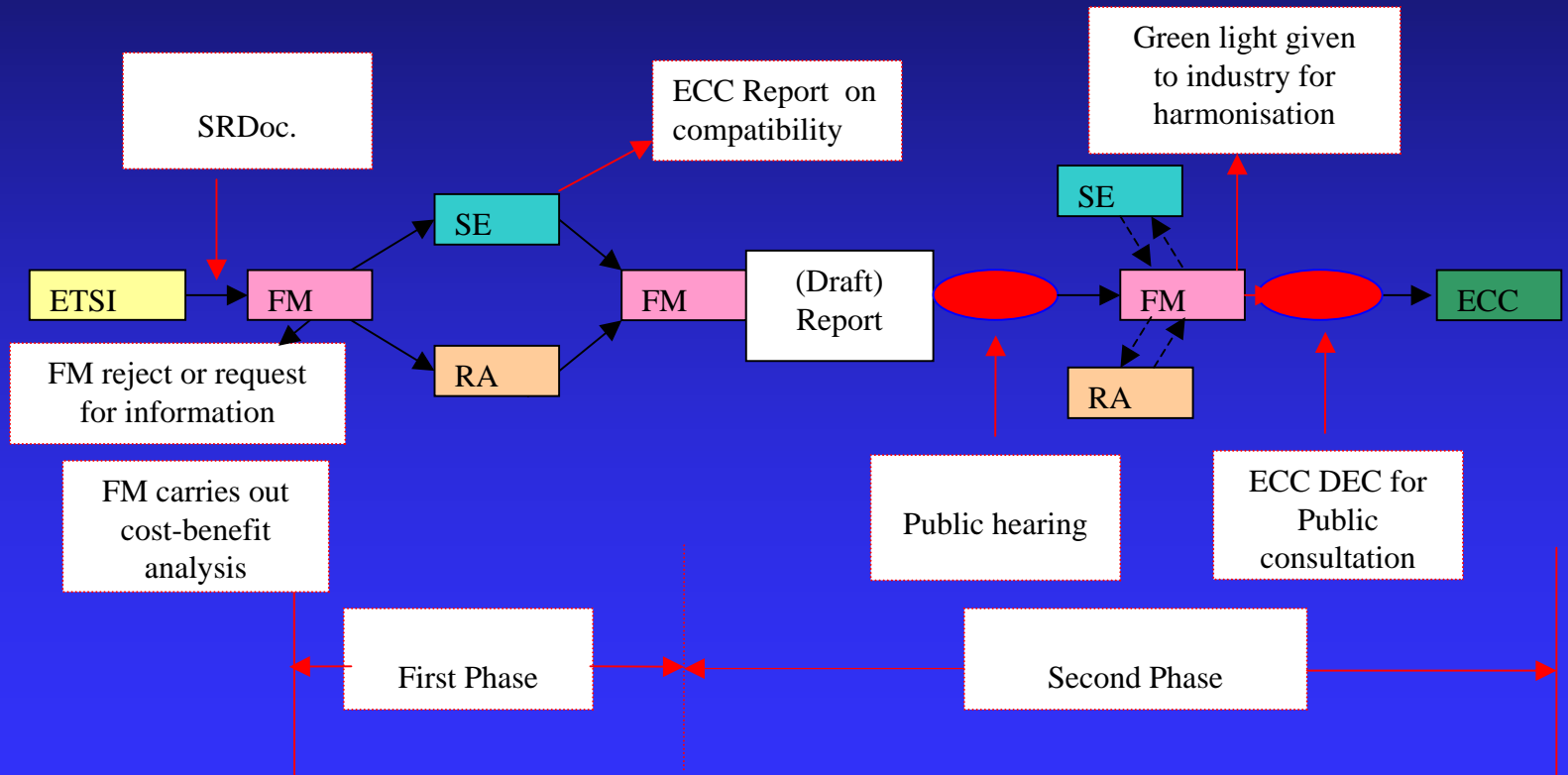
  - Case by case decisions;

  - Mixture between Command and Control, Market oriented and Open Spectrum is the optimum;

  - Balanced approach (between all objectives);

  - Overal goal is to serve the costumer;

Ubiquitous Network Societies

- ## Faster approach!

ECC Report on compatibility

Green light given to industry for harmonisation

SRDoc.

ETSI → FM

SE

RA

FM reject or request for information

FM carries out cost-benefit analysis

FM → (Draft) Report

Public hearing

SE

FM

RA

ECC DEC for Public consultation

ECC

First Phase

Second Phase

Ubiquitous Network Societies

- **More sharing!**

  - Sharing has been and is one of the main sources of flexibility in spectrum management in order to satisfy new requirements.

  - In the past sharing between different Services (e.g. Fixed and Mobile) was favored with the following benefits:

    - Serve different costumers;
    - Use different areas;
    - Have different busy hours.

Ubiquitous Network Societies
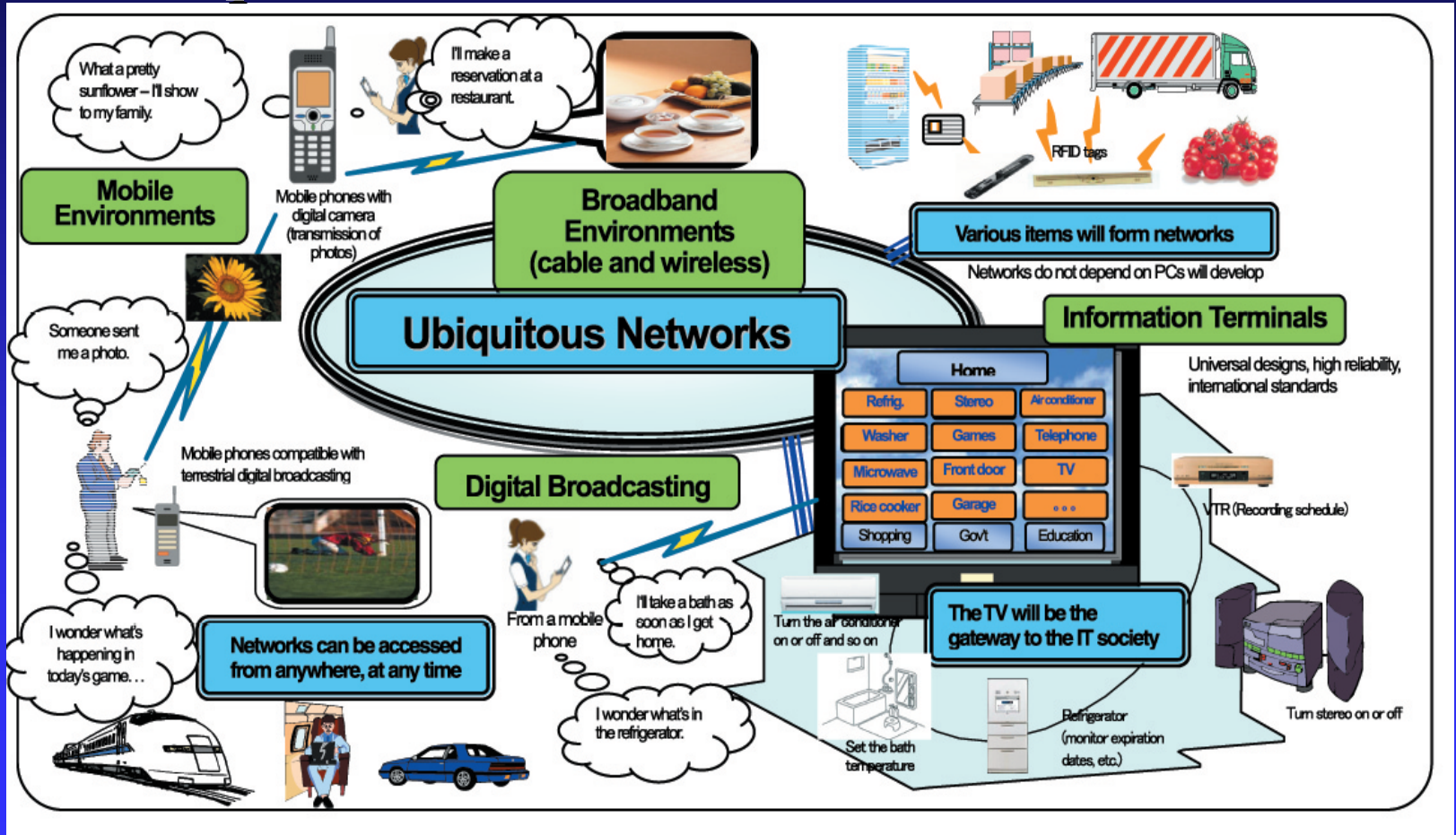
- **More sharing!**
  - ◆ In the future sharing is considered between different applications (platforms) of the same service:
    - ■ They serve the same costumers;
    - ■ Use the same areas;
    - ■ Have the same busy hours.
  - ◆ Therefore, further studies are needed to show that this concept is as useful as sharing between services!
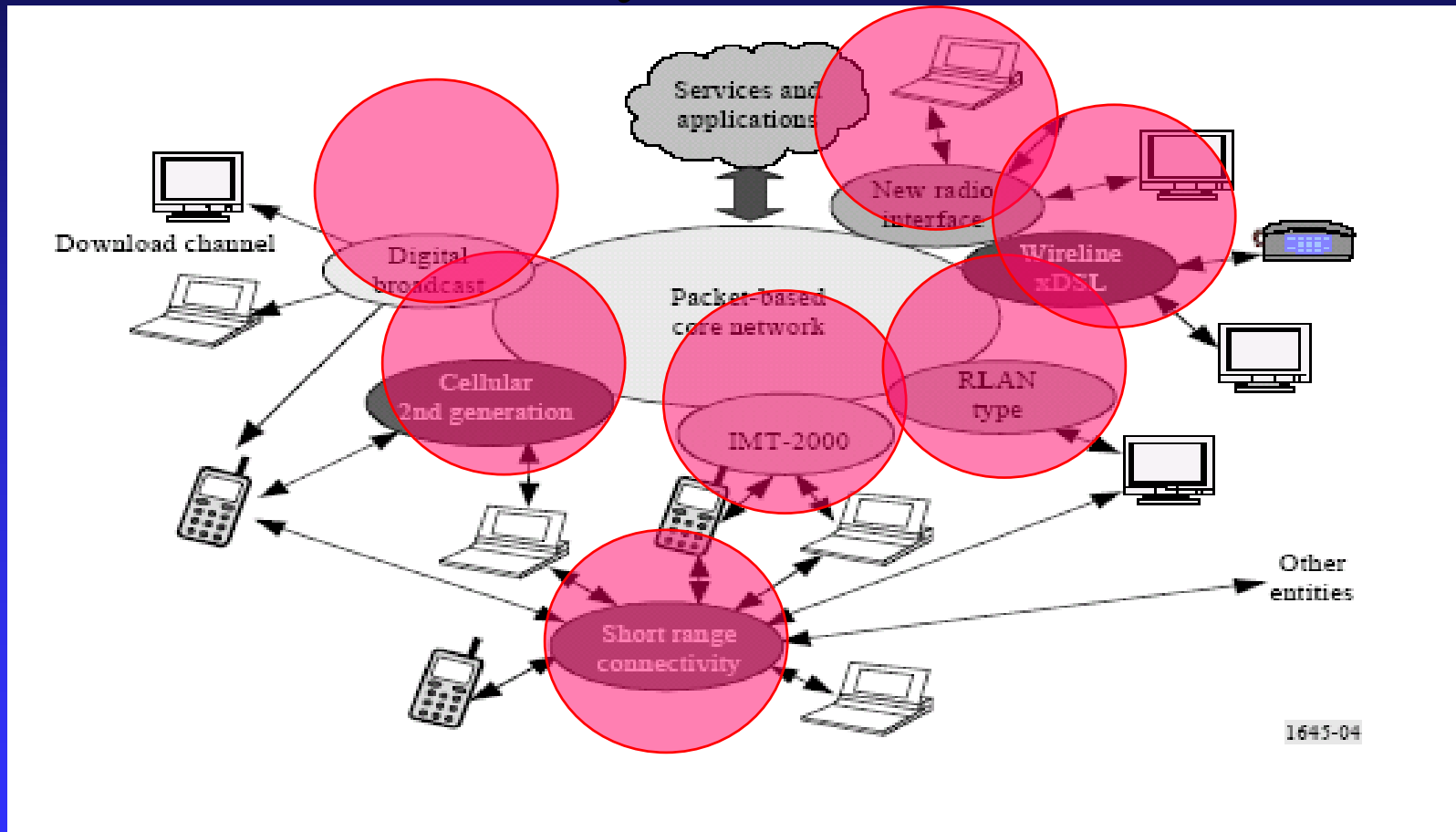
Ubiquitous Networks

Source: White Paper 2004, Japan, Building a Ubiquitous Network Society That Spreads Throughout the World

■ IMT-2000 and beyond vision

Source: ITU-R M.1645, Framework and overall objectives of the future development of IMT-2000 and systems beyond IMT-2000

Ubiquitous Network Societies

- Have Ubiquitous Networks different requirements from Spectrum Management?

  - Mobile (IMT-2000) applications need globally harmonised spectrum and globally harmonised standards to:

    - Provide Economies of scale;

    - Allow global circulation;

    - Ease border coordination;

    - …

Ubiquitous Network Societies

- Have Ubiquitous Networks different requirements from Spectrum Management?

  - Short Range Devices (SRDs), like RFIDs need:

    - Harmonised Spectrum (they travel around the world, if wanted or not);

    - License free spectrum;

    - …

  - Therefore, a flexible case-by-case approach is need!