

**present by Rudolf Mietzner**

**Softlab GmbH / BMW Group**

**General Manager  
of the  
Car-2-Car Communication Consortium**

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**Secretary General of COMeSafety  
A European Commission Specific Support Activity**

**[www.Car-2-Car.org](http://www.Car-2-Car.org)  
[www.COMeSafety.org](http://www.COMeSafety.org)**

**ITS World Congress London  
SS59 - 11.10.2006**



AUDI



BMW

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FIAT



RENAULT



VOLKSWAGEN



GESAMTZENTRUM  
FÜR VERKEHR BRAUNSCHWEIG

Members of



## The European Commission initiated the eSafety Program

- Reduction of the road fatalities by 50 % up to 2010
- Improving the efficiency of road traffic
- Promoting Intelligent Vehicle Safety Systems

## “A Forward-looking Radio Spectrum Policy for the [EU]: Second Annual Report.”

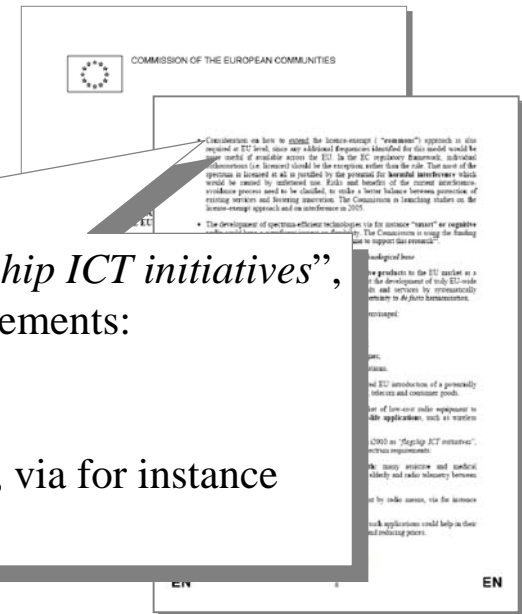
Furthermore, two areas identified by the Commission in i2010 as “*flagship ICT initiatives*”, will be considered for integrated actions to satisfy their spectrum requirements:

- ...
- The intelligent car shall interact with its environment by radio means, via for instance inter-vehicle communications (IVC).



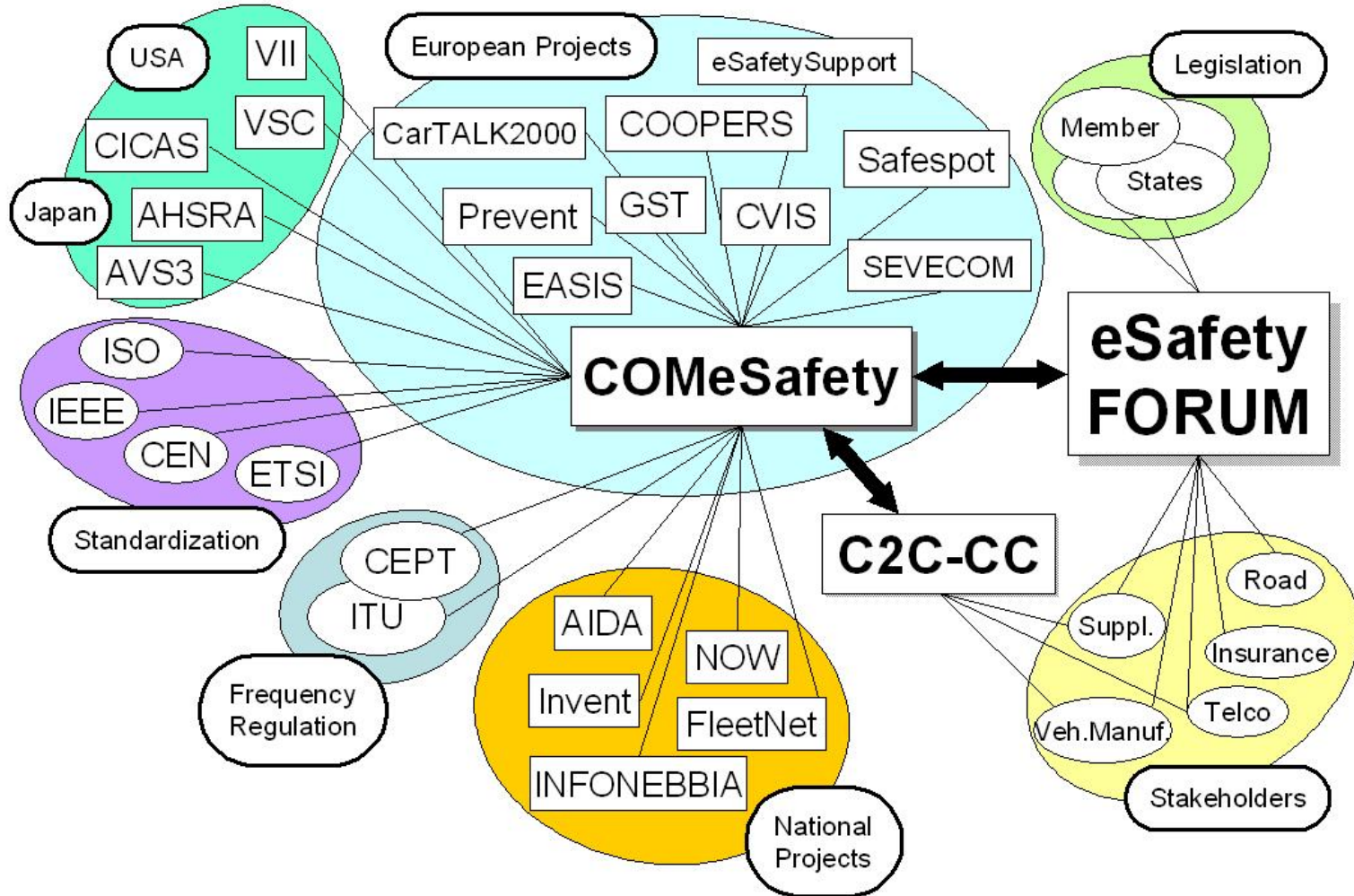
*Automotive industry meeting the challenges*

- The target set in the Commission White Paper: 50% reduction of fatalities by 2010
- Automotive industry has responded well to the challenges of sustainability and safety
- Key target for Europe: To maintain the competitiveness of this key economic sector

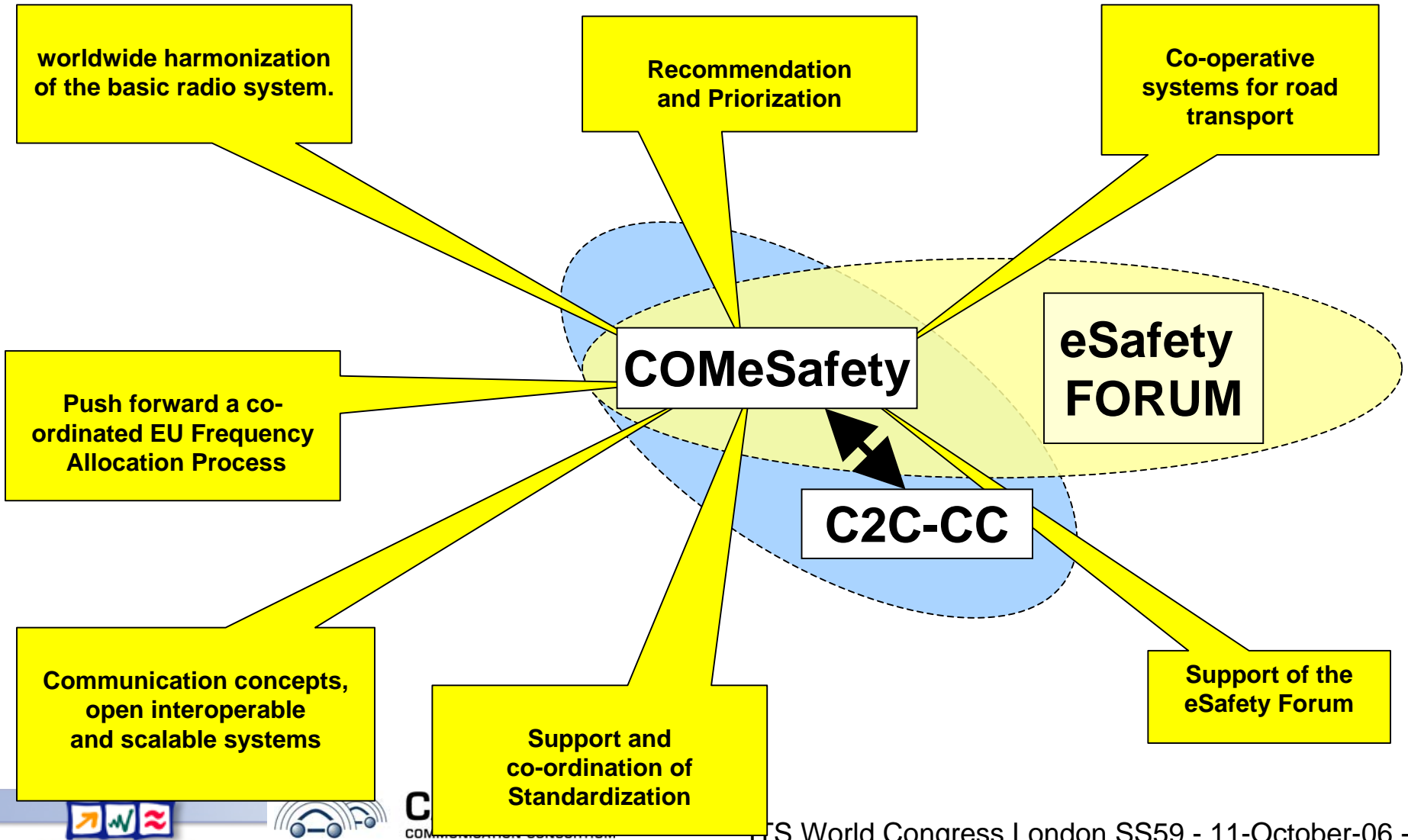


- **Co-ordination and consolidation of research results and their implementation**
- **eSafety Forum support in case of Standardisation and Frequency Allocation**
- **Worldwide harmonization (Japan/US/Europe)**
- **Support Frequency allocation process**
- **Dissemination of the results**

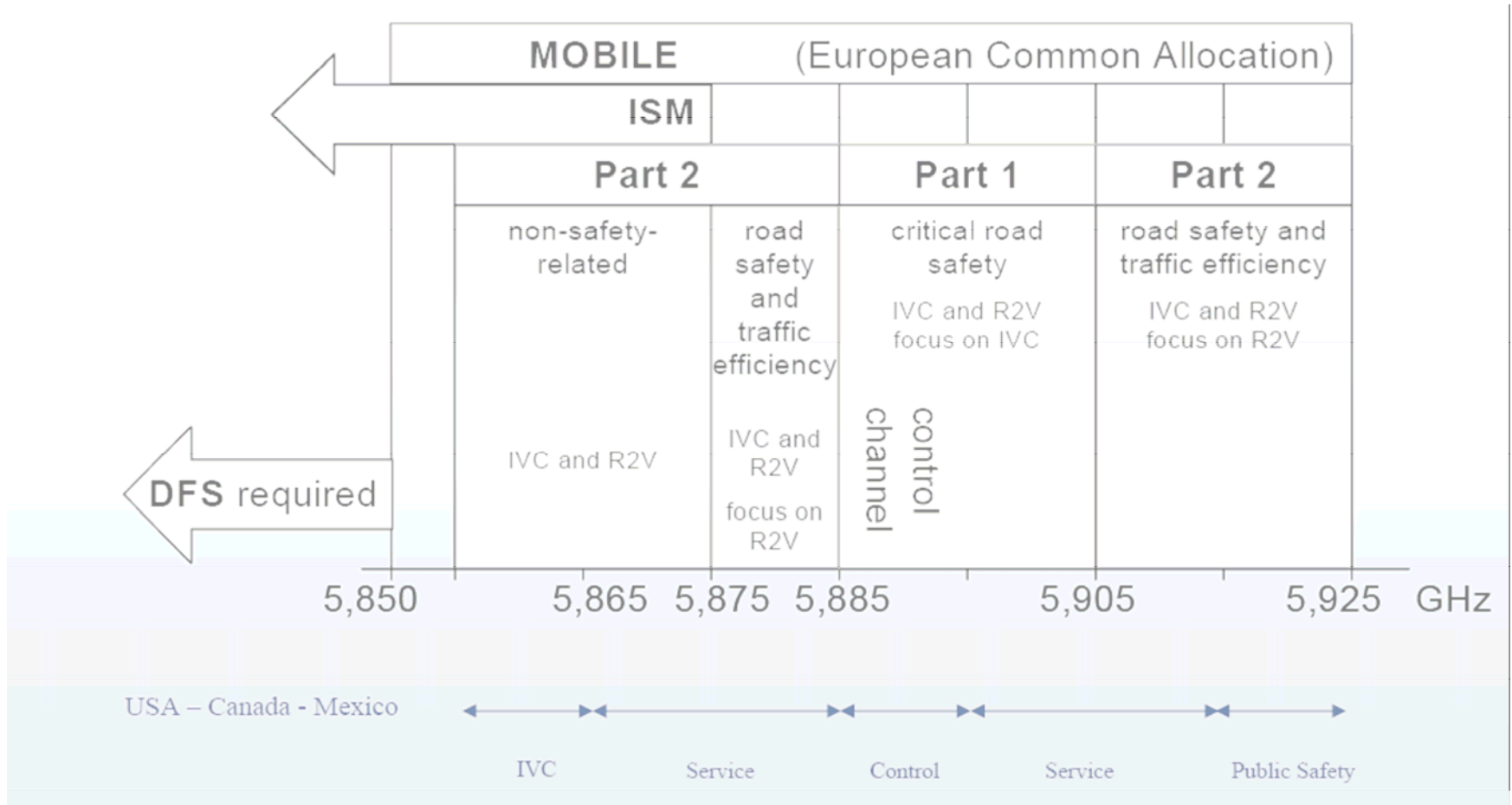
# Overview of the collaboration



# Collaboration Tasks

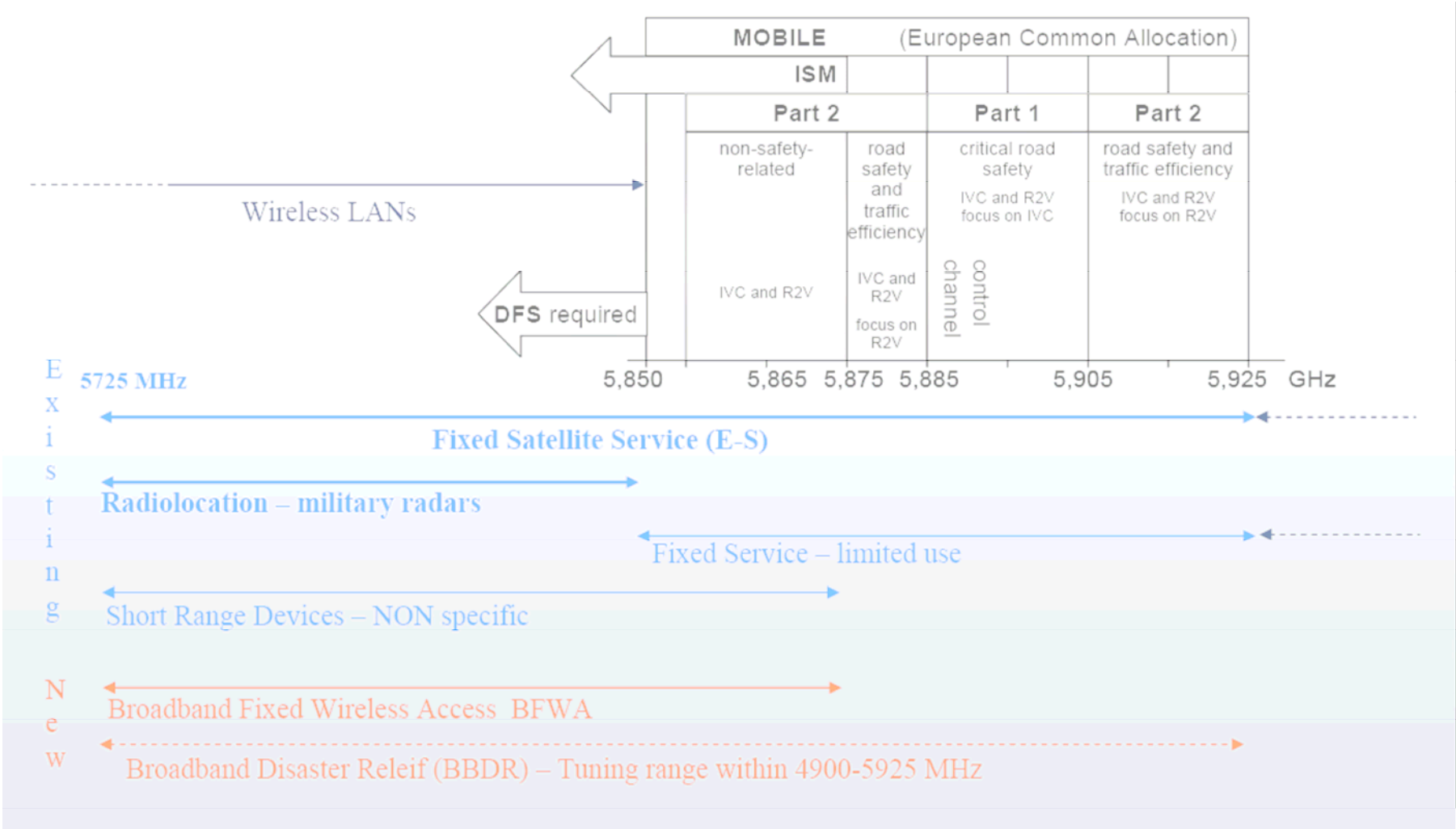


# Spectrum Requirements



# ETSI and CEPT activities on spectrum issues

## The 5.9 GHz frequency band





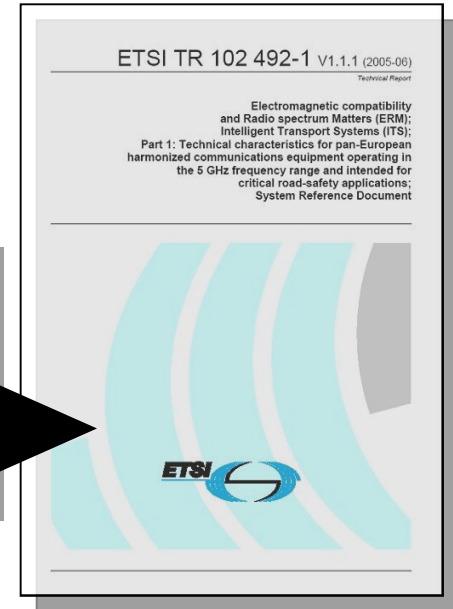
## ETSI ERM TG 37 Intelligent Transport Systems SRDoc in 2 parts covering ITS at 5 GHz

### Part 1:

- ⇒ 2 x 10 MHz “effectively” protected channels on a pan-European basis preferred in the range 5.885 – 5.905 GHz for v2v & i2v communications
- ⇒ critical safety related applications
- ⇒ transmission power 0 - 33 dBm eirp.

**pushed by the C2C-CC**

- compatibility study started in WG SE24: main issue FSS uplink
- SRD/MG suggested to assign 5865-5875 MHz in the upper part of the ISM band (5725-5875 MHz) as the 2nd channel for ITS.



### Part 2:

- ⇒ 4 x 10 MHz in the range 5.850 – 5.925 GHz under discussion for v2i & v2v communications
- ⇒ safety & non-safety related applications

**under preparation  
in ETSI ERM TG37  
coordinated by  
COMeSafety**



ETSI TG37  
ERM/RM

SE41 -SE24  
Spectrum  
engineering

Allocations  
SRD - FM - ECC



SRDoc



Compatibility



ECC Decision



Harmonised  
Standard

- FSS
- SRD
- Fixed
- Mobile
- Radiolocation

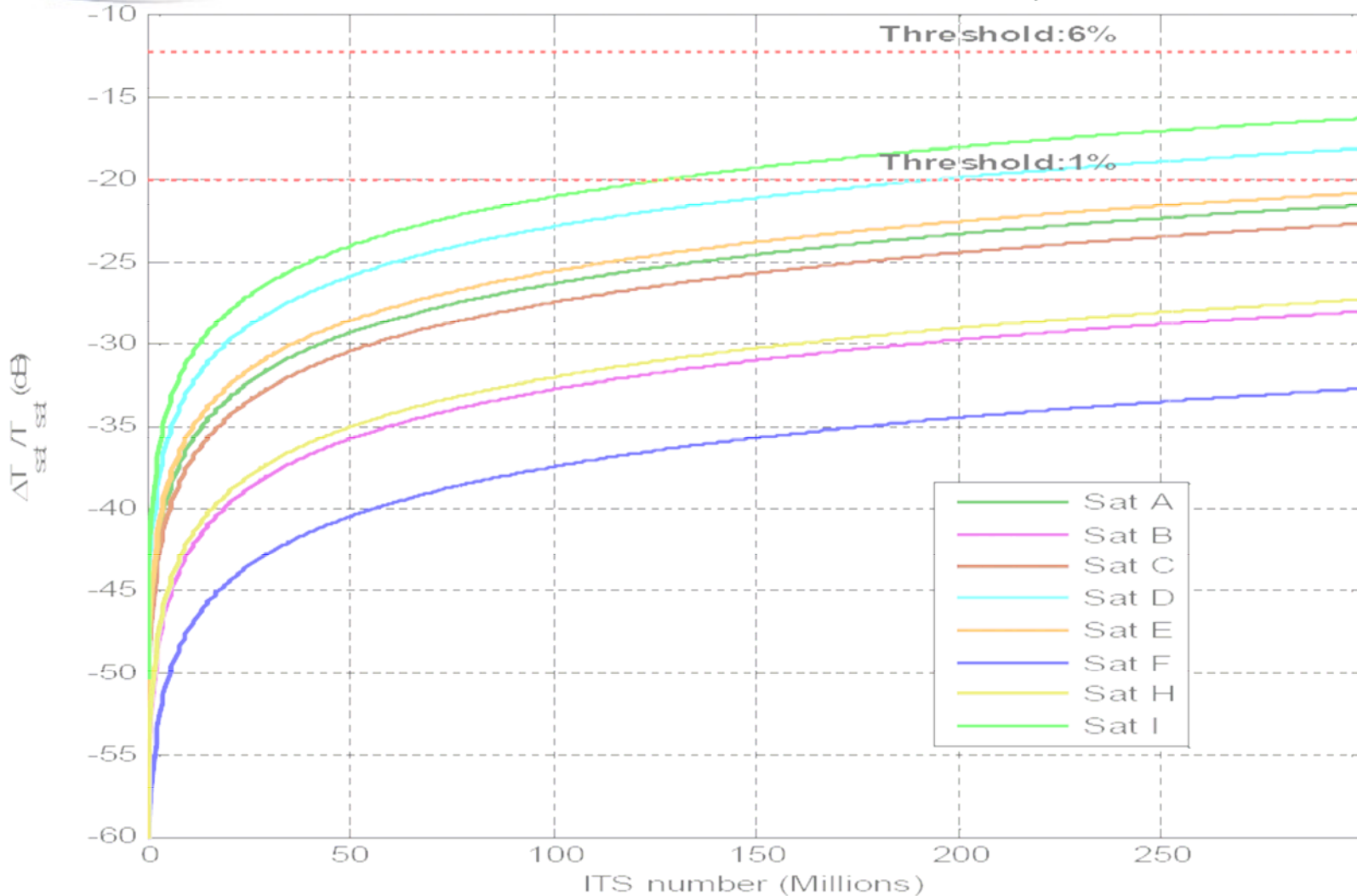
- EC – Decision
- Mandate
- Spectrum Dec



- Full compatibility studies envisaged
- FSS (E-S) accepting ITS → successful
- Radiolocation accepting ITS → with -70 dBc @25 MHz
- ITS accepting Radiolocation → out of band
- BFWA accepting ITS → still to be solved
- ITS → non interference basis accept of BFWA
- Short Range Device → may be LBT solution
- BBDR – not yet considered → may be LBT
- FSS (E-S) and Fixed above 5925 MHz

# Status of compatibility studies

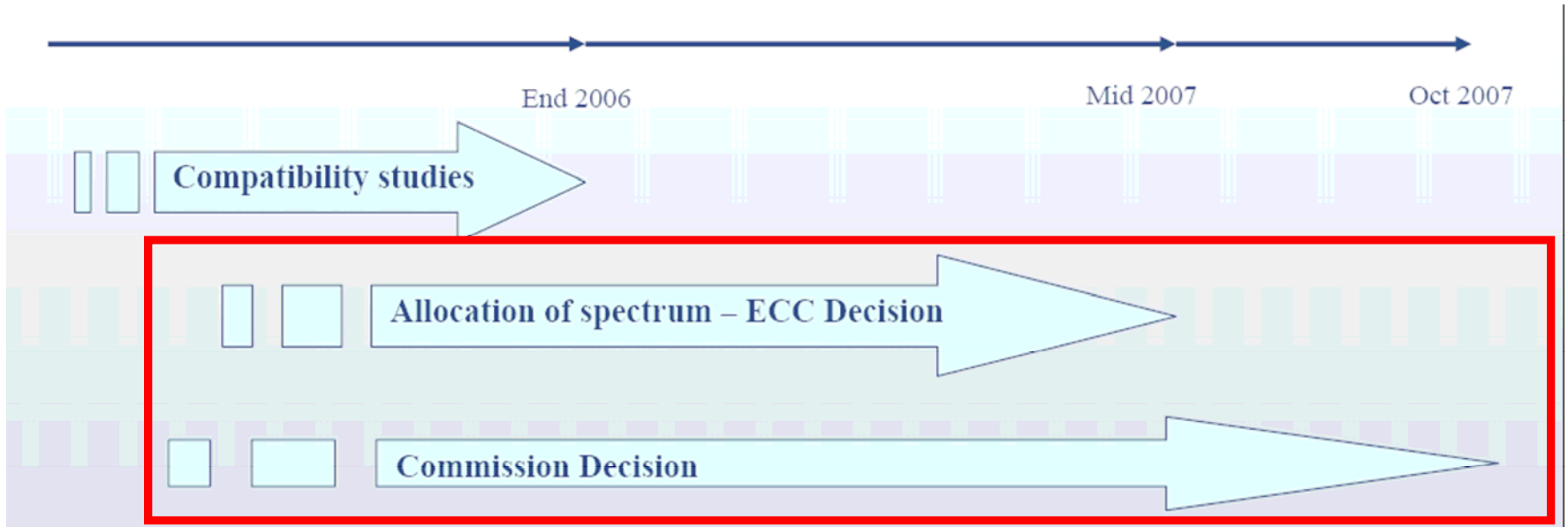
Satellites A to I - ITS devices in Europe



- EC Mandate adopted by the Radio Spectrum Committee
- Focus on safety critical applications
  - Verify requirements
  - Define protection available
  - Determine the frequency range
  - Undertake technical compatibility studies
  - Consider optimal channel plans
  - Propose work plan
- Interim report by mid June 2007
- Final report by end 2007
- An EC Decision intended but not yet decided...
- Industry participating in the work

# Protection of ITS - Timing

- Full compatibility study – compatibility status expected end of 2006
- >2006 a predictable sharing situation
- Critical road safety and traffic efficiency – protected
- Non-safety on a non protected basis
- Hot spot technology in WLAN bands 5470-5725 MHz



- CEPT compatibility studies must be successful
- Justification of requirements is essential
- If full compatibility/mitigation – allocation will be Successful
  
- EC Mandate leading to an EC Decision  
→ Time-frame end 2007 – but certainty earlier (mid 2007)
  
- Licensing regimes to be developed
- Ongoing lobby activity and European promotion needed