



Intelligent Transport Systems (Land , Sea and Air) Standards and Spectrum

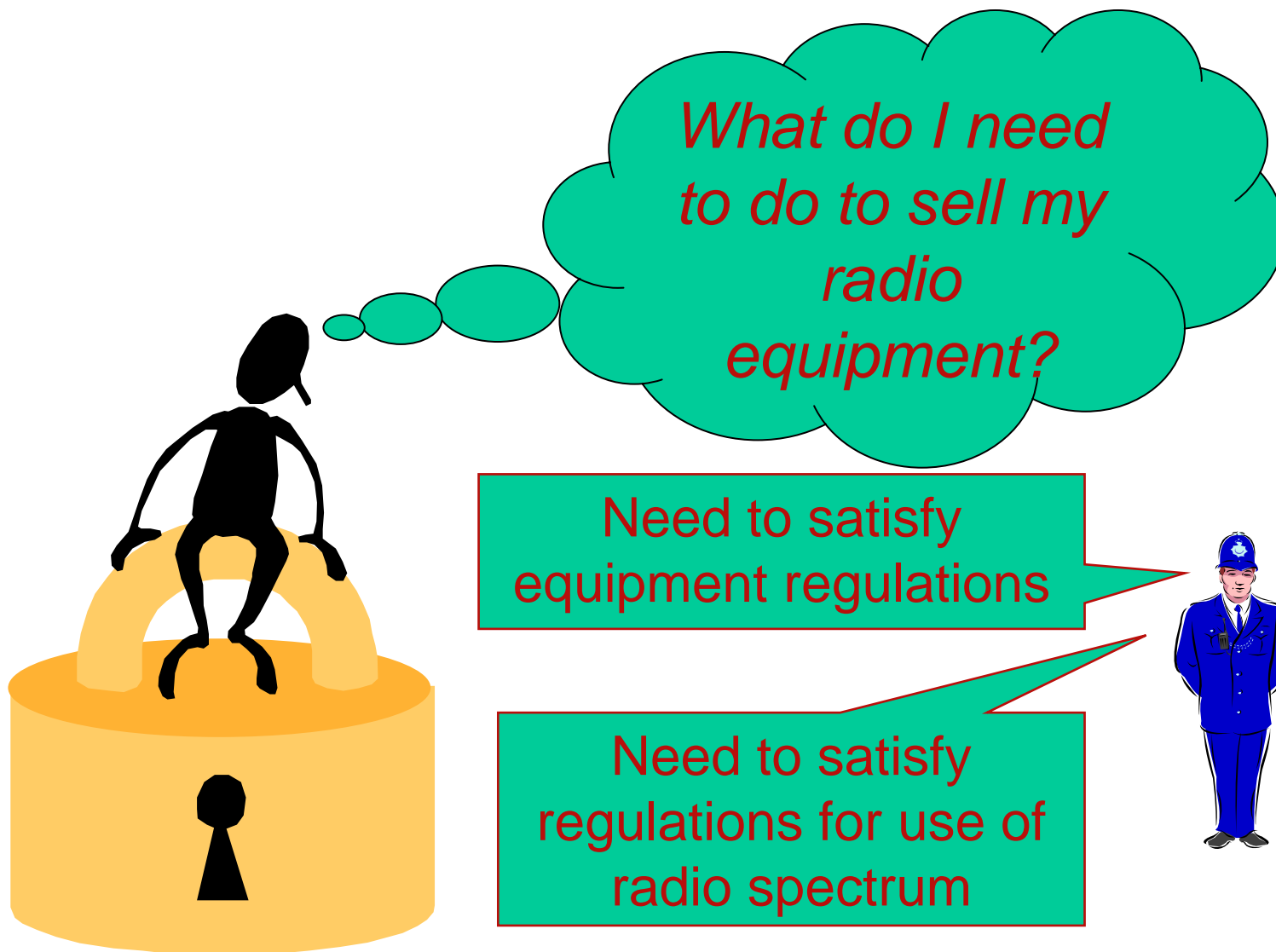
ETSI ERM TG37

Spectrum and Standards: Key points

- ❑ Marketing of radio equipment is regulated at the European level, **BUT** only National Governments can allocate spectrum
- ❑ European Commission can direct the allocation of spectrum by Member States (Directives, Commission Decisions)
- ❑ CEPT recommends & co-ordinates the allocation of spectrum by European Administrations on a voluntary basis
- ❑ Important National variations remain



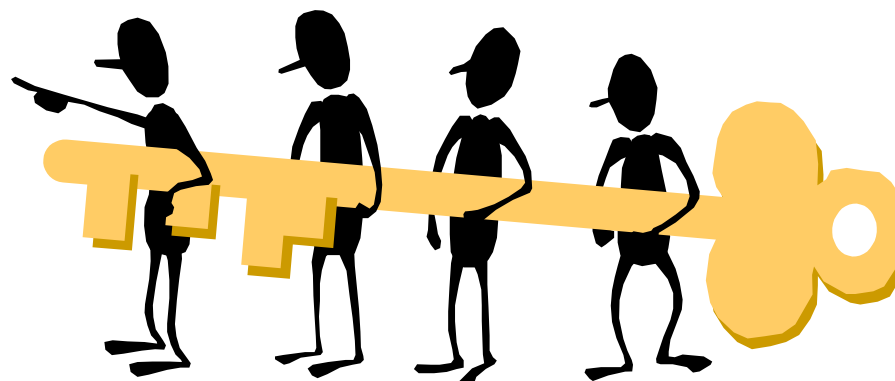
Directives & regulations



Harmonised Standards

- ❑ European Standards (EN)
- ❑ Produced under a mandate from the European Commission
 - And adopted by Member States (98/34 committee)
- ❑ Implement essential requirements of a « New Approach » Directive (e.g. R&TTE, EMC)
- ❑ Define « essential radio test suites » (R&TTE)
- ❑ Adopted by National Standards Organisations
- ❑ Cited in the Official Journal of the European Union

❑ **Member states**
 required to
 presume
 conformity



Directives & regulations (use of radio spectrum)

National radio regulations
apply, except...

Specific Directives
(e.g. GSM Directive
87/372/EEC)

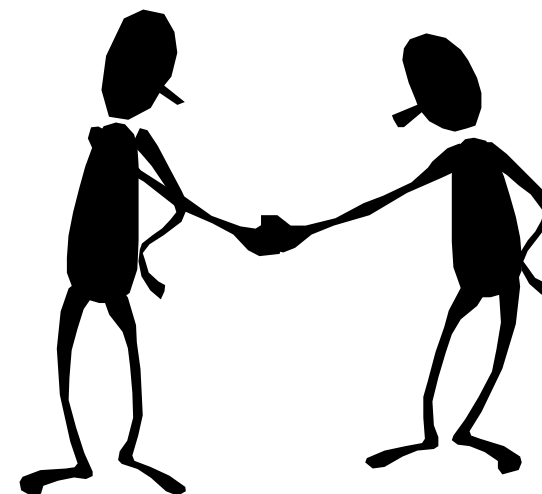
National Regulations
co-ordinated by CEPT

Future EU regulation
under the Radio Spectrum
Decision (676/2002/EC)

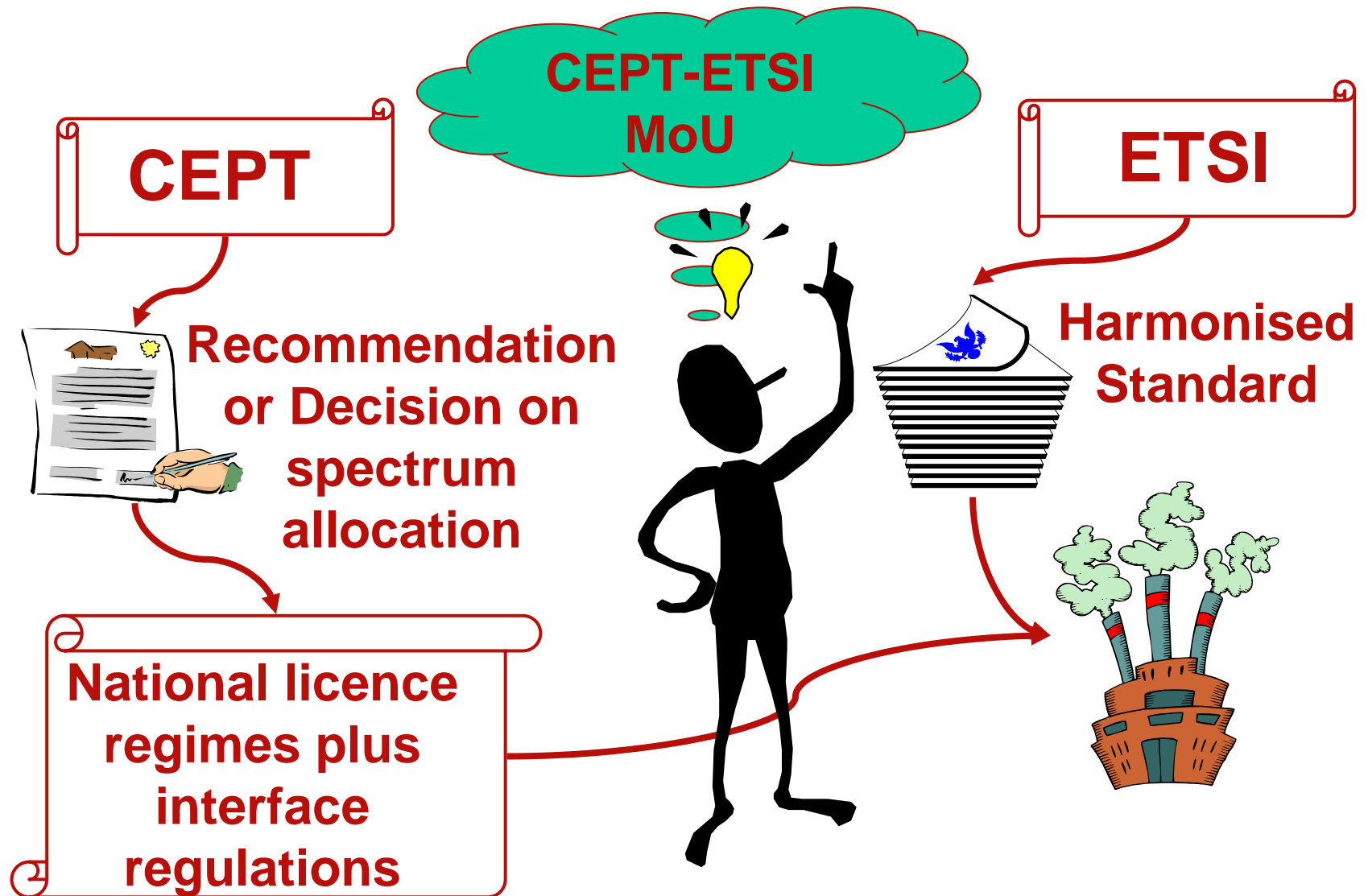


CEPT/ECC - ETSI MoU

- ❑ Aim: to provide Harmonized Standards and aligned frequency regulations which are:
 - Technically compatible
 - Synchronized
- ❑ Systems not intended for pan-European use may still benefit from Harmonized Standards without CEPT frequency harmonization
- ❑ Frequency harmonization proposals are usually initiated in ETSI by a “System Reference Document”, but standardization proposals may be initiated by CEPT
- ❑ ETSI members may attend CEPT drafting groups
- ❑ ETSI attends decision-making level in CEPT to provide co-ordination with standardization



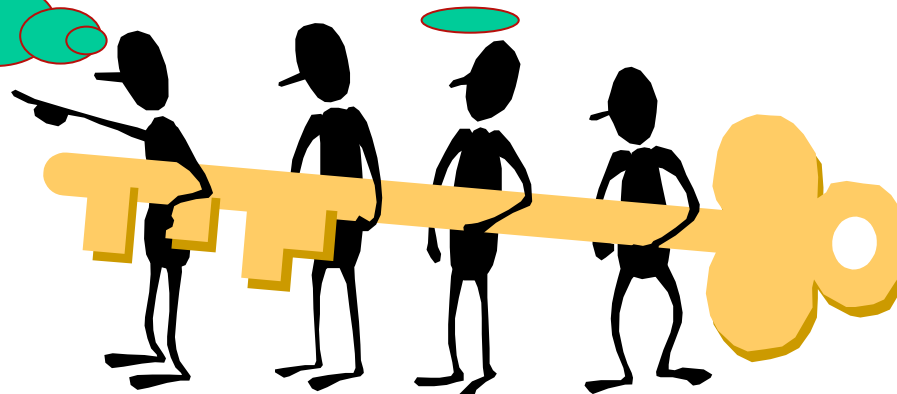
Radio Spectrum Access



The problem...

Frequencies are managed on a national basis:
CEPT deliverables are not enforceable at a European level

Manufacturer needs to know local frequency regulations



The Radio Spectrum Decision

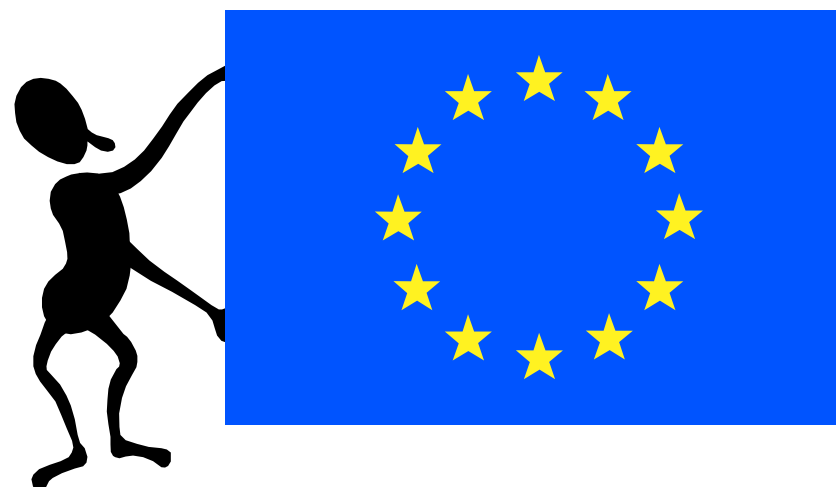
Radio Spectrum Committee (RSCOM)

European Commission requests CEPT to provide frequency allocations in support of EU policies

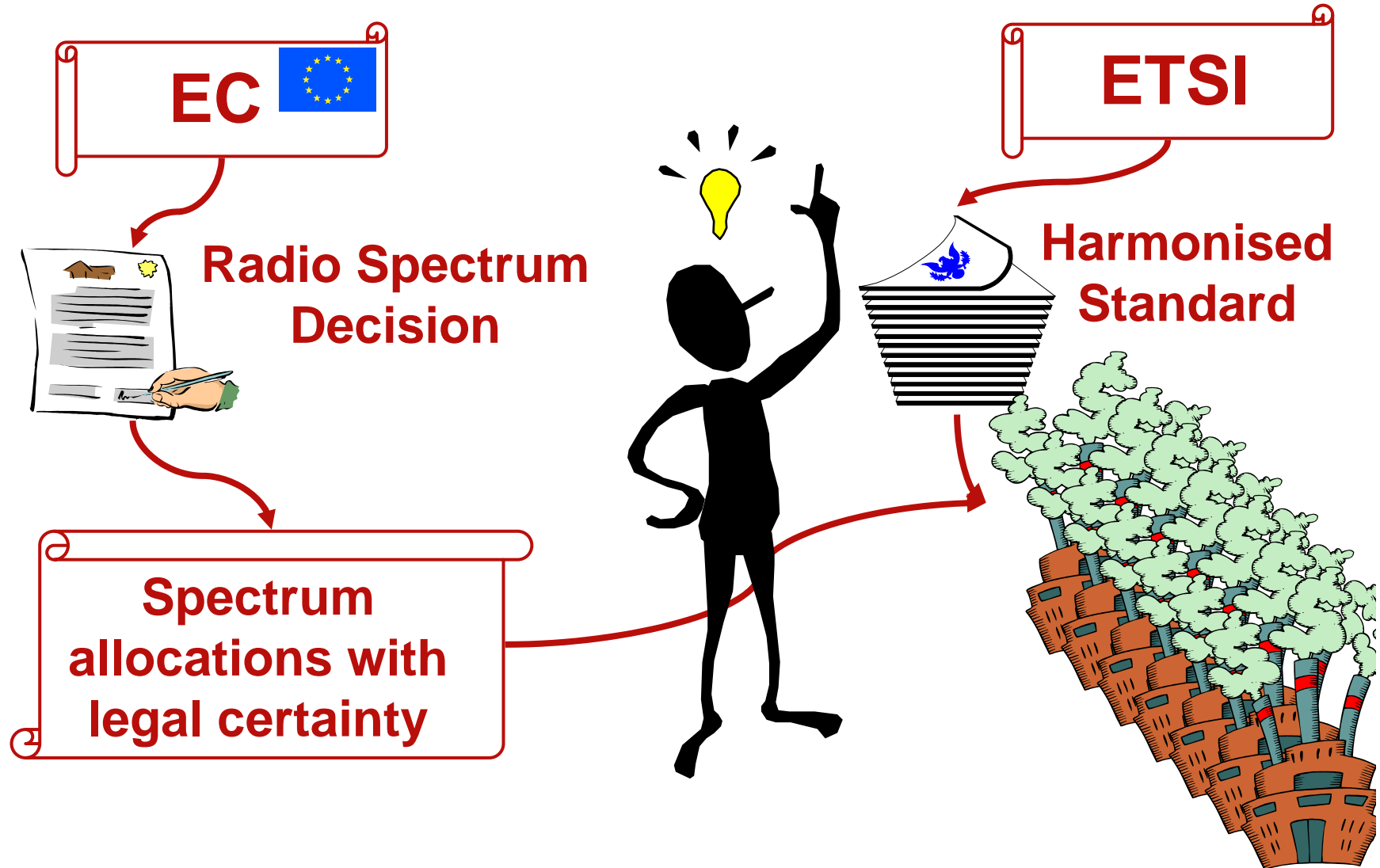
CEPT output codified into a Commission Decision

Legal certainty !

CEPT and ETSI are permanent observers



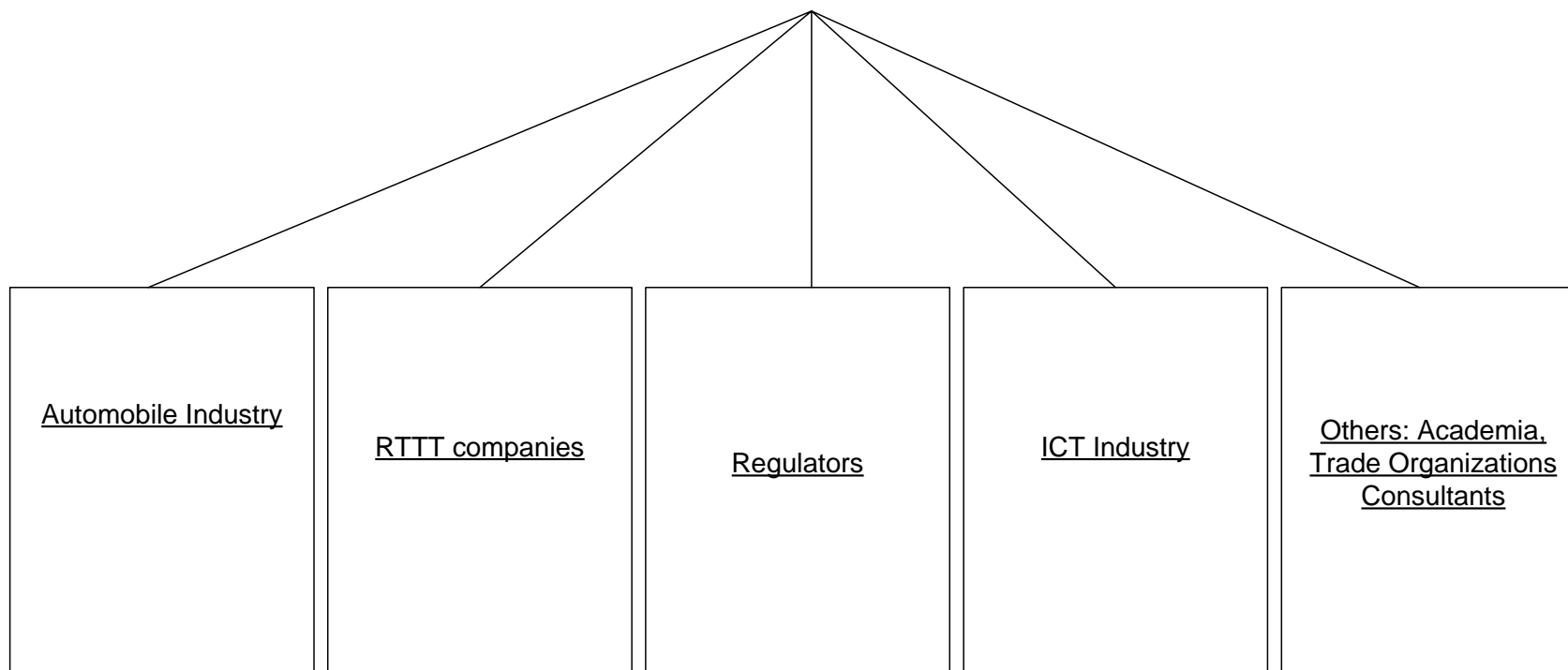
Harmonised Standards and Commission Spectrum Decisions



ETSI ITS and eSafety Standardization: ETSI, ISO and CEN- **Working together for coordinated Standards**

- ETSI ERM TG37 (ITS)/ ISO TC204 (ITS)/ CEN TC278 (ITS) are working in close liaison – and in many cases jointly, to ensure seamless interoperable and timely Standards
- ETSI ERM TG37 / ISO TC 204 WG16 are working jointly to develop “Continuous Communication between vehicles and the infrastructure” and “Emergency Crash Notifications (ACN and eCall)
- ETSI ERM TG37/ CEN TC278 are working in close liaison to develop eSafety Standards for Europe

ERM TG 37 representation





Co-operation of ERM TG37 inside ETSI

 EPT TETRA

 TC BRAN

 ERM TG31b (Ultra Wide Band Radar)


 ERM TG34 (RFID)

 ERM TG04 (Automotive EMC)

 Use of ETSI services, like PTCC and Plugtests



ITS Initiatives in the world and Europe

 ITU-T created an Advisory Panel for Standards Cooperation on Telecommunications related to Motor Vehicles - **APSC TELEMov**. Intelligent Transport Systems Steering Group of the ICTSB (**ITSSG/ICTSB**). ERTICO ITS – Europe (co-ordinator of the majority of ITS Projects in Europe) eSafety Initiative Global Standards for Telematics (GST) project EC/22004/52 (EFC Directive) and the EFC Expert Group (Member States Committee)

ERM TG37 works closely with:

 CEN TC 278 on ITS

 ISO TC 204 WG 16 on ITS

 ICTSB/ITS SG

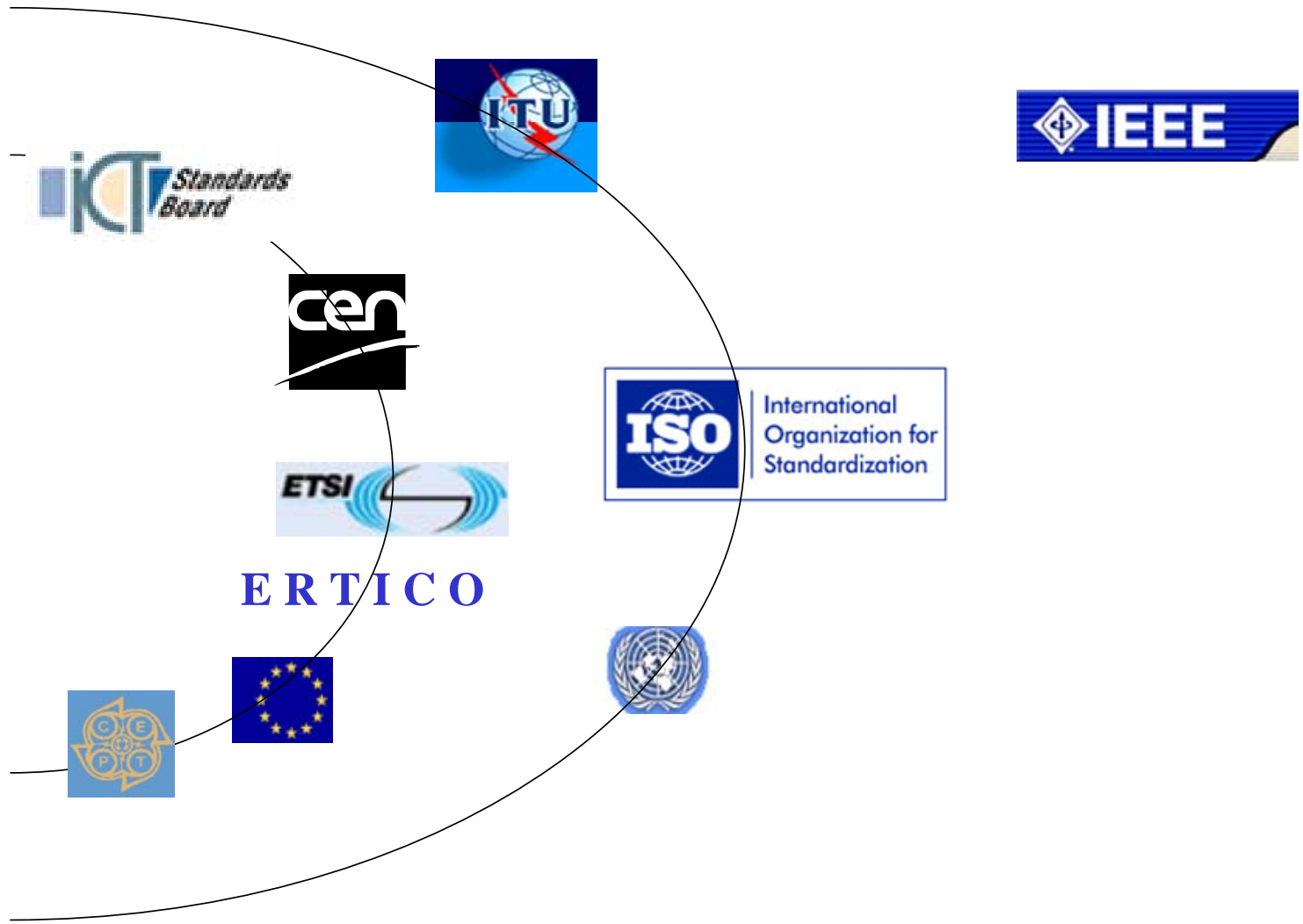
 DG InfoSo and DG TREN (support of eCall, eSafety initiatives)

 Monitor activities of ITU SG8 WP8A WG2 on ITS

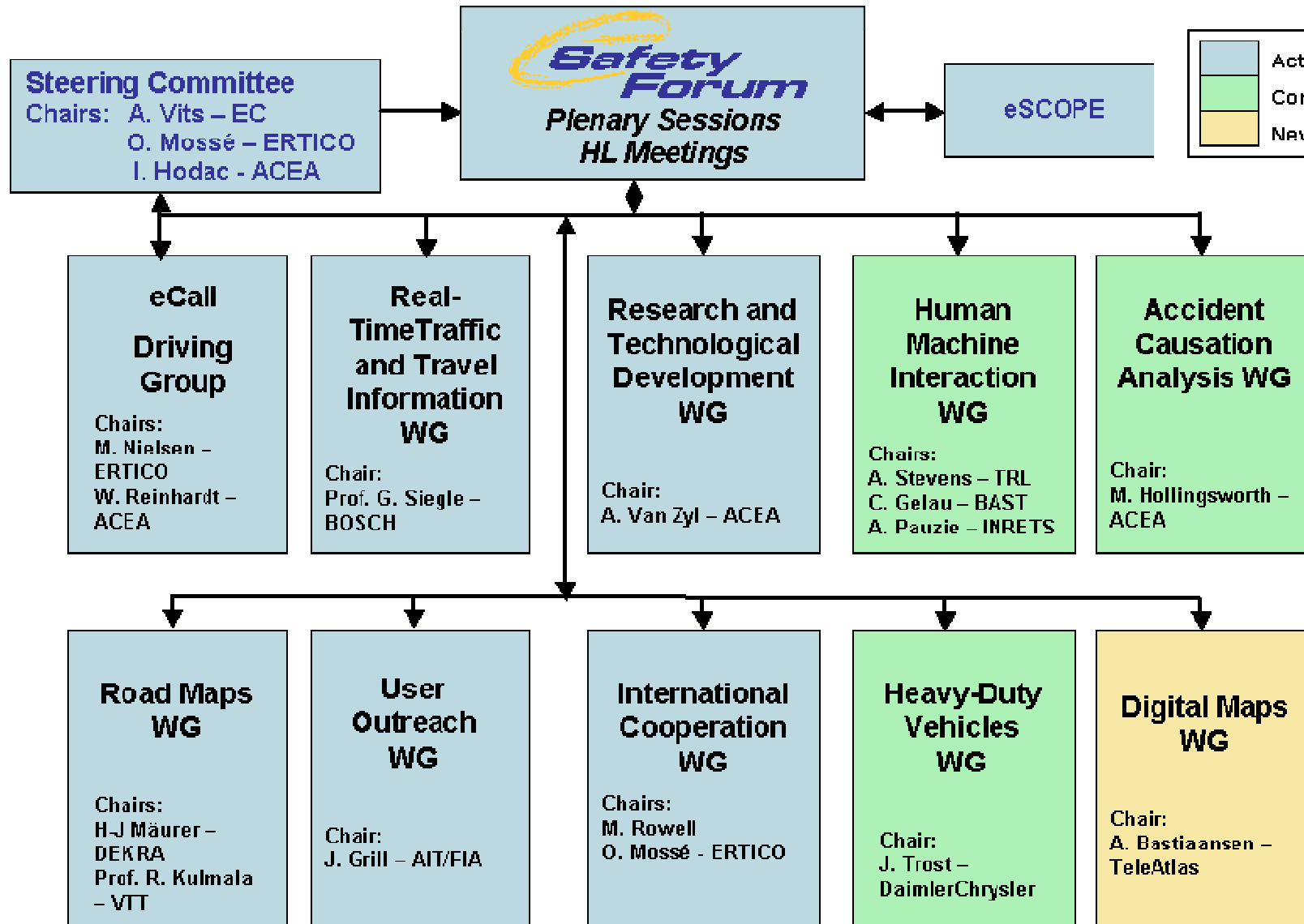
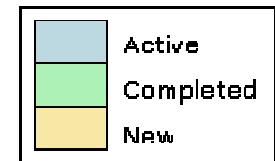
 Monitor activities of CEPT/ECC/WGFM and WGSE (frequency availability and sharing studies)

 Monitor activities of UN ECE WP 29

ERM TG37 co-operation with other organisations

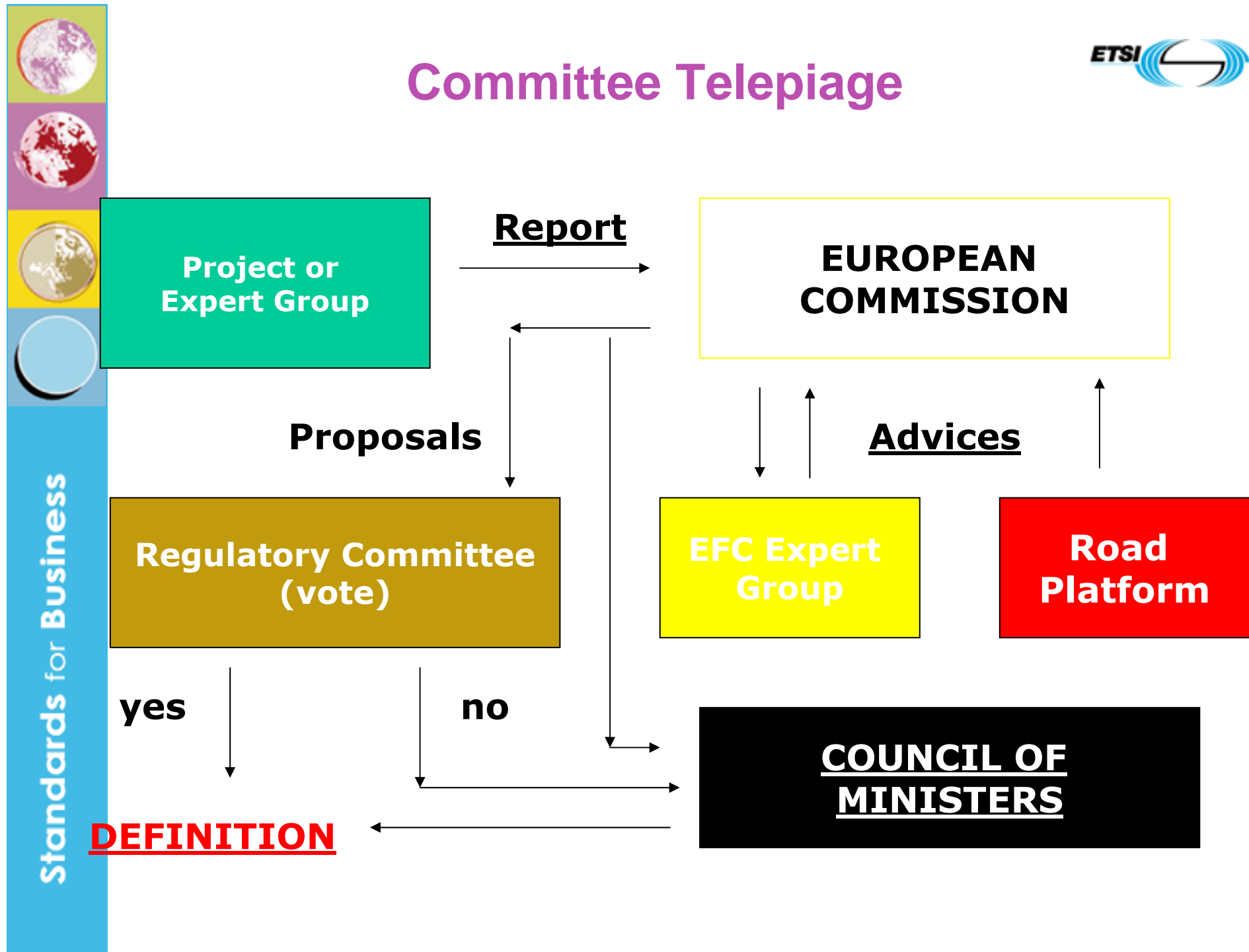


The eSafety Forum



New group on V-2-V comms is to be created in the near future

Committee Telepiage



ETSI ITS and eSafety Standardization : DSRC

- DSRC (at 5.8 GHz) is a technology used for a short range communication between an on-board unit in a vehicle and infrastructure at a specific point (such as a toll barrier)
- DSRC Standards have been developed and approved and have been widely deployed in Europe for Toll collection and road pricing, and have the capability of being used for other services
- ETSI are currently developing Standards for “DSRC conformance testing for interoperability” to complement the CEN application Standards and the ETSI Communication Standards

ETSI ITS and eSafety Standardization : **Emergency Crash Notifications**

ETSI ERM TG37 is working jointly with ISO TC204 to progress Standards for Emergency Crash Notifications.

Currently drafts for what used to be called eCall i.e. a voice message with data attached, and digital data only Automated Crash Notification via any media are at working draft stage.

There is a proposal that they are merged. Next meeting in Europe-May 5 at ETSI.

*(but eCall is an Monaco registered trade mark so we have to find a new name)

ETSI TG37 is working together with other ETSI Committees to make sure that GSM/3G Standards can support requirements for eCall and ACN

ETSI ITS and eSafety Standardization: Areas of Activity

□ CALM- Continuous Communications with and between vehicles

- Cellular – GPRS and 3G
- 5.8 GHz
- Mobile Wireless Broadband
- 60 GHz (Millimetre)
- Infra-red
- Legacy
- Other





ETSI ITS and eSafety Standardization: **ETSI** **Strategy**

- ❑ In respect of Continuous communications with and between vehicles, the facets of ETSI strategy are:
 - ❑ **Work Jointly with existing work items of ISO TC204 CALM to jointly develop Standards**
 - ❑ **Create matching work items, and contribute to development of ISO CALM Standards**
 - ❑ **where appropriate, develop communications aspects of Standards as ETSI standards in concert with TC204**

ETSI ITS and eSafety Standardization: CALM- Cellular GPRS & 3G

- These Standards are already well advanced within ISO, however these Standards are principally pointers to the ETSI managed GSM/3GPP Standards, so the ETSI role is to make sure that those Standards meet the requirements for ITS. This is largely a liaison role with other ETSI committees at this point in time



ETSI ITS and eSafety Standardization: CALM:- 5.9 GHz

- ❑ The first ETSI role here is to cooperate with our colleagues in ISO, whose work is well advanced
- ❑ The principal role of ETSI is to negotiate bandwidth for 5 GHz in ETSI countries
- ❑ **SRD (System Reference Document) currently being negotiated for 20 GHz around 5 GHz**



ETSI ITS and eSafety Standardization: CALM

3: Mobile Wireless Broadband

- The first ETSI role here is to cooperate with our colleagues in ISO, whose work is well underway
- We are in the early stages of identifying what we have to do to ensure adequate bandwidth for mobile wireless broadband
- It is clear that new bandwidth will be required for mobile wireless broadband.
- We are developing Standards for general MWB requirements for ITS applications; and specific Standards using IEEE 802.16e; IEEE 802.20; HC-SDMA**

ETSI ITS and eSafety Standardization: CALM 4- Millimetre (63 GHz)

- ❑ The first ETSI role here is to cooperate with our colleagues in ISO, whose work is well advanced
- ❑ The principal role of ETSI is to negotiate bandwidth for 60 GHz in ETSI countries and we have been successful in getting through various committees and it is now submitted to CEPT SE24 approval for this



- ETSI ITS and eSafety Standardization: CALM 5- Infrared
- The ISO Standard is already approved (ISO 21214)
- There are no current problems regarding bandwidth and signal strength at this near visible light frequency, other than those for domestic light and heat appliances. However we continue to monitor activities, such as those of health and safety to protect and support the ITS use of this media

ETSI ITS and eSafety Standardization: CALM 6 Legacy

- ❑ CALM has worked to create interface Standards for legacy systems, such as CEN DSRC, Italian DSRC, Japanese DSRC, primarily via an ISO 15628 application layer.
- ❑ We monitor this position to see if it requires and ETSI support Standards

ETSI ITS and eSafety Standardization: Other

- CALM is a platform that separates applications from media, allows choice between media and networking/handover between media.
- It is recognised that media will change over time, so CALM is so structured to be able to accept new media, while other media will fall out of use.
- ETSI ERM TG37 stands ready to consider new media, and provide communications Standards to support new media, and support regarding media regulation

ETSI ITS and eSafety Standardization



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