Amsterdam INTERTRAFFIC 2014

Standardisation of SPaT and MAP

Dipl. Ing. Jürgen Weingart

Source: Roadmap between automotive industry and infrastructure organisations on initial deployment of Cooperative ITS in Europe

Cooperative Standardisation Activities

- Cooperative Projects
- EU Mandate M453
- Standardisation SPaT/MAP
- Requirements for C-Prioritisation
- Standardisation groups

ITS World 2012 Demo

TESTFELD TELEMATIK

CAR 2 CAR COMMUNICATION CONSORTIUM

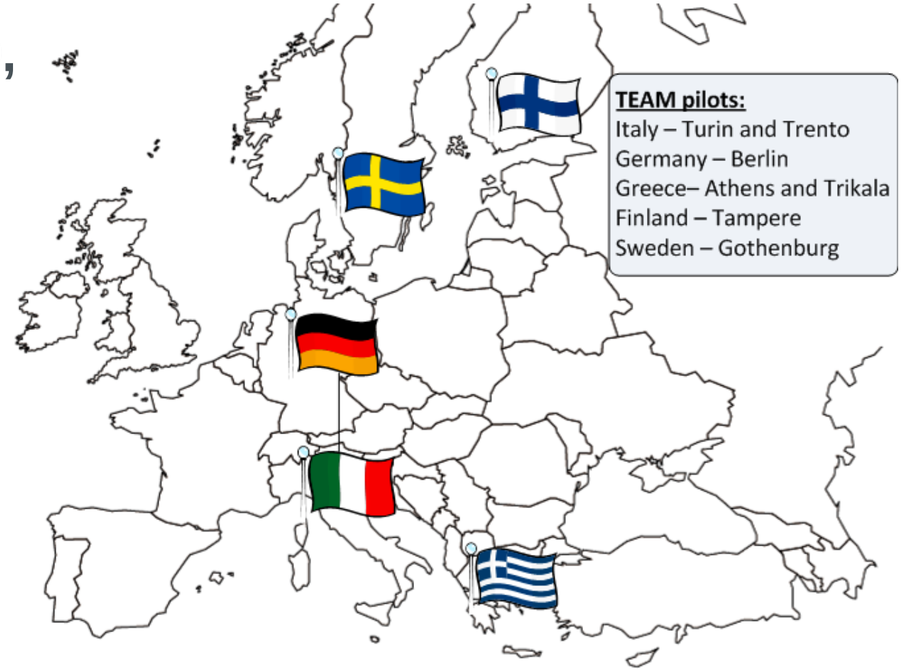
- **ITS Demo Tour at public Roads**
  - Green Light Optimal Speed Advisory
  - Green Wave Speed Information
  - Remaining Phase Time Display
  - Hazardas Location
  - Road Works Warning
  - In Vehicle Signage
  - Weather Warning
  - Park & Ride
  - …

19th **ITS World Congress**
Vienna, Austria
22 to 26 October **2012**
smarter on the way

TEAM - Overview

- Project Description
  Make travelers and infrastructure act as a team adapting to each other and to the situation, creating optimised mobility conditions.

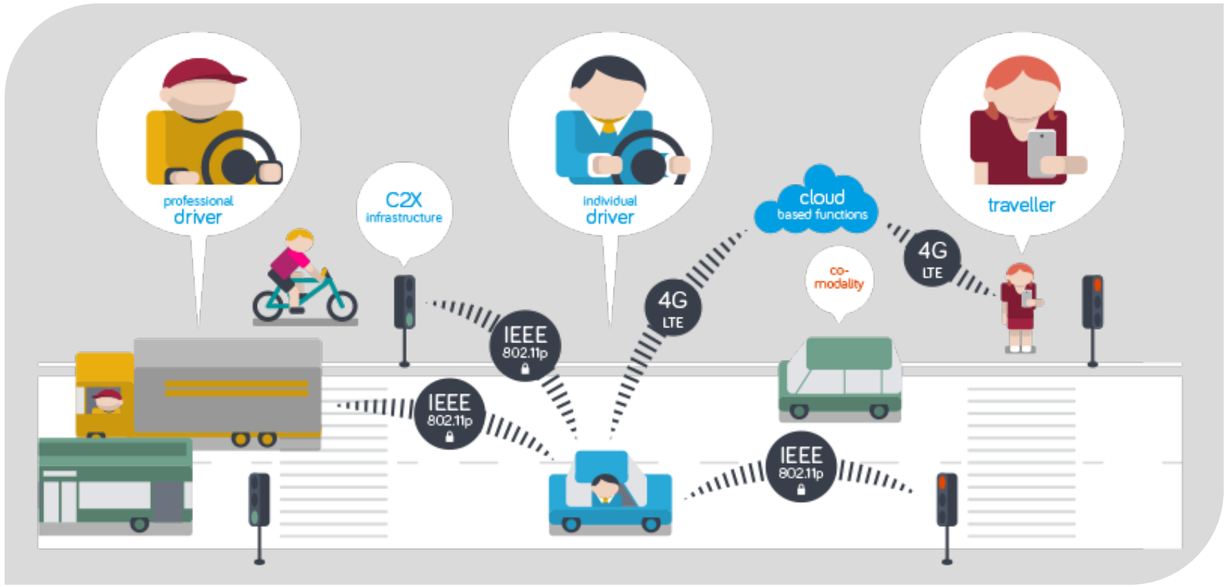
- Partners: **Fraunhofer (coord), BMW, VOLVO, NEC, TNO, INTEL, HERE, …**
  - External Funding Sources: **EC 7th FP**

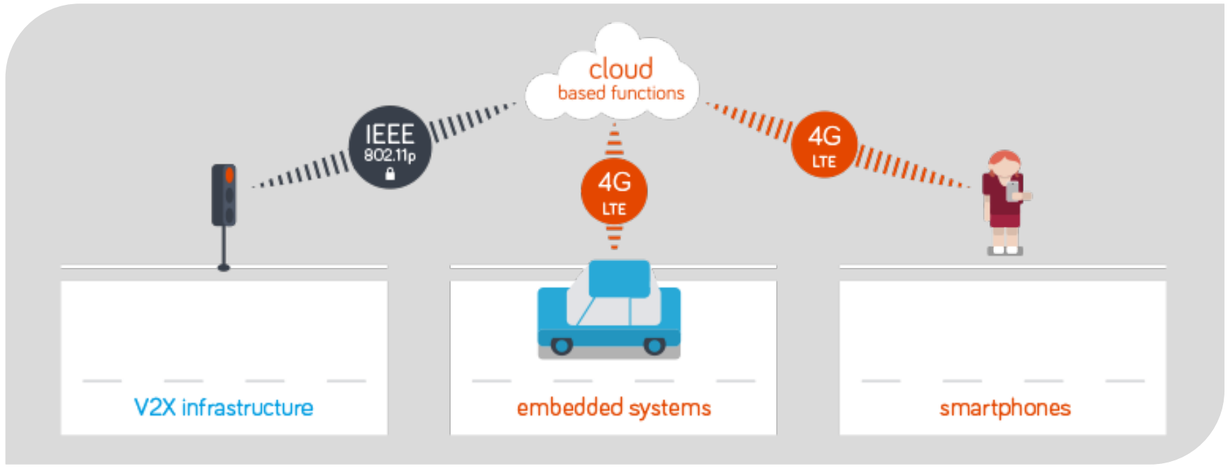


- Budget:
  - Total (over all years): **17 MEuro**
- Key Dates
  - Project Start: **44/2012**
  - Field Tests / Integration Testing: **44/2015**
  - End **44/2016**

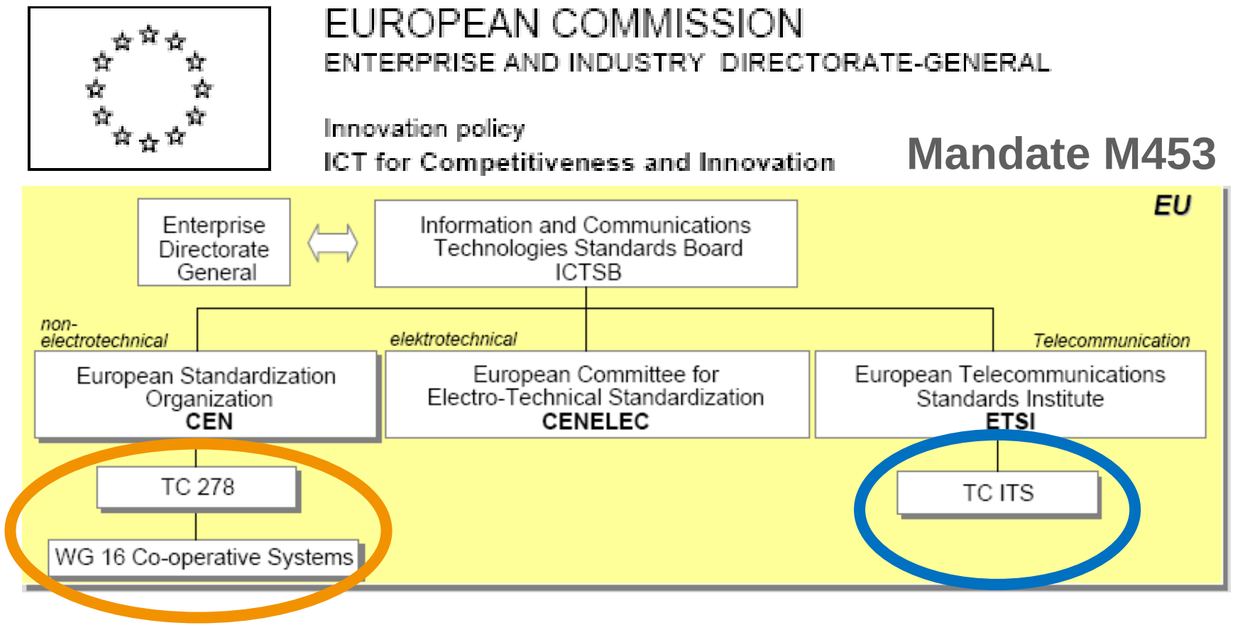
TEAM - Objectives

- **Collaborative pro-active urban/inter-urban monitoring and ad-hoc control**
- **Collaborative co-modal route planning**
- **Collaborative smart intersection for bus priority (intelligent priorities)**
- **Collaborative public transport optimization**





Standardisation at ETSI, CEN/ISO and SAE



- **Standardisation at ETSI TC ITS WG 1 .. 6**
  - Communication layer (physical, GeoNet, …)
  - Mobile applications (V2V)
  - Messages: **CAM, DENM**
- **Standardisation at CEN TC278 WG 16/ISO TC204 WG 18**
  - Infrastructur applications
  - Overall/Management architectur
  - Messages: **SPaT, MAP,** PDM, PVD, IVI

OCIT®

CAR 2 CAR COMMUNICATION CONSORTIUM

DIN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

International Organization for Standardization

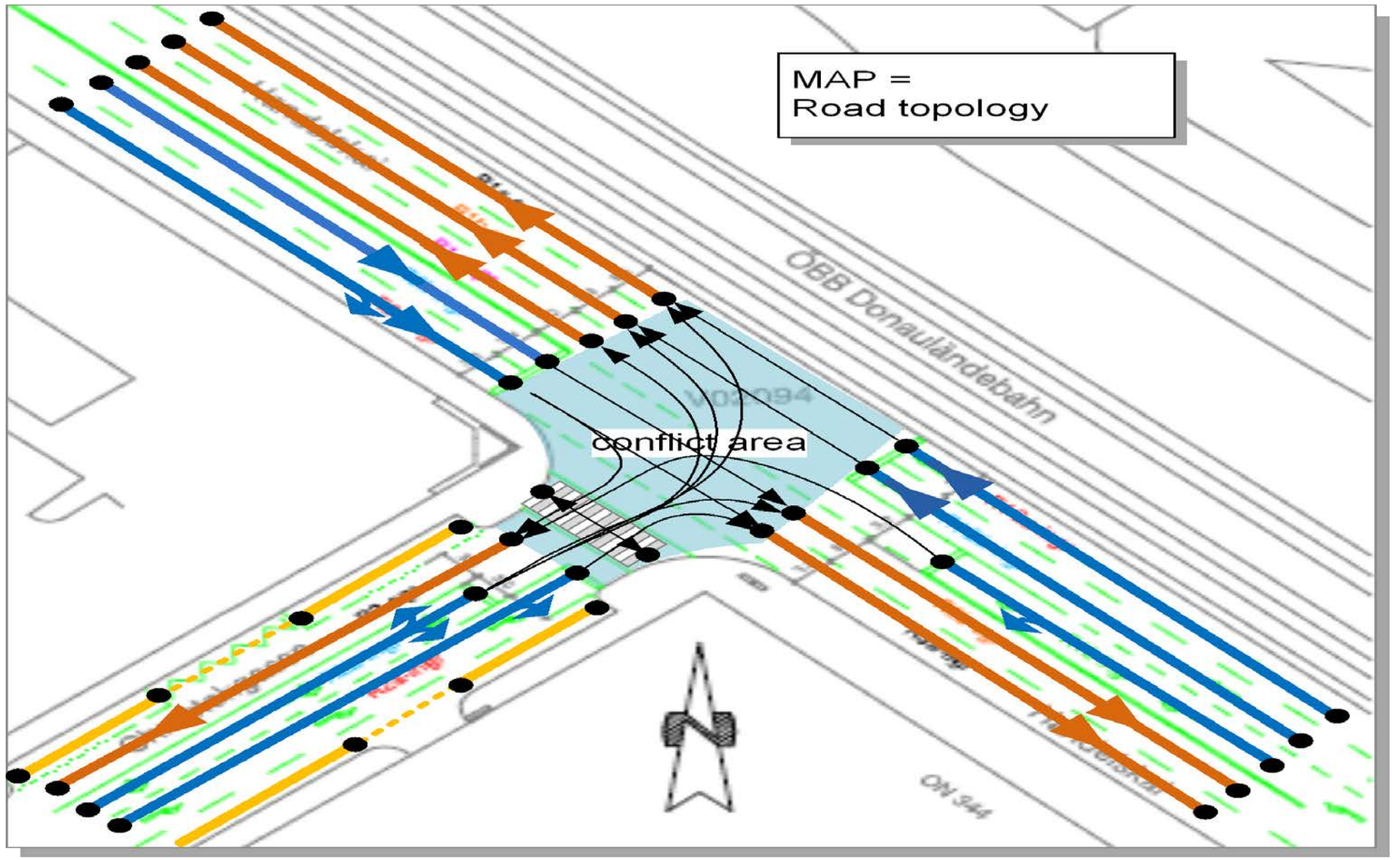
SAE International®

ETSI

AMSTERDAM GROUP

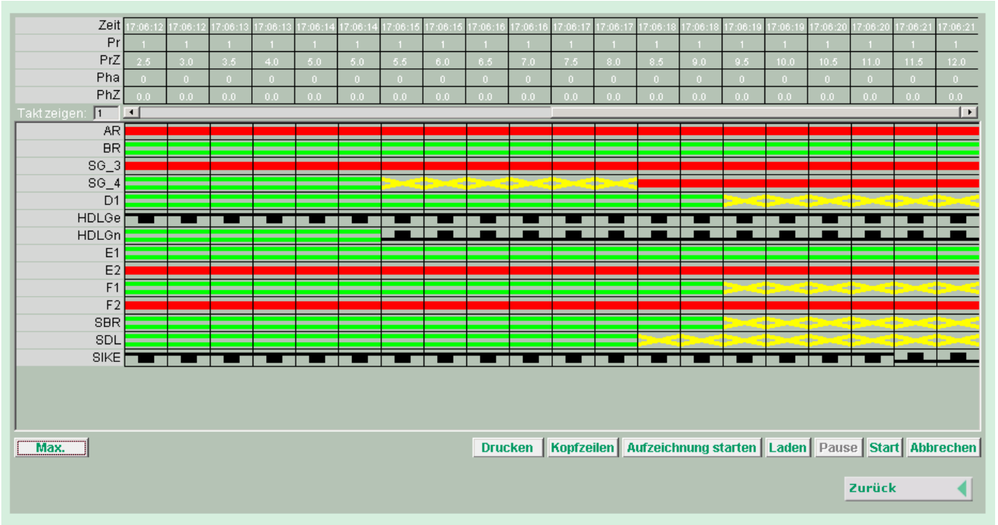
Relevant messages for intersection use cases

- **MAP**
  - Topological definition of lanes within an Intersection
  - Topological definition of lanes for a road-segment
  - Links between the segments
  - Type of lanes
  - Restrictions at lanes



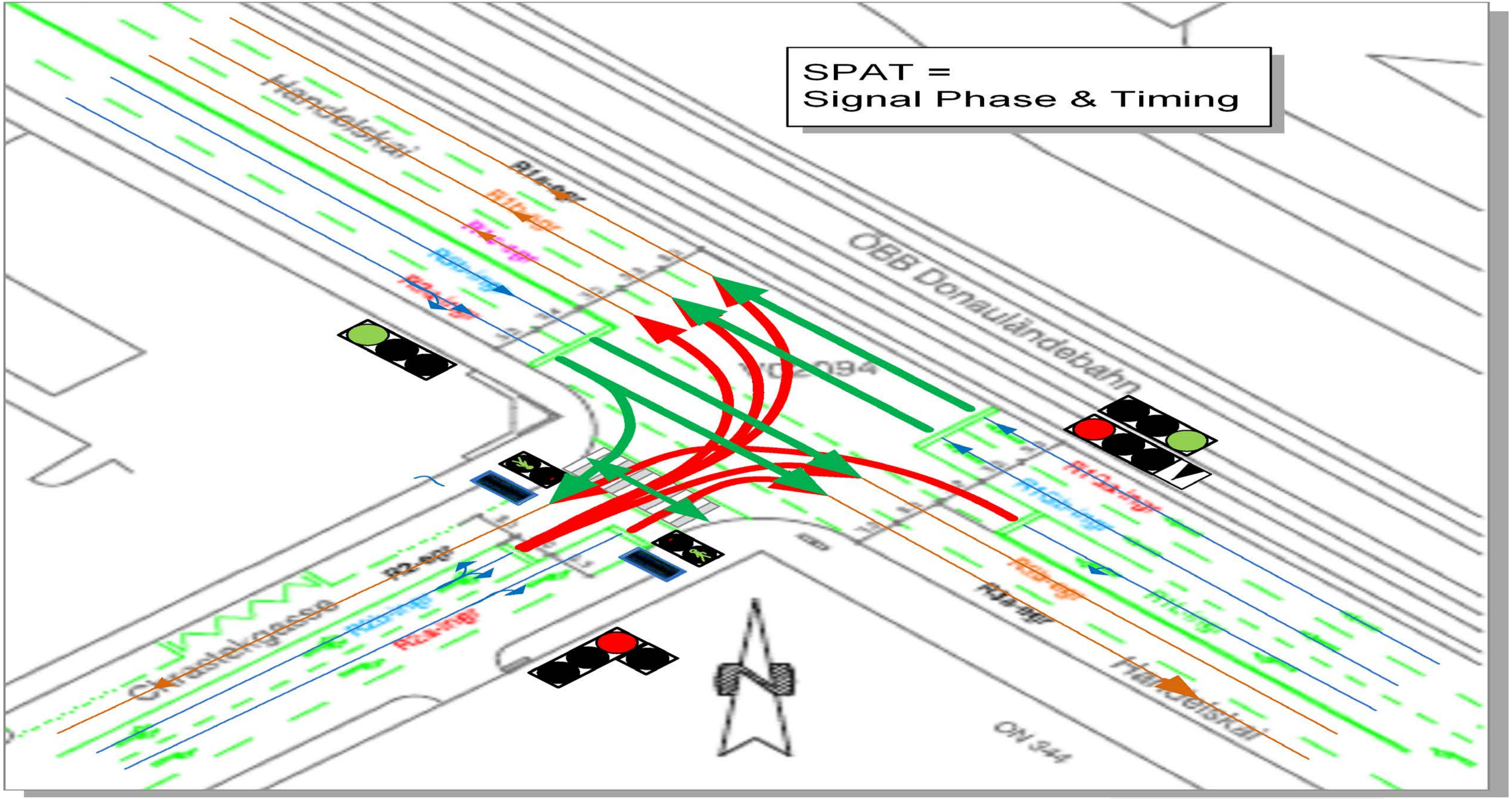
Relevant messages for intersection use cases

- **SPaT**
  - Signal Phase and Timing
  - Status of traffic controller,
  - Prediction of duration and phases
  - Data elements for prioritisation response

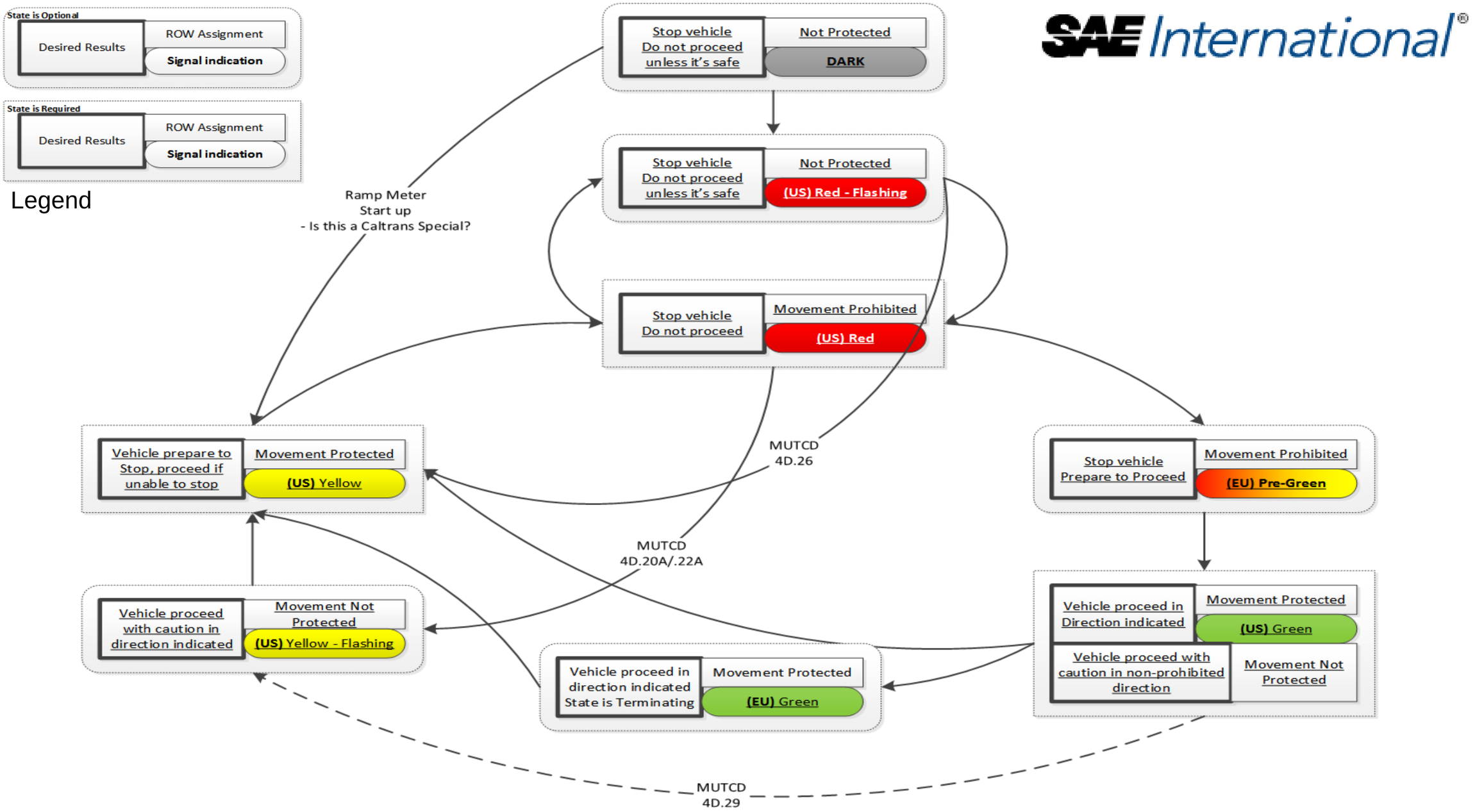


- Abstract permissions instead of ambiguos colours
- Permissions linked to manouvers instead to lanes

Permissions linked to manouvers



State Diagram of abstract Permissions

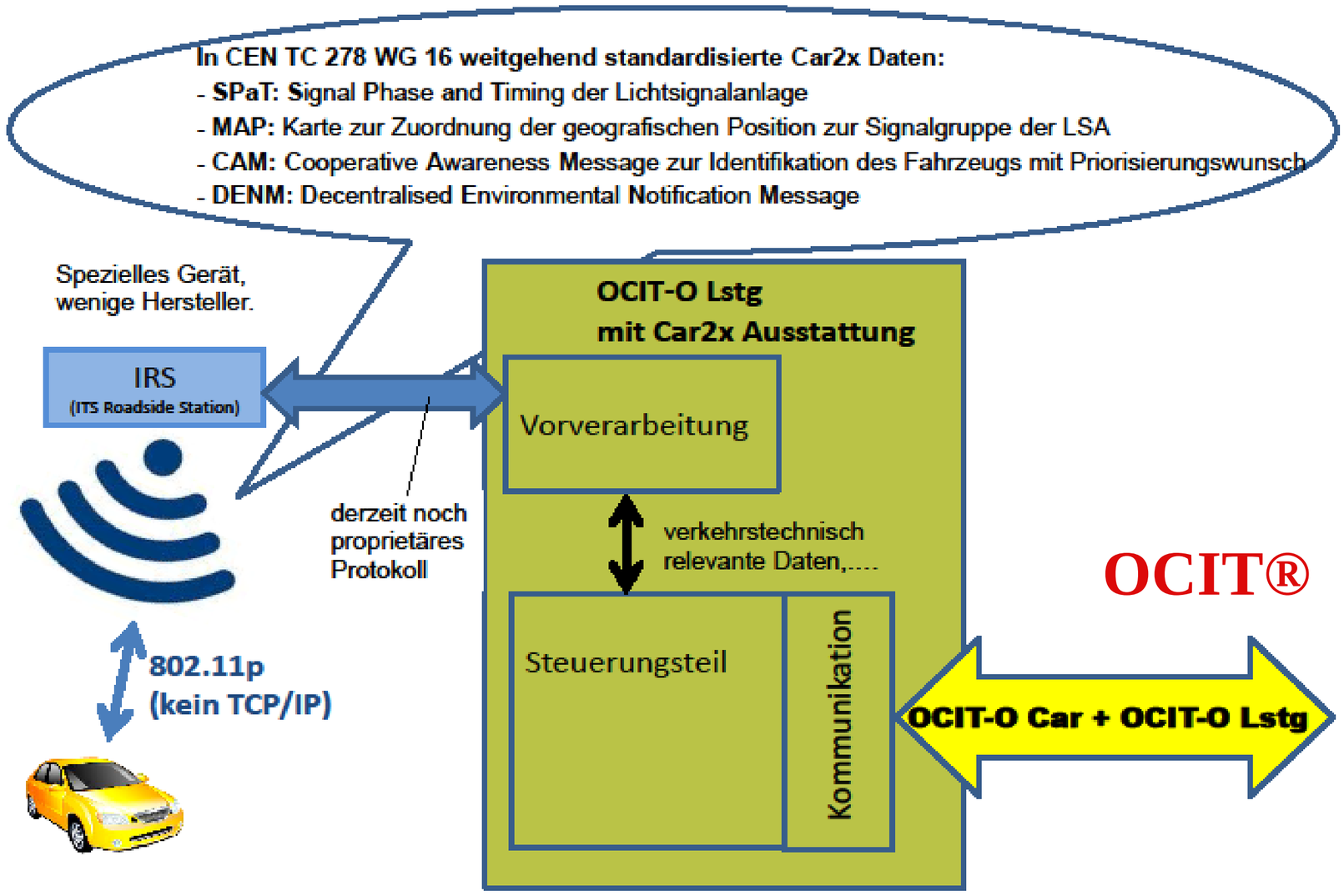


Cooperative Technologies OCIT-O CAR

OCIT-O 3.0

- **OCIT-O Lstg**
- **OCIT-O Car**
  - Connection to Central
  - Separate licence
  - CEN TC278

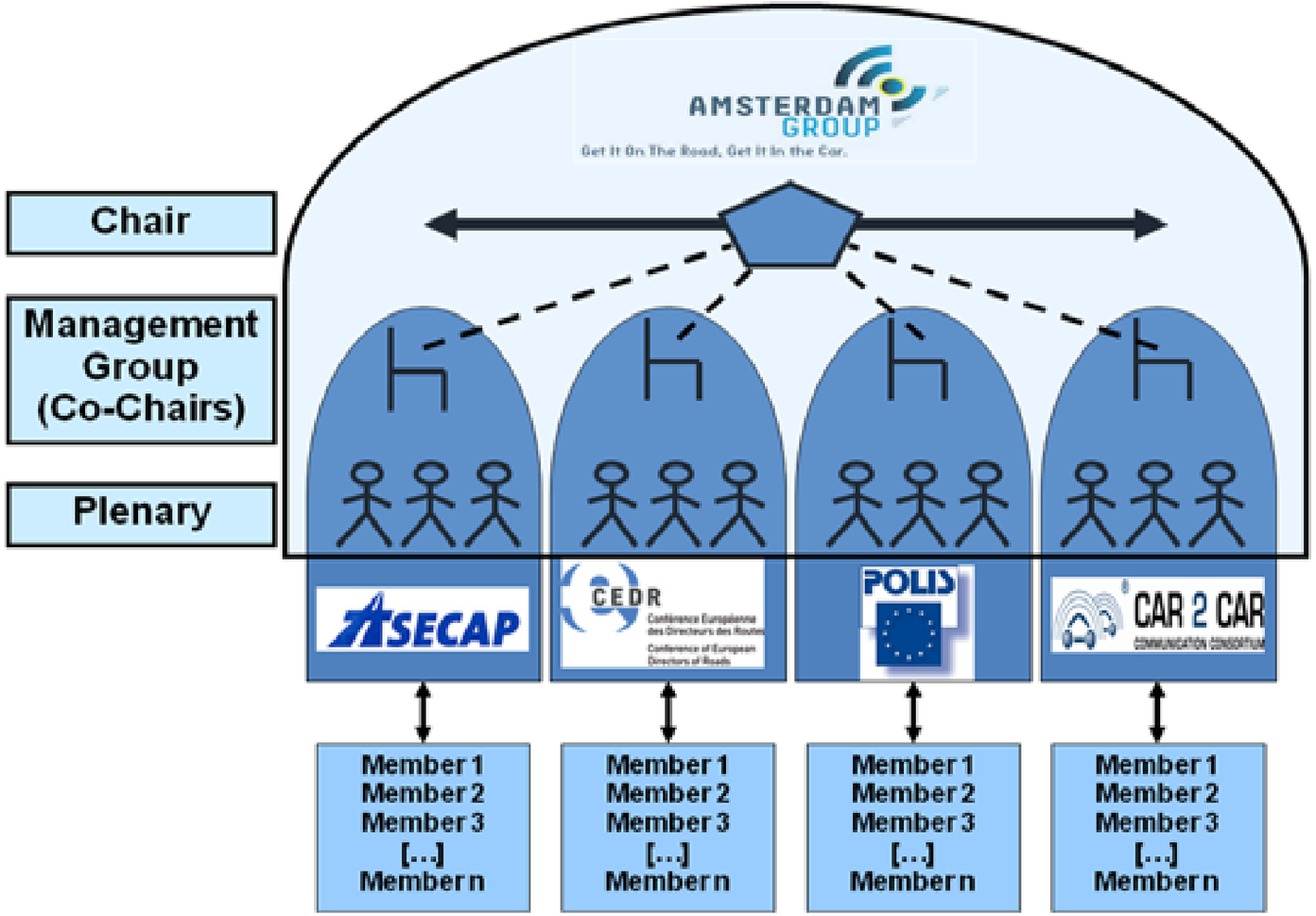
  - Configuration/provision
  - CAM/DENM data
  - PVD/PDM



Car2x Szenario ODG 08.11.12

Organisation of the Amsterdam Group

The Amsterdam Group is a strategic alliance of committed key stakeholders with the objective to facilitate joint deployment of cooperative ITS in Europe.



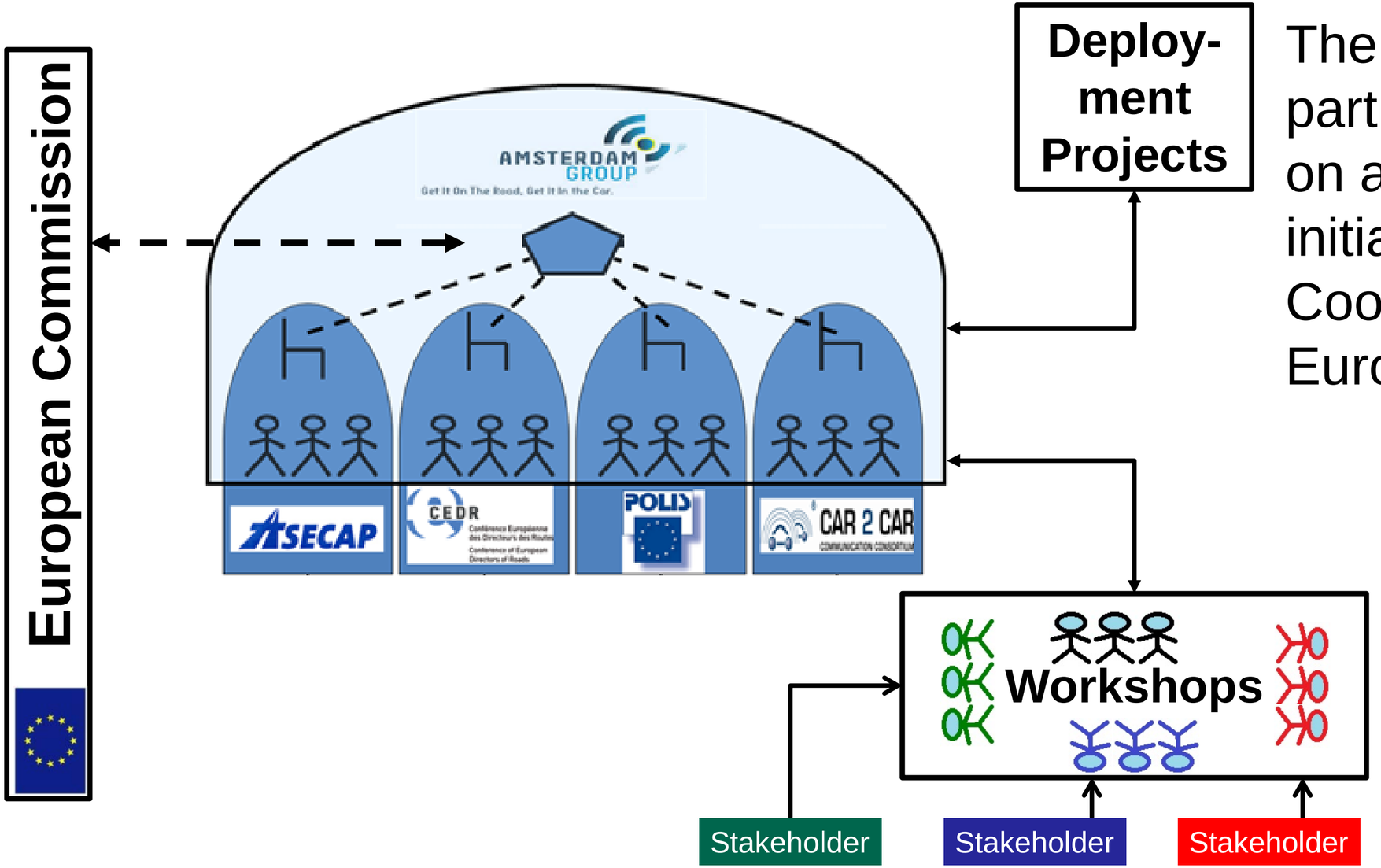
AMSTERDAM GROUP

Get It In On The Road, Get It In the Vehicle.

https://amsterdamgroup.mett.nl

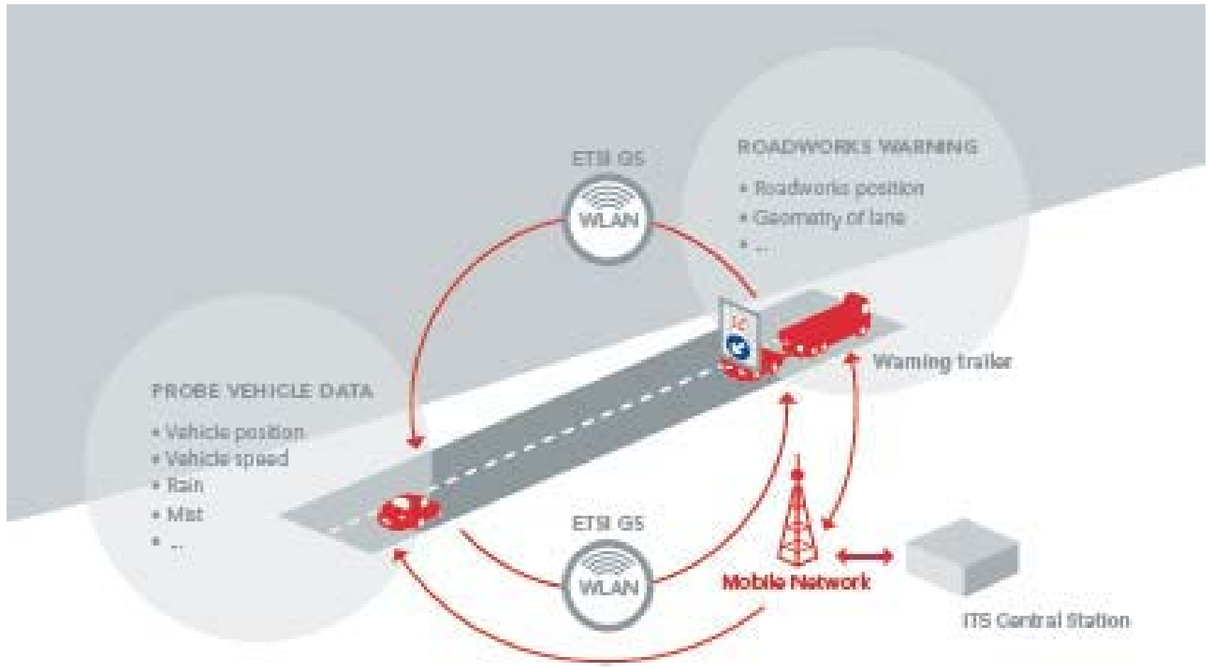
http://www.asecap.com
http://www.cedr.fr
http://www.polisnetwork.eu
http://www.car-to-car.org

Contacts of the Amsterdam Group to C-ITS arena



The Amsterdam Group partners are working on a Road Map on initial deployment of Cooperative ITS in Europe.

C-ITS Corridor



Cooperative ITS Corridor and planned day one services

Phased deployment approach in the Cooperative ITS Corridor

Pre-development and proof of-concept of road works safety trailers in Hesse

Deployment of road works safety trailers in the Cooperative ITS corridor Rotterdam–Frankfurt–Vienna

Deployment of road works safety trailers nationwide in Germany

Requirements to “Day One” use cases

The criteria derived by the AG on the short list are:

- Simple and non-complex services that provide end user benefit and supported by a solid business model
- A balanced mix of services that support all environments of C-ITS (urban, rural, inter-urban (all V2I2V) and V2V) which can be regarded as minimum set of services for day one
- Services that are feasible with low/minimum risk to avoid a first day bad image hampering further user acceptance
- Services that provide credibility to C-ITS
- Services that support a fast penetration and offer a platform for further deployment of other services

Proposed “Day One” use cases

Typical V2V in this respect are

1. Hazardous location warning
2. Slow vehicle warning
3. Traffic Jam ahead warning
4. Stationary vehicle warning
5. Emergency Brake light
6. Emergency vehicle warning
7. Motorcycle approaching indication

I2V day one use cases in this respect are

1. Road works warning
2. In-vehicle signage
3. Signal phase and time
4. Probe Vehicle Data

Current European Standards

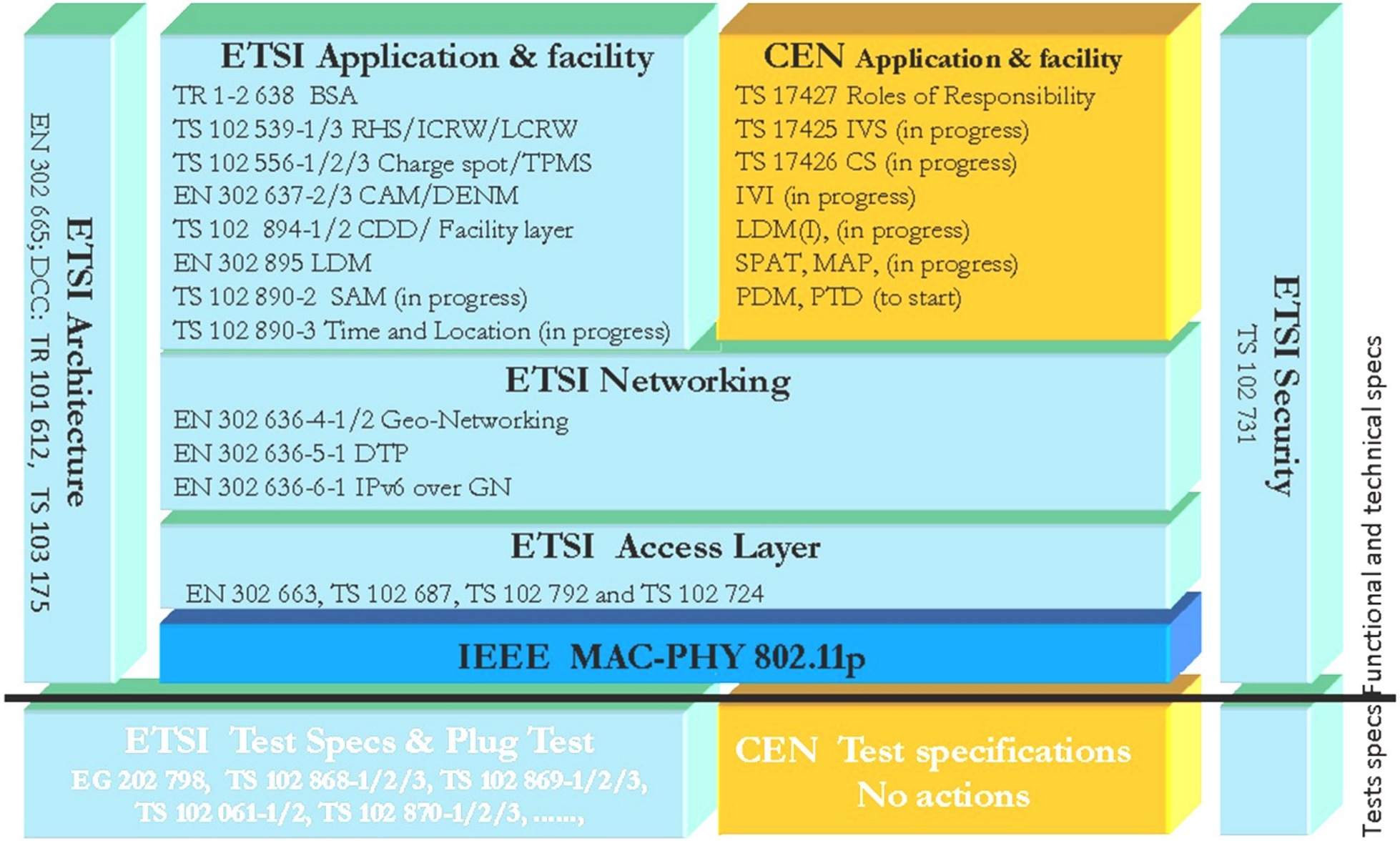
- ETSI TR 101 067

  GIVES OVERVIEW OF

  RELEASE 1

  AVAILABLE

  STANDARDS



Current European Standards