

# 8th Meeting of the Working Group on Telematics

13.05.2011

Tegernsee

**eCall - HeERO**

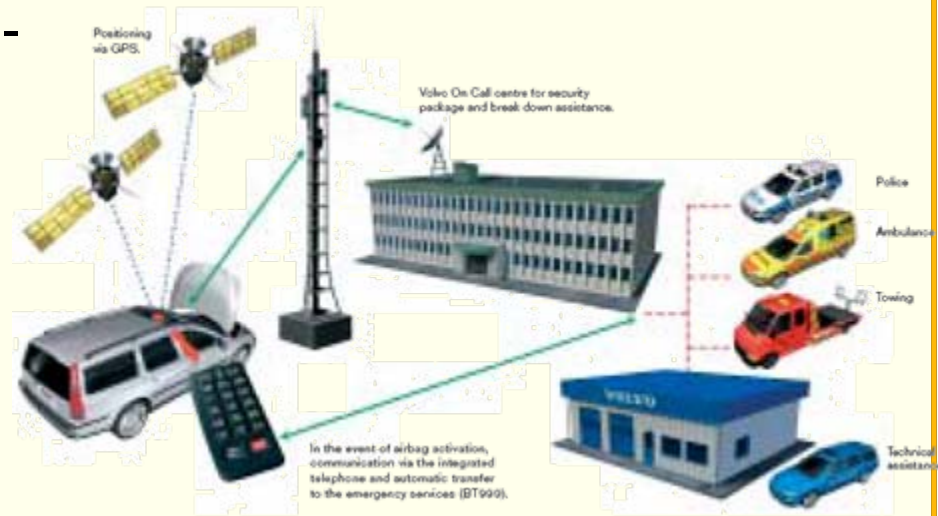
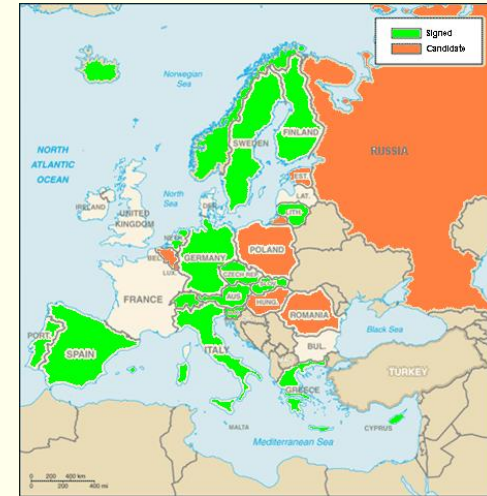
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ITS Niedersachsen GmbH



## Statements

- European eCall available in 2014
  - Starting as an optional installation
  - Memorandum of Understanding has currently been signed by 20 Member States, 4 non-EU States and more than 100 public and private organisations
  - HeERO project started 2011





# Pan-European eCall

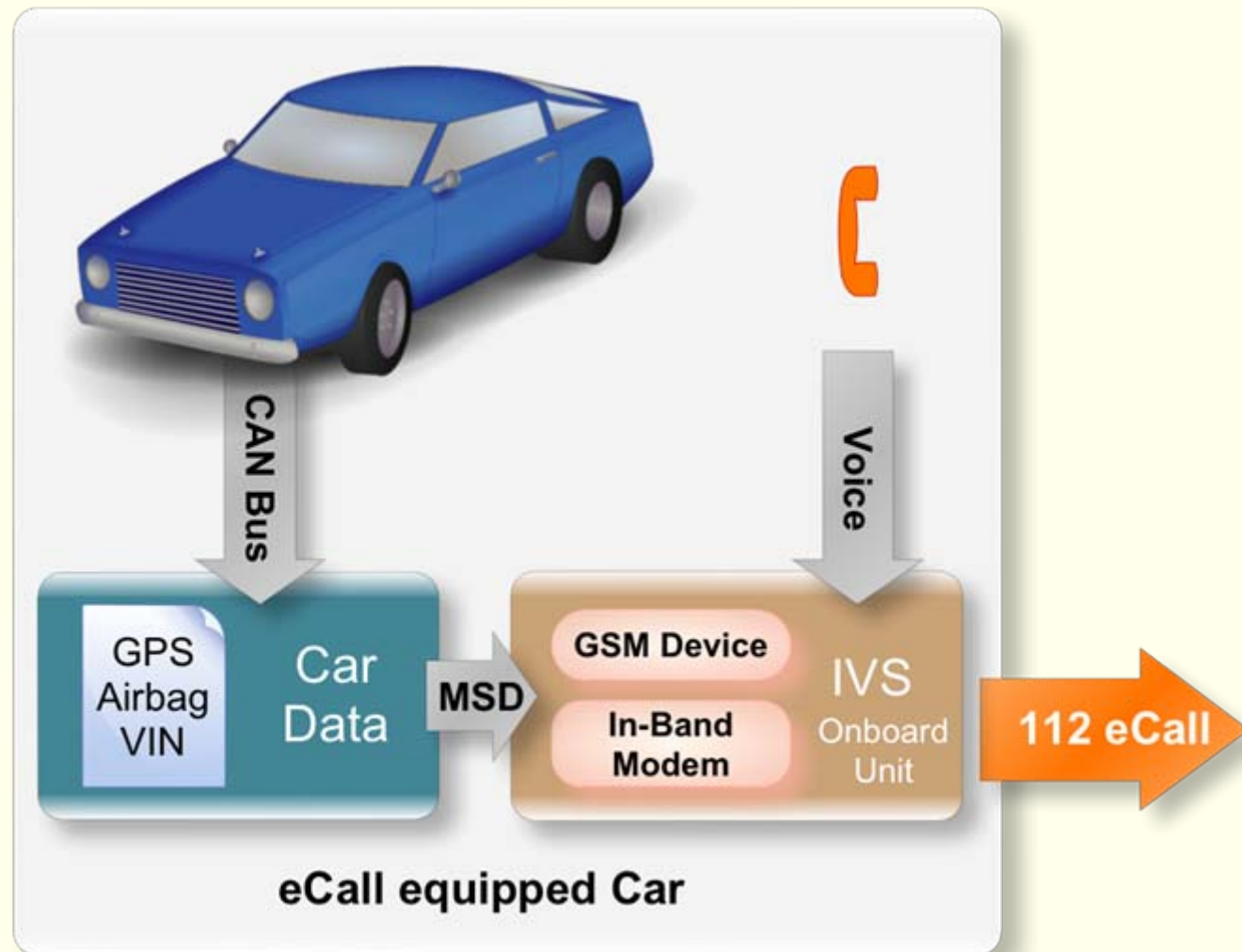
- eCall means
  - Establishing automatic emergency Call in case of accidents detected
  - Transmission of accident relevant data (MSD)
    - State of different Security Systems
    - Car Coordinates by GPS
  - Speech connection to PSAP established after 4 seconds
  - Additional Manual call possible
- eCall uses 112
  - Automatic emergency call and „standard“ emergency call use the same line
  - Built-In Rerouting to next eCall-capable PSAP
- Pan-European Installation
  - Countries with PSAPs supporting eCall receive MSDs
  - Non-Supporters establish a speech connection



- HeERO (Harmonised eCall European Pilot)
  - Start date: 01 January 2011
  - Duration: 36 months
  - Total budget: 10.254.803
  - EC contribution: 5.000.000
  - Coordinator: ERTICO
  - 40 partners – 9 Member and Associated States

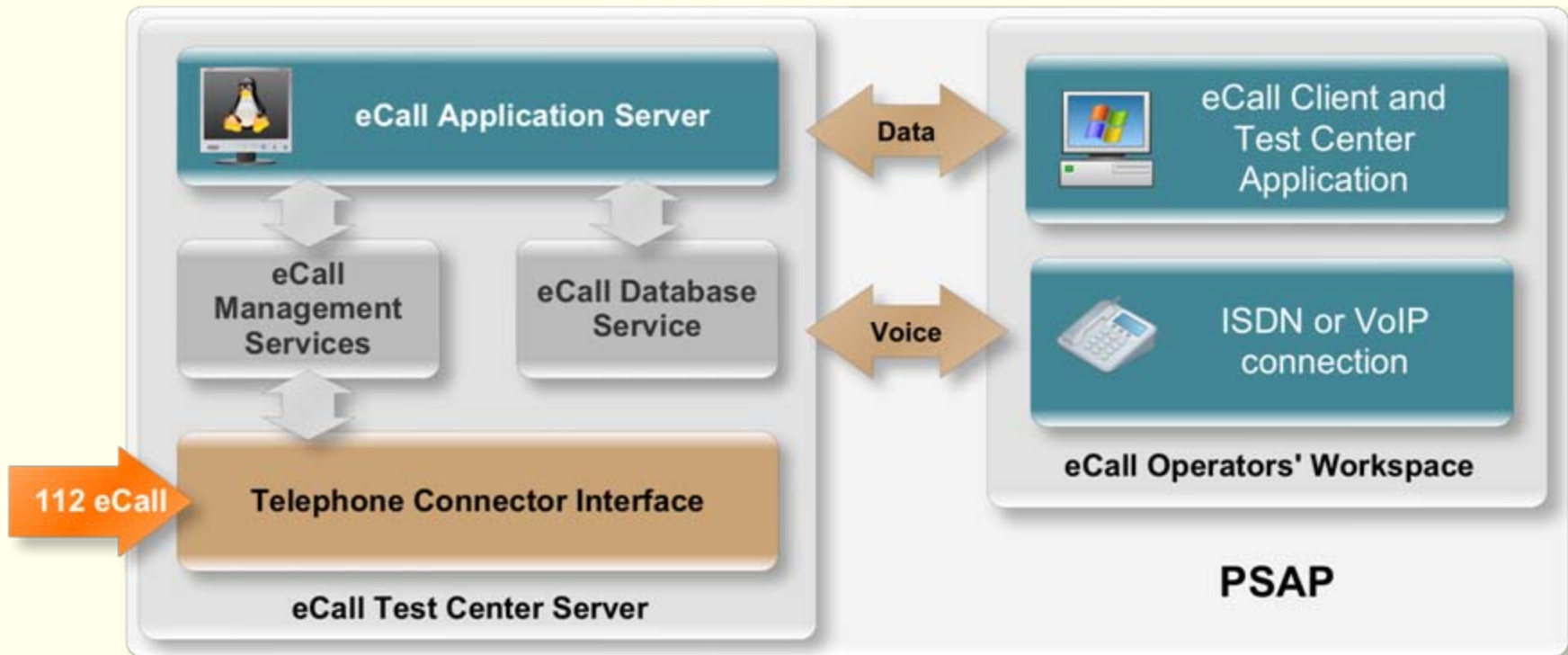


# eCall System Overview - IVS





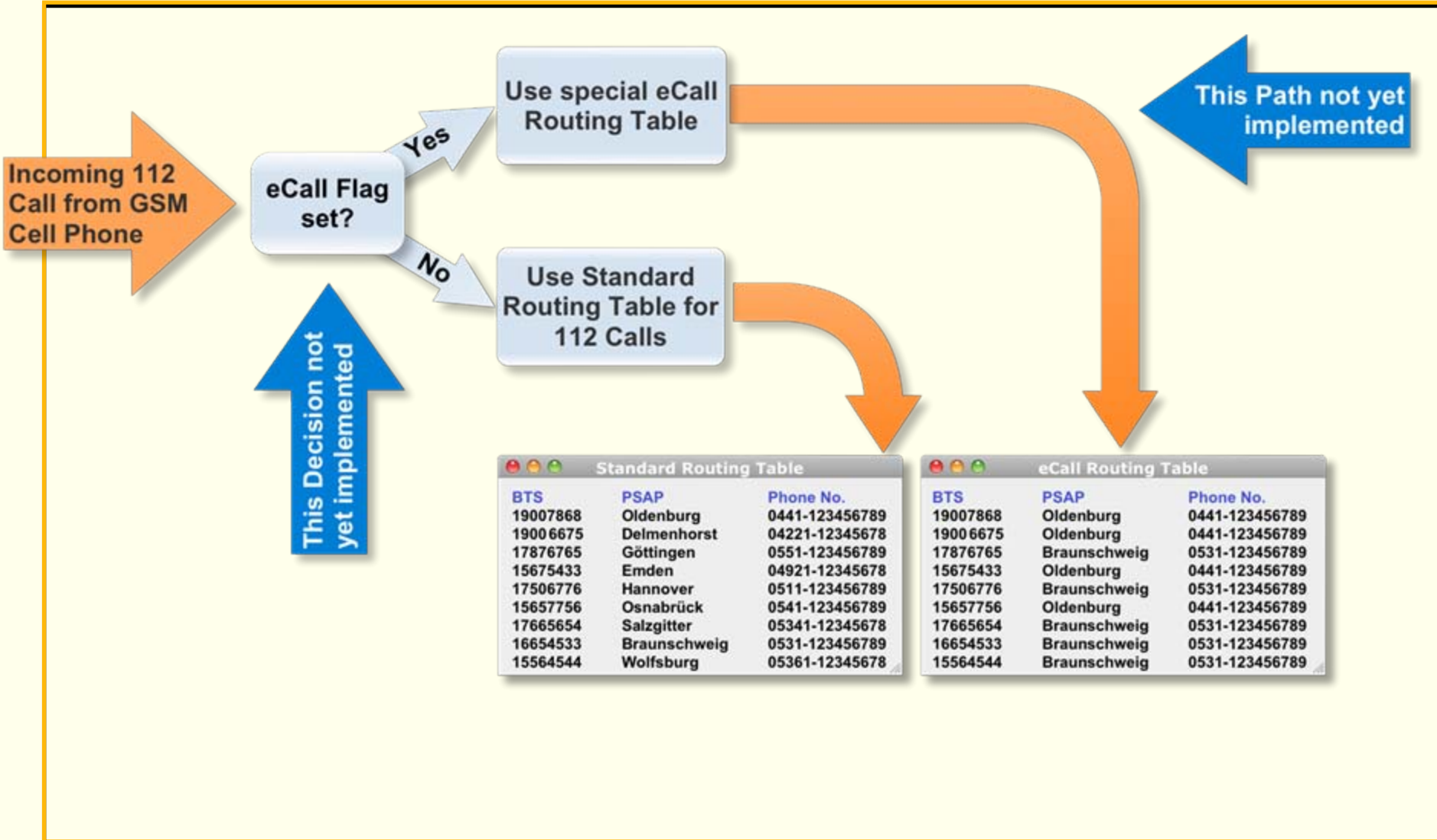
# eCall System Overview - PSAP





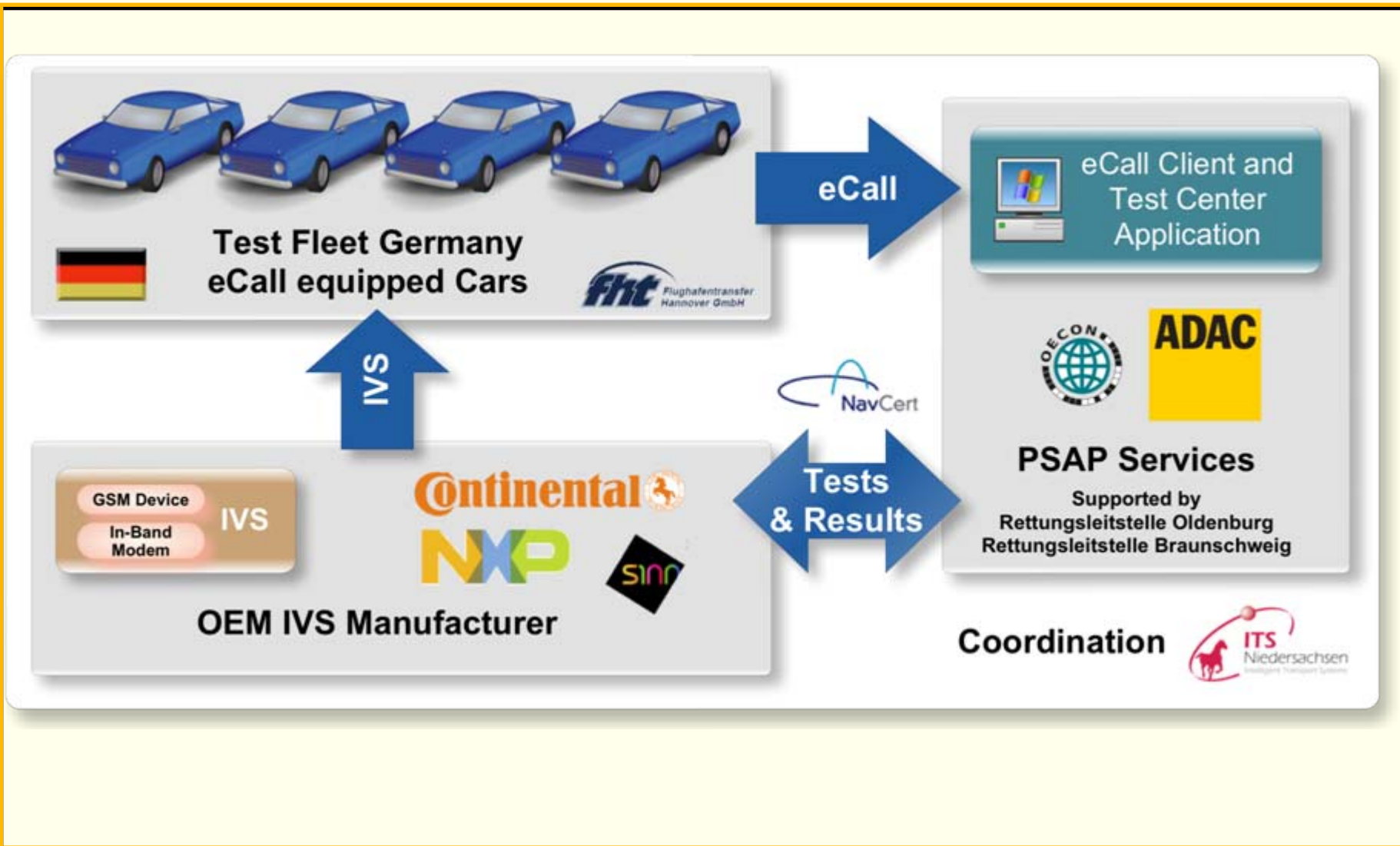
# eCall System Overview

## Mobile Network Provider



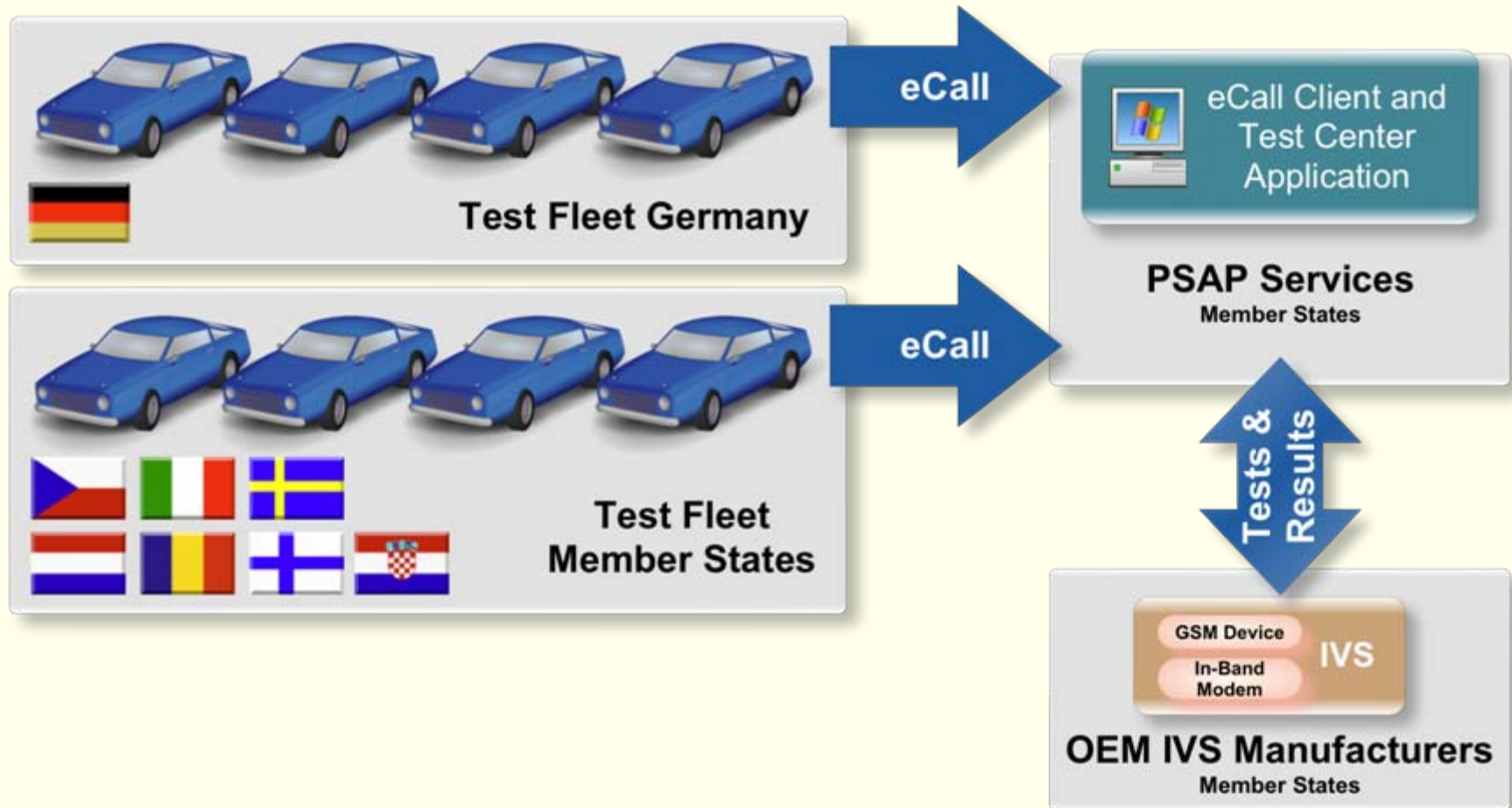


# HeERO in Germany



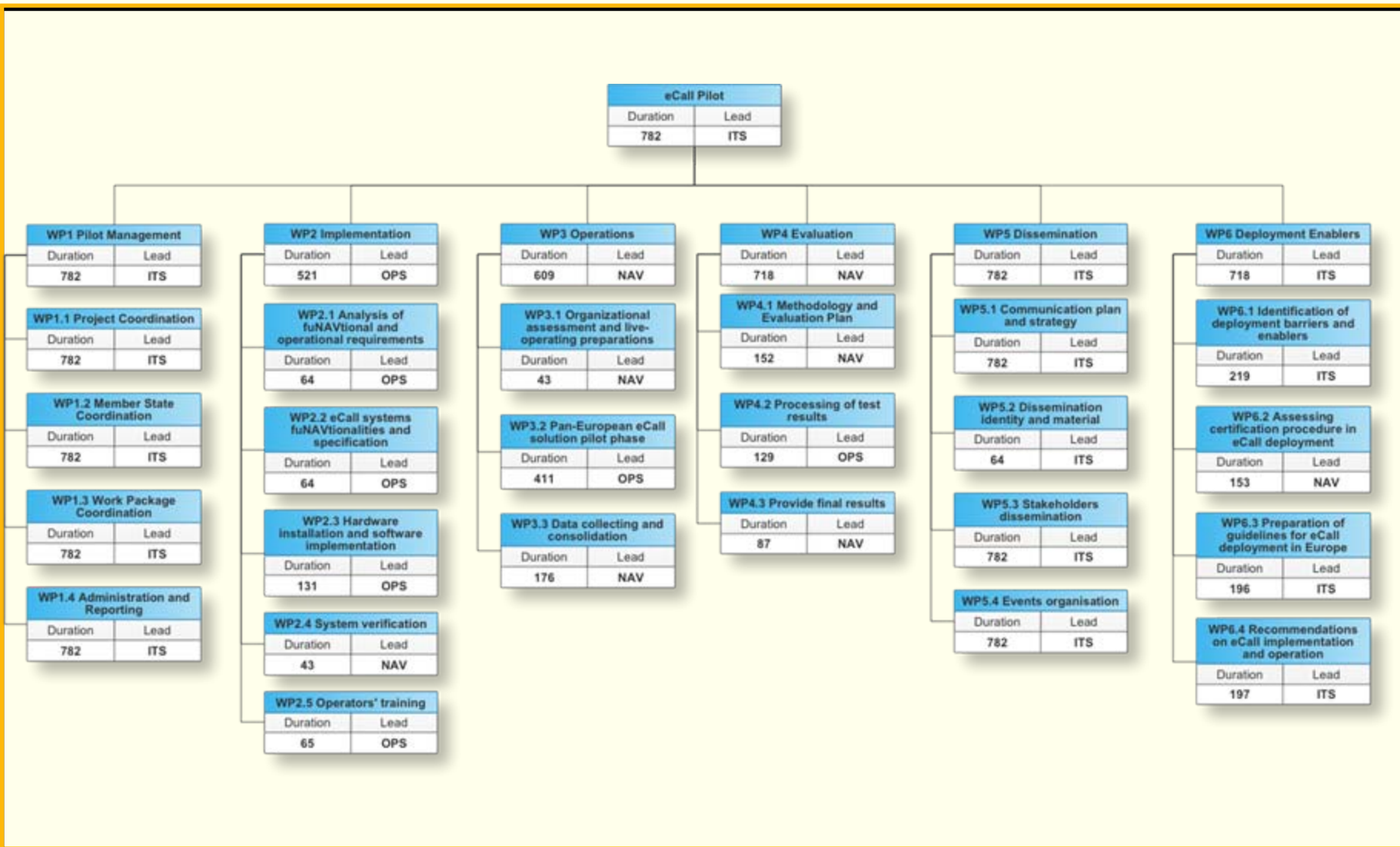


# HeERO International Development and Test Phase





# WP Structure





## WP2.1 State-of-the-art analysis

- **Description:** Analyse the German current PSAP situation with many different regional PSAP structures, finding similarities and differences in structures, ownership, operation modes and infrastructure.
- **Deliverable Date:** 03/11
- **Partners:** OECON, NavCert, ADAC, NXP, S1nn, CONTI with PSAPs Braunschweig/Oldenburg,



# WP2.2 eCall systems functionalities' specification

- **Description:** Reviewing the specifications and comparing them to the results of the real pilots. Discussing the specifications with the related partners for IVS, mobile communications and PSAP. Creating a report containing the specification's feasibility and necessary modifications or addendums. Integrating later specification changes
- **Deliverable Date: 03/11**
- **Partners: OECON, NavCert, S1nn, NXP, Conti**



## WP2.3 HW Installation and SW implementation

- **Description:** Installing pilots on the associated German PSAPs. Pilot software includes a complete eCall-enabled PSAP software with data protocols, MSD and digital map visualisation and additional modules for testing purposes. Installing a VIN decoder server, Installing an interface to the Niedersachsen Traffic Management Center in Hannover. Upgrading Hardware and Software technology (mainly telephone and computer equipment) in the PSAPs to enable eCall
- **Deliverable Date: 04/11**
- **Partners: OECON, FHT, S1nn, NXP, Conti with PSAPs Braunschweig/Oldenburg**



## WP2.4 System verification

- **Description:** Testing the eCall integrity on the PSAP side using the eCall field test software installed in the PSAPs. Field testing with reproducible test cases in different environments. Creating reports for instant access to the testers. Also verifying the implementation of the Mobile Communication channel eCall Discriminator flag
- **Deliverable Date: 09/11**
- **Partners: NavCert, OECON, NXP, S1nn, ADAC, CONTI**



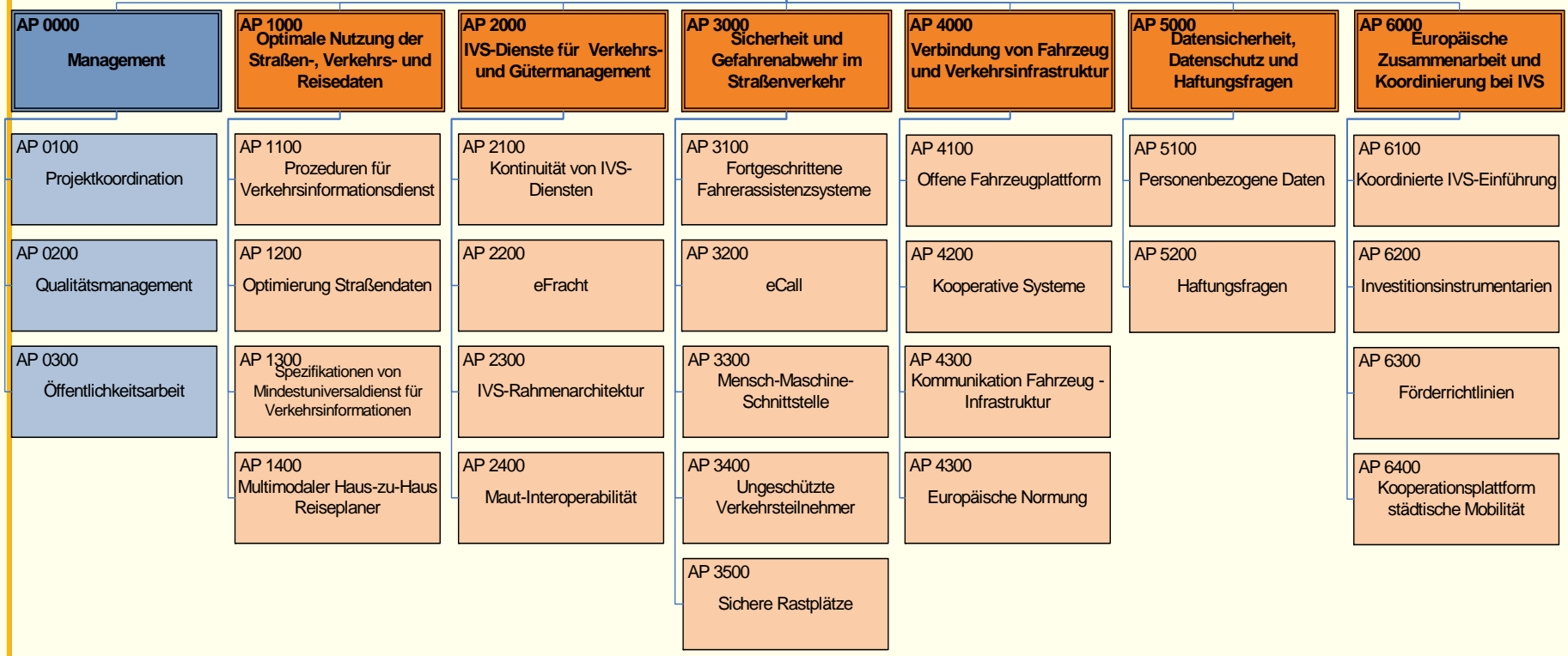
# WP2 Operators' training

- **Description:** Installing pilots on the associated German PSAPs. Pilot software includes a complete eCall-enabled PSAP software with data protocols, MSD and digital map visualisation and additional modules for testing purposes. Installing a VIN decoder server, Installing an interface to the Niedersachsen Traffic Management Center in Hannover (unclear). Upgrading Hardware and Software technology (mainly telephone and computer equipment) in the PSAPs to enable eCall
- **Deliverable Date:** 09/11 und 10/12
- **Partners:** OECON



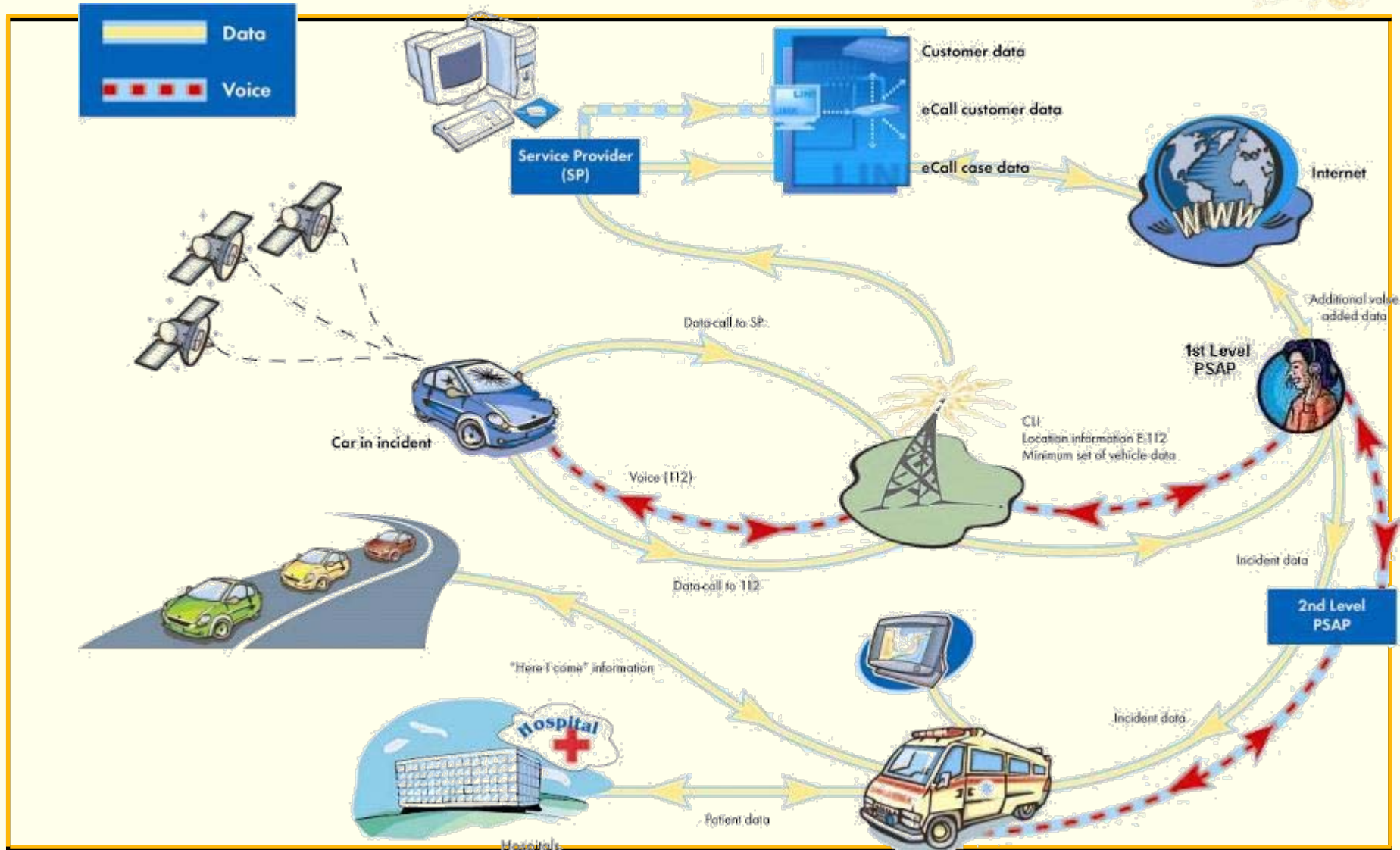
# EC ITS Aktionsplan

Aktionsplan zur Einführung intelligenter Verkehrssysteme (IVS) in Europa



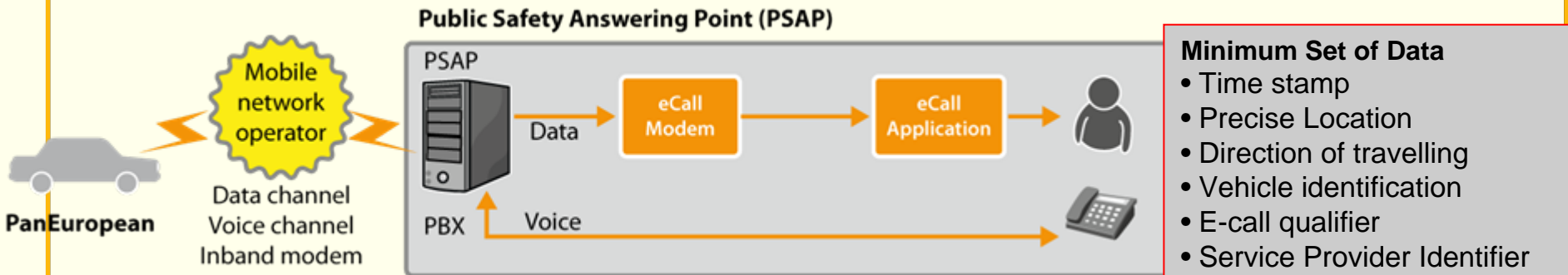


# System





# Pan-European eCall Solution

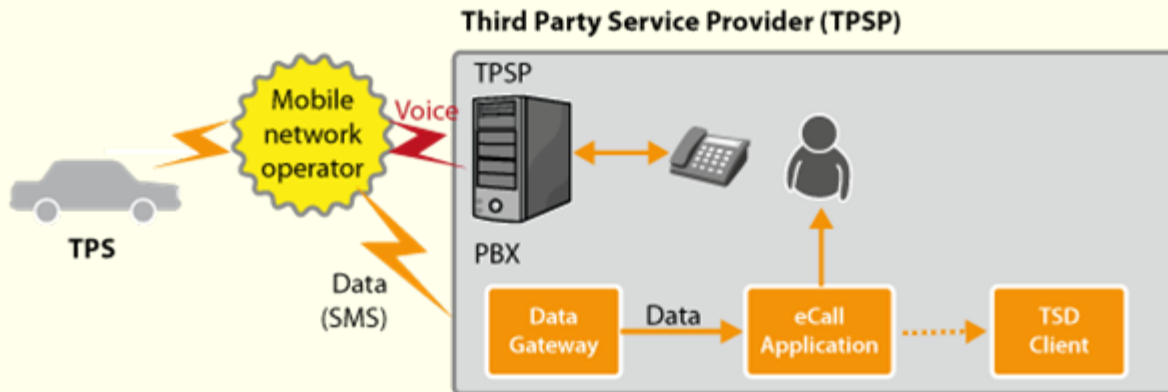


## Functionality in case of a serious accident

- The in-vehicle eCall system dials e112  
(best radio contact is used, independent from the MNO contract)
- The MNO routes the in-vehicle eCall to the responsible PSAP
- PSAP:
  - The PSAP-PBX prioritises the incoming eCalls according fifo-principle and records all the information automatically
  - First: the Minimum Set of Data is transferred to the PSAP via the voice channel
  - Afterwards: the PSAP requests more detailed voice information from the driver if possible
  - Finally the PSAP organises the rescue service



# TPSP eCall Solution



## Extended Set of SMS Data

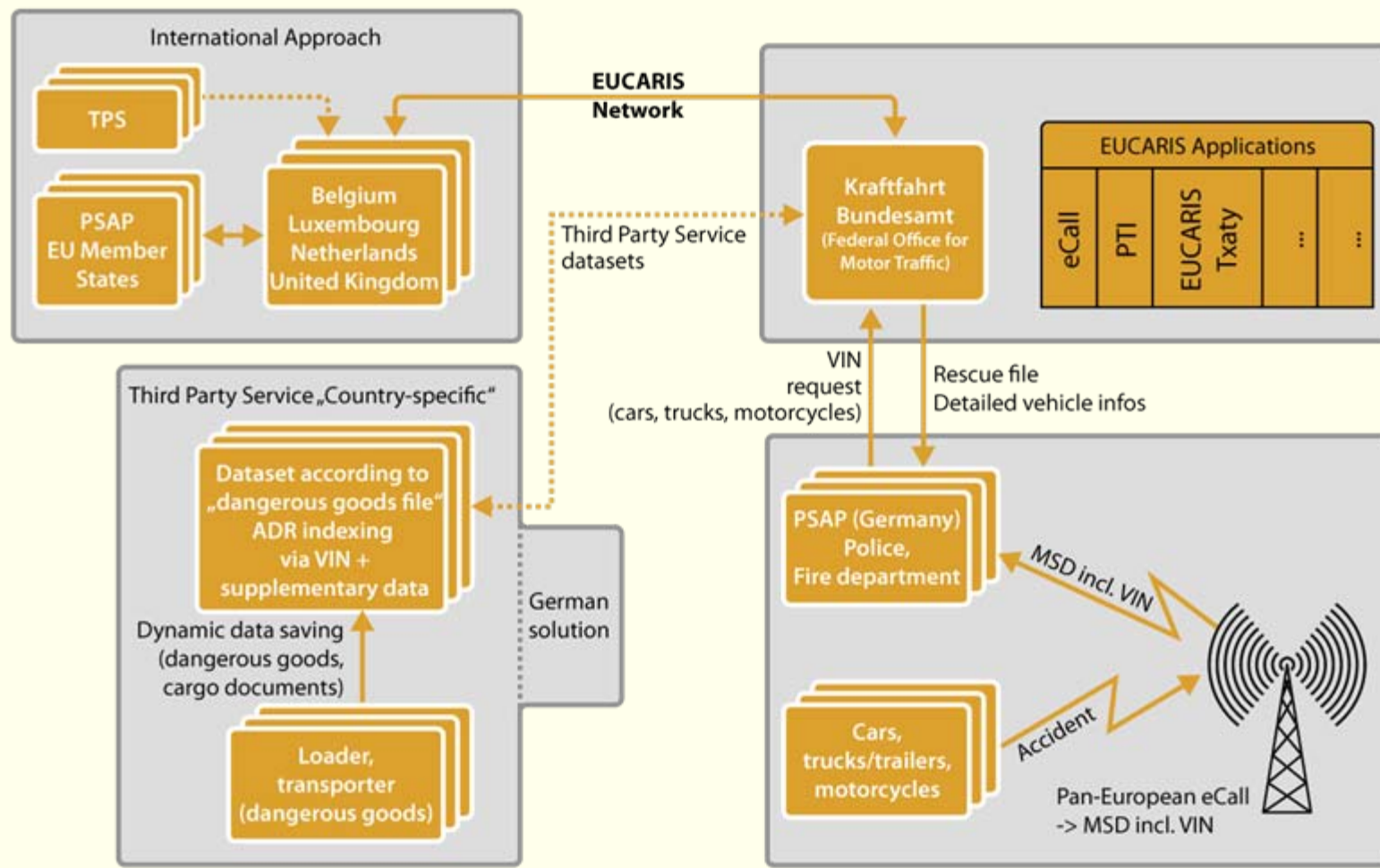
- Time stamp
- Precise Location
- Direction of travelling
- Vehicle identification
- E-call qualifier
- Service Provider Identifier
- Trace data
- ...

## Functionality in case of a serious accident

- The in-vehicle eCall system dials the TPSP number (independent from current position) and additionally sends out a SMS with relevant accident data
- TPSP:
  - The TPSP-PBX prioritises the incoming eCalls according and records all the information automatically.
  - The TPSP requests more detailed voice information from the driver if possible. The SMS Data is analysed for detailed assessment of accident and injury severity.
- Finally the TPSP organises the rescue service via local PSAP involvement.



# Concept for Enhancement of eCall





# Possible DEUFRAKO Project Objectives enhancing pan-European eCall e112

- System Specification of a generic application
- Enabling the flexible PBX functionality for serving pan-European eCall of vehicles and eCall via TPSP (other PSAPs), eCall via mobile devices and eCall via telephones
- Extending eCall functionality to all road vehicle classes incl. freight and passenger transport, injury assessment
- Testing and Demonstrating cross-border functionality
- Demonstration, complementation and compliance with HeERO project results for pan-European eCall e112
- Close cooperation with working groups dealing with transportation of dangerous goods
- Usage of the eSMS by Third Party Service Provider -TPSP



# Next Actions To Be Taken

- Bi-national taskforce for outlining the R&D objectives
- Definition of German focus & French focus
- Acquisition of project partners in Germany and France
- Development of the German proposal
- Development of French proposal
- ...



# Dangerous Goods Monitoring (TPS) [1]

Dangerous goods monitoring through an enhanced eCall functionality by taking into account

- vehicle classes:  
e.g. two-wheeler, bus, tram, truck, special vehicle
- configuration:  
e.g. tractor, trailer/construction, snow plough
- payload:  
e.g. passengers, dangerous goods,  
dangerous waste, abnormal load  
(waybill, classification and labelling,  
accident procedures sheet)
- extended accident information:  
e.g. accident trace, accidental damage,  
accident and injury assessment



dangerous good classification 1 (explosive)  
Hazard ID Number 33 (flashpoint < 23 °C)  
UN-Number 1203 (petrol)



# Dangerous Goods Monitoring (TPS) [2]

## Usage and portability of a VIN-request within the EUCARIS Network eCall – dangerous goods

