Cooperative ITS Corridor – Joint Deployment

C-ITS Corridor: Operational Framework

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The distribution of the document "*Framework to construct operational concepts/ manuals for cooperative systems - Part 1: Fundamentals*" is not possible at this time because the voting with the Federal States is in progress.

Therefore, you will receive this presentation with the core statements and the table of contents of the document. The document will be available later.

Editor: **Hessen Mobil**
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Going live with the C-ITS Corridor poses some major challenges…

- C-ITS Corridor is not a mere research project, it is deployment

- Reliability of system and processes essential prior to deployment

- Smooth cooperation with different stakeholders (authorities, automotive industry, etc)

- Cooperation across regional borders in the Federal State of Germany

- Cooperation across national borders

➔ **A framework is needed that delivers:**
- **A common understanding of the processes to be implemented**
- **A clear outline of responsibilities**

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In view of the trial operation and system roll-out of the C-ITS Corridor in Germany, Hessen Mobil began work on an <u>operational framework</u> for Cooperative Systems in the 4th quarter of 2015.

The operational framework includes:

- generic role model
- definitions and assignments of processes
- definitions of interfaces with external parties
- allocation of responsibilities for the German part of the C-ITS Corridor.
- a framework for a generic operating concept

Scope

- Operational framework applies to all public road operators that have cooperative systems in use and the federal government as overall responsible entity.

- It describes the requirements for interfaces to private stakeholders , third-parties and foreign states/ road operators.

Part 1: Fundamentals

- Addresses Federal Government, states and road operators
- Environment, role definition, definition of tasks and responsibilities
- Assignment of roles to actors
- Derivation of process chains for services
- Requirements to external interfaces
- Criteria for design a framework of an operating concept

Operational framework for Cooperative Systems

Part 2: Framework of an operational concept

- Addresses Federal Government, states and road operators
- Detailed elaboration of processes
- Detailed description of functions in tools and the usage of standard forms
- Detailed description of interfaces and description of general instructions

Operational concepts / manuals

- Addresses employees of actors
- Detailed elaboration of processes
- Assignment of roles to positions
- Detailed description of functions in tools and the usage of standard forms
- Adaption of processes to the organization of the actor
- Description of specific instructions

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Methodology and approach of the operational framework

- Based on ITIL® V3 (IT Infrastructure Library) and on ISO TS 17427

- Representation of process chains for services (end-to-end)

- Development of a generic role model

- Assignment of
  - tasks to roles
  - roles to actors

- Provision of an overview of basic operational processes, based on task catalogues (to be detailed in operating concepts)

- Proposal for a gradual, step-by-step approach, in order to design the most important operational processes first
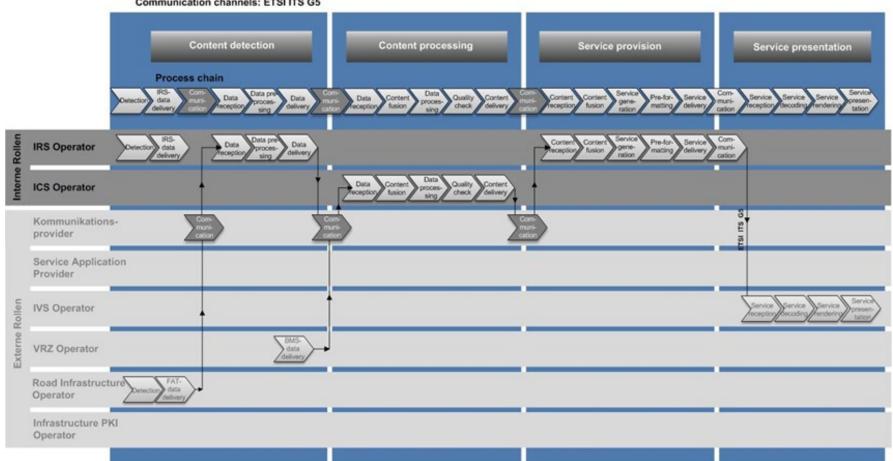
Cooperative ITS Corridor
Joint deployment

Scope of Operational Concept

Infrastructure PKI Operator

Federal States

FAT

Automotive Industry / Driver

IVS   IVS

Federal States

IRS

IRS

Federal Gvt. / States

ICS

Neighbouring Countries

Federal States

VRZ

SP

Service Provider

MDM

Federal Gvt.

Actors:
→ Federal State Road Operators
→ Federal Government (BMVI, BASt)
→ Automotive Industry
→ Neighbouring Countries
→ Service Provider
→ Infrastructure PKI Operator

	–	Interfaces
VRZ	–	Traffic control centre
FAT	–	Road Works Safety Trailer
ICS	–	ITS Central Station
IRS	–	ITS Roadside Station
IVS	–	ITS Vehicle Station
PKI	–	Public key infrastructure
SP	–	Service Provider

1. Service/ Standard solution for short term Road Works Warning (RWW)
Communication channels: ETSI ITS G5

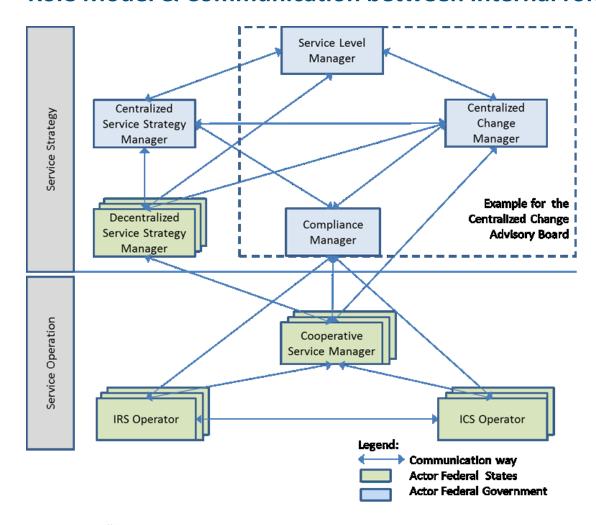Editor: **Hessen Mobil** Straßen- und Verkehrsmanagement

Role Model & Communication between internal roles

Sample Role *IRS Operator*: Role Characteristics

Role
<u>IRS Operator</u>
The role IRS Operator has the task to guarantee the operation of the system component ITS Roadside Station in framework of the operation of cooperative systems. This is to be guaranteed in the self-sufficient mode (without communication with the assigned ICS) as well as in interaction with the ICS.

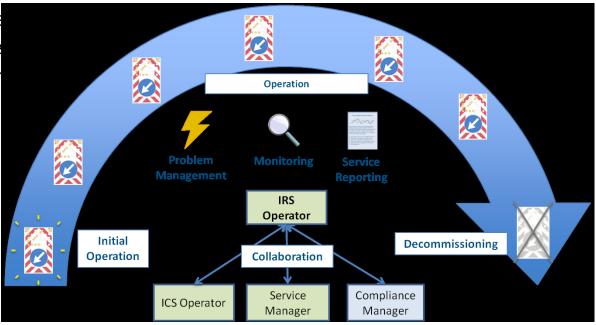| Area	Actor	Interfaces to internal roles	Interfaces to external roles
Service Operation	German Federal States	ICS Operator Cooperative Service Manager Compliance Manager	Infrastructure PKI Operator IVS Operator Road Infrastructure Operator Communication Provider

Sample Role *IRS Operator*: Task Catalogue (excerpt)

- Initial Operation of IRS
- IRS operation
  - Monitoring
  - Service Reporting
  - Problem Manageme
  - Incident Manageme
  - Commissioning of th

- …

- collaboration with *Regional Change Management*
- collaboration with *Compliance Management*
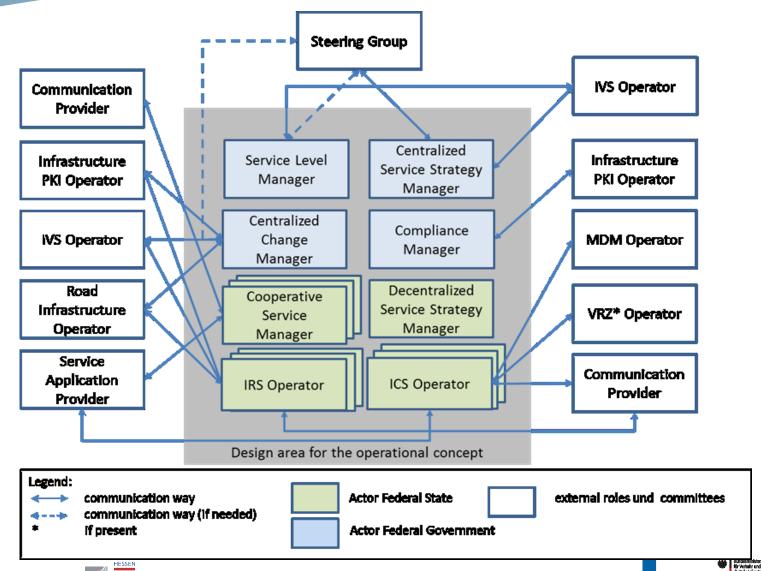- decommissioning of IRS

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Sample Role *IVS Operator*: Role Characteristics

Role
IVS Operator The role IVS Operator is responsible for the acceptance of data, which are transmitted by the IRS, and for the transmission of the data from the IVS. The representation of the information in the vehicle is also a task of the IVS Operator.

Area	Interfaces to external roles
OEM	IRS Operator Centralized Change Manager Centralized Service Strategy Manager Service Level Manager

Requirements for the role IVS Operator to guarantee the operational cooperation with the roles of public actors [roles inside the scope]:

- **Provision of contact persons for operational interests on the part of the infrastructure operators**

- **Realization of the Incident Management in responsibility of the IVS Operators**
  - Reporting the functional, technical and organizational incidents which have an effect on the whole cooperative system
  - Acceptance of incident messages which have an effect on the whole cooperative system
- **Realization of the incident analysis in responsibility of the IVS Operator**
- **Participation in the Centralized Change Management**
  - Contribution of change requests
  - Rating of change requests
- **Participation in the common Releasemanagement**
  - Development of a common release system
  - Coordination of the rolling-out of new releases (when? And how?)
- **Participation in the common Centralized Demand Management**
  - Participation in the development of new cooperative services, standards
  - Participation in the rating of new cooperative services, standards
- **Arrangement and conversion of SLA**
- **Committee participation (e. g., Steering Group)**
- **Guarantee the passing on of information and processing the information to the final user (driver)**
- **Feedbacks for quality and availability of the used (part) services**
- **Application of a compatible PKI Infrastructure**

Thank you for your kind attention
Suggestions or Questions?

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