



Federal Ministry  
of Education  
and Research

# German Future Internet Activities

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**Igniting ideas!**



- Strategy process in Germany started
- G-Lab: Studies and Experimental Facility for the Internet of the Future
- Some examples for application-oriented smart regions
  - mobility
  - health care system



## **Future Internet: Strategy process in Germany**

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- Aim:
- Define research priorities
  - conclusions for national activities
  - recommendations for the European process from the German point of view

- Process:
- First Workshop on December 14<sup>th</sup>, 2009
  - First Milestone: Position paper
  - Information day, May 4<sup>th</sup>, 2010 in Bonn
  - Workshops on fields of application and technologies in 2010
  - “Agenda”-Conference May 2011 in Berlin

## German Position Paper

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- Germany supports Commission's initiative, especially:
  - starting with priority fields of application;
  - defining the relevant demands on a Future Internet for these fields;
  - defining necessary technological developments for a "core infrastructure", basing on the common demands of the various fields of application;
  - and testing these scenarios in test environments.
- Priority fields of application:
  - Health sector
  - Transport (traffic flow, safety)
  - Energy management
  - Production

## German Position Paper

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Future Internet is a political very sensitive topic!

Accompanying socio-economic research on:

- Technologies to protect the private sphere;
- Changes in society due to the development of the Internet;
- Protection against Internet crime;
- Security of the networks as critical infrastructures;
- Consumer protection, youth protection, child protection;
- Network neutrality and free access to the network for new services;
- Protection of intellectual property.

Essential to promote European values in the development of Future Internet!  
Initiate a dialogue process!



## Points of Discussion Draft Work Programme PPP

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- Concern about **one single core platform**:
  - high risk if focus on only one approach!
  - openness: Please no „closed shop“! Competition is a motor of innovation!
  - possible solution: at least two (closely coupled) IP's!  
(Network equipment/operation and services)  
or if one IP involve complementary approaches.

*How to start with competing approaches and consolidate the best solution?*

- **CSA on programme management**:  
Coordination and strong coupling between projects within the PPP is necessary, but:
  - Should be part of core platform: standardization, open interfaces between projects and interoperability, planning of large scale experiments;
  - Administration / Governance across projects is responsibility of Commission. Preserve “neutrality” of programme management!
  - Seperate between „management“ and „technical board“ (involving project partners).

*How to carefully implement an efficient (cost-efficient) management structure?*



## G-Lab: Studies- and Experimental Facility for the Internet of the Future

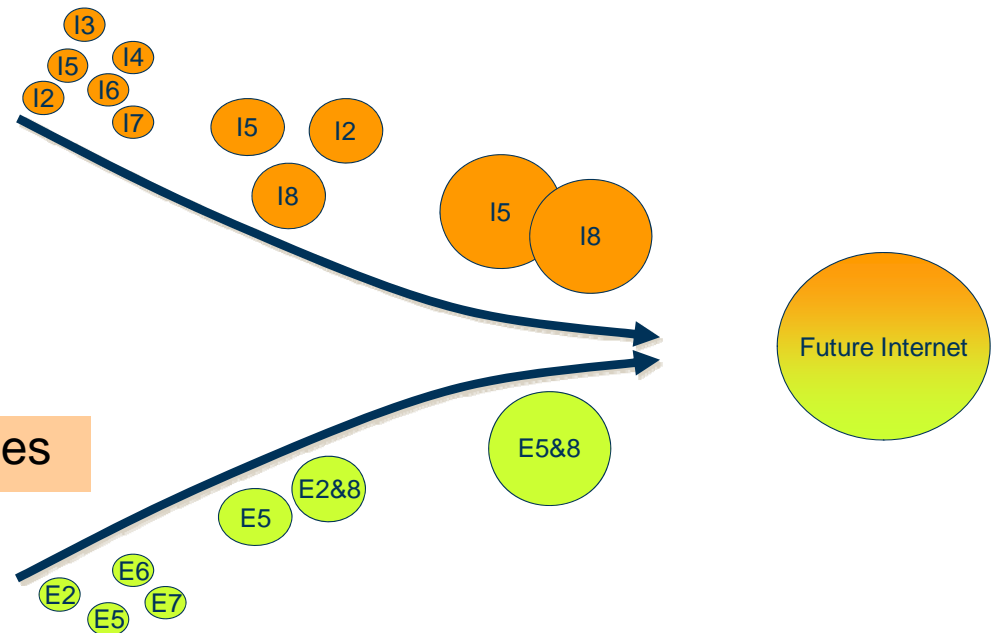
### G-Lab is Architecture Oriented and ...

... consists of two  
major fields of activities:

- Research projects and studies of future Internet components
- Design and setup of Germany-wide experimental facilities

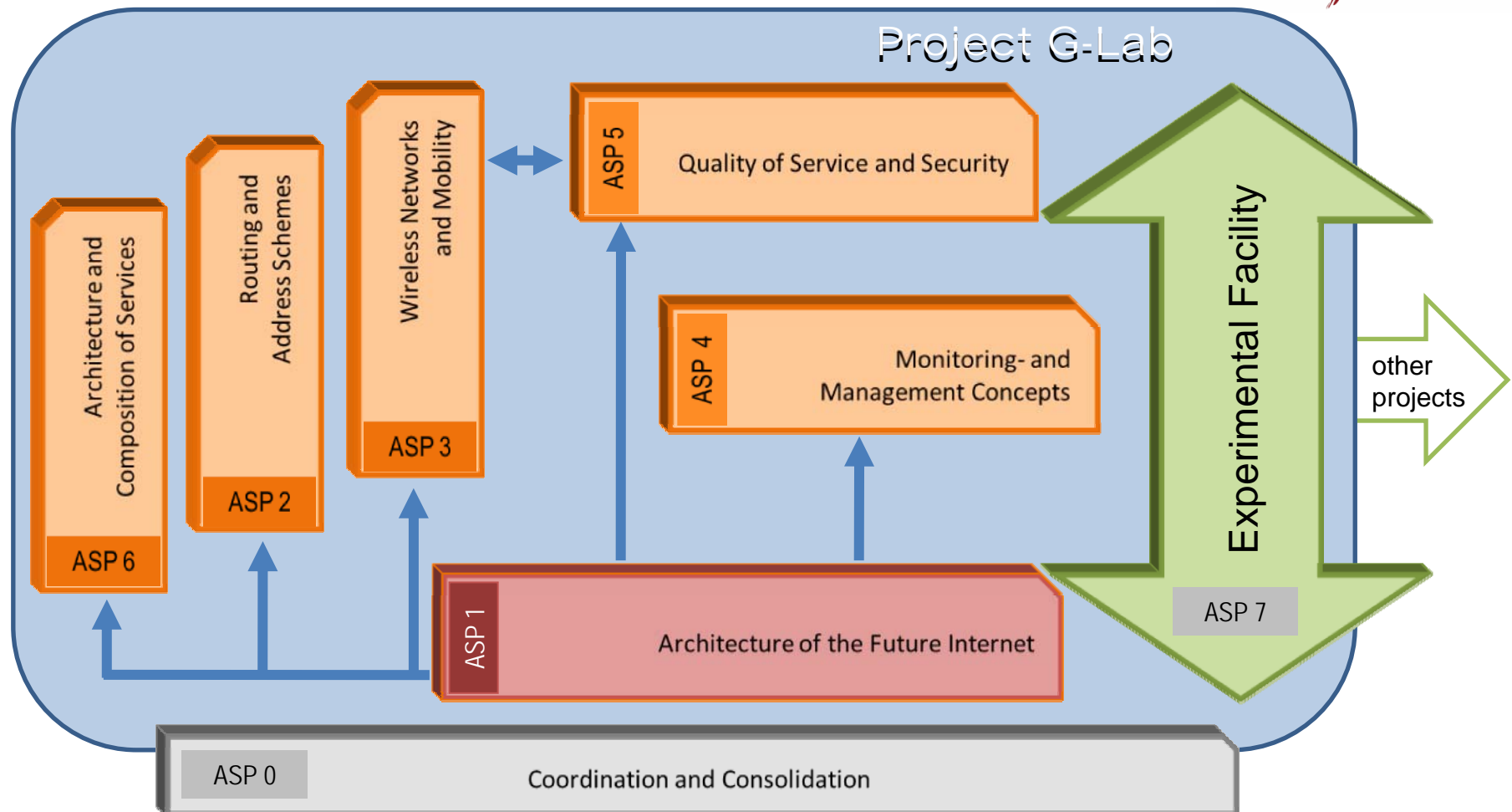
... aims:

- Provide an experimental platform for studies on mechanisms, protocols and applications towards Future Internet
- Investigate interdependency of theoretical studies and prototype development





## G-Lab: Phase I





## G-Lab: Cooperation with international activities



### Goal

- federation of experimental platforms (especially with OneLab 2)
- exchange of software
- cross-promotion and joint research
- exchange of students

### MoU of G-Lab and OneLab 2

Status: **signed**



### MoU of G-Lab and PlanetLab Japan

Status: **signed**



### MoU of G-Lab and GENI

Status: **signed**



### MoU of G-Lab and PlanetLab US

Status: in preparation



## Application-oriented smart regions in Germany: Example Mobility

### Challenge and Motivation

Costs of traffic jams in Germany: 17.4 b € / a

### Safety

Number of injured or dead persons in accidents:  
420.000 resp. 5.000 / a

**Potential of communication (internet)** to  
improve the situation: Car to Car and Car to  
infrastructure communication



Project **sim<sup>TD</sup>**



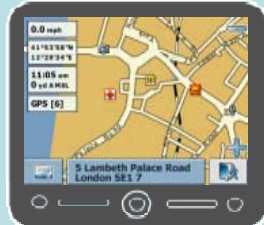
# Application-oriented smart regions in Germany: Example Mobility

## <sup>TD</sup> SIM : Testbed for Car-to-Car and Car-to-Infrastructure Communication

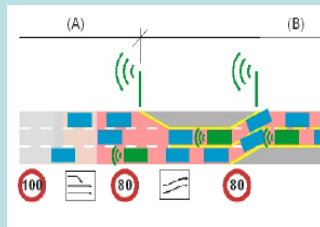
**Monitoring  
of Traffic  
Situation**



**Traffic  
Flow  
Information  
and  
Navigation**

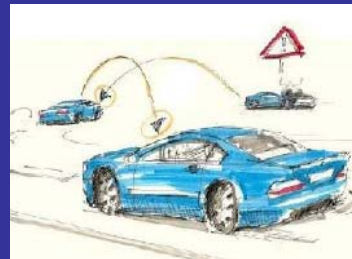


**Traffic Management**



**Traffic Flow**

**Local  
Danger  
Alert**



**Driving assistance**



**Safety**

**Internet-  
access**



**Location  
dependent  
Services**

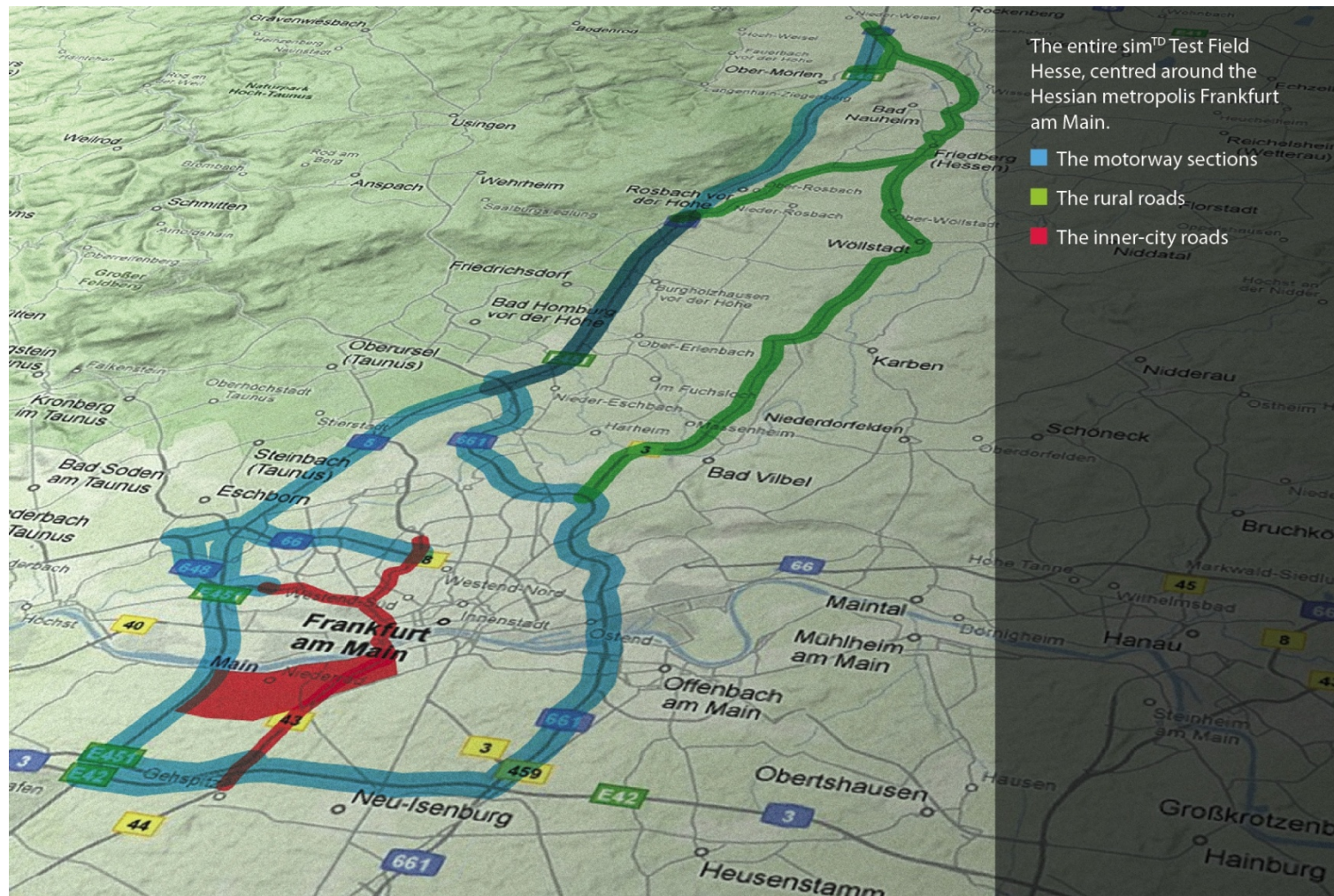


**Services**



# Application-oriented smart regions in Germany: Example Mobility

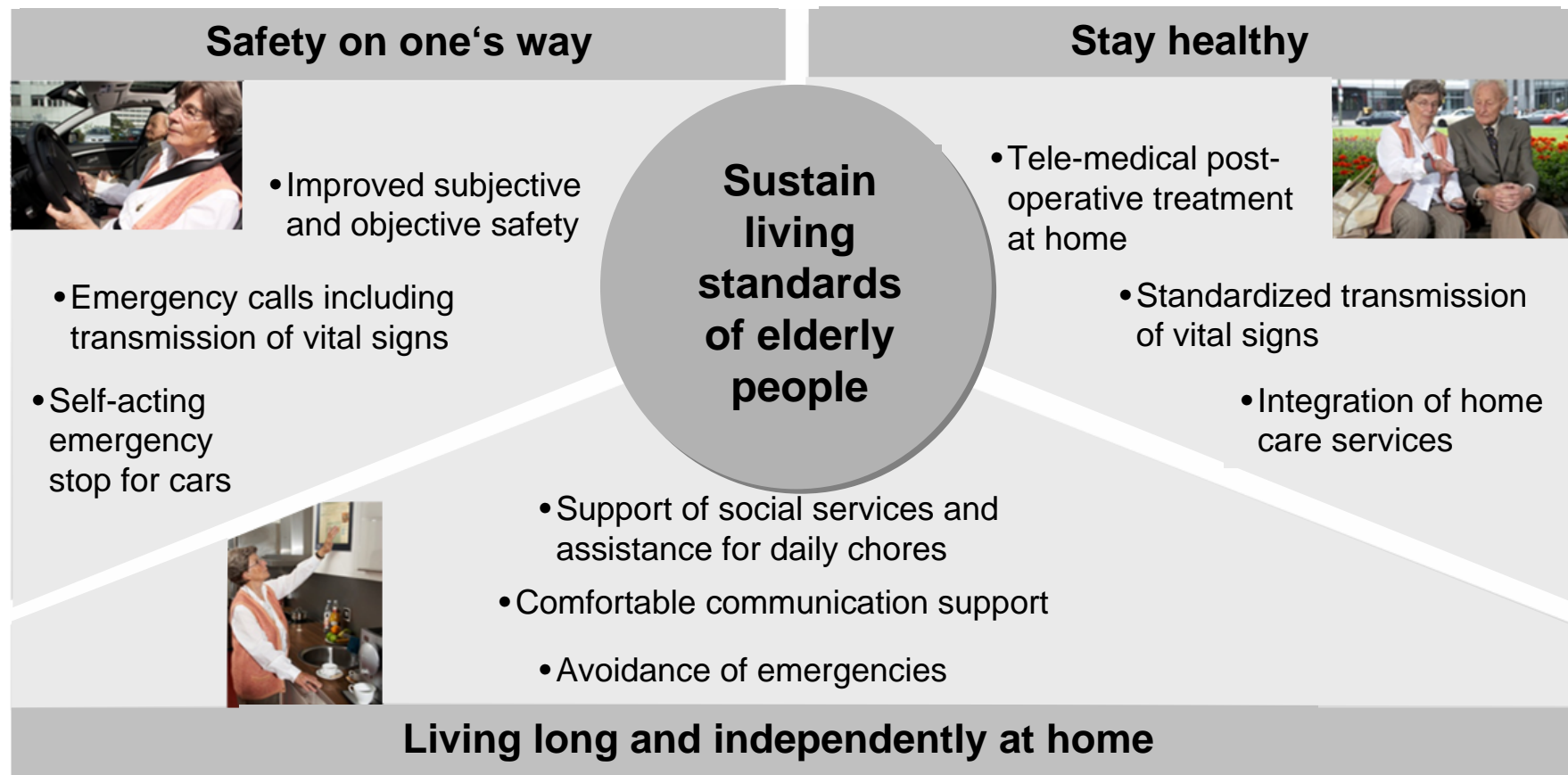
## $\text{SIM}^{\text{TD}}$ : Large-Scale Testbed in the Region of Frankfurt





## Application-oriented smart regions in Germany: Example Health

The project SmartSenior, focused in the region of Berlin





## **Application-oriented smart regions in Germany: Example Health**

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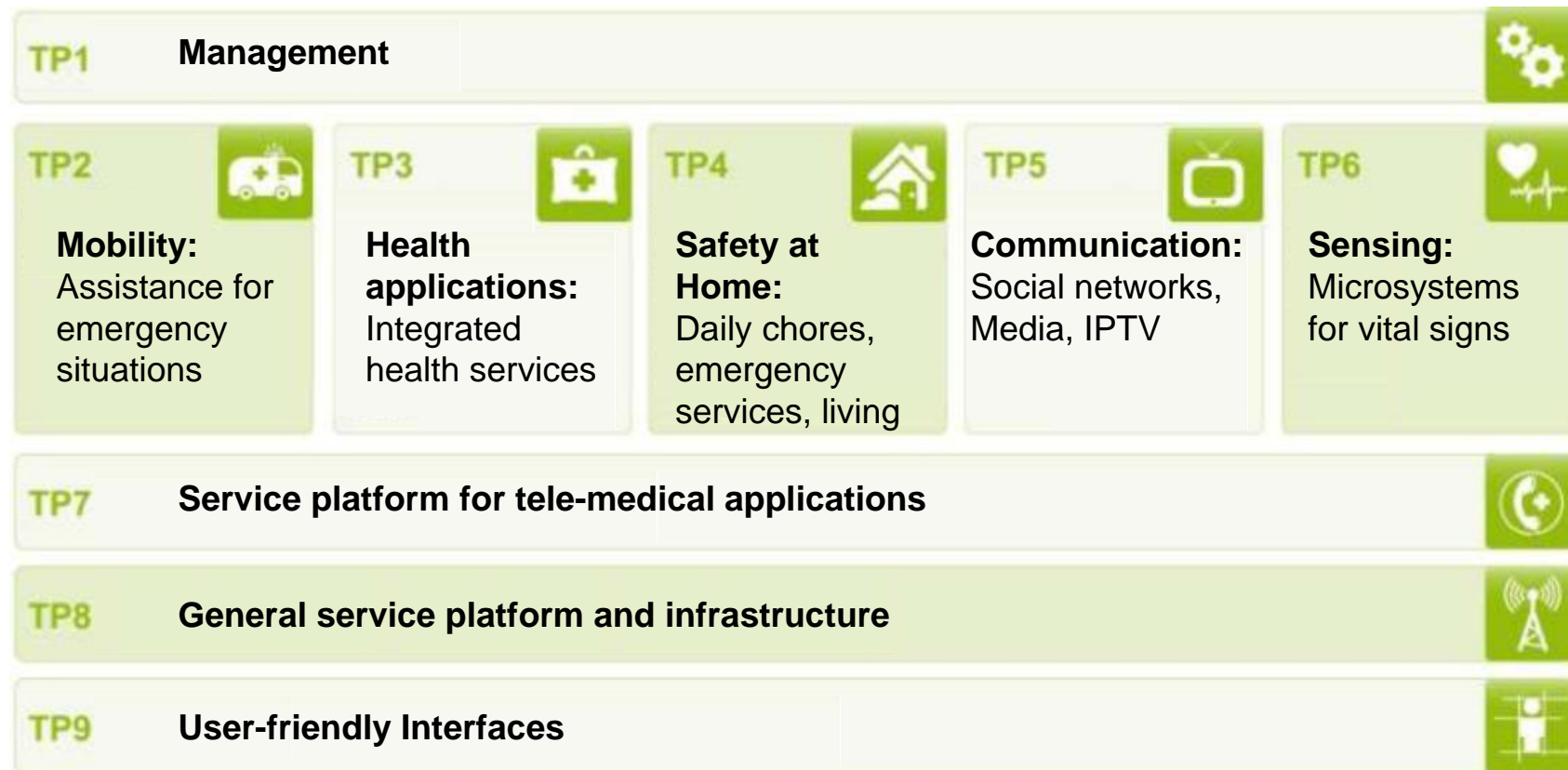
### **Smart Senior and FI-Technologies**

- Tele-medical systems with strong requirements for security and standardization
- Support of integrated services via general service platforms
- Assistance for emergency situations with seamless transition using different radio technologies
- Connecting home facilities to the Internet
- Further development of IPTV
- Sensing and controlling vital signs independent from the location of a person



## Application-oriented smart regions in Germany: Example Health

### The Structure of the Project SmartSenior





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**Thank you for your attention!**