



## Software development and ITS research of Dtv group

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1. DVB-H LITE – Converged network application platform
2. ITS development utilizing DVB-H LITE – The RoadTV Concept
3. Mobile TV with DVB-H LITE – Demonstration



# 1. DVB-H LITE – Converged network application platform

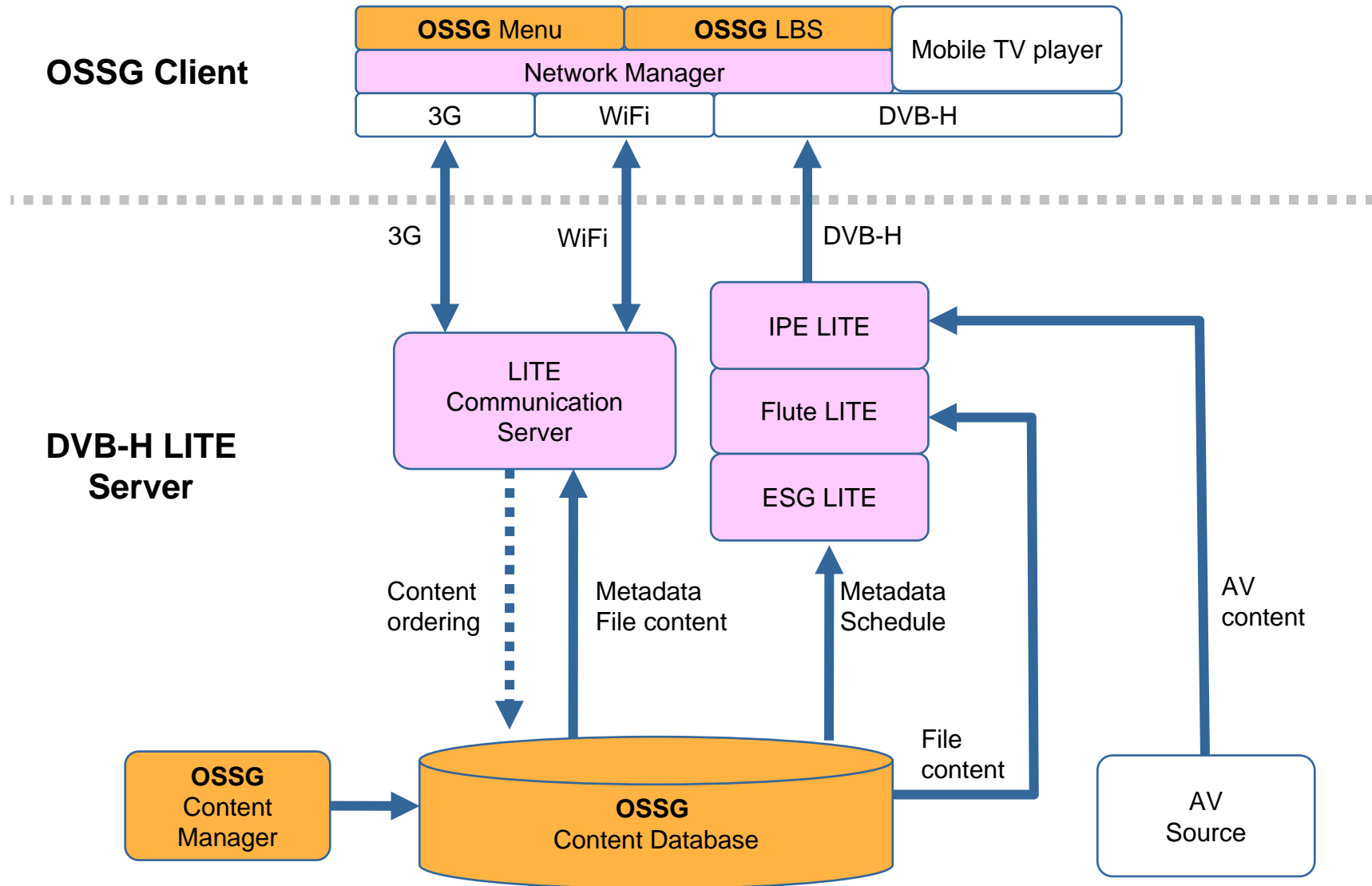
## DVB-H LITE

- Light R&D and promotion platform for DVB-H services
- Service system combines broadcast, cellular and fixed networks
- Originates in DVB-H and general network convergence research
- Enables studies and research of novel service concepts
- Easy-to-use and flexible interface for commercial studies
- Consists of
  - ESG LITE – ESG Generator
  - Flute LITE – Filecast Server
  - IPE LITE – IP Encapsulator
  - LITE Communication Server – Support for point-to-point communication

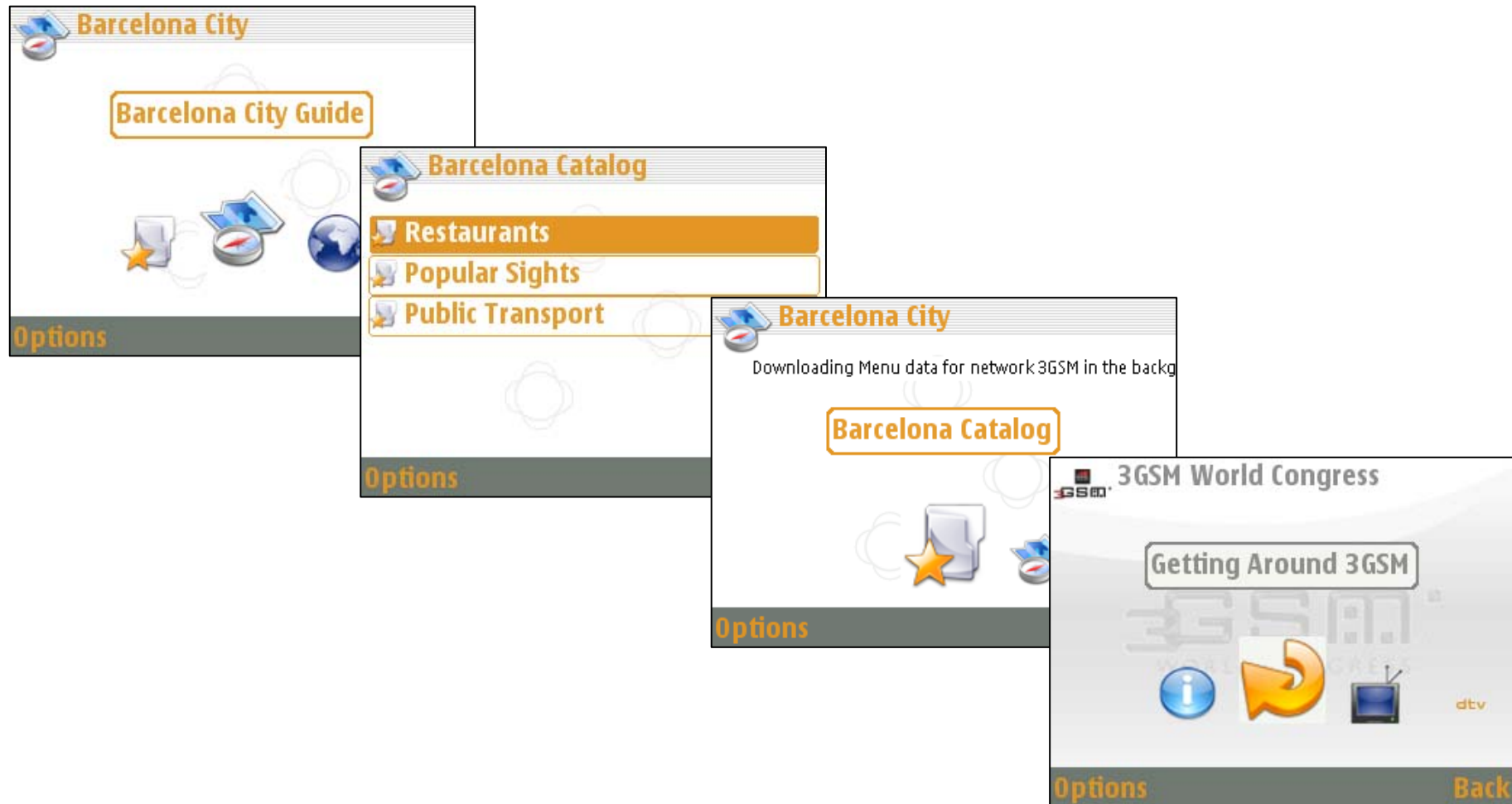
## OSSG (Operator Specific Service Guide)

### – Client application extension for DVB-H LITE

- High level convergence of cellular, fixed and broadcast networks
- User interface and content delivery system for DVB-H LITE
- One user interface for all services in all available networks
  - Aimed at service and networks operators
  - A tool for providing relevant and contextualized information (services) to users through multiple networks
- Client side Network Manager provides “Multi-network Roaming”
  - Discovery of available networks (broadcast and point-to-point)
  - Providing a list of services available on a given network



## OSSG Menu – 3GSM 2007 Demo





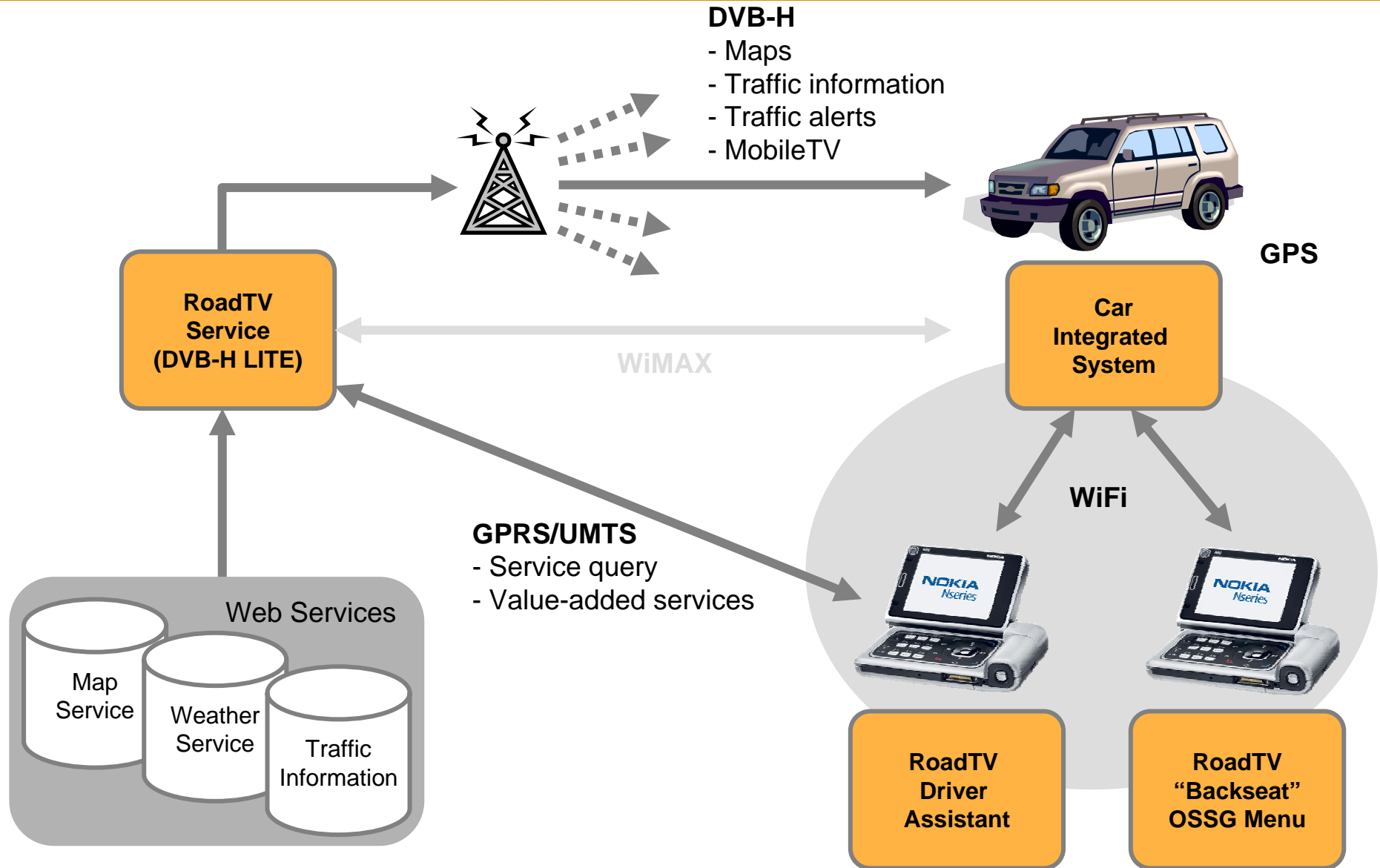
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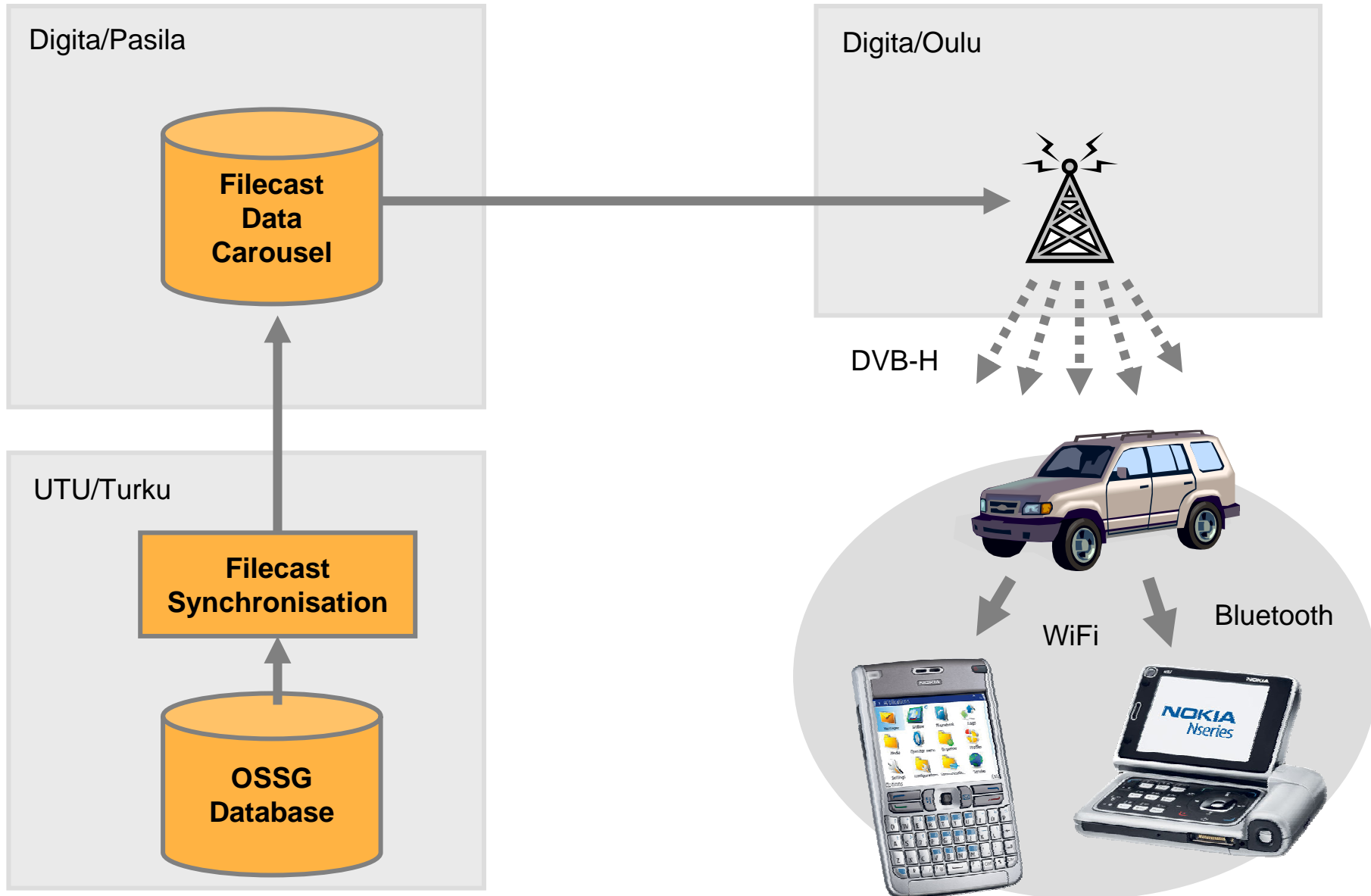
## 2. ITS development utilizing DVB-H LITE The RoadTV Concept


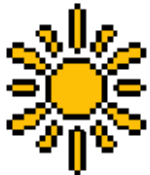




## RoadTV Pilot Configuration

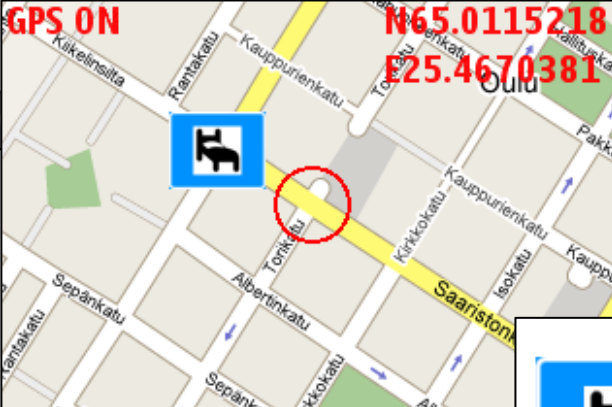
- Diversity receiving of DVB-H signal using USB DVB-T receivers (3)
- Laptop computer running Linux OS
- Bluetooth GPS receivers connected to mobile phones or Cardbus GPS receivers connected to laptop
- WiFi Access Point providing connection to client devices (using http protocol)
- Nokia E60, E61 and N92 mobile phones used as client devices





	Nopeusrajoitus 60km/h	
	+2,2 Celsius	
1 Info	2 Map	3 No

GPS ON

N65.0115218  
E25.4670381

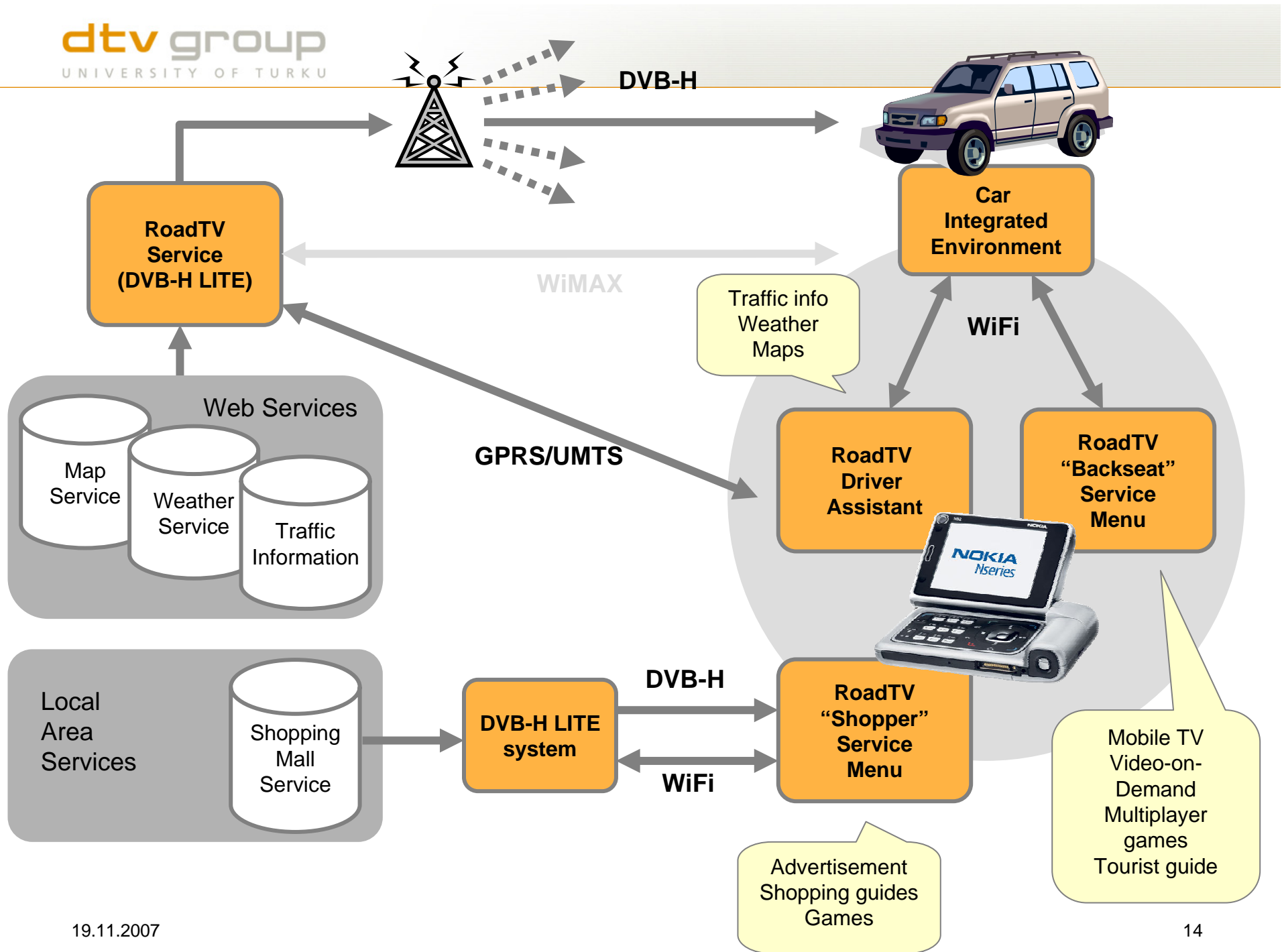


1 Info 2 Map 3 No

	<b>SCANDIC HOTEL OULU</b> Saaristontie 4	
	OULUN AREENA Kärpät - Blues 31.3. klo 17.00	
1 Info	2 Map	3 Notice

## Further Developments – “Multinetwork Roaming”

- OSSG Menu and RoadTV application combined provides “Multinetwork Roaming”
- Same client device can detect different contexts by discovering networks
- Local services provided by, for example shopping centers or sports arenas



## ...Further Developments

- Utilization of Web Service technologies to integrate existing services with vehicle environment
  - Delivery of Web Services from service providers to client devices using broadcast and unicast channels
- Optimization of usage of different channels for different kinds of information
- Evaluation of different wireless technologies for ITS purposes (eg. WiMAX)



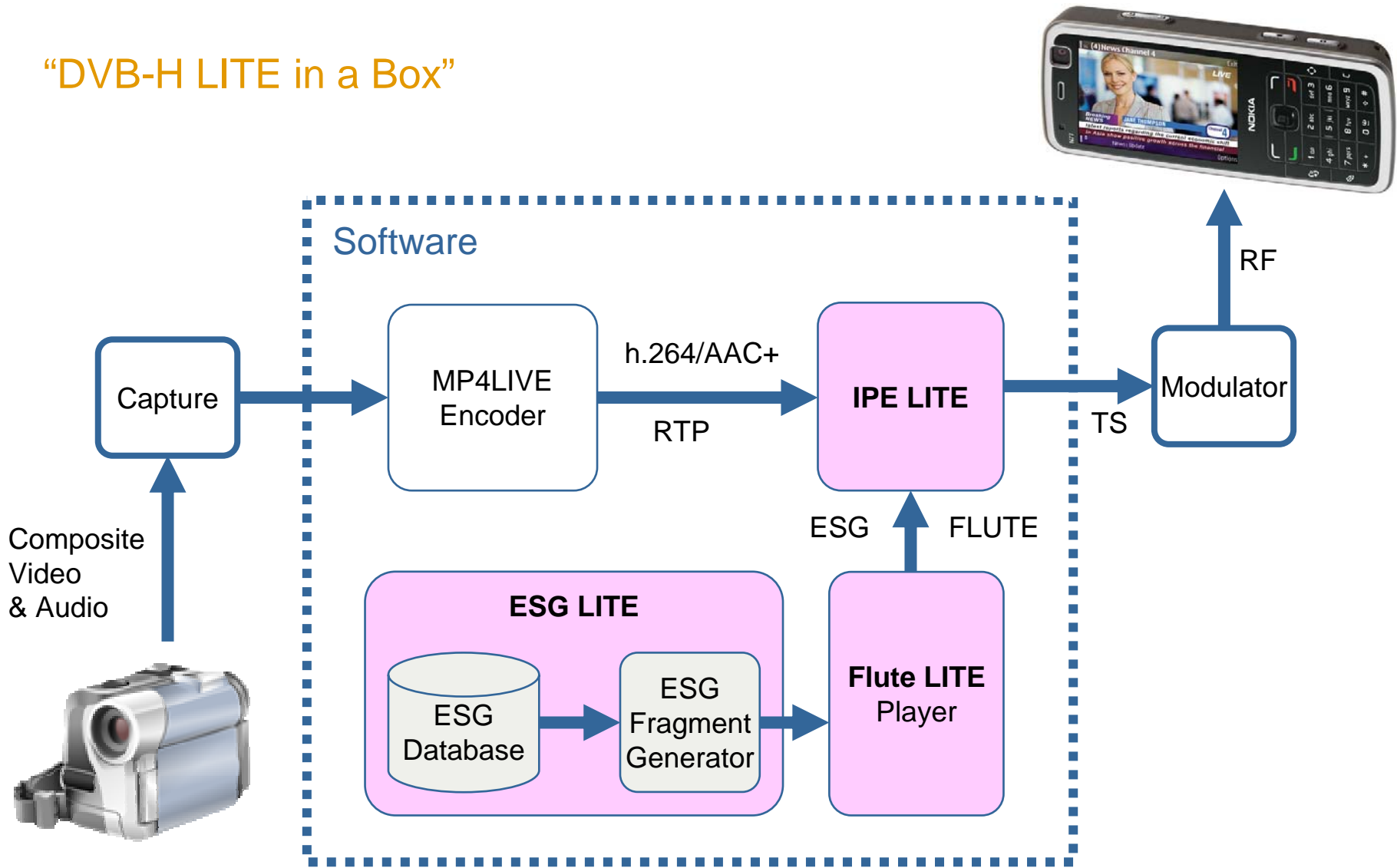
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## 3. Mobile TV with DVB-H LITE – Demonstration



# “DVB-H LITE in a Box”



## Contact

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