



# Session 2: Results from Daidalos activities on converging Broadcast and mobile networks



Karl Jonas  
Fraunhofer FOKUS

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# What is Broadcast (in the DAIDALOS context) ?

- **Broadcast Networks / Technology**
  - DVB (-T, -S, -H) *(-S and -H in DII)*
  - MBMS
  - Wireless LAN (broadcast mode)
  - WiMax *(DII)*
- **Broadcast Services**
  - Carousel (Traffic / airport information)
  - Multimedia Multicast (sports events)





# Telco vs. Broadcast Networks

## ▶ Telecommunication

## ▶ Broadcasting

### ADVANTAGES

- ▶ Bi-directional
- ▶ Strong and powerful players
- ▶ Strong governmental support
- ▶ Aggressive market strategy
- ▶ Mature markets
- ▶ Relatively wide band
- ▶ Can carry large amounts of data
- ▶ Very reliable reception
- ▶ Suitable for portable and fixed reception
- ▶ Mass markets

### DISADV

- ▶ Narrow band channels
- ▶ Quality of services goes down with traffic
- ▶ Various systems and incompatible operators
- ▶ One way only
- ▶ Lack of spectrum





# Value-added Broadcast Services

- ▶ Existing live audio/video contents:
  - TV and radio contents (MPEG2)
- ▶ New live audio/video contents:
  - Interactive associated content (MHP), EPG
  - IP **streaming** (WM9, H264, MPEG4) => **TV** Mobile Phone
- ▶ Downloaded contents:
  - Data carrousel: AV clips, music, news, http servers
  - Games
  - **Local based** content, local based storage
- ▶ IP Data contents:
  - **Notification**
- ▶ Vehicle-centric services:
  - Safety: real time alert, traffic conditions, emergency call
  - Road guidance: dynamic navigation, localisation
  - Travel information: weather, tourist information, event notification





# Mobile/Broadcast Networks Synergies

- ▶ Interest for broadcast environment:
  - To enrich existing broadcast services: interactivity, personalisation
  - To valorise more the value added contents
  
- ▶ => Use mobile networks to personalise the services
  
  
- ▶ Interest for mobile environment:
  - To enrich content to increase the revenues
  - To limit infrastructures investments (UMTS)
  
- ▶ => Use broadcast network for high bit rate component for new services



# Daidalos – Key Concepts



- ▶ **Key innovation and guiding concepts:**
  - **MARQS** (Integrating Mobility Management, AAA, Resource Management, QoS and Security)
  - **VID** (Virtual Identities – personalisation at all levels)
  - **USP** (Ubiquitous and Seamless Pervasiveness – includes context awareness),
  - **SIB** (Seamless Integration of Broadcast – both technology and service levels)
  - **Federation** (in terms of multiple market players, “*comperation*”: competitors in cooperation”)
  
- ▶ **Underlying Assumption: Use Internet Protocol**





# What todo ?

- Broadcast **Networks** integration
  - **Interface abstraction layer** tries to hide physical medium
  - **Mobility, QoS support, security** are provided for all networks
  - **Content adaptation** accounts for link layer variations
  - **Unidirectional Link Routing** provides virtual return channel for unidirectional media
  - **Make broadcast networks look like any other network**
- Broadcast **Services**
  - All **services** are based on IPv6
  - All networks support IP (Multicast) forwarding
  - Methods for charging and accounting are under evaluation, as well as security / privacy issues. DRM out of scope.
  - **Make broadcast services look like any other service**

