

# MOBILE 3DTV CONTENT DELIVERY OPTIMIZATION OVER DVB-H SYSTEM

MOBILE<sup>3</sup>DTV

[www.mobile3dtv.eu](http://www.mobile3dtv.eu)

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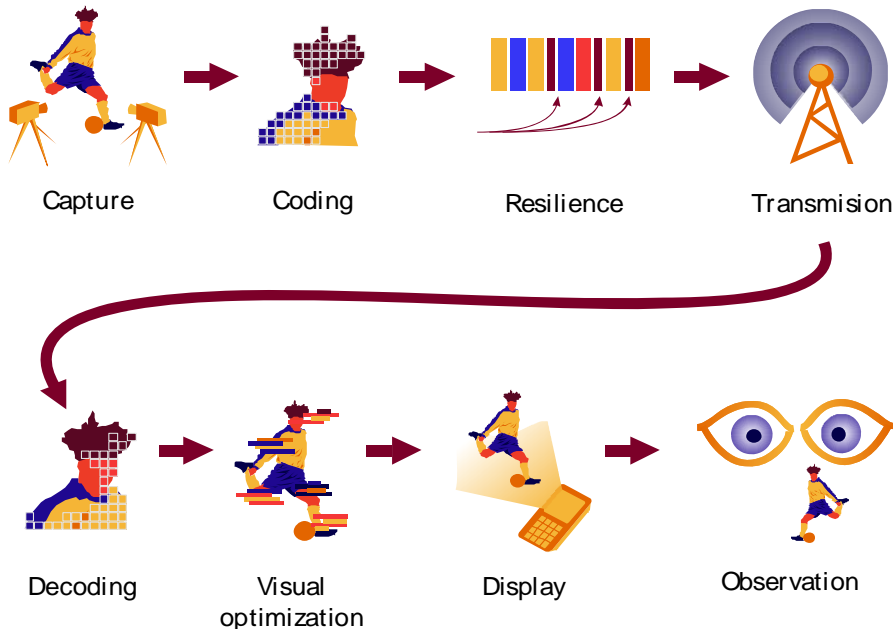
*An event organised by the European Commission (DG INFSO)  
& the South Korean Ministry of Knowledge Economy (MKE)*

*December 1-2, 2008  
Radisson SAS Royal Hotel  
Brussels, Belgium*



## Developing core elements of the future mobile 3DTV technology

- Stereo-video capture and coding
- Broadcasting over DVB-H
- User experience at the display side in focus
- Visual quality enhancement
- Interoperable portable (terminal) device
- End-to-end demo system



## Organization

- Three-year STREP (2008-2010) funded by FP7
- Participating in 3D Media cluster of EC funded projects
- Six partners from four countries

Tuotekehitys Oy Tamlink (*TAMLINK*), FI  
*Coordinator*



Tampereen Teknillinen Yliopisto (*TTY*), FI  
*Scientific Coordinator*



Fraunhofer Gesellschaft ... (*FHG*), DE



Middle East Technical University (*METU*), TR



Technische Universität Ilmenau (*TUIL*), DE



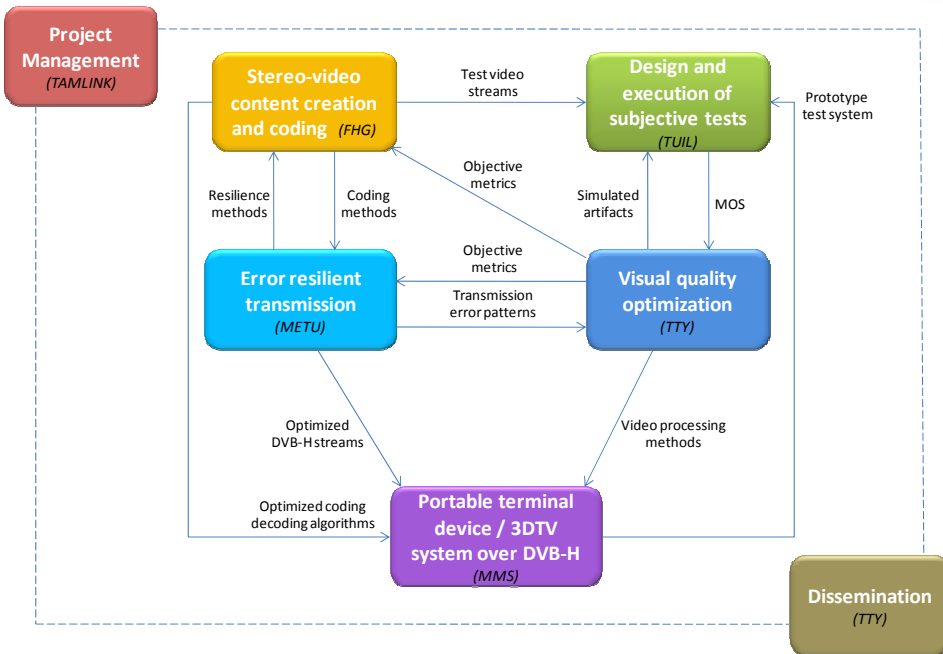
MultiMedia Solutions Ltd. (*MMS*), BG



The project shall specify how mobile 3DTV content should be created, coded and transmitted over DVB-H in order to be visualized on a portable display with quality accepted by the user

# MOBILE3DTV

## 3D DMB : Implementation Results



**We implemented a flexible end-to-end 3D data chain in a demo platform**

**Broadcasting Part**

- ◆ 3D Data Service Contents Authoring tool
- ◆ 3D Data Service Broadcasting Server
- ◆ Commercial Transmission System

**Receiver Part**

- ◆ UMPC with parallax barrier LCD, USB DAB Receiver and 3D DMB SW Decoder



Authoring tool



Broadcasting Server



Transmission System



UMPC type Receiver



T-DMB Receiver For Compatibility Test

### Meetings

- First contact at the Electronic Imaging Symposium, January 2008, San Jose, CA
- Meeting between projects after the 3DTV conference, May 2008, Istanbul, Turkey
- Visiting ETRI, September 2008

### Collaboration

- Exchange of reports on user studies, June, August 2008
- Exchange of 3D video test data
- Joint organization of special session on 'Delivery of 3D video to mobile devices', Electronic Imaging Symposium 2009

### Identification of challenging research problems

- 3D video and 3D data content creation
- Robust transmission of 3D Media over various channels
- Immediate removal of most objectionable 3D visual artifacts
- High-quality display
- Attractive services utilizing 3D visual information delivered to mobile users
- Optimization of the overall system and its critical components

### Joint project(s)

- High interest from our (mobile3dtv) side
- Looking at FP7 and Call 4 to operationalize the good relationships established with ETRI





**Thank you for your attention!**

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**Atanas Gotchev** received the M.Sc. degrees in communications engineering and in applied mathematics from Technical University of Sofia, Sofia, Bulgaria, in 1990 and 1992, respectively, the Ph.D. degree in communications engineering from Bulgarian Academy of Sciences, Sofia, Bulgaria, in 1996, and the Dr.Tech. degree from Tampere University of Technology, Tampere, Finland, in 2003. Currently, he is Senior Researcher in the Department of Signal Processing, Tampere University of Technology. His research interests are in sampling and interpolation theory, and spline and spectral methods with applications to multi-dimensional signal analysis. Within the 3DTV NoE, he has done pioneering research on multiple description coding for stereo-video and 3D geometry and has developed non-uniform resampling methods for optical signals. He has run the 3DTV NoE Student and Scholar Exchange Program. Within the MOBILE3DTV project, he coordinates the scientific project activities and contributes to the research work on stereo video quality enhancement.

