# Project Information

## MObile TV Services Whatever Access Network

TV services are delivered via a number of different access networks. For Mobile TV alone, optimization of the network infrastructure cost for different reception conditions over 100% of a territory require to take advantage of different access network technologies.

The aim of the project is to develop advanced technologies allowing a convenient user experience for the end user whatever the access network technology is.

## Main focus

The main focus will be on Mobile TV and Radio services, i.e. services available on a handheld device, whatever the access network (i.e. including home reception of ADSL TV via a home Wifi link or public access via Wifi or Wimax). But the case of PCs and Set-Top boxes may be included in the scope of the project.

This includes the following functions: service discovery (ESG…), service subscription, access control to services (service protection and rights management), interactive TV, service access in "roaming" situation, mobile TV services including personal and context aware data services.

## Approach

The mean to offer services everywhere will use all available access networks technologies.

At first digital broadcast networks :

- Digital television broadcast systems: DVB-H (Digital Video Broadcasting - handheld) is an adaptation of DVB-T (Digital Video Broadcasting - Terrestrial) technical specification for mobile handsets. DVB-H was formally adopted as ETSI standard EN 302 304 in November 2004.

- DVB-SH (Digital Video Broadcasting - Satellite services to Handhelds) is a physi-


# MOTSWAN

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**Partners:**

BCE, Luxembourg

Dibcom, France

Digita Oy, Finland

Elisa Corporation, Finland

Expway, France

Gemalto SA, France

Icareus, Finland

Neusoft, Finland

PrimeTel, Cyprus

Sanoma Entertainement, Finland

Sofia Digital Ltd., Finland

Thomson Grass Valley France S.A., France

Thomson R&D, France

University of Turku, Finland

VTT (Technical Research Center of Finland), Finland

**Co-ordinator:**

Francis Gourdy

Gemalto, France

E-mail: francis.gourdy@gemalto.com

**Project Website**

www.celtic-initiative.org/projects/motswan

cal layer standard for delivering IP based media content and data to handheld terminals such as mobile phones or PDAs, based on a hybrid satellite/terrestrial downlink and for example a GPRS uplink. DVB-SH standard has been published in February 2007.

Then, Mobile Networks :

- 3G is the third generation of cellular mobile communication systems. UMTS (Universal Mobile Telecommunications System), CDMA2000 and EDGE are common 3G networks.

- LTE (Long Term Evolution), specified by 3GPP, is the next step towards a new high performance air interface for cellular mobile communication systems and the last step before real 4G networks.

- MBMS (Multimedia Broadcast and Multicast Services) is a broadcasting service offered via existing GSM and UMTS cellular networks. MBMS uses multicast distribution in the core network instead of point-to-point links for each end device. It offers a bidirectional link with mobile handsets. An eMBMS (evolved Multimedia Broadcast and Multicast Services) is also adapted to LTE networks.

- Femtocells are small base stations that provide extra coverage for Mobile Network through a broadband line. They are provided to end users or enterprise customers.

And at last, Wireless LAN:

- Wi-Fi is an implementation of wireless local area network (WLAN) based on IEEE 802.11 standards, issued by the Wi-Fi Alliance. Motswan will focus on Wi-Fi at home and Wi-Fi hotspots.

- Wi-Max (Worldwide Interoperability for Microwave Access) is based on is based on the IEEE 802.16 standard and provides larger coverage and data rates compare to Wi-Fi.

## Main results

The main expected results are the following:

- A reference architecture covering all the functions listed in 1.1 together with a set of specifications for the functions implementations and relevant interfaces.

- An integrated demonstration platform developed by the different partners allowing to validate on some scenarios, the reference architecture, convergent Mobile TV service delivery, synchronization and provisioning, extended program roaming capabilities, convergent service and content protection, service personalisation capabilities. Some of the scenarios will be easily replicable or embed-able in the Celtic pan-European lab. (The project will here benefit from the former Movies distributed demo integration test-bed)

- A set of advanced proof of concepts related to broadcast/3G/4G network integration for Mobile TV service delivery

- A set of contributions to major standardization bodies (OMA, ETSI/3GPP, DVB)

## Impact

The MOTSWAN project intends to deliver all needed technologies to be deployed in mobile-TV enabled terminal software, service delivery platforms and mobile TV head-ends, in order to provide a continuous, high-quality, secure and seamless experience in a multi-network environment.

## About Celtic

Celtic is a European research and development programme, designed to strengthen Europe's competitiveness in telecommunications through short and medium term collaborative R&D projects. Celtic is currently the only European R&D programme fully dedicated to end-to-end telecommunication solutions.

**Timeframe:** 8 years, from 2004 to 2011

**Clusterbudget:** in the range of 1 billion euro, shared between governments and private participants

**Participants:** small, medium and large companies from telecommunications industry, universities, research institutes, and local authorities from all 35 Eureka countries.

## Celtic Office

c/o Eurescom, Wieblinger Weg 19/4,

69123 Heidelberg, Germany

Phone: +49 6221 989 405, e-mail: office@celtic-initiative.org

www.celtic-initiative.org

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