

# Project Information



## GenesisX: Next Generation Services Extended

The GenesisX project aims to build on the work undertaken on the previous project (GENESIS) by adding mobility enablers on top of the service and deployment platform. The obtained Mobile Broadband or 'Personal Broadband' will enable the platform to serve advanced Web-integrated multimedia services over an all IP network.

### Main focus

The main focus of the GenesisX project will be to add mobility enablers on top of the service and deployment platform of the Genesis project, which managed to build a pre-production platform as a real prototype for development, validation, deployment and execution of advanced VoIP and value added business services. This will be developed following IMS/NGN architectures capable of serving advanced Web-integrated multimedia services and the customers will access all provided services from wired and wireless access networks, including mobility capabilities in the wireless side. In situations where it

would not be possible to access the GenesisX network the project will explore alternative access through technologies such as ad hoc networking, including P2P.

Services will include high-quality multi-party video-conferencing, with easy access through the web, running on top of fixed and mobile terminals, with guaranteed QoS. GenesisX will also deliver a specification for test design and an integration plan for services to be validated on the testbed; this material will act as a guide for future work in this domain and set a benchmark for testing patterns and scenarios.

### Approach

With the increasing availability of broadband fixed and mobile access networks, a significant increment on the demand of videoconferencing services is expected. Being able to provide high quality videoconferencing requires a network infrastructure to manage session establishment, flow control and media mixing.



# GenesisX

Project ID: CP6-008

Start Date: 1 March 2009

Closure date: 1 March 2011

### Partners:

Alvarion, Spain

Alvarion, Romania

Druid Software, Ireland

Embou, Spain

Instituto Tecnológico de Aragón, Spain

MailVision, Israel

Telefónica I+D, Spain

WIT-Waterford Institute of Technology (TSSG), Ireland

### Co-ordinator:

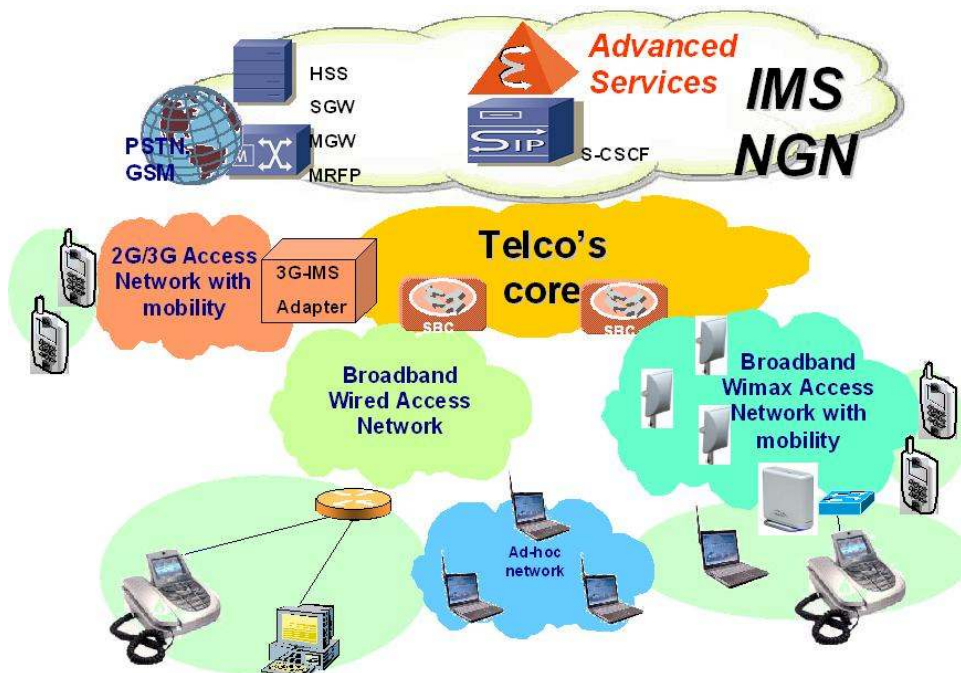
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### Project Website

[www.celtic-initiative.org/projects/GenesisX](http://www.celtic-initiative.org/projects/GenesisX)



The WiMAX infrastructure which was part of the Genesis project will be taken into the Next Generation WiMAX mobile network. In this respect GenesisX will add the very extra important layers which were missing such as: admission control & dynamic quality of service support for mobile WiMAX end users, management system for large scale WiMAX network service deployment and Scalable and highly available networks through WiMAX evolution.

Provisions will be made for accessing advanced IMS services where possible. Another focus will be decentralised communications for environments with limited connectivity. GenesisX will develop a communications component for both audio and video sessions that will work on decentralised scenarios in a peer-to-peer (P2P) architecture.

Advanced services, that leverage these mobility enablers, will cover the integration of end-user devices with the platform, providing advanced features, including web integration. Services will include high-quality multi-party video-conferencing, with easy access through the web, running on top of fixed and mobile terminals, with guaranteed QoS.

## Main results

GenesisX will research, design and develop a set of advanced services on top of an IMS/NGN platform. GenesisX will start from the platform obtained on the previ-

ous project GENESIS, and will extend the platform with mobility enablers and with advanced multimedia services.

These services include, but are not limited to, an advanced multi-videoconference service that can be accessed by standard IP terminals and PCs, and Web-integrated multimedia services, including a user-friendly web client for multimedia communications.

All these services will include mobility features thanks to Mobile CPE's based on Mobile WiMAX. GenesisX will take Genesis WiMAX dynamic QoS & admission control mechanism and leverage it to the mobile WiMAX network use. In respect to the WiMAX access solution the project will also introduce the ability to deploy mobile services to large scale networks as well as the ability to deliver these services in any moment, any place and almost in any condition.

In addition, GenesisX will deliver integration with testbeds from both consortium partners and/or existing PanLab testbeds.

## Impact

GenesisX will impact on the European industry by providing a new vision in several topics like mobile broadband applications and services, all IP Networks, web-based multi -videoconference, ad-hoc networking and P2P. In this project services are executed and deployed based on user preferences and following a cooperative frame-

work between the NGN elements, hosted by Telcos and Service Providers, and the CPEs provided by hardware manufacturers. This vision is relevant in today's market where again operators have invested significantly to add next generation capability to their networks with the possibility of innovative new services that will generate revenue.

"Broadband Everywhere" is starting to be demanded day by day and WiMAX will become increasingly more important in the emerging GenesisX, as a strategic project, will run some field trials of a WiMAX solution that could be commercialized in the future.

Cost efficient delivery of voice and data services will be an important contribution to bridge the "digital divide". Offering a web based interface to access voice and video over IP and value added services could help to approach this functionality to more users that wouldn't need to buy specific devices to use and enjoy it. Similarly, the operation incomes would be increased and it would contribute to the convergence of Web and Telco worlds.

## 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.

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