NEM
NETWORKED & ELECTRONIC MEDIA

SNS Networked Society

EUROPEAN RESEARCH & INNOVATION IN TELECOMMUNICATIONS

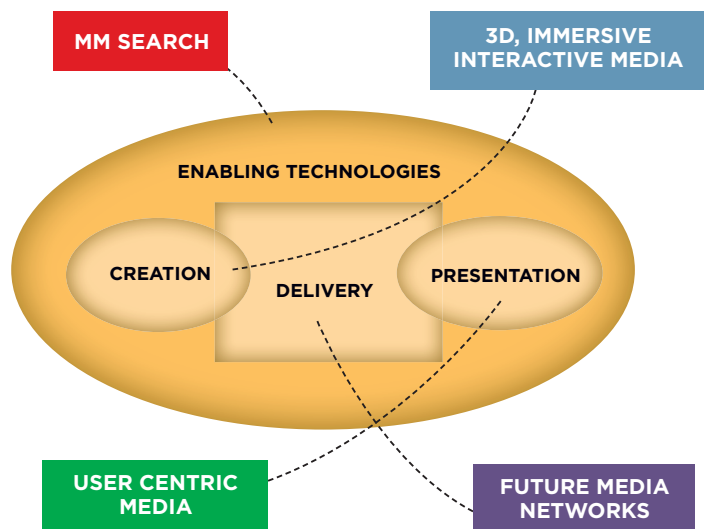## SUCCESS STORIES

CONTRIBUTION FOR AN INNOVATIVE DIGITAL EUROPE

The NEM projects strategically encompass the whole value chain in the networked media sector. They address innovative technologies and services based on intelligent, adaptable and personalized media in the following research areas.

MM SEARCH

3D, IMMERSIVE INTERACTIVE MEDIA

ENABLING TECHNOLOGIES

CREATION

DELIVERY

PRESENTATION

USER CENTRIC MEDIA

FUTURE MEDIA NETWORKS

3D, IMMERSIVE, INTERACTIVE MEDIA

In the two areas of 3D Media Internet and Immersive Media Experiences beyond HDTV and Digital Cinema, the FP7 projects related to NEM address highly innovative technologies and services, such as:

• Instantaneous virtual transportation of people from one physical place to another destination, so that they can interact with the local people there. This is to be achieved by creating a unified virtual environment representing the physical space of the destination in real-time.

• Future immersive and interactive TV services enabling the users to navigate around an ultra-high resolution video panorama, showing a live or recorded event and providing immersive media experiences to audiences during live events.

• Technology independent adaptation to any 3D display and transmission of multi-view signals, including robust transmission schemes for 3DTV over all existing and future broadcast channels.

• New forms for the creation and delivery of live media content, including also the automatic capturing of the events in 3D and the delivery for realistic, interactive and immersive playback.

Projects in this area represent a major step towards new forms of creation, delivery and access to novel media experiences, much beyond current state of the art.

Examples of projects:

• **Beaming** has developed a new kind of virtual transportation where the person can be physically embodied interacting with life-sized people who may be thousands of kilometres away through augmented media for natural networked gatherings; *www.beaming-eu.org*

• **DIOMEDES** focus on the DIstribution Of Multi-view Entertainment using content aware DElivery Systems; *www.diomedes-project.eu*

FUTURE MEDIA NETWORKS

In the area of Content-aware Networks, the focus is on how networks and content interact and adapt intelligently to each other so as to enhance the user's quality of experience. The FP7 projects related to NEM in this area propose different solutions, such as:

• the creation of a networked 'Media Ecosystem' based on a fl exible cooperation between providers, operators and end-users, enabling the latter to access multimedia services in diff erent contexts, and to share and deliver audiovisual content dynamically, seamlessly and transparently

• a content-centric network architecture off ering network-wide Service Level Agreements in service discovery and content consumption

• a P2P architecture for the distribution of User Generated Content

• the optimization of the overall quality of experience for end-users on the basis of improved content caching and deploying network-controlled scalable and adaptive content delivery techniques
the test of smart data drop algorithms technology for bandwidth optimization of multiple HD, SD IPTV and internet TV video streams social, context-aware and scalable media distribution development

• novel algorithms, mechanisms and protocols for a cross-layer network solution
optimization of content source selection and distribution by mapping the content to the appropriate network resources based on transmission requirements, users' preferences and network state

• new methods for delivery and compression of multi-view video and multichannel audio.

Examples of projects:

• **Alicante** is a Media Ecosystem Deployment through Ubiquitous Content-Aware Network Environments; *www.ict-alicante.eu*

• The **Community Network Game** project focuses on the application of new network technologies to support community activities over highly interactive centrally managed massively multiplayer online games; *www.ict-alicante.eu*

USER CENTRIC MEDIA

The Internet and media landscapes are undergoing a revolution driven by more active participation of users and resulting in the exponential growth of user generated content (UGC).

User Generated Content will enhance inventive and creative practices in the field of arts, science, engineering, education and leisure, based on entirely new types of creative media.

Several projects focus on new technologies and methods to enhance the user participation in the media value chain, enabling them to interact, consume, author and publish content on future networked rich media systems, at any location, efficiently adapted to any device.

Examples of projects:

• **FascinatE** has create an innovative end-to-end system and associated standards for future immersive and interactive TV services.
www.glocal-project.eu

• **Open Media Web :** Through outreach, training and standardization activities, the Open Media Web project aims to build on Europe's strength in multimedia technology and content to enable European research and industry to strengthen its position in Web technology.
www.openmediaweb.eu

MULTIMEDIA SEARCH

In the area of Networked Search and Retrieval, projects address innovations, such as an open platform for multi-media and multimodal content indexing, sharing, search and retrieval, such as the ones using events as the primary means to organize and index media, e.g., photos, videos, journal articles, thus providing their experiential and subjective personalization dimension. Here the local experience-driven contextual information can be shared, enabling the creation of new social networking of event-based communities. This will eventually build social intelligence to automate media search and content retrieval. These projects hold the promise to one day replace today's Internet reliance on text.

Overview of Projects in Multimedia Search Cluster, *www.glocal-project.eu*

NEM ETP is addressing the Content sector including Media and the Creative Industries. The European Media and Content Industry (MCI) sector makes an important contribution to the European economy, holds a significant potential for growth and competitiveness, and employs a highly skilled workforce. The entire MCI sector in Europe produced some 213 billion Euros in 2007. The MCI employed 10.8 million people across Europe.

NEM focuses on an innovative mix of various media forms, delivered seamlessly over technologically transparent networks, to improve the quality, enjoyment and value of life. NEM Innovation Areas are notably the following ones, as identified in its strategic agenda: Digital Content; Distributed Media Applications; New User Devices and Terminals.

www.nem-initiative.org
netsoc.future-internet.eu