

## Project Profile

# Enabling new multimedia deployment in the digital home

## Collaborative aggregation of multimedia for improved personalised experiences at home

*The CAM4Home project brings together the necessary type and number of industrial and research partners across Europe to share and shape the vision of future digital media services and their deployment in Europe and worldwide. Technologies developed in CAM4Home will enable provision of personalised rich-media services and also introduce a novel concept of collaborative aggregated multimedia allowing end users and commercial content providers to create and deliver rich individualised multimedia experiences.*

For the consumer, multimedia is purely content, independent of the channel delivering it, the metadata describing it and the terminal playing it. However, added value for consumers is the ability to find the content they want where and when they want it.

The CAM4Home project will enable development of novel personalised and seamlessly interworking multimedia applications that bring this added value to the end users. At the same time, it will create new business opportunities in the digital content distribution and

communications market, based on a rapid and radical transition from pure broadcasting systems towards personalised on-demand unicast and distributed systems.

To guarantee this interoperability, CAM4Home will work with standardisation bodies such as 3GPP and ETSI TISPAN to make possible new standards for rich media services and distribution models – for example, peer-to-peer (P2P) connectivity.

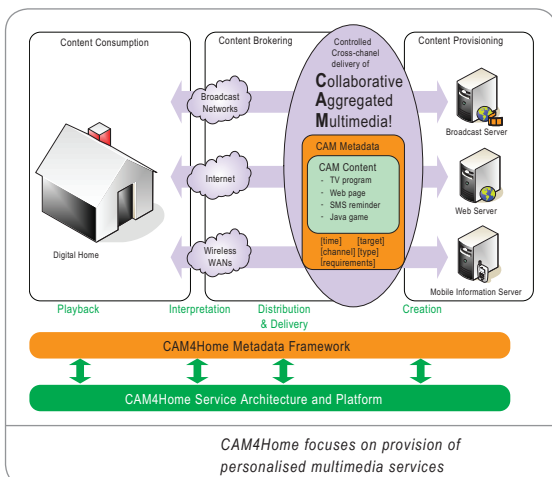
### NOVEL CONTENT-DELIVERY FRAMEWORK

The goal of CAM4Home is to create a novel content-delivery framework enabling end users and commercial providers to create and deliver rich multimedia experiences based on aggregation and composition of individual multimedia elements into content bundles. Such bundles can include references to added-value content services and can be delivered over multiple communications channels – such as Internet, broadcast or mobile – from and to the digital home in an interoperable and collaborative manner.

CAM4Home will propose a new metadata framework that will allow the project to develop and demonstrate the overall workflow consisting in the creation, distribution, delivery, interpretation and playback of content bundles. The CAM4Home results will be applicable to both personal and commercial applications and will be compatible with the relevant standard metadata and content representation technologies existing today.

By defining an advanced system and service architecture for service delivery and distribution to and from the digital home environment, CAM4Home will enable on-the-fly personalised multimedia content insertion and playback that take into account:

- The user's network and preferences;
- Content availability; and
- The terminal capabilities.



## CAM4HOME

(ITEA 2 ~ 06017)

### Partners

Atos Origin  
 BizWise Technologies  
 Centre Henri Tudor  
 CNRS  
 DracoTIC S.L.  
 France Telecom  
 GET-INT, Institut National des Télécommunications  
 KAPION  
 NDS Technologies  
 Nokia  
 OneTree Technologies  
 Ouest Audiovisuel  
 Scopus Video Networks  
 SESCO Innovations  
 Sofia Digital  
 SWelcom  
 Thomson Grass Valley  
 Thomson R&D  
 Universidad de Murcia  
 University of Oulu, MediaTeam  
 Vaasan Läänin Puhelin – VLP (Vaasa Telephone Company)  
 VTT Technical Research Centre of Finland

### Countries involved

Finland  
 France  
 Israel  
 Luxembourg  
 Slovenia  
 Spain

### Project start

June 2007

### Project end

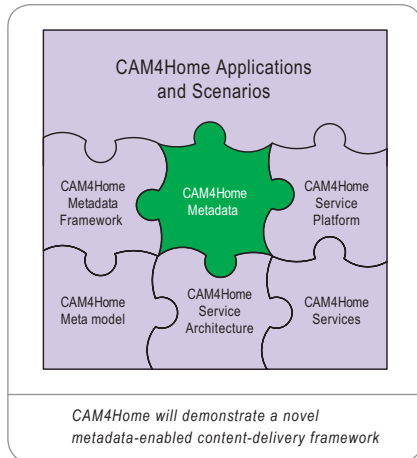
May 2010

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## Project Profile



Covering creation and aggregation of rich-media services and insertion from both professional/commercial sources and digital home environments triggered by end users, the CAM4Home delivery framework will provide personalised sets of bundled content to a tremendous range of users.

### OVERCOMING METADATA LIMITATIONS

Communications and broadcast networks are increasingly becoming content deliverers rather than pure infrastructure. This requires network operators to understand not only the implications of seamless access across networks but also the management concepts for future interactive demand and content delivery. The major research challenge lies in overcoming the restrictions on delivery, search and retrieval of digital services across different networks caused by the limitations of conventional metadata.

Success will make possible a digital content market providing interoperability of media and its distribution and delivery in the digital home environment connected to multiple networks – such as Internet, broadcast and mobile – while respecting end-users' individual preferences and optimising use of the underlying infrastructure resources.

This interoperability will only be achieved if the CAM4Home results are accepted by the relevant standardisation bodies. For this reason, an important effort will be put into obtaining acceptance of the project results.

CAM4Home will research, specify, develop and demonstrate a novel metadata-enabled multichannel delivery framework

for creation, distribution, delivery and playback of collaborative aggregated multimedia services from and into digital home environment. Its results will be disseminated through relevant scientific and industrial forums and standardised where applicable; they will be exploitable by multiple stakeholders of the digital content delivery chain.

### SERIES OF KEY ACTIONS

Key actions will include:

1. Specification and demonstration of the innovative **CAM4Home metadata framework** that enables a novel way of content provisioning by gathering different types of digital services into content bundles at the level of metadata;
2. Specification, design and demonstration of the **CAM4Home service architecture** and service platform consisting of seamless support for interactive and personalised on-demand creation, distribution and delivery, interpretation and playback of collaborative aggregated multimedia content over multiple interoperating networks;
3. Final **CAM4Home demonstration** showcase that will include all the demonstrations and prototypes produced in the project promoting and illustrating the new way of content distribution and delivery enabled by the project. The demonstration showcase will be created in two major steps – intermediate and final – and used as a tool for results evaluation and dissemination; and
4. Standardisation of the project results to guarantee the interoperability with network infrastructure and delivery systems.

The final result will be to:

- Enable terminal manufacturers and software providers to build new terminals that give end-user platforms an independent access to all available multimedia services;
- Enable network operators to provide added-value content-related services based on their existing infrastructures;
- Enable content providers to reach more end users; and
- Provide end users with technology-transparent access to multimedia services.

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■ ITEA 2 – Information Technology for European Advancement – is Europe's premier co-operative R&D programme driving pre-competitive research on embedded and distributed software-intensive systems and services. As a EUREKA strategic Cluster, we support co-ordinated national funding submissions and provide the link between those who provide finance, technology and software engineering. Our aim is to mobilise a total of 20,000 person-years over the full eight-year period of our programme from 2006 to 2013.

■ ITEA 2-labelled projects are industry-driven initiatives building vital middleware and preparing standards to lay the foundations for the next generation of products, systems, appliances and services. Our programme results in real product innovation that boosts European competitiveness in a wide range of industries. Specifically, we play a key role in crucial application domains where software dominates, such as aerospace, automotive, consumer electronics, healthcare/medical systems and telecommunications.

■ ITEA 2 projects involve complementary R&D from at least two companies in two countries. We issue annual Calls for Projects, evaluate projects and help bring research partners together. Our projects are open to partners from large industrial companies and small and medium-sized enterprises (SMEs) as well as public research institutes and universities.



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