

## Project Profile

# Creating smart experiences on the Web of Things

## Enabling non-technical people to participate in the creation of applications for networked tangible objects



The powerful social phenomenon of Do-it-Yourself (DIY) is leveraged in this Web-of-Things project

**The DiY Smart Experiences project will enable people to direct their everyday 'smart' environment – together with the objects, devices and media involved – into a highly personalised meaningful communications and interaction experience that can span the home and urban domains. The project aims to create a sustainable marketplace for user-generated applications and components for an 'Internet-of-Things' world, in which non-technically-skilled people can participate – creating and sharing their own smart, interactive applications.**

Increased mobility and the drive towards efficiency in modern life are a premise for the growth of technologies and services that enable intelligent and seamless interaction with a smarter environment. DiYSE is conceiving, designing and creating viable technologies, applications and business models based on smart objects, middleware and application-creation environments – promoting growth in an area of significant strategic importance to Europe for an increasingly connected world.

DiYSE aims to create a sustainable marketplace for user-generated applications for non-technically-skilled people. The proposed do-it-yourself (DIY) approach in

which non-professional users get the tools and the support to create and share their own smart experiences is supported and motivated by visions of an open society in which citizens are empowered to form and share their own view of reality.

Modern technology has a key role to play in realising this vision of an open society. Considering the impact of web blogs, grassroots journalism and the low barrier to create personal websites on the Internet as well the effects of mobile phone communications and text messaging, it is clear that 21st century citizens are significantly more empowered to create such a new society.

### SUPPORTING A WEB OF THINGS

The ITEA 2 project will contribute substantially to the open Internet-of-Things world and the transition to Web 3.0. This is the so-called 'semantic' intelligent web, where the meaning of information and services is defined, making it possible for the web to understand and satisfy the requests of people and machines to use web content, and with this project also connected objects, in a meaningful way.

DiYSE will enable people to direct their everyday environment into a highly personalised meaningful communications and interaction experience. Driven by a user-centred design methodology and concrete proof-of-concept demonstrators, the project envisions innovating on new valuable interactive user experiences based on intelligent, privacy-respecting, self-aware services and objects, sensors, actuators and collaborative media devices.

The approach proposed in the project is supported and motivated by visions of an open society, the continuing trends towards globalisation and localisation, the

## DiYSE (ITEA 2 ~ 08005)

### Partners

Alcatel-Lucent Bell, Bell Labs  
Alcatel-Lucent Bell Labs France  
AnswareTech  
Archos  
Arti Teknoloji  
Atos Origin  
ENSIE-LRSM  
FeedHenry  
Finwe  
Forthnet  
Geosparc  
IBBT VUB-SMIT  
Information & Image Management Systems  
Institut TELECOM Sudparis  
Kysoh  
Mobilera  
Neotiq  
Nokia  
Philips Innovative Applications  
Pôle de Recherche Interne en Technologies de l'Information (PRI-TI) de la Faculté Polytechnique de Mons  
Pozitim  
RinneKoti-Säätiö  
Tecnalia-European Software Institute (ESI)  
Tecnalia-Robotiker  
Thales Group  
Turkcell Teknoloji  
University of Alcalá  
Uni KUL - Distrinet  
Uni KUL - CUO  
University of Lauea  
University of Oulu  
Universidad de Politécnica de Madrid  
University of Tampere  
Uni VUB - PROG&SSEL  
Uni VUB - SMIT  
Uni VUB - Starlab  
Videra  
VTT Technical Research Centre of Finland  
Waterford Institute of Technology

### Countries involved

Belgium  
Finland  
France  
Greece  
Ireland  
Spain  
Turkey

### Project start

March 2009

### Project end

December 2011

### Contact

**Project Leader :**  
Marc Roelands, Bell Labs,  
Alcatel-Lucent

**Email :**  
marc.roelands@alcatel-lucent.com

**Project website :**  
www.dyse.org

## Project Profile

anticipated long-tail marketplace for user-generated Internet-of-Things applications, the rapid urbanisation of the world's population and the quantifiable emergence of new functional elements that can be part of the smart space experience.

### FOSTERING INNOVATION THROUGH SHARED KNOWLEDGE

This project involves a particularly large consortium of European technology and applications developers and equipment manufacturers, each making use of their own specific expertise to deliver end-user-focused solutions based on qualified business models. Representation from all stages in the value chain is encouraging the development of end-to-end solutions, whilst fostering innovation through shared knowledge and know-how.

The main objectives of DiYSE are to:

- Allow people to control their smart environment at home and in the urban area as part of an open Internet-of-Things world. DiY tools, services and application templates together with an Internet-of-Things application-creation environment will lower the barrier to application creation and distribution for non-technical people;
- Create an interoperable cross-domain substrate on which these smart experiences can flourish and co-exist;
- Conceive a layer on the smart elements in the environment, so that interaction with these elements can be carried out on a semantically-meaningful level, with the urban area defined as an open platform for innovations – sharing data, mutualising resources and making resources interoperable;
- Create a sustainable marketplace for these user-created applications;
- Evolve from unconnected to networked and finally ambient service blocks – both hardware and software; and

- Integrate the project results into demonstrators of the DiY toolkit and user cases.

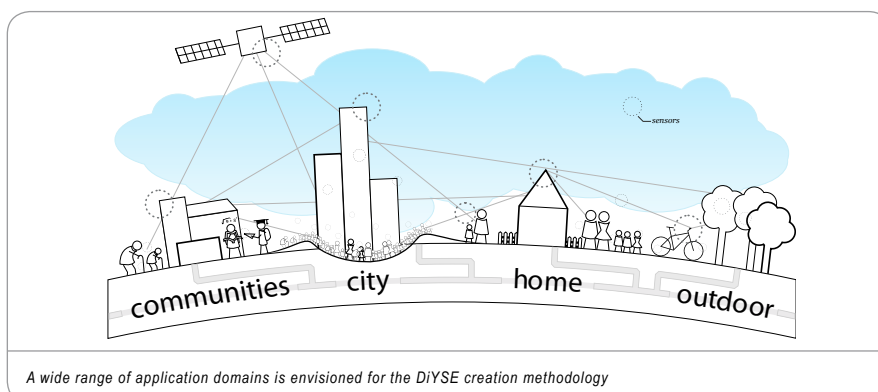
Major visible results will include: a DiY smart application creation environment for non-professional users; demonstrators of concrete Internet-of-Things services and applications based on cross-media and multi-device user experiences; an advanced service infrastructure that offers cross-domain interoperability, service exposure awareness and concurrency, fitting the requirements set by the DiY approach selected; and physical building blocks for smart spaces interaction with the environment.

### CREATING A POOL OF EUROPEAN EXPERTISE

The ITEA project will create a pool of expertise, providing unprecedented common ground for consortium partners – ranging from SMEs to multinational companies – to share knowledge and experience across Europe. The level of interoperability demanded by the concepts developed will be underpinned by a unified service infrastructure and standards.

European-centred involvement at this fundamental stage of development of an open Internet-of-Things will promote adoption of shared communications principles and infrastructure to enhance the mass-market appeal of the concept and its commercial viability.

The resulting interactive environment will empower users to create, deploy and control their smart surroundings that promise to become a pervasive feature of everyday life. The consortium of European organisations developing this concept will drive the success of its component companies on an individual level, and place Europe at the forefront of this major new initiative.



### ITEA 2 Office

High Tech Campus 69 - 3  
5656 AG Eindhoven  
The Netherlands

Tel : +31 88 003 6136  
Fax : +31 88 003 6130  
Email : itea2@itea2.org  
Web : www.itea2.org

- 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.



Σ! 3674

**DiYSE**  
(ITEA 2 - 08005)

October 2009