

## eDIANA's first steps

### New European Embedded Systems research initiative to enable Energy Efficient Buildings

The kick-off meeting of the eDIANA (Embedded Systems for Energy Efficient Buildings) project was held at the European Commission premises, Brussels, on 5-6 February 2009.

The main objective of the eDIANA project, coordinated by ACCIONA Infraestructuras, is to enable sustainable urban life through rationalization in the use of resources while increasing comfort in urban environments by means of embedded intelligence and integration technologies. The eDIANA approach is to achieve greater efficiency in use of resources, prioritizing energy as scarce resource, more flexibility in the provision of resources and better situation awareness for the citizen and for service and infrastructure owners. This will be achieved through the deployment and inter-operation of embedded systems throughout the eDIANA environment of buildings and intra-building units. Its main outcome of application is in fact the improved energy efficiency in residential and nonresidential buildings.



Covent Garden, Brussels - Kick-off Meeting

While such systems exist today, their effectiveness is often limited by a lack of interoperability, leading to fragmentation and limited overall impact. This project is a strongly application-oriented initiative which is focused on the conceptualization, design, development, demonstration and validation of new devices

operating in a uniform platform called eDIANA, based on Cells (living/working units), being part of MacroCells (buildings), that will be interconnected in a more complex network at a district or urban area. The eDIANA Platform is an ambitious initiative that will integrate intelligent embedded devices, installed in residential and non residential buildings to improve energy efficiency and optimize overall energy consumption, production and storage.

The consortium consists of twenty one partners made up of large industries, research centres, universities and high tech SMEs from five European countries.

The project has been financed by the ARTEMIS Joint Undertaking and the respective National Public Authorities under the ARTEMIS Call 1. eDIANA has a budget of 17.3 million Euros for the next 3 years.

For further information, please consult the following web address:

[www.artemis-ediana.eu](http://www.artemis-ediana.eu)

### eDIANA relevant dates

#### Past Events

- Feb. 5-6, 2009 Kick-off Meeting, Brussels.
- Feb. 12-20, 2009. Tokyo, Japan. Nano Tech 2009. ([www.nanotechexpo.jp/en/](http://www.nanotechexpo.jp/en/))
- March 4th, 2009. EC Event - Energy Efficiency ([cordis.europa.eu](http://cordis.europa.eu))
- March 19<sup>th</sup>, 2009. ICT4EE: High Level Event. ([ec.europa.eu](http://ec.europa.eu))
- April 23-24, 2009. ARTEMIS Spring Event. ([artemis-association.org](http://artemis-association.org))

#### Upcoming Events

- May 3-7, 2009. Houston, USA. Nanotech Conference & Expo 2009. ([www.nsti.org/Nanotech2009/](http://www.nsti.org/Nanotech2009/))
- June 22-26, 2009. The 6th IEEE Conference on Sensor, Mesh and Ad Hoc Communications and Networks (SECON). ([www.ieee-secon.org/](http://www.ieee-secon.org/))

#### More Info at

[http://www.artemis-ediana.eu/ediana\\_events\\_press.php](http://www.artemis-ediana.eu/ediana_events_press.php)

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### Main Objectives

eDIANA's main goal is improve energy efficiency in residential and non-residential buildings through the use of embedded devices.

This project is a strongly application-oriented initiative which is focused on the conceptualization, design, development, demonstration and validation of new devices operating in a uniform platform called eDIANA.

### Technical Approach

The eDIANA platform is a model-based architecture, implemented through an open middleware including specifications, design methods, tools, standards and procedures for platform validation and verification. eDIANA Platform will enable the interoperability of heterogeneous devices at the Cell (living/working units) and MacroCell (building) level, and it will provide the hook to connect the building as a node in the producer/consumer electrical grid.

### Expected Impacts

The technology to be developed in eDIANA will improve energy efficiency and optimize building energy consumption by 25%, providing real-time measurement, integration and control. Moreover, comfort will improve making the user aware and enabling user-controlled policies for household devices. Such progress in the state of the art will enable the building to become an "active MacroCell" in the energy network, connected to similar MacroCells in the district or urban area.

## Project Partners

