



# ME<sup>3</sup>Gas

MEEEGAS



## EXECUTIVE *summary*

The goal of ME<sup>3</sup>Gas is to put consumers in control of their energy efficiency and appliances at home as a result of European Directives imposing information requirements on energy consumption as a clear measure for energy-saving usage without compromising comfort or convenience.

## CONTRIBUTION *to SRA*

The ME<sup>3</sup>Gas project will address the development, deployment and validation of an innovative Advanced Metering and Middleware Infrastructure (AMMI) for smart gas meters, based on interoperable, cost-effective, safe and secure electronics and communication systems. Gas AMI systems are considered ambient intelligent environments since they allow the gas supply to be managed seamlessly and automatically, taking into account signals coming from the users' homes, distribution networks, gas operators, etc.

At the same time, the project also addresses the reference designs and architecture priority, aiming to create a foundation to develop applications for energy smart environments. The platform consists of several different modules organised in a service-oriented architecture. Composability is a fundamental aspect of ME<sup>3</sup>Gas, which supports the construction of complex large systems from components and sub-systems.

## MARKET INNOVATION *& impact*

The ME<sup>3</sup>Gas project is positioned right in the middle of one Europe's most urgent needs: to achieve a more sustainable and efficient way of consuming energy by reducing the energy intensity and boosting productivity (e.g. through ongoing training, education, knowledge transfer, base lining, measuring, monitoring, control, optimisation, simulations, reviews and business model innovation). In line with this expectation, the ME<sup>3</sup>Gas project will develop and validate an initial instantiation of

a new architecture and the corresponding communication platform to enable the flexible and evolvable interoperation of smart gas metering systems (gas AMI), including the smart meters, end user displays, data concentrators, and utilities information and control systems.

### RELEVANCE & CONTRIBUTIONS *to Call 2009 Objectives*

The project focus is on ASP7: "Embedded Technology for sustainable urban life". Europe is facing unprecedented energy challenges as it continues to waste at least a fifth of its energy, just through sheer inefficiency. There is great potential for reducing the consumption of energy without any loss of comfort or convenience for the user. The goal is to use less energy while still enjoy the same quality of life. ME<sup>3</sup>Gas specifically addresses households and the commercial buildings sector. The high concentrations of population and energy consumption make it particularly important to improve energy efficiency in urban areas.

The utilisation of intelligent concepts is what makes energy intelligent, and it is the heart of energy-efficient technologies. Through energy-intelligent control, regulation and communication we can expect to see further improvements in energy yield. This is exactly the place where ME<sup>3</sup>Gas comes into play. The goal of ME<sup>3</sup>Gas is to put the consumer in control so as to effortlessly optimise energy efficiency.

ME<sup>3</sup>Gas contributes to the AWP research priority of "Reference Designs and Architectures". A comprehensive system architecture is envisaged in the project, which has a strong focus on the embedded systems of a new generation of smart gas meters and data concentrators, including the overall system integration in the utility data centres. This integration will rely on a flexible and powerful middleware. Consequently, the ME<sup>3</sup>Gas project has the right balance of application focus against generic technology development.

### R&D INNOVATION *and technical excellence*

The ME<sup>3</sup>Gas project aims to rationalise and optimise the energy consumption in households and commercial buildings without compromising comfort or convenience. The project addresses two different but complementary and convergent approaches that define the two main objectives of the project:

- > Smart Gas AMI: The specification and development of a new generation of gas meters for smart gas metering, based on embedded electronics, communications and the remote management of a gas shut-off valve, and the specification, development and promotion of an open architecture and the corresponding communication protocols for a wireless communication system that allows gas consumption information at every level to be gathered, forwarded and processed promptly, from the end customer to the service providers.
- > Middleware platform: The development of an energy-aware middleware platform making it possible to network heterogeneous physical devices in a service-oriented architecture. The middleware will hide the complexity of the underlying device and communications technologies for application developers, so that energy efficiency aspects can be included in any application that needs to integrate physical devices or appliances.

### PROJECT *partners*



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

ME<sup>3</sup>gas

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#### START

May 2010

#### DURATION

36 months

#### TOTAL INVESTMENT

€15.7 M

#### PARTICIPATING ORGANISATIONS

15

#### NUMBER OF COUNTRIES

6