

COSMO

Cooperative Systems for Sustainable Mobility and Energy Efficiency



COSMO is a 32-month pilot project whose aim is to demonstrate the benefits of integrating advanced cooperative traffic management services and to quantify their impact in improving energy efficiency and reducing the carbon footprint.

At a Glance

Project acronym:

COSMO

Project type:

PILOT project type B

Programme:

7th EU Framework Programme

Project coordinator:

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Project partners:

Mizar Automazione S.p.A., SWARCO FUTURIT Verkehrssignalsysteme G.m.b.H., KAPSCH TrafficCom AG, ASFINAG Service G.m.b.H., Geo Solutions NV, ERTICO-ITS Europe, Societe pour le developpement de l'innovation dans les transports (SODIT), Universita degli Studi di Salerno, Centro Ricerche FIAT SCPA, Fundacion Robotiker, Volvo Technology AB, Lindholmen Science Park AB

Duration:

November 2009 – June 2013

Total cost:

3.88 M€

EU funding:

1.94 M€

Project website:

www.cosmo-project.eu

Objectives

The project is adopting a system-wide approach to the assessment of energy efficiency, measuring the effect of a range of innovative traffic management systems not only on fuel consumption and traffic emissions, but also the energy used to operate road-side equipment. The aim is to provide practical demonstration of the effectiveness of the systems and quantify their impact in realistic conditions. The principal result will be a set of validated specifications covering their operational, technical, business and organisational characteristics.

Description of Work

The principal focus of COSMO is the area of **environmentally sustainable traffic management**. Experimentation will be carried out on:

- Environmentally sensitive traffic control strategies
- Eco-driving for private vehicle and for public transport
- Multimodal real-time information systems designed to maximize energy efficiency
- Advanced energy efficient technologies integrated in roadside equipment
- Dynamic City Access Management strategy
- Advanced Real-Time Congestion Management System

Testing will be done in three Pilot Sites.

PILOT SITES

COSMO has three Pilot Sites in which a range of cooperative application will be installed and tested. These are located in Salerno (Italy), Vienna (Austria) and Gothenburg (Sweden). Although they will each implement a different set of systems, the sites are complementary: all involve traffic management strategies which are integrated with leading edge 'cooperative systems' technologies developed in recent EC-funded research initiatives (COOPERS, SAFESPOT and CVIS).

While the Italian and Swedish Pilot sites consist of urban scenarios, the Austrian Pilot is in an inter-urban environment, on the City Ring Road.



VALIDATION

An important contribution of the project in the technical area consists of the validation methodology. A full set of criteria is being defined for the evaluation of the targets, i.e. the stated objectives relating to:

- ❖ Environmental sustainability
- ❖ Traffic efficiency
- ❖ Road safety
- ❖ Other factors (e.g. mobility levels)

System performance will be measured in relation to these criteria, translated into a series of indicators in order to permit a quantified assessment.

Expected results

The detailed and quantified information produced by the COSMO tests is expected to raise the awareness of decision makers of the real effectiveness of cooperative mobility solutions. This will pave the way for a new generation of energy-efficient and environmentally sustainable traffic management approaches.

Specific ways in which COSMO services can improve sustainability include:

- ❖ Smoother traffic flows
- ❖ Reduced congestion
- ❖ Positive influence on driving style
- ❖ Increased efficiency of bus fleet operations
- ❖ Greater use of public transport
- ❖ Improved energy efficiency of street lighting

The "portability" of these technologies and systems to other contexts is important. The project intends to produce reference materials, including recommendations and guidelines regarding the optimum use of the systems, as well as detailed indications on their procurement, installation, and operation.

Efforts will be made to create awareness about the project and promote the results to all relevant target groups including strategic/political stakeholders, technical and business experts, as well as the user community.

The major drive for wider deployment of COSMO services is expected to come from city authorities and road operators.



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