

PRESS RELEASE

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For immediate release

Wireless sensors for infrastructure security

EU researchers develop cost-effective infrastructure protection

Distribution networks for water and electricity are critical infrastructures for the functioning of our society. But what, if they are disrupted? How quickly do you notice? The European research project WSAN4CIP has developed a wireless sensor-based solution for cost-effective monitoring of critical infrastructures, which will increase their security.

Today, critical infrastructures are either monitored and protected at very high cost, or their protection is neglected due to lack of money. WSAN4CIP, a European research consortium of twelve industrial and academic partners, is developing a solution which enables the cost-effective and reliable protection of such infrastructures. The solution is based on a secure communication network of wireless sensors.

“For monitoring critical infrastructures, you need sensor networks that are reliable. The current solutions don’t offer the necessary security and dependability. Our project will make critical infrastructures more secure by setting up the first reliable wireless sensor network,” says Peter Langendörfer from IHP, the technical manager of WSAN4CIP.

Two use cases, one in the energy sector and one in the water utilities sector, have been selected to prove the feasibility of the project’s solution. In February 2010, the test phase will begin.

In the first use case, the project will implement a network of wireless sensors and actuators in a part of the power distribution network of EDP Distribuição Energia, a major energy distribution company in Portugal. The purpose is to get fast and reliable information on disruptions in the power distribution network and where they have occurred. “The WSAN4CIP solution will enable us to localise the point of failure immediately,” explains Carlos Fortunato, senior technical expert of EDP.

In the second use case, the project will implement a network of wireless sensors and actuators in the drinking water network of FWA (Frankfurter Wasser- und Abwassergesellschaft), a regional drinking water and waste water management company in Frankfurt/Oder, Germany.

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The wireless sensors in the network measure the water pressure and communicate data in case a sudden decrease of water pressure occurs, which may be an indicator of a disruption. The cause of a disruption could be, for instance, an accidentally damaged water pipe or a terrorist attack.

Gerd Weber, CEO of FWA, regards WSAN4CIP as an important step forward. "The project's wireless sensor solution will enable us to set up a monitoring network with a much higher density of measuring points. The current wire-based solutions would be simply too expensive for us," says Mr. Weber.

Uwe Herzog, coordinator of the WSAN4CIP project, summarises the benefits as follows: "The added value of WSAN4CIP, compared to current solutions, is that it provides secure communication between the sensors so that measured information is highly reliable – a key requirement for operators of critical infrastructures."

About WSAN4CIP

The goal of WSAN4CIP is to advance the technology of Wireless Sensor and Actuator Networks (WSANs) beyond the current state of the art, in order to improve the protection of Critical Infrastructures (CIs). WSAN4CIP is a Specific Targeted Research Project (STREP), which is partly funded by the European Commission in the ICT security area of the Seventh Framework Programme (FP7) under Objective 1.7: "Critical Infrastructure Protection". The project started on 1 January 2009 and has a duration of three years.

Project coordinator: Uwe Herzog, Eurescom

WSAN4CIP website including list of partners: www.wsan4cip.eu

Press contact:

Milon Gupta, Marketing and PR Manager, Eurescom;
phone: +49 6221 989-121; e-mail: gupta@eurescom.eu

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