

Press Release

Erlangen,
September 15, 2010

Efficient Smart Metering with s-net® and Energy Harvesting

Visit us at **Metering Europe**,
22 – 24 September,
Vienna, Austria,
Reed Messe Vienna, booth K29.

When it comes to smart metering, Fraunhofer IIS relies on resource-efficient solutions. With its s-net technology for ultra low-energy, wireless sensor networks and energy supply solutions based on energy harvesting, Fraunhofer IIS will present a broad range of green solutions at the Metering Europe 2010 exhibition.



S3MPE radio module enables the implementation of complex wireless sensor networks but can also be used for simple telemetry applications

Consumption-based rates, automated reading and a more precise prognosis come within technical reach due to smart-metering wireless sensor networks. To date each and every household meter had to be checked directly on site. But with the Fraunhofer s-net technology it is now possible to collectively radio read all meters. Ultra low-power, wireless sensor networks are the simple and cost-effective answer.

The radio nodes and the master node exchange the data wirelessly in bidirectional communication. The master node then forwards all collected data to the chosen central server. Automatic recording of consumer data distinctly limits the susceptibility to errors of manual meter reading. The utility companies' service agents no longer have to circulate throughout residential areas to visually read meters, saving travel expenses and time-consuming appointment scheduling.

The novel technology can respond with great flexibility to legal metering regulations. This way, the utility companies, municipal utilities and meter manufacturers can develop solutions, which enable a unique proposition in the markets.

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With s-net Fraunhofer IIS offers important components for smart metering solutions: licensable hardware design for the radio modules in the meter, individually adaptable protocol software to network the radio nodes, and modular service and application modules. Flexible interfaces adapt the s-net technology to the meters and meter protocols. Ultra-low power consumption allows battery operated systems with up to twelve years of battery lifetime.

Should batteries be not feasible or not the desired source of power supply, the Fraunhofer IIS group Integrated Energy Supply offers new technologies that require only small amounts of energy, which they extract from the environment, like temperature gradients or vibrations. The energy harvesting technology supplies sensors or wireless transmitters with electric energy without the help of batteries or cable connections. It allows maintenance-free systems for data logging and transmission with unlimited operating time. Fraunhofer IIS offers discrete components as well as applicable or customizable complete systems for system or device integration.

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About Fraunhofer IIS

Founded in 1985 the Fraunhofer Institute for Integrated Circuits IIS in Erlangen, today with more than 750 staff members, ranks first among the Fraunhofer Institutes concerning headcount and revenues. As the inventor of mp3 and co-inventor of the MPEG 4 AAC audio coding standard, Fraunhofer IIS has reached worldwide recognition.

It provides research services on contract basis and technology licensing.

The research topics are: Audio and video source coding, multimedia realtime systems, digital radio broadcasting and digital cinema systems, integrated circuits and sensor systems, design automation, wireless, wired and optical networks, localization and navigation, imaging systems and nanofocus X-ray technology, high-speed cameras, medical sensor solutions and supply chain services.

The budget of more than 90 million Euro is mainly financed by projects from industry, the service sector and public authorities. Less than 25 percent of the budget is subsidized by federal and state funds.