Fraunhofer
IIS

Press Release

Erlangen,
June 25, 2009

Optimizing Hospital Processes

Hospitals are under increasing pressure to reduce costs. This means that they will need to use their resources even more efficiently in the future. Fraunhofer IIS has now developed a wireless system for locating medical equipment and blood products as well as for condition monitoring. The project, which is called "OPAL-Health", makes managing medical equipment easier and improves the safety of transfusion procedures.

"OPAL-Health" makes it possible to continuously monitor and document the transport, storage and use of medical equipment such as portable ECG machines. The system which will be developed facilitates the management of medical equipment by helping to detect overcapacity, enabling simpler, more transparent cost assessment and streamlining administration and planning. In addition, it offers protection against theft and tampering.

Self-organizing helpers

The system consists of what are known as "smart objects" – microelectronic modules which are able to communicate wirelessly. These form a wireless network which organizes itself and constantly collects and transmits needed data such as location or temperature. Integrated power supplies mean the smart objects do not need to be activated by an RFID reader. They also transmit using much less power than the familiar RFID readers. As a result, the electromagnetic field can be minimized, which prevents interference. This is particularly important if smart objects are attached to medical devices or used in their immediate vicinity.

Fraunhofer Institute for Integrated Circuits IIS

Am Wolfsmantel 33
91058 Erlangen, Germany

Executive Director
Prof. Dr.-Ing. Heinz Gerhäuser
Director
Prof. Dr.-Ing. Günter Elst

Contact
Karin Loidl
Phone +49 911 58061-9413
karin.loidl@iis.fraunhofer.de
www.iis.fraunhofer.de
www.opal-health.de

Public Relations
Marc Briele
Phone +49 9131 776-1630
Fax +49 9131 776-1649
presse@iis.fraunhofer.de
www.iis.fraunhofer.de

Fraunhofer
IIS

Press Release

Erlangen,
June 25, 2009

This newly developed technology not only enables much more efficient equipment management, but also improves blood transfusion safety, as smart objects can be used to continuously monitor the temperature of blood products. If the cold chain is interrupted, the system will automatically raise an alert. Keeping a continuous record of the storage conditions of blood products also saves resources. Thanks to this new technology, unused blood products which would currently have to be discarded because the cold chain is not reliably recorded will be safe to use in the future. "OPAL-Health" also minimizes the risk of mix-ups.

Trial run at Erlangen University Hospital

The system can be seamlessly integrated into a hospital's information systems, which makes it possible to reuse and analyze the data for other purposes, for instance more efficient stock management.

The system will be trialed later this year in the context of actual day-to-day processes at Erlangen University Hospital. The "OPAL-Health" project is directed by T-Systems. The project partners – namely the Fraunhofer Institute for Integrated Circuits IIS; the Fraunhofer Center for Applied Research on Technologies for the Logistics Service Industries ATL; Friedrich-Alexander University Erlangen-Nuremberg; Vierling Communications and Delta-T – are working together on a basic technology for a wide range of applications geared towards optimizing hospital processes.

"OPAL-Health" is sponsored by the German Federal Ministry of Economics and Technology as part of its "SimoBIT" pro-

Fraunhofer Institute for Integrated Circuits IIS

Am Wolfsmantel 33
91058 Erlangen, Germany

Executive Director
Prof. Dr.-Ing. Heinz Gerhäuser
Director
Prof. Dr.-Ing. Günter Elst

Contact
Karin Loidl
Phone +49 911 58061-9413
karin.loidl@iis.fraunhofer.de
www.iis.fraunhofer.de
www.opal-health.de

Public Relations
Marc Briele
Phone +49 9131 776-1630
Fax +49 9131 776-1649
presse@iis.fraunhofer.de
www.iis.fraunhofer.de

Fraunhofer
IIS

Press Release

Erlangen,
June 25, 2009

gram, which is aimed at developing secure mobile IT applications that help medium-sized companies and public agencies to maximize value creation.

About Fraunhofer IIS
Founded in 1985 the Fraunhofer Institute for Integrated Circuits IIS in Erlangen, today with 600 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 communications technology in transport and logistics.
The budget of 72 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.

Fraunhofer Institute for Integrated Circuits IIS

Am Wolfsmantel 33
91058 Erlangen, Germany

Executive Director
Prof. Dr.-Ing. Heinz Gerhäuser
Director
Prof. Dr.-Ing. Günter Elst

Contact
Karin Loidl
Phone +49 911 58061-9413
karin.loidl@iis.fraunhofer.de
www.iis.fraunhofer.de
www.opal-health.de

Public Relations
Marc Briele
Phone +49 9131 776-1630
Fax +49 9131 776-1649
presse@iis.fraunhofer.de
www.iis.fraunhofer.de