

PRESS RELEASE

PRESS RELEASENovember 3, 2014 || Page 1 | 2

Fraunhofer Technology Enables Efficient Networks in Vehicles for Data Rates up to 10 Gbit/s

Erlangen/Munich, Germany, November 3, 2014 – electronica, Hall A, Booth 113: Scientists from the Fraunhofer Institute for Integrated Circuits IIS in Erlangen will present a new high-speed link at electronica in Munich from November 11 to 14. Using the 10+ Gbit/s physical layer for a simple twisted pair wireline data transmission, it is possible to transfer data at rates of 10 Gbit/s in real time. The layer is ideal for high-bit-rate data streaming used in driver assistance systems, for connecting mobile devices as well as for multimedia applications in vehicles.

Here's what driving could look like in the future: The driver can relax while the car navigates rush-hour traffic using its camera-based assistance systems. At the same time, passengers are watching a sporting event broadcasting live over Internet TV on the car's entertainment system. The sports shows of tomorrow will be broadcasting in 4K quality from every conceivable angle.

10+ Gbit/s physical layer speeds up wireline data transmission

These parallel applications require high data throughput using a simple, lightweight and inexpensive copper cable, combined with low power consumption and minimum latency. Fraunhofer IIS has developed this core technology for the next generation of data transmission and is in the process of making it ready for production. Consuming less than one watt for every transmitter/receiver pair, the new physical layer can transmit 10 Gbit/s over a single twisted pair cable 10–15 meters long. Keeping the latency to a minimum provides video data for human-machine interaction tasks in real time. The universal design of this development allows a wide range of content with various requirements to be transmitted simultaneously, which also means that connections that used to run in parallel can now be consolidated into one pair of wires.

The developed physical layer is currently working at 10 Gbit/s. For further applications it is intended to increase the data rate to 12.5 Gbit/s. This will serve as core technology for virtually all common data rates of 10 Gbit/s and more.

Head of Corporate Communications

Thoralf Dietz | Phone +49 9131 776-1630 | thoralf.dietz@iis.fraunhofer.de | Fraunhofer Institute for Integrated Circuits IIS |
Am Wolfsmantel 33 | 91058 Erlangen, Germany | www.iis.fraunhofer.de

Editorial notes

Klaus Taschka | Phone +49 9131 776-4475 | klaus.taschka@iis.fraunhofer.de | Fraunhofer Institute for Integrated Circuits IIS |
www.iis.fraunhofer.de

FRAUNHOFER INSTITUTE FOR INTEGRATED CIRCUITS IIS

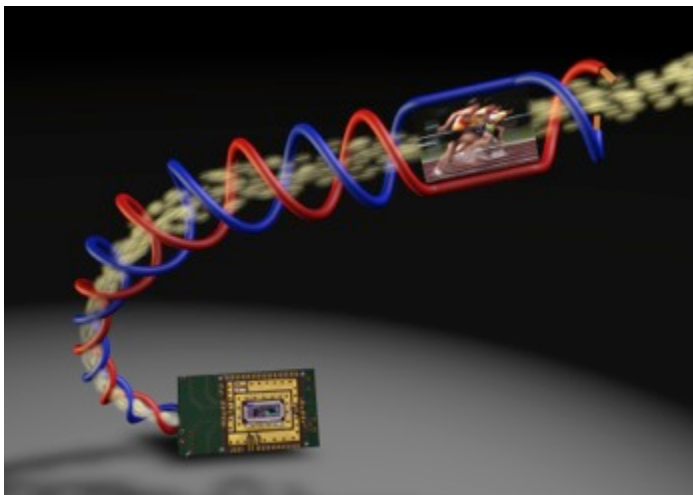
Applications range from mechanical engineering to broadcasting

High-speed data transmission systems are by no means limited to a vehicle's on-board electronics. Many other application areas have similar requirements. These areas include industrial facilities, mechanical and systems engineering, automation technology, medical technology, robotics and data centers. Broadcasting that uses multiple cameras and HD or even 4k video streaming can also benefit from this technology.

Fraunhofer IIS scientists will be demonstrating an evaluation and test platform for the 10+ Gbit/s physical layer at electronica (Hall A, Booth 113) from November 11 to 14.

PRESS RELEASE

November 3, 2014 || Page 2 | 2



**Faster and more efficient:
the 10+ Gbit/s physical
layer for the next generati-
on of video transmission.**
© Fraunhofer IIS | Color
image in print quality:
www.iis.fraunhofer.de/pr.

The **Fraunhofer-Gesellschaft** is the leading organization for applied research in Europe. Its research activities are conducted by 67 institutes and research units at locations throughout Germany. The Fraunhofer-Gesellschaft employs a staff of more than 23,000, who work with an annual research budget totaling 2 billion euros.

Founded in 1985, **Fraunhofer Institute for Integrated Circuits IIS** in Erlangen, Germany, ranks first among the Fraunhofer Institutes concerning headcount and revenues. As the main inventor of mp3 and universally credited with the co-development of AAC audio coding standard, Fraunhofer IIS has reached worldwide recognition. In close cooperation with partners and clients the Institute provides research and development services in the following areas: Audio & Multimedia, Communications Systems, Energy Management, IC Design and Design Automation, Imaging System, Medical Technology, Non-destructive Testing, Positioning, Safety and Security Technology, Sensor Systems plus Supply Chain Management.

More than 830 employees conduct contract research for industry, the service sector and public authorities. Fraunhofer IIS with its headquarters in Erlangen, Germany, has further branches in Dresden, Fuerth, Nuremberg, Coburg, Deggendorf, Ilmenau, Wuerzburg, Bamberg and Waischenfeld. The budget of 108 million euros is mainly financed by projects. Less than 25 percent of the budget is subsidized by federal and state funds.

Detailed information on www.iis.fraunhofer.de.