KINEXON
precision technologies

Press

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KINEXON shapes “Road to Digital Production” in a joint research project with Siemens and further partners.

- **Research project “Road to Digital Production (R2D)” targets implementation of the smart factory concept**
- **Execution as part of the “Information and Communication Technology” program funded by the Free State of Bavaria**
- **Project implementation in partnership with the companies Siemens and iTiZZiMO and the Fraunhofer Institute for Integrated Circuits IIS and its Fraunhofer Center for Applied Research on Supply Chain Services SCS.**

KINEXON is joining forces with three partners to take part in the research project “Road to Digital Production (R2D)” supported by the Bavarian State Ministry for Economic Affairs and the Media, Energy and Technology which is aimed at developing improved technologies, interfaces and infrastructures for the implementation of digital industrial production. Since September 2016, the interdisciplinary team of experts has been working to digitally map and integrate the process landscape of industrial mass production down to the workshop level.

On September 1, 2016, KINEXON and its associates Siemens, the Fraunhofer IIS, Fraunhofer SCS and iTiZZiMO, launched the research project “Road to Digital Production (R2D)” sponsored by the Bavarian Ministry for Economic Affairs as part of its Digital Bavaria Initiative. The declared aim of the 26-month project is to advance the development of products and technologies enabling the implementation of digital industrial production. The research and development project will set out to demonstrate that digitalization will not only increase efficiency but also pave the way for optimum quality assurance. With this objective in view, it will be helping to develop new technologies for Cyber-Physical Production Systems (CPPS) and

defining principles and methods for batch size 1 manufacture and assembly of a product.
It aims to demonstrate how vertical digitalization can be successfully implemented using information from IT systems for order processing and engineering, allowing the realization of paperless, smart production with real-time capability.

In order to digitalize the value chain within production, a smart tag with communication and localization functionality will accompany a product along its entire production process as part of what is known as a “Cyber-Physical System (CPS)”. Using the product data carried along by the system and the contextual information gained, the aim is for the smart tag to independently recognize, log and control process steps. The central research issue is how the planning of production and material provision previously carried out centrally can be decentralized and dynamized. With this pilot test, the partners will endeavor to verify not only the system’s functionality but also its economy. Following completion of the project, it is hoped that the expertise gained will enable the concept to be transferred to other production lines, plants and companies – and used as a reference framework for individualized industrial production.

Within the scope of the joint project, Siemens will be working with its partners to define the requirements and process descriptions. The partners will also be setting up a test environment in the Test and Application Center L.I.N.K. run by the Fraunhofer IIS in Nuremberg. Following completion of the project, the partners intend to transfer an installation to the low-voltage motor assembly line at the Siemens factory in Nuremberg for testing.

KINEXON will be in charge of the high-precision real-time system for 3D-localization and motion sensing. The Fraunhofer IIS and the Fraunhofer SCS are working jointly with Siemens to develop the cyber-physical production system and the smart tags. Their partner iTiZZiMO’s role will be the implementation of software integration using smart devices.

This press release is available at www.siemens.com/presse/PR2017020136PDEN

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The project partners

Siemens AG (Berlin and Munich) is a global technology powerhouse that has stood for engineering excellence, innovation, quality, reliability and internationality for more than 165 years. The company is active in more than 200 countries, focusing on the areas of electrification, automation and digitalization. One of the world's largest producers of energy-efficient, resource-saving technologies, Siemens is a leading supplier of efficient power generation and power transmission solutions and a pioneer in infrastructure solutions as well as automation, drive and software solutions for industry. The company is also a leading provider of medical imaging equipment – such as computed tomography and magnetic resonance imaging systems – and a leader in laboratory diagnostics as well as clinical IT. In fiscal 2016, which ended on September 30, 2016, Siemens generated revenue of €79.6 billion and net

income of €5.6 billion. At the end of September 2016, the company had around 351,000 employees worldwide. Further information is available on the Internet at www.siemens.com.

KINEXON Industries GmbH is a Munich-based company, which is paving the way for Industrie 4.0 with solutions for the real-time localization and motion sensing (orientation) of people and objects with centimeter accuracy. The KINEXON portfolio includes not only sensor technology for data acquisition but also software applications for the smart evaluation of data and its user-friendly visualization using a variety of terminals. The KINEXON IoT platform also offers facility for the integration, evaluation and provision of wide-ranging sensor data from the production and logistics environment using standard interfaces for any kind of application. As an integrated supplier, KINEXON enables a holistic approach to achievement of the Industrie 4.0 vision. KINEXON's multiple award winning technology is quick and simple to install. It works both in indoor and outdoor environments, and delivers an impressive level of accuracy even in hostile industrial environments. The diversity of KINEXON systems is evidenced by application examples ranging from the navigation of automatic guided vehicle systems to the optimization of order picking processes. Its applications also address issues such as asset tracking, occupational safety, tool localization and process mapping & automation. The KINEXON Group has been operating since 2012 and now employs a workforce of around 60. KINEXON is located in Munich and New York City (USA). For more information, go to www.kinexon-industries.com.

The **Fraunhofer Institute for Integrated Circuits IIS** in Erlangen is a world leader in applied research into microelectronic and IT system solutions and services. Today, it is the largest institute of the Fraunhofer-Gesellschaft. The Fraunhofer IIS has gained international renown for its significant role in the development of the technologies such as the mp3 and MPEG AAC audio coding standards. In close cooperation with partners and clients, the Institute's scientists perform leading international research work into the research areas audio & multimedia, imaging systems, energy management, IC design and design automation, communication systems, positioning, medical technology, sensor systems, safety and security technology, supply chains and non-destructive testing. About 950 employees conduct contract research for industry, the service sector and public authorities. Founded in 1985, Fraunhofer IIS now has 13 locations in 10 cities: Erlangen (headquarters), Nuremberg, Fürth and Dresden as well as Bamberg, Waischenfeld, Coburg, Würzburg, Ilmenau and Deggendorf. Apart from basic state funding of 22 percent, the overall budget of 130 million euros is mainly financed by project work under contract. For more details, go to: www.iis.fraunhofer.de.

The **Fraunhofer Center for Applied Research on Supply Chain Services SCS** of the Fraunhofer IIS researches the complexities of logistics networks, their markets, processes, services and technologies, to make supply chains not only faster, better, more transparent and more profitable, but above all sustainable. The Fraunhofer SCS performs neutral analyses of markets, costs and benefits for identification, communication and positioning technologies, advises on possibilities for their utilization and optimization, and works on the application-oriented further development of products and services.

The software company **iTiZZiMO AG,** founded in 2012 and based in Würzburg, is involved with the implementation of mobile apps for smart devices and their integration into existing IT landscapes. By establishing the Simplifier, a web-based configuration environment for the implementation of integrated business apps, iTiZZiMO has created a standardized technological basis for the digital transformation of companies. With the Simplifier, iTiZZiMO is making available a technology, which allows the configuration of integrated applications using minimal resources. Reusable modules and the utilization of existing IT systems ensure sustainable investment security and provide the necessary efficiency for the digital transformation of companies and their processes.