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# Call for Papers / Invitation to Special Session SS04

## INTERNET OF THINGS TECHNOLOGIES FOR ADAPTABLE AND AGILE AUTOMATION SYSTEMS

**Special Session Organizers**

Henning Trsek, Institut Industrial IT, Ostwestfalen-Lippe University of Applied Sciences, henning.trsek@hs-owl.de

Juergen Jasperneite, Fraunhofer IOSB-INA, Application Center Industrial Automation, juergen.jasperneite@iosb-ina.fraunhofer.de

Amine M. Houyou, Siemens AG, Corporate Research and Technologies, amine.houyou@siemens.com

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**Aim:** Industrial automation systems need to become adaptable and agile, and operate in a self-* manner - especially in the context of demand driven production processes. The factory of tomorrow will consist of flexible production lines that will be able to adapt quickly to a completely new manufacturing process. The adaptability requirement is due to a consumer driven market that demands customized goods in smaller production batches, usually down to lot sizes of one.

Today's deployment and commissioning of production systems is very rigid and relies heavily on a static offline engineering for planning, designing and configuring the manufacturing system. Thus, changing or extending the system is very hard and time consuming. Therefore new technologies and paradigms are needed for self-organization, self-configuration of the network and the application which preserve the factory floor requirements in terms of latency, jitter, high reliability, etc. Internet of Things (IoT) technologies and mechanisms are allowing devices, machines, and objects to interact with each other without relying on human intervention to set-up and commission the automation system. Hence, they are well suited to address the challenges of a highly flexible automation system by means of providing a plug and work functionality.

This Special Session deals with all aspects related to Internet of Things technologies in the context of industrial automation systems, such as wireless and wired communication systems, middleware for automation systems, security aspects, and all other topics related to this field. It should serve as a discussion forum for experts dealing with Internet of things technologies in the context of manufacturing environments, pointing out directions for future research, and seek collaboration opportunities on all aspects of the IoT in industrial environments.

Topics of the special session include, but are not limited to:

- Internet of Things architectures and components for industrial automation
- Wired/Wireless communication technologies for IoT
- Middleware for industrial communication systems
- Performance assessment and management (QoS, scalability, reliability, etc)
- Advanced naming and addressing schemes
- IoT self-* techniques for system organization and management
- Model driven development (MDD) for IoT systems
- Network management, planning and engineering in automation systems
- IoT applications and important services, IoT test beds and validation
- Security architecture and issues for devices and services

This special session will be supported by the FP7 EU project IoT@Work (www.iot-at-work.eu).

**SUBMISSION OF PAPERS**

Papers should be submitted electronically. For further details, please refer to the conference web page.

**AUTHOR'S SCHEDULE**

Deadline for submission of papers: April 8, 2012
Notification of papers acceptance: May 30, 2012
Final manuscripts due: July 8, 2012

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