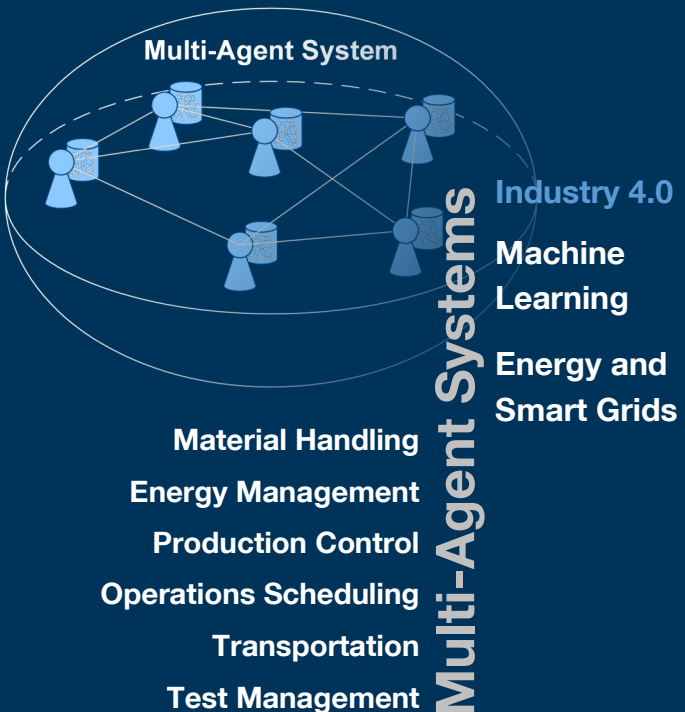




Event

Expert Forum

“Agents within the context of Industry 4.0”



Expert Forum „Agents within the context of Industry 4.0“

Wednesday, 07 May 2014 and Thursday, 08 May 2014

The increasing individualization of products and the requirements for reasonable prices require highly flexible and networked production systems. To address these problems, the concept of Industry 4.0 enables engineers of the German machine and plant automation industry to actively participate in the fourth industrial revolution.

Industrial automation technology is one of the key factors for Industry 4.0. This can be seen in the intensive interconnectedness of embedded systems within the industrial production as well as partly within operational and business applications over the Internet. The complexity of production in machine and plant manufacturing results into increasing complexity in automating heterogeneous production systems. In addition, the automation software must be flexible and adaptable with little effort to meet the requirements of changeability and dynamics. To address these challenges, the use of the agent-oriented paradigm has been identified to be suitable. With its help, the first step towards Industry 4.0 can be provided – from hierarchical, static systems to flexible and decentralized networks that are composed of autonomous, cooperating elements.

The Institute of Automation and Information Systems (AIS) at Technische Universität München organizes the 6th Expert Forum „Agents within the context of Industry 4.0“ from 7 to 8 May 2014, which takes place every two years, for discussing this topic. Representatives from national and international universities and research institutes as well as from industrial automation will present their experiences from research and applications within the implementation of the concept Industry 4.0 using agent technologies. In addition, a „Young Researchers Session“ allows for the first time also the discussion of the topics and ongoing research among young scientists. The forum is under the technical sponsorship of the Technical Committee 5.15 "Multi-Agent Systems" of the VDI/ VDE-Society Measurement and Automatic Control (GMA).

Program for 07 May 2014

10:00 Uhr **Young Researchers Session**

12:00 Uhr Lunch (optional)

13:00 Uhr **Begrüßung und Einführung**
Prof. Dr.-Ing. Birgit Vogel-Heuser,
Technische Universität München

13:15 Uhr **Session 1**

Industrie 4.0 – Einführungsvortrag

Dr.-Ing. Rainer Drath, ABB AG

Das Internet of Things in der Produktion: Heterogene Agenten-Systeme für dezentrale Produktionsparadigmen

Prof. Dr. Sabina Jeschke, RWTH Aachen

Softwareagenten für die flexible Kopp- lung von Automatisierungssystemen

Prof. Dr.-Ing. Dr. h.c. Peter Göhner,
Universität Stuttgart

15:30 Uhr Coffee Break

16:00 Uhr **Session 2**

Agent@PLC – Voraussetzungen und Konzepte für die Realisierung Cyber- Physischer Produktionssysteme

Prof. Dr.-Ing. Birgit Vogel-Heuser,
Technische Universität München

Maschinelles Lernen als eine Grundlage für Industrie 4.0

Prof. Dr. Oliver Niggemann,
Hochschule Ostwestfalen-Lippe

Aufgabenstellungen und Ansätze zur Produktionsoptimierung im Kontext von Industrie 4.0

Dr. Jochen Schlick, WITTENSTEIN AG

18:15 Uhr **Dinner**

Program for 08 May 2014

09:00 Uhr

Session 3

Funktionsorientiertes Engineering für komponentenbasierte Automatisierungssysteme

Johannes Hoos, Festo AG & Co. KG,
Esslingen

CPS-based Big Data Analytics Agent for Industry 4.0 Applications

Prof. Jay Lee, University of Cincinnati
(Ohio, USA)

11:00 Uhr

Demonstration „MyJoghurt“

11:30 Uhr

Coffee Break

11:45 Uhr

Session 4

Self-organized Service-Oriented Multi- Agent Systems Towards Industry 4.0

Prof. Paulo Leitão, Polytechnic Institute of
Bragança (Portugal)

Integrating Service-Oriented Architec- ture and Cloud Computing Technologies in Industrial Cyber-Physical Systems

Prof. Dr.-Ing. Armando W. Colombo,
Schneider Electric Automation GmbH,
Marktheidenfeld

Hypotheses and Learning in Times of Cognitive Computing

Dr. Mark Mattingley-Scott, IBM Deutsch-
land, Walldorf

Schlusswort und Verabschiedung

Prof. Dr.-Ing. Birgit Vogel-Heuser,
Technische Universität München

14:00 Uhr

Lunch (optional)

Accommodation

Hotel Alter Wirt (Hallbergmoos)

Phone: +49 811 55140,

E-mail: info@alterwirt-goldach.de

Website: <http://www.alterwirt-hotel.de>

Price: € 99 (breakfast included)

B&B Hotel München-Airport (Hallbergmoos)

Phone: +49 811 99 88 50,

E-mail: muenchen-airport@hotelbb.com

Website: <http://www.hotelbb.de/de/muenchen-airport>

Price: € 99 (breakfast not included)

Hotel Garni Maria's Inn (Garching near Munich)

Phone: +49 89 329 320,

E-mail: info@marias-inn.de

Website: <http://www.marias-inn.de/>

Price: € 139 (breakfast included)

Please book your room under the keyword "VDI Expert Forum" not later than 15.04.2014. A bus transfer service between the hotels listed above and the venue will be provided.

Registration

Please use the registration form online:

www.vdi.de/agentenworkshop-2014-anmeldung

The fee for participation is € 235.00. We recommend early registration as the number of participants is limited. The fee includes the following services: proceedings, refreshments, evening event, bus transfer. Upon receipt of your registration you will receive a confirmation and at a later date an invoice for the fee.

Contact

VDI/VDE-GMA Committee 5.15

Chair

Prof. Dr.-Ing. Birgit Vogel-Heuser

Contact person

Dipl.-Ing. Stefan Feldmann

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