THURSDAY · 19 SEPTEMBER 2019

10:30 ADDITIVE MANUFACTURING (2)

Additive Manufacturing has arrived at the heart of industrial production. And new fields of application are still opening up as a result of machine and material developments. But how far can you go with this fascinating new technology? What is already possible and what special features have to be considered? Our top-class experts from the epicentre of the Additive Manufacturing Industry report on this and much more.

Additive Manufacturing – 3D-printing in metal – overview
Ralph Mayer, RENISHAW GmbH

Large Parts for Deutsche Bahn
Dr. Tina Schlingmann, Deutsche Bahn AG · Matthias Otte, Rolf Lenk Werkzeug- und Maschinenbau GmbH · Sebastian Recke, GEFERTEC GmbH

In-process monitoring and feedback control of laser powder metal deposition
Hirohisa Kuramoto, Mitsubishi Heavy Industries Machine Tool Co. Ltd.

Building the Digital Factory through Metal Additive and Subtractive Manufacturing Technologies
Stefan Dahl, GF Machining Solutions · Mark Cook, 3D Systems

The Business Case für Hybrid-AM: Complex Mold Making
Michael Harsch, Matsuura Europe GmbH

14:00 5G. MAKE MANUFACTURING SMART

5G offers unseen connectivity. This opens immense potentials for the future of industrial production. 5G-ACIA, the central global forum for shaping industrial 5G, invites EMO visitors to learn more about how Industry 4.0 and the Industrial Internet of Things can become a reality. In the 5G Forum, experts from ifak, Nokia, Trumpf, Siemens and LS telcom refer on the power of data, on 5G in the industrial environment, on the production of tomorrow and on reliable radio communication.

5G-ACIA. The central global forum for shaping industrial 5G
Dr.-Ing. Lutz Rauchhaupt, ifak e.V. Magdeburg

5G: The power of data in Industry 4.0 and how it can be practically deployed today
Martin Beltrop, Nokia Enterprise

5G in Industrial Environment – (Non)Sense?
Dr.-Ing. Christian Bauer, Trumpf Werkzeugmaschinen GmbH + Co. KG

Industrial 5G. For the industry of tomorrow
Irina Ibarrola, Siemens AG

Ensuring Reliable Radio Communications within Industrial Environments
Heiko Ross, LS telcom AG

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FRIDAY · 20 SEPTEMBER 2019

10:30 umati – CONNECTING THE WORLD OF MACHINE TOOLS

umati, the universal machine tool interface: what started as an initiative by VDW, the German Machine Tool Builders' Association, has evolved into a globally supported movement to realize easy, safe and secure connectivity between machine tools and IT systems in the production environment, based on the interoperability standard OPC UA. Learn first-hand which possibilities this brings to you and how you can be part of it.

umati – Connecting the world of machine tools
Dr. Alexander Broos, VDW, German Machine Tool Builders' Association

The role of standardised interfaces for the machine tool industry
Andreas Wohlfeld, Trumpf Werkzeugmaschinen GmbH + Co. KG

Success factors for the use of companion standards in machine tool applications
Uwe Ruttkamp, Siemens AG

Under the hood: A look into technical details of umati
Caren Dripke, M.Sc., Universität Stuttgart, Institute for Control Engineering of Machine Tools and Manufacturing Units (ISW)

Benefits of standardized connectivity for customers in the automotive industry
Bernd Zapf, Gebr. Heller Maschinenfabrik GmbH

PC based control as an enabler for flexible umati applications
Henning Rausch, Beckhoff Automation GmbH & Co. KG

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Promoted by CECIMO
CECIMO is the European Association of the Machine Tool Industries

Industrial Internet of Things
Additive Manufacturing
Machine Learning & AI
Platform Economy
Connectivity
OPC UA
umati
5G

Forum

New Technologies
Future Opportunities

Hall 9, Booth I24
16 - 21 September 2019

EMO Hannover

// Come to EMO Hannover and experience the worldwide trends in the world of metalworking. See how smart technologies drive tomorrow's production. Needless to say, future opportunities and business fields will emerge from new technologies that are just beginning to conquer the market. In the broad field of the Industrial Internet of Things, there are buzzwords and terms that need to be reflected. Platform economy, artificial intelligence, additive manufacturing or umati.

For the forum „New Technologies – Future Opportunities" we have put together a program in which leading experts from industry and science will show you what is behind these slogans and how this can boost your business in the future. Because one thing is certain: all these topics will evolve into important foundations for the future of metalworking.

MONDAY · 16 SEPTEMBER 2019

14:00 IoT – PLATFORM ECONOMY

After disrupting B2C markets, the platform economy will play an increasingly important role in mechanical engineering, machine tools and manufacturing. The added value provided via digital services will be a key element of future business models. It will help machine tool builders to satisfy future demands of their customers while putting themselves in a pole position for future business. Listen to experts from various businesses around the manufacturing industry what their vision for future platform business concepts is.

Platform Economy and the Industrial Internet of Things
Dr. Ulrich Loewen, Siemens AG Corporate Technology Research in Digitalization and Automation

Scalable digital platform for IoT applications in machine tools
Thomas Schulz, GE Digital, GE Intelligent Platforms GmbH

Digital Platforms, Smart Products and New Business Models – Core Issues of Market-Centered Digitization
Michael Finkler, proALPHA Business Solutions GmbH

Economy of Things: How IoT enables with subscription business models for manufacturing companies
Rainer Wiedmann, iq! Managementberatungs GmbH

Industrial AI as a development of Industrial IoT ideology and a new value for manufacturing companies
Andrey Lovygin, Zyfra

Data economy and artificial intelligence – how data sharing creates value
Serif Aktas, T-Systems International GmbH

TUESDAY · 17 SEPTEMBER 2019

10:30 MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE

Artificial intelligence and machine learning will play an important role in shaping and changing the production of the future. But what exactly is this "AI", or machine learning? Is AI already playing a role in today's production environment? Is technology already implemented, and how can my business profit from it? Experts from different companies and research institutions give you a glimpse into the power of tomorrow.

Digital Forming Technology: How artificial intelligence complements engineering methods in an automated production
Florian Hoppe, Technische Universität Darmstadt, Institute for Production Engineering and Forming Machines

The role of machine learning for the digital transformation @ SCHUNK
Dr. Martin May, Schunk GmbH & Co. KG

One Step ahead: Practical AI Applications for your Planning, Scheduling and Shopfloor Management
Markus Günther, INFORM Software GmbH

Intelligent chatter detection
Svenja Reimer, Leibniz Universität Hannover, Institute of Production Engineering and Machine Tools (IFW)

AI in machine tools design and operation
Dr. Sergei Schurov, GF Machining Solutions Management SA

Athena – a voice controlled, AI based machine operation system
Dan Bagley, ITSpeex

Understanding machines and processes using AI
Daniel Zontar, Fraunhofer Institute for Production Technology (IPT), Aachen

14:00 OPC DAY "OPC UA IN MANUFACTURING"

In a connected world, a secured way to exchange standardized data and information from sensor to IT enterprise is the biggest benefit to reduce engineering costs and increase security. Why did the market select OPC UA as the industrial interoperability framework? How to connect today existing machines delivered without OPC UA? The presentation gives an overview on status and roadmap of OPC UA.

OPC UA – The global interoperability standard
Stefan Hoppe, OPC Foundation

OPC UA – Technology Introduction
Uwe Steinkrauss, Unified Automation GmbH

OPC UA Companion Specifications – Key to success
Andreas Faath, VDMA, The German Engineering Federation

umati – connecting the world of machine tools
Dr. Alexander Broos, VDW, German Machine Tool Builders' Association

How SAP ERP and SAP MES systems can leverage umati based on OPC UA
Rüdiger Fritz, SAP SE

WEDNESDAY · 18 SEPTEMBER 2019

10:30 IIoT: INSIDE THE BLACK BOX

IIoT, the Industrial Internet of Things, has become omnipresent. Many players in the market advertise their latest solutions. While you admire the potential benefits they can offer your business in terms of efficiency and productivity: don't forget there's a layer underneath. Technologies and demands, such as cybersecurity or assistance systems pave the road to successful, secure, easy-to-use application to foster your needs.

OPC UA Security
Uwe Steinkrauss, Unified Automation GmbH

OT Network Monitoring: The industrial router as a multi-application platform for stability and security
Kristian Haizmann, INSYS icom · Alexander Müller, Rhebo GmbH

Realization of Predictive Maintenance through Lifecycle Monitoring and Context Sensitive Assistance Systems
Claudio Geisert, Fraunhofer Institute for Production Systems and Design Technology IPK

Data usage in the B2B context of the machinery industry
Dr. Philipp Sauter, TRUMPF GmbH + Co. KG

Powering a smart machine infrastructure with open protocols and software
Serif Aktas, T-Systems International GmbH · Matthias Baumann, Ultra Tendency GmbH

IIoT-Alliance by and for the mechanical engineering industry
Dr. Felix Hackelöer, ADAMOS GmbH

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Industrial Solutions for Additive Manufacturing
Rainer Grünauer, Trumpf Laser- und Systemtechnik GmbH

It doesn't always have to be metal – the polymer additive manufacturing opportunity
Florian Böhringer, Stratasys GmbH

Industrializing Metal 3D Printing – Prototyping Advances to Production with Selective Laser Melting
Ralf Frohwerk, SLM Solutions Group AG

Mazak Hybrid Multi-Tasking
Martin Forrest, Yamazaki Mazak UK Ltd.

Material diversity as key to additive manufacturing
Markus Kaltenbrunner, Evo-Tech GmbH