

Press release
Aachen, 23.04.2019

**Werkzeugmaschinenlabor WZL der
RWTH Aachen University**

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Cognitive Manufacturing Lab (CML)

WZL and DFKI to cooperate in new research environment

The Cognitive Manufacturing Lab (CML) is a research environment jointly supported by the Chair of Manufacturing Technology at the Laboratory for Machine Tools and Production Engineering WZL at the RWTH Aachen University and the Smart Service Engineering Research Unit at the German Research Center for Artificial Intelligence (DFKI), in which innovative concepts of AI-based production environments are investigated from the point of view of production technology, artificial intelligence and business management in simulated as well as real environments.

The aim is to bring together a broad-based, excellent research with industrial users. The purpose is to advance breakthroughs in the application of artificial intelligence in modern production in an interdisciplinary and collaborative way and to put them into practice in a sustainable way.

"The CML should thus become an internationally leading driver of the digital transformation of the production industry in relation to industry 4.0 and beyond," says Professor Wolfgang Maaß, Scientific Director of the Smart Service Engineering Research Unit at DFKI in Saarbrücken.

The topics „self-adaptive, modular production environments“; „trust, security and efficiency especially through Edge AI in production environments“; „resilience management of production environments and networks“; „marketplace for trading data products (economy & technology)“ as well as „natural-immersive human-machine communication and cooperation“ will be researched together. The first priority is the joint development of the virtual Cognitive Manufacturing Lab in order to subsequently involve other subject areas, professors, faculties and research departments of DFKI and RWTH Aachen University.

"The CML represents an important milestone for innovative and future-oriented manufacturing technology at the RWTH Aachen Campus, in particular with the inclusion of key technologies such as 5G, artificial intelligence and blockchain. We are very proud of the cooperation with Professor Maaß and his team from DFKI in Saarbrücken," says Professor Thomas Bergs, Chair of Manufacturing Technology and Director of the Laboratory for Machine Tools and Production Engineering WZL at RWTH Aachen University.

Laboratory for Machine Tools and Production Engineering WZL of RWTH Aachen University

For more than 100 years, the Laboratory for Machine Tools and Production Engineering WZL at RWTH Aachen University has stood for trend-setting research and successful innovations in the field of production technology. Under the direction of the four professors Christian Brecher, Thomas Bergs, Robert Schmitt, and Günther Schuh, the WZL conducts research in six areas - production engineering, machine tools, manufacturing technology, production systematics, gear technology, metrology and quality - on the future-oriented design of production in high-wage countries. Together with industrial partners from various

Press release

Aachen, 23.04.2019

sectors, the WZL works on solutions for a wide range of production issues in publicly funded and bilateral projects. These activities are continued on the RWTH Aachen Campus in the Production Technology Cluster.

Smart Service Engineering at German Research Center for Artificial Intelligence (DFKI) GmbH

The Smart Service Engineering division at DFKI researches and develops KI-based services in production and manufacturing under the direction of Prof. Maaß. The main focus is on distributed Smart Services, which are developed on the basis of Edge AI technologies. The German Research Center for Artificial Intelligence (DFKI) GmbH was founded in 1988 as a non-profit Public-Private Partnership (PPP). It has locations in Kaiserslautern, Saarbrücken, Bremen, Osnabrück, Oldenburg, a project office in Berlin and a branch office in St. Wendel. DFKI is Germany's leading business-oriented research institute in the field of innovative software technologies based on artificial intelligence methods.

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Press release

Aachen, 23.04.2019

Appendix:



Research environment for a self-adaptive, modular production environment.
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Press release

Aachen, 23.04.2019



From left to right: Dr.-Ing. Daniel Trauth (Chief Engineer at the Chair of Manufacturing Technology (MT) of the Laboratory for Machine Tools and Production Engineering WZL of RWTH Aachen University and Head of the Digital Transformation of Manufacturing Processes Division), Philipp Niemiets (Research Associate and Head of the Digital Transformation of Forming Processes Group at the Chair MT of WZL), Hannah Stein (Research Associate at DFKI Saarbrücken), Dr.-Ing. Patrick Mattfeld (Executive Chief Engineer at the Chair for MT of the WZL), Dr.-Ing. Sabine Janzen (Senior Researcher at the DFKI in Saarbrücken), Professor Wolfgang Maaß (Scientific Director of the Smart Service Engineering Research Unit at the DFKI in Saarbrücken)

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