

PRESS RELEASE

Aachen, September 29, 2021

Foundation of the Innovation Network Copper Processing (IKB)

Cooperation between Research and Industry to Advance Technologies and Promote Innovation in the Field of Copper Processing

Copper alloys are becoming increasingly important for future technologies - especially for electromobility and for power and data transmission. In order to promote cooperation between science and industry characterized by innovation in this area as well, the founding event of the Innovation Network Copper Processing (IKB) took place on September 16, 2021 at the Laboratory for Machine Tools and Production Engineering (WZL) of RWTH Aachen University. The network for generating a technological edge in copper processing counts 21 founding companies from the copper processing industry.

The spectrum of applications for copper and copper alloys is extremely diverse and ranges from electrical and battery technology to plumbing and heating technology to the automotive industry and renewable energies. Digitalization as well as the mobility shift toward electrified powertrains are two key drivers of rising demand and increasing product complexity. At the same time, the use of critical alloying elements such as lead in Cu alloys is severely limited by international regulations (REACH, RoHS). As a result, a large number of new copper alloys are coming onto the market, the processing of which is much more difficult compared to classic materials containing lead. In addition, there is increasing pressure to digitalize production in order to meet the increased quantities and quality requirements. In everyday industrial life, it is often difficult to meet all challenges equally.



The founding members of the IKB at the kick-off in Aachen (© WZL)

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

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This is where the IKB comes in. The focus of the IKB is on the pre-competitive development of central manufacturing processes and solution approaches within the value chain for the production of complex products made of copper and brass. Particular focus is placed on machining, forming technology and the digitalization of processes and process chains. The network, with its homogeneous composition of large companies as well as small and medium-sized enterprises (SMEs), organizes a cross-industry exchange. The combination of experts in the fields of materials development, semi-finished product production, machining technology, forming technology and digitization creates an excellent basis for sophisticated joint research. The WZL at RWTH Aachen University benefits from its many years of experience in the development of machining processes for copper alloys.

Technological Edge through Pre-Competitive Cooperation between IKB Members

The aspiration of the Innovation Network Copper Processing is to generate a technological edge through the targeted processing of relevant research projects in order to provide members with a sustainable competitive advantage. The annual research program of the Innovation Network is developed from the various needs of the members. The research topics are based on practical needs and are defined by the members. Potential topics include alternative materials, the optimization of machining and forming processes with regard to economic efficiency and component quality, the digitization of production, the design and evaluation of process chains, and the identification of relevant future trends.



Prof. Thomas Bergs, Chair of Manufacturing Technology at the WZL of RWTH Aachen University, chaired the session (© WZL)

At the founding event in Aachen,

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the representatives of the member companies selected the first four technology projects. These will be worked on jointly over the next twelve months under the leadership of the WZL at RWTH Aachen University. The IKB is also an active knowledge hub for the lively exchange of experience between users, pre-product producers and tool and machine manufacturers. For this purpose, the WZL of RWTH Aachen University will organize webinars with external speakers several times a year in the future.

Founding Members of IKB

- Aurubis Stolberg GmbH & Co. KG
- Bruse GmbH & Co. KG
- Deutsches Kupferinstitut Berufsverband e.V.
- Harting Stiftung & Co. KG
- HME Brass Germany GmbH
- KME SE
- KOSTAL Kontakt Systeme GmbH
- Materion Brush GmbH
- mimatic GmbH
- Mitsubishi Materials Corporations
- Otto Dunkel GmbH
- OTTO FUCHS Dülken GmbH & Co. KG
- Pflitsch GmbH & Co. KG
- Phoenix Contact GmbH & Co. KG
- Rudolf Brokamp GmbH & Co. KG
- Stäubli Electrical Connectors AG
- TE Connectivity Germany GmbH
- Uponor GmbH
- Viega GmbH & Co. KG
- Wago Kontakttechnik GmbH & Co. KG
- Wieland Werke AG

Participation in the Innovation Network Copper Processing is still possible. Interested parties are welcome to contact the Laboratory for Machine Tools and Production Engineering WZL at RWTH Aachen University at any time.

Contact at WZL

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Laboratory for Machine Tools and Production Engineering

The Laboratory for Machine Tools and Production Engineering (WZL) of RWTH Aachen University enhances the innovative strength and competitiveness of the industry with trend-setting basic research, applied re-search and the associated consulting and implementation projects in the field of production technology. In the research fields of manufacturing technology, machine tools, production engineering, gear technology as well as production metrology and quality management, practical solutions for rationalizing production are developed with industrial partners from a broad range of branches.