

## NEWS RELEASE

### IKV at K 2019

Digitalisation in injection moulding, additive manufacturing and plasma coating:  
Three research topics live on the IKV stand, Hall 14/C16

Aachen, August 2019 - The Institute for Plastics Processing (IKV) in Industry and Craft at RWTH Aachen University will again be represented at K 2019 in Düsseldorf from 16 - 23 October 2019 with its own stand in Hall 14/C16. Since the beginnings of the K plastics show in the 1950s, IKV has always taken advantage of this international platform to present some of its key research topics. At K 2019, IKV will present three research projects: Digitalisation in injection moulding, additive manufacturing and plasma coating for particularly small parts.

At the focus of the injection moulding project will be a practical demonstration of the digitalisation and optimisation of the production process under conditions similar to those encountered in industry. Increasing process complexity is leading to ever growing challenges in setting up the process. In cooperation with thirteen industry partners, IKV will, with the injection moulding machine up and running, demonstrate a production process that aims to shorten the set-up process through the use of artificial intelligence. The project partners have chosen a housing for the Raspberry Pi single-board computer to serve as the demonstration component.

The additive manufacturing project involves infill structures that represent the internal construct of a component, and largely determine its mechanical properties. The project focuses on the development of a software program for the design of 3D infills to suit the load path. Visitors to the IKV stand at the K show can watch the additive manufacturing of parts with optimised 3D infill structures to suit the load path. The various potential applications of the new 3D infill structures and the results of simulations of different 2.5D and 3D infill structures will be shown.

The team of plasma scientists has developed a modular, highly scalable plasma unit for the interior coating of small hollow articles, such as medical syringes, ampoules, coffee beakers and spouts. Possible functionalities include: increasing the barrier effect against gases and aromas, reducing friction or improving chemical resistance. On the IKV stand, the scientists will demonstrate live the automatic coating of plastic syringes including the handling of specimens. Visitors can compare the friction-reducing effect on coated syringes with that of uncoated ones.

The IKV stand will be located in Hall 14/C16. The Institute's scientists will be on hand to demonstrate the machines in operation and explain the processes.

**[www.ikv-aachen.de](http://www.ikv-aachen.de)**

### About IKV

IKV - the Institute for Plastics Processing at RWTH Aachen University, is Europe-wide the leading research and education institute engaged in the field of plastics processing enjoying outstanding reputation. More than 300 staff

are employed in finding solutions to problems connected with processing, materials technology and part design in the plastics and rubber industries. IKV's close contacts with industry and science, together with its outstanding facilities, enable cutting-edge research in plastics technology and ensure that students benefit from a comprehensive, practically oriented course of study. Plastics engineering graduates from IKV are thus sought-after experts in industry. In organisational terms, IKV is divided up into the four specialist departments of Injection Moulding, Extrusion and Rubber Technology, Part Design and Materials Technology, and Composites and Polyurethane Technology. The institute also takes in the Centre for Analysis and Testing of Plastics, and the Training and Further Education department. IKV is run by an Association of Sponsors, which currently has a membership of more than 300 plastics companies from all over the world. Univ.-Prof. Dr.-Ing. Christian Hopmann is Head of the Institute and Managing Director of the Association of Sponsors. He also holds the Chair of Plastics Processing at the Faculty of Mechanical Engineering at RWTH Aachen University.

**Photo in high resolution to find on our website together with the press release at [www.ikv-aachen.de/en/news](http://www.ikv-aachen.de/en/news)**

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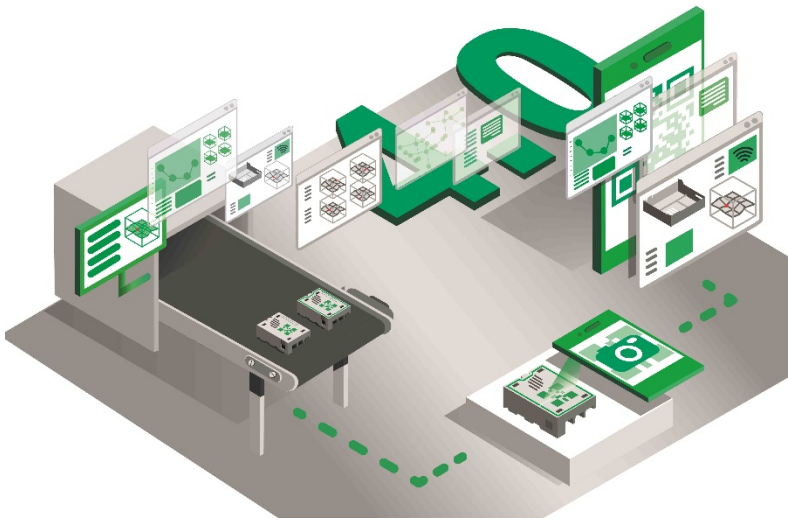


Diagram of the injection moulding project from the IKV lead topic "Plastics Industry 4.0" | Graphics: IKV