

## Always pulling the right wires: user-related wire research

### The wire and cable industry and the wire 2018

Wire is something special. Almost no other product, says Prof. Rudolf Kawalla from the Metal Forming Institute of TU Bergakademie Freiberg (technical university), has the same versatility and broad range of applications as wire.

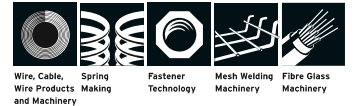
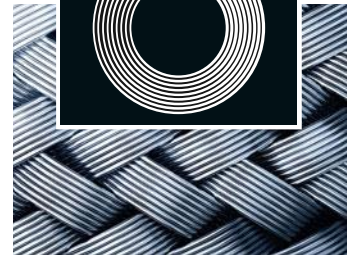
wire – and the resulting products, such as springs, bolts, screws and cables – are indispensable for technical systems. Technical progress and activities in the wire sector are therefore closely connected. To keep up with developments, ongoing research is conducted on wire, wire products and the relevant manufacturing processes.

On the one hand, this means studying the best ways to leverage the physical properties of wire and to derive good benefits for wire products. On the other, however, it also means optimising processes with a view to product qualities and potential cost savings. We can see the amazing progress that has been made when we compare, for instance, the drawing of copper and aluminium wire some 50 years ago and today's multi-wire drawing technology.

An exemplary institution that conducts research on wire and springs is the Machine Elements Unit at the Technical University of Ilmenau, whose research traditions go back to the early 1960s. The unit works with industrial enterprises, the Wire and Springs Research Group and the Steinbeis Transfer Centre for Spring Technology, also in Ilmenau. Its list of publications includes a large number of studies on springs and suspension systems.

Many of these studies are about the computer-aided design of springs and, as we said, the optimisation of production processes. One area, for example, that keeps receiving attention is automated wire cleaning in multiple wire drawing. Manufacturers of screws and bolts and their collective research are the subject of the Institute for Materials Research at the Technical University of Darmstadt.

# wire®



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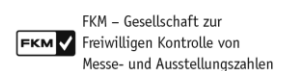
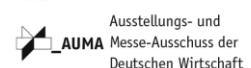
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Its thematic spectrum covers process chains, including heat and surface treatment. The plenary session showed participants the potential of Industry 4.0, the digital networking of product development, production, logistics and customers in the manufacturing and processing of steel. This was also the subject of the Fraunhofer Institute for Machine Tools and Forming Technology in Chemnitz.

One tool to obtain information, e.g. on patents, is the "Search Engine for the Wire Research Landscape in Germany", run by *netzwerkdraht* (Wire Network), an organisation based in Iserlohn, on its website.

Further opportunities to find out about the latest emphases, results and trends in wire research can be obtained at the CabWire World Conference, organised by the International Wire & Machinery Association (IWMA) and also other associations in the wire and cable industry. The convention was held for the eighth time in November 2017 at Düsseldorf Fairgrounds.

### **wire 2018 in Düsseldorf**

Information about state-of-the-art manufacturing technology and trends in the wire, cable and wire-processing industries can be obtained every two years at wire – the leading international trade fair of the wire and cable industry and an event which has been held in Düsseldorf for 30 years now. wire will take place jointly with the international trade fair Tube 2018 from 16 to 20 April 2018.

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