

The IDEEN-FABRIK+ from the KOMET GROUP on site at URACA

# Sustainably successful in-house training courses for machine operators

*„We want to achieve the best quality possible. We need to use high-tech tools for this, and we want to use them well,”* says Fritz Dieterle, Deputy Head of the Mechanical Production department at URACA on his motivation for organising in-house training courses on continuous drilling with indexable inserts. The certificates subsequently handed over by the Head of the IDEEN-FABRIK+, Frank Stahl, are obvious symbols of success for each participant. *„However, the real success of the training courses lies in the many small and large improvements we have made,”* says Dieterle.

The constant need to achieve the best possible quality is due to the nature of the products manufactured by URACA Pumpenfabrik GmbH & Co. KG from Bad Urach. This company, which produces high-pressure plunger pumps and high-pressure water-jet technology in the heart of the Swabian Jura, is at the cutting edge of global development. The high demands are evident from the range of application in sophisticated manufacturing, production, and cleaning processes. Their wide range covers descaling during steel manufacturing, construction site stabilisation with the defined removal of concrete and cement layers, the deburring of precision parts for the aviation industry, hydrostatic pipeline testing, and oil and fuel production. *„To enable*

*aeroplanes to take off safely and machines to work smoothly and to ensure safety during oil production, a high amount of precision is required,”* explains Dieterle. For URACA, the concept of precision is implemented right from the component production stage. This family business has relied upon a very high level of vertical integration for over 100 years. Machining processes are correspondingly extensive and are characterised by sophisticated materials such as different types of stainless steel. *„A typical aspect of our production is also the high level of flexibility with which we manufacture our products during piece production or small production runs,”* adds Dieterle: *„Ultimately, URACA technology is always optimised for the specific application.”*

Frank Stahl, Head of the IDEEN-FABRIK+, hands participants' certificates over to Fritz Dieterle of URACA. Also present: Hans-Joachim Kempf, the KOMET GROUP's attending field representative.



For this reason, the staff consists of highly qualified skilled workers who bear the responsibility for making sure that each component is processed in a way that ensures quality and profitability. It is worthwhile to further train these machine operators and to instruct them in tool and production technology developments, as is shown at URACA by experiences following the in-house training courses by the **IDEEN-FABRIK+**.

The **IDEEN-FABRIK+** is certified by the AZWV (Regulations on the Recognition and Approval for Further Education and Training) as a further training institution of the **KOMET GROUP**. It aims to promote the creative exchange of information and further vocational training on all topics to do with bore machining - the top tier of machining. The training concept is fed by the extensive know-how of the **KOMET GROUP** in continuous drilling, boring, precision boring, reaming, threading, and the use of mechatronic tool systems. „However, the content of the training courses is product-neutral with a focus on the potential performance of tools and cutting materials,” explains Frank Stahl, Head of Training Courses at the **IDEEN-FABRIK+**. Active himself for many years as an application engineer within the **KOMET GROUP**, he and his team of contributors impart expert knowledge on the effective use of innovative tool technologies. The high quality of the offered training courses is documented in the AZWV certification as per the Regulations on Recognition and Approval for Further Education and Training. Promoted measures

for further vocational training in metal machining and boring are also implemented in accordance with these regulations. A current topic schedule for training courses and promoted measures can be found at <http://www.kometgroup.com/ideas-navigation/ideas/ideen-fabrik.html>.

The training courses of the **IDEEN-FABRIK+** usually take place at the headquarters of the **KOMET GROUP** in Besigheim. The headquarters offer more than 2,000 m<sup>2</sup> of space in the form of different types of rooms containing the most modern training equipment available. „However, if training courses are company-specific, we are happy for these to take place on-site,” explains Stahl. As in the case of URACA, this enables machining processes in the production environment in question to be analysed in advance so that solutions can then be developed. Otherwise, the content of training courses ranges from basic principles and problem areas in machining to the comparison of tool technologies and performance calculations, the selection of cutting parameters, materials, and geometries, and tool lives and wear recognition. The participants are shown processes on cutting edges and the implications of using different cutting edge geometries in a comprehensible manner. Practical solution approaches are demonstrated for any problems that occur. The main objective is to make participants more aware of the potential performance of tools and cutting materials and of the associated optimisation of cutting parameters that can be achieved.

At URACA, high-performance continuous drilling with indexable insert tools was the main topic of the training courses that were provided. Around 40 employees - all of whom were skilled - were split into groups and levels. „Participants included young employees, who were just as eager to attend as experienced operators who have been with the company and have been working with indexable insert drills from **KOMET®** for over 25 years,” says Dieterle. The success of the training initiative can be seen through various changes. For example, in certain areas different cutting materials are now used, programmes have been optimised, and tool lives have been increased. „One example is the recent use of vibration-damped drill bit chucks,” adds Dieterle, who is interested in follow-up training courses including courses on other topics such as reaming or threading.

*The **KOMET GROUP**, which markets the brands **KOMET®**, **DIHART®**, and **JEL®**, is a leading global manufacturer of precision tools for bore machining, reaming, and threading. The group has been at the forefront of innovation in the sector for over 90 years - a tradition that began with the early indexable insert borers and continues today with their mechatronic tool systems. The company currently employs around 1,450 staff in its 20 subsidiaries and is represented in around 50 countries.*