

KLINGELNBERG

WELCOME TO KLINGELNBERG
CREATING
TOMORROW'S
DRIVE TECHNOLOGY



**STRENGTHENING
PARTNERSHIPS THROUGH
TECHNICAL COLLABORATION**

THE KLINGELNBERG TOUR

Micronz & Klingelnberg recently welcomed customers from Xtrac and Newcastle University to Klingelnberg's headquarters in Hückeswagen, Germany, for a dedicated technical customer event showcasing the latest developments in gear manufacturing, grinding, metrology and digital manufacturing technologies. The event was inspired by a Christmas tradition - a raffle. All of Micronz customers were invited to participate and there were two winners drawn: Richard Gilliver (Xtrac) and Stephen Wilson (Newcastle University).

The event brought together end users, application engineers and OEM specialists to discuss current manufacturing challenges while exploring the technologies shaping the future of gear production. Throughout the day, attendees took part in a series of technical presentations covering digital manufacturing, advanced metrology, bevel gear grinding and Klingelnberg's renowned VIPER cylindrical gear grinding technology, before touring both the production and machine refurbishment facilities.

For customers who have previously visited Klingelnberg HQ, seeing machines being manufactured and fully rebuilt at the OEM provided valuable insight into Klingelnberg's engineering standards, manufacturing quality and long-term commitment to supporting equipment throughout its entire lifecycle.

This was the reason behind the marketing and training visit with the customers we invited, we were able to create opportunities for open technical discussions that simply are not possible through emails or virtual meetings. Engineers from Xtrac and Newcastle University were able to discuss current applications, future projects and manufacturing challenges directly with Klingelnberg's product specialists, resulting in meaningful conversations that extended well beyond standard product presentations.



The feedback following the visit reflected the value of bringing customers and OEM experts together.

Stephen Wilson, Design Unit, Newcastle University, commented:

"The opportunity to see the latest technologies and experience the factory tour firsthand was both impressive and beneficial. It gave us a much better understanding of the capabilities and innovations at Klingelnberg."

Richard Gilliver, Senior Manufacturing Engineer at Xtrac, added:

"We had a great time and learnt more about what is achievable on the Klingelnberg machines."

TECHNICAL HIGHLIGHTS

The technical programme showcased a broad range of technologies designed to improve productivity, process reliability and manufacturing flexibility across modern gear production.



Digital Manufacturing & AI-Supported Tool Management

One of the key presentations focused on Klingelnberg's digital manufacturing platform and AI-supported tooling management system. Using QR code identification, the software provides complete traceability of grinding wheels, tooling and associated process data throughout the factory, helping to ensure that the correct tool and corresponding process data are always paired together.

This significantly reduces the risk of incorrect tooling being loaded while providing a complete digital record of tooling history and usage. Unlike many proprietary systems, Klingelnberg's platform has been developed using open architecture, allowing integration with a wide variety of manufacturing systems rather than being restricted to specific machine brands. This flexibility generated particular interest from Xtrac, who already utilise digital manufacturing systems within parts of their production environment.

Advanced Gear Metrology

Holger Haybach demonstrated the latest developments in Klingelnberg's metrology solutions, including surface roughness measurement capabilities available not only on dedicated measuring machines but also directly on Höfler gear grinding machines. This allows manufacturers to verify component quality without relying solely on separate inspection equipment, improving process efficiency.

Discussions also covered Klingelnberg's GDA software, enabling detailed gear analysis and measurement data to be reviewed offline. This attracted significant interest from Newcastle University, where offline analysis provides valuable opportunities for research, process development and education.

TECHNICAL HIGHLIGHTS

Bevel Gear Grinding

Bastian Hermanns presented the latest developments in bevel gear grinding, comparing the traditional five-cut manufacturing method with the more productive duplex process. The session demonstrated how modern grinding strategies can significantly reduce cycle times while maintaining the high levels of accuracy required for precision gear manufacture.

Further discussions explored Klingelnberg's QBG software, which enables engineers to optimise and adjust gear tooth contact patterns digitally. This capability is particularly valuable within the automotive sector, where fine-tuning gear meshing characteristics can improve performance, reduce noise and increase transmission efficiency.

Cylindrical Gear Grinding

Antonio Agudo concluded the technical programme with a presentation on Klingelnberg's VIPER grinding technology and the latest developments across the Höfler gear grinding range.

Topics included faster generating speeds available on the newest machine platforms, integrated chamfering operations and the productivity benefits of twin-spindle machine concepts.

One example discussed was the Höfler G35 twin-spindle platform, which enables manufacturers to combine operations traditionally carried out on two separate machines into a single automated process. This approach offers significant productivity gains and is particularly relevant to aerospace and helicopter transmission manufacturers, where production methods continue to evolve towards greater automation while maintaining the highest quality standards.

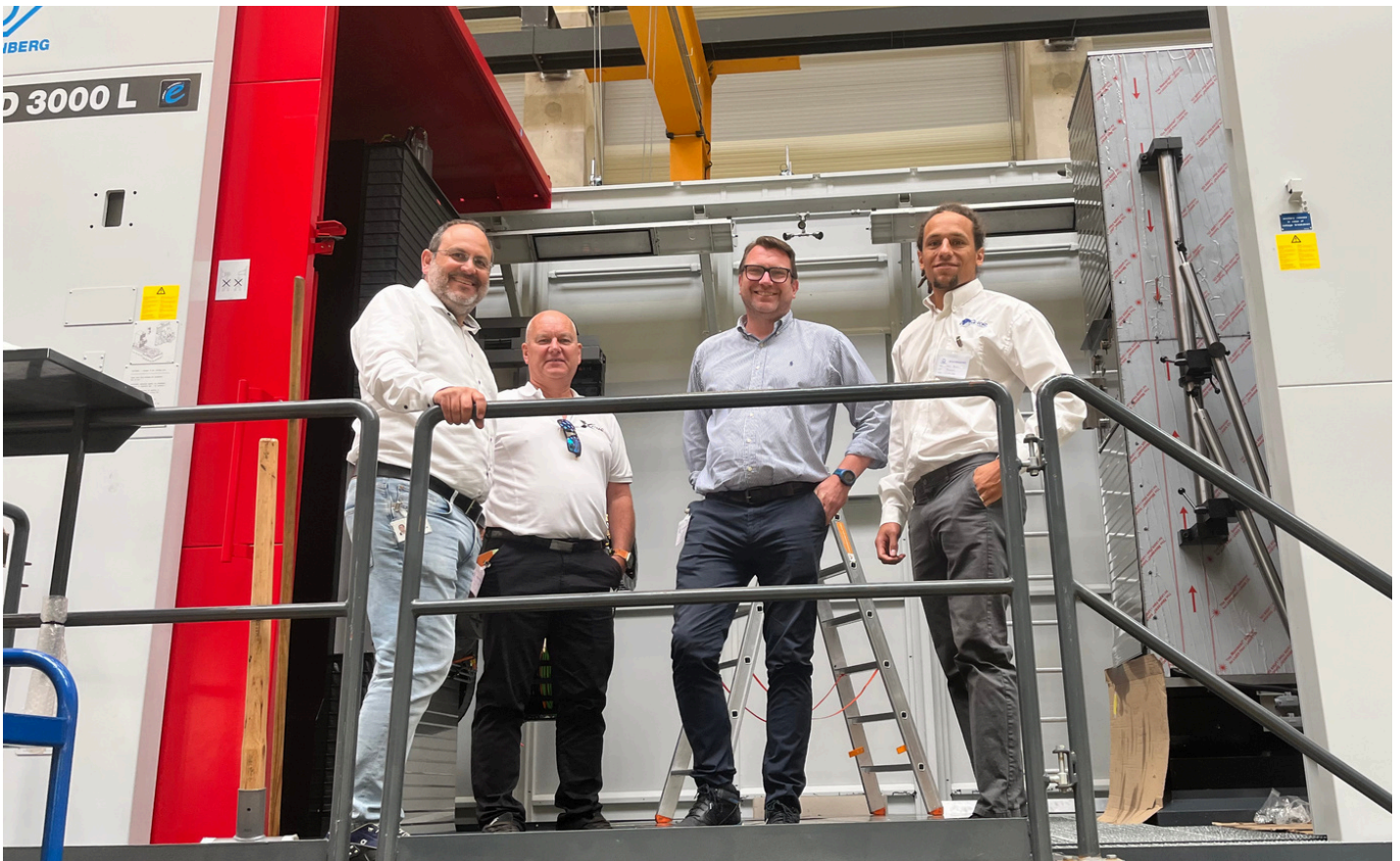


FINAL COMMENTS

Technical events like this demonstrate the value of combining practical demonstrations with direct access to OEM engineering expertise. By bringing customers closer to the people who design, manufacture and support the technology, Micronz and KlingelInberg continue to build stronger partnerships while helping our customers identify new opportunities to improve capability, productivity and process reliability.

From my perspective, the visit reinforced the value of bringing customers together with the OEM in an open technical environment. While the presentations showcased KlingelInberg's latest technologies and capabilities, some of the most valuable conversations took place during the factory tour and informal discussions, where specific applications, future projects and manufacturing challenges could be explored in greater depth. These interactions help us better understand our customers' long-term objectives and ensure we can provide the right technical support as projects develop.

I would like to thank everyone at KlingelInberg for their hospitality, professionalism and willingness to share their knowledge throughout the visit, as well as our customers from Xtrac and Newcastle University for taking the time to attend and actively engage in the discussions. We look forward to building on the relationships strengthened during the trip and supporting future projects together through the combined expertise of Micronz and KlingelInberg.



KLINGELNBERG “SIMPLIFIED WITH PASSION”

Klingelberg offers precise, high-productivity technologies that deliver solutions for manufacturing high-precision gears for gearboxes in motor vehicles (electromobility), wind power plants, trains, airplane engines, cement mills, and even drives for ships or oil platforms.

From bevel and cylindrical gear production to advanced measurement, software, tooling, and lifecycle services, Klingelberg provides integrated solutions that help manufacturers improve accuracy, efficiency, quality, and process reliability.

It's technologies support demanding industries including automotive, aerospace, wind energy, rail, marine, mining, and industrial machinery.

More than a machine supplier, Klingelberg combines engineering expertise, innovative technology, and comprehensive service to help customers optimize their entire gear manufacturing process.



 **Contact us today to discuss your requirements:**

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