

ENGEL and Glassomer conclude cooperation agreement

Processing glass in injection moulding

Schwertberg, Austria – January 2023

ENGEL and Glassomer to jointly develop new applications for glass injection moulding. The two companies have concluded a cooperation agreement for this purpose. ENGEL is providing an injection moulding machine to Glassomer for the joint development work and for customer orders.

Founded in 2018 as a start-up, Glassomer GmbH – headquartered in Freiburg, Germany, specialises in the manufacture of injection moulding-capable quartz glass and the production of premium glass parts. "The technology offers huge potential, not least for the optical, medical technology, solar, chemical and automotive sectors. Our goal is to tap this potential," as Clemens Kastner, Product Manager Technologies at ENGEL emphasises. "Together with Glassomer, we are lowering the barriers for getting started with this new technology and paving the way for high-volume mass production. Glassomer materials can be processed in injection moulding. The important factor is that the injection moulding machines meet the strict precision requirements.

The material, developed and patented by Glassomer, is fed to the injection moulding machine as pellets, just like in conventional injection moulding. It is a plastic-glass blend that can be injection moulded at temperatures of 130 °C and with a cycle time of less than 20 seconds. The plastic is then removed by debinding following injection moulding. The parts are sintered, precisely preserving the component geometry right down to the microstructures. Premium, optical quality surfaces can be achieved without post-processing.

Maximum precision for the finest structures

Moulding glass typically requires very high temperatures and toxic chemicals. Injection moulding production is a significantly more energy-efficient, cost effective and sustainable alternative to this. Another motivation for processing glass by injection moulding is greater

design flexibility. In injection moulding, virtually arbitrary shapes can be produced in a very short time. Many of these would be unthinkable in traditional glass processing.

ENGEL and Glassomer are working together on the industrial implementation of glass injection moulding technology. The first sample inspections for series production applications are already taking place on Glassomer's new production floors in Freiburg.

To be able to meet the strictest precision requirements, and also those in the field of micro-technology, ENGEL has provided an all-electric e-motion 50 TL injection moulding machine to Glassomer along with an integrated viper linear robot in cleanroom design.

Huge potential from microfluid system through to optical and sensor systems

The on-going joint development work benefits from ENGEL's know-how and many years of expertise in the application fields of optics and micro injection moulding. The e-motion TL machine series was originally developed for the production of smartphone camera lenses made of polycarbonate and cycloolefin copolymers and is widely used in this industry.

"In optics, the light sources being produced are becoming smaller all the time; this, in turn, means higher and higher energy densities, which necessitate the production of fine lens structures in glass with high chemical and thermal stability," says Kastner, explaining why ENGEL is motivated to work with glass as a material.

Lenses for ultra high-resolution smartphone cameras, but also sensor applications, for example in vehicles, are one focus of development. In addition, glass injection moulding in the field of microfluidics, also for lab-on-a-chip applications, offers massive potential for combining the greatest possible moulding precision with high cost effectiveness and sustainability.



The cooperation agreement lays the foundations for on-going further development of glass injection moulding technology. From left to right: Rudolf Ehrenweber, Head of Sales Teletronics at ENGEL, Frederik Kotz-Helmer, CSO, and Dorothea Helmer, CEO of Glassomer, and Clemens Kastner, Product Manager at ENGEL.

Picture: ENGEL

ENGEL AUSTRIA GmbH

ENGEL is one of the global leaders in the manufacture of plastics processing machines. Today, the ENGEL Group offers a full range of technology modules for plastics processing as a single source supplier: injection moulding machines for thermoplastics and elastomers together with automation, with individual components also being competitive and successful in the market. With nine production plants in Europe, North America and Asia (China and Korea), and subsidiaries and representatives in more than 85 countries, ENGEL offers its customers the excellent global support they need to compete and succeed with new technologies and leading-edge production systems.

Contact for journalists:

Susanne Zinckgraf, Manager Public Relations, ENGEL AUSTRIA GmbH,
Ludwig-Engel-Strasse 1, A-4311 Schwertberg, Austria
PR Office: Theodor-Heuss-Strasse 85, D-67435 Neustadt, Germany,
Tel.: +49 (0)6327 976 9902, fax: -03, email: susanne.zinckgraf@engel.at

Contact for readers:

ENGEL AUSTRIA GmbH, Ludwig-Engel-Strasse 1, A-4311 Schwertberg, Austria,
Tel.: +43 (0)50 6200, fax: -3009, e-mail: sales@engel.at

ENGEL
be the first

ENGEL AUSTRIA GmbH | A-4311 Schwertberg | tel: +43 (0)50 620 0 | fax: +43 (0)50 620 3009
sales@engel.at | www.engelglobal.com

Legal notice:

The common names, trade names, product names and similar cited in this press release are protected by copyright. They may also include trademarks and be protected as such without being specifically highlighted.

www.engelglobal.com