

## German partners address micro and precision moulding inefficiencies

Schwaig, January 28, 2021 - In a new strategic partnership, Sumitomo (SHI) Demag has announced its cooperation with Fraunhofer Institute for Production Systems and Design Technology IPK in Berlin. The aim of this strategic partnership is to develop an economical inline inspection process that achieves 100% control of micro and precision injection moulded parts in the shortest possible cycle time.

For any fully automated high-precision plastic production line, quality control is critical. Yet, achieving this level of precision can also cause production, machine, automation and tooling bottlenecks. Producing optical plastic injection moulded components in particular typically encounters inefficiencies as a result of performing continuous checks. In turn impacting the entire output through significant loss of cycle time.

*"With fast-running processes, every fraction of a second saved in cycle time counts. The innovative approach of Fraunhofer IPK based on established X-ray and CT measurement techniques is extremely promising in our eyes. That is why we are supporting the project both with machine hardware and in the technical cooperation,"* announces Thorsten Thümen, Senior Director Technology at Sumitomo (SHI) Demag in Schwaig.

In support of this research initiative, Sumitomo (SHI) Demag is supplying Fraunhofer IPK with a fully electric, high-speed injection moulding machine IntElect S, equipped with automation and a conveyor belt. The company's Speed series of all-electric machines, currently available with clamping forces of 50 ton to 180 ton, is designed specifically for high-speed applications with short cycle times of less than 5 seconds. Deployed widely in the medical technology and electronics industries, as well as in other markets requiring high precision, the high-speed series perfectly complements the institutions' investigative research and development program.

*"Our all-electric drive technology provides an immensely strong foundation for process optimisation, with the potential to achieve greater process consistency, as well as more energy efficiency and reducing cycle times. Additionally, the measurement technology also plays an essential role in the performance of the entire moulding system. We are very confident that Fraunhofer IPK's research project will enable the process in micro and precision injection moulding to be holistically optimised, especially for optical parts,"* states Thümen.

Apart from contract research, Fraunhofer IPK also conducts pre-competitive research projects to develop innovative concepts for tomorrow's production, working closely with likeminded partners to transform innovations into marketable products.

## Image



**Image 1:** Fraunhofer-Institute for Production Systems and Design Technology IPK test field  
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**Image 2:** Sumitomo (SHI) Demag's IntElect S machine at Fraunhofer IPK  
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## Notes to the editor

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## Sumitomo (SHI) Demag Plastics Machinery GmbH

Sumitomo (SHI) Demag has shaped the development of the plastics industry from its very beginning. As a specialist for injection moulding machines for plastics processing, Sumitomo (SHI) Demag and its Japanese parent company are leading the industry.

The global development and production network of Sumitomo Heavy Industries and Sumitomo (SHI) Demag is comprised of four facilities in Japan, Germany and China with more than 3,000 employees. The

product portfolio includes all-electric, hydraulic and hybrid injection moulding machines with clamping forces of between 180 and 15.000 kN. With more than 145,000 installed machines, Sumitomo (SHI) Demag is present in important global markets and ranks among the largest manufacturers of injection moulding machines in the world.

At Sumitomo's headquarters in Chiba, Japan, the company manufactures machines with clamping forces in the small to medium range. Nearly 95 % of all delivered machines are equipped with an all-electric drive concept. Sumitomo (SHI) Demag's German facilities in Schwaig and Wiehe produce the Systec Servo range with hybrid drive as well as the EI-Exis SP and Systec SP range of high-speed, high-performance machines. The all-electric IntElect range for international customers is also being produced in Germany.

As early as 1998, Sumitomo (SHI) Demag set up its first production site in Ningbo/China. In 2015, the Chinese subsidiary Demag Plastics Machinery (Ningbo) Co., Ltd. installed a new facility with a 13,000 m<sup>2</sup> floor space. It is earmarked for the production of the Systec C range with clamping forces of between 500 and 10,000 kN for the Asian market.

In addition to injection moulding machines, Sumitomo (SHI) Demag offers customised and standardised systems for the part handling automation, technical and process solutions for special applications, tailored services and service concepts as well as a range of financial options to support investment in injection moulding machines.

With its comprehensive sales and service network of subsidiaries and agencies, Sumitomo (SHI) Demag is present in all major markets.