

ALL CREDITS: DESMA



Removing a headache

Developing new products and producing customer samples have always been something of a headache for shoe manufacturers, depending on the type of footwear involved and the length of production run that will result from them. A company producing fast turnaround ladies fashion shoes will naturally incur proportionally more samples per pair of bulk production than a sports shoe manufacturer producing many thousands of pairs per style. Nevertheless, whatever the individual circumstances, it often disrupts production in any factory leading to added costs which in today's ultra-competitive footwear industry every manufacturer wants to avoid.

But what if it was possible to produce sample shoes without having to interrupt factory production in order to produce them and to have the possibility of testing different materials or trying out manufacturing ideas and production methods without the need to use your own facilities or equipment and so avoiding the disruption this would normally entail? Moulding machinery manufacturer Desma has made this all possible with its

'Showroom' located at its factory in Achim, Germany. Engineering graduate Martin Orthey, responsible for sampling and training at the Showroom, says that the facility is able to provide services relating to all aspects of footwear production. It has attracted shoe manufacturers including adidas, Birkenstock and Uvex, and material suppliers such as BASF. It is also regularly used by Desma's own internal departments including mould making, sales and training.

On entering the Showroom, one is impressed by the technology Desma has available for modern footwear production. It provides a platform where shoe specialists, engineers and designers can test the latest technological trends and materials, produce prototypes, test materials and try out processes in a real production environment. Desma says that by offering this facility, it is able to shorten the lead time required until series production and market roll out. Customers are able to see at first hand how the shoes of the future are being developed and how state-of-the-art processes can be applied to monitor comfort, quality, cost effectiveness and

design. According to Orthey, "This has triggered many a eureka moment and given customers an edge over their competitors."

DIRECT SOLING

The heart of the Showroom is a rotary soling machine, which moulds soles made of polyurethane and other synthetic compounds directly on to the lasted upper. This is where prototypes and small batches are produced for customers or to test new production methods. "For our customers, these outsourced test runs have the advantage that they can try out new ideas without having to disrupt production at their own factories. Under the guidance of our experts, they can try out various moulds, colours, materials and uppers, giving them the chance to identify and remedy weak points at an early stage. This greatly simplifies the subsequent configuration of their own machines," explains Orthey.

The company's sales department also uses this machine to produce samples for potential new customers, while the mould making department uses it to test moulds for the

manufacture of sample shoes before they are delivered to the customer. Desma regards this as not merely a vital part of quality control, but a unique selling proposition, as none of its mould making competitors has a direct soling machine and is therefore unable to offer this degree of service.

AUTOMATION

In addition to the direct soling aspect, Desma also provides support for conventional footwear producers in the form of automation tools such as the amir production line (Automated Material supply with Integrated Robots). This is all part of its strategy to implement Industry 4.0, where robots supplement the rotary moulding table and make it possible to produce customised shoes and automate work processes. Each shoe comes with a QR code or RFID chip so that a robot knows exactly what it has to do.

"The robots and laser cells attend to preparatory steps such as roughing the soles, applying the adhesive or inserting decorative elements," explains automation expert André Kroker. He travelled the world as a service engineer for many years and then acquired specialist knowledge of automation before joining the team of five in the Showroom where he is able to put his comprehensive expertise

into practice for the benefit of customers.

The Showroom equipment also includes an injection moulding system for various material mixes, as well as a sole cell which produces outsoles and midsoles. Desma says that it is offering a unique modular system where, depending on the requirements involved, several customers can conduct their test runs simultaneously. All the machines involved are also available to customers for training purposes, as well as for the company's own in-house service engineers and trainees. During 2019, more than 200 customers have made use of this opportunity.

INCREASED FLEXIBILITY

The Showroom forms part of Desma's Customer Service Centre (CSC), where all the various services the company offers its customers converge. These range from field sales staff and smart remote service (teleservice) to spare parts supply and even staff training. In the past, sample production as well as research and development were all located in a single department. By separating them into two different rooms, the Showroom and the Innovation Centre, the company says that it is now able to respond to customer requests far more flexibly and has gained further capacity

for developing new procedures.

In the view of Desma's managing director Klaus Freese, the Showroom has increased the practical support that is available for customers. "It offers a unique combination of the four key production factors: equipment, expertise, material and design. These form the basis for excellent direct soling and automated footwear production and, consequently, for the success of our customers." As far as future plans are concerned, the company is in the process of implementing Industry 4.0 whereby its robots will interact even more closely, which it says will continuously open up new opportunities.

Desma has a distinguished history of innovation and expertise based on its technology which has led to it becoming a major player in the field of direct bottoming, particularly where polyurethane is concerned. It therefore makes a great deal of sense to create a centre of practical expertise where customers can send technical staff to explore new materials and techniques and produce actual trial products under the direct guidance of expert engineers without any adverse impact on their own productions. It is a further innovation that can only be of benefit to both Desma and its customers in today's rapidly changing footwear industry. 📌



The heart of the Desma Showroom is a rotary direct soling machine.