



## SHOE LASTS & MOULDS

PRECISION-FIT AND STATE-OF-THE-ART TECHNOLOGY





## OUR HIGH-TECH SOLUTIONS BASED ON MANUAL SKILLS

WITH A SURE HAND FOR THE ACCURACY OF FIT AND PERFECTION

We are a leading supplier to the international footwear industry producing shoe lasts and moulds. We offer this demanding group of customers a unique service concept: design, shoe lasts and moulds. Perfectly matched and manufactured under one umbrella with the highest precision and accuracy of best fit throughout the process chain. The high quality of our work resulting from technical experience of many decades with lasts and moulds combined with state-of-the-art production technology.

Thanks to the simultaneous product development by CAD of lasts, soles and moulds, short communication distances and a close data exchange with the individual divisions of our company, we are able to present a coherent overall concept from the initial idea to industrial footwear manufacturing. We first generate a base data record as development partner of our customers. This data record forms the basis of our further work for all subsequent steps – from prototype production to the manufacturing of lasts and moulds for the series production. The result of our work: precisely matching lasts and moulds.

02/03





## OPTIMAL COMBINATION OF FASHION, FIT AND FUNCTIONALITY

PARTNER OF THE INDUSTRY FROM THE IDEA TO THE SERIES PRODUCTION

All together at one table: customers, modellers, sole designers and mould makers. They develop the best solution for all areas together – and always consider the optimal combination of fashion, functionality and fit. Step-by-step they develop the perfectly matched solution for the customer: a shoe last of best fit and highest quality and a sole design perfectly tailored to our customer's specification. With care and commitment we serve the different types of footwear worldwide.

**An overall concept** for lasts, sole design and moulds – the advantages:

- Saving of time as there is only **one briefing** for lasts, sole design and mould
- Easy communication as you have **one contact** for all components
- A smooth interaction of lasts and moulds in the footwear manufacture as everything is based on **one data base**

04/05



# FROM THE CRAFTSMANSHIP TO THE DIGITISED PRODUCTION

A COMPREHENSIVE RANGE OF SERVICES FOR MANY NEEDS

06/07

The experience of our modellers is the basis for the excellent fit of our lasts. By combining handcrafted processes that have been proven over many decades with modern design software we develop high quality lasts according to the ideas of our customers. An end-to-end digital workflow ensures the production of best fitting plastic shoe lasts for different types of shoes from classical lady's pumps to safety shoes for all common production processes.

If requested, we also implement customer-specific special solutions in the CAD-CAM field and produce high-precision prototypes quickly and reliably by 3D printing.



We provide perfect lasts for every production method:

- **Highly precise 5-axis-milled HPM lasts** are the optimal tool for direct soling and automated shoe production – an important step towards Industry 4.0
- Completely turned **AGO lasts** for the traditional footwear production and as cooling lasts for direct soling
- Precise **DA lasts** for direct soling and automated footwear production
- Heat-resistant **Aluminium lasts** for the direct soling

Our lasts are robust, extremely durable and produced with high precision. Different partitions provide for a lasting and delasting of the shoe without any problems depending on the upper design. Accessories which are perfectly aligned to our last range represent an ideal supplement for the industrial user.

- **Setting gauge** for a precise setting of the direct soling station for our lasts and moulds possible
- **Pneumatic last holder** designed for all machine types and compatible with our lasts
- **Lasting and delasting machine** to automate the lasting and delasting process



# BEST WEARING EXPERIENCE THANKS TO QUALITY AND DESIGN

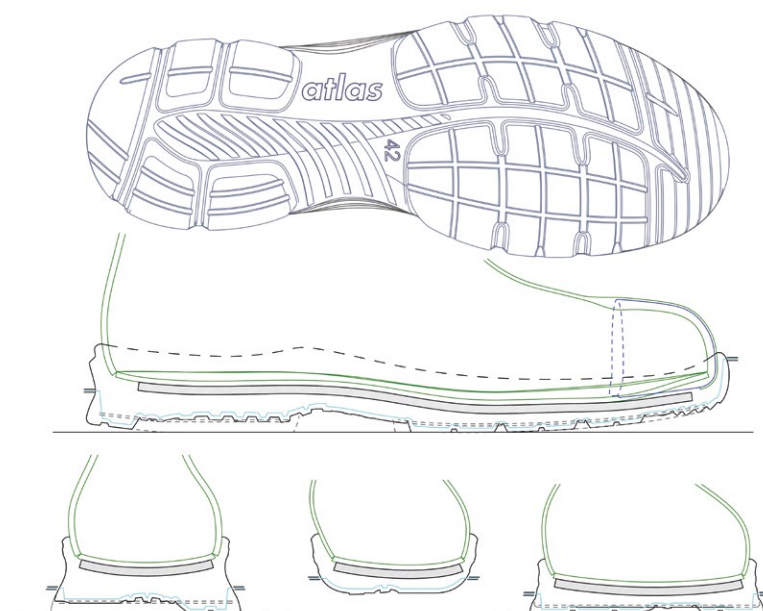
CUSTOMER-TAILORED SOLUTIONS FOR SOLES AND COMPONENTS

08/09

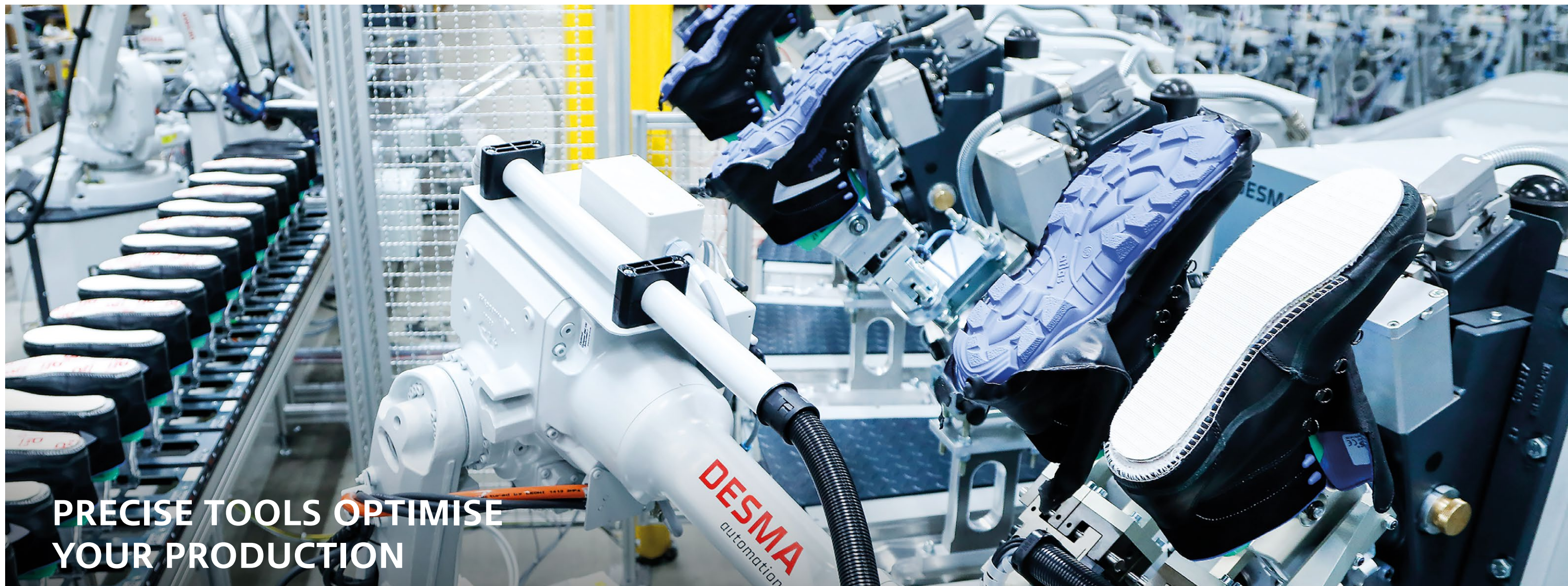
The sole design becomes more and more important. Fashion, ergonomic and manufacturing requirements must be taken into consideration for the development of the soles. A sole structure in several colours, extraordinary contours, an individual sole design more and more become customer-specific characteristics of the brand. The quality and safety properties as well as the functionality of the shoe are decisively determined by the sole design.

A team of highly specialised product designers develop an individual 2D and 3D design for soles and components as well as for direct soling and the AGO process based on the last data.

By the simultaneous development of lasts, sole design and mould making, we make a smooth production process possible at our customers. The easy data exchange among all areas saves time and avoids friction losses.







## PRECISE TOOLS OPTIMISE YOUR PRODUCTION

STATE-OF-THE-ART SOLUTIONS FOR COMPLEX NEEDS

10/11

Thanks to modern high precision CNC processing technology we are able to exactly implement the sole design in corresponding moulds for the direct soling and the sole production. Automatic pick and place technology, simultaneous 5-axis processing and linear drive in X and Y direction are technical requirements to be able to produce highly complex and precise moulds finely milled in shortest time.

We deliver **Direct soling moulds, Vulka moulds and AGO moulds** of high quality for international footwear production. We produce these moulds in different designs depending on the need. Our service and product range in the mould construction includes:

- Moulds for **PU, PU-PU, TPU-PU, Rubber, Rubber-PU, Rubber-rubber, PVC**
- Technical design for freeform surfaces of any type
- Individual design development







## EXPERIENCES CREATE FUTURE

KNOWLEDGE AND COMPETENCE SINCE 1911

In more than 100 years of existence, our company has not only continuously developed, but also driven numerous innovations. However, we have stayed true to our roots. In 1911 the company Fagus was founded by Carl Benscheidt, a visionary entrepreneur who had operated an own last making shop with shoemaker's shop in Hannover. Already at the time of foundation Fagus was deemed to be a progressive company that manufactured shoe lasts with the help of improved production methods according to the latest findings of the orthopaedic foot research.

Thus, Benscheidt had a decisive part in today's natural use of left and right shoe lasts. "Always look for the best" was Benscheidt's principle – and he and his successors have always followed this motto in all entrepreneurial respects until today. By the way, this principle also applied for the construction of the company building in Alfeld: Benscheidt commissioned the still unknown young architect Walter Gropius – who became world-famous as founder of the Bauhaus and cofounder of modern architecture later-on – to design the building. Since 2011, the Fagus Factory with its curtain facade is a UNESCO World Heritage Site.

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## SUCCESSFUL TOGETHER

CLOSE COOPERATION MAKES EFFICIENT PROJECT MANAGEMENT POSSIBLE

14/15

We pursue one objective: We always want to be a reliable partner for our customers. With our high precision CAD-CAM controlled machines and qualified employees we manufacture precise fitting, individual products. As development partner for the international footwear industry we make our contribution throughout the entire process chain. We are a partner – from advice via development to the implementation of individual and tailored solutions. The full service from one source.

The needs and demands of our customers are always in our focus: Many of them are highly specialised industrial companies and have made their decision in favour of cooperation with Fagus-GreCon because they rely on our competence. We as driver of innovation continue to develop creative ideas for changing needs and demands.

### BEACONSFIELD FOOTWEAR

Robert Perkins,  
Chief Operating Officer

*We have partnered Fagus since 1994, when we started direct injection moulding. Fagus is our key development partner for ensuring the perfect fit of our shoes. This partnership has evolved from last making to mould making as we strive to be more agile in our new product development process. We have full confidence in the technical expertise and support given by Fagus and value the investment they are making to help us become more agile in moving from initial design concepts to bulk production tooling.*

### HÖGL

Dr. Gerhard Bachmaier,  
Executive Partner

*Highest quality and a perfect fit are the most important requirements for the modern premium shoe brand HÖGL to be able to grow successfully on international level. Since some years we have been developing our lasts together with the German shoe last expert Fagus. Therefore, we are able to guarantee our customers comfort and a good feeling. It is important to have a reliable partner at our side.*

### LLOYD

Hanne Claussen,  
Shoe Last Development

*Since now already 90 years we have been cooperating with Fagus – with good reason: At Fagus, people are proactive and understand how to develop and produce aesthetic and anatomically correct lasts. They know the needs and requirements of different footwear manufacturing processes and focus on quality, timeliness and good communication. We really appreciate the many years of experience of Fagus and are looking forward to further cooperation!*



## FAGUS PRODUCTION SITES WORLDWIDE

**FAGUS-GRECON**  
Germany

**FAGUS CZ, S.R.O**  
Czech Republic

**FAGUS PORTUGAL S.A.**  
Portugal

**FAGUS CO., LTD.**  
Thailand

**VIKOP-FAGUS CO., LTD.**  
Belarus



In 1911, Carl Benscheidt founded Fagus GmbH for the production of shoe lasts. His great-grandsons Ernst and Gerd Greten integrated the companies GreCon-Anlagenbau and GreCon-Elektronik. Today's Fagus-GreCon Greten GmbH & Co. KG with the business units "Fire Protection", "Measuring Technology", "Inspection Systems", "Shoe Lasts & Moulds" and "UNESCO World Heritage Fagus-Werk" with worldwide 600 employees is managed in fifth generation by the family represented by Kai Greten. Numerous inventions have their origin in this merger, for example different lasts for the right and left foot, the first industrial spark extinguishing system, the physical measuring process to record the thickness, the surface characteristics and weight measurement by X-ray for the wood based panel industry.

Our head office, built in 1911 as debut work of the architect and founder of the Bauhaus Walter Gropius as the original building of the modern industrial architecture, is listed as UNESCO World Heritage Site since 2011.

## INNOVATIVE POWER IN ALL BUSINESS UNITS

**GRECON**  
Fire Protection

**GRECON**  
Measuring Technology

**GRECON**  
Inspection Systems

**FAGUS**  
Shoe Lasts & Moulds

**FAGUS-WERK**  
UNESCO World Heritage

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