

Die-casting  
solutions.  
**Shaping the  
future of our  
industry.**



ULTRAVENT II

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Linienboard  
Co5 & Co6

## Bühler solutions. **Be ready for the future.**

SmartCMS lays the foundation for your future die-casting production. With our Carat, Evolution, and Ecoline DS series, we can offer you a full range of die-casting systems.

Complete die-casting cell solutions form an essential basis for all die casters who want to stay competitive. They combine state-of-the-art technology with the best automation solutions, specifically developed for the die-casting process. No matter which process you use or what parts you make – our SmartCMS integrates the peripheral devices you need to form one die-casting solution. The Digital Cell, with its Industry 4.0 and IoT technologies can create opportunities for a wide range of digital services, aimed at improving your overall die-casting performance.

We focus on your individual needs to offer you customized solutions, integrated project handling, top quality, fast response times, and global availability. Whether you need optimized production quality, minimized downtime, higher cell efficiency, or a reduced cycle time, we can provide the right solution for you.

## We are committed to the **future of the die-casting industry.**

Our vision is a Digital Cell - with 0 % scrap, 40 % less cycle time, and 24/7 uptime. To achieve this step-change in die casting and make the industry more profitable and efficient in the long-term, it is not enough to focus on single components – we have to tackle the system as a whole.



The way to make this performance leap is to bring all the real-time operating data from the die-casting components of the cell together under one cell management system. Our SmartCMS lays the foundation for this. Besides the capability to collect information from every component and peripheral, SmartCMS can coordinate and control the cell – and this is just the first step.

The future of our industry is the focus of our work. We strive to make die casting the preferred process – especially with regards to emerging trends such as driverless cars and e-mobility. Also, regulations are getting stricter, and the pressure to reduce fuel consumption is ongoing. Lightweight construction using efficient aluminum die casting plays a key role in tackling these issues. Our know-how stems from more than 90 years in the industry. Investing up to 5 % of turnover in research and development each year ensures we will continue to support you with innovation for many years to come.

Imagine...

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**0%** Scrap

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Cycle time **-40%**

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**24/7** Uptime

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# A global presence for a local service. **Protecting your investment.**

Proximity is key. With an extensive global service network, we are never far away. Our qualified specialists provide hands-on support, knowing your regional market requirements and understanding the needs of your customers.

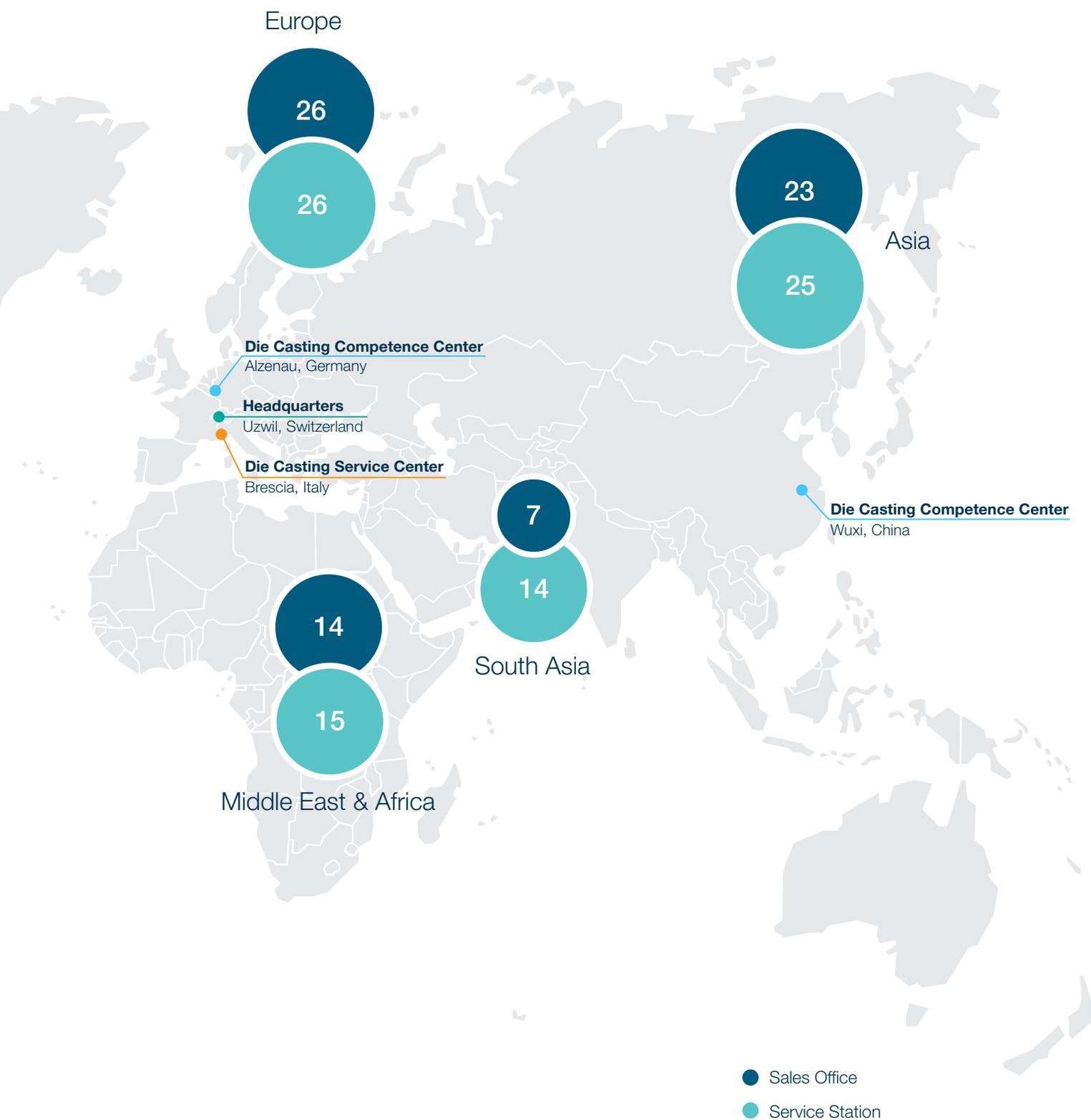
We can support you in all stages of your investment: from planning to startup and throughout the entire life cycle of your equipment. We have a strong local presence with 3 die-casting production hubs, 3 remanufacturing hubs, 3 application and test centers and 100 service stations around the globe. With tailor-made service offerings and in-depth understanding of your local requirements, we are ready to help you increase the overall productivity of your systems at any time.

Excellence in customer service is our top priority. That's why we continuously work to improve communication channels and support for you.

We know that only the best people can deliver the best quality and service – which is why we constantly invest in developing the skills of our professionals. You can count on Bühler technicians, wherever you happen to be.



**Bühler is represented in over 140 countries with more than 13,000 employees.**



# The end-to-end service you need. **Drive your business forward.**

We can support you over the entire life cycle of your equipment – with individual service and reliable support.

## **Engineering.**

Based on your component data and cell requirements, our engineering specialists can create casting cell layouts. They can specify the required machine size, create an optimal automation and finishing concept, including robot simulation. Additionally, our experts conduct a cycle time analysis as basis for production figures and manufacturing cost calculations. A customized solution, just for you.

## **Training.**

The success of your company and the performance of your die-casting cells depend on well-trained employees. We offer an extensive range of courses around the world where our experts pass on their hands-on experience and know-how. In addition, we can provide customized classes at your site – sharing expertise specifically tailored to your operation.

## **Process optimization.**

Using their vast experience, our engineers can analyze your foundry performance and identify areas for potential improvement. The results of process optimizations can be impressive: when manufacturing a motor block, for example, an OEE improvement of 5 percent, based on a production of 200,000 units per year, can easily lead to savings of more than 80,000 Euros.

## **Maintenance and technical support.**

Our service packages can be adjusted to your production batches, thus preventing downtime, loss in production efficiency or product quality. You can choose from a range of individual services to a complete outsourcing of maintenance. To ensure a high uptime for your plant, a fast and reliable technical repair service is available via our Bühler Helpline, 24/7, worldwide.

## **Remanufacturing and retrofits.**

Buying a new machine is not always the right solution. Using upgrades and conversion kits, we can make outdated machines perform to current standards in technology and efficiency. Whether it is a software upgrade, the integration of additional functions or a complete overhaul, our experts will work with you to find the best way to remanufacture your die-casting machine – a cost-efficient alternative to new investments.

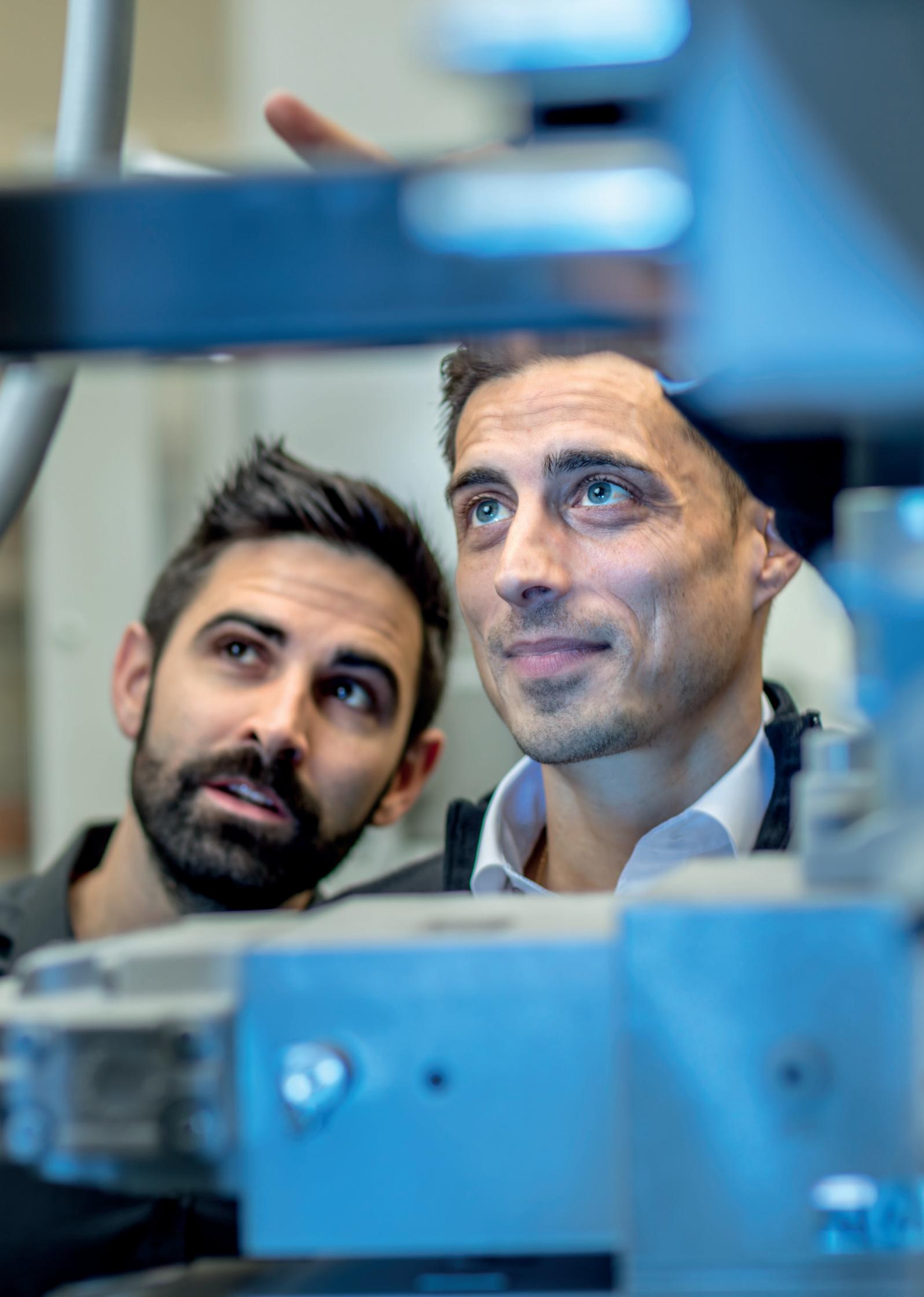
## **Competence centers and test facilities.**

Our Competence Centers are equipped with complete die-casting cells and provide the perfect setting to test and improve your products and processes. In-house laboratories, including CT scanning, offer a broad range of analyses and testing of different alloys. We can support you with the latest technology, expert knowledge and advice – helping you to continually improve your products and procedures.

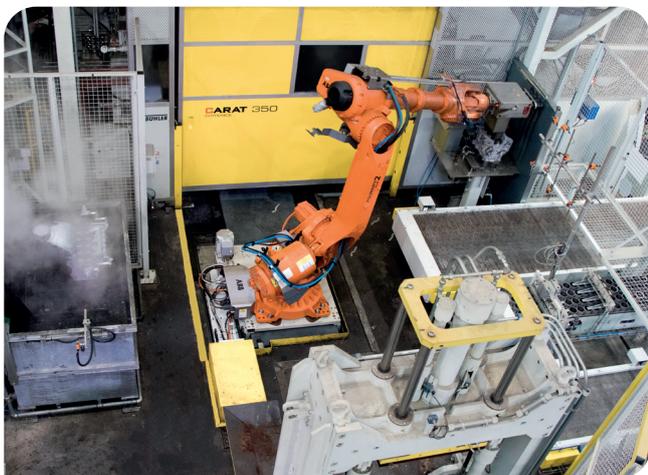
## **Digital services.**

By capturing data with our SmartCMS or Bühler Insights Gateway, we can provide additional intelligent services, including:

- myBühler customer portal, offering easy access to all details of your Bühler equipment and helps to do easy business with us
- Die Casting Dashboards, for a visual overview of your cell on a 24/7 basis
- Performance Report, helping you to analyze the performance of your production
- Downtime Analysis, providing useful insights to help you reduce unplanned downtimes



# The highlight of our collaboration. **Your success story.**



## **ŠKODA AUTO.**

Thanks to the two largest die-casting cells ever installed in the Czech Republic, ŠKODA AUTO has substantially increased productivity.

ŠKODA AUTO made the decision to buy our technology to increase its capacity for engine blocks and gear housings. Besides the need to be more productive they also chose Bühler because of their well-known Swiss accuracy. The project was quite challenging for our team since they faced a very short delivery time as well as a tight time frame for the installation and hand-over. When the technology was delivered, we could finish the commissioning of the first cell within eleven weeks.

After the two Bühler Carat machines were put into operation, ŠKODA AUTO improved its production capacity significantly. It was planned to achieve a cycle time of 130 seconds with these machines; currently, the cycle time is 125 seconds. In cooperation with our experts the team continues to work on improvements to increase productivity even more.

## **Zhejiang Huashuo Technology Co., Ltd.**

Zhejiang Huashuo Technology Co., Ltd. entered the die-casting industry in 2006. They invested in Bühler solutions to differentiate themselves from the competition and to offer the best quality.

Zhejiang Huashuo Technology Co., Ltd., based in Eastern Chinese Ningbo, started its production of die cast automotive parts in 2006. To set themselves apart they decided to focus on maximum quality and reliability. "Everyone in the industry knows that Bühler machines are the best. Of course, our customers are well aware of that as well", says Wang HongBiao, founder and owner of Huashuo. Today the enterprise generates more than 50 % of its turnover with aluminum parts which are delivered to renowned OEM suppliers.

After the initial investment in ten Ecoline machines in 2010, Wang continues to choose Bühler equipment. Besides Huashuo's high quality standards, the long service life of the die-casting systems and the prompt Bühler customer service were decisive arguments.



## Stanley Black & Decker.

Die-casted power tools and appliances produced in South America on the Ecoline S Series.

Stanley Black & Decker, the power tools and appliances brand, is relying on a Bühler die-casting solution in its plant in Uberaba, Brazil. It supplies the whole of the Latin American market with up to 4.5 million quality power tools and appliances.

Fernando Bortolozzo, the Industrial Manager in Uberaba, explains that the brand is all about quality and this sets expectations about the technology partners they choose: “What we value most is the quality of our product. This partnership emerged from the need to upgrade our die-casting sector. We chose Bühler because it is a renowned company that leads the market.”

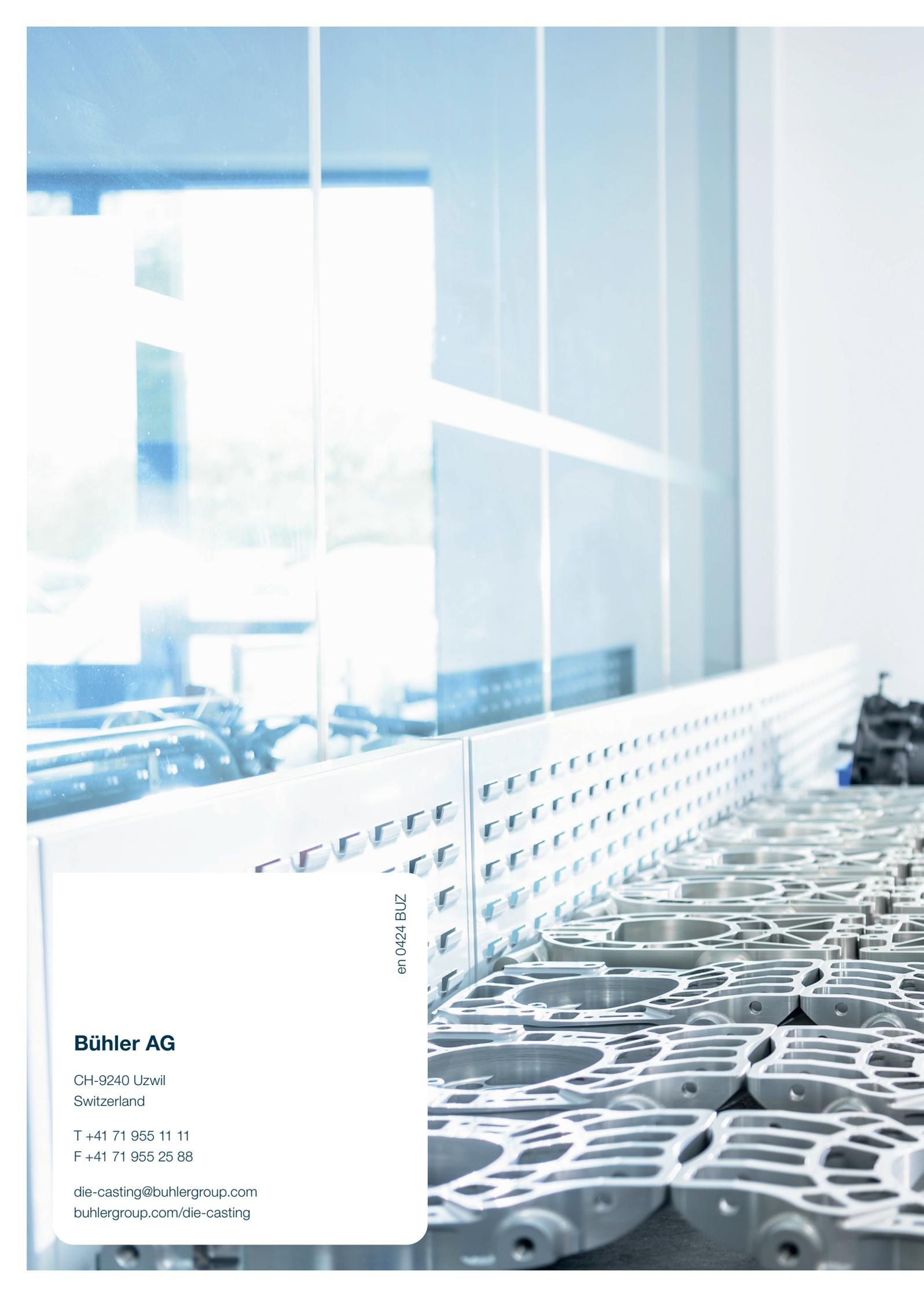
For Stanley Black & Decker the Ecoline solution is just the start of an investment program, and we are a core part of that strategy. “It’s more than a commercial relationship. We really need to build a trustful relationship, a partnership that lasts the entire product’s lifetime. So we intend to maintain this partnership with Bühler, within the aluminum die-casting sector, until the total renovation of our plant is complete.”

## Pierburg.

Bühler and Pierburg, respectively Rheinmetall Automotive, are linked by a long-standing partnership. Since 1982 the Group has ordered 68 cold-chamber die-casting machines.

Since its beginning more than 100 years ago, the company Pierburg has ranked among the drivers of innovation in the automotive industry. In 1986, the company was acquired by the Rheinmetall Group and in 1998 it merged with Kolbenschmidt to form today’s Rheinmetall Automotive AG.

For decades, the automotive supplier has placed great confidence in Bühler. High-performance die-casting cells, competent and comprehensive technical support, and a strong local customer service team have convinced the Group to invest in our technology over and over again. Lutz Plasmeier, who is responsible for the plant technology for Pierburg, as Senior Manager Industrial Engineering Casting & Machining says: “Technologically the die-casting process with regulated shots from Bühler is unmatched. No other company is able to achieve this level of reproducibility”.



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