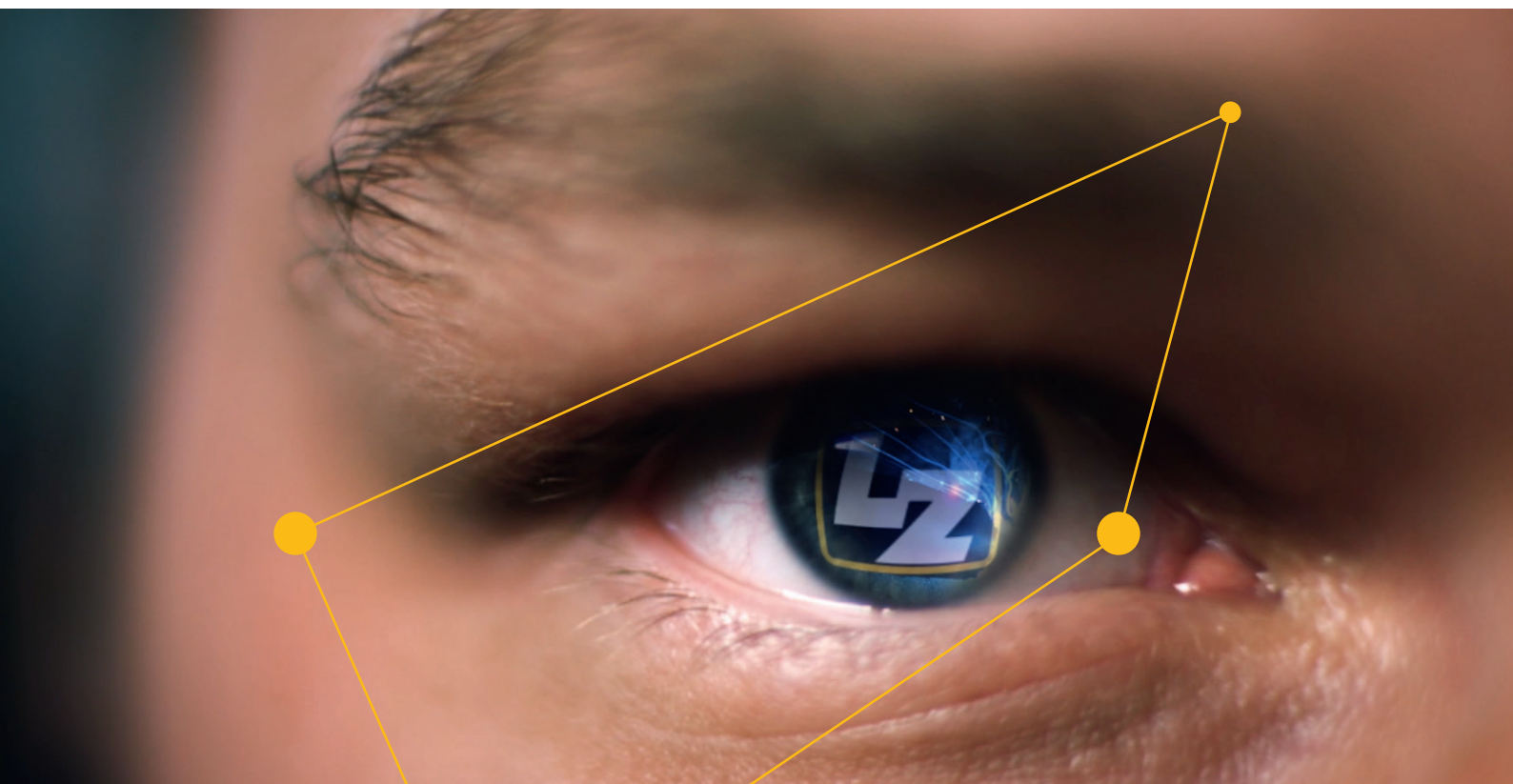


PRESSES | AUTOMATION
ONE-STOP-SHOP





Tradition, Perfection, Innovation

As a leading expert in the development and production of hydraulic presses, automation and special solutions as well as turnkey concept solutions for the automotive, aerospace, sports, metal and wood industries, Langzauner relies on three pillars for successful customer projects:

Tradition: Around 100 years of experience in the manufacture of customised machines gives us a deep understanding of our customers' needs. Consistency and reliability characterise the cooperation with our company and ensure future-proof investments in every project.

Perfection: Our philosophy, Langzauner PERFECT, already expresses our striving for perfect plant and process quality. Our hydraulic presses and concept solutions stand for precision MADE IN AUSTRIA. From planning to commissioning, our customers can expect absolute dedication and an above-average willingness to invest in their success.

Innovation: Technical progress and the creation of new standards are the motivation for our team! In our in-house R&D department, we regularly push the physical limits to create ever more powerful, smarter hydraulic presses and process solutions for our customers. Langzauner creates customised solutions for state-of-the-art manufacturing processes.

COMPANY HISTORY



1924 Company foundation

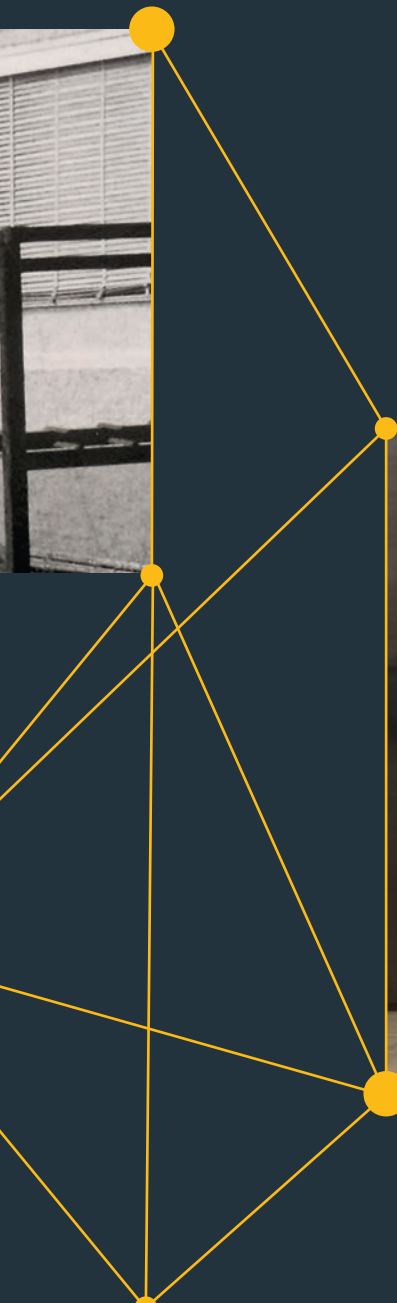


2019 Expansion: Langzauner invests in the future

TRADITION

PERFECTION

INNOVATION

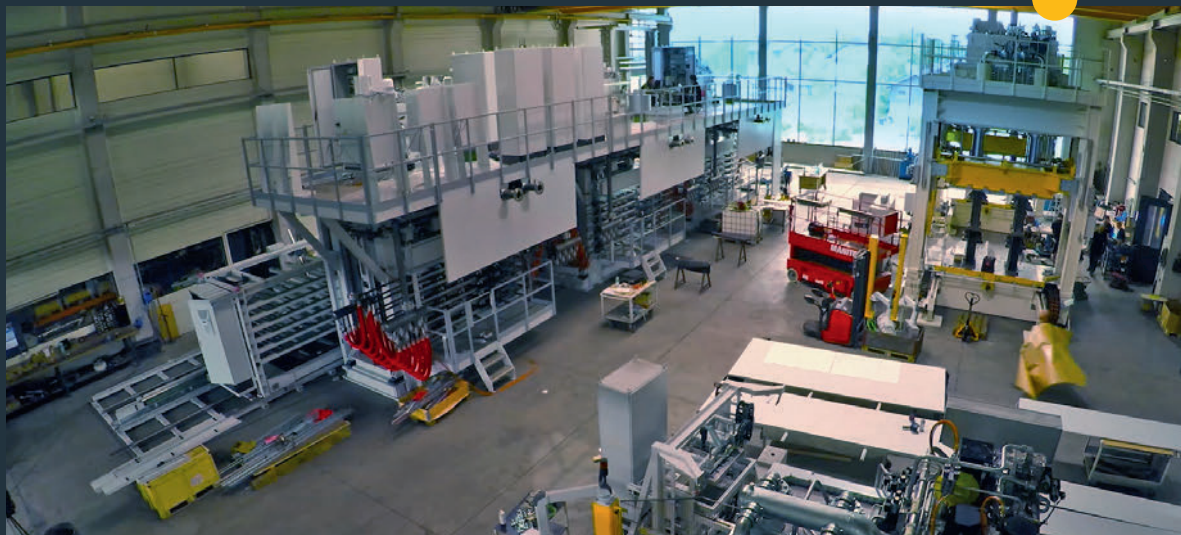
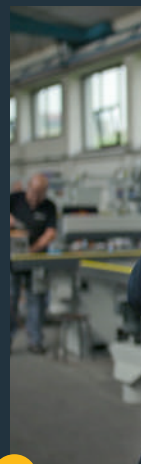
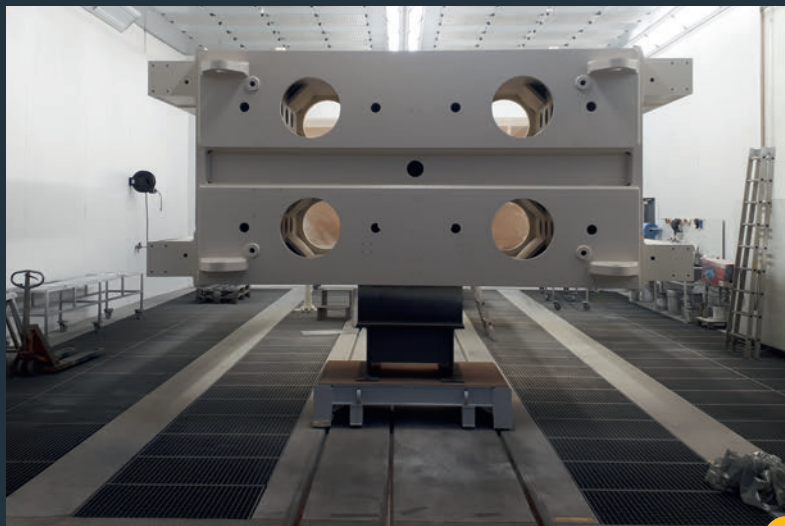


2011 Thomas Witzmann joins
the management


Langzauner has been developing and producing customised machines at its Lambrecht site in Upper Austria since 1924. Our company is already being run as a family business in the fourth generation.

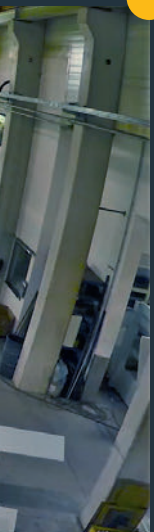
As an owner-managed company, long-term customer and employee relationships are a top priority. We actively promote a family-friendly working environment in our long-established company. We stand for economic stability in the fourth generation and for traditional values such as a sense of responsibility towards our employees and absolute reliability towards our customers. This is the basis of Langzauner's success and something our partners can build on!

PRESSES IN PERFECTION





- 
- Family-run company since **1924**
 - **10.000 m²** production area
 - Hall height **22 m**
 - **100 t** indoor overhead crane
 - In-house manufacturing of over **90 %**
 - **Global** network



NETWORK PARTNERS – RESEARCH & DEVEL



“When AMRC was looking for a supplier for a high-temperature heating press, Langzauner was impressive right from the start and ultimately offered the more innovative and attractive system.

Langzauner supplied a robust and reliable press with the necessary flexibility to conduct materials research in the high-temperature range. Since delivery and commissioning in 2013, the partnership with Langzauner has been excellent. This allows us to implement many high-quality projects for OEMs in the international aviation as well as the automotive industry.”

Conrad Sdao, Factory Manager Composite Centre



Well-known material producers such as the Solvay Group rely on machines „Made in Austria“ by Langzauner. In the project,

we work closely with Solvay technicians to understand the individual process requirements. Langzauner has equipped the Solvay research laboratory with a highly flexible 1,600 t press. The system optimally covers a wide range of wishes and requirements in the process sequence.



OPMENT



Leibniz Institute for Composite Materials GmbH (IVW)



Langzauner developed a 2600 t short-stroke press for the Thermoplastic Composites Technology Centre „TTC“ at the Leibniz Institute for Composite Materials GmbH (IVW). In order to enable component development on a 1:1 scale, a new era in the field of multi-process forming presses was ushered in. The highly reactive system achieves values in accuracy and frequency of parallelism control that are unique on the market.

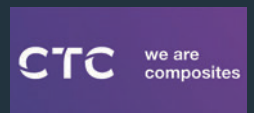
Swinburne–CSIRO National Industry 4.0 Testlab



For the Swinburne–CSIRO National Industry 4.0 Testlab, Langzauner supplied an automated, multi-process high-temperature press with up to 300 t pressing force. The focus was on the multi-process capability of the system with simultaneous precision. From injection processing (resin transfer moulding – RTM) to thermoforming of thermoset and thermoplastic semi-finished products, the high-temperature press enables optimum adaptation to the required processes.



CTC GmbH – Composite Technology Center



As an Airbus company, CTC GmbH brings lightweight construction visions into series production. Langzauner developed a powerful hydraulic press with 1,500 t pressing force for the aviation expert. With the customised plant, CTC GmbH is developing innovative manufacturing processes for thermoset and thermoplastic composite components for structural and interior applications.

AUTOMATION PRESSES



TRADITION
PERFECTION
INNOVATION

SEMI-AUTOMATED PRESSES

The automation of presses made by Langzauner ensures optimized, reliable production processes in any environment. The perfect interaction of all system components in production makes processes powerful, safe and economical.

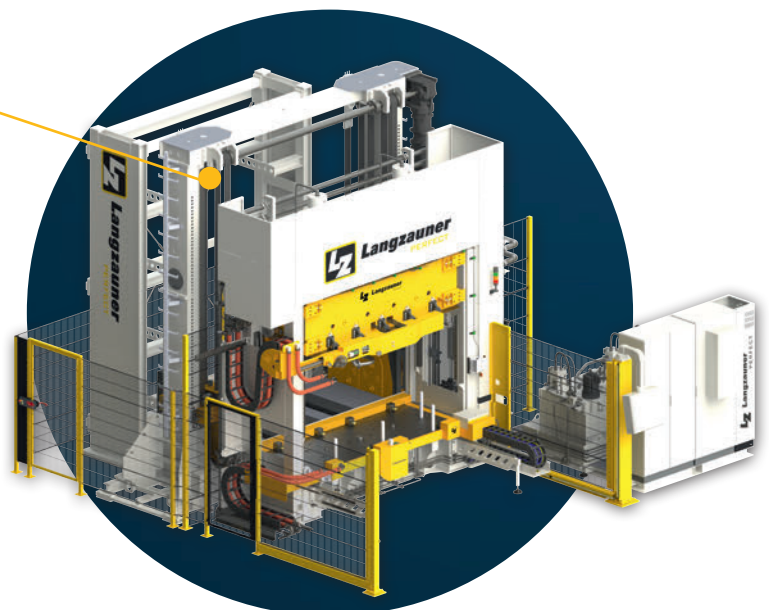
Automation solutions from Langzauner are impressive, thanks to their efficiency and practicality, even for highly complex requirements. To achieve this goal, we always provide our customers with individualised advice and support. During planning and implementation, process requirements and needs are precisely ascertained and translated into customised automation solutions.

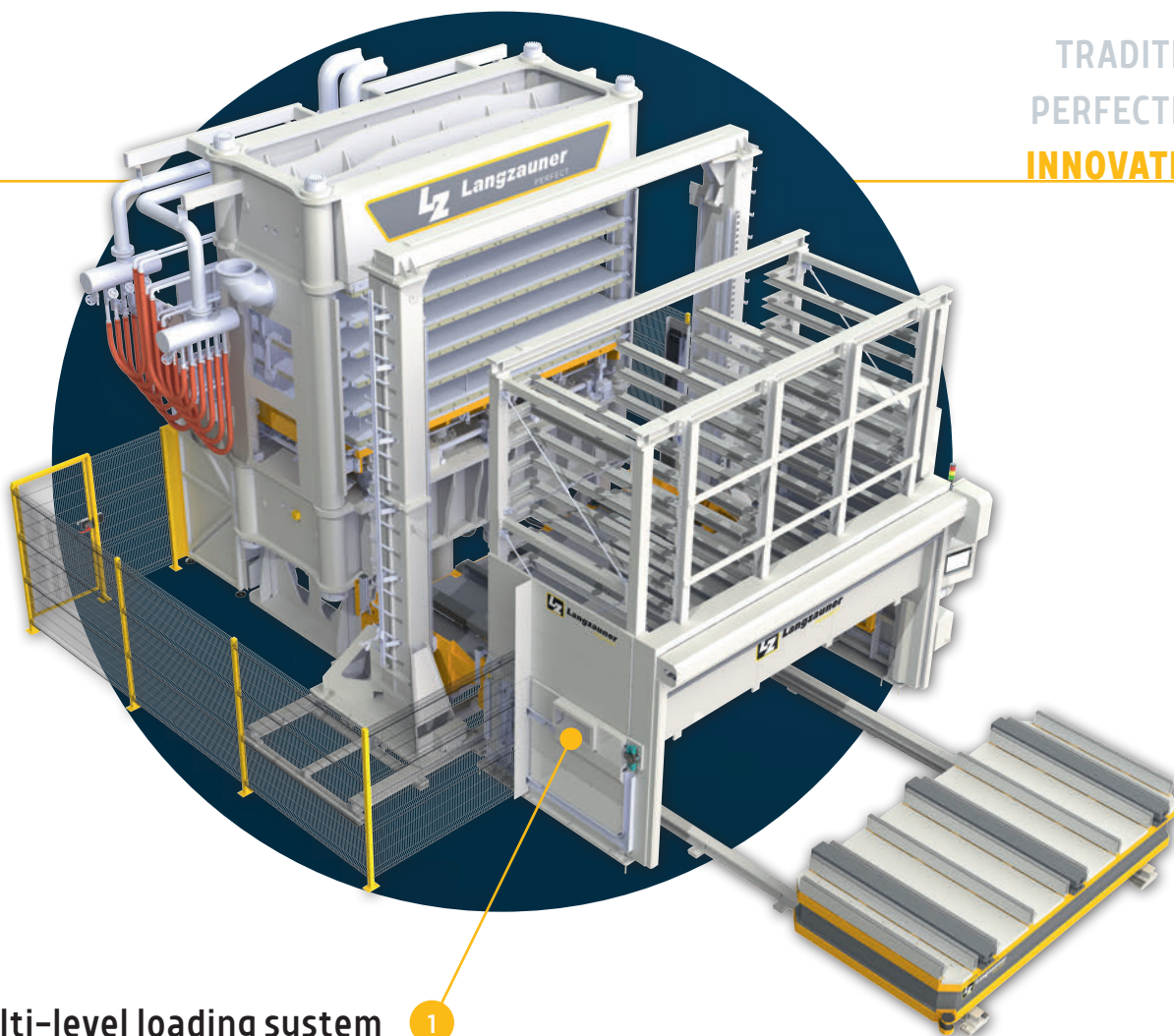
Impressive advantages of automation solutions:

- Optimisation of cycle times
- Reduction of the failure rate
- High repeatability and reproducible processes
- Quality assurance and data recording
- Increasing competitiveness
- Improving working conditions and ergonomics
- Elimination of sources of danger
- Retrofittable units for existing machines
- High degree of individualisation
- Integration into the plant control system – complete solution from a single source

Mould handling

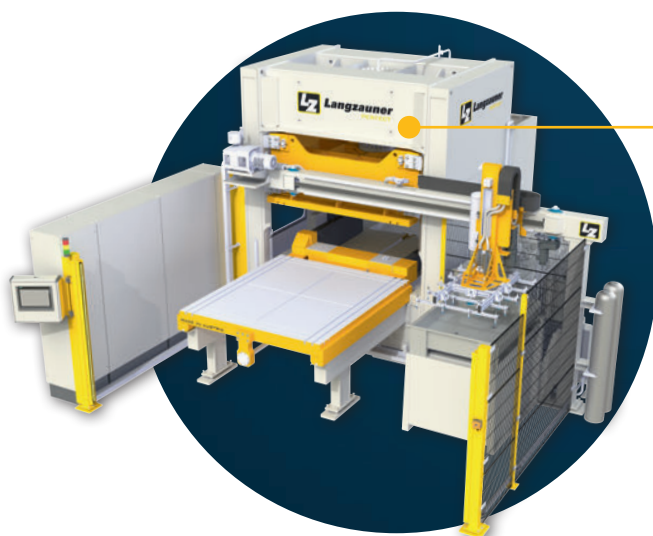
- Hydraulic upstroke press
- Ergonomic sliding table
- Mould storage system
- Integrated preheating station





Multi-level loading system 1

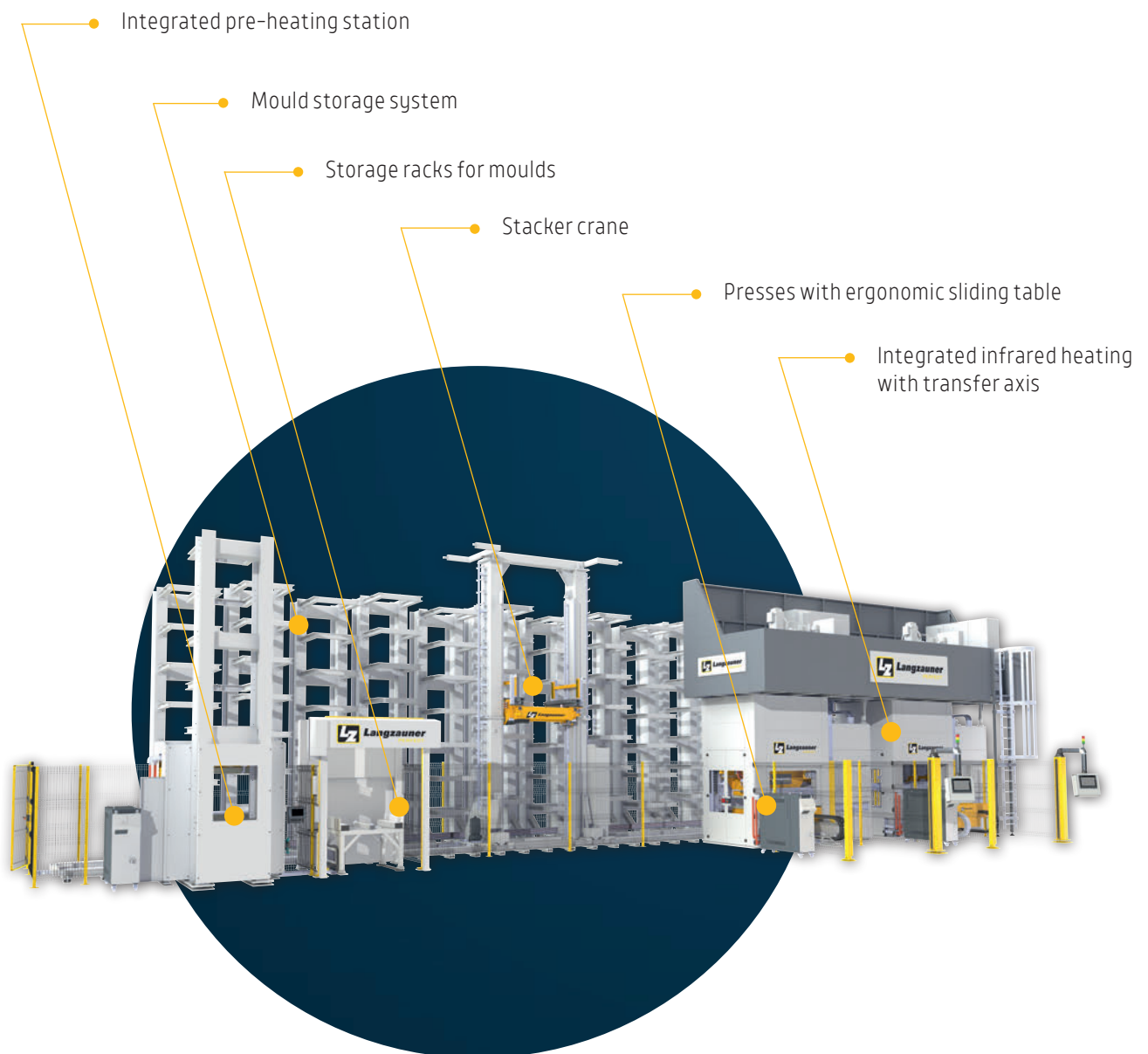
- Storage and retrieval station
- Loading and unloading system
- Production buffer
- Tempered lower downstroke press

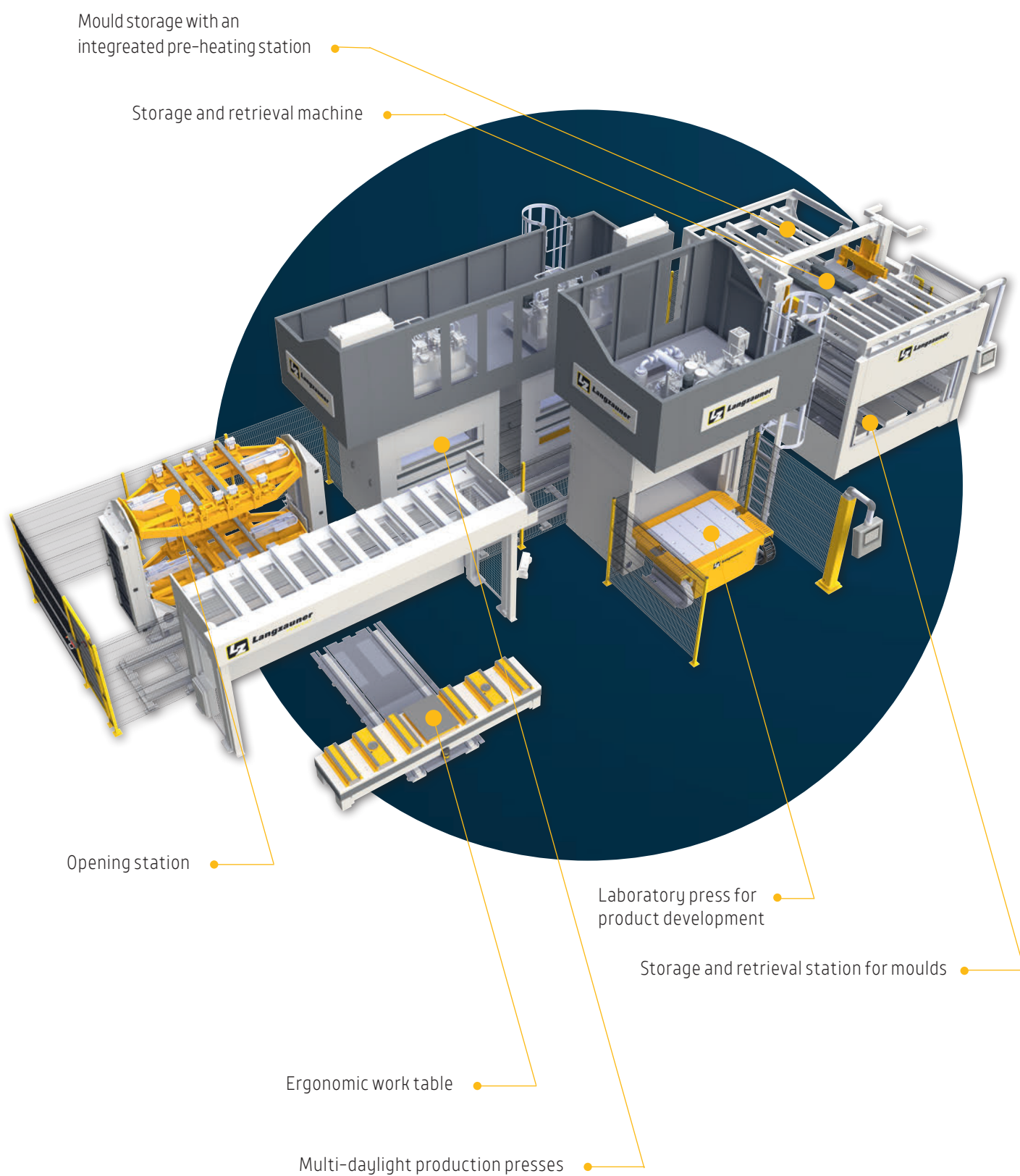


3 Material handling

- Upstroke press
- Portal handling for loading and unloading
- Sliding table for tool cleaning
- Electric mould heating up to 450 °C

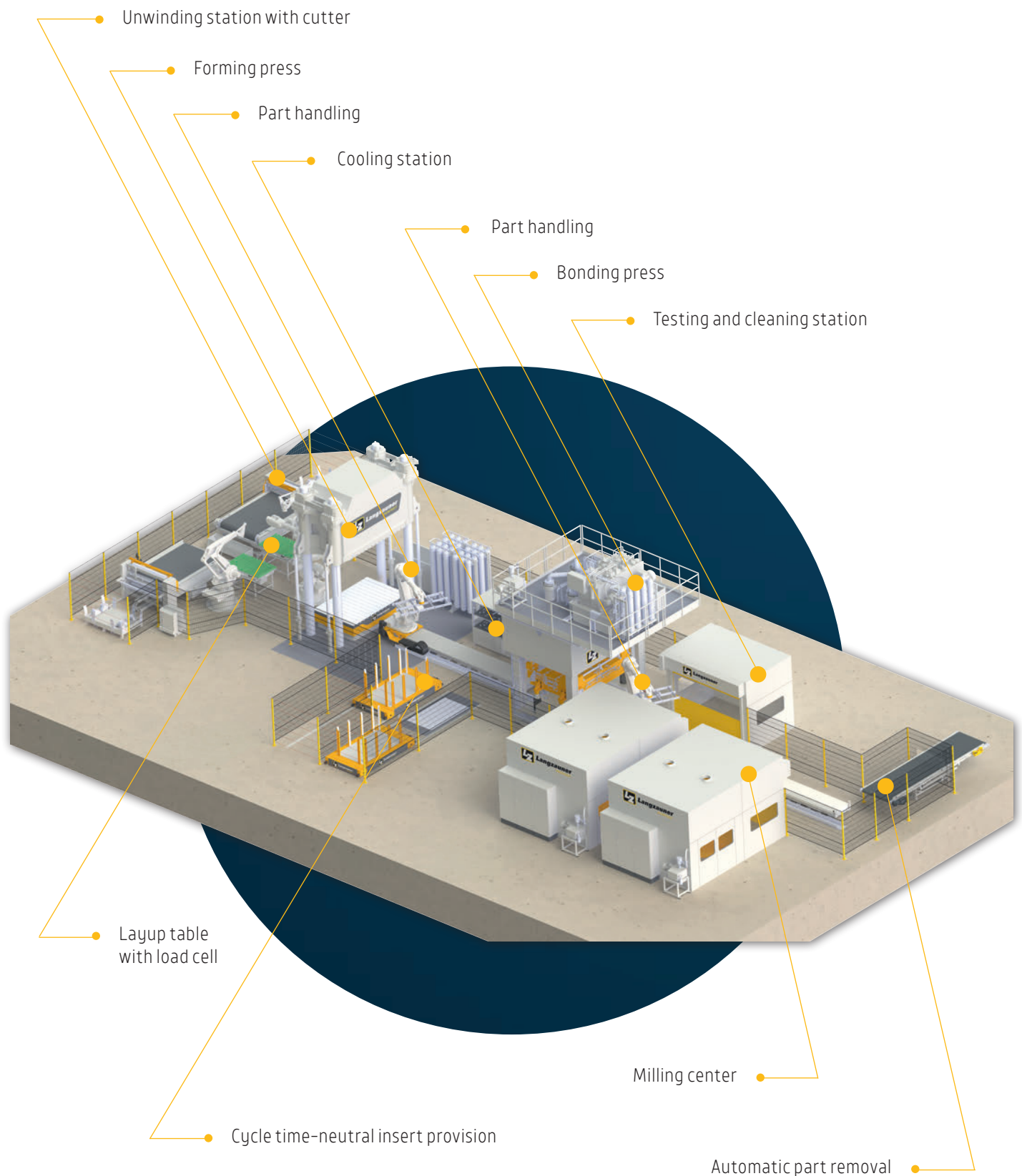
FULLY AUTOMATED PRESS LINES

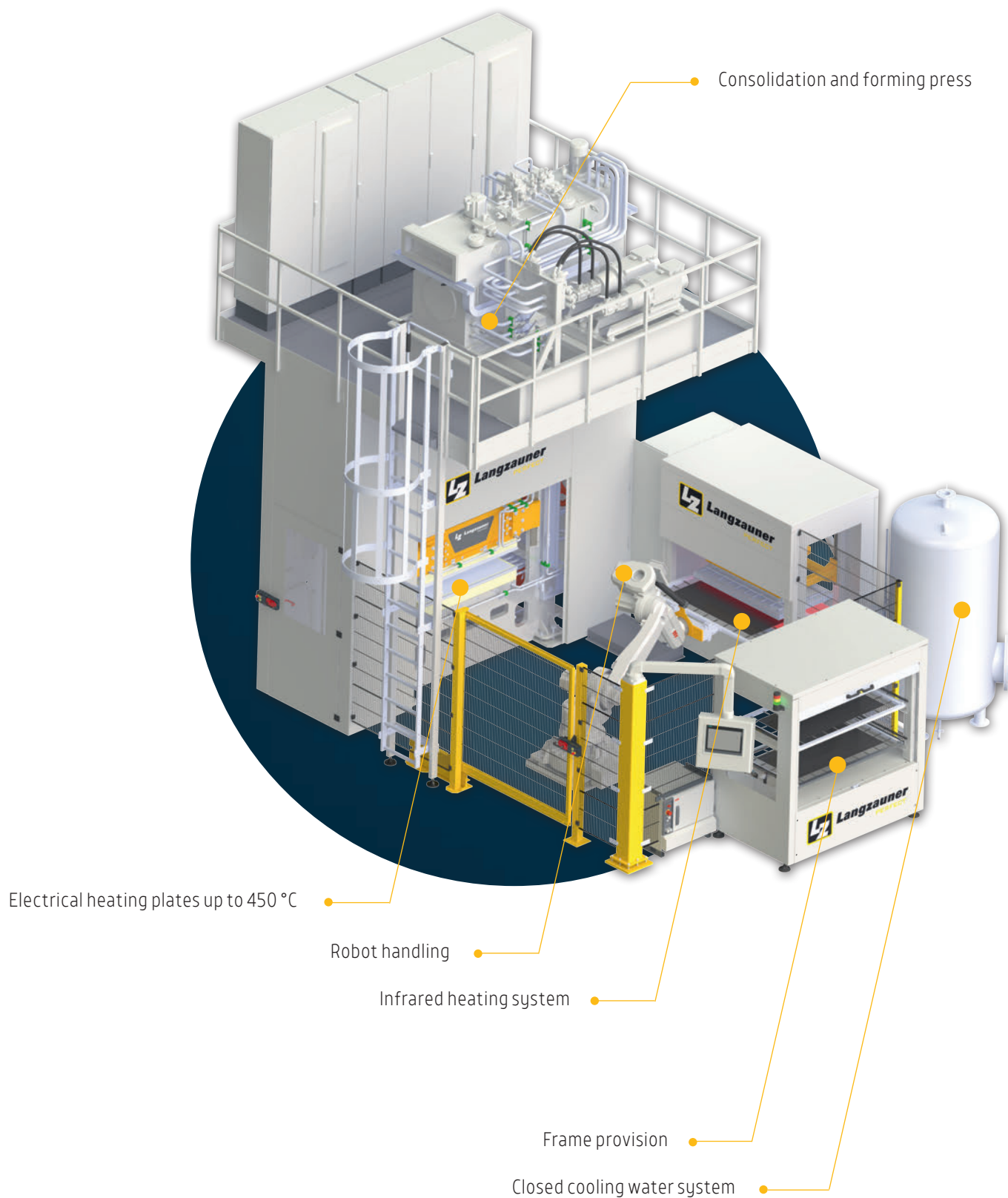




FULLY AUTOMATED PRESS LINES

TRADITION PERFECTION INNOVATION





AUTOMATION PRESSES

Stacker cranes

A stacker crane is a rail-guided vehicle for automatic storage, transfer and retrieval of moulds, components or other goods. Stacker cranes are the motor and heart of many automation lines – they increase the efficiency and ergonomics of any automated production. Everything has to be perfectly coordinated. High-bay storage systems with stacker cranes are often used where a large number of moulds, components or other goods need to be stored in a limited space. Stacker cranes can move along the entire height and length of a storage system and significantly increase the productivity of the entire production cell.

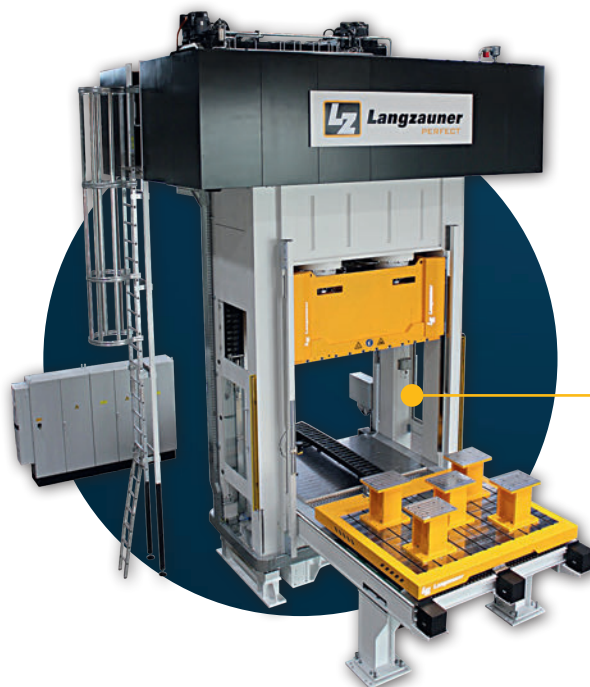
1



2

Material transfer – linear axes

Material transfer as an automated solution ensures that materials or products are provided at a specific location and at the optimal time. Linear and multi-axis systems ensure that all the requirements of the production line or plant are met efficiently, safely and ergonomically.





Cleaning stations – Gates – Worktables

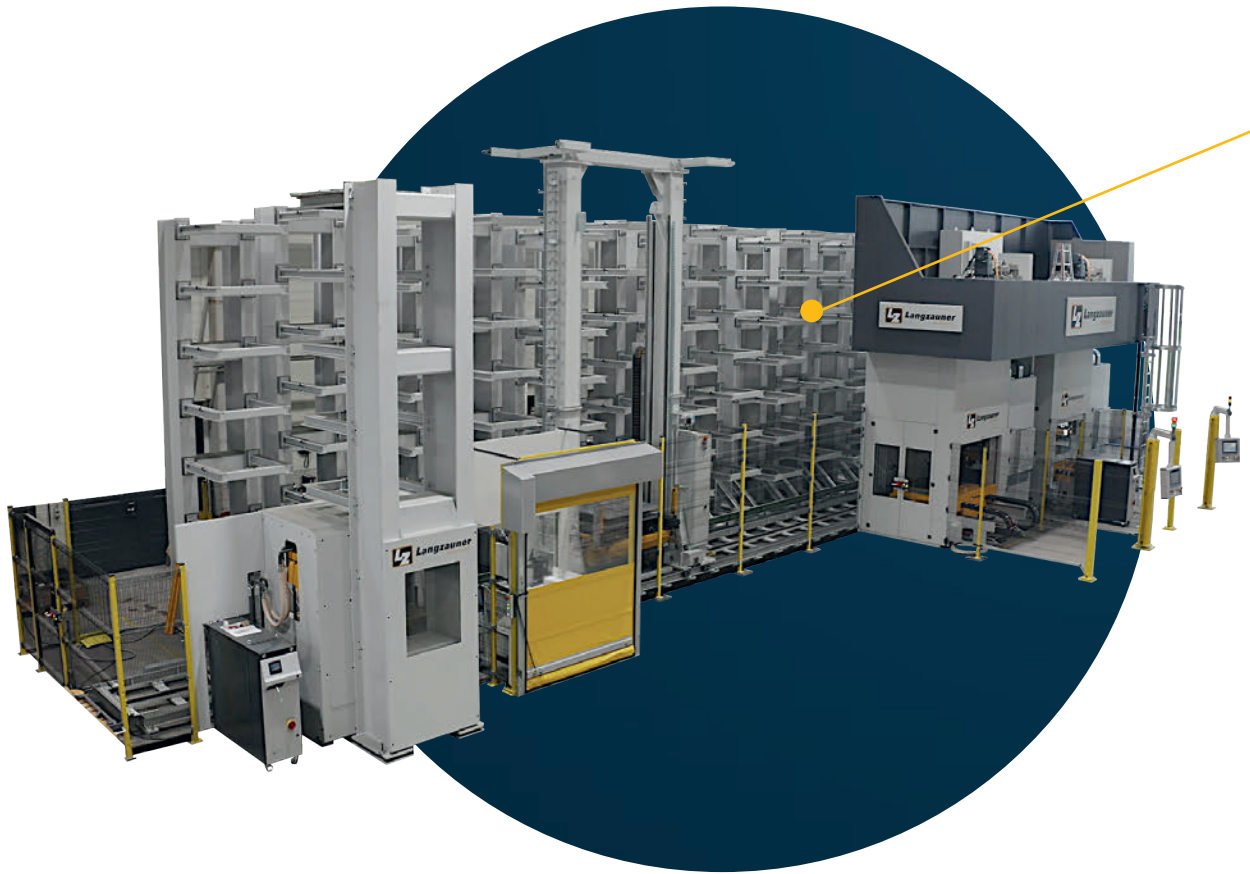
No production cell can completely work without human intervention. For example, a complex coating procedure, a continuous cleaning cycle or random quality assurance for moulds require human intervention in the process. For this purpose, Langzauner offers a wide range of options to ensure that the production flow is not disturbed and to channel the moulds out of the process. We also focus on ergonomics. Improved working conditions through automatically loaded, height-adjustable work tables are just one solution here.

4

Sliding table – Mould change

The most popular automation variant for a mould change on Langzauner presses is the sliding table. The special feature of our sliding table is in the detail of fixing, centring and monitoring of the sliding table plate.

AUTOMATION PRESSES



6

Opening stations

We pay great attention to ergonomic requirements, such as opening stations. These are implemented in all conceivable variants, including swivel-stroke units. By „opening“ a mould, both inner mould surfaces become accessible to the operator in order to ergonomically carry out cleaning, inspection or loading work. Versions range from „press-integrated“ to separate, external opening stations.

Mould shuttle systems and intelligent pre-heating stations

5

Mould change- / shuttle-systems are offered by Langzauner in a wide variety of forms and at varying degrees of automation. From simple spring-loaded roller bars to the fully automated, unmanned mould change system, our range covers the entire field of mould automation.



High-bay storage systems

7

Langzauner develops customised storage systems for parts and moulds to optimise complex storage processes and maximise existing manufacturing potential. Safety, availability and the best possible hall utilisation are at the forefront of the design.



Robotics for part handling and material transfer

8

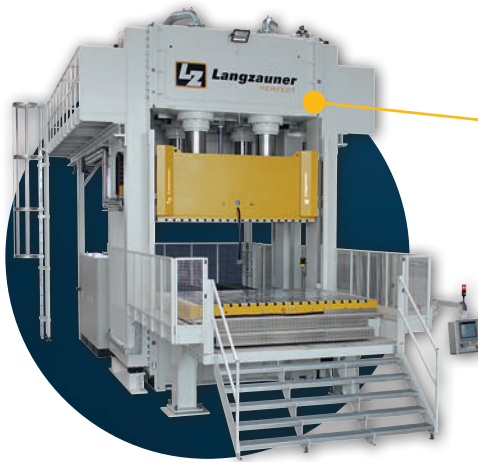
When linear systems reach their limits in automation, multi-axis robots are used. The key in this type of automation is the gripper technology. Using the latest technologies, our aim is to work together to find the optimum solution for your automation tasks, thereby reducing costs and increasing productivity.

PRODUCT EXAMPLES COMPOSITE

Laboratory presses

1

Langzauner presses set standards in the development of composite materials. For decades, the industry's major fibre manufacturers, research institutes and universities have relied on our expertise. Our laboratory systems are individually tailored to customer requirements and have proven their worth hundreds of times. Based on our experience, the latest perfectLAB laboratory press series was launched in close consultation with our development partners from materials and product research.



Mould presses

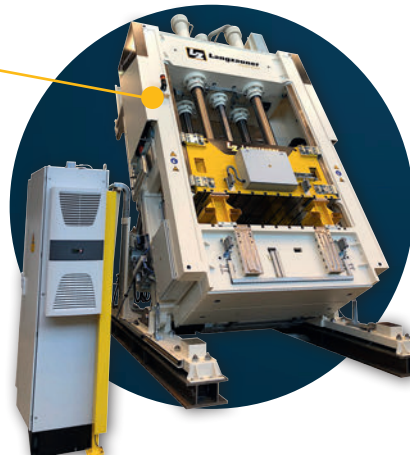
2

Langzauner has been producing, developing and optimising turnkey mould pressing systems in various sizes and designs for decades. Directly or indirectly tempered moulds are mounted manually or automatically on surfaces of over 8,000 mm length.

Swivelling mould carrier presses

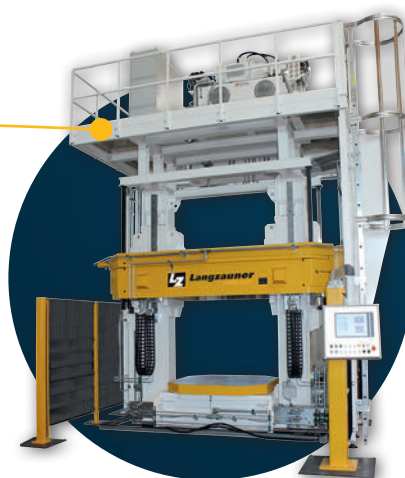
3

Depending on the customer's requirements, either the entire machine frame can be tilted from 0 to 45 degrees or alternatively the mould clamping surfaces can be tilted from 0 to 110 degrees. In this way, different pressing processes can be covered and, at the same time, ergonomic accessibility for mould preparation is provided.



Mould carrier

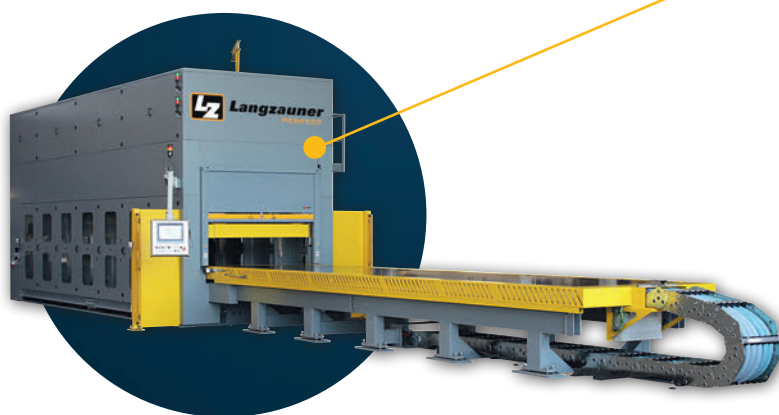
Thanks to our customised mould carrier solutions, uniform pressing forces on the mould can be ensured, especially with lower pressing forces. Mould carriers are often used in component preparation, as they allow optimum integration into existing infrastructures due to their relatively low intrinsic mass and size.



4

Plate presses

Even without moulding tools, our partners rely on press technology „Made in Austria“. Thanks to integrated individual cylinder control and partial cylinder deactivation, plate presses from Langzauner enable compliance with minimum tolerances with optimum force distribution over the entire pressing area. The combination of up to 10,000 t press force and over 10 m sliding table length for easy component change guarantees maximum flexibility in operation.



5

Short-stroke presses

Short-stroke presses from Langzauner set new standards in the forming and production of Composite parts for the aerospace, automotive and railway industries. Each system is developed according to the customer's individual process flows and offers state-of-the-art technology such as integrated infrared stations, injection units and real-time data analysis in the tenth of a millisecond range.



6

PRODUCT EXAMPLES COMPOSITE

Multi-daylight presses

Large batch sizes and small footprints – just two important properties that multi-daylight presses combine. Our multi-daylight presses are indispensable for efficient series production. Thanks to individually lockable, solid steel heating plates in combination with our infinitely variable servo hydraulics, an energy-efficient overall package is offered. The almost unlimited possibilities with regard to optimised production processes with partial or full automation in the basic version or also as an extension also guarantee maximum flexibility in the series process.



Electric spindle presses

With electric spindle presses from Langzauner, the highest positioning accuracies can be ensured at minimum, judder-free travel speeds. The elimination of operating fluids such as hydraulic oils is another advantage. Our spindle presses also cover the widest possible range of applications in the Composites sector thanks to countless combination options with temperature control units for direct or indirect mould temperature control, real-time data evaluation or built-on multi-couplings for supplying media to the mould.

C-presses

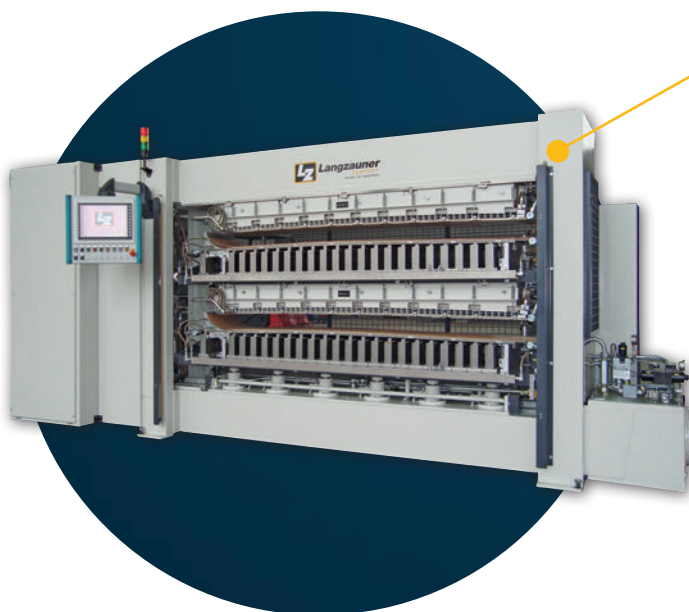
Thanks to the slim design, our C-presses allow the operator good accessibility from three sides. The design of sliding doors with safety light curtains on the two narrow sides enables productive use in series production. For applications with punching or forming moulds protruding above the pressing surface, the doors can be opened and the presses may be operated with a two-hand or foot control.



10

Ski and snowboard presses

More than 50 years ago, the sports industry was the first sector to recognise the enormous potential of fibre-reinforced plastics and to undertake initial trials with them. Our first presses for the ski industry were developed as early as the 1970s. Today, all renowned ski and snowboard manufacturers work on presses from Langzauner. Short set-up times, flexible production and high reproducibility characterise our presses.



11

Customized press systems

Together with our customers, we create customized solutions for the most modern manufacturing processes! - With pressing forces from 1 to 10,000 tons, pressing surfaces of up to 10m in length and controlled heating and cooling systems up to 500 degrees Celsius, as well as associated partial or full automation solutions we develop the best solution for our partners!



Your project is our challenge!

TECHNOLOGIES / PROCESSES

State-of-the-art press systems

We are constantly working on the further development of our press systems. Starting with the current non-plus-ultra in hydraulic drive technology with the use of our servo-hydraulics, through the precise adjustment of the machine setup to customer-specific processes, to the use of the latest control and regulation technology: Our solutions **guarantee** the best results!

The advantages of our turnkey systems are obvious: Extreme energy savings thanks to low running times and exploitation of synergies, as well as compliance with the highest accuracies. Our many years of experience in press construction enable us to find the perfect solution together with our customers.

Our press systems offer:

- Customised presses from 1 to 100,000 kN
- Servo-hydraulics, high accuracy and energy efficiency
- Infrared heating, convection oven systems
- Single or double sliding table
- Integrated heating and cooling systems up to 500 °C
- Robot and linear technology for full or partial automation
- Vacuum and nitrogen systems
- Injection units
- Automatic tool cleaning
- Ergonomic working platforms
- Software with full traceability
- Quality assurance with camera and measuring systems



Langzauner's area of expertise includes:

- Press systems for series production
- Laboratory press systems for research and development
- Automation solutions
- Technology and process development
- Turnkey production solutions
- Coordinated software and visualisation
- Complete data acquisition and logging
- Direct quality evaluation and assurance

We are very familiar with a wide range of techniques and processes.

- Sandwich, Crush Core, Honeycomb
- Thermoforming
- HP-RTM (High Pressure Resin Transfer Moulding)
- SQ-RTM (Same Qualified Resin Transfer Moulding)
- CFRP (carbon fibre reinforced plastic)
- GRP (glass fibre reinforced plastic)
- Natural fibres (NFPP)
- Multi-Processes
- PCM – Prepreg Compression Moulding
- SMC / BMC / GMT
- Tempering moulds
- Tempering materials
- Hybrid technology
- Wet pressing
- Pultrusion



Aviation industry



Automotive industry



Caravan industry



Sports industry



Space industry



Metal industry



Wood industry

... and many more

perfectDATA

perfectDATA: Digitisation with Langzauner PERFECT

With perfectDATA we offer a powerful tool for the digitalisation of your shop floor! The IoT solution from Langzauner offers the following functions:

- Collect real-time data
- Scalable data monitoring
- Live-Visualisation
- Predictive analytics
- Data-driven plant optimisation

Benefit from digitalisation in your production processes with perfectDATA and rely on a future-proof, scalable solution.



perfectDATA – a quantum leap for efficiency and learning curve

With **perfectDATA**, Langzauner offers a scalable, future-proof **solution for the collection, visualisation and analysis of machine data**. The use of the IoT solution has significant effects on efficiency, quality and process optimisation:

- Make data-driven decisions
- Maximise production quality
- Avoidance and reduction of downtimes (predictive maintenance)
- Optimisation of production processes
- Reduction of energy consumption (Smart Energy Management)

Data monitoring and visualization

perfectDATA takes data monitoring and visualization of relevant process data to a new level:

- Collect machine data in real time
- Data analysis for valuable insights and logic

With a user-friendly, web-based dashboard, perfectDATA enables the **clear visualization of all data that are relevant for your processes**. In production, you always have the information you need for data-driven decision-making processes.

Avoid costly downtime with perfectDATA!

Predictive maintenance and condition monitoring make it possible to detect potential plant problems at an early stage, even before they become critical. Through the **analysis of historical and real-time data**, perfectDATA provides you with all the **decisive information you** need to

- ... organise the maintenance,
- ... improve the distribution of resources,
- ... reduce production interruptions.

This not only saves our customers time and money, but also secures their production planning and system availability.

Digital process optimization for top performance

With perfectDATA, companies exploit the maximum potential of their production processes. Our digitization solution supports **advanced analysis and machine learning algorithms to identify areas for improvement**. Recommendations for more efficiency and productivity in production are derived. **Through digital process optimization you achieve:**

- Better product quality
- Lower energy consumption
- Less material waste

System-open integration and scalability

perfectDATA was developed for seamless embedding in existing systems and infrastructures. Langzauner thus offers the smoothest possible process digitisation. Our system enables open-system machine integration, with full support from our team of experts. perfectDATA is highly scalable, making it the perfect solution for industries of all sizes.



Are you ready to revolutionize your production processes with perfectDATA?

Get in touch with our team to schedule a demo and learn more about the features and benefits of our IoT solution.

COMPETENCE / SERVICE



All development and production steps from a single source

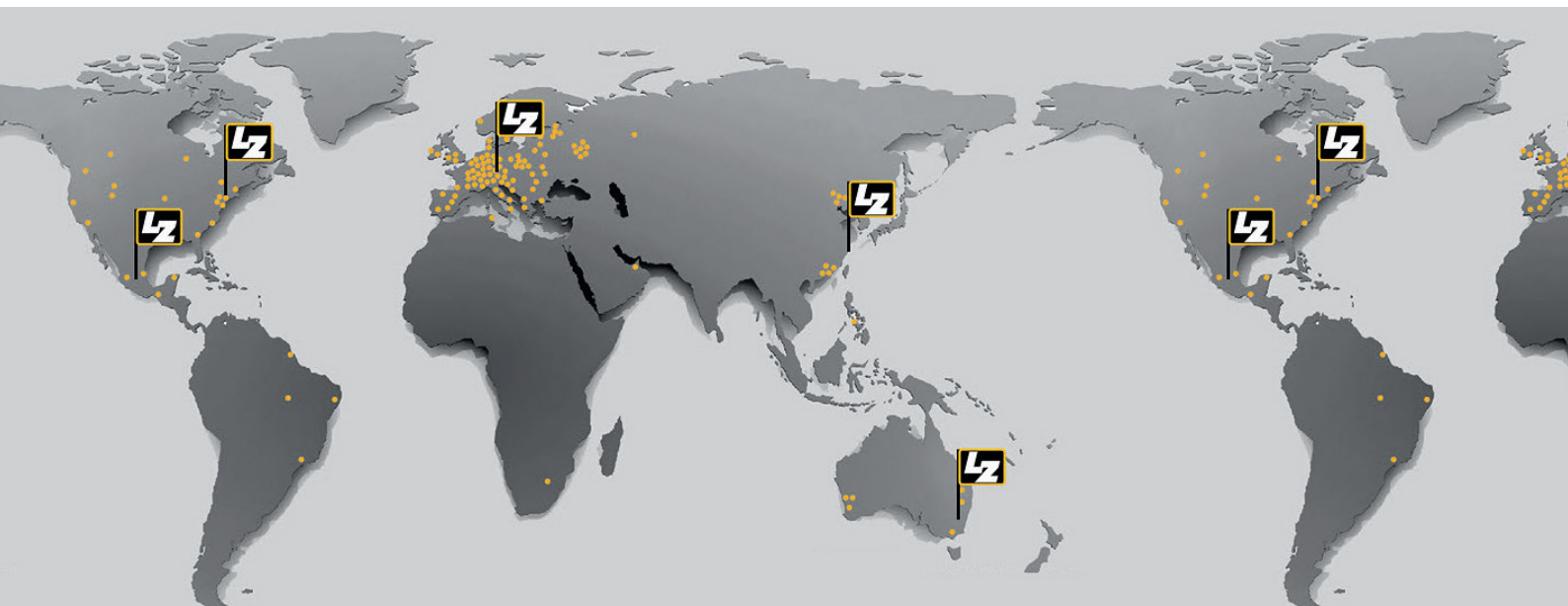
From development to the production of individual parts to assembly, all work steps bear Langzauner's signature.

The result: Each machine produced is optimally matched to the needs and process requirements of the respective customer.

Service as a promise

For us, this is just as important as the quality of the products. Thanks to our team of highly qualified and mobile service technicians, you benefit from fast reaction times and minimal downtime.

We ensure proximity to our customers through our own service and maintenance team as well as through local partners. Our **global service offer** is perfectly supported by our high in-house production depth of over 90 %.





Langzauner Gesellschaft m.b.H.

4772 Lambrechten 52, Austria

Telefon +43 77 65 / 231-0

Fax +43 77 65 / 231-85

E-Mail office@langzauner.at

