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PREFACE

It's about our future! That is why the topic sustainability becomes increasingly important – for us as a company and employer, but also for our markets and the whole world. From the very beginning, the Muehlbauer Group has been committed to sustainability. Our corporate strategy is based on combining economic necessity, ecological reason and social responsibility in all processes and decisions to create a solid foundation that our customers, business partners and over 4000 employees can rely on at all times. This is also testified by the exceptionally high level of vertical integration, which guarantees short distances, fast delivery times, and the highest quality and makes us unique on the world market.

With our highly competent employees and 40 locations worldwide, we are world market leader in many of our markets and, every day, we work hard to further develop our technologies and meet tomorrow's needs. In a world

in which the speed of innovation is higher than ever before and changes are an essential part of everyday life, the values reliability, speed and entrepreneurial responsibility have become even more relevant.

Our dedicated employees, as well as all the people around the globe who trust in our technologies are our key to success. We are all the more aware of our responsibility to society. When dealing with innovations, especially in the digital domain, the focus must not be on short-term profit maximization; our goal must be to use the latest technologies to make our lives more sustainable – and we look forward to continuing to go this course together with our employees, customers and business partners.

Josef Mühlbauer



DRIVING INNOVATION. POWERING eMOBILITY.

At Muehlbauer, we are committed to eMobility as a key element of global decarbonization. Our focus is on clean, efficient transport powered by batteries and hydrogen fuel cells. We provide advanced production equipment and turnkey assembly solutions for battery cells, fuel cells, and battery management systems, helping to make this vision a reality.

Since 1981, Muehlbauer has been a leader in smart card and passport production, and we've set industry standards with our unique die sorting technology in the semiconductor sector. Today, we're bringing that expertise to eMobility, combining our established technologies, intellectual property, and rapid prototyping capabilities to drive innovation in this field.

OUR TECHNOLOGICAL STRENGTHS

Our success is driven by several core technologies:

- In-house parts production: Rapid prototyping and precision-engineered components.
- Die sorting technology: Industry-leading performance, placing over 60,000 dies/hour.
- Advanced vision technology: Ensuring precise inspection and monitoring at every production stage.
- Industry 4.0 software (MB PALAMAX®): Provides real-time production insights, enabling continuous optimization.



CUSTOMIZED SOFTWARE



REEL-TO-REEL, REEL-TO-SHEET



ROTARY PLACEMENT TECHNOLOGY



UNIQUE VISION INSPECTION



HIGH PRECISION PARTS





RESULTING IN THESE SOLUTIONS

Muehlbauer developed state-of-the art solutions for 3 eMobility sectors:

Our **Battery Cell Assembly Line** offers customized solutions for the production of battery cells, covering processes from notching over stacking and cell assembly, including X-ray and/or CT quality checks. Its modular concept allows the flexibility to perfectly adapt to the specific cell assembly requirements, e.g. to run as standalone module or as fully automated unit. Our equipment covers pilot production and is scalable up to GIGA capacity solutions.

A Battery Management System (BMS) controls, regulates and monitors cell connecting boards, reports measures and problems, thus protecting the battery against irregular operating conditions. Our

Muehlbauer **Battery Management Assembly Line** fully automatically installs electrical contacts on boards and cells to connect both with each other, enabling the BMS to manage the battery cell. Our line is designed for high scale automotive production capacities.

Our first-of-its-kind **Membrane Electrode Assembly Line with Fuel Cell Stacking Module** and testing unit covers the precise lamination of a specific number of cell layers, including frames, membrane and electrodes with highest precision. Output of the MEA line is a fully completed MEA as defined by product specifications. The fuel cell equipment is designed for high capacity fuel cell system manufacturing with customized product design.

» Ready for Industry 4.0 – we are! «



KEY BENEFITS



ALL IN-HOUSE PRODUCTION

- Muehlbauer Parts & Systems
- Rapid prototyping
- > 700 R&D engineers
- Worldwide footprint – eMobility centers located in Europe



UNIQUE VISION

- Total stack accuracy +/- 100 μm
- Particle detection on electrodes down to 20 μm
- "On the fly" vision inspection



GIGA GROWTH

- 3 new eMobility centers in EU
 - » Roding, Germany
 - » Nitra, Slovakia
 - » Stara Pazova, Serbia
- Clean & Dry rooms – for testing and sample production



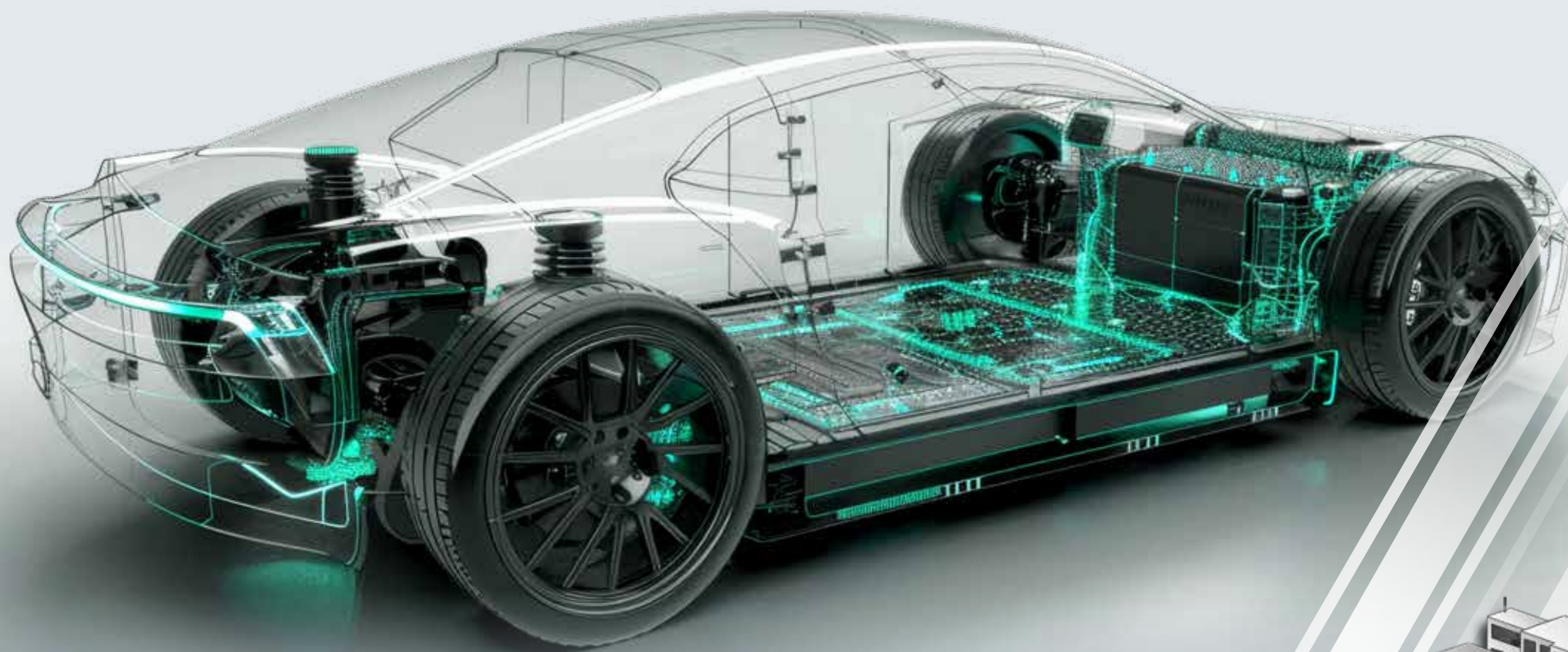
SERVICE

- 24h/7 hotline & remote service
- Full service & spare parts for machine's lifetime
- More than 40 service locations worldwide



INDUSTRY 4.0

- MB PALAMAX® software – Industry 4.0
- Digital solutions for smart factory
- 100% traceability including vision data from each process step



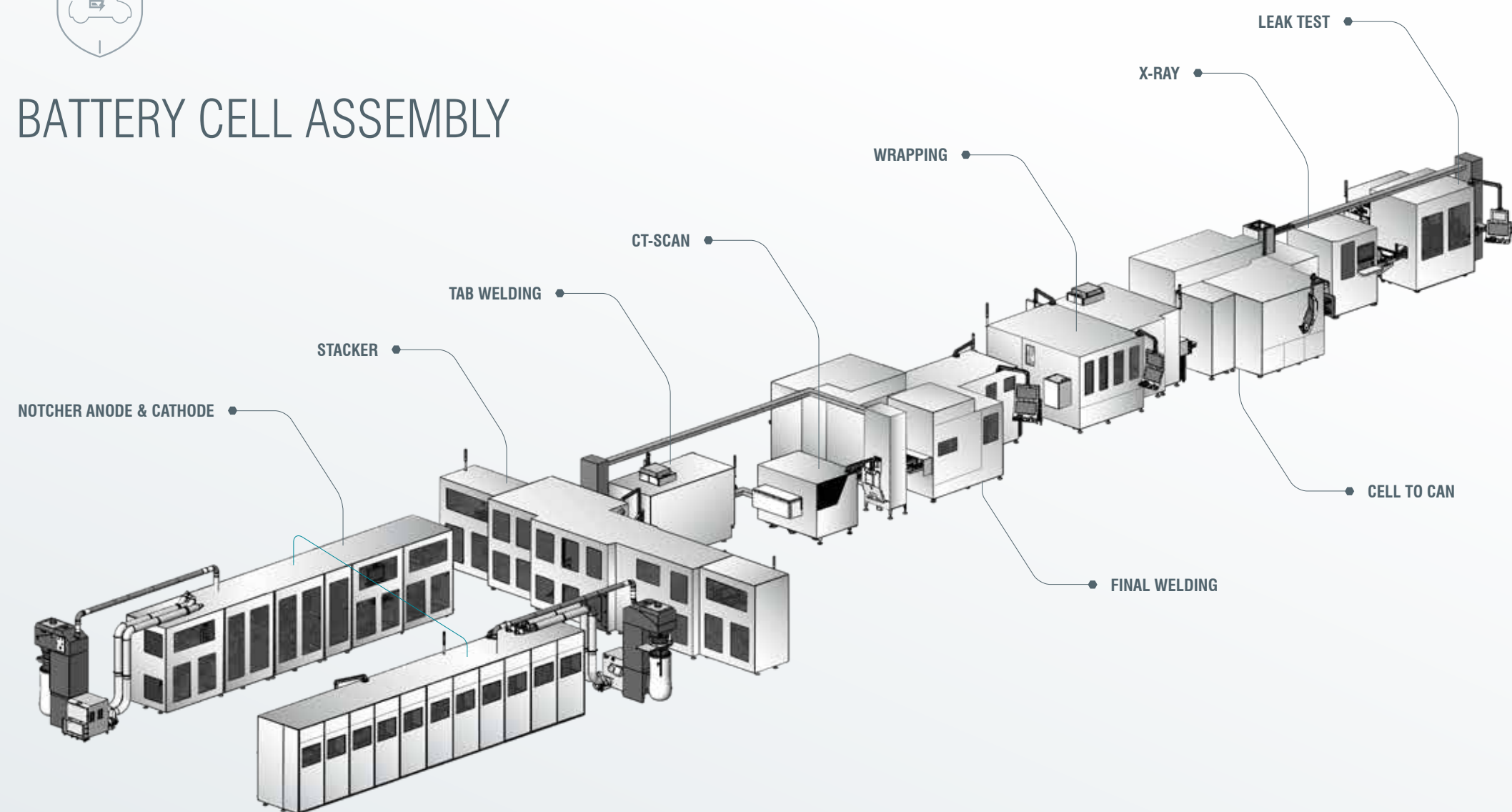
BATTERY CELL

Produce greener Battery. Reuse Resources. Make supply chain circular. Muehlbauer's Battery Cell Assembly Line for the manufacture of pouch cells and prismatic cells for lithium-ion batteries runs with greatly reduced carbon footprint. Our design promises low energy costs, an extremely small footprint and achieves record performance. Efficiency and Simplicity.

eREVOLUTION



BATTERY CELL ASSEMBLY

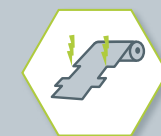


Our **Cell Assembly Line (CAL)** is designed for **efficiency, precision, and quality**, ensuring the production of high-performance battery cells. The process begins with the **preparation of anodes and cathodes**, which are singulated and made ready for stacking. Once fed into the stacker, the sheets are alternately stacked, while the **separator foil** is added using a **Z-folding technique**. To ensure optimal **electrical conductivity**, the electrodes are securely welded together. A **CT scan** verifies the precise alignment of

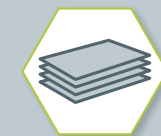
the sheets, guaranteeing a reliable and high-performance battery cell. Next, the **final welding process** is completed, followed by a **protective layer** wrapped around the stack for enhanced safety. The cell is then inserted into the **can and securely sealed using laser welding**. To uphold the highest quality standards, an **X-ray inspection** checks the cell's condition once more. Finally, a **helium leak test** ensures flawless sealing before the **electrolyte is added**, completing the process.



PRISMATIC CELLS



NOTCHING



STACKING



TAB WELDING



FINAL WELDING



WRAPPING



CELL TO CAN



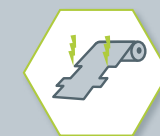
HELIUM CHECK



PROCESS INSPECTION
WITH X-RAY AND / OR
CT POSSIBLE



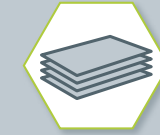
POUCH CELLS



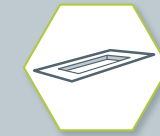
CUTTING



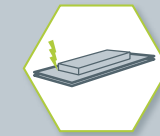
LAMINATION (optional)



STACKING



DEEP DRAWING



POUCH SEALING



FILLING



PROCESS INSPECTION
WITH X-RAY AND / OR
CT POSSIBLE



NOTCHING FOR BATTERY CELL PRODUCTION

Notching is a crucial roll-to-roll process for converting battery foils. Muehlbauer's notching technology is designed to meet the high demands of modern battery cell production. With a focus on precision and speed, our system ensures that every electrode is notched to the highest stan-

dards, supporting efficient, high-volume manufacturing. By integrating advanced laser cutting, automated material handling, and real-time inspection, we provide a reliable solution for the fast-evolving eMobility market.



TECHNOLOGY HIGHLIGHTS

- Notching speed up to 180 m/min
- $\pm 150 \mu\text{m}$ cutting accuracy
- Optional dual-sided notching and slitting
- Coating edge inspection on both sides
- 100% inline inspection for accuracy and particle detection
- Reduced thermal impact zone for enhanced material integrity
- Ongoing R&D at MB Laser Solution & Laser Lab since 2022 to optimize parameters
- Full AGV compatibility for loading and unloading

1. MATERIAL INPUT

The electrode material, provided in rolls, is placed on the input station. An automatic splicing system ensures a continuous flow of material, keeping the production process running smoothly without interruptions. Designed for efficiency, the system integrates seamlessly with Automated Guided Vehicles (AGVs), allowing for easy material handling and minimizing downtime.



2. LASER CUTTING

Before the laser cutting begins, the material is cleaned to remove any dust or particles from its surface. The vision-guided system precisely positions the material, ensuring accurate placement for the cutting process. A high-performance laser then notches the electrodes, adding tabs where required. Operating at speeds of up to 180 m/min, the system maintains precision and achieves $\pm 150 \mu\text{m}$ TAB-to-TAB accuracy, even in high-speed production.



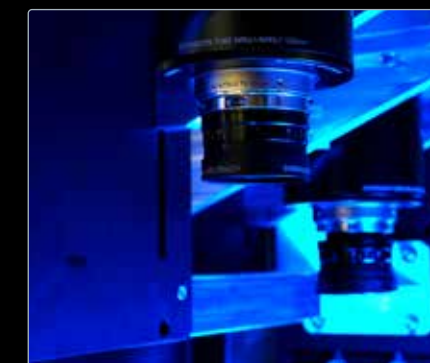
3. CLEANING

After the laser cutting process, a combination of contact and contact-less cleaning removes any dust or particles created during the cutting process. This step ensures the electrodes have a clean surface, which is crucial for maintaining high product quality and avoiding contamination.



4. INLINE VISION INSPECTION

The system features advanced "vision on the fly" technology, which uses top and bottom line scan cameras to inspect the notched electrodes. This real-time inspection checks for defects, such as surface damage or burns, ensuring that only high-quality electrodes proceed to the next production step.



5. MATERIAL OUTPUT

Once the electrodes have been notched and inspected, they are rewound into a coil, ready for the next stage in the production line. The system is designed to work seamlessly with AGVs, allowing for efficient and reliable material transport to the next processing stage.





BATTERY STACKING: PRECISION IN EVERY LAYER

Muehlbauer has developed an exceptional Stacking Solution that combines high speed and high precision in a single line, with scalability for GIGA capacity solutions. Our system incorporates two stacking heads, achieving a throughput of up to 10 sheets per second. It supports both Z-folding stacking and single sheet stacking with a pre-laminated separator, offering flexibility for different production needs.

Designed and agnostic for the next generation of battery technologies, Muehlbauer's solutions are fully prepared for the evol-

ving needs of the Li-metal and Solid-State Batteries sector or any developing chemistry. Battery stacking requires exceptional precision and reliability to ensure perfect alignment of anode and cathode materials, optimizing energy storage. Muehlbauer's advanced technology addresses these challenges, providing a fast, efficient, and highly accurate solution for the growing eMobility industry. Every step, from material input to final stacking, is meticulously controlled to ensure superior quality and performance.

1. MATERIAL INPUT

The anode material is supplied in rolls (coils) on one side of the machine, while the cathode material enters from the other side. The system is capable of handling all materials, including separators, and is designed for seamless integration with Automated Guided Vehicles (AGVs), ensuring smooth material transport and minimal downtime.



2. MATERIAL SINGULATION

The material is then singulated through mechanical cutting, which separates it into individual sheets or electrodes. This cutting process is performed with high speed and precision, and optional laser cutting can be used for full cuts or singulation, depending on the production requirements.



3. CLEANING

After cutting, both contact and contact-less cleaning systems are employed to remove any dust or particles created during the cutting process. This step ensures that the electrodes are free from contaminants, which is essential for maintaining the highest quality standards throughout production.



4. TOP & BOTTOM LINE SCAN INSPECTION

A top and bottom line scan camera system inspects the cut electrodes using Muehlbauer's patented "vision on the fly" technology. This system checks the sheets for any damages including dirt, ensuring that only the highest-quality electrodes move forward. The system also includes a reject station for defective pieces.



5. STACKING

The electrodes are then stacked, alternating between anode and cathode, using advanced Z-folding and pick & place methods. This process ensures precise electrode alignment for optimal performance. Whether pre-laminated separators are used or mono cell stacking is required, the system delivers high-speed stacking with unmatched precision, achieving up to 0.115 seconds per sheet. Additionally, the system is designed for AGV operation, ensuring efficient material handling.



PROJECT COBRA

KEY FEATURES

- Fast Stacking Speed: Achieve up to 0.115 seconds per sheet
- Compact Design: Fits within 30 m², maximizing floor space
- Precision Alignment: On-the-fly sheet correction with 150-micron accuracy
- Comprehensive Inspection: Advanced top/bottom electrode inspection for particles
- Full Traceability: Integrated particle detection ensures quality at every step
- AGV Ready: Designed for seamless integration with Automated Guided Vehicles (AGVs)





GIGASCALE MANUFACTURING

With a focus on innovation and sustainability, we have revealed our inaugural ATECH GIGA center on July 8, 2023, serving as a hub for innovative ideas to come to life. Encompassing 20 acres of land, our GIGA factory showcases efficiency and scale, establishing a new benchmark within the industry.

This expansion includes a dedicated dry room, where our battery cell assembly lines operate under precise conditions to ensure optimal performance, maintaining strict control over humidity and temperature. At the core of our operations is Advanced Automation, where precision and productivity converge on our battery cell assembly line. The GIGA plant has the potential to revolutionize various industries, from electric vehicles to sustainable energy solutions.

**“It’s not just about what we make;
it’s about how we make it.”**

We prioritize maximizing our global impact while minimizing our environmental footprint through the utilization of renewable energy sources and the implementation of eco-friendly practices. Muehlbauer is broadening its horizons by establishing a new production site in Slovakia (Nitra) and Serbia (Stara Pazova).



HQ in Roding, Germany



Production Site in Nitra, Slovakia



Production Site in Newport News, USA

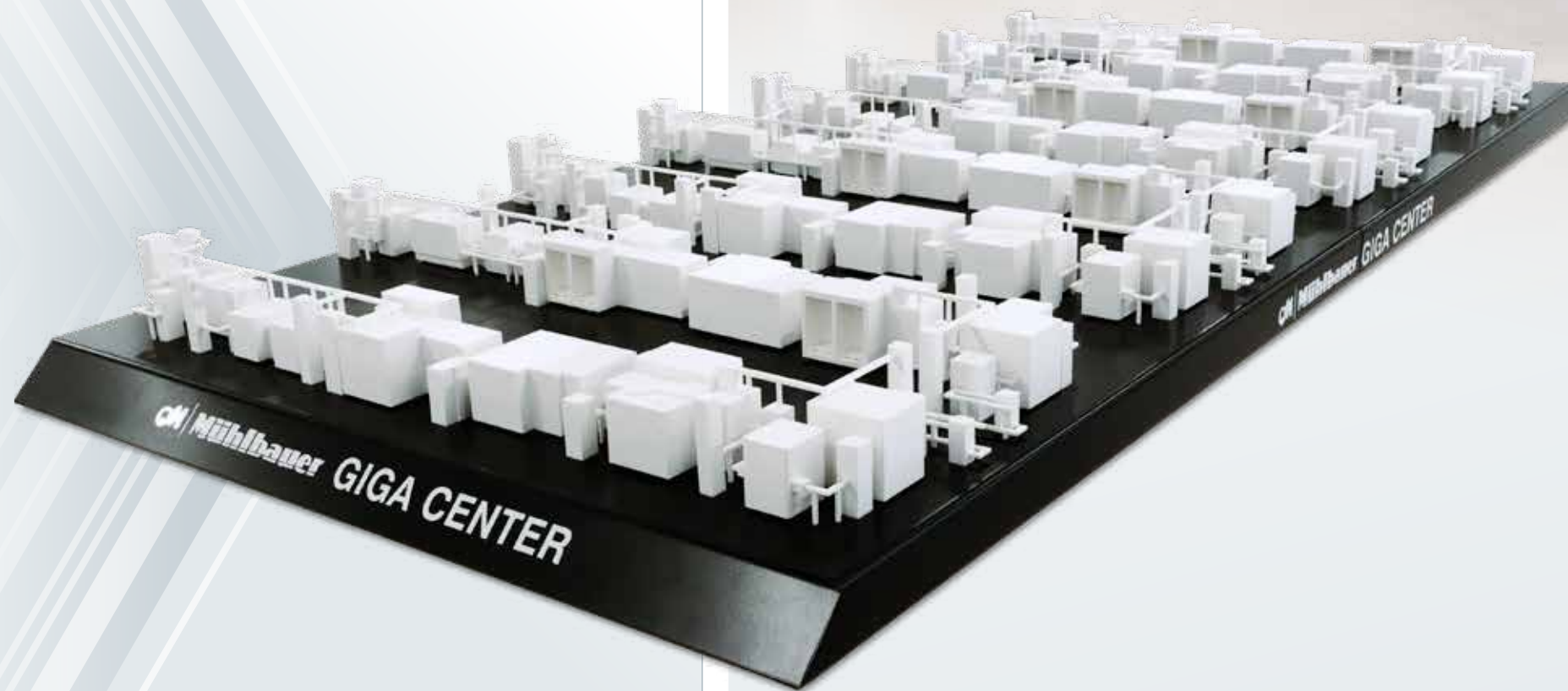


Production Site in Stara Pazova, Serbia

FROM MACHINE DEMONSTRATION TO SAMPLE PRODUCTION

In our Demoroom, we do not just showcase machines – we demonstrate complete production capabilities for pouch and prismatic battery cells. From Notching to Stacking, you can experience live how we manufacture A, B, and C samples using real processes and equipment. These sample types represent key stages in battery development: from early functional prototypes (A-samples), to more refined, production-representative units (B-samples), all the way to near-series samples (C-samples) used for final validation.

It's your chance to explore how Muehlbauer supports the dynamic eMobility market with practical, scalable, and high-precision solutions.



PERFECT CONDITIONS FOR BATTERY PRODUCTION WITH OUR DRY ROOMS

Muehlbauer's new dry rooms ensure optimal conditions for battery production. By carefully controlling temperature and humidity, we provide a stable environment that preserves the quality of sensitive materials used in manufacturing. These rooms are a key part of our commitment to maintaining high standards in production.

With Muehlbauer's experience, these dry rooms raise the bar in clean energy production, contributing to the next generation of batteries.

- **Moisture Control:** The dry rooms keep materials at the right moisture levels, preventing damage during production.
- **Prototyping & Commissioning:** These spaces support the development of prototypes and commissioning, making sure products meet specifications before scaling up.
- **Capacity:** 4 x Dry rooms available
- **Certification:** up to ISO 6 certification with temperature down to -60°C



END-TO-END BATTERY PRODUCTION IN OPTIMAL CONDITIONS

INSIDE OUR DRY ROOMS, WE INTEGRATE ALL CRITICAL PRODUCTION STEPS FOR POUCH AND PRISMATIC CELLS UNDER REAL MANUFACTURING CONDITIONS

Notching
Cutting and preparing the electrodes for precise stacking



Stacking
Layering the electrodes to form the core of the cell



Tab Welding
Attaching electrical contacts to the stacked cells



Final Welding
Final electrical connections under controlled conditions



Wrapping
Protecting and securing the cell structure



Cell to Can
Inserting the stacked cell into the can



Process Inspection with X-Ray
Non-destructive internal inspection for quality assurance and alignment



Helium Leak Test
Ensuring airtight seals to prevent leakage ingress



By combining advanced process technology with carefully controlled environmental conditions, Muehlbauer ensures consistently high product quality, reliability, and process stability throughout the entire production chain.



BATTERY MANAGEMENT SYSTEM

The Battery Management System (BMS) plays a crucial role for electric vehicles. It manages the entire operating cycle of EVs and ensures battery system safety, temperature control, charge balance, and more. The BMS can perform a variety of functions depending on the application.



KEEPING PERSPECTIVE



BATTERY MANAGEMENT SYSTEM

The Muehlbauer Group offers fully automated battery management system equipments for production of cell connecting boards. Our line is designed for high scale automotive production capacities and covers process steps from parts assem-

bly over connector placement to final testing. Our modular concept consists of four assembly lines, which are also available as stand-alone modules, and is compliant with PHEV and EV sizes.

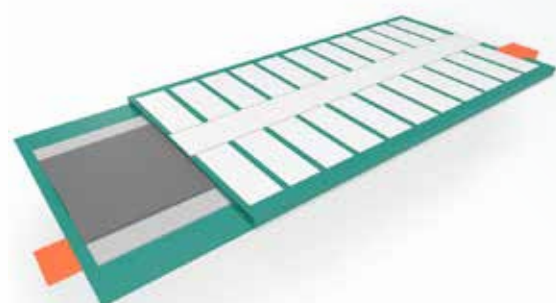
MUEHLBAUER BATTERY MANAGEMENT SYSTEM ASSEMBLY LINE

Our high speed BMS Assembly Line manufactures the control boards, which are mounted on top of the battery cells, thus creating an electrical connection between board and cell. MB cell connecting board assembly line includes parts assembly, contact placement, connection of the contacts via a specific substrate, and final testing per specification for electrical performance and quality. The customizable modules of our BMS Assembly Line

can be configured as semi-automated or fully automated systems, flexibly tailored to product requirements. Our unique serial production solution promises high speed, impressive accuracy and high flexibility.

- Line consist of:
 - » Pre-assembly line
 - » Frame assembly line
 - » Final assembly line
 - » Test line

TURNKEY BMS SOLUTIONS



Based in Nitra, Slovakia



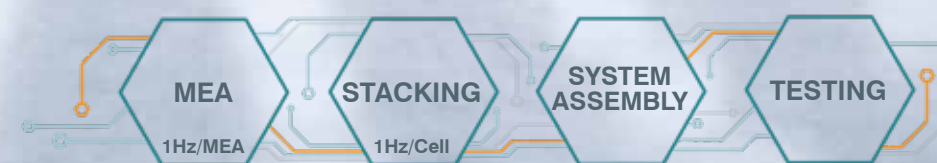


FUEL CELL

Muehlbauer develops tailored solutions for the production of membrane electrode assemblies (MEA). Our focus: reliable processes, precise converting, and full in-line quality control. From handling sensitive CCM and subgasket materials to placing GDLs with accuracy – each step is optimized for repeatability and minimal waste. The result: consistent, production-ready MEA units that meet the demands of scalable fuel cell manufacturing.



FULLY AUTOMATED MEA ASSEMBLY LINE



NO LIMITS



MUEHLBAUER MEA

From roll to finished MEA – every step in our line is built for precision, consistency, and zero compromise on quality.

MUEHLBAUER MEMBRANE ELECTRODE ASSEMBLY LINE

The Muehlbauer fuel cell portfolio consists of first-of-its-kind fully automated MEA production line, fuel cell stacking line and testing. The fuel cell equipment is designed for high capacity fuel cell system manufacturing with customized product design. The MEA line covers the precise lamination of a specific number of layers, including frames, membranes and electrodes with highest precision. Output of the line is a fully completed MEA as defined by product specifications. Muehlbauer's MEA line has been developed for high speed & accuracy manufacturing, reaching **speed of up to 20 m/min & alignment accuracy of 100 µm**.

Muehlbauer systems are also capable of high scale electrolyzer manufacturing.

FRAME UNWINDER

We offer unwinders for all kinds of MEA material – whether protected, unprotected, elastic, or brittle. Depending on the required productivity, systems can be equipped with waste-free back-to-back auto-splice units to maintain continuous operation without material loss.



CUT & PLACE

At the core of the line: our patented Cut & Place unit. It converts two subgaskets and one CCM into a complete 5-layer MEA web with unmatched precision. Fully synchronized and 1 Hz-ready, this system enables clean converting without generating CCM waste – compact, efficient, and proven.



ADHESIVE APPLICATION & ACTIVATION

Adhesives are applied under controlled, particle-free conditions to ensure reliable bonding. Depending on the adhesive technology, glue is activated using either UV light or heat – tailored to your process needs.



GDL PLACEMENT FOR ALL TYPES OF MATERIAL

Our placement units handle both fleece- and paper-based GDLs with high accuracy. Positioning is continuously monitored and validated by Muehlbauer's integrated vision technology to ensure every sheet meets exacting placement tolerances.



FINAL CUT & QUALITY CONTROL

A precision cutting unit separates the web into individual MEA sheets – clean and consistent like a cookie-cutter. By this point, every element has passed 100% in-line inspection, with all critical placements and parameters validated throughout the process.





FUEL CELL

MEA INTEGRATED PRODUCTION PROCESS

MUEHLBAUER STACKING MODULE

Our Fuel Cell Equipment is designed for high capacity fuel cell system manufacturing with customized product design. The stacking system has multiple configurations with the possibility of high automation or semi-automated process steps, covering stacks for a variety of industries, including automotive, aviation, energy storage and marine applications.

The stacker consists of customized magazines for BPP & MEA as input materials and pick & place heads in order to ensure that each head is picking always the same product. This is needed to maintain the proper configuration, while materials significantly differ in behavior.

During the transport to the place position, automatic “MB on the Fly” inspection is performed, which corrects the final placement position in x & y & theta directions without stopping the movement.

Our stacking station guarantees:

- Total stack accuracy of $\pm 150 \mu\text{m}$
- 1 Hz technology enabling a cycle time of 1 second per MEA or BPP

After each placement, post-placement inspection will be performed to ensure that total accuracy is maintained. With cutting-edge technology and unrivaled precision, Muehlbauer's ZSW stackers redefine the assembly process, setting a new benchmark for productivity in the industry.

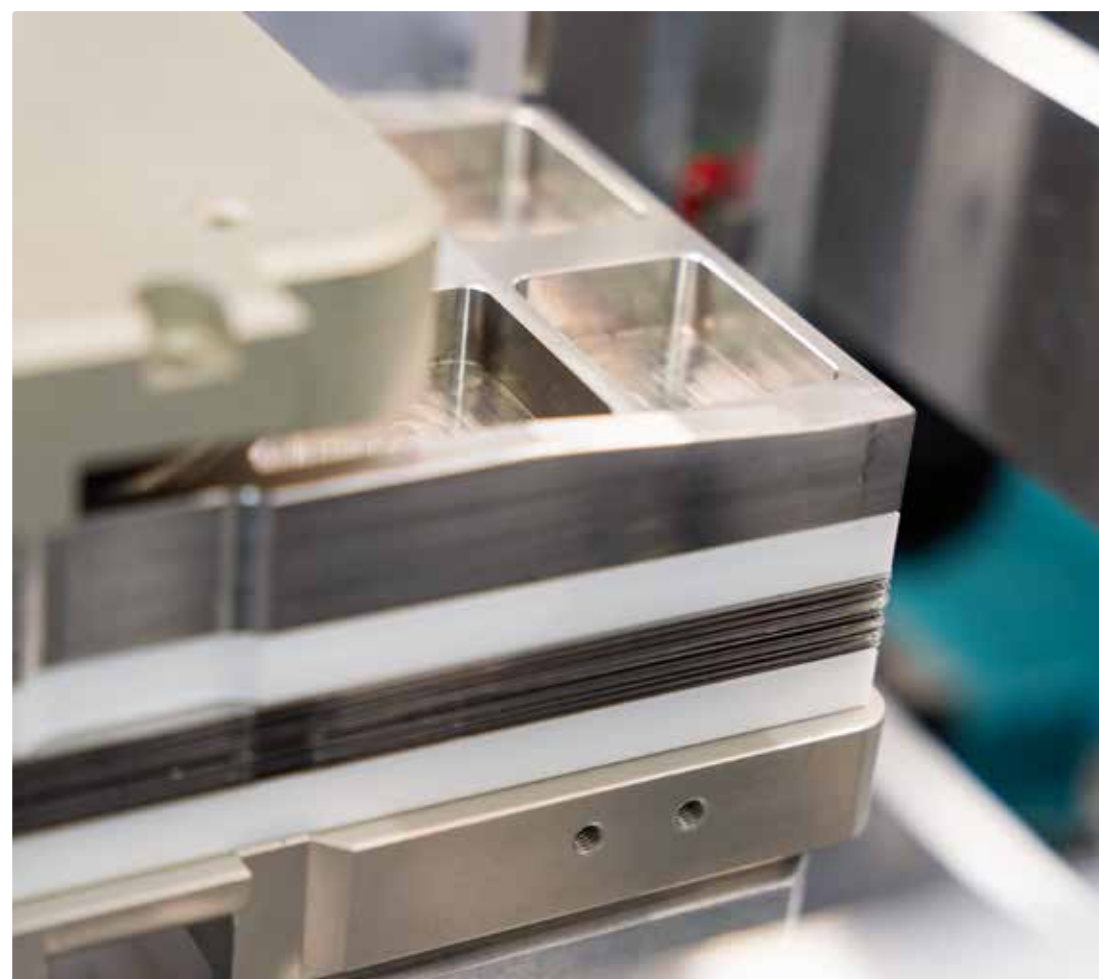
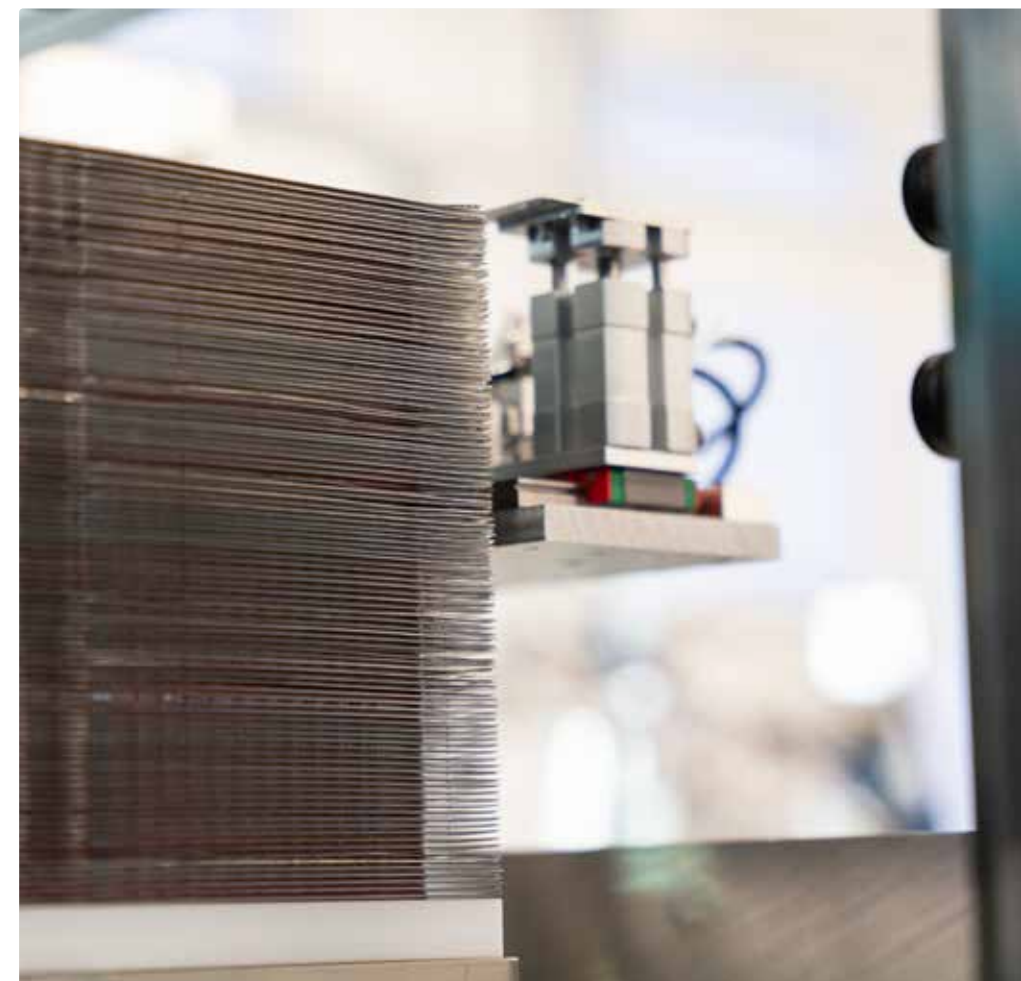
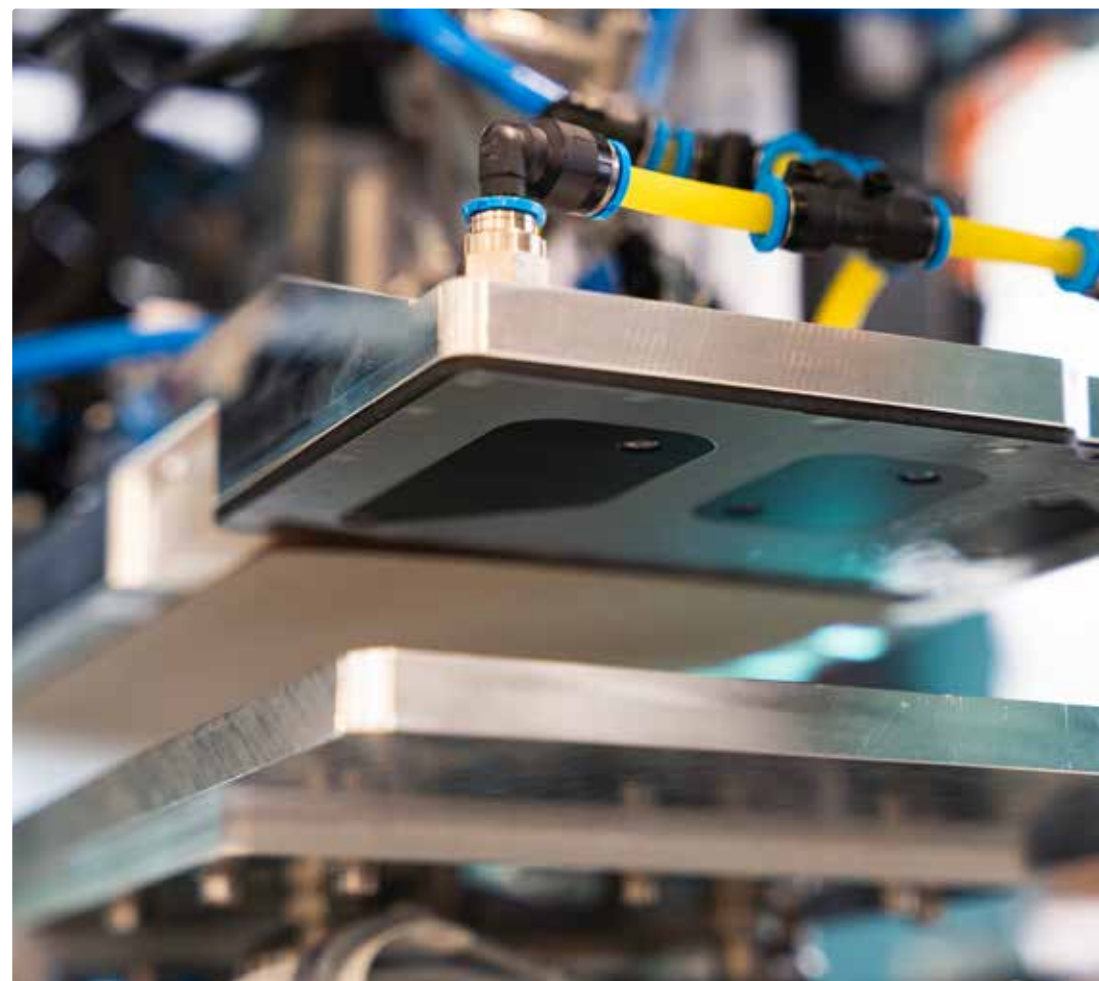
TURNKEY EQUIPMENT SOLUTIONS

1Hz Line Balance

➔ over 60.000 Stacks / Year

Assumptions: 1Hz | OEE 85% | 3 shifts | 7,5 hour | 209 days

➔ ca. 20 Mio Cells / Year (320 Cells / Stack)



WIRE EMBEDDING FOR AUTOMOTIVE APPLICATIONS

FROM CARDS TO CARS

MUEHLBAUER'S WIRE EMBEDDING TECHNOLOGY ENTERS THE AUTOMOTIVE INDUSTRY

With decades of experience in wire processing and antenna embedding for ID and card production, Muehlbauer now brings its trusted expertise to the automotive sector. Our solutions, built on the proven MTT 2462 platform, enable high-precision, scalable, and durable wire integration – ideal for modern vehicle electronics such as heating elements, battery systems, and sensors.

OUR PROVEN TECHNOLOGY PLATFORM: MTT 2462

At the core of our automotive wire embedding systems lies the MTT 2462 – Muehlbauer's industrial-grade platform originally developed for high-precision wire processing in card and ID production. With over 15 years of proven performance in 24/7 environments, the MTT 2462 forms a solid, adaptable foundation for demanding applications in the automotive sector.

- Robust machine frame with modular expansion options
- Combines ultrasonic wire embedding and thermo-compression welding
- Designed for long-term use with minimal maintenance
- Fully software-controlled setup via intuitive HMI interface
- Scalable for prototyping, small series, and high-volume production



MTT-ST Large-Format Wire Embedding

- Single table system based on MTT 2462 frame with large Y-table (up to 1500 x 1000 mm)
- Sheet size up to 1200 x 1000 mm
- Vacuum table ensures precise material handling
- Equipped with Amada welding unit
- Head configurations:
 - » up to 12 Slim heads for wire embedding only
 - » up to 6 Combi heads for embedding + welding
- Available as semi-automated solution or integrated into robotic production lines

3D EMBEDDING UNIT Wire Embedding on Complex Surfaces

- Robotic system for 3D integration
- Ideal for steering wheels, seat heaters, curved interiors
- Compatible with Combi head or Slim head options



MTT XL High-Volume Wire Embedding

The new MTT XL platform expands Muehlbauer's wire embedding portfolio with a high-performance solution for large-format, high-throughput production. Available in two configurations:

- MTT XL WE – Wire Embedding only
- MTT XL ETC – Wire Embedding + Module Placement & Welding

KEY FEATURES:

- Supports 2 – 12 Slim Heads
- Vacuum table: 800 x 850 mm (layout-specific zones)
- Sheet sizes: min. 264 x 88 mm (2 heads), max. 750 x 800 mm (12 heads)
- Semi-automated standard; automation possible on request

ETC MODULE PLACEMENT & WELDING:

- Double-track layout for increased UPH
- PVC antennas: 300 pcs/hr/head » 8x6 layout = 2,400 antennas/hr
- PC antennas: 250 pcs/hr/head » 8x6 layout = 2,000 antennas/hr

MTT LAB Compact System for Prototyping & Custom Development

- Equipped with 1x Y-table (600 x 1000 mm) and vacuum system for precise material handling
- Includes 1x combi head and 1x welding unit
- Ideal for research, prototyping, and small series production
- Enables fast layout adaptation and testing of new materials or designs

ADAPTING OUR TECHNOLOGY FOR PRECISION AUTOMOTIVE APPLICATIONS

Muehlbauer’s wire embedding technology brings unmatched precision and adaptability to automotive manufacturing, providing reliable solutions across a wide range of applications:

- Heating elements for steering wheels and seats
- Battery management system (BMS) connections
- Power distribution via foil-based wire harnesses
- Sensor integration and anti-freeze protection (e.g. headlights)
- Wireless energy transfer for infotainment or sensors
- Hands-on detection and soft-touch interfaces

TECHNOLOGY HIGHLIGHTS FOR AUTOMOTIVE USE

Our wire embedding systems are engineered for reliable performance on complex materials and layouts – with fine-tuned control over every step of the embedding and welding process to meet the high standards of automotive electronics.

- **Ultrasonic wire embedding:** Precise and clean integration into various materials like PC, Teslin, leather, foam, PET-G
- **Thermo-compression welding (Combi Head):** Reliable bonding of wires to contact pads or components
- **Head configurations:** Up to 12 Slim Heads (embedding only) or 7 Combi Heads (embedding + welding)
- **Repeatability:** ± 0.05 mm (embedding), ± 0.01 mm (welding)
- **Layout flexibility:** Fast changeover for new designs and materials, ideal for development and mass production
- **Material versatility:** Handles substrates from 80 – 500+ µm and copper wire from Ø 0.08 – 0.2+ mm
- **Automation-ready:** Optional robotic integration or manual/semi-automatic operation



MUEHLBAUER SOLUTIONS FOR AUTOMOTIVE APPLICATIONS – SYSTEM OVERVIEW

Version	Basic machine frame	Sheet size	Max. number of heads		UPH	UPH example	UPH example	axis accuracy	position repeatability		sheet loading
		(X Y; mm)	Slim	Combi	inlay / hour	8 x 6, PVC, (CL)	8 x 6, PVC, (DI)		embedding	welding	manual / automatic
MTT 2462 WE	MTT 2462 v. 2025	600 x 600 (ID formats)	10	n/a	*	n/a	2400	+/-0,006	+/-0,05	n/a	manual
MTT 2462 WE-A	MTT 2462 v. 2025	600 x 600 (ID formats)	10	n/a	* + **	n/a	2400**	+/-0,006	+/-0,05	n/a	automatic
MTT 2462 ETC	MTT 2462 v. 2025	600 x 600 (ID formats)	n/a	7	up to 1400	1400	1800	+/-0,006	+/-0,05	+/-0,01	manual
MTT 2462 ETC-A	MTT 2462 v. 2025	600 x 600 (ID formats)	n/a	7	up to 1400	1400	n/a	+/-0,006	+/-0,05	+/-0,01	automatic
3D	special base stand	~ 400 x 400, 3D objects	1	1	n/a	n/a	n/a	+/-0,05	+/-0,1	+/-0,1	automatic
MTTeco	MTTeco	770 x 800	12	n/a	*	n/a	2400	+/-0,05	+/-0,1	n/a	manual / automatic
MTT XL WE	MTTeco	770 x 800	12	n.n.	*	n/a	2400	+/-0,02	+/-0,05	n/a	manual / automatic
MTT XL ETC	MTTeco	770 x 800	12	n.n.	*	2400	n/a	+/-0,02	+/-0,05	+/-0,05	manual / automatic
MTT Lab	MTT 2462 v. 2025	600 x 1000	n.nn	2	n/a	n/a	n/a	+/-0,006	+/-0,05	+/-0,01	manual / automatic
MTT - ST	MTT 2462 v. 2025	1500 x 1000	12	6	n/a	n/a	n/a	+/-0,006	+/-0,05	+/-0,01	manual / automatic
IAL	ASC/IAL Basic frames	width 800	12	n.n.	*	2400	2400	+/-0,05	+/-0,1	+/-0,1	automatic



SOFTWARE



MB PALAMAX® & MB VISION 100% TRACEABILITY & QUALITY

Our machines have a unique combination of vision systems communicating with MB PALAMAX® industry 4.0 traceability software. This combination ensures that each process performed by the machine is inspected and evaluated whether the process has been performed correctly or must be rejected. All performed processes, images, data, etc., are automatically communicated with our MB PALAMAX® system, which evaluates the data and creates detailed reports, which can be customized towards the needs of operation management. MB PALAMAX® can be easily controlled via smartphone or tablet, which provides the perfect flexibility to manage your production from wherever you prefer.

-  PALAMAX.MONITOR
-  PALAMAX.STATS
-  PALAMAX.REMOTE
-  PALAMAX.TRACE
-  PALAMAX.MAINTAIN
-  PALAMAX.COST
-  PALAMAX.RECIPE



A PLUG AND PLAY TOOL FOR MACHINE PERFORMANCE MONITORING

MB PALAMAX® Pico delivers real-time machine monitoring without additional hardware. Perfect for single-machine operations, internal diagnostics, and customers seeking insights without extensive investment. Experience the essential monitoring capabilities of our MB PALAMAX® system in an accessible, lightweight solution compatible with Windows, Linux, and Mac.

Whether you're seeking immediate performance data or want straightforward operational insights, MB PALAMAX® Pico delivers exactly what you need without overwhelming complexity. Compatible with Windows, Linux, and Mac platforms, Pico for ultimate flexibility. Experience the power of a machine performance monitoring in a package designed for single-machine focus and discover why MB PALAMAX® Pico is the perfect entry point to total process transparency.

PICO OFFERS FOCUSED FUNCTIONALITY

- Real-time performance monitoring
- Essential reporting capabilities
- Streamlined user management
- Secure license administration

FEATURE COMPARISON TABLE

Feature	MB PALAMAX® Pico	Full MB PALAMAX®
Real-time monitoring	✓	✓
Historical statistics	Limited	Comprehensive
Reporting capabilities	Basic	Advanced & Customizable
Track and Trace	Basic (soon)	Comprehensive
Remote machine control	—	✓
Change auditing	—	✓
Multi-machine support	—	✓
Data storage	Limited	Unlimited
Hardware requirements	No additional hardware	Scalable options



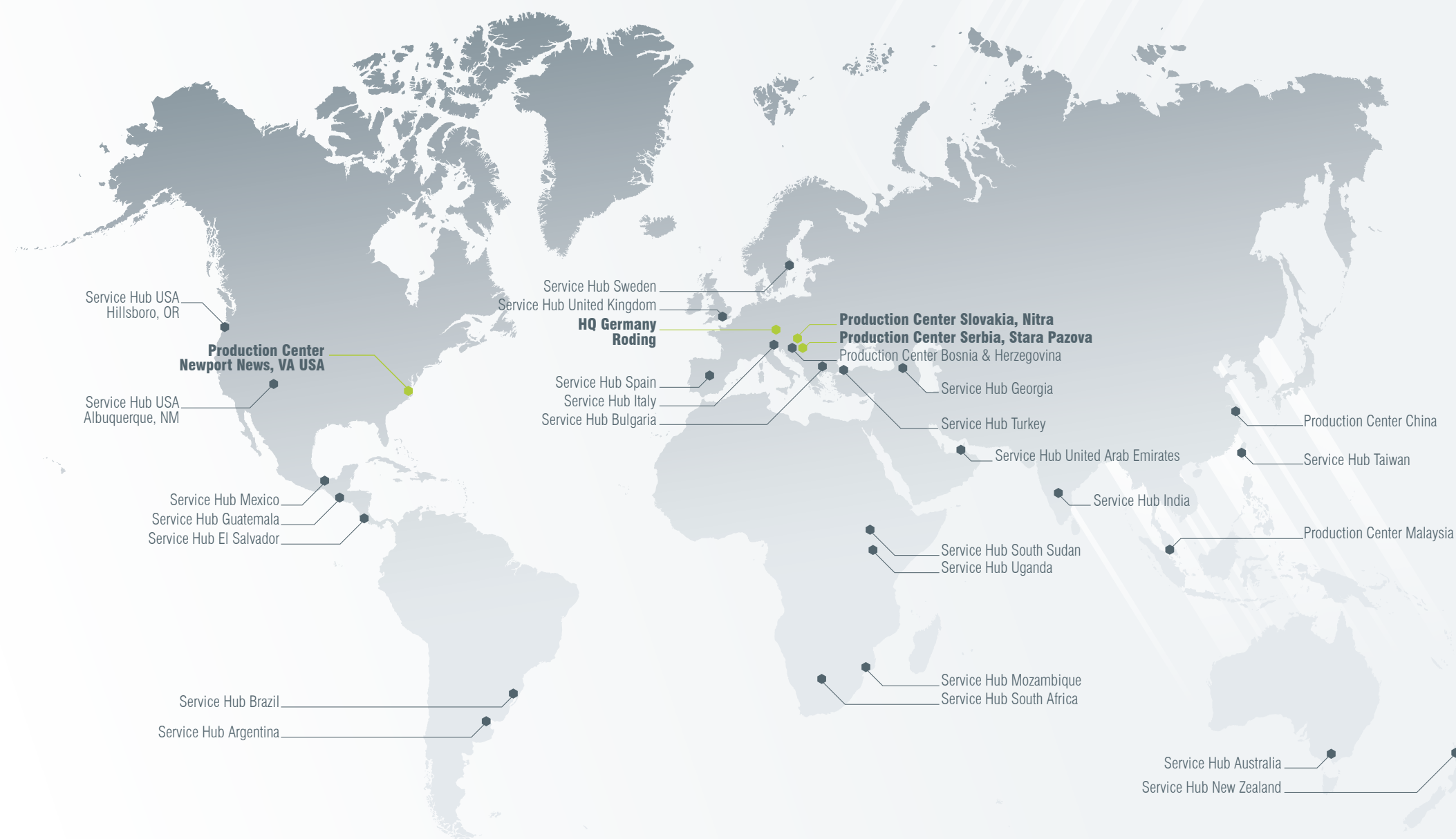


TURNKEY SOLUTION PROVIDER

A Reliable Service Partner Worldwide

With our well-organized service and highly qualified experts, we ensure efficient solutions to keep your machines running smoothly. In the case of any issues, we act fast to minimize downtime and keep your operations on track!

- **24/7 Availability**
 - » Always available for our customers via phone/hotline
- **Service Hubs Worldwide**
 - » Over 40 service hubs across every continent
 - » No matter where you are, help is never far away
- **Remote Support**
 - » Quick issue resolution through our remote service
- **On-Site Support**
 - » We offer on-site support when needed
 - » Fast assistance thanks to our short distances
- **Highly Qualified and Trained Service Staff**
 - » Our service engineers and technicians are highly skilled and well-trained for any task
- **Regular Maintenance**
 - » MB ATECH offers regular maintenance to ensure the long-term quality and performance of our machines
- **MB Service Desk**
 - » Get in touch with our specialists immediately via our unique MB Service Desk platform
- **MB Spare Parts Catalogue**
 - » Access 3D availability of equipment and order spare parts easily
 - » Production guaranteed for 10 years



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