

CELL CONTACTING SYSTEMS



## The Future of E-Mobility

**Production solutions for cell contacting systems.  
Innovative and future-proof.**

# Manz – your experienced partner and service provider in the future market e-mobility

AS A HIGH-TECH ENGINEERING COMPANY, MANZ AG IS AN INNOVATOR OF KEY TECHNOLOGIES. OUR FOCUS IS ON INTELLIGENT AND INTEGRATED PRODUCTION SOLUTIONS FOR THE AUTOMOTIVE INDUSTRY.

### Passion for Efficiency

For more than 30 years, Manz has been a highly sought-after automation specialist worldwide. With innovative production solutions, we support OEMs, as well as Tier 1 and Tier 2 suppliers, in optimizing performance parameters and reducing costs. As a competent partner and technology expert, we deliver customized turnkey solutions. In partnering with Manz, you benefit from a unique combination of experience: we have provided automated assembly, laser and inspection technology, as well as agile, customer-focused engineering for many years.

### Pacesetter for e-mobility

In our modular production lines, we integrate and combine a wide variety of technologies: from ultrasonic welding, assembly, bonding and soldering, to laser welding and automated functional testing.

In particular, we are a leading supplier of production solutions for lithium-ion battery cells, modules and capacitors, as well as cell contacting and battery management systems.

### LightAssembly: Assembly innovation

Our *LightAssembly* platform provides an optimal basis for the production of highly sophisticated automotive components. Whether it's a single module or an integrated line, our modular machine design simplifies the reliable integration of complex assembly processes. This even applies to parts as complex as a cell contacting system.

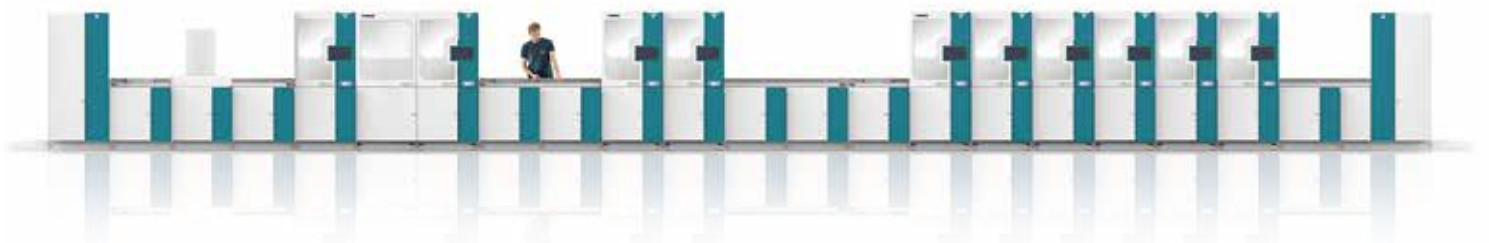
Our high-tech production systems are rooted in the experience gained from numerous automation projects. They embody precision, reliability, adaptability and transparent, low total cost of ownership (TCO). As a result, *LightAssembly* provides the perfect production platform for short lead times, while ensuring your production remains profitable.



### SERVICES AROUND E-MOBILITY

We offer tailor-made and customer-specific production solutions for the manufacturing of:

- Cell-contacting and battery management systems
- Electronic components and control units
- Li-ion battery cells and modules, as well as (super) capacitors



# Production solutions for the manufacturing of cell contacting systems for electric and hybrid vehicles

OUR HIGH-TECH MANUFACTURING SYSTEMS COVER ALL ESSENTIAL PRODUCTION STEPS FOR THE MANUFACTURE OF CELL-CONTACTING SYSTEMS. AUTOMATED, INTEGRATED, PROCESS-OPTIMIZED – FOR HIGH PERFORMANCE AND PRECISION AT REDUCED UNIT COSTS.

Based on our leading edge *LightAssembly* platform, we have developed product-specific production solutions for cell contacting systems for lithium-ion batteries that meet the quality, cycle time and cost requirements of the EV market. To this end, an array of flexible technologies are integrated: assembly, ultrasonic welding, bonding, soldering, cleaning, functional test and laser processes.

Thanks to its modular design, our *LightAssembly* platform can be configured to suit specific applications – from individual

machines to integrated production lines – and it can be adapted to changing product requirements within a very short time.

Standardized modules ensure rapid commissioning and scalability. Quick-change systems and configurable workpiece carriers increase both flexibility and output. Automated Guided Vehicles (AGVs) ensure a smooth flow of parts between lines.

The *LightAssembly* production solution can be easily integrated into a Manufac-

turing Execution System (MES) for networked and transparent production and can be expanded by third-party solutions.

Software-controlled setup and production processes, as well as comprehensive Deep Data Logging diagnostic functions, accelerate setup and increase productivity and process reliability.

**We will be happy to accompany you from the initial idea to the finished production process!**

## THE ADVANTAGES OF OUR PRODUCTION SOLUTIONS

- **Modular, scalable and flexible**  
Our modular design makes flexible, product-specific automation possible
- **Outstanding process technology**  
Over 50 process technologies are in the assembly solution for our cell-contacting system integrated
- **Digital, networked, data-based**  
Continuous monitoring of production and quality data
- **Compact, proven, efficient**  
Productivity gain through workpiece pallet bypass spurs and optimized line layout incorporating transverse conveyors



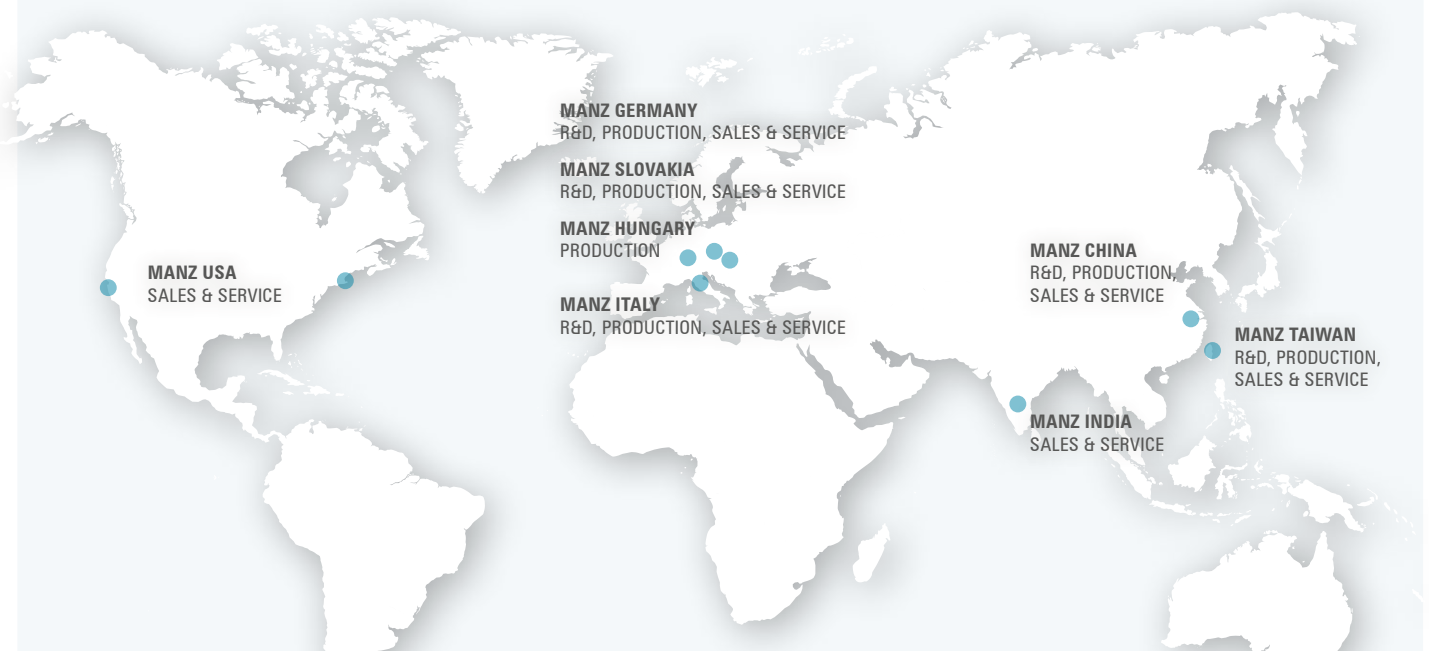
## YOUR CUSTOMIZED CELL CONTACTING SYSTEM

- Fully automated production of different cell contacting system variants – for prismatic or cylindrical cell types
- Product-specific handling of flexible components (e.g. flat cable or foil assembly)
- Full automatic use of ultrasonic and laser welding processes
- Reel-to-reel wire processing via laser technology
- AGV/FTS-based material feed from an external supply
- Scalability and changeability during and after the project due to the modular design of the production solution

Founded in 1987, Manz AG is a global high-tech equipment manufacturing company.

In addition to the turnkey production line *CIGSfab* in the Solar segment, the company is paying special attention to the automotive industry in the Electronics and Energy Storage segments.

The corporate group, publicly listed in Germany since 2006, develops and produces its products in eight countries with roughly 1,400 employees.



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