

## Manz AG: Order for battery production line from the e-mobility sector

Reutlingen, 18 April 2018 – Manz AG, a global high-tech equipment manufacturer, has received an order for a standard production line for the manufacture of laminated lithium-ion pouch battery cells and their battery modules from a European customer in the segment Energy Storage. The batteries will be used for electric forklifts, automated guided vehicle systems and stationary energy storage. The order volume is in the lower double-digit million-euro range. The order will have an impact on revenues and earnings in the fiscal years 2018 and 2019.

The production line consists of a large number of standardized stand-alone machines and modules from the Manz product portfolio which are intelligently interconnected according to customer-specific requirements and processes. Thus, the notching equipment which has been newly developed in the past year is used in the area of cell production and achieves the highest degree of material utilization with the highest operational capacity in the industry. For the fully automated assembly of the individual pouch cells into a battery module, Manz once again relies on the **Battery Laser System** BLS 500, a platform for the production of lithium-ion batteries which was designed for various laser applications. Since it was launched on the market, the system has already been successfully installed several times for customers from the power tools and automotive sectors.

With its over 30 years of experience in production technology for battery cells and modules, Manz was able to impress with respect to the product quality and safety of the end products manufactured on its equipment in particular. For example, the assembly of cathode, anode and separator by lamination ensures the highest possible cell safety. The perfectly coordinated processes, from roll materials to fully assembled and tested cell stacks guarantee a consistently high product quality in comparison to the classic island solution. After every relevant process step, quality measurement was integrated, so that any waste created during the production can be removed directly in order to prevent the further processing of the defective material. 100 % traceability is guaranteed for all the materials of the cell as a result of the complete interlinking of the production line. This allows Manz to meet all the specifications of European and North American OEMs.

Eckhard Hörner-Marass, CEO of Manz AG, comments: "We are delighted that we have been able to convince another new customer of our expertise. The subject of electromobility is now increasingly gaining momentum – not only in the large mass markets, but also in the individual niche markets. Especially with our new developments in the area of standardized stand-alone equipment and modules, we are able to make a significant contribution to the further development of technology. The first European mass production line for medium-sized and large pouch cells, which we are now equipping with our machinery, is an important step in this context."

**Illustrations:**



Image 1: Part of the Standard Production-Line for laminated Li-Ion Pouch-Cells: With the Highspeed Notching Platform Manz offers a highly efficient solution for the manufacture of individual electrodes or electrode webs.

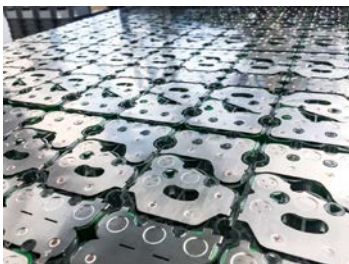


Image 2: Using the BLS 500, different shaped battery cans as well as round cells and pouch cells can be welded with high strength.

### Company profile:

#### Manz AG – passion for efficiency

As a globally leading high-tech equipment manufacturer, Manz AG, based in Reutlingen, Germany, is a pioneer for innovative products in fast-growing markets. Founded in 1987, the company has expertise in five technology sectors: automation, laser processing, and measurement technology, as well as wet chemical and roll-to-roll processes. These technologies are deployed and continuously developed by Manz in the three strategic business segments of "Electronics," "Solar," and "Energy Storage."

The company has been listed on the stock exchange in Germany since 2006 and currently develops and produces in Germany, China, Taiwan, Slovakia, Hungary, and Italy. It also has sales and service branches in the USA and India. Manz AG currently has around 1,700 employees, about half of which are located in Asia. With its claim "passion for efficiency," Manz makes the following service promise to its customers active in dynamic future-oriented industries: offering production equipment with the highest degree of efficiency and innovation. With Manz AG's comprehensive expertise in the development of new production technologies along with the equipment required for this, the company makes a significant contribution to reducing production costs for end products and making these accessible to a broad range of buyers around the world.

### Contact

cometis AG  
Claudius Krause  
Phone: +49 (0)611 – 205855-28  
Fax: +49 (0)611 – 205855-66  
E-mail: [krause@cometis.de](mailto:krause@cometis.de)

Manz AG  
Axel Bartmann  
Phone: +49 (0)7121 – 9000-395  
Fax: +49 (0)7121 – 9000-99  
E-mail: [abartmann@manz.com](mailto:abartmann@manz.com)

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