

Manz Shows World Record at EU PVSEC 2011 Industry Trade Show in Hamburg

- Manz presents world record thin-film solar module with 14 percent module efficiency
- Technology milestones in the spotlight at Manz's second CIGSforum at the trade show
- Significant upgrade potential for PV manufacturers: Manz systems make old production lines profitable again

Hamburg/Reutlingen, August 31, 2011. Manz AG will be presenting its current range of products for manufacturing crystalline solar cells and thin-film solar modules at the 26th EU PVSEC in Hamburg. The focus of the Manz display from September 5th to 8th, 2011 (Hall A1, Booth B1), is on the latest developments in CIGS thin-film technology.

With its CIGSfab, Manz offers its customers the only fully integrated production line for CIGS thin-film solar modules which can be operated profitably today. Manz will showcase the capabilities of its CIGSfab in Hamburg in a first presentation of its world record thin-film module with an aperture efficiency of never-before-seen 15.1 percent (corresponds to 14% module efficiency). The CIGS solar module, with an original production format of 600x1200 mm and an output of 100 watts, was manufactured on mass production equipment in cooperation with Würth Solar at their plant in Schwäbisch Hall.

"Module manufacturers are currently seeing a dramatic drop in prices worldwide," says Dieter Manz, Founder and CEO of Manz AG. "The only companies that will survive financially are the ones positioned as cost leaders and offering the modules with the highest efficiency available. Our CIGSfab accommodates both requirements and, it is based on the most promising technology in thin film today."

Since entering into a partnership in the summer of 2010, Manz has worked intensively on making advancements to CIGS technology together with its partners, the Center for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW) and the module manufacturer Würth Solar. The ZSW currently holds the efficiency world record, of all thin-film technologies at 20.3 percent, which demonstrates the possibilities CIGS technology will offer in the future. "The challenge now for our cooperation efforts is to significantly reduce the gap between the laboratory values and the level of efficiency achieved in mass production," says Dieter Manz.

Manz is going to present the progress made so far at the CIGSforum event on Tuesday, September 6th, 2011, at 11:30 a.m. Please register for Manz's CIGSforum at the EU PVSEC by visiting www.manz.com/cigsforum

In addition to the aforementioned technology, at the PVSEC Manz will also present its wide range of process machines and automation equipment which can be integrated into existing production lines for crystalline and thin-film solar modules. "After the decline in prices seen during the past few months, a large number of the production lines used around the world no longer operate economically. But they can be upgraded to make them more efficient, and as a result, profitable once again," says Dieter Manz. Cell and module manufacturers can achieve efficiency advantages primarily by increasing module efficiency, reducing material consumption, or through the systematic optimization of individual process steps. In order to achieve this Manz offers affordable automation systems, innovative laser technology, and high-performance inspection equipment.

About Manz

Manz AG, headquartered in Reutlingen, Germany, is one of the world's leading high-tech engineering firms. Founded in 1987, in recent years the company has grown from an automation specialist into a supplier of integrated production lines for crystalline solar cells and thin-film solar modules as well as lines for manufacturing flat panel displays. One of its newest areas of business is the development and manufacture of production systems for lithium-ion batteries. The company, led by founder Dieter Manz, has been listed on the stock exchange in Germany since 2006, and currently operates production facilities in Germany, China, Taiwan, Slovakia, and Hungary. At the end of the second quarter 2011, Manz AG had approximately 1,900 employees, 800 of which work in Asia. With its slogan, "Passion for Efficiency," Manz's engineers are making a promise to offer its customers – all companies active in important future markets – increasingly efficient production equipment.

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