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Press Release

SCHMID and SCHOTT Solar win Intersolar Award 2012 for silver-free PV manufacturing technique

- Industrial application of the SCHOTT patented system saves 6 US cent/wafer and increases efficiency by 0.2%.
- Problem-free integration in cell or module production lines
- Sales launch: May 2012

SCHMID Group and SCHOTT Solar AG are the winners of the Intersolar Award 2012 in the category PV Production Technology. The jury recognized the two companies' joint approach "TinPad" – a system that allows for tin contacts to be applied to 6-inch solar cells that is now ready to be used in manufacturing. SCHMID has planned the delivery of the first TinPad systems for September.



Figure 1: SCHMID Group and SCHOTT Solar AG representatives receive the Intersolar AWARD in PV Production Technologies category. From left to right: Dr. Hilmar von Campe (Senior Scientist, SCHOTT Solar), Dr. Christian Buchner (Vice President Business Unit

Cell, SCHMID Group), Christian Schmid (President SCHMID Group), Dr. Axel Metz (Director Cell Development, SCHOTT Solar).

Silver is a critical cost factor in cell production. Tests to replace this material on the backside by tin which is comparatively much cheaper, have up till now been unsuccessful due to its insufficient adhesion to aluminum. Using the SCHOTT patented technology it is now possible to produce completely silver-free backside contacts with a peel-off strength which is twice as high as required. By using tin instead of the conventional silver/aluminum paste, savings of 6 US cent per wafer are achieved, which makes amortization of the investment possible in 7-9 months.

At the same time this new backside architecture increases the cell efficiency by approx. 0.2%, because openings of the aluminum backside are no longer required for the busbars. The all-over back surface field thus increases the open circuit voltage which in turn boosts efficiency.

The first version of the TinPad system realizes a throughput of up to 2,880 wafers with an uptime of over 95% and is easy to integrate in existing cell production lines. Module manufacturers can also use this technology and thus increase their value chain.

About the Intersolar Award

To celebrate the fifth anniversary of the Intersolar Award, the organizers of the world's largest trade exhibition for the solar industry have presented their innovation award among its 3,500 international participants. This award takes not only technologies, but also the diversity and individual characters of specific markets into consideration.

About SCHMID Group

The SCHMID Group provides highly efficient system and process solutions for the entire solar wafers, cells and modules supply chain. Starting with the single machine right up to the turnkey factory, including guaranteed performance parameters, such as production capacity and degree of efficiency. Innovative process technologies are developed at their own technology centers in partnership with universities and research facilities and are made ready for the market.

About SCHOTT Solar

SCHOTT Solar is an international supplier of high quality solar technology. The company's corporate headquarters are in Mainz, Germany. SCHOTT Solar is divided into two areas. In the area of Photovoltaics, SCHOTT Solar focuses on manufacturing and marketing premium quality solar modules, and also project business with large photovoltaic installations.

In the area of Concentrated Solar Power, the company manufactures receivers for parabolic trough solar power plants and ranks as the world's market and technology leader. Customers, partners and financiers appreciate the products SCHOTT Solar offers for their high quality and durability. This can be attributed to company's experience since 1958, intensive R&D work and tests that are often considered to be twice as rigid as the industry standard.

With production sites based close to the markets in Europe, the United States and Asia, SCHOTT Solar is capable of reacting quickly. In addition, SCHOTT Solar is present locally in all of the world's important solar markets. Here, the company benefits from its parent group SCHOTT AG's international network. The SCHOTT Group generated global sales of EUR 2.9 billion in fiscal year 2010/2011 with the help of its approx. 17,000 employees.

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Press Contact

SCHMID Group | Gebr. SCHMID GmbH

Magdalena Harter (Company News)
Christoph Kübler (Technical)

Robert-Bosch-Str. 32-36
72250 Freudenstadt
Germany
Tel.: +49 7441 538 0
www.schmid-group.com
press@schmid-group.com