Extended cooperation of ISFH and SoLayTec

ISFH in Germany has purchased a Process Development Tool from SoLayTec. ISFH will optimize the Al_2O_3 deposition and will implement the resulting surface passivation layers into different types of silicon solar cells currently under development at ISFH.

Last year SoLayTec installed in total four Process Development Tool (PDT) tools at two research institutes and two Asian solar manufacturers. The next PDT will be delivered in May of 2012 to SoLayTec's research partner ISFH and is capable of processing about 100 wafer per hour with Al_2O_3.
This project is funded by the German Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU).

"At ISFH we consider atomic layer deposition (ALD) of Al_2O_3 as a key technology enabling the production of high-efficiency silicon solar cells on an industrial scale in the near future. The main problem of the traditional ALD technique so far was that it was not compatible with the high throughput required in solar cell production, although record-high efficiencies up to 21.7% have been realized at ISFH on PERC solar cells with ALD-Al_2O_3 rear surface passivation. The issue of limited throughput will be overcome by the spatial ALD approach developed by SoLayTec in conjunction with the advanced process developments performed at ISFH. The intense collaboration of ISFH and SoLayTec could make spatial ALD a key process in the production of next-generation industrial silicon solar cell." Commented by Prof. Dr. Jan Schmidt, who is the Head of the Photovoltaics Department of Institute for Solar Energy Research Hamelin (ISFH).

In parallel SoLayTec is designing and testing their High Volume Tool (HVT), to be launched Q3 of this year. With this production tool in place the lab-to-fab roadmap will be ready for Al_2O_3. The HVT will have the highest flexibility regarding throughput, uptime and layer thickness and of course the lowest Cost of Ownership for Al_2O_3 in the market.

SoLayTec
SoLayTec is a spin-off company from the Dutch research organisation TNO and established in 2010. The company develops, delivers and services machines for atomic layer deposition (ALD) on solar cells worldwide. The SoLayTec ALD machines are intended for research and industrial production in the solar market. SoLayTec high volume production equipment will be exclusively sold by RENA GmbH on the market. RENA GmbH is a leading equipment manufacturer in the field of wet chemical processing for the PV industry.

ISFH
The Institute for Solar Energy Research (ISFH) is a research institute of the German State of Lower Saxony (Niedersachsen) in the legal form of a non-profit organization. The ISFH was founded in 1987 and today comprises two research fields, photovoltaics and solar thermal energy conversion, including basic research of material properties, the development of processes and equipment for the fabrication of next-generation silicon solar cells and the development of novel solar cell and module architectures. Superior aim is a significant cost reduction of PV-generated electricity. ISFH presented the world-first high-efficiency silicon solar cell with ALD-Al_2O_3 surface passivation in 2008 and is since then intensely working towards the introduction of Al_2O_3 into industrial solar cell production.

For more information, visit the SoLayTec website:
www.solaytec.com

More information:
Roger Görtzen
Manager Marketing and Sales
Roger.Gortzen@solaytec.com
Tel.: +31-6-30615719