SERIS Orders Lab-to-Fab Tool From SoLayTec

The Solar Energy Research Institute of Singapore (SERIS) has purchased a Process Development Tool (PDT) from SoLayTec to raise efficiencies for industrial solar cell designs. By sealing this contract, SoLayTec's ultrafast atomic layer deposition (ALD) of aluminium oxide Al_2O_3 will be applied at a large selection of research institutes in the world of PV industry.

Research institute SERIS, metalorganics material supplier AkzoNobel and equipment supplier SoLayTec will have a three year research contract on the integration of Al_2O_3 into new cell concepts.

Dr Bram Hoex, Director of the Silicon Photovoltaics Cluster at the Solar Energy Research Institute of Singapore (SERIS), National University of Singapore (NUS) says, "As a pioneer in the application of atomic layer deposition (ALD) for high-efficiency silicon wafer solar cells, I am very happy to work with SoLayTec to bring ALD to the next level. The crystalline silicon surface passivation by ALD-grown aluminium oxide films has enabled very high solar cell efficiencies on lab-scale reactors, and we are very excited to see that companies are now bringing ALD from laboratory scale to mass production scale. The spatial ALD approach developed by SoLayTec offers ALD at unprecedented deposition rates (up to 1.0 nm/s) on a single side of a silicon substrate, without sacrificing any of the unique properties of ALD. We are confident that our collaboration with SoLayTec will lead to very high efficiencies for large-area silicon wafer solar cells, for several solar cell designs under development at SERIS."

The contract with the Singapore-based research institute SERIS will allow SoLayTec more access to the market in Asia. Roger Görtzen, Dip. Ing the co-founder, marketing and sales manager of SoLayTec, says, "At this moment we do the sampling for our Asian customers in our European headquarters. After the installation of our process development tool at SERIS, which is fully equipped for the pilot-scale production of solar cells, we are able to accelerate research and demonstrate our technology to our customers in Asia."

In parallel SoLayTec is designing and testing their High Volume Tool (HVT), to be launched Q4 of this year. With this production tool in place, the lab-to-fab roadmap will be ready for Al_2O_3. The throughput of this tool is highly scalable, which means that with low investments, cell manufacturers can start small and upgrade the throughput at a later stage. 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.

SERIS
The Solar Energy Research Institute of Singapore (SERIS) at the National University of Singapore (NUS) is Singapore's national institute for applied solar energy research. SERIS conducts industry-oriented research and development as well as use-inspired basic research in the field of solar energy conversion. The institute collaborates closely with industry. The mission of SERIS is to conduct research and development for a sustainable energy supply based on solar resources. The institute focuses on the development of materials, components, processes and systems for photovoltaic electricity generation and energy efficient buildings.

AkzoNobel
AkzoNobel is a globally leading supplier of ultra-high purity metalorganics to the compound semiconductor and solar cell industries. The company is the largest supplier of solar grade diethylzinc (DEZn TCO) for deposition of TCO layers in thin film solar cells, and has recently added a special grade of trimethyl aluminium (TMAl Solar) to its product range, used widely as precursor for Al_2O_3 deposition in silicon-based photovoltaic cells.

SoLayTec
SoLayTec is a spin-off company from the Dutch research organisation Toegepast Natuurwetenschappelijk Onderzoek (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.

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

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

SoLayTec BV
Dillenburgstraat 9G
5652 AM Eindhoven
The Netherlands
www.solaytec.com