

Eindhoven, The Netherlands, February 14, 2011

The German wet processing equipment producer RENA GmbH and Brabant Development Agency (BOM) have invested in SoLayTec, a company incorporated by TNO Technostarters B.V., which will commercialize ultrafast Atomic Layer Deposition.

RENA GmbH and BOM have announced the financing of start-up company SoLayTec, thus enabling further development of the ultrafast Atomic Layer Deposition (ALD) technology based on license by TNO. SoLayTec, a TNO spin-off, will apply this technology in equipment within the solar market for the production of solar cells.

Delivery second quarter of 2011

Under the leadership of TNO, ultrafast ALD technology has been further developed and the proof of concept has been demonstrated. SoLayTec will deliver the first "process development tool" from the second quarter of 2011. The additional investments by BOM and RENA will help to facilitate the development of a high-volume tool, capable of processing over 3,000 wafers/hour in 2012.

Benefits of ultrafast ALD

The next generation of industrial silicon solar cells aims at efficiencies of 20% and above. To achieve this goal using ever-thinner silicon wafers, a highly effective surface passivation of the cell (front and rear) is required. Al_2O_3 is well known for its excellent surface passivation properties and with ALD Al_2O_3 can be deposited layer by layer, resulting in a very dense and uniform layer.

SoLayTec's ultrafast spatial ALD principle is significantly faster than traditional ALD, making it suitable for industrial application. The wafers are transported at atmospheric pressure on a stream of gas, preventing contamination of the reactor. Moreover the process has a low cost of ownership, compared to existing deposition techniques (e.g. PVD, and PECVD).

Partners in industrialisation

SoLayTec has been awarded a subsidy from the Peaks in the Delta programme to industrialise the ultrafast ALD technology. Partners in the project are Frencken, Lamers High Tech Systems, Bronkhorst, TMC, Van Berlo, Sioux and NTS Mechatronics with co-funding coming from the Ministry of Economic Affairs, Agriculture & Innovation, the provincial authority of Noord-Brabant and the Eindhoven City Region (SRE). SoLayTec and its financing partners see the benefits of this region's technological know-how and are committed to a long term stay here.

RENA GmbH

RENA GmbH is a German based equipment and technology company mainly active for the photovoltaic's industry, but also for the semiconductor, printed circuit board and medical technology. RENA is expert for wet processing equipment for high tech branches. In the field "wet processing for solar cell production" RENA with her 1200 employees is world market leader. Main PV wet applications are texturing, junction isolation and in future selective emitter technology. With incoming orders in 2010 exceeding 500 Mio Euros RENA has stabilised her leading position.

TNO

TNO is an independent research organisation whose expertise and research make a major contribution to the competitiveness of companies and organisations, to the economy and to the quality of society as a whole. TNO's unique position is attributable to its versatility and capacity to integrate this knowledge. To remain internationally competitive, industry has to innovate: with new products, new materials, new design and development methods. TNO helps industry rise to this challenge.

TNO Technostarters B.V. creates and finances start-up companies and partnerships based on TNO technology.

SoLayTec

SoLayTec is a spin-off company from the Dutch research organisation TNO, which has a strong background in the semiconductor, space and solar industries. The company will develop, deliver and service machines for atomic layer deposition (ALD) on solar cells worldwide. The SoLayTec ALD machines are intended for industrial production in the solar market.

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