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Solexel Unveils Thin-Silicon Cell Efficiency with Applied Nanotech's Proprietary Aluminum Metallization Material

(*Nanowerk News*) Applied Nanotech Holdings, Inc. announced that Solexel presented its achievement of 20.62 percent efficiency from 156 mm x 156 mm full-square solar cell using its low cost ultra thin epitaxial silicon film and porous silicon lift-off technology at PV Asia Pacific (APVIA/PVAP) Expo 2012 in Singapore on October 24.

According to a release, this record thin-silicon efficiency was achieved by Solexel's epitaxial cell architecture and proprietary manufacturing process flow, utilizing Applied Nanotech's proprietary aluminum metallization material.

Solexel's disruptive technology and production process is based on semiconductor processes mapped and scaled to solar photovoltaics industry. This disruptive technology combines the deposition of ultra thin epitaxial silicon film on the top of a porous silicon layer. The porous silicon layer created on reusable silicon wafer templates allows a lift-off process and the release of the thin film solar cell from the mono-crystalline silicon. This technology is a complete ultra thin-silicon total solution based on an extendable modular technology platform for high performance, low cost, scalable PV products.

The Solexel's solar cell structure is based on its back contact/ back-junction cell design and manufacturing process flow, and for the metallization of the contacts necessary for solar cell completion Solexel is utilizing ANI's proprietary aluminum metallization material using Solexel's proprietary manufacturing process.

"We are pleased to work with a partner like Solexel who has the outstanding technology that has the potential to revolutionize the solar industry in the near future. We are continuing to improve our aluminum metallization material and expect to achieve still higher efficiency with Solexel in the future," noted Dr. Zvi Yaniv, CEO of Applied Nanotech, Inc., a subsidiary of APNT.

Applied Nanotech and Sichuan Anxian Yinhe Constructional & Chemical Group Co. (YHCC) would also like to use this opportunity to announce the opening of YHCC's high volume production plant in YHCC's high tech industrial park in Sichuan Province. This plant is operated by Sichuan Yinhe Starsource Technology Co. This plant is dedicated to volume manufacturing of metallic (aluminum and silver) inks and pastes for the solar PV industry under exclusive license

from APNT and was designed for a capacity of over 1,000 tons of inks and pastes per year.

"One of our key strategies is to create sustainable revenue sources resulting from commercialization of our technologies through cooperation with leading companies such as Solexel and YHCC in this industry as the market continues to develop," said Doug Baker, CEO of Applied Nanotech Holdings, Inc.

More information: <http://www.appliednanotech.net> <http://www.solexel.com>

Source: Applied Nanotech Holdings
(press release)