

## NanoGram, Teijin to push printed silicon for PV, TFT

**March 16, 2009:** [NanoGram Corp.](#), which develops and manufactures advanced products and solutions for optical, electronic and energy applications, has entered into a technology development agreement (TDA) with Teijin Ltd. to further develop NanoGram's printed silicon ink.

The TDA will focus on extending NanoGram's printed silicon ink technology for use with Teijin's flexible substrates. The ink-substrate package targets light, flexible and printed electronics applications including flat-panel display (FPD) backplanes and thin-film photovoltaics (TFPV).

Flexible displays and TFPV represent a next generation growth opportunity within already compelling industries. According to DisplaySearch, the display market is expected to reach \$132 billion in 2013. The Prometheus Institute recently targeted TFPV to represent 40% of the overall photovoltaics market by 2012.

"Our new relationship with Teijin speaks to NanoGram's mission of providing low-cost, high performance silicon solutions for energy and electronics," said NanoGram President and CEO Dr. Kieran Drain in a news release. "This TDA is an important next step in the realization of printed silicon electronics."

NanoGram's silicon inks are designed to fulfill a much sought-after need within the printed electronics toolkit -- that of a printable semiconductor capable of exceeding incumbent silicon transistor performance.

The inks leverage NanoGram's laser pyrolysis-based nanoparticle manufacturing process for high-volume production of crystalline silicon nanoparticles. Intrinsic and doped silicon nanoparticles are carefully collected and dispersed into a variety of ink formulations developed internally which meet specific printing specifications. The non-pyrophoric inks can be used in conventional manufacturing facilities with available printing equipment, thus lowering barriers for device manufacturers to adopt these materials.

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