# Startup Makes Connections

June 26, 2002 — Good connections are important in business. That’s a cliché, but in the case of NanoPierce Technologies, Inc., it is literally true.

The Denver, Colo., company was founded by President and CEO Paul Metzinger, who purchased some innovative technology for bonding microchips to circuit boards. The company saw an

opportunity in the burgeoning RFID market, and it has just signed a declaration of intent stating it will supply RFID inlays to a Germany label manufacturer, Schreiner LogiData GmbH & Co KG, a subsidiary of Schreiner GmbH & Co. KG of Munich, for smart labels.

One of the costs in creating an RFID tag is bonding the antenna to the microchip. That is typically done with conductive adhesive, soldering, or another method. Each method has drawbacks. Conductive adhesive is expensive. And soldering can't be used on a paper or plastic inlay because the heat would damage the inlay.

NanoPierce takes hard particles, such as diamond dust (see photo) and covers them with conductive material. The particles are then put on a metal pad on the actual silicon wafer. After the wafer is cut, the antenna is pressed on top of each chip and bonded with nonconductive adhesive, the hard particles penetrate the glue and any dirt or film that might be on the antenna and creates a direct, low-resistance bond.

Metzinger says NanoPierce holds 12 patents for this technology and that his company's system is less expensive than traditional bonding processes. Another benefit is the connection can be tested immediately, which speeds up the manufacturing process and avoids the problem of finding out only after inlays have been produced that the connections are faulty.

NanoPierce has established a subsidiary called ExypnoTech GmbH in Rudolstadt, Germany, to manufacture RFID inlays. ExypnoTech will buy microchips from semiconductor companies such as Philips, attach antennas from antenna makers, and provide an inlay that can be used to create a finished smart label.

Metzinger says ExypnoTech will supply smart labels to Schreiner LogiData on a nonexclusive basis starting late in the third quarter or early in the fourth. Schreiner's LogiData

division deals exclusively with the use of RFID components in identification systems.

If Schreiner buys a signficant number of inlets from NanoPierce, it would give NanoPierce an opportunity to prove its technology in the RFID marketplace. The company is traded on the NASDAQ stock market (OTCBB: NPCT.OB) as well as on the Frankfurt and Hamburg exchanges (OTC: NPI). In April the company raised $2 million in funding Generation Capital Associates, Atlanta, Georgia.

NanoPierce is looking to strike deals with other label makers, RFID tag producers or makers of contactless smart cards. “We believe that we can provide superior performance on a cost-effective basis compared to conventional methods of attaching the antenna to the chip,” says Metzinger.

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