

Alien to Build High-Capacity Tag Plant

This spring, Alien Technology begins construction on a new factory that will generate about 20 billion tags per year.

By Claire Swedberg

Jan. 26, 2005—This spring, RFID product manufacturer Alien Technology will begin construction on a new manufacturing plant and research center that, the company says, will be the world's highest-capacity plant for making radio frequency identification tags.

By building the new facility at the North Dakota State University Research and Technology Park in Fargo, Alien hopes to eventually increase its production of EPC Class 1 UHF RFID tags to as much as 10 times the annual capacity of its Morgan Hill, Calif., plant.

The need for the new facility comes from the current growth patterns of the RFID tag industry. In each of the past five quarters, Alien has produced more tags than the previous three quarters combined, according to Linda Prosser, Alien Technology's vice president of corporate marketing.

Alien's planned 47,000-square-foot manufacturing plant and research center will be ready for operation by March 2006 and eventually will have the capacity to produce as many as 600 tags per second. Alien projects that in 2006, with the addition of the new North Dakota facility, the company will generate about 20 billion tags per year.

Right now Alien is renting a 10,000-square-foot facility in Fargo that operates 24 hours a day, five days a week. If demand requires it, that plant's operation may increase to seven days a week, says Glenn Gengel, Alien's vice president of manufacturing. The leased facility, however, completes only one portion of the tag manufacturing process.

Alien produces EPC Class 1 RFID tags through its patented Fluidic Self Assembly (FSA) operation—a three-part process consisting of the shaping and processing silicon wafers into die (microchips), the creation of straps, and the assembly and testing of inlays and tags. In the first part of the process, Alien designs RFID semiconductors that are manufactured on standard silicon wafers by merchant foundries (such as ST Micro) and separated into die by means of a proprietary method. In the second part of the process, Alien creates straps—small butterfly-shaped packages that hold die and connect them to larger metal pads that can be quickly and economically attached to antennas in a high-speed assembly process. In the third part, Alien assembles the tags and tests them to ensure compliance with specifications and consistency and effective performance in the field.

The current North Dakota facility provides only assembly and testing of tags; the plant in Morgan Hill provides the semiconductor and packaging functions, after which the semiconductors and other material to be installed in the tags go to the existing North Dakota plant for assembly and testing. The future facility in Fargo will perform all three processes in the manufacture of RFID tags.

Alien's leased Fargo facility employs about 25 people, Gengel says, and the company plans to double the number of employees in the months ahead because Alien recently doubled the production capability there and will require additional staff to run it. When the new plant opens, however, operations at the current leased facility will be transferred to the new facility, which will be staffed by 70 to 100 people. Gengel says he hopes to see the new plant operating at peak level by 2010 and adds that the price of Alien tags will be competitive, in part because of the large size of the facility. "It's an economy of scale," he says. "We can take technological approaches that are not available to smaller [manufacturers]."

Alien already has the biggest market share of both UHF RFID tags and readers, Gengel says, and when the new plant opens, "We'd like to think it will further our lead in RFID."

Copyright ©2005 RFID Journal, Inc. All Rights Reserved