From the December 6, 2002 print edition

Startup snags first client

Molecular Imprints' initial semiconductor equipment tool bought by investor Motorola

Stacey Higginbotham Austin Business Journal Staff

Austin's Molecular Imprints Inc., a 2-year-old startup, has lined up its first customer.

Molecular Imprints sold its first semiconductor equipment tool to Motorola Inc., which is one of the company's investors. The tool is a lithography device that can imprint smaller designs onto a chip.

Norman Schumaker, president and CEO of Molecular Imprints, says the sale to Motorola means the tool will be tested in a "friendly" environment. He estimates his company will sell three to five tools in 2003.

However, the company needs to sell about eight to reach profitability — a goal for mid-2004, Schumaker says.

Molecular Imprints reported revenue of about $1.5 million for 2002 — all from government research contracts. The company hasn't recorded the sale of the Motorola tool yet because it will be shipped in January.

The startup raised $12 million in its first round of funding earlier this year.

Molecular Imprints employs 27 people.

The tool sells for about $2 million, which is a smaller price tag than comparable lithography machines on the market. As an example, new machines that can create channels in chips smaller than 100 nanometers cost upwards of $15 million, says Randy Sanders, president and CEO of Austin-based used semiconductor equipment seller Spares LLC.

In addition to the smaller channels it can imprint on a chip and its smaller price tag, the machine itself is small — about 6 feet tall and 4 feet wide. Sanders says a comparable lithography machine would be about 12-by-14 feet.

Molecular Imprints' tool will be used to imprint a minute design on a wafer, which can be made of a variety of substances, not just silicon. The tool works like a waffle iron, with the design for the wafer etched on a press made of quartz. The wafer is covered with a chemical substance that solidifies when exposed to light.

The race in the semiconductor industry to create smaller chips is limited by the equipment used to make the chips; as the chips get smaller, the channels etched onto the chips must shrink. Under the current methodology, which involves projecting designs onto a chip using small wavelengths of light, the pieces used in the process must be perfect at a molecular level.

Jim Irwin, principal of Austin-based I/C Irwin Consulting, says the technology behind Molecular Imprints' tool appears to be a conceptually sound approach to creating high-resolution images on a chip. Irwin says he knows of no other technology available today that can create such fine images at a comparable price.

However, he says, the tool appears aimed at low-volume work and probably would be used only in advanced device research. Schumaker says the first machine optimally will produce up to six wafers an hour, but later models will be able to produce up to 60 wafers an hour.

Email STACEY HIGGINBOTHAM at (shigginbotham@bizjournals.com).