Industrial Tool, Inc.
BUILDING AUTOMATED MACHINING SYSTEMS

There are few companies in the Midwest that can design and manufacture high-quality, turnkey machining cells. Industrial Tool, Inc. (ITI), based in Minneapolis, is one of them.

Founded in 1974, ITI builds automated machining systems for a variety of companies. Whether it's a dedicated machining system designed to produce high quantities of machined parts, CNC turnkey system for midrange quantities with the flexibility of easy changes, or CNC machining fixtures, ITI's engineers design each machining system to fit the needs of their customers.

"We're a problem-solving company rather than a product-portfolio company," said Loren Krantz, vice president of sales at Industrial Tool, Inc.. "Everything we do is focused on providing a solution to machining requirements."

Over the last 30 years, ITI has built turnkey machining cells mainly for automotive suppliers. In fact, over half the cars on the road today contain parts that were produced in machining cells made by ITI.

Now ITI is taking the experience it has gained from the automotive industry and applying it to die-casters and manufacturers of agriculture, construction and even renewable energy equipment in the Midwest.

Fixtures + Turnkey + Automation = A Complete System Solution.

Any Part, Any Time, Any Machine

ITI recently designed, built and implemented an automated turnkey system to manufacture hydraulic components for Sauer-Danfoss.

Sauer-Danfoss produces hydrostatic drives and transmissions for the construction and agriculture industries from its Ames, Iowa, facility. When the company decided it was time to automate one of its product lines, it turned to ITI for a complete automated manufacturing system.

Sauer-Danfoss had one fundamental requirement: The ability to run multiple part numbers and quantities on demand for hydraulic end caps and center sections. Other requirements included zero changeover with a one-piece flow, part identification and tracking, and a significant reduction in labor, inventory and material handling. Of course, safety and quality were also important.

One of the challenges was defining a machining system that would meet these requirements within Sauer-Danfoss' investment objectives.

"It was a very complex project," said Rick Ahlstrom, ITI sales engineer. "We worked closely with Sauer-Danfoss and the machine tool provider and re-defined the machining process several times. Then we proved that process in our facility."

After nearly 2 years of quoting, development and testing, ITI delivered a fully-automated, two-machine cell that has made a critical process safer, more efficient and more productive. The cell was designed to be expanded from two to four machines when demand increases in the future.

"In the past this process would require two or three operators and they would be doing a lot of material handling and transportation," said Lubos Hanulik, project manager at Sauer-Danfoss. "Now we only need one operator to run the cell and a robot handles the washing, deburring and loading of parts. We've improved our cycle time by 45 percent and increased our productivity by at least 60 percent. At the same time, we've also improved our quality."

Another important feature of the cell was part identification and tracking. Each part was marked with the date and time, the machine it was made from and the part number in a format that can be read by a scanner as well as a person.

"I think a lot of companies can relate to Sauer-Danfoss in that they're trying to do more with less people," said Krantz. "I want them to know they can turn to us for a complete system solution and we'll support them from early design to implementation."

About Industrial Tool, Inc.

ITI is a privately-held company that has

been in business for more than 35 years. It was founded by Ed McDonald, a respected leader in the industry. He remains the company's owner to this day.

In its early days, ITI focused exclusively on building custom machines and making production parts largely for the defense industry. Today, however, the company focuses on building fully-automated machining cells, minimizing the customer's need for multiple contracts with different vendors. It has grown to about 50 employees, 10 of whom have been with the company for 20 years or more.

Over the years, ITI has enjoyed steady growth, low employee turnover and high customer loyalty. It has taken a conservative approach to business operations and has consistently maintained a stable financial position through controlled spending, self-funding and minimal debt load.

"The majority of our business has been from existing customers," Krantz said. "They're confident in our design and engineering skills and respect our advice. Having repeat, varied business opportunities with our existing customer base, we feel validates a high degree of customer satisfaction."

ITI has won multiple Supplier-of-the-Year awards and is ISO 9001 certified.

A Smooth Process

From concept development to implementation, the process of building a custom machine or machining cell varies by complexity and equipment availability.

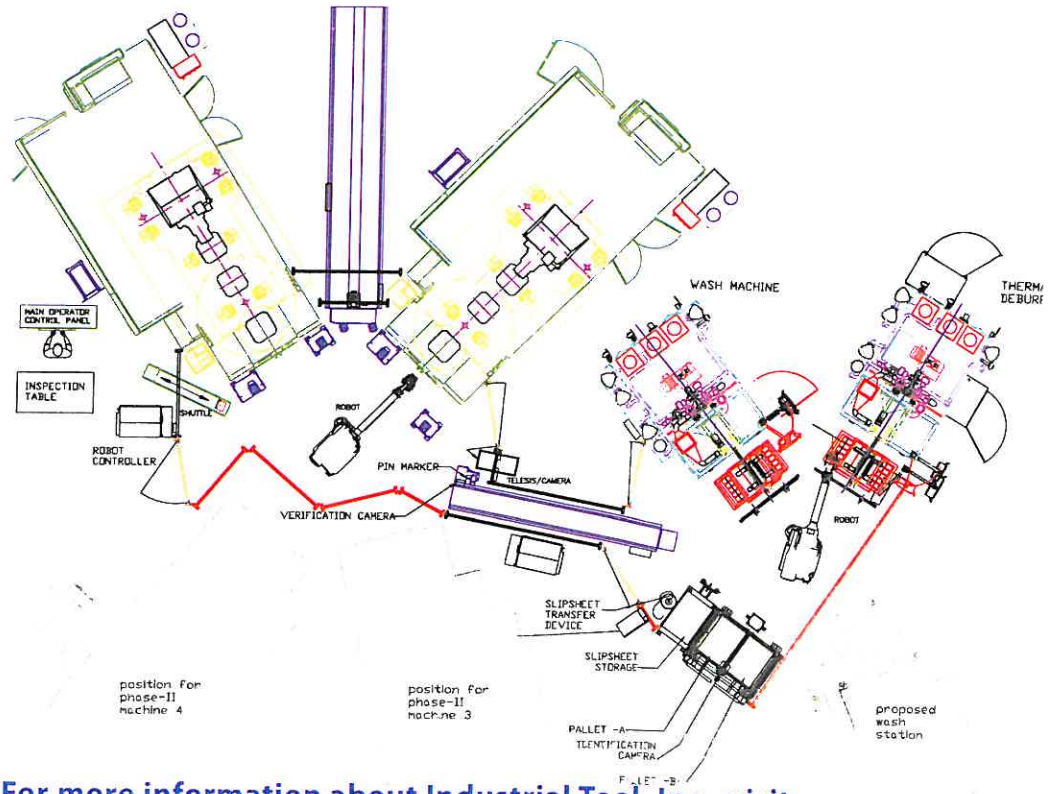
During the design and development process, ITI's engineers hold brainstorming sessions to discuss different designs and alternatives. They use a variety of CAD software to help design the floor layout, machine design, machine tools, fixtures, integration and the assembly process. They continue to design and re-design the machine after the quoting process, ending with the customer's design approval.

Before the final system is delivered, it is put through extensive performance tests to guarantee accuracy, repeatability, production rate, ease of operation and reliability.

> "If I run a similar project in the future, I'll turn to ITI again."
>
> - Lubos Hanulik, project manager at Sauer-Danfoss

Hanulik described the process of working with ITI as "very smooth."

"I'm from Europe where the manager for this type of project is normally the machine tool builder," he said. "But ITI came highly recommended. They took care of integrating all of the vendors and suppliers involved and brought everything under one roof. If I run a similar project in the future, I'll turn to ITI again." PM



For more information about Industrial Tool, Inc., visit www.industrial-tool.com or contact Loren Krantz at 763.231.3655 or lkrantz@industrial-tool.com