



Dynomax built nearly all of the machines used at its Lincolnshire, Ill., contract manufacturing facility.

All images: A. Richter

# Building Growth

Diversified company invests in equipment and employees to expand and target new markets.

By Alan Richter, Editor

Dynomax Inc. is taking self sufficiency to a new level. For example, while machine tool builders often use their machines to produce parts for making other machines, Dynomax stands out by building machines for its own contract part manufacturing operation.

The company designs, engineers and builds machine tools and spindles at its Wheeling, Ill., headquarters, where it also machines components, primarily for the aerospace industry. At its Lincolnshire, Ill., facility, which Dynomax expanded into about a year ago, the company performs contract manufacturing with those machines, as well as some from other builders. “We try to do as much in-house as possible,” said Matt Mahon, Lincolnshire operations general manager.

“I like to think of our place as the guinea pig,” he added. “Everything is designed, engineered and fabricated in Wheeling, and they send it over to us to prove it out.”

## Primary Sectors

The 42,000-sq.-ft. Lincolnshire location is geared toward producing aerospace and defense parts with runs up to 100,000 or more, but the company serves other industries and is increasing its capacity to meet the growing demand for medical

devices. For example, the company recently purchased several Swiss-style machines for manufacturing components made of aluminum alloys, titanium, stainless steel and other metals, including exotics.

“We don’t shy away from anything,” Mahon said, adding that the term “job shop” doesn’t really apply to the engineering-based company. (See sidebar on page 87.) “With our business plans for expansion, the sky’s the limit.”

He noted that the machines the company makes, many of which are custom, are either sent to customers’ facilities or, if they prefer, to Dynomax for outsourcing the parts production. Dynomax is able to hold tolerances of 0.0001" and produce

## Learn more about Dynomax Inc.

For more information about Dynomax, view a video presentation on [www.ctemag.com](http://www.ctemag.com) by scanning the QR matrix bar code on your smartphone (app available at [get.neoreader.com](http://get.neoreader.com)) or entering the following URL on your Web browser: [micro.delivr.com/1d4f9](http://micro.delivr.com/1d4f9).





Dynomax recently purchased several Swiss-style machines, such as this one equipped with a bar loader, to help meet the growing demand for medical parts.

## Building Growth *(continued)*

walls as thin as 0.010", according to Mahon. "It's a challenge, but we combat that with technology."

One area of investment is tool presetting. Mahon explained: "Everything is machined to order, so when we get a purchase order in, we program it offline in a separate department with dedicated programmers. The job then gets sent to a tooling station where all the tools are preset in toolholders, which are then sent to each individual workstation so the setup crew only has to focus on loading the tools and proving out the program at each operation. Roaming inspectors conduct in-process inspection."

The company also invests in vision measurement equipment and coordinate measuring machines to make sure it is meeting the customer's requirements on the part drawing and 6-axis robots for performing unattended machining. Dynomax is a full-scale robotics integrator, according to Mark Zic, director of business development. "We focus on end-of-arm tooling for automated material removal, which is more complex than pick-and-place," he said.

## Worker Training

Throughout the entire company, Dynomax has hired about 100 new employees during the last 2 years to double its headcount. About 50 people work at the Lincolnshire facility, which operates two shifts. About a quarter of the shop floor is available for expansion.

*(continued on page 88)*

# A multiple-manufacturing portfolio

## **RICHARD ZIC STARTED DYNAMAX**

in his basement in 1986, and from those humble roots, the company has grown dramatically while diversifying its product and service offerings.

At its corporate headquarters in Wheeling, Ill., the company machines large components; manufactures, repairs and services machine tool spindles and specialty machines; provides industrial automation solutions; and offers engineering, design and materials consultation. The spindles offered include block, cartridge, multiple head, gear driven, quill, standard- or high-speed motorized and custom spindles unique to customers' applications.

In addition to developing new alloys for specific applications, the Dynamax metallurgical department fabricates alloys and composites into useful configurations, identifies material-application problems and designs processes to provide application-specific mechanical, physical and chemical properties.

The company, which is registered to

ISO 9001:2008, AS9100 Rev C and ITAR, also builds 3- and 5-axis machine tools and other manufacturing equipment at its Wheeling plant. In addition to selling them, Dynamax machines are used at all of the company's facilities to produce parts. Machining services include milling, drilling, boring, broaching, grinding and finishing. Many of the machines are designed, built and run for specific customer applications.

The company performs contract manufacturing at its Lincolnshire, Ill., location.

Plastic injection molding and custom-tooling production takes place at the company's Mundelein, Ill., facility. There, Dynamax makes mold tools, provides first-article documentation and produces parts. (For more information on Dynamax's molding and tooling operations, see the January/February issue of *MICROmanufacturing*, available at [www.micromanufacturing.com](http://www.micromanufacturing.com).)



**A robot, named R2D1, removes silicone parts from machines in a manufacturing cell at Dynamax's Mundelein facility.**

[www.micromanufacturing.com](http://www.micromanufacturing.com).)

Dynamax is also refurbishing its Buffalo Grove, Ill., facility so it can perform part finishing, including anodizing and painting, in the near future.

The company's four facilities are within 11 miles of each other and boast more than 200,000 sq. ft. of space.

—A. Richter

As the company expands, Mahon noted that finding workers with the needed skills is a challenge. Dynomax started an apprenticeship program about a year ago to address that.

“We’re trying to find the talent, culture the talent and basically plant the seeds, so we’re restocking our own skill set here for the future, investing in apprentices that are mostly young kids coming out of high school,” Mahon said. “Many of them don’t know what they want to do in terms of a career, and we throw this opportunity out there to grow with the company. We’re investing in them and they in us. We gear the training specifically toward our machines and our controls.”

As part of the training program, Dynomax works with area high schools and community colleges, such as Wheeling High School, Triton College, Harper College and the College of DuPage. In addition, the company is a partner with the University of Cincinnati’s cooperative education program and Illinois



**General Manager Matt Mahon has been with Dynomax for 8 years.**

workNet Center of Northern Cook County’s Manufacturing Career Internship Program, which is designed to expose and encourage more young adults to pursue manufacturing careers.

“With training, we’re taking matters into our own hands,” Zic said, noting that there are educational opportunities at the company for positions other than machinist.

The apprenticeship program is still in its “infancy stages,” Mahon noted, but Dynomax envisions it being about a 2-year process involving classes and on-the-job training. “We try to not load them up with too much schoolwork,” he said. “We typically have a class or two per semester and also give them a full-time job here, working with machinists and learning the trade.”

Moving forward, Dynomax plans to develop and invest in equipment and workers as it grows while effectively serving customers. “Give us a problem and we’ll come up with a solution in a very timely manner,” Mahon emphasized. “Fast turnarounds and on-time deliveries are critical for our company.” **CTE**

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