



Lyal Witchey, Manufacturing Technologist at Slice Mfg. Studios - overseeing SwissNano production and holding tray of parts.

## SLICE MFG. STUDIOS:

# *Build it and* they will come

When American engineer and entrepreneur Randy Theken couldn't find contract manufacturers to meet his needs, he thought outside of the box: Why not provide on-time delivery and all required services under one roof? He solved the problem himself in 2015 by starting his own full-spectrum manufacturing studio. A fleet of five Tornos Swiss-type lathes helps Slice Mfg. Studios, LLC meet those very needs.



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*Located in Akron, Ohio, Slice Mfg. Studios' 40,000-square-foot laboratory and manufacturing facility is a sight to behold. Theken positioned Slice Mfg. Studios adjacent to a historic 1929 Akron airport terminal, bringing together liberal arts and high-tech engineering — along with history and a vision for the future — into a single domain. From this site, the business carries out design, development, prototyping, mechanical testing, parts manufacturing, final production and even sterile packaging for clients ranging from medical device manufacturers to defense contractors.*

### **A vision comes to life**

*As Theken began breathing life into his vision of a state-of-the-art contract manufacturing service, he naturally looked for state-of-the-art machine tools. At the International Manufacturing Technology Show (IMTS) in 2016, Slice bought — in one fell swoop — three Tornos GT 26 Swiss-type lathes with B axes, a Tornos EvoDeco 32, and a Tornos SwissNano. It was at the same trade show that Theken met*

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*former Tornos US President Philip C. Miller, who joined Slice in 2017 as vice president of sales and business development, underscoring Theken’s determination to equip his company with top-tier leadership to match its world-class ambitions and facility.*

*Miller, a second-generation “machine tool man,” says Slice is unique among its competitors.*

*“What we have here is unique: In a single location, we can serve all of these different needs, end to end,” he explains. “Whether you’re a medical company trying to get US Food and Drug Administration approval or in need of prototyping, mechanical testing or automated sterile packaging, Slice can support you.”*

*Employing 20 people today and looking to expand as the company grows, Slice is well situated to serve not only medical device manufacturers, but a wide range of industries, Miller says.*

*“We are still hiring people. It’s a booming market right now. I read in the newspaper today that there are more job opportunities than there are people looking for jobs,” he says. On the other hand, that creates a dilemma for manufacturers: “The whole industry is having trouble finding people. Most of our machine operators are journeyman machinists. Today, everything is designed on computer-aided design (CAD) and computer-aided manufacturing (CAM) software.”*

Brad Fowler, Manufacturing Technologist at Slice Mfg. Studios - wide view of 3 Swiss GT 26 machines.



### Positioned for success

*Slice's Tornos machines position the business to keep pace as technology unfolds and customers' demands accelerate.*

*"We run about 75 percent titanium on our machines and 25 percent stainless steel," Miller says. "All five of our Tornos machines have LNS bar feeders."*

### Swiss GT 26: premium performance

*The company's three Swiss GT 26 machines with B axes today are machining bone screws for medtech and small electronic components for the defense industry. A competitively priced workhorse, the Swiss GT 26 delivers premium performance with its latest-generation spindles, guide bush and control. Simple and ergonomic, it offers easy access to all tool positions. The Swiss GT 26 can be fitted with up to 40 tools, including 14 rotating tools. The machine is specifically designed to drive successful production of long and short turned parts.*

*The optional B axis on each of Slice's Tornos Swiss GT 26 machines allows for angular, axial, and radial drilling, tapping and milling — potential that ramps up the company's "all under one roof" advantage.*

*At the same time, the modularity of the Swiss GT 26 allows use of tool holders enabling thread whirling, a useful technology for producing bone screws and one that Tornos pioneered.*

*"We will be using thread whirling for bone screws. To date, we've been doing low-volume, single-point threading," Miller says.*

### EvoDeco 32

*The Tornos EvoDeco 32 is efficient and well integrated, too, Miller says. Slice's EvoDeco 32, able to take on larger diameter work, is useful because it accommodates a greater number of tools in the cut at one time.*

*"One of the main things I like about the EvoDeco is the ability to have four tools in the cut simultaneously. That means you can be twice as fast on certain parts and if you have volume, you need fewer machines — and that costs less in the end," he explains.*

*The EvoDeco represents the pinnacle of the Tornos range. Designed for the most demanding operations and users, the EvoDeco machines are the most*

Brandon Bohm, Machine Operator at Slice Mfg. Studios - overseeing Swiss GT 26 production.



Magnesium and Titanium bones screws, and PEEK implant prototype.





Theken Companies, LLC, the home of Slice Mfg. Studios, LLC.

*powerful and productive on the market, affording blazing fast setup changes and unparalleled flexibility for efficiently producing the most complex workpieces. The EvoDeco 32 enables advanced machining processes like roughing and finishing on the guide bush and operation in differential mode (contour tracking) for simultaneous turning and drilling on the guide bush as well as counter machining operations. All of these can be carried out in hidden time with the EvoDeco 32's 10 linear axes and two simultaneous C axes.*

### SwissNano

*The company's SwissNano — the micro and nano specialist — is used primarily for highly precise work — like a .129-inch micro defense connector. Its kinematics enable the machine to produce a wide range of tiny components, from the simple to the most complex, including cutting, with excellent finishes.*

*Backed by a keen vision and an infrastructure that most new businesses would envy, Slice looks toward the future with boundless enthusiasm.*

*"We are building our team to have a common cause and goal," Miller says. "We're hiring and training people and filling up all of these machines. Slice Mfg. Studios really started with a bold idea and a huge investment. Our founder believed, 'If we build it, they [customers] will come', and that has proven right. So far, this facility is our main sales tool."*

*And, as Slice continues to grow, Miller already has a wish list:*

*"As we grow, we probably will consider purchasing another Tornos Swiss GT series machine," he says.*

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