



Company Profile__

mG miniGears

With a global presence, a reputation for precision, and an aggressive business plan, mG miniGears is poised and prepared to expand on its position as a market leader.

By Russ Willcutt

In 1976, Vincenzo de' Stefani was presented with an interesting opportunity. Founder and owner of a company in Padova, Italy, that manufactured large gearing for marine applications, he was approached by a business associate who was having difficulty obtaining the smaller gears he needed for power hand tools, and who asked him to give it a shot.

"So what he basically did was start a cell in the corner of the factory that was devoted to this type of gearing for his friend," says Carl Tarantino, "and he found the work so interesting that he decided to establish mG miniGears, and he ended up spinning off the large-gearing division to ZF Marine."

In the 27 years since its founding, mG miniGears has grown into a global presence, employing some 500 people and with manufacturing facilities in Italy, the United States—in Virginia Beach, Virginia, where Tarantino is sales manager—and a new operation near Shanghai, China, which will be in production by the end of 2004. In addition, the company has some eight sales and distribution centers found worldwide.

While the company services many markets—including power hand tools for lawn and gardening, motorcycle production, electric forklifts, automatic sliding doors for Lowe's and Home Depot, and automotive and marine applications, among others—its core competence is in the area of spiral bevel gearing, according to Tarantino.

"There's nobody who does it better," he says. "Whether it's cut metal or powder metal—and we have both technologies—to say that we're pretty competent in spiral bevel gearing is something of an understatement."

One example, encompassing service and design as well as manufacturing, involves a contract now in place to supply parts for sliding-door assemblies for Chrysler minivans. "We were exhibiting at Gear Expo about four years ago when we were approached by someone with the Intier Automotive division of Magna, and they needed to deliver a prototype door-closure system to Chrysler but didn't have a very functional working model. This was also the first time that power had been brought into a minivan's sliding door, which made it an especially challenging prospect. So they asked us to see

what we could do, and we quickly turned around a prototype that was not only functional, but also very well developed and highly engineered—a very tight package.

"Only rarely are you in the right place at the right time with the right offering, but we were, and we're now on year three of a five-year contract to provide parts for this package," says Tarantino.

This kind of "go-to" attitude is found throughout the company's history, especially when it comes to the equipment it requires to achieve its ultra-high level of precision. "In the mid-eighties, we were interested in retrofitting our Gleason gear-cutting machines—of which we had hundreds, and still do—to computer control. So what Dr. de' Stefani did was to assign one of his brightest engineers to the project, and he and a small team took apart a Gleason 102, right down to the nuts and bolts. They basically remanufactured it, removing all the drive mechanisms for each of the axes and replacing them with digital servomotors, even reworking the machine tools and writing the computer programs. Within a year, we had developed an internal method of retrofitting these gear-cutting machines to computer actuation, which allowed us to achieve the precision and repeatability we require."

The company still retrofits these machines, Tarantino says, adding that Gleason has since purchased the technology, allowing miniGears to continue retrofitting the machines for internal purposes. "Since we have in excess of 350 machines between our current manufacturing facilities—and the majority of them are Gleasons, although we have many others—having that ability is an important part of our infrastructure."

Having this strong framework in place allows the company to respond to the ever-changing dynamics of the marketplace, as it did by first establishing a U.S. sales center in Norfolk in 1997, and then its 90,000-square foot Virginia Beach manufacturing facility in 2000. It was around this time when Tarantino was approached about joining the company.

"I went to technical college up in Massachusetts, actually planning to become a machinist, but my first job right out of school was as a sales representative for a power transmission distri-

bution company," he says. "Then I went to work for a company that manufactured large industrial bearings for aftermarket use, so that was a really good education in marine propulsion, and in steel, cement, and paper mills. I spent 14 years with that company, working my way up to regional manager, then marketing manager, and then sales manager for the whole company."

In 2001—with construction completed and operations under way at the Virginia Beach facility—mG miniGears

was on the lookout for a new sales manager. "Their general manager at the time was my neighbor, and we'd gotten to know each other since our kids were in school together," Tarantino recalls. "He made me aware of the opening and said that we should get together and talk things over. So I looked into what miniGears did, their position in the marketplace, the level of quality they consistently achieved, and their projected plans for growth, and I decided that it was a good opportunity. So they offered me the job, and I accepted it in August of 2001."

Tarantino's responsibilities since that time have included helping the company achieve ISO certification, and also working toward TS 16949 certification as it begins to focus more if its energy on the automotive market. "Our business plan is very aggressive," he says, "and one reason we're getting more involved in the automotive supply industry is because we plan to double the manufacturing aspect of our Virginia Beach operation over the next three years. We're also negotiating with a Detroit-based manufacturing representative who is very well connected in that industry, so we're taking this initiative very seriously."

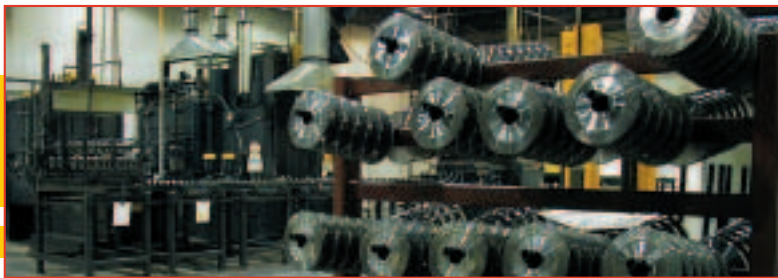
The Virginia Beach facility is well-poised to meet this challenge, Tarantino says. "This facility repre-

sents a \$10-million investment by our company, and as of this year, we're already operating in the black, which is a pretty impressive achievement," he says. "That's kind of a feather in our cap, because you can't do something like that unless you're paying attention to the details."

And also paying attention to establishing and maintaining efficient systems, including robotic loading and unloading, and computer actuation of machines,



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which keeps manpower—and the resulting overhead—to a minimum. “We can have one employee running as many as eight or nine machines,” Tarantino says, “which allows us to compete with the European and Asian gear manufacturers, from a cost standpoint.”

In addition to spiral bevel gears, the company also manufactures cylindrical gears and even complete gearboxes.

“We ship them fully assembled,” he says. “We’ll make the gears, buy raw castings, machine the castings, bring in any sort of screws, nuts, fasteners, bearings, retainers, and grease we need, and we’ll even design and install automated assembly tables, if it’s justified by the volume of the order.”

Another impressive point is the company’s ability to utilize a blend of technologies to produce these custom gearboxes. “One that we’ve designed recently uses a magnesium housing with a cut-metal pinion mated to a powder-metal gear,” he says, “and it’s all done in-house, including heat treat when that’s called for.”

Beyond the precision of its design, and the many manufacturing capabilities mG miniGears offers, Tarantino points to the “value added” component of the company’s relationship with its customers—an intangible quality that can lead to very tangible results: “When someone brings us the prints for a gear or a gearbox that they want us to bid on, we’re going to use our strengths in gear design to offer suggestions that will optimize the end result,” he says. “We might suggest a slight change to this dimension, or a little shift in that one that would make it more manufacturable, and even result in substantial per-unit savings in the process.”

As for the company’s Italian roots, Tarantino says that they are still evident, even though mG miniGears has grown so much since its early days. “When you think of Italian design, you usually think of fine fashion, or cars, or furniture. Nobody thinks of fine gearing,” he laughs. “But there really is an elegance to the design aspects of what we do.”

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