

HIGH INGENUITY, LOW PROFILE

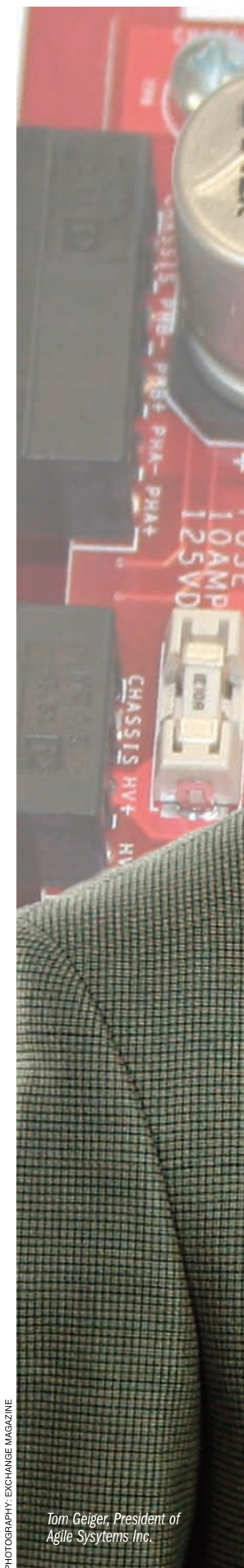
BY PHIL WRIGHT

Agile Systems focuses on customer applications and sales

Waterloo Region has a well-earned global reputation as a high-tech hub. With its staggering growth, international profile and acclaimed hand-held devices, Research in Motion is generally recognized as the poster child for Waterloo's flourishing high-tech industry. Yet for every high-profile, highly capitalized RIM there are scores of smaller enterprises high on ingenuity and expertise, but lacking the profile of a RIM in the high-tech landscape. Agile Systems Inc. – a Waterloo-based world leader in the design, development and manufacturing of advanced motion control technology including motor control and power conversion – is one such company. As many of Agile's products are deeply embedded in American manufacturing processes, it's not surprising the Agile name is not top of mind for Canadian consumers. Focused on expanding its international presence, Agile's main priority is not domestic name recognition. Yet, with numerous applications for its motion-control products in diverse industries it's conceivable Agile will become more of a household name in the local high-tech sector.

Founded by a pair of enterprising engineers in the early 90s, Agile cut its teeth on custom work. According to current Agile president, Tom Geiger, the fledgling company – similar to most start ups – initially took on any work it could. "The

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PHOTOGRAPHY: EXCHANGE MAGAZINE

Tom Geiger, President of Agile Systems Inc.



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MOVER & SHAKER

company was founded as engineers for hire," recalls Geiger, who joined Agile in 2005 because of its advanced technology. "So they hung their shingle out front and did whatever projects came their way. They started doing some development for some small companies and they started doing some small machine building for automotive customers." Agile quickly gravitated to motion-control projects, looking for more innovative ways to turn motors. Applications for their work included golf carts, electric bicycles, tractors, and the burgeoning field of robotics.

In a relatively short time frame Agile developed its own standard products while continuing with their bread-and-butter custom work. The company's central focus was to find innovative ways to control motors and enable them to work more efficiently. In 1998 Agile developed its first standard controller, MAX 2000. This compact motion-control product enhances machine designs and automation systems by increasing performance and reliability while minimizing space and cost. Applications for the MAX 2000 range from industrial robotics to lab automation. Three years later the Agile

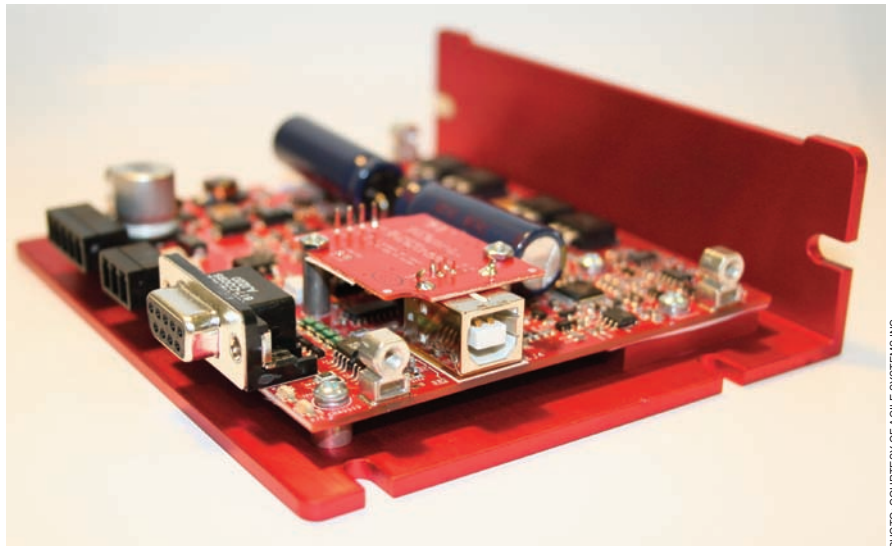


PHOTO: COURTESY OF AGILE SYSTEMS INC.

"We look at the industry as a whole and we come up with what we believe is the right technology for the product."

produced the MAX 3000, offering increased flexibility and performance for demanding motion-control applications including printed circuit board assembly equipment to semi-conductor process

tools.

"All about motor control"

Geiger suggests some perspective on Agile's operations: "It's all about motor control... innovative ways of controlling

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In the last year since Geiger has been president, the company has gone from a highly research and development-oriented operation to one with a customer applications and sales emphasis.



motors. We would classify what we do as typically 1 KW of power. A typical light bulb is 100 W. Your hair dryers are typically 1,200 to 1,300 W in terms of pure electrical power.”

Further motion-control developments led to Agile’s production of the microMAX in 2003. In 2007 Agile produced microMAX R – a more compact, high-performance digital drive. Easily mounted into an automated machine, the microMAX R reduces wiring and compresses the overall size of the equipment. SILENTstep is another innovative product Agile developed in 2005, that eliminates stalling, reduces noise and increases motor speed

for machinery run by stepper motors. Exercise and handling equipment are ideal applications for SILENTstep.

Agile has also developed and produced energy-saving drives that power certain motors. Produced in 2004, DPDLite is a digital engine that drives motors more efficiently and quietly. Similar to its line of motion-control products, DPD Lite has a broad range of applications from fans and compressors to office and medical equipment. Aside from its standard product line, Agile continues to perform custom work by incorporating client requirements with its expertise. The custom work undertaken by Agile can vary dra-

matically, explains Geiger. “There are two types of modifications. One is called personalization, where you’re making small changes like a minor piece of software added. Then you would have custom products where you’d want to add certain elements,” says Geiger, who cites the example of a custom board as a product that was changed dramatically to suit the customer’s requirements.

As is the case with any manufactured product, each of Agile’s products has a development cycle. For example, the microMAX R is a third-generation product, explains Geiger, and is undergoing some software development at this time

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to add additional features. The SILENTstep is a second-generation product, he adds, and is going through a complete re-think in terms of software and hardware repackaging. The DPDLite product is also going through second-generation modification which is being largely driven by cost reduction as well as added flexibility. Geiger's philosophy for product development incorporates client requirements as well as assessing the technological landscape. "We look at the industry as a whole and we come up with what we believe is the right technology for the product."

Constant improvement

Custom projects, in addition to market innovations, also contribute to improvements in Agile's standard products. Although product modifications can appear to be cosmetically minor, such improvements can actually be extensive, explains Geiger. "The previous generation of this machine (microMAX) versus the new generation of this machine is four times machine performance, double the reliability, half the development time at half the cost. Those were the metrics we were able to meet with the new generation of this machine." But the challenges of constant improvement can be onerous. "Sometimes you reach a point where the increments are very small," says Geiger, in referring to generational advances. "You can only jam so much power in a small space."

As an example of Agile's innovation, the company has been awarded 5 patents in the past two years, says Geiger. Undoubtedly, the company's continued

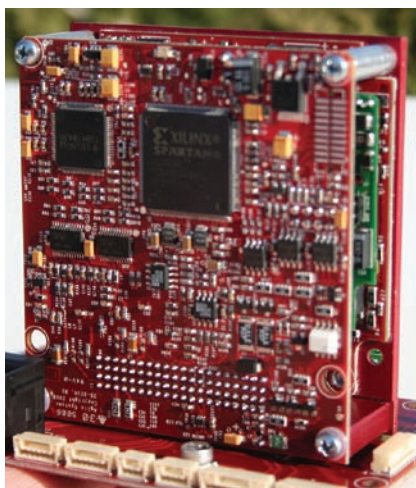


PHOTO COURTESY OF AGILE SYSTEMS INC.

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custom work is further evidence of Agile's ingenuity. Typically a custom order comes with specific requirements that differ in varying degrees from Agile's standard products. "We look at the project and ideally we'd like to say here's our standard product how many would you like to buy, but it seldom works that way," explains Geiger. "Certainly on the more advanced programs where people

have very specific interface requirements and very specific programming and timing elements because people want things to happen extremely quickly and so performance is really key. We're streaming millions of data points in a very short period of time."

Given the broad applications of both its motion-control and drive products, it's not surprising that Agile's customer list is equally broad. Customers include Siemens, Agilent Technologies, Nanometrics, Genmark, Samsung and Thermo Fisher. Despite being based in Waterloo, the bulk of Agile customers are in the United States, explains Geiger. Using agents throughout the world, Agile is attempting to expand its reach globally. "We have agents in the U.K. and we just signed a new agent in Singapore and Korea who looks after Asia for us." Since Agile is not a public company, Geiger is reluctant to divulge sales figures.

Also because Agile is a private company, Geiger is unwilling to disclose the percent breakdown of its ownership. As disclosed in its corporate web site, Agile's investors include RBC Capital Partners, Covington Capital Corporation and RoyNat Capital. The investment was increased in early 2008 when Agile announced the completion of an \$800,000 round of financing. Although Agile's Kumpf-Drive facility currently employs just 21 people, nearly two thirds of its work force is involved in either manufacturing or engineering, says Geiger. The remaining one third is dedicated to operations. Within the orderly 20,000-square-foot facility is in-house

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Environmental focus

Also an investor in Agile, Expansion Capital Partners invests in Clean Technology Companies. Technology classified as such includes processes that make better use of energy, raw materials and water, offer equal, and often better, performance and lower the cost of a product's life cycle. Furthermore, companies that are energy efficient, produce less waste and reduce cost thereby improving profitability fit the Clean Technology criteria.

Meeting such criteria is something Geiger understandably takes great pride in. "There's no question that's the reason one of our investors has invested in us," explains Geiger. "So, that's an important element for them that we're not only a high-tech company, but that we are also producing environmental products." Not only is Agile's commitment to energy efficiency necessary to attract a significant investor, but it is also key to Agile's corporate philosophy. "Our tag line is making a difference," explains Geiger. "We believe that we are making a difference a) for our customer and b) for the environment in terms of producing products that are extremely efficient. Our drives are in the 97 to 98 per cent efficiency range. So, there's certainly an energy element in what we do. The most efficient the less energy is wasted. If you have a very inefficient drive the energy generated is not power."

Despite a growing international presence and an increasing number of global agents, Geiger believes Agile's Waterloo location is an ideal fit. Perhaps most importantly, the Region's high-tech talent is well-known globally and well suited for Agile. "The strategic advantage for us locally is of course high-tech talent and the people we have on staff have degrees and PhDs." Although a highly educated workforce is not exclusive to Waterloo, Geiger nonetheless takes pride in the company's Waterloo location.

Canadian and proud

"We are all Canadian and quite proud of the fact that we're doing something that's world class," says Geiger. Practical issues such as shipping are not a major concern as Agile's products are relatively small. What is a priority, he adds, is that Agile have a local presence in its markets.

Aside from staying current with technological advances and the demands of customers and the marketplace as a

whole, Agile is confronted with a number of other significant challenges. There is the constant challenge of developing a product that meets the ever-changing needs of both industry and customers. In life-science applications, for example, products need to be proven effective prior to full-scale use. "If you're testing blood in life sciences you can't give someone the wrong result. You can't say there was a jam in the machine or you accidentally put the blood in the wrong vial," explains

Geiger. Similarly, with semi-conductors where new technology is essential the industry is careful given the exorbitant costs involved in wafer replacement.

Working with the regulatory process is itself a daunting challenge, explains Geiger. The patent application process is "arduous" says Geiger. Not only in terms of time frame, but also in terms of expense. "We've spent a lot of money on lawyers." Since Agile conducts business overseas and patents are required from

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each country the cost for patent protection can be exorbitant. "To get a patent registered in Europe costs \$5,000 per country," he explains. In order to apply for a patent, he adds, a company needs to fully disclose precisely what they're doing. The application is secret, but once the patent is granted it's in the public domain. And once it becomes public an unscrupulous manufacturer can take advantage. "You're not protected from someone in China who does not care about the laws and will reverse engineer it working out of his garage," explains Geiger. "The laws in China are improving they are starting to crack down, but it's a very, very black market."

Aside from patents, says Geiger, products can also be protected through non-formal trade secrets. With trade secrets — of which Agile has more of relative to patents — a product is protected internally. To explain the concept of internal secrets, Geiger cites the example of Coca Cola and its renowned soft-drink recipe. "They control who has access to it how they do it and they don't expose it to the outside world." Internal theft is a concern given the competitive nature of the high-tech industry.

Regulatory approvals for products are another challenge as the process itself can be quite lengthy. Further complicating matters is coordinating approvals with a products life cycle. "A product has to be tested and get FDA approval," explains Geiger. "In order to get approval it takes life science equipment two years. Not only does the application have to work but the machine has to go through

its cycle of testing, evaluation and customer acceptance." Typically from a product's adoption to when it's available for sale is anywhere from a year and a half to two years, he adds. Therefore, receiving regulatory approval prior to a product being ready for sale is ideal. Particularly in the case of high-tech equipment, obsolescence can be a concern if an approval is not timely.

With new leadership and patented products with virtually infinite applications, Agile is poised to heighten its global profile.

Tough times in 2000

A challenging time for Agile occurred during the dot-com collapse early in the current millennium. In 2000 Agile had a workforce of nearly 80 employees. A "significant deal" with a prospective investor was cancelled, recalls Geiger. At the time Agile was aggressively pursuing anything that had a motor attached to it, he adds. With the deal collapsing, a major cutback resulted at Agile with the company being downsized. In the last year since Geiger has been president, the company has gone from a highly research and development-oriented operation to one with a customer appli-

cations and sales emphasis. He estimates nearly one third of Agile's resources are committed to research and development. Given Geiger's 20 years of progressive senior sales and management experience in conjunction with his industrial engineering background, it's no surprise he seemed an ideal fit to lead Agile. "We've had a new shift at the end of last year since I became president," says Geiger. "We right-sized the business to take it forward so we've now done the marketing, we've had a minor lay off. We now have a team in place that allows us to build the business." Geiger conservatively estimates Agile's growth at 20 per cent for the upcoming year. Indicative of the shift, Agile announced an additional \$7.0 million in financing while establishing a new board of directors in mid 2005.

With new leadership and patented products with virtually infinite applications, Agile is poised to heighten its global profile. Although, you will not be able to take apart a high-tech device and discover Agile's corporate logo within its components, Tom Geiger is nevertheless comfortable with the fact that his company's products may have had a hand in the manufacturing of the item. Although familiarity with consumers may have its advantages in market capitalization, it is of little consequence for a private company partnering with high-tech manufacturers who demand performance and quality at a reasonable cost above all else. Such adherence to a business-like philosophy is music to the ears of Agile's practical and innovative president, Tom Geiger. X



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