

Everspin Technologies, Inc. (NASDAQ:MRAM)



KEVIN CONLEY is President and CEO of Everspin Technologies, Inc. Mr. Conley has served as the President and CEO of Everspin since Sept 2017 and as a member of the board of directors since March 2017. Prior to joining Everspin, Mr. Conley spent over 20 years at SanDisk where he was most recently Senior Vice President and CTO of SanDisk until June 2016, focused on fostering strategic innovation at the company. Previously, he served as Senior Vice President and General Manager of SanDisk's Client Storage Solutions after holding several key system engineering leadership positions over his career at SanDisk. In 2009 to 2010, he was Vice President of Engineering at Corsair, where he transformed and expanded the product portfolio to grow the company to a leader in PC gaming components, including high-performance SSDs. Mr. Conley is listed as the inventor or co-inventor on over 90 patents in the area of non-volatile memory architecture and management. He

graduated from Santa Clara University with a Master of Science in computer engineering and a Bachelor of Science in electrical engineering and is an alumnus of the Stanford Executive Program.

SECTOR – SEMICONDUCTORS

TWST: Can you briefly describe Everspin Technologies and talk about its chief business lines?

Mr. Conley: Everspin Technologies is the world's leading provider of magnetoresistive RAM, or MRAM. MRAM is a type of non-volatile, or persistent, memory that retains data even without power, unlike other types of memory technologies, such as SRAM or DRAM. MRAM is the company's sole focus, as its stock ticker MRAM suggests.

Our company name, Everspin, is actually a reference to the magnetic phenomenon of electronic spin that is the basis of operation at spintronic devices, such as MRAM, and that allows our technology to provide unprecedented performance and endurance for non-volatile memory. While there are other companies starting to provide MRAM solutions, Everspin is the only company in mass production of MRAM discrete memories that deliver the industry's most robust, high-performance non-volatile memory for industrial IoT, data center and other mission-critical applications where data persistence is paramount.

We are a U.S. manufacturer that currently provides commercially available MRAM solutions to a large and diverse customer base through two generations of MRAM product technologies. Our Toggle MRAM is primarily a lower-density product line, 128 kilobit to 32 megabit, that works with a variety of mission-critical industrial and data center applications; and our spin-transfer torque MRAM, a more advanced and scalable MRAM that we are currently delivering in 256-megabit and 1-gigabit densities, is focused on a range of non-volatile write buffer use cases in data center applications. We also enjoy royalties from a number of licenses that we have with our broad I.P. portfolio to MRAM and other spintronic applications.

TWST: What is the total addressable market for MRAM at this time?

Mr. Conley: The market forecast by analysts vary widely for MRAM. At the low end of the density range, you have the combined markets of all variants of competitive technologies, such as SRAM, traditional volatile SRAM and non-volatile nvSRAM and battery-backed SRAM versions, plus ferroelectric, or FRAM. This addressable market for mostly industrial and IoT applications is estimated at over \$740 million per year and growing.

At the high end of the density range, MRAM is creating a new class of high-performance persistent data buffers in data center applications with functionality that provides critical power-loss protection of data in flight, eliminating the need for capacitors and batteries to backup volatile data buffers, such as DRAM. We estimate this market as being almost \$1 billion at present and will grow as MRAM is adopted into emerging applications, such as persistent memory solutions for servers or storage fabric accelerators, as well as continued evolution of storage architectures. There are some analysts today that are projecting the opportunity for standalone MRAM could reach \$4 billion by the end of this decade.

TWST: The company's last fiscal year 2019 revenues were \$37.5 million. Can you characterize that by industry, applications or business lines in some way?

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Mr. Conley: We don't actually segment our revenue either by market or by product technology, but I think I can give you a fair characterization of it by saying that Toggle MRAM has our largest customer base at over 1,000 unique customers, and it accounted for the majority of our revenues in 2019 as well as for most of the new design win growth. Toggle revenues grew consecutively for the past four quarters, and yet it's still running below historic highs.

Our STT-MRAM, the newest technology I talked about, is our fastest-growing product line during the year, growing consecutively for the last three quarters of 2019. In our public commentary, we did state that it achieved more than 10% of our 2019 product revenue. We are currently forecasting that our 1-gigabit STT product that's ramping now will continue to lead our revenue growth for 2020.

devices. We expect that greater bandwidth to these devices will drive actually more functionality, more sensors, more data generation and more filtering in those devices that require greater performance, greater capabilities and greater feature sets. All of these features will drive the need for more and faster persistent memory.

Since these devices are, at their endpoints, often in remote locations and battery-operated or even in extreme conditions, they need to have the ability to protect critical data against power interruptions while writing and throughout over-the-air updates. There is no other memory technology that delivers persistence coupled with the performance and endurance at the level of our MRAM technology, so we feel the trend toward adoption in 5G to IoT applications will be a key driver for expansion of MRAM adoption.

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TWST: So when you look at the industries that you're selling into, can you give us a sense of how that breaks out? What might be the growth drivers over the next five years?

Mr. Conley: We sell into two predominant areas. One is into the industrial IoT space, and that's where historically our Toggle products have sold and done quite well. As I said, that's estimated somewhere around \$740 million total addressable market. So you can see even at its peak for us, we are still a minority share and have room to grow.

One of our key growth drivers that we see over the next few years is continuing our efforts to increase customer adoption and new design wins. It should be noted that we have been in production with our Toggle technology for over a decade. It has won the loyalty of many very demanding customers across a broad variety of applications; these are some of the most demanding customers in the industry. So it has a long life ahead of it.

We see the next wave of growth coming from our current STT-MRAM products in data center applications. As I mentioned earlier, it's a very large opportunity. The design wins that we have had there have provided pretty significant growth. We do expect that as we add more design wins to the pipeline for our STT-MRAM products in those data center applications that this will continue to add to the accelerated growth that we've achieved so far.

Then, longer term, we have taken the cost basis of our highdensity gigabit STT-MRAM device and have brought the benefits of that density in terms of the cost per bit back to the opportunity that we see in the industrial and IoT space. Actually, as the market expands there, our next product that we expect to start adding revenue in the 2022 time frame will be an STT-MRAM product targeted at our industrial and IoT customer base.

TWST: How will 5G impact MRAM and Everspin specifically?

Mr. Conley: That is a great question. The promise of 5G is that it will bring greater bandwidth to endpoint devices. When we look at the spectrum of how computing is distributed today, it goes from the core data centers out to a broad variety of industrial and IoT-type endpoint TWST: As you try to increase market share in some of these areas, what operational steps are you taking? Also, as you talk to potential customers, what chief advantages do you cite the most?

Mr. Conley: These are two different questions. The operational steps that we've taken have been focused on the key essentials of being an operationally excellent company that can survive and thrive in a very competitive memory market. We focus on cost containment as it relates to both the costs that go into our products and our ability to manufacture with stable high yields, and also look for opportunities to reduce costs and improve the efficiencies of our operations.

We are also looking at structuring our business to align our ability to operate as a company with profitability for the long term, which of course is very important for not only our investors but also for our employees and customers. At the end of January, we completed a restructuring of our operating expenses that's intended to propel us toward that profitability point.

In terms of what we tell our current and potential customers the most is that our MRAM technology is a high-performance persistent memory, meaning it's non-volatile. Typically, when people think of nonvolatile memories, they think of flash memory, which is ubiquitous in terms of the wide variety of data storage applications, but we are quite different than flash in the fact that our memory also has very high performance and endurance. It operates more like a DRAM and SRAM than it does a flash memory, so it is able to be attached to a CPU and provide a persistent level of performance that's unparalleled and to bring very high endurance that is necessary to support compute workloads, which a memory like flash cannot do without very sophisticated management techniques.

Those are the three technology advantages that we bring, but also, Everspin has developed a reputation over the past 12 years of delivering an unparalleled level of quality of the devices that we provide to the customers. That's really gained their trust to put this into missioncritical applications, as in medical equipment and aerospace applications where failure is not an option. We are in airplanes, automotive and transportation applications.

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We have a reputation for quality. Everspin has really distinguished itself from the other producers of competitive technology. If you take those four benefits of persistence, performance, endurance and reliability, those are really the distinguishing factors of Everspin's products that we tell customers about.

TWST: Are there new markets that you want to get into, and if so, what are they?

Mr. Conley: We still see a lot of growth in the markets that we're already in. As I mentioned, we're less than 10% of the industrial IoT market, so there is a lot of room for growth there, meaning growth for our current products as well as for the next wave of products that we're developing for that market. There's still a lot of room in the data center market to get from where we are today to gain a larger share of what we see as a very large opportunity.

I'd say near term, the priority is developing our positions in the existing markets where we continue to win designs with customers and expand the opportunity. As we think longer term, we have participated in the aerospace market to some degree, but I think looking at the characteristics of our memory as a radiation-tolerant memory, then we see opportunities there as well. It may be a small market, but it's also one that's very important strategically.

Another one that takes a lot more time to prepare for, and is a market that we have participated in the past, is the automotive. But we are thinking more holistically of what it takes to be an automotive-grade supplier with all the necessary certifications. That is a longer-term growth opportunity as well. technology to GF to provide their SoC customers with embedded MRAM solutions on the 22-nanometer FDX technology that is expected to enter production later this year.

While we expect these platforms to generate an expanding portfolio of embedded and discrete MRAM products in the coming years, we have also further extended our MRAM cooperation with GF to its 12-nanometer FinFET technology node that will help keep our partnership strong into the future. The license that we signed with GF is a royalty-bearing license. It is expected that once they begin their customer shipments that royalty revenues to Everspin will start from those licenses.

TWST: In 2020, you have been going through a selfdescribed restructuring of the business. Can you talk more about what this entails, and why is it happening?

Mr. Conley: I did touch on that a little bit earlier. Since the spinout of Everspin as an independent company in 2008, the focus has been primarily on technology innovation and development. The financial strength was slow in building to the point where it could support these activities.

Since I assumed the role of CEO in 2017, we have consistently narrowed the company focus on memory-centric activities. We set objectives to support operational excellence processes and brought our spending into alignment with our key priorities of MRAM revenue sales, growth, cost and expense containment while driving product and technology road map expansion. Our latest round of restructuring, which we completed at the end of January, was aimed at trimming our operational expenses to achieve around \$5 million in annual savings over 2019 spending with additional improvements in our product efficiencies.

"Our goal of this restructuring is a cash flow breakeven by the end of this year, which will enable our future path for continued leadership in the MRAM space as a self-funding entity. This status is important to many different constituencies, and a natural and important milestone in the evolution of any company."

TWST: To participate in those markets, would you be looking for some kind of alliances or partnerships, or not necessarily?

Mr. Conley: Partnerships can be very helpful. We are a small company with very unique capabilities, but you know, scale is not something that we possess a lot of. If there are opportunities to partner to get into some of these larger markets, then that's always a possibility. We have partnered in some of our forays into aerospace and have found these to be very successful in terms of path to market for our technologies. But we often start off trying by ourselves, and then as opportunities come up with a partner, we consider each one. We are a company that has benefited from such partnerships.

TWST: You have an agreement with GLOBALFOUNDRIES. Can you talk about what this means and explain any other partnerships that you have that are key to the business at this time, including those related to licensing?

Mr. Conley: We have a great partnership with GLOBALFOUNDRIES, or GF, that mutually benefits both Everspin and GF through the joint development of advanced MRAM technology. We've transferred our MRAM technology to GF's 40-nanometer and 28-nanometer CMOS technology nodes and their 22-nanometer FDX platform. So this technology is the basis for our discrete STT-MRAM products, our 256 megabit and 1 gigabit. GF is our exclusive manufacturing partner for those. We have also licensed the use of this

Our goal of this restructuring is a cash flow breakeven by the end of this year, which will enable our future path for continued leadership in the MRAM space as a self-funding entity. This status is important to many different constituencies, and a natural and important milestone in the evolution of any company.

TWST: What are the leading objectives for the company, both strategic and operational, for the next 12 months?

Mr. Conley: Our highest priority is to accelerate the mass production ramp for our 1-gigabit STT-MRAM coupled with our efforts to secure new design wins for the data center market. Second to this is our ongoing efforts to drive new Toggle MRAM design wins, enhanced by our expanded capacity offerings of the 2-megabit, 8-megabit and 32-megabit products, and continue to bring our production costs down. Longer term, our priority will be to complete the development of our industrial STT-MRAM product and increase active customer engagement on this product. We expect that activity to drive our next wave of revenue growth starting in 2022.

TWST: What do you want a potential investor to know today about Everspin Technologies?

Mr. Conley: It is important for them to understand that Everspin has achieved a unique position as the leading innovator and successful manufacturer of MRAM technology. We have successfully serviced the demanding industrial market for over a decade, and we

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have ramped up a new generation of MRAM technology into data center applications. Our technology delivers an unparalleled level of performance and endurance in a persistent memory in a wide variety of demanding mission-critical applications with a world-class level of quality. We have attracted a large group of avid customers with extremely high standards across a wide set of markets.

In recent years, we have refined our strategy, narrowed our focus and taken significant steps to align our spending to our objectives. We are on the cusp of profitability. Our current growth drivers of Toggle MRAM products provide a solid and growing set of market opportunities, supplemented by our fastest-growing revenue stream from our 1-gigabit STT-MRAM product line. Beyond these two growth drivers, we plan to expand our industrial offerings to bring the cost benefits of our 28-nanometer STT-MRAM technology to our broad industrial customer base. We're unrivaled by competitive technologies and have a road map for continued leadership.

TWST: Is there anything else you want to add that we haven't covered?

Mr. Conley: What I would say is, this company has a very strong and long legacy. We do believe that 2020 represents a milestone in our ability to turn the corner as a self-funding entity supported by

our improving cost structure and focused efforts to grow our industrial and data center market opportunities. This is tantamount to moving from being a leading technology innovator to a company that's aimed at scaling its market traction and bringing further customer value through its disruptive product offerings. It was the dream of the company when it was founded and continues to be the motivating force for our entire team as we look toward making MRAM the future of memory technology.

TWST: Thank you. (KJL)

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