



COMPANY OVERVIEW

MAY 12, 2017

Breakthrough Application-Specific Memory Technology

Safe Harbor Statement

Forward-Looking Statements

This presentation contains “forward-looking statements” that involve risks, uncertainties and assumptions. If the risks or uncertainties materialize or the assumptions prove incorrect, our results may differ materially from those expressed or implied by such forward-looking statements. All statements other than statements of historical fact could be deemed forward-looking statements, including, but not limited to: any estimates of addressable market size and our ability to capture that market, market trends and market opportunities, customer growth, product availability, technology developments, or other future events; any statements about historical results that may suggest future trends for our business; any statements regarding our plans, strategies or objectives with respect to future operations or business performance; any statements regarding future economic conditions; and any statements of assumptions underlying any of the foregoing. These statements are based on estimates and information available to us at the time of this presentation and are not guarantees of future performance. Actual results could differ materially from our current expectations as a result of many factors, including, but not limited to: market adoption of our products; our limited operating history; our ability to raise capital; our history of losses; our rate of growth; our ability to predict customer demand for our existing and future products; our ability to hire, retain and motivate employees; the effects of competition, including price competition; technological, regulatory and legal developments; and developments in the economy and financial markets.

We assume no obligation, and do not intend, to update these forward-looking statements, except as required by law.



*Everspin's **MRAM** products*

*offer the **persistence** of
non-volatile memory with the **speed** and
endurance of RAM*



Everspin's **MRAM** products

allow customers to **enable** denser form factors,
improving performance and **simplifying** solutions

Existing Solution*



- ❑ 4TB
- ❑ 300K Random Read 4KB IOPS
- ❑ 100K Random Write 4KB IOPS

MRAM Advantage

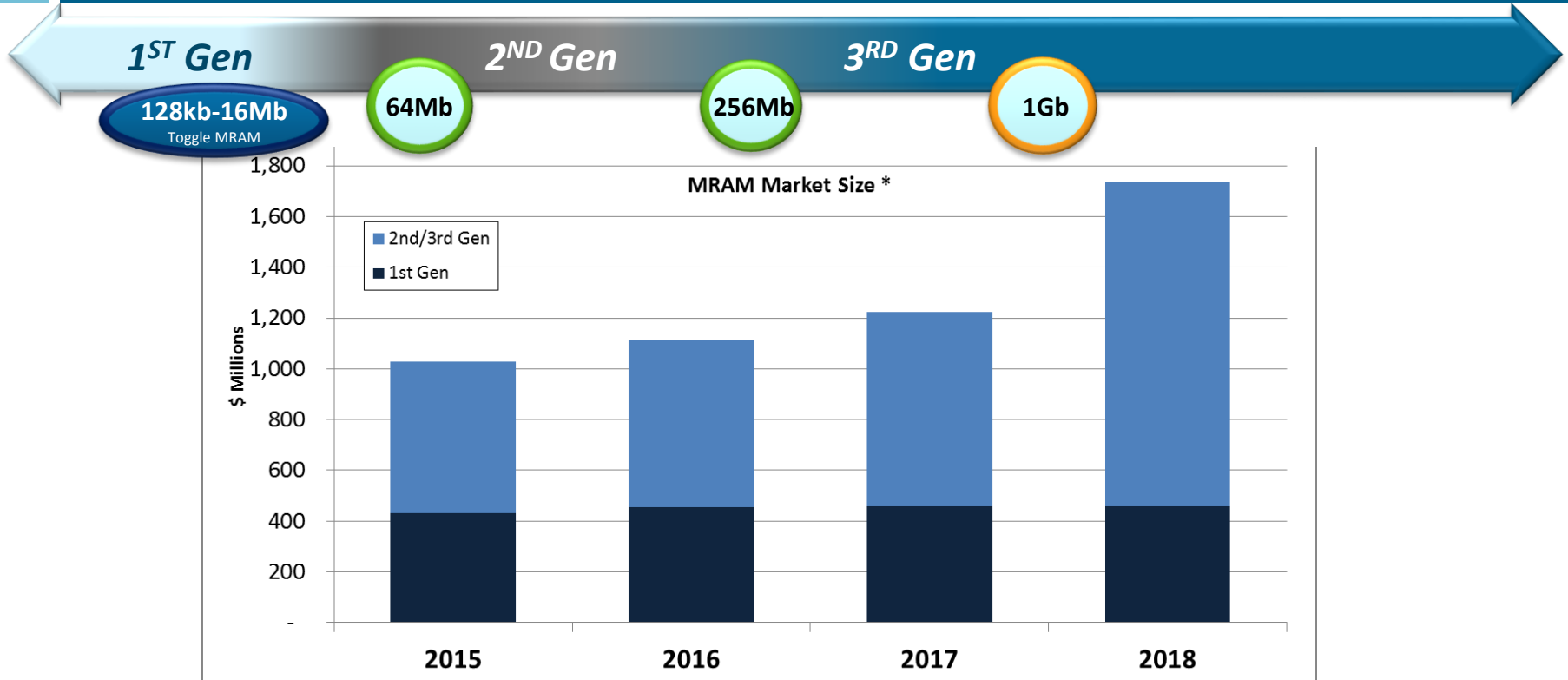
Everspin Solution



- ❑ 5.4 TB
- ❑ 900K Random Read 4KB IOPS
- ❑ 300K Random Write 4KB IOPS

* Existing Solution pictured above is representative only.

MRAM Roadmap Expands the Market Opportunity



Everspin's Target Markets Increasingly Demand MRAM

Industrial

Applications

- ▣ Automation
- ▣ PLC
- ▣ Motor Control
- ▣ Lighting
- ▣ Network
- ▣ Smart Meter
- ▣ Casino Gaming

Customer Need	MRAM Feature
Continuous data logging	Virtually unlimited endurance
Protect data on power loss	Persistent data
Harsh environment	Industrial and extended temperatures
Data retention	20 years
Simple to design	SRAM and SPI interfaces

Automotive & Transportation

Applications

- ▣ Infotainment
- ▣ Transmission Control
- ▣ Tachograph/Odometer
- ▣ Electric Brakes
- ▣ Engine Management
- ▣ Event Recorder
- ▣ ADAS

Customer Need	MRAM Feature
Continuous data logging	Virtually unlimited write cycle
Protect data on power loss	Persistent data
Temperature extremes	Automotive grade
Regulatory	Data retention for 20 years

Enterprise Storage

Applications

- ▣ Enterprise SSD
- ▣ RAID
- ▣ Storage Appliance
- ▣ Enterprise HDD
- ▣ Server

Customer Need	MRAM Feature
Reduce storage latency	Write 100,000x faster than NAND block writes
Protect data on power loss	Persistent data, non-volatile
Space constraint in drives	Eliminate SuperCaps
Faster applications	Persistence without NAND, batteries
Rapid system rebuild	Metadata instantly restored

Global Operations and Support



- 1st Gen production 200mm line in Chandler, AZ
- 2nd and 3rd Gen proprietary MRAM process successfully transferred to GLOBALFOUNDRIES
 - 300mm advanced CMOS with integrated MRAM manufacturing
 - Embedded MRAM

Regional sales supported with global and regional distributors



Global Distributors

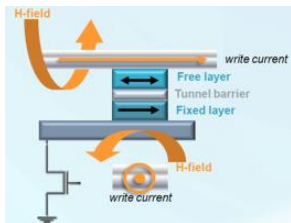


Regional Distributors



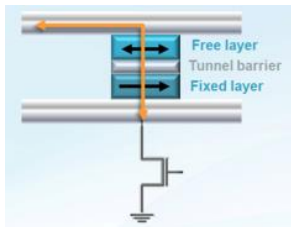
MRAM: Breakthrough Application-Specific Memory Technology

Toggle MRAM

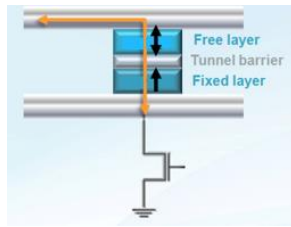


*Magnetic field-switched MRAM
has robust performance in
harsh environments*

Spin-Torque MRAM (ST-MRAM)



In-Plane Spin-Torque



Perpendicular Spin-Torque

Spin-Torque MRAM is capable of scaling to Gb densities

Advantages

- ✓ Non-volatile
- ✓ Fast write-speeds
- ✓ Superior write-cycle endurance
- ✓ Scalable to greater densities and smaller process geometries
- ✓ Manufacturable at high volumes
- ✓ Low energy requirements

MRAM Technology Breakthroughs from Everspin

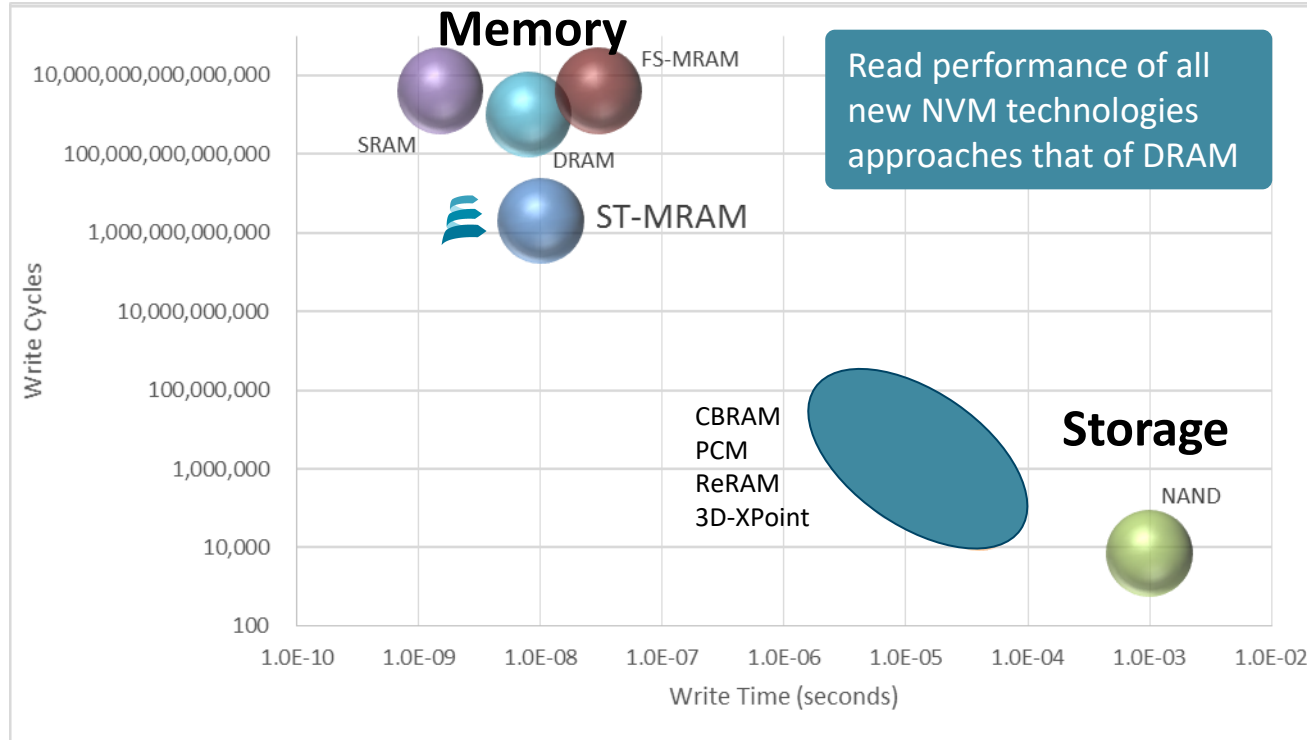
Everspin Product	Everspin Technology	Incumbent Technology	Memory Densities	Primary Applications	Status
1 st Generation (Toggle)	Field Switched (FS)	SRAM	128kb – 16Mb	Industrial / Automotive & Transportation	Shipping
	Embedded	eSRAM	Customer Defined	Micro-Controller Embedded SRAM plus Flash Replacement	Shipping
2 nd Generation (ST-MRAM)	In-Plane Spin Torque (iST)	DRAM	64Mb – 256Mb	Enterprise Storage	Shipping 64Mb; Sampling 256Mb
3 rd Generation (ST-MRAM)	Perpendicular Spin Torque (pST)	DRAM	64Mb – 1Gb+	Enterprise Storage & Servers	Sampling 256Mb; 1Gb+ in Development

Why MRAM Now?

- 1 Customer system requirements increasingly seeking application-specific, high-performance, persistent memory (existing memory solutions increasingly inadequate)
- 2 Volume CMOS and MRAM production lines in place for both 200mm and 300mm products
- 3 Release of higher density products opens up new applications and larger opportunities
- 4 Established customer base and ecosystem, including relationships with leading controller companies
- 5 Significant design win pipeline

Everspin has the sales channel, go-to-market strategy, design win pipeline, top tier customers, product breadth, system knowledge and the ecosystem to succeed

MRAM is Memory with Persistence



- ❑ MRAM is only NVM that can be written enough times to avoid wear leveling
- ❑ Write performance is a requirement for a true SCM, otherwise it is just faster storage

Are You Ready?

MEMORY becomes STORAGE

OFFERS MASSIVE PERFORMANCE INCREASE OF MILLIONS OF RANDOM R/W IOPS WITH μ S LATENCIES AND LOAD/STORE SEMANTICS)

Radical shifts in enterprise compute and storage systems are here!

3D XPOINT™

NVDIMM-F

NVDIMM-N

NVDIMM-P

TLog (Tail of log)

ST-MRAM (Spin Torque MRAM)

DAX (Direct Access)

IOPMem

PMem (Persistent Memory)

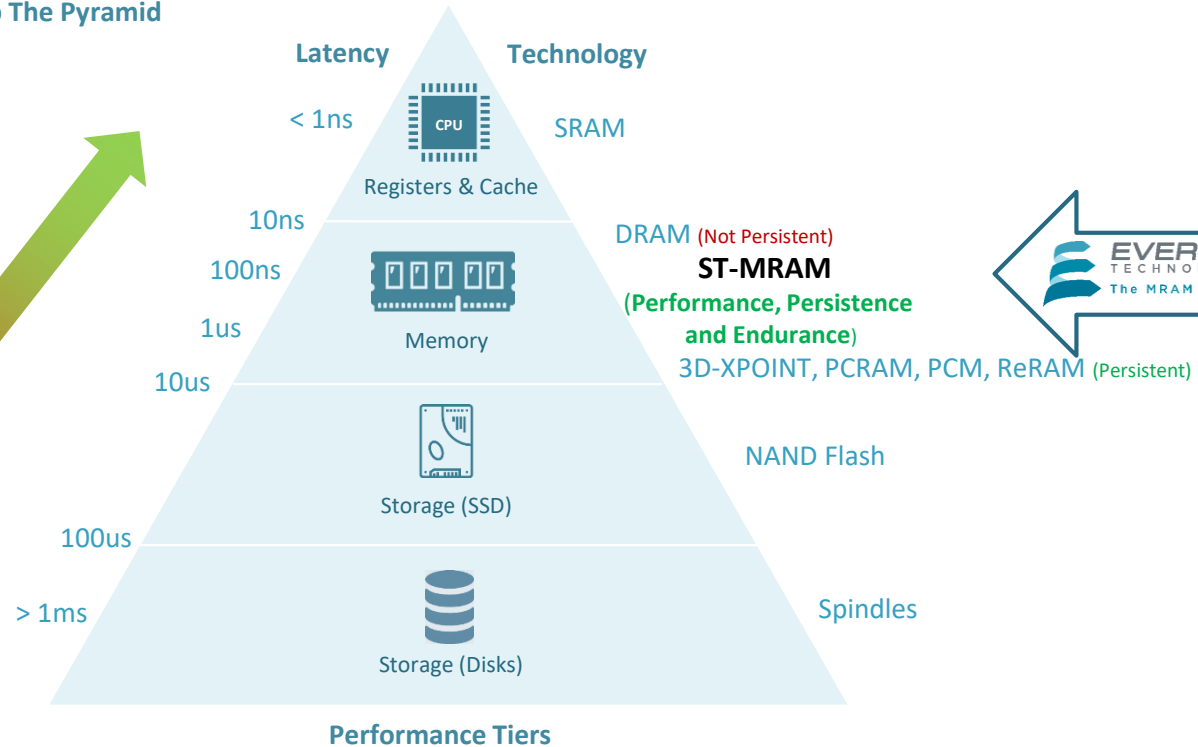
SCM (Storage Class Memory)



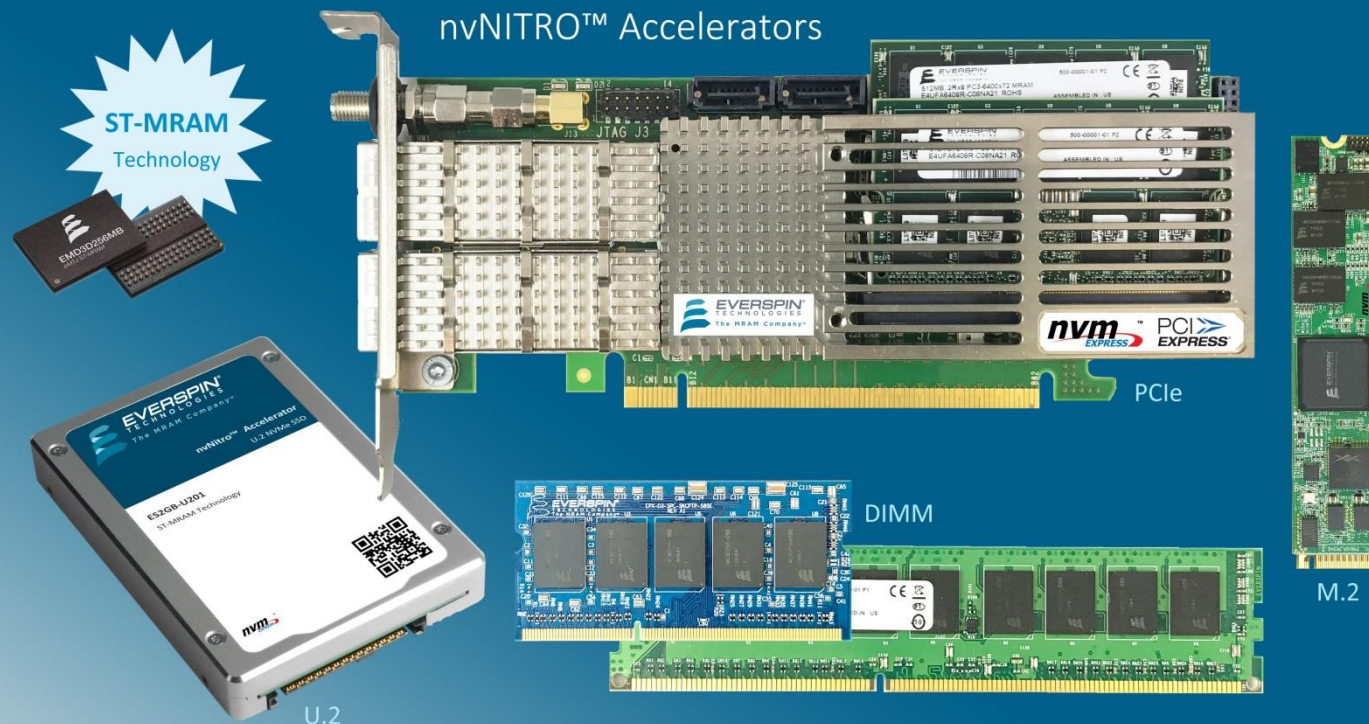
ST-MRAM: Enabling The Persistent Memory Era

Characteristics As We Move Up The Pyramid
(Current state)

PERFORMANCE
ENDURANCE



nvNITRO™ – High Performance with Persistence



- PCI Cards with NVMe
1/2/4/8/16GB
- 1.5M IOPS
- Ultra Low Latency
6.26uS
- U.2 4-8GB
- M.2 1-2GB

Everspin nvNITRO™ Value Proposition



10x

1.5M IOPS (Random R/W)
6uS Latency (End-End)

Ultra-Fast Persistence



No External Batteries/ Caps
Zero System Dependencies

Inherently Power Fail Safe

nvm
EXPRESS



NVMe (block storage) and/or
Memory Mapped IO

Flexible Configurations



Zero Data Flush Time
Zero Data Recovery Time
Zero Wait (vs. Charge Time)

No Cycle Time Impact



100%

No Thermal Impact
No Performance Penalty

Full Performance

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Just Keeps Going

Unlimited Endurance

PCI
EXPRESS



U.2, M.2, HH/HL PCIe

Standard Interface






Serviceability with U.2
HA w/ Optional Dual Port








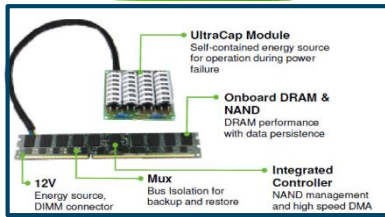



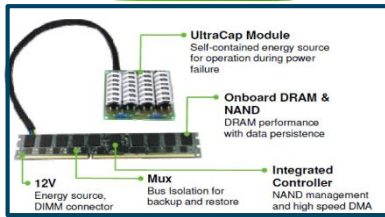
Serviceable with High
Availability

nvNitro NVMe Product Line



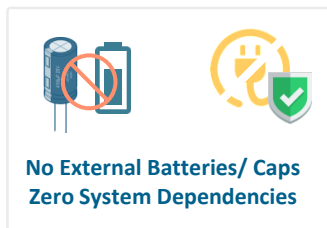
			
Form Factor	U.2	M.2	PCIe HHL
Interface	PCIe Gen3 x4 2x PCIe Gen3 x2 (Dual Port)	PCIe Gen3 x4	PCIe Gen3 x8 PCIe Gen3 x16
Capacity	1GB, 2GB, 4GB, 8GB	512MB, 1GB, 2GB	1GB, 2GB, 4GB, 8GB, 16GB
Protocol/Access Modes	NVMe 1.1+ & Direct Memory Access (IOPMEM, DAX, PCIe MMIO)		
Performance IOPs (R/W) (4K Random R/W)	750K / 750K	750K / 750K	1.5M / 1.5M (x8 PCIe) 2.8M / 2.8M (x16 PCIe)*
Latency (R/W) QD=1	6.26uS (Read) / 7.22uS (Write)		
Customer Defined Features	Customers may optionally program onboard FPGA with own RTL to extend features / functions		
BER / Data Retention	< 1 e ⁻¹⁸ / Powered down DR is 3+ months @ 50C, Powered up DR is lifetime at full operating temperature		
Endurance	1e ⁹ Access to each and every page, Unlimited uniform access for 10+ years		

ST-MRAM Improves Performance and Simplifies Implementation

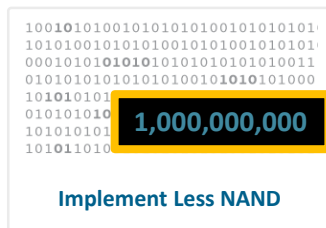
			
 <p>5-9* MRAMs >1M PCIe SSDs Yearly</p>	 <p>1-2* MRAMs >15M 2.5" SSDs Yearly</p>	 <p>5-9* MRAMs >5M RAID Cards Yearly</p>	 <p>9-36* MRAMs >1M NVDIMMs Yearly</p>
			

Smallest Form Factors May Not Be Viable Without ST-MRAM

ST-MRAM When Implemented in Modern SSD designs



Eliminate Super Caps



Less Overprovisioning

Why Less Overprovisioning is Important

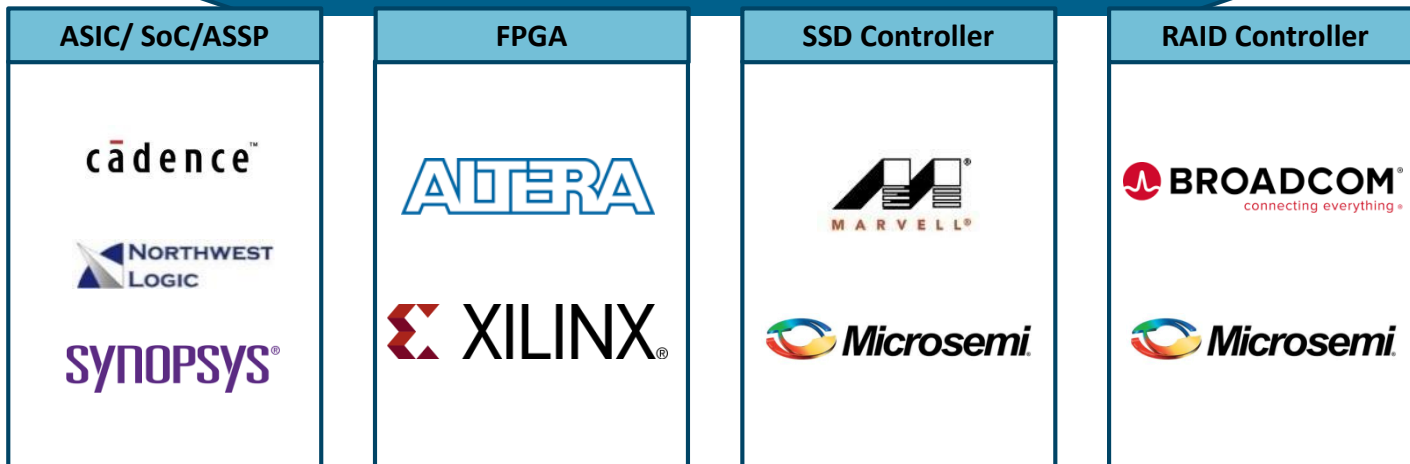
- Reduces Unnecessary Redundancy and \$/GB
- Increases performance by reducing wasted writes to NAND
- Saves space and power

\$441 in Savings by implementing MRAM

	Target Drive Capacity (TB)	Overprovisioning for Endurance	Overprovisioning for Performance	Total NAND	NAND cost/GB	NAND Cost
Existing Solution	10	15%	15%	13.225	\$0.25	\$3,385.60
With MRAM	10	15%	0%	11.5	\$0.25	\$2,944.00
Cost Savings With MRAM						\$441.60

Established Ecosystem Enables Rapid Customer Design-in Cycles, Reducing Time to Revenue

Everspin has partnered with Storage Controller IP providers to ensure compatibility to our DDRx ST-MRAM



Customers have access to validated IP to use in their designs

GLOBALFOUNDRIES Announces eMRAM*

- Scalable, embedded on GLOBALFOUNDRIES' 22FDX platform
- Prototyping expected in 2017, with volume production in 2018
- eMRAM technology is scalable beyond 22nm and is expected to be available on both FinFET and future FDX platforms
- Expands opportunity for industry adoption and licensing revenue stream

“Designers of battery powered IoT devices, automotive MCUs and SoCs and SSD storage controllers will certainly want to take advantage of this versatile embedded NVM technology.” - Thomas Coughlin, President of Coughlin Associates

*

Recent Financial Highlights

Completed initial public offering in October 2016

- Sold 5,000,000 shares at \$8.00 for net proceeds of \$37.2 million
- Concurrent Private Placement with GigaDevice provided additional net proceeds of \$4.7 million

2016 Year over Year Financial Results

- Grew total revenue 2.1%
 - Gen 1 Toggle MRAM grew 6.6%
- Gross profit dollars increased by \$1.1M
- Gross Margin up to 54%
- OPEX down by \$1.3M
- Balance sheet much stronger due to cash from October 2016 IPO/Private Placement

Refinanced \$12M debt facility at more favorable terms

- Added working capital of \$5.7M
- Reduced 1 year debt service by \$3M

Long-Term Target Financial Model

	2015	2016	Target
Gross Margin	52.7%	54.3%	48% - 52%
R&D	79.6%	71.0%	24% - 26%
SG&A	39.1%	40.6%	10% -14%
Adjusted EBITDA Margin*	(52.8%)	(42.2%)	12% -15%

Adjusted EBITDA Reconciliation

	<u>2015</u>	<u>2016</u>
Net Loss	(\$18,183)	(\$16,708)
Depreciation and amortization	\$1,340	\$826
Stock-base compensation	\$416	\$1,141
Compensation expense related to vesting of GLOBALFOUNDRIES common stock	\$1,761	\$965
Interest expense	<u>\$653</u>	<u>\$2,347</u>
Adjusted EBITDA	<u>(\$14,013)</u>	<u>(\$11,429)</u>

Everspin Investment Highlights

- ✓ Only company to offer commercially-viable MRAM solutions
- ✓ Application specific memory targeted for high value markets
- ✓ 600+ customers and more than 60 million units shipped over the last eight years
- ✓ Strategic relationship with GLOBALFOUNDRIES accelerates development and enables high volume production line for customer supply
- ✓ Substantial IP portfolio with 300+ issued patents and 150+ patent applications
- ✓ Existing ecosystem of SSD and RAID controllers are MRAM ready for product deployment
- ✓ Significant design-win pipeline with market leaders in industrial, automotive and transportation, and enterprise storage markets
- ✓ Attractive long-term growth and margin profile



For more information, please visit www.Everspin.com

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