# Coughlin Associates

## Top 10 Things for 2019



Tom Coughlin
Coughlin Associates
www.tomcoughlin.com



## Top 10 Things for 2019

- 1. TCP/IP binding for NVMe brings NVMe-oF to the mainstream
- 2. NVMe products surpass SATA SSDs
- 3. 3D X-point DIMM products ship
- Samsung and other companies pushing fast NAND to compete with 3D X-Point
- 5. First MRAM Embedded Products Shipped
- 6. All major foundries announce emerging memory embedded options
- 7. First Chinese NAND flash revenue—YMTC
- 8. Zoned namespace NVMe SSDs with SMR HDDs create efficient storage disaggregation
- 9. Kioxia (formerly Toshiba Memory) goes public
- 10. Severe NAND and DRAM price declines early in year

## For Further Information

Report on **Emerging Memories** and Workshop on Emerging **Memories** and Al

### EMERGING MEMORIES RAMP UP

Available June, 2019

This report, jointly produced by Objective Analysis and Coughlin Associates, provides an exhaustive look at emerging memory technologies and their interaction with standard memories, both as discrete devices and in embedded applications (the memories within logic chips like ASICs and MCUs). The report provides a well of technical information, market dynamics, forecasts, and competitive analyses of the leading companies. Forecasts show how the markets will grow not only for the technologies themselves, but also for the capital equipment used to produce them. Read this to understand the competitive landscape and market drivers for these new memories, and to learn how to profit from tomorrow's market.

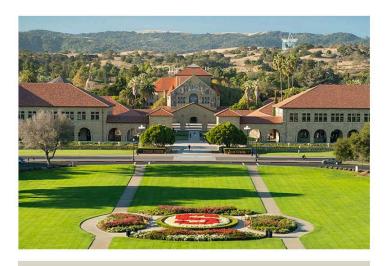
#### **Table of Contents (Top Level):**

EXECUTIVE SUMMARY	17
INTRODUCTION:	19
WHY EMERGING MEMORIES ARE POPULAR	23
HOW A NEW MEMORY LAYER IMPROVES COMPUTER PERFORMANCE	3
UNDERSTANDING BIT SELECTORS	38
RESISTIVE RAM, RERAM, RRAM, MEMRISTOR:	
FERROELECTRIC RAM, FERAM, FRAM:	53
PHASE CHANGE MEMORY (PCM):	
INTEL/MICRON 3D CROSSPOINT MEMORY	62
MRAM (MAGNETIC RAM), STT MRAM (SPIN TRANSFER TORQUE MRAM)	6
OTHER EMERGING MEMORY TYPES	
LITHOGRAPHY:	84
3D MEMORY CIRCUIT DESIGN:	
SUMMARY OF SOLID-STATE MEMORY & STORAGE TECHNOLOGIES	94
MRAM AND STT MRAM PROCESS EQUIPMENT	
PHASE CHANGE MANUFACTURING EQUIPMENT	
MEMORY IS DRIVING SEMICONDUCTOR CAPITAL SPENDING	127
MARKET PROJECTIONS FOR MRAM, AND 3D XPOINT MEMORY	128
ESTIMATES OF MRAM CAPITAL EQUIPMENT DEMAND	146
COMPANY INFORMATION:	157

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### EMAI 2019 Emerging Memory and Artificial Intelligence Workshop

Bechtel Conference Center at Encina Hall Stanford University August 29, 2019



This is a one-day workshop featuring invited experts speaking on emerging memory technology, such as MRAM, RRAM, FRAM and PCM as well as experts on applications using various types of AI, such as machine learning, talking about memory requirements for these applications. The morning will feature speakers on the foundational knowledge of emerging memory technologies and AI, with the afternoon featuring speakers on applications for AI including these applications using emerging memory technologies.

To register and for detailed event information, please visit: <a href="https://emai19.sites.stanford.edu">https://emai19.sites.stanford.edu</a>