Developing a Quantum Leap In Data Storage

Yossi Keret, CEO
David (Dadi) Perlmutter, Chairman

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Our Mission

To become the Next-Gen Memory Technology Provider with a Faster, Energy Efficient, Durable, Cost Effective & Highly Manufacturable ReRAM
Outline

- Addressing huge and exponentially growing market
- Memory space experiences a generation leap every 10-15 years
- The industry is getting closer to the next one
- We expect that our technology and Partnership with Leti will position us to be a leader in next Gen memory solutions
Company Brief

- Incorporated in 2015
- HQ in Israel
- Develop Next-Gen memory solutions - based on Silicon Oxide ReRAM
- Publicly traded: WBT: ASX
- Raised $5M AUD

- Partners:
  - CEA-Leti - France
  - Rice University - USA
- Seven Patents registered in the USA and Globally, additional in process
The Market Opportunity
Insatiable Demand for Data

- Total Amount of Storage is Growing, Doubling every 2 years
- Total Number of Connected Devices is Growing. 50B expected by 2020
- Required Memory per Device is Growing

And it all needs to be stored on non volatile memory
Insatiable Demand for Data

Data Centers & Cloud
Ultrafast response time, and higher energy efficiency devices are required

Smartphones & Tablets
Non-volatile memory is used to store pictures, videos and apps

Automotive
Navigation, safety and autonomous driving requires extremely reliable memory

Internet of Things (IoT)/ Industrial Internet of Things (IIoT)
50 Billion devices expected to be connected to the internet by 2020 and each requires energy efficient memory storage

New Devices (AR/VR, Drones, Robotics)
ReRAM density, energy efficiency and cost paves the way for new efficient smart computing systems

Quantity of Global Digital Data
- 2012 - 2.72 ZB
- 2015 - 7.91 ZB
- 2020 - 40 ZB

*1 zettabyte = 1,000,000,000,000 gigabytes
The need for more data drives new technologies

Technology breakthroughs enable new needs

The industry is used to and capitalizes on technology revolutions every 15-20 years
Clear Need for a New Technology
What is Non Volatile Memory

- A Memory that can store information even when power is off (as magnetic and Flash)
ReRAM Technology

What is Non Volatile Memory
- A Memory that can store information even when power is off (as magnetic and Flash)

What is ReRAM?
- Resistive RAM that changes its resistance across dielectric material
Weebit’s Solution
Weebit’s ReRAM designed to be the Next-Gen

The parameters needed for the next generation memory solution are:

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<th>Parameter</th>
<th>3D-NAND Description</th>
<th>Goals for Weebit’s ReRAM</th>
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<td>does not provide any speed improvement over flash</td>
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<td>No power improvement per bit, consumes higher energy</td>
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<td>Manufacturability</td>
<td>Very challenging manufacturing process</td>
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Weebit SiOx = Simplicity and Manufacturing Solution

**Weebit’s Materials**
- SiOx - Most abundant material
- Existing Fab process
- No Retooling Needed
- Easy to Manufacture - using existing machinery and processes

**ReRAM Competitor’s Materials**
- Not used in Fab process
- Need process development
- Expensive Retooling Needed
- Manufacture is a Challenge - new machinery and processes are needed

- ReRAM Not Used in Semiconductor Fabs
- Used in Semiconductor Fabs
**ReRAM Competition Analysis**

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<th>Memory Material</th>
<th>Switching</th>
<th>Summary</th>
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<td>Si (Silicon)</td>
<td>Si Nano-Crystals</td>
<td>Lowest cost/bit &amp; Higher Stability</td>
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- **Pr** (Praseodymium), **Mn** (Manganese), **Ca** (Calcium) - Non Filamentary
- **Ag** (silver?) - Filamentary ReRAM
- **Ce** (Cerium) - Non Fab-friendly materials Requires retooling High cost/bit
- **Si** Nano-Crystals - Non Fab-friendly materials Requires retooling High cost/bit

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**Therefore, Weebit’s Solution has a great potential**

*Data based on estimations | Pr, Ce – rare earth | Mn Ag, Ca – not fab friendly*

**Competition:**
- Materials are not used in the semiconductors industry
- Very Sensitive Filament Based on Oxygen Vacancies

**Weebit:**
- SiOx Material - Standard Existing Process
- Nano-Crystal filament - Extremely Stable Memory
The Path to Commercialization
Demonstrate a viable & manufacturable ReRAM technology via creating 40nm SiOx Memory Cells and 1 mega bit array
Why CEA Leti

“CEA: World Most Innovative Research Institution
(Reuters: March 8th, 2016)"

Proven international track record in transferring prototypes to production lines
- A 315M€ revenues institute with 1,900 employees at Leti
- Over 10 years of experience in memory technology development
- Specializes in nanotechnologies and their applications
- Micro & Nano Technologies with ‘state of the art’ facilities and processes
- Over 365 industrial partners such as Intel, ST Microelectronics, Qualcomm, GlobalFoundries
- More than 60 start-ups created in semiconductor, architectures or software domains
### Business Timeline - Significant Progress in Leti Collaboration Project

#### RICE | Basic Research

**8 Years Research**
- SiOx ReRAM discovery
- Patents Registration
- Nano-Porous Development

#### LETI | Pre-Industrial R&D

- **We are Here**
  - Preliminary Experiments
  - Confirm Nano-Porous SiOx is Stable & Reproducible

- **40nm Working cells**
  - Activity: Technology Development
  - Key Target Players: Leti

#### BUSINESS PARTNERS | Manufacturing/Commercialization

- **Initial Business Engagement**
  - Activity: Initiate business discussions with embedded memory vendors
  - Key Targets: Major Industry Players

- **2008**
- **Dec 2016**
- **Dec 2017**
The Inventor: Professor James Tour

Professor of Materials Science and Nano Engineering and a Professor of Computer Science at Rice University in Houston, Texas. Well known for his work in molecular electronics and molecular switching molecules.

- 100 US patents
- 600 publications

2008
- Feynman prize in Nano science
- NASA space award

2009
- One of the top 10 Scientists in the world over the past decade
- Reuters

2012
- 2012 ACS Nano Lectureship Award

2013
- 2013 Scientist of the Year
- R&D magazine

2014
- Among 50 most Influential Scientists in the world
todayTheBestSchool.org

2016
- Inducted to the National Academy of inventors
David (Dadi) Perlmutter

Managing general partner in Eucalyptus Growth Capital, focusing on investment in growing technology companies in Israel. Served as an Executive Vice President and General Manager of the Intel Architecture Group (IAG) and chief product officer of Intel Corporation until 2014. A member of the Board of Directors of Mellanox Technologies (NASDAQ: MLNX). Dadi chairs different non-profit organizations. Dadi is a member of the Board of Governors of the Technion, Israel Institute of Technology and a director of various startups. Holds 2 US patents

1987
Industrial innovation award from the Israeli president

1989
The invention of the Pentium® Processor

1996
Lead intel into the Data Center

2003
Brought to Market: Centrino™ mobile technology

2006
Brought to market: Intel Core® technology
Intel MultiCore Technology

2008
Intel EVP
IEEE Fellow

2012
Intel Chief Product Officer
Board Of Directors

Rami Hadar
Rami Hadar is the former CEO of Allot Communication (NASDAQ:ALLT). During the eight years he functioned as CEO, Mr. Hadar quadrupled sales to above US$100 million annually, performed 3 M&A’s and led the company to an IPO on NASDAQ. Prior to Allot, Mr. Hadar was co-founder/CEO of two other Israeli tech companies that had successful exits with NASDAQ companies. Mr. Hadar is presently a partner in a new venture capital firm Eucalyptus Growth Capital that focuses on investment and assistance to growth stage Israeli companies.

Kobi Ben Shabbat
Kobi has vast experience in sales, senior management and building new companies from the ground. Kobi is a Board member of various companies. Kobi was the founder and Managing Director of Open Platform Systems, which was founded in 2007 and grew to employ people across Australia and New Zealand with annual sales of $14 million, and which was acquired by Hills PTY LTD (ASX listed) in April 2014.

Mr. Ashley Krongold
Ashley has spent 15 years in the Investment Banking and Accounting industries. He was a founding member of Investec Bank Australia and is currently CEO of the Krongold Group and a non-executive director of Dotz Nano Ltd (ASX: DTZ). Ashley is also a founding General Partner of global equity crowd-funding platform, OurCrowd.

Mr Ananda Kathiravelu
Ananda has been in the financial services funds management and stock broking industries for over 20 years. He holds a Bachelor of Business and a Graduate Diploma of Applied Finance and Investment. Ananda is the Managing Director of Armada Capital Ltd, a corporate advisory company that has been involved in providing strategic corporate advice and services to listed and unlisted public companies. His areas of expertise include corporate advice, capital raising, mergers and acquisitions. His focus is on the small cap resources and emerging business sectors.
Management Team

**Yossi Keret - CEO & Director**
Yossi has extensive management and financial experience. Yossi has led a variety of international companies in sectors including industrials, finance, biotech and technology both in Europe and the USA. Yossi experience includes public companies. He has played roles in M&A negotiations and implementation including a major part in initial public offerings (IPO) on NASDAQ and has led large private equity raisings for public companies.

**Amir Regev - VP R&D**
Amir brings two decades of Device and Technology experience in the semiconductor industry, mainly in Flash memory technology development. Formerly, Amir served as a senior engineer in several leading semiconductor and memory technology companies, including Intel (NASDAQ:INTC), SanDisk (NASDAQ:SNDK), Micron (NASDAQ:MU) and Marvell (NASDAQ:MRVL).

**Alla Felder - CFO - CPA, MSc**
Alla Felder is a CPA (Israel) since 2000. Alla previously worked for PriceWaterhouseCoopers as a Senior Manager. Alla received a degree in Business Administration and accounting and an Executive Master’s degree in the Science of Finance from the City University of New York. She also serves as a director of the board of directors of some publicly traded companies both on TASE and on NASDAQ. Prior to Weebit Nano, Alla served as a CFO of Reddo Mobility LTD, a technology company.
Israel - Major Center for Breakthroughs in Storage and Memory Technology

**2006 - M-Systems** The inventor of USB Flash Drive. Acquired by SanDisk for $1.6B (third largest acquisition in Israel's history)

**2007 - Saifun** a provider of intellectual property (IP) solutions for the NVM market. Acquired by Spansion for $368M in 2007

**2008 - XIV** a manufacturer of high-performance digital storage systems. Acquired by IBM for $350M

**2012 - Anobit** maker of flash storage technology. Acquired by Apple for nearly $400M and being used in Apple Macbook

**2012 - Xtrem IO** pioneer in Solid State storage. Acquired by EMC for $430M

**2015 - SanDisk** was acquired by WD for $19B. Founded by the Israeli inventor, Dr. Eli Harari
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Thank You