



# **Company Presentation**

Yossi Keret CEO

weebit-nano.com

APRIL 2016

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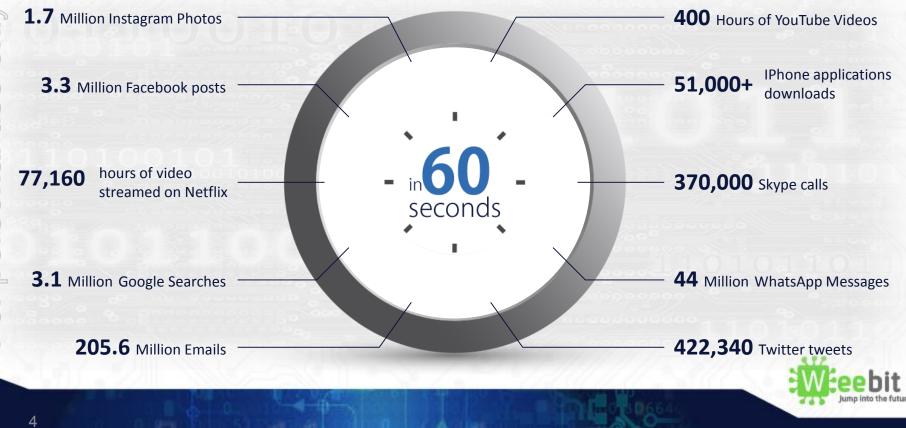
#### **Mission Statement**

To become the paramount provider to the industry with **faster, energy efficient, durable & much cheaper** ReRAM memory





# **Data Gone Wild**



Dersona

# "Datageddon"

World memory storage use is growing exponentially. Data centers consume enormous amounts of power.

The world is becoming increasingly desperate for a higher performance memory device. Quantity of global digital data

2020 **40 ZB** 

> 2015 **7.91 ZB**

2012 **2.72 ZB** 



\*1 zettabyte = 10,000,000,000,000 gigabytes

# **Market opportunity**

#### **Target market – Flash Memory replacement**

- Overall addressable market USD\$37B and growing rapidly
- Potential customers Anyone
- Every 15 years there is a new memory technology transition event





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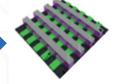


Floppy disk

Hard disk

isk

Flash



ReRAM

Weebit Confidential

#### **Market opportunity**

**Smartphones & tablets** non-volatile memory is used to store pictures, videos and Apps.

Health Care personal healthcare devices such as blood pressure monitors

> Wearable Wearable are becoming fashion statement



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



**Internet of Things (IoT)** 50 Billion devices will be connected to the internet by 2020

Automotive

Navigation, safety and autonomous driving requires extremely high reliable memory



#### **Weebit Innovation**

A Quantum Leap In Data Storage that will allow cheaper, faster, more reliable and more energy efficient Non-Volatile ReRAM Technology



Energy efficient



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Faster

Cheaper

Reliable





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#### **Professor James Tour**



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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.

	2008	2009	2012	2013	2014
100 US patents	"Feynman prize in Nano science"	"One of the top 10 Scientists in the world over	"2012 ACS Nano Lectureship Award"	"2013 Scientist of the Year" R&D magazine	Among "50 most Influential Scientists in the
600 publications	"NASA space award"	the past decade" Reuters			world today" TheBestSchool.org



2016: Inducted to the National

Academy of inventors

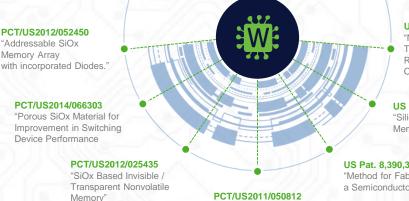
# **Company Brief**

- Incorporated in Israel 2015, privately held
- **Built around James Tour's** revolutionary ReRAM technology
- Licensing of Rice University • technology
- Seven patents US and Global ٠
- Funded by founders and private • investors



Memory Array

Weebit has secured 7 global patents to commercially protect James Tour's advancements in memory technology



"SiOx Based Nonvolatile Memory Architecture"

US Pat. 7,973,559

"Non Charged Based Two Terminal... **Resistive Switching** Cells"

#### US Pat. 8,592,791 "Silicon Oxide Based Memristive Device"

US Pat. 8.390.326 "Method for Fabrication of a Semiconductor Elements...'



**Physical scaling issue** 40nm 16nm Technology scaling Charge 000000  $\Theta \Theta$ storage

# Current flash memory is hitting the scalability wall



# **The Challenge**



## DENSITY

- Storage capacity cannot be increased
- Moore's Law cannot be maintained
- We need a new device that can be further scaled in dimensions



#### RELIABILITY

- Below ~16nm Flash can no longer hold data reliably
- Increases Bit Error Rate (BER)
- Downtime and disk crashes increase



#### ENERGY

By 2020:

- US will need another 17 power plants to meet storage demand\*
- The White House announced Data Center program to become 20% more energy efficient

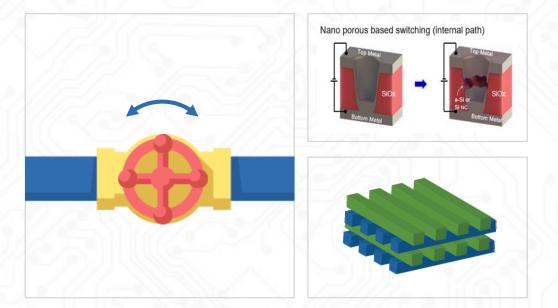
#### Data centers are becoming the new polluters



# **ReRAM technology**

#### What is ReRAM?

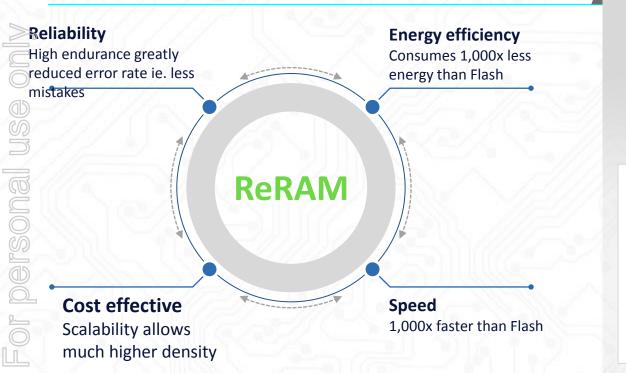
- Non-Volatile Memory which can store information even when power is off
- Type of emerging technology
- Resistive RAM changes its resistance across dielectric material
- ReRAM can be stacked in 3D array to provide unlimited capacity



#### Industry experts agree that ReRAM will be the dominant storage device



# **ReRAM Advantages**



#### **ReRAM\* to Flash Advantages**

- ✓ Higher density
- ✓ Lower voltage
- ✓ 1,000X faster

✓ Higher reliability

- ✓ Stores more data
- ✓ Much cheaper
- ✓ Much smaller

	Flash	ReRAM*
Scalability	16nm	<5nm
Voltage	20V	<5V
Speed	~10µs	<50ns
Energy/bit	~nJ	~pJ
Endurance	~1,000	~1,000,000
Multi –bit	3	>3



#### \*ReRAM Potential

# Weebit ReRAM Technology advantage



- Not used in Fabrication process **Competitor's** - Need process development **Materials** - Expensive retooling needed

Weebit's **Materials** 

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 SiOx – Most abundant material - Existing Fabricator process - No retooling needed



**ReRAM** not used in semiconductor fabs Used in semiconductor fabs

Weebit use of SiOx is the most cost effective solution



# **Competitors Analysis**

	weebit Junp into the future	4DS	Cressbar	SOR 🎸
Memory Material	Si (Silicon)	Pr (Praseodymium), Mn (Manganese), Ca (Calcium)	Ag (silver)	Ce (Cerium)
On/Off Ratio*	10 million	100	1,000	10,000
Summary	Lowest cost/bit and higher performance	Non Fab-friendly materials Requires retooling High cost/bit	Non Fab-friendly material Requires retooling High cost/bit	Non Fab-friendly material Requires retooling High cost/bit

Competitors

 Materials not used in the semiconductors industry

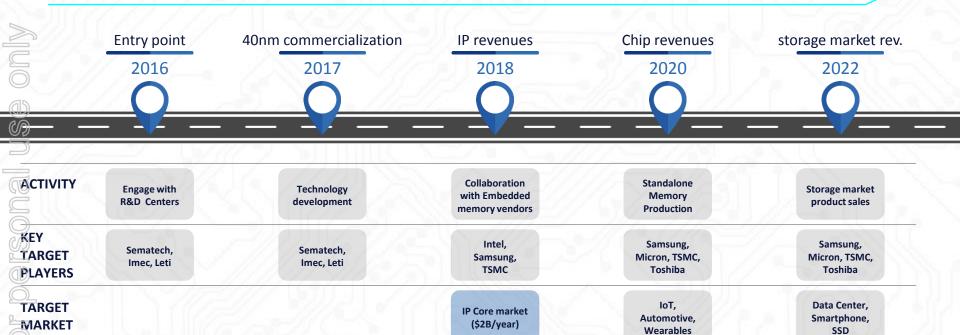
#### Weebit

- SiOx material –standard existing process
- Very fab friendly

#### Weebit process does not require retooling



# **Go to Market Strategy**





# **Board Of Directors**





Managing General Partner in Eucalyptus Growth Capital, focused on investment in growing technology companies in Israel. 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. Chairs a number of non-profit organizations. Member of the Board of Governors of the Technion – Israel Institute of Technology.



#### **Rami Hadar**

Rami Hadar is the former CEO of Allot Communication (NASDAQ:ALLT). During the eight vears he functioned as CEO, Mr. Hadar increased 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 also one of the founders of Combox and was a director of the company when it was purchased by Terayon. Mr. Hadar is presently a partner in a venture capital firm Eucalyptus Growth Capital that focuses on investment and assistance to mature Israeli technology companies.



#### Kobi Ben Shabbat

Mr. Ben-Shabat has vast experience in sales, senior management and building new companies from the ground up as a Board member and Senior Executive, Mr. Ben-Shabat 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, it was acquired by Hills PTY LTD (ASX listed) in April 2014.



## **Board Of Advisors**



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#### **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.



#### Kobi Livne

Mr. Livne is involved in several companies as a Board member, consulting activities and mentoring. Until the end of 2005 Mr. Kobi Livne was a Group President and a Member of Amdocs' Senior Management (NASDAQ:DOX) Mr. Livne was in charge on four Delivery Divisions that cover all Amdocs activities around the world except of North America



#### **Management Team**



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DSIN

**CISONA** 

#### Yossi Keret CEO & Director

Extensive management and financial experience. Has led a variety of international companies in sectors including industrials, finance, biotech and technology both in Europe and the USA. Mr. Keret's experience includes public companies. Mr Keret previous roles included M&A negotiations and implementation including an Initial Public Offerings (IPO) on NASDAQ. He has also 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. Formally, 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).



#### Summary



- Huge growing storage market (USD\$37B)
- Flash technology is approaching a scalability barrier
- ReRAM is the leading emerging memory candidate
- Weebit controls a pioneering technology developed at a top-ranking material science university which outperforms Flash in each parameter
- Weebit's solution is cheaper, more efficient and is easier to commercialize that other ReRAM developers
- IP Strategy shorter time to market
- Management and technology veterans with proven track records



# **Key Acquisition Terms**

- Payment of a AUD\$75k option fee for an exclusive 28 day option to purchase. Completed.
- A further AUD\$75k at the completion of due diligence. Completed.
- Weebit shareholders holding more than 50% of Weebit passing a resolution to approve the Transaction.
- Radar to issue 750,000,000 shares In exchange for 100% of the issued capital in Weebit (subject to ASX escrow provisions).



#### **Conditions Precedent**

- Weebit and Radar completing DD in respect of the other within 28 days. Completed.
- ASX providing conditional approval for Radar to be re-instated to trading on the ASX. May 16.
- Re-compliance with Chapters 1 and 2 of the ASX Listing Rules. May 16.
- The parties obtaining all necessary shareholder and regulatory. 18 May 16.
- Change of Radar's name to Weebit Nano Ltd. 18 May 16
- Completing A\$5,000,000 Capital Raising. May 16.





# **Pro Forma Capital Structure**

Event	Shares	Options
Currently on issue*	321,613,956	55,500,000
Consideration to Weebit shareholders	750,000,000	291L
Public Offer	100,000,000	/_{{}^{\!
Transaction Options	<u> </u>	50,000,000
TOTAL	1,171,613,956	105,500,000





\*assumes issue of all securities approved in General Meeting on 28 October 2015 25

#### **Indicative Timetable**



