

# Weebit Nano Ltd 2018 Annual General Meeting

28 November 2018



# KEY HIGHLIGHTS

---

- 2018 has been a very productive year for Weebit
- Company de-risked through continued technology development
- Computing world is undergoing a huge revolution, including memory
- We are well positioned to capitalise on this revolution
- WBT transitioning from early development phase to productisation
- Multiple discussions with potential partners initiated & progressing

# CY2018 SUMMARY

---

- Capital raise and SPP > \$4.5M
- Achieved working 1Mb array at 40nm, continuing technology improvement
- Initiated partnership/collaboration discussions with many partners in different domains
  - Produced samples to enable partnerships
- Brought 2 very experienced directors on board
- We are being noticed
  - 2018 Red Herring 100 Europe Winner
  - EETimes Silicon 60 – second year in a row



**Started the productisation process**



# NEW DIRECTORS

## DIRECTOR



Fred Bart

Chairman and major shareholder  
of Electro Optics Systems (EOS)

Chairman of Audio Pixels (AKP)

Owns a wide variety of  
companies worldwide

## EXECUTIVE DIRECTOR



Yoav Nissan-Cohen

PhD. in Applied Physics, focus on SiOx memories,  
under the guidance of Dov Frohman –  
the inventor of non-volatile memories

CEO of Tower Semiconductor for almost 10 years

Board member,  
Saifun Semiconductor (NROM Flash)



# WEEBIT RERAM TECHNOLOGY

## Next generation memory technology



1Mb prototype array achieved on 40nm development vehicle

Findings show that our working cells will fit on much smaller geometries (smaller than 28nm)



Faster and more efficient than flash memory



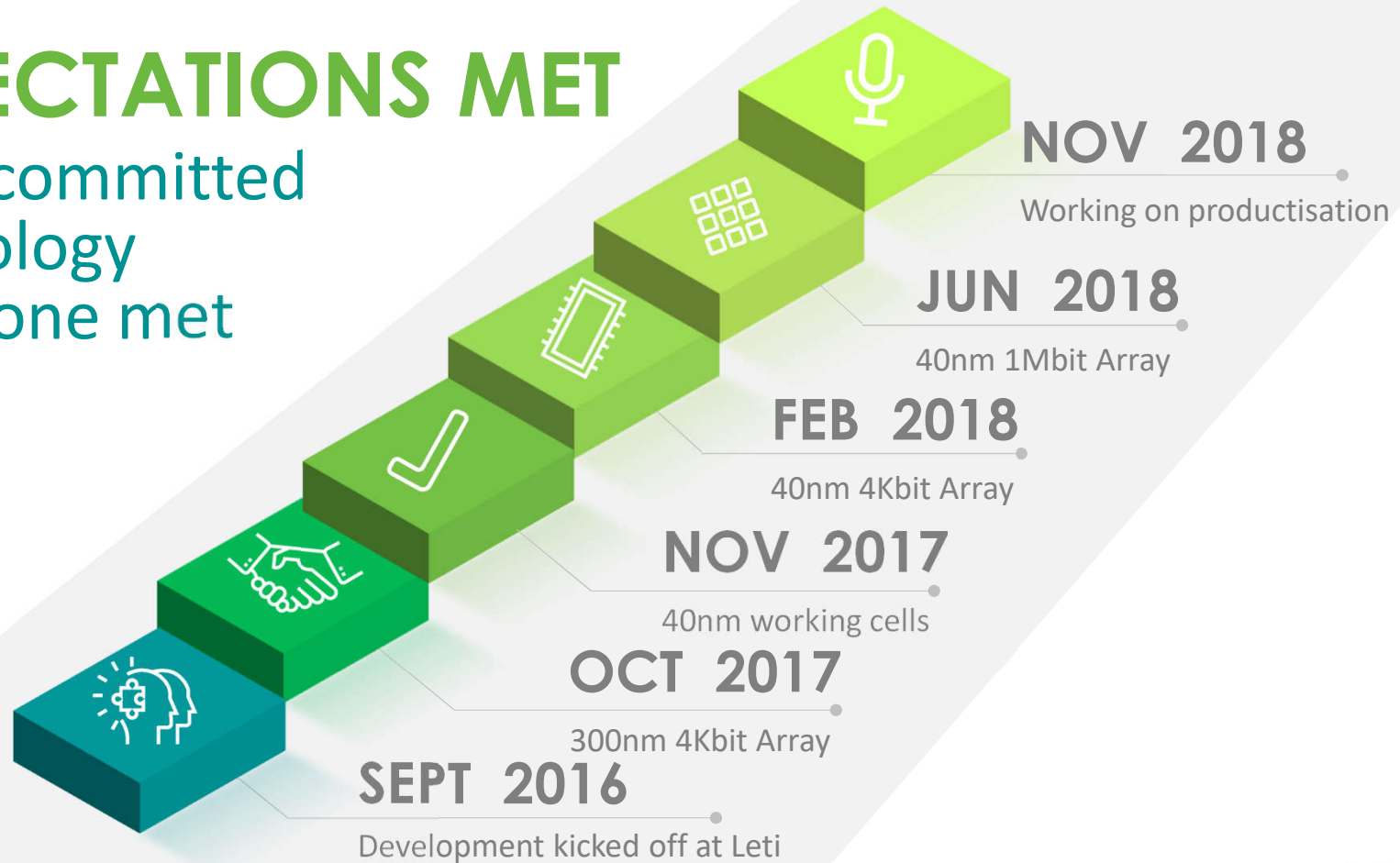
Silicon oxide, the most commonly used material in the industry, enables lower cost and shorter time to market



WBT enables smart integration with most advanced processing technology

# EXPECTATIONS MET

Every committed  
technology  
milestone met





# THE ERA OF INTELLIGENT MACHINES

Becoming part of our everyday lives





# THE COMPUTING WORLD IS CHANGING!





# AND SO IS THE MEMORY WORLD

---

**WEEBIT: FOCUSED ON  
SMART INTEGRATION OF  
MEMORY**

Focus is extending from storage  
to memory

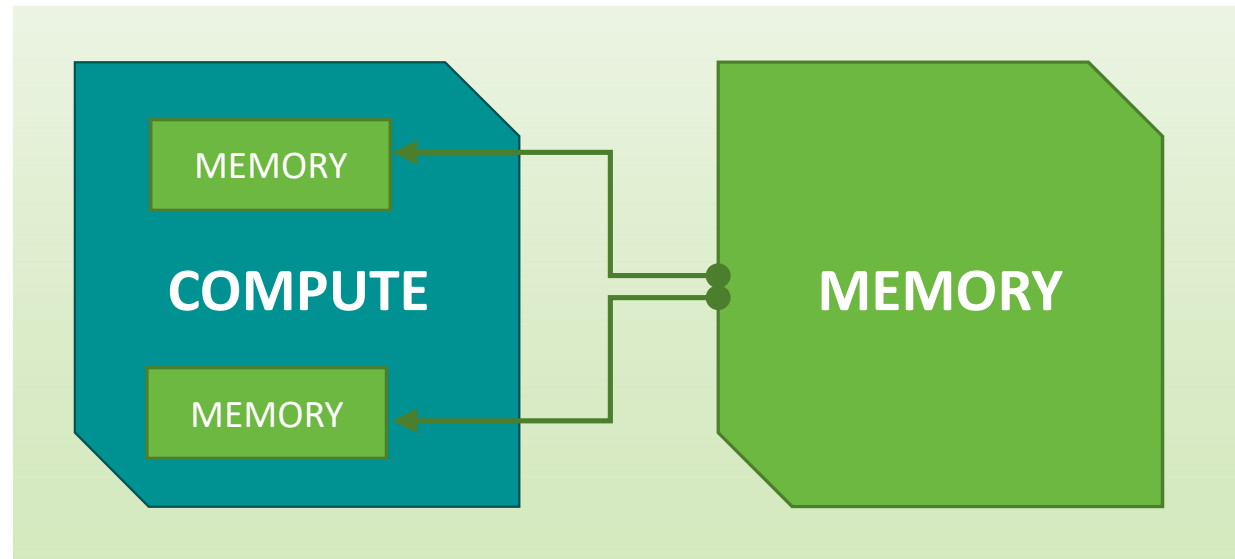
AI is becoming a dominant  
technology, used everywhere

- Pushing the envelop on memory speed and size

The separation between processing  
and memory is blurring

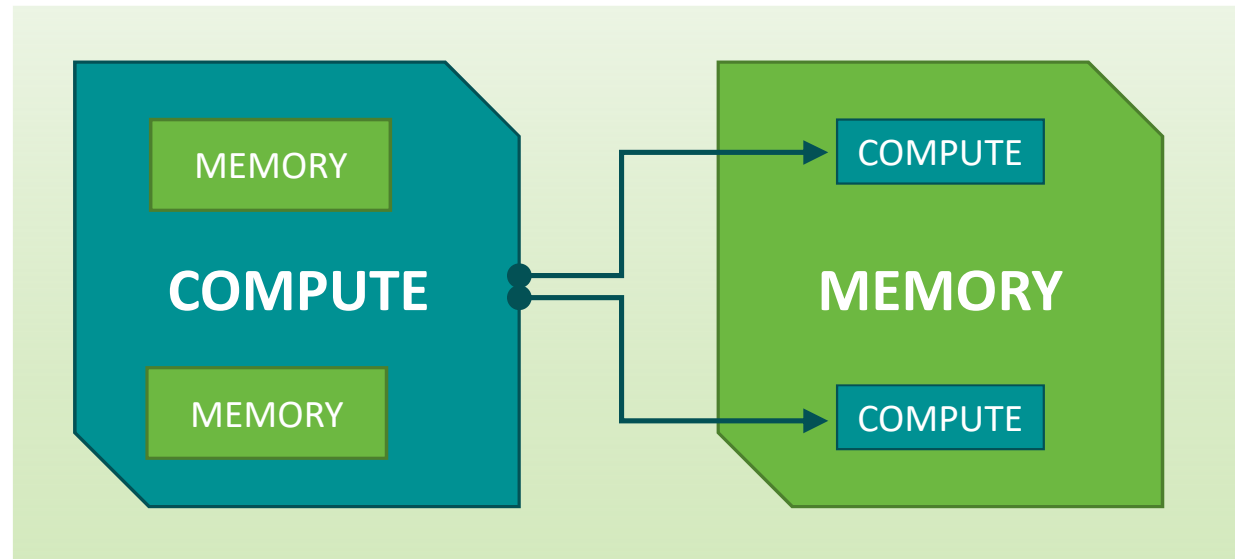
# CLASSIC INTEGRATION: **MEMORY INTO COMPUTE**

- Memory moving more and more into Compute
  - Embedded memory blocks
- AI requires fast and larger memory arrays



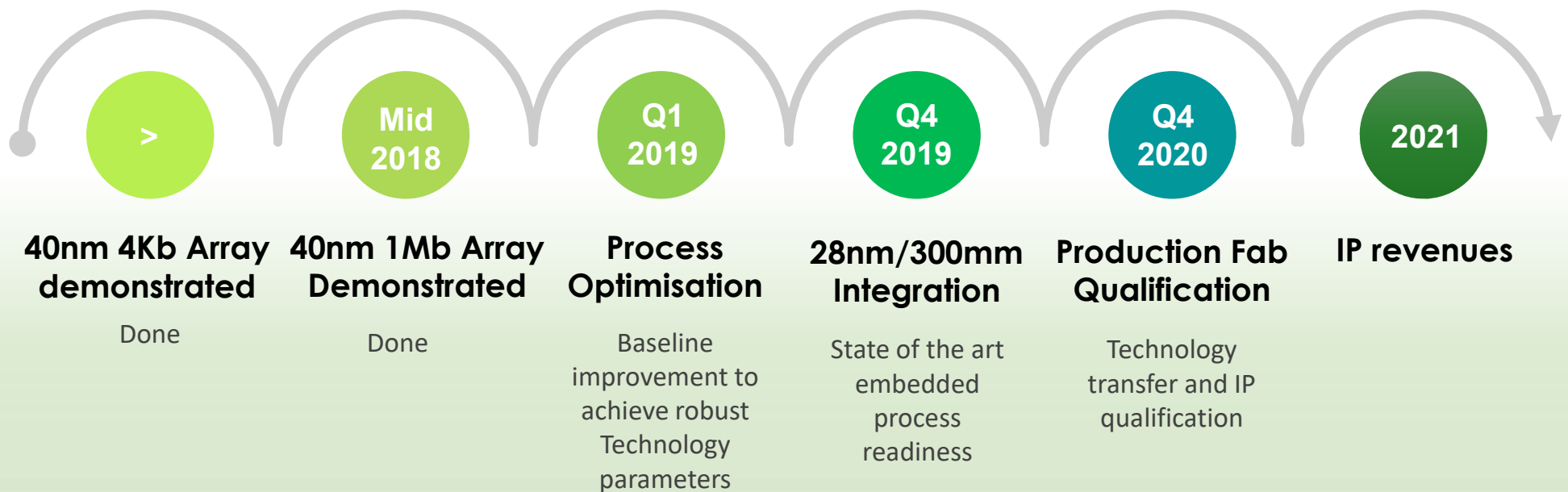
# EVOLVING INTEGRATION: IN-MEMORY COMPUTE

- Computation is moving into the memory
- Processing units are placed embedded in the memory, performing AI specific operations



**ReRAM will play a big role in this architecture**

# STEPS TOWARDS COMMERCIALISATION



\* Timeline refers to calendar year

# MOVING TO MANUFACTURING

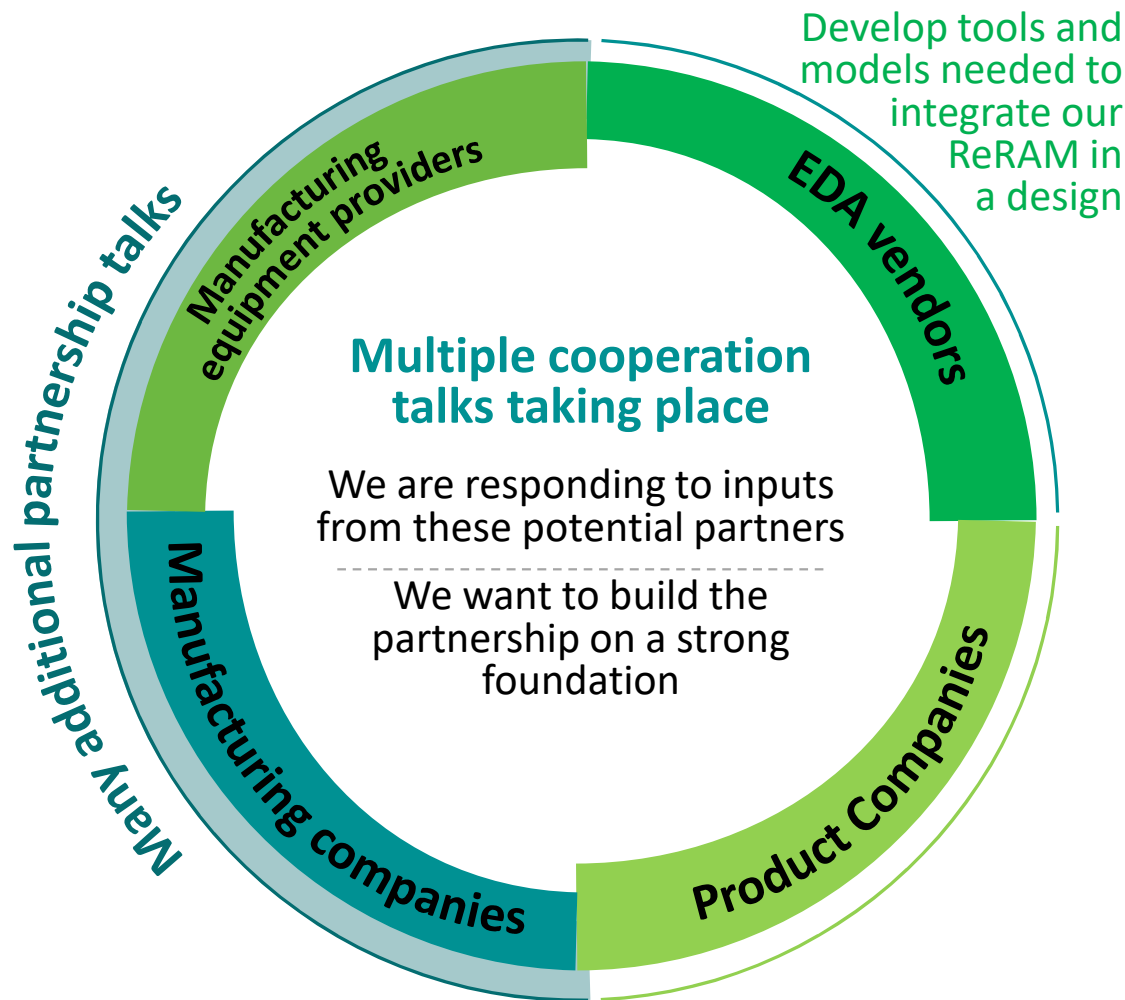
---

- WBT used 40nm on 200mm wafers as a vehicle for development
  - Cheaper
  - Faster
- Now moving to 28nm on 300mm wafers as a vehicle for productisation
  - Standard in the production fabs
- Analysis shows we can potentially integrate cells developed on 28nm vehicles in a smaller dimension product
  - This opens up significant markets for us



# LETI COOPERATION

- ◆ Next stage agreement being finalised
- ◆ Initiates the move to 28nm / 300mm wafers which is needed for manufacturing
- ◆ Focuses on productisation



# PARTNERSHIPS BUILDING AN ECOSYSTEM

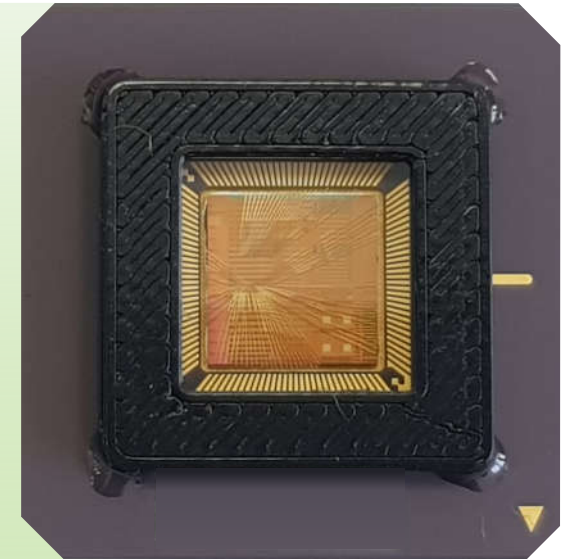
# RESEARCH PROGRAM

Universities & research institutes approaching Weebit to cooperate on research in advanced topics including

- Neuromorphic Computing
- In-Memory Compute

Weebit is engaging with them by

- Supplying samples of its ReRAM chips
- Cooperating in the research



First announced cooperation:  
**IIT Delhi**

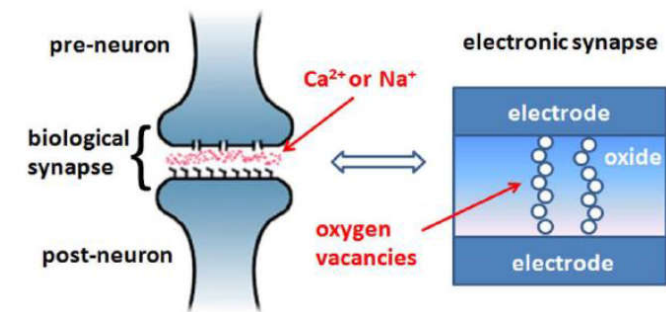


 **Weebit**nano  
The Future Memory

# FURTHER DOWN THE ROAD: **NEUROMORPHIC COMPUTATION**

ReRAM may bring new capabilities in Artificial Intelligence

- ReRAM mimics the **biological computation at the synaptic level**
  - Physical similarities lead to functional similarities
  - Combines memory and processing units using synapse and neuron like cells
  - **ReRAM for AI is significantly more energy efficient than today's data centres, and significantly smaller**
- ReRAM is therefore very well placed to capitalise on the emergence of AI capabilities



Ions migration leads to resistivity modulation

**ReRAM technology enables brain-inspired AI systems**

# SUMMARY

---

- CY2018 was a productive year for Weebit
- Company de-risked through continued technology development
- Computing world is undergoing a huge revolution, including memory
- We are well positioned to capitalise on this revolution
- WBT transitioning from early development phase to productisation
- Multiple discussions with potential partners initiated

## **CY2019 – Productisation and Partnerships**