Forward-Looking Statements

During our meeting today we may make forward-looking statements.

Any statement that refers to expectations, projections or other characterizations of future events or circumstances is a forward-looking statement, including those relating to market position, market growth, product sales, industry trends, supply chain, future memory technology, production capacity, production costs, technology transitions and future products. This presentation contains information from third parties, which reflects their projections as of the date of issuance.

Actual results may differ materially from those expressed in these forward-looking statements due to factors detailed under the caption “Risk Factors” and elsewhere in the documents we file from time to time with the SEC, including our annual and quarterly reports.

We undertake no obligation to update these forward-looking statements, which speak only as of the date hereof.
A Global Leader in Flash Storage Solutions

**Rankings**

- Trailing 4 Qtr. Financials:
  - Revenue: $6.17B
  - Gross Profit: $2.86B
  - R&D Investment: $0.74B

---

**Global Operations**

- 5,000+ Employees

---

**Technology**

- Fabs: World Class NAND Capacity
- 19nm: Leading Process Node
- 1Ynm: Shipping

---

**Financials**

- Revenue: $6.17B
- Gross Profit: $2.86B
- R&D Investment: $0.74B

---

**Enterprise, Client and Retail SSDs**

- Qualified at 6 of the Top 7 Storage OEMs
- SanDisk Client SSD Design Wins at 11 Leading PC OEMs
- Close to Half of Industry Bit Output Together with manufacturing partner Toshiba

---

**The Leading Retail Brand in Key Markets**

- #1 Global Retail Revenue Share

---

**Technology Leadership**

- 4,900+ Patents

---

Enabling Innovation in 3 Mega Markets

Mobile

Computing

Consumer
What’s Next

Content

- 40ZB of Content In 2020*

Mobility

- More Powerful Mobile Devices

Connectivity

- More Responsive Data Centers

Demand for Flash

- Growth from Average 14GB per Device in 2014 to 28GB by 2016*

---


* Based upon SanDisk projections of capacity growth in SanDisk’s markets. Excludes SanDisk’s capacity estimates for SSD overprovisioning.
40 Zettabytes of data in 2020

Or 40 Billion Terabyte Drives of Data

From now until 2020, the digital universe will double every two years. That’s more than 5,200 gigabytes for every man, woman and child in 2020!

Expanding the Possibilities of Storage
Flash Cheaper than DRAM

Average Price per Gigabyte

From: Hybrid Drives: How, Why, & When?
NAND and Logic Technology Scaling Trend

Technology Node [nm]

- NAND
- Logic
3-Pronged Strategy to Meet the Technology Challenge

- 2D NAND Scaling
- 3D Resistive RAM (ReRAM)
- BiCS 3D NAND

Demand for Storage
SanDisk’s Technology Path

- **2D NAND**
  - 19nm → 1Ynm

- **3D BiCS**
  - Bit Cost Scalable NAND
  - Most Efficient and Scalable 3D NAND Architecture
  - Positioning for Industry Leadership
  - System Solutions Being Defined

- **3D ReRAM**
  - 3D Resistive RAM
  - 32Gb Test Chip Successfully Made on 24nm node
  - Potential to Scale Below 10nm
  - Ultimate Scalable 3D technology

---

Presented at the 2013 SanDisk Investor Day, 2013
2D NAND
Limited endurance in Flash Memory is due to Tunnel-Oxide Degradation and trap generation.

- Thinner Oxide can help → less data retention.
- Heating to get the traps out?
Electrical Limit

Process innovations required to slow down reduction in # of electrons in the cell and maintain reliability.
- 3 bits per cell continue in 1Ynm and 1Znm
- More applications will use 3 bits per cell for cost reduction
Lithography

Careful scaling required to extend mainstream lithography and keep manufacturing costs low
Physical Proximity Limit

Process innovations required to keep cell-to-cell interaction in check without changing proven cell structure
The Effect of Cell-to-Cell Interferences

Interferences and noise cause the Vt Distribution to shift and widen.
3D NAND FLASH: WHY?
BiCS 3D NAND – Alternative to 2D NAND

- Leverage existing NAND Fab infrastructure; does not need EUV
- Large cell size for better reliability
- High density potential by stacking more layers
- Small proximity effect
Proximity Effect in BiCS

Proximity Effect

- WL Direction
- BL Direction

4X nm  3X nm  2X nm  1X nm  BiCS
Resistive RAM (ReRAM)

3D ReRAM has the potential to provide a long-term solution post-NAND.
Key Technology Takeaways

- We see NAND scaling through 1Znm: ensures cost leadership
- BiCS 3D-NAND will provide meaningful cost reduction vs. 1Znm NAND
- 3D-NAND pilot production in 2015 and high volumes in 2016
- 3-D ReRAM research is ongoing; potential scaling to sub-10nm; successor to NAND into the next decade
- 2D-NAND and 3D technologies will co-exist this decade
SanDisk is a trademark of SanDisk corporation, registered in the United States and other countries. Other brand names mentioned herein are for identification purposes only and may be the trademarks of their respective holder(s).

1GB=1,000,000,000 bytes. Actual user capacity less.
Back-up
Diversified Portfolio of NAND Flash Solutions

<table>
<thead>
<tr>
<th>Commercial</th>
<th>Retail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer</td>
<td></td>
</tr>
<tr>
<td>Enterprise</td>
<td></td>
</tr>
</tbody>
</table>

- **Commercial**
  - Consumer
  - Enterprise

- **Retail**
  - SanDisk Extreme Pro
  - SanDisk Extreme II
  - SanDisk 128 GB
  - SanDisk 64 GB
  - SanDisk 4 GB
  - SanDisk iNano Extreme

*Images of various SanDisk products related to NAND Flash solutions.*