# INVESTOR DAY 2016

# Welcome

Bob Blair Vice President, Investor Relations

**INVESTOR DAY 2016** 

Western Digital

2016 Investor Day | Milpitas, CA | December 6, 2016

## Agenda

- 8:30am Bob Blair, Vice President, Investor Relations
- 8:40am Steve Milligan, Chief Executive Officer
- 9:00am Mark Long, Chief Strategy Officer
- 9:30am Mike Cordano, President and Chief Operating Officer
- 10:00am Break
- 10:15am Steve Campbell, Executive Vice President and Chief Technology Officer
- **10:30am** Siva Sivaram, Executive Vice President, Memory Technology
- **10:55am** Manish Bhatia, Executive Vice President, Silicon Operations
- 11:25am Team Q&A: Steve Milligan, Mark Long, Mike Cordano, Steve Campbell, Siva Sivaram and Manish Bhatia
- **12:00pm** Lunch with Western Digital Executives
- **1:00pm** Mark Long, Chief Financial Officer
- 1:35pm Team Q&A: Steve Milligan, Mike Cordano, Mark Long
- **2:00pm** Completion of Investor Day

# Forward Looking Statements

These presentation materials may contain forward-looking statements within the meaning of the federal securities laws, including statements concerning: our future results; our market positioning; expectations regarding our transformation and growth opportunities; our financial and business models, strategies and execution; integration activities and achievement of synergy goals; the demand for digital storage and market trends; our product portfolio, product development efforts and customer acceptance, introduction of new products, and expansion into new data storage markets; and data growth and its drivers. These forward-looking statements are based on Western Digital Corporation's current expectations. Risks and uncertainties may cause actual results to differ materially from those currently expected. These potential risks and uncertainties include, among others:

- volatility in global economic conditions;
- business conditions and growth in the storage ecosystem;
- impact of competitive products and pricing;
- market acceptance and cost of commodity materials and specialized product components;
- actions by competitors;
- unexpected advances in competing technologies;
- our development and introduction of products based on new technologies and expansion into new data storage markets;
- risks associated with acquisitions, mergers and joint ventures;
- difficulties or delays in manufacturing; and
- other factors listed in our periodic SEC filings and on this website in <u>Risk Factors</u>.

In addition, these presentation materials include references to non-GAAP financial measures. Reconciliations of the differences between the historical non-GAAP measures we provide in these presentation materials to the comparable historical GAAP financial measures are included in the appendix to the applicable presentation materials. We have not reconciled our non-GAAP financial measures related to future results to the most directly comparable GAAP measures because material items that impact these measures are out of our control and/or cannot be reasonably predicted. Accordingly, a reconciliation of the non-GAAP financial measures is not available without unreasonable effort.

# Creating a Platform for Growth and Transformation

Steve Milligan Chief Executive Officer

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# The Universe of Data



1 of 2 mil 1 of 5 mil 1						
Home	City	Medical	Industrial	Autonomous Vehicles	Machine Learning	Mobile

## Enabling Change for a Data-centric World

## Generate



## Access



## Storage

Transform

## Driving a New Era in Data Storage, Access, and Transformation







## Driving a New Era in Data Storage, Access, and Transformation

## The Strategic Evolution of Western Digital Driving Successive Innovation and Transformation to Set the Pace of Change

2002-2007	2008-2015	2016 and Beyond				
		Expanding Role				
	Technology Diversification					
Operational Excellence						
<ul> <li>HDD portfolio expansion</li> <li>HDD vertical integration</li> <li>Financial execution</li> </ul>	<ul> <li>HGST acquisition</li> <li>Customer focused engagement model</li> <li>HDD &amp; SSD product and technology leadership</li> </ul>	<ul> <li>SanDisk acquisition</li> <li>Diversifying storage portfolio</li> <li>Move up the stack and increase value across markets</li> </ul>				

# Our Platform for Growth and Transformation

Western Digital<sub>®</sub>



## A Talented Global Team

70,000+ Employees Worldwide

 $\mathbf{O}\mathbf{O}$ 

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# Leadership Driving Our Transformation



Steve Milligan Chief Executive Officer



**Mike Cordano** President and Chief Operating Officer



Mark Long Chief Financial Officer, Chief Strategy Officer, President Western Digital Capital



Manish Bhatia Executive Vice President, tal Silicon Operations



**Steve Campbell** Executive Vice President and Chief Technology Officer



Jackie DeMariaMichael RayExecutive Vice President and<br/>Chief Human Resources OfficerExecutive Vice President, Chief<br/>Legal Officer and Secretary



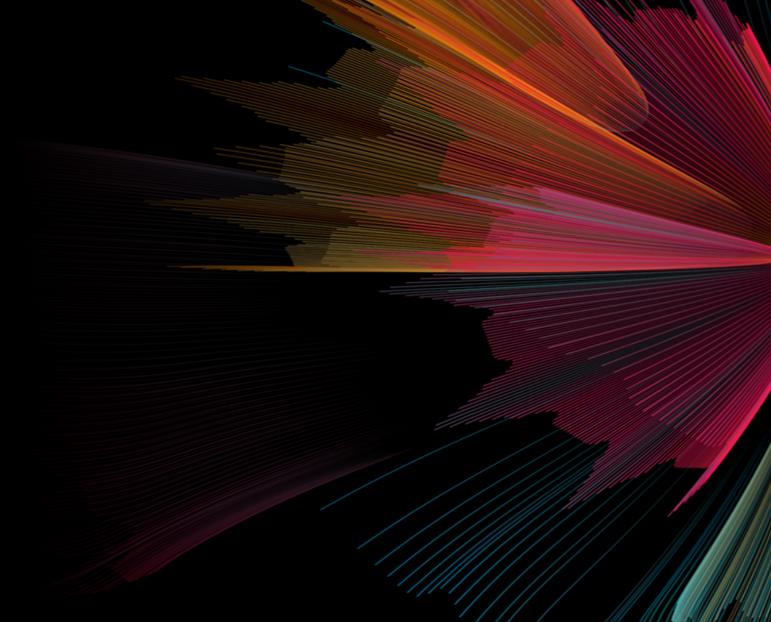


**Siva Sivaram** Executive Vice President, Memory Technology

# Thank You

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# Strategy for Growth and Transformation

Mark Long Chief Strategy Officer

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## Key Themes



Data is the currency of the digital economy

Storage provides the foundational infrastructure for the data-centric world



We are delivering on our growth strategy using the power of our platform

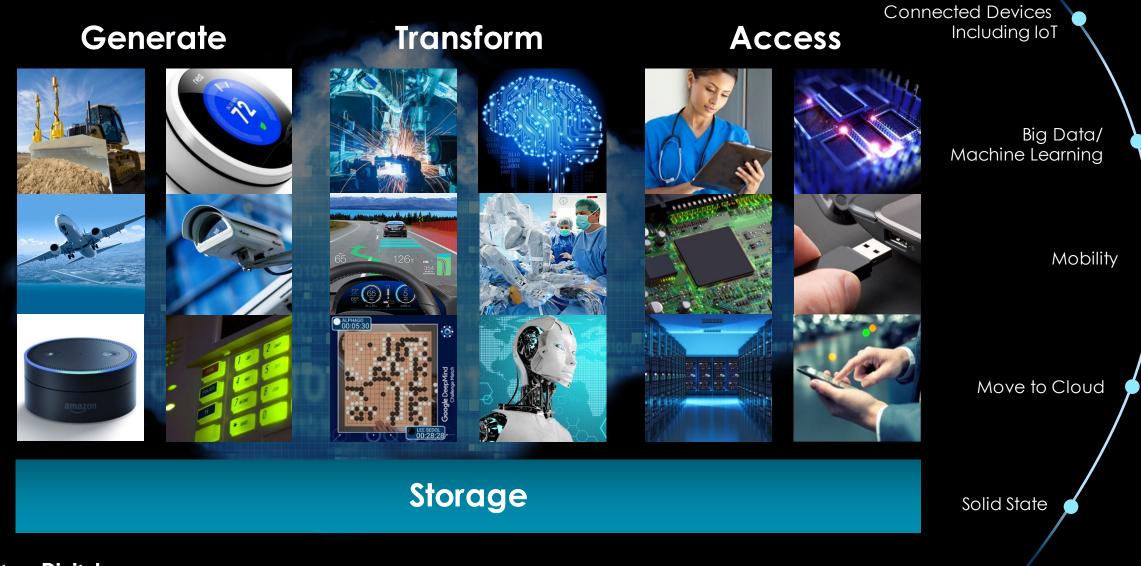








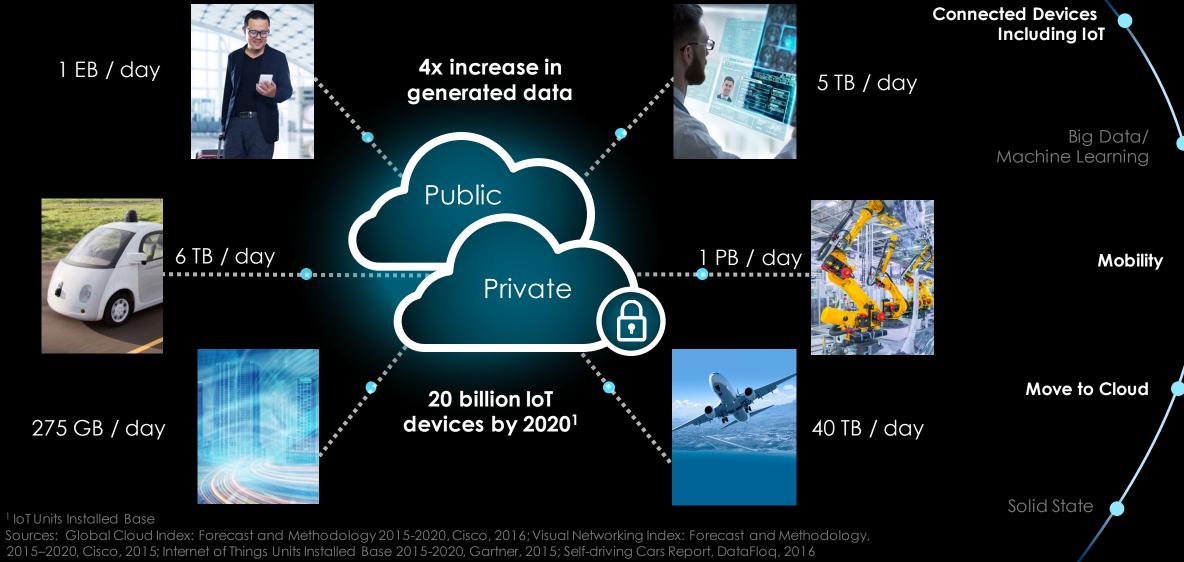




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# Innovation Is Enabling Rapid Rate of Data Generation

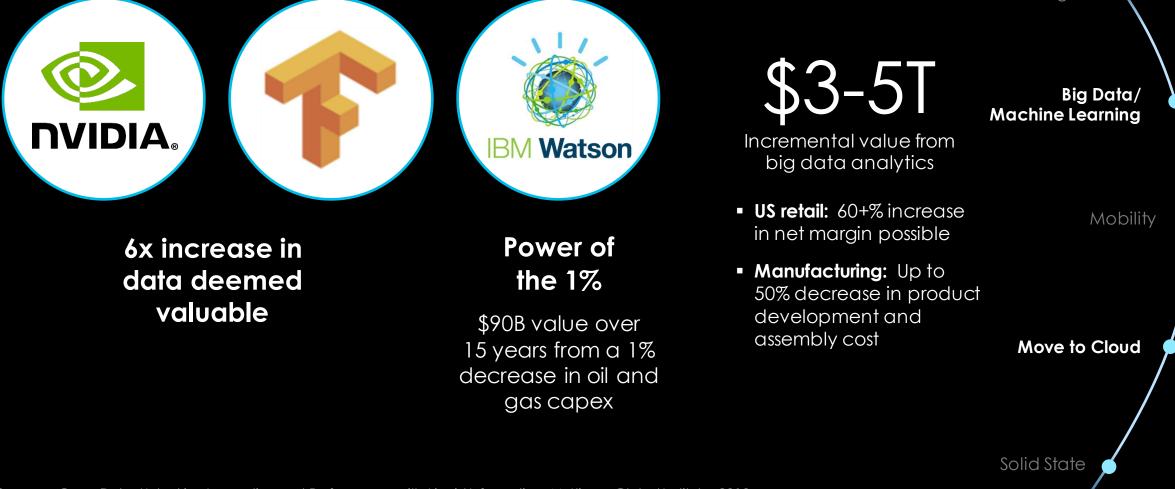


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# Massive Value Creation from Transforming Data

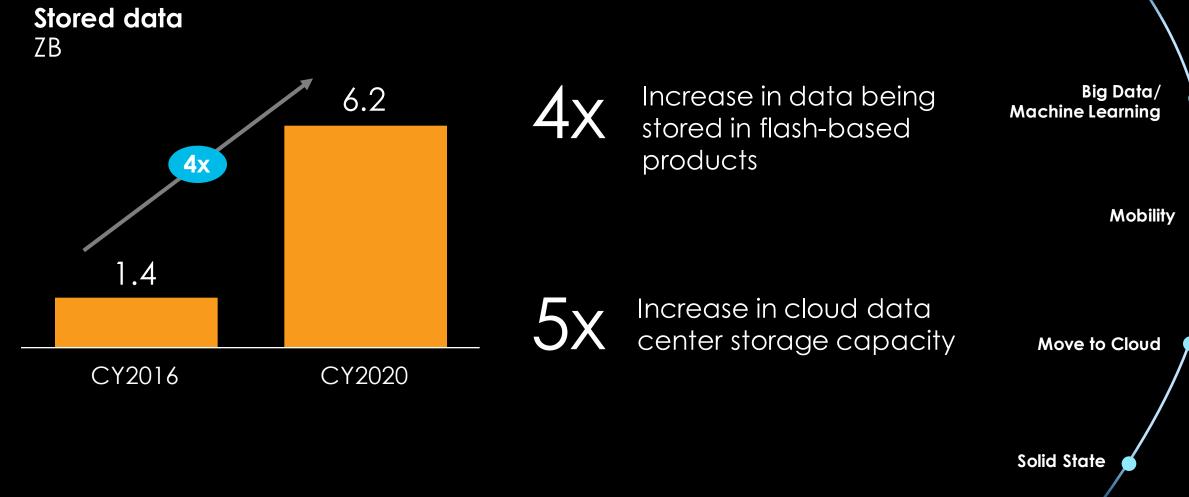
Connected Devices Including IoT



Sources: Open Data: Unlocking Innovation and Performance with Liquid Information, McKinsey Global Institute, 2013; EMC Digital Universe with Research & Analysis, IDC, 2014; WDC estimates

# Stored Data Expected to Increase 4x by 2020

Connected Devices Including IoT



Source: Global Cloud Index: Forecast and Methodology 2015-2020, Cisco, 2016; WDC estimates

## ~\$72B TAM in Core Business, Incremental ~\$23B TAM in Data Center Solutions Estimated by FY20



## Leaders



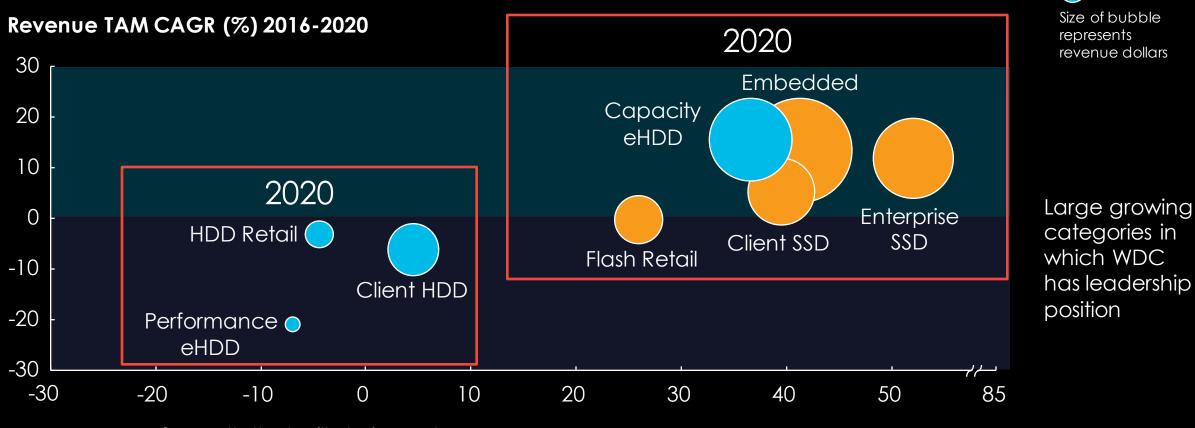
Source: WDC estimates

#### We Are Well Positioned Today .... Flash HDD Size of bubble **Revenue TAM CAGR** TODAY represents revenue dollars 30 Embedded 20 Enterprise SSD 10 Capacity Flash Retail TODAY Large growing eHDD 0 categories in HDD Retail which WDC -10 has leadership Client SSD position -20 Performance Client HDD eHDD. -30 -30 -20 -10 0 10 20 30 40 50 85 **EB CAGR**

Areas of growth that will derive value even in declining categories: Consumer Electronics and Personal Cloud

Source: WDC estimates

# ... and Better Positioned for the New Reality



Areas of growth that will derive value even in declining categories: Consumer Electronics and Personal Cloud

EB CAGR (%) 2016-2020

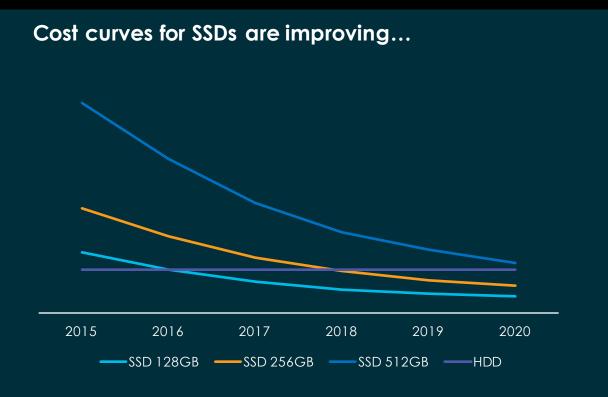
Source: WDC estimates

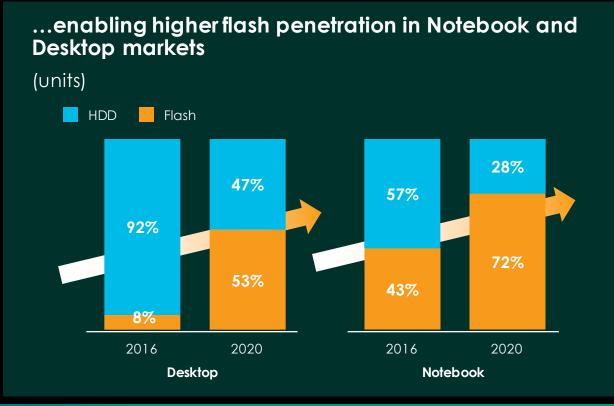
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Flash

HDD

## Client Devices – HDD to Flash Transition in Notebooks and Desktops





### We Are Well Positioned to Effectively Address the cHDD-SSD Crossover

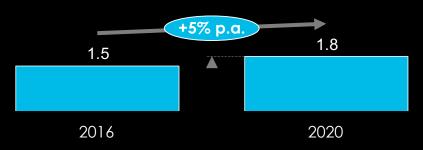
Source: WDC estimates; Worldwide SSD Forecast Update Q3, IDC, 2016

## Client Solutions – Consumer Storage Demand Continues to Increase Exponentially

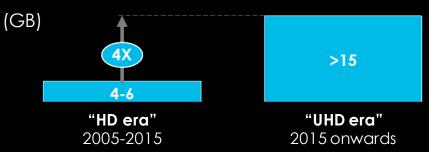


# ... and annual shipments of devices with cameras growing at ~5% $Y/Y^1$

(units, billions)



# Additionally, the size of a 2 hour movie has increased by 4x



<sup>1</sup> Smartphone data used as it constitutes >95% of personal devices with camera

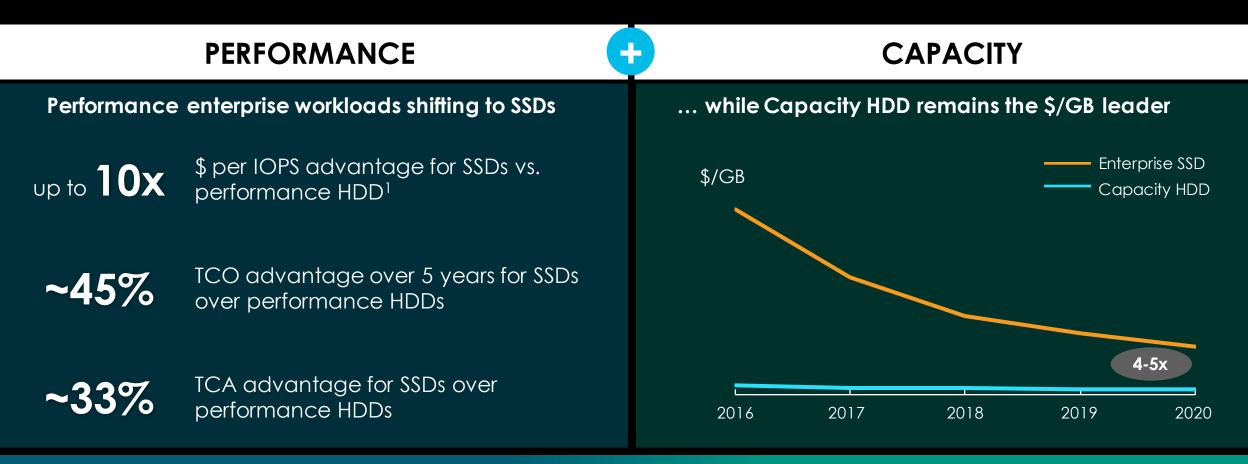
Source: Data Never Sleeps Report, DOMO, 2016; Digital TV Research, 2014; Static Brain, 2016; University of Southern California

## Client Solutions – Massive Growth of Local and Personal Cloud Storage Needs

Smartphone capacity per unit External storage for mobile to Personal cloud storage traffic expected to grow at ~30% CAGR grow at ~25% CAGR expected to grow at ~36% CAGR EΒ GB / unit EB / year 2016 2020 +31% p.a. +36% p.a. +25% p.a. 48 30 187 64 +30% p.a. 47 12 14 16 Android **Apple** iPhone 2016 2020 2016 2020

Source: WDC estimates; Global Cloud Index: Forecast and Methodology 2015-2020, Cisco, 2016

## Data Center Devices – Performance Workloads Switching to Flash as Capacity HDD Continues to Grow



We Effectively Serve Our Enterprise Customers through Our Combined HDD and Flash Portfolio

<sup>1</sup> Assuming 528 GB, 15K SAS, 12 Drivers 50:50 Workload, Raid 10 Capacity Source: WDC estimates; Industry Expert Interviews

## Data Center Solutions – Data Is Shifting to the Cloud, Both Public and Private

2020 opportunities from the shift to the cloud ...



... in archiving systems business due to compliance needs



... from HDD platforms due to need for large scale and low cost storage



... from flash platforms driven by disaggregation of data center stacks

... strengthened by emerging use cases from large sophisticated enterprises and Tier 2/3 service providers



- **Cloud providers**
- Backup and archiving
- Security and surveillance
- Data repository for analytics



Life Sciences

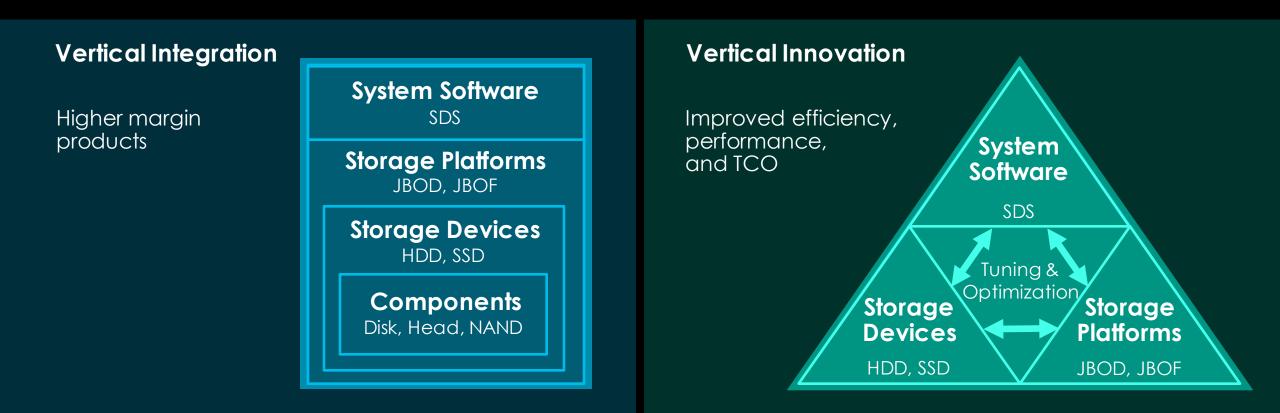


- Genomics data, clinical trial information, drugs interaction modeling and analysis
- Favors private cloud to address security concerns and to avoid vendor lock-ins

### We Can Leverage Our Vertical Integration and Vertical Innovation Capability

Source: Storage System Forecast, IDC, 2015; Storage Forecast, Gartner, 2016; Cloud survey, McKinsey & Company, 2015; WDC estimates

# Data Center Solutions – Western Digital's Unique Advantage



### Creating Value in Integrated Systems that Exceeds the Sum of the Parts

## Five Pillar Strategy Established to Address These Trends



## Deliver on the Promise of Our Transformation

### Acquisitions for Storage Technology Breadth ...

	Western Digital®	<b>HGST</b> March 2012	September 2013	VIRIDENT October 2013	A M P L I D A T A on Hast company March 2015	SanDisk May 2016
HDD						
SSD						
System / SW						
NAND						
Embedded, removable						

... and Strategic Investments

Western Digital<sup>®</sup> Capital

### Our Platform for Growth and Transformation



# Delivering the Possibilities of Data

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# Delivering the Promise of Growth and Transformation

Mike Cordano President & Chief Operating Officer

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#### The Universe of Data



1 07 2 141 2015 1 4 41 1 7 1 2 141 1 5 10 1 6 10 1 1 10 1 10 1 10 1 10 1 10 1						
Home	City	Medical	Industrial	Autonomous Vehicles	Machine Learning	Mobile

#### Enabling Change for a Data-centric World

#### Generate



#### Transform











Access



#### Storage

### Leadership across Broad Range of Products



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#### Client Market Dynamics Setting the Pace of Technology Transition

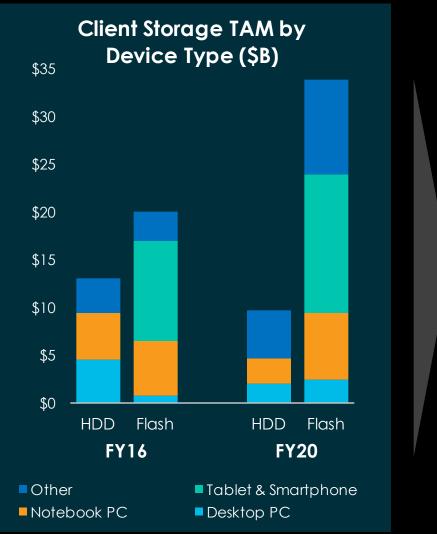


#### Enabling OEM Competitiveness



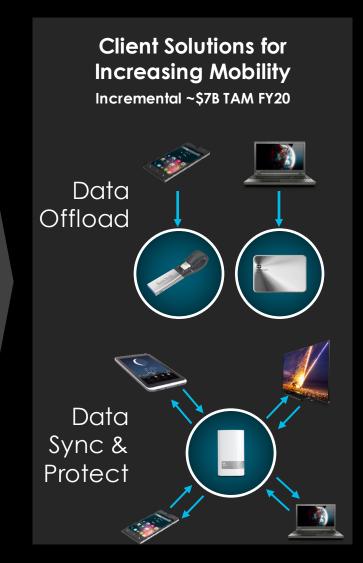
Source: WDC estimates; Global Cloud Index: Forecast and Methodology 2015-2020, Cisco, 2016

#### Client Market Dynamics Setting the Pace of Technology Transition





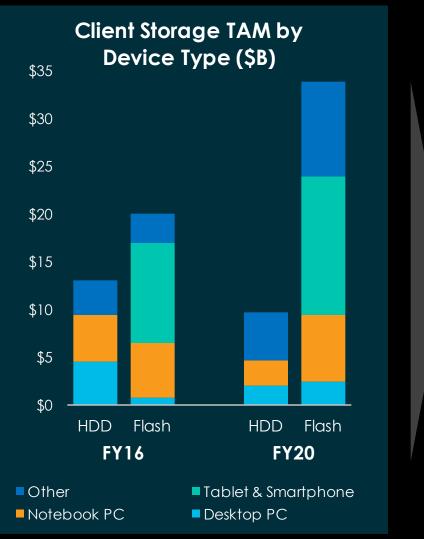
Average Devices and Connections per User Increasing by 1.8x (2015-2020)



Source: WDC estimates; Global Cloud Index: Forecast and Methodology 2015-2020, Cisco, 2016

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#### Client Market Dynamics Setting the Pace of Technology Transition



**The Evolving "Client"** From personal computing to ... wearables, sensors and automation



Connected Wearable Devices Grow to 600M (44% CAGR to 2020)



Machine-to-Machine Data Traffic Grows to 2 EB / Mo. (88% CAGR to 2020)

Source: WDC estimates; Global Cloud Index: Forecast and Methodology 2015-2020, Cisco, 2016

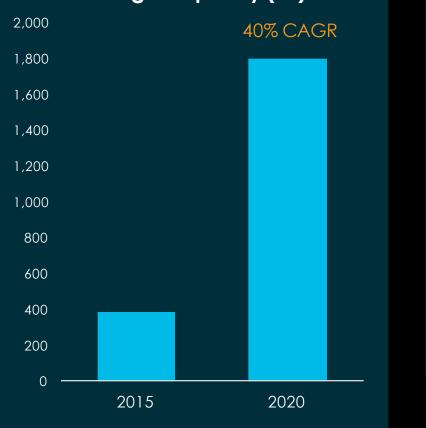
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### Broadest Portfolio of Client Devices and Solutions



### Data Center Market Dynamics

Data Center Storage Capacity (EB)





Big Data Storage Capacity Grows to 240EB (58% CAGR to 2020)

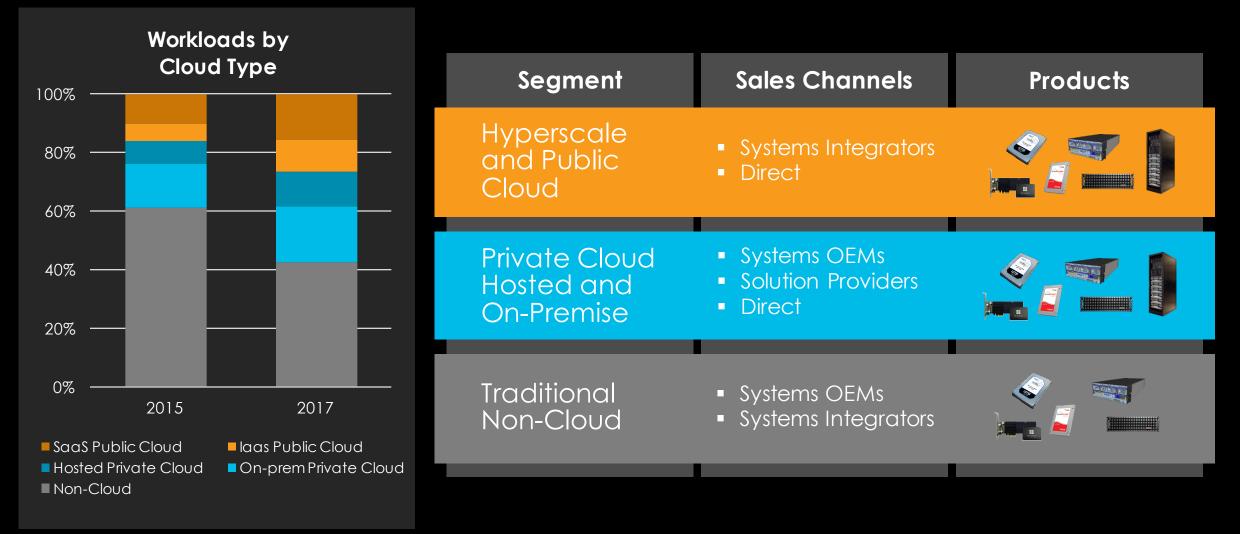


Streaming Analytics TAM Grows to \$13.7B (35% CAGR to 2020)

Source: WDC estimates; Global Cloud Index: Forecast and Methodology 2015-2020, Cisco, 2016; MarketsandMarkets, 2016

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#### Data Center Market Dynamics Expanding Routes-to-Market and Portfolio Target Growth



#### Broadest Portfolio of Data Center Devices and Solutions



1 07 2 1M <sup>1</sup> 10105 11 11 11 11 11 11 11 11 11 11 11 11 11						
Home	City	Medical	Industrial	Autonomous Vehicles	Machine Learning	Mobile

#### **Opportunity to Grow Share-of-Wallet**

	HDD	External	SSD	
OEM	ŷ			
Hyperscale	Ż			
T2/3 Cloud	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			
Enterprise	Ż			
Retail	Ż	Ď		

#### **Opportunity to Grow Share-of-Wallet**



**Opportunity to Grow Share-of-Wallet** 

	HDD	External/ Removable	SSD	Embedded	Platforms/ Systems		
OEM	Ď						
Hyperscale	ſ				<u> </u>		
T2/3 Cloud	Ì						
Enterprise	ŷ						
Retail	Ż						
	2-3x share-of-wallet						

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**Opportunity to Grow Share-of-Wallet** 



Deeper, more strategic relationships with our customers Preferred access to \$72B TAM in FY2020 (with incremental \$23B opportunity)



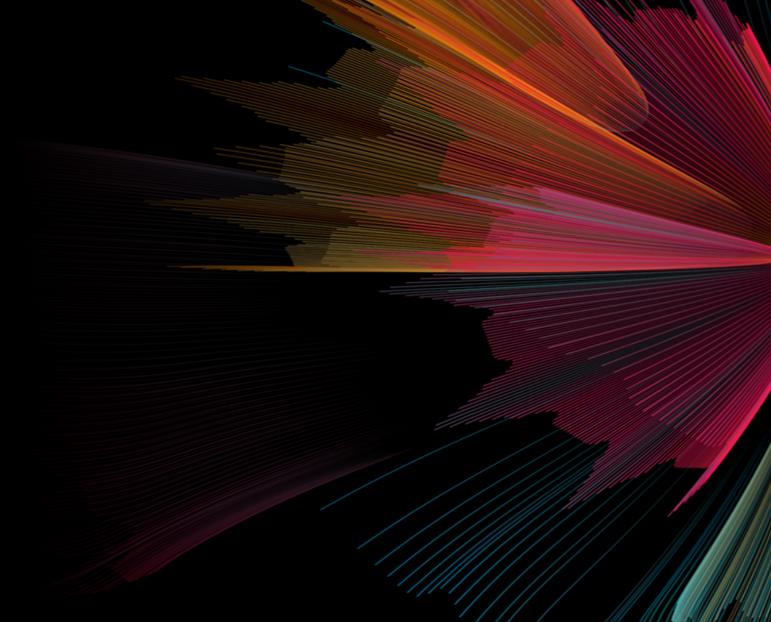
### Our Platform for Growth and Transformation



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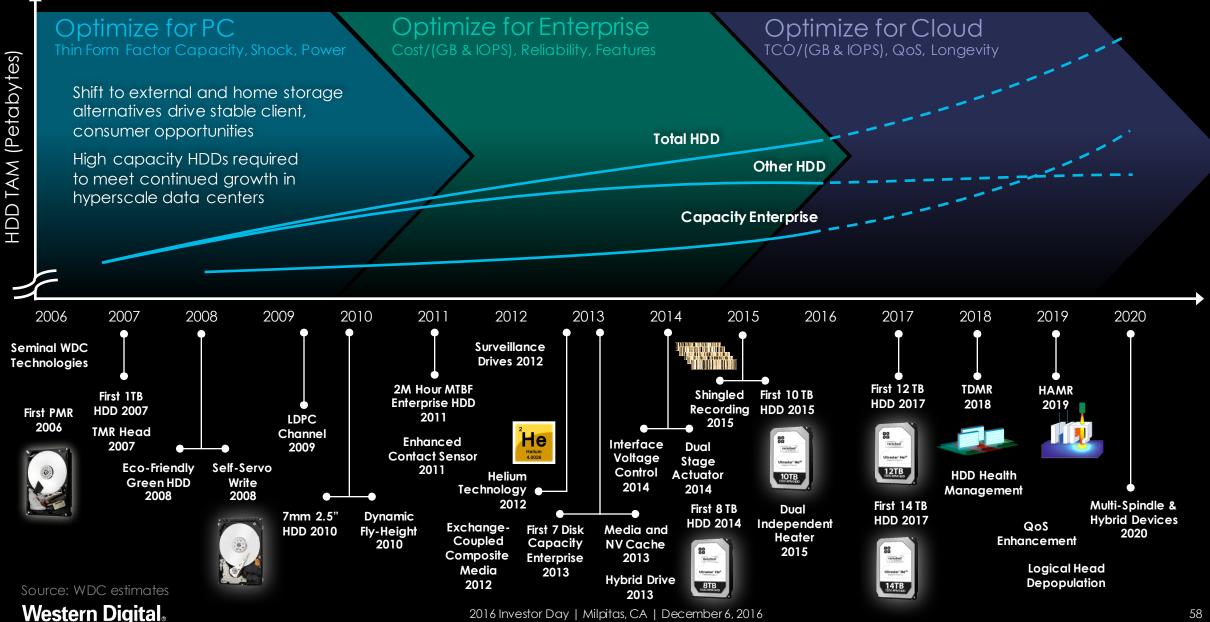
# WDC: Industry-Leading Storage Technology

Steve Campbell Executive Vice President and Chief Technology Officer

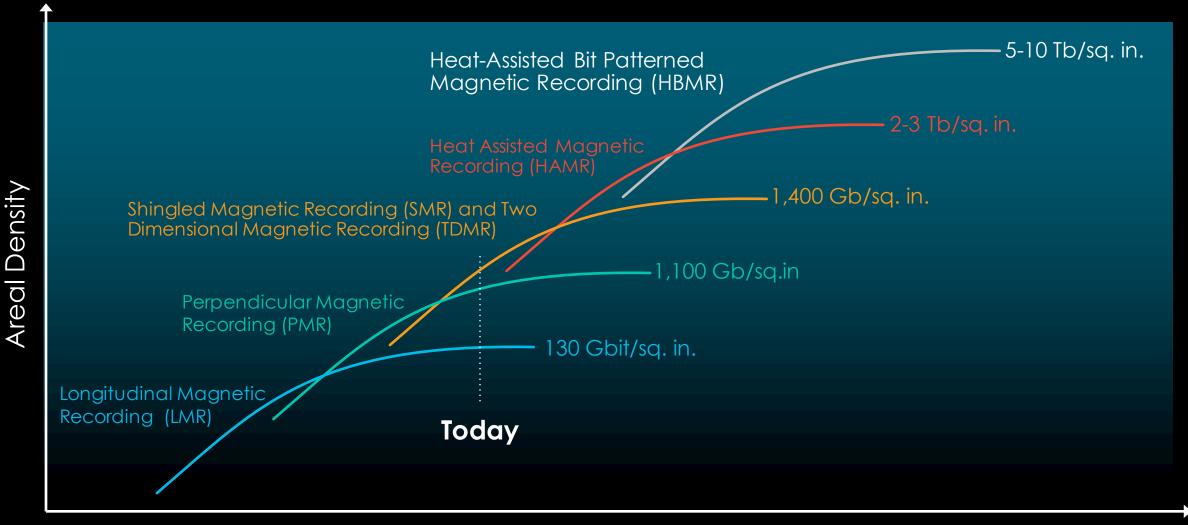
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# Rich Variety of Solutions for the World's Data Storage Needs

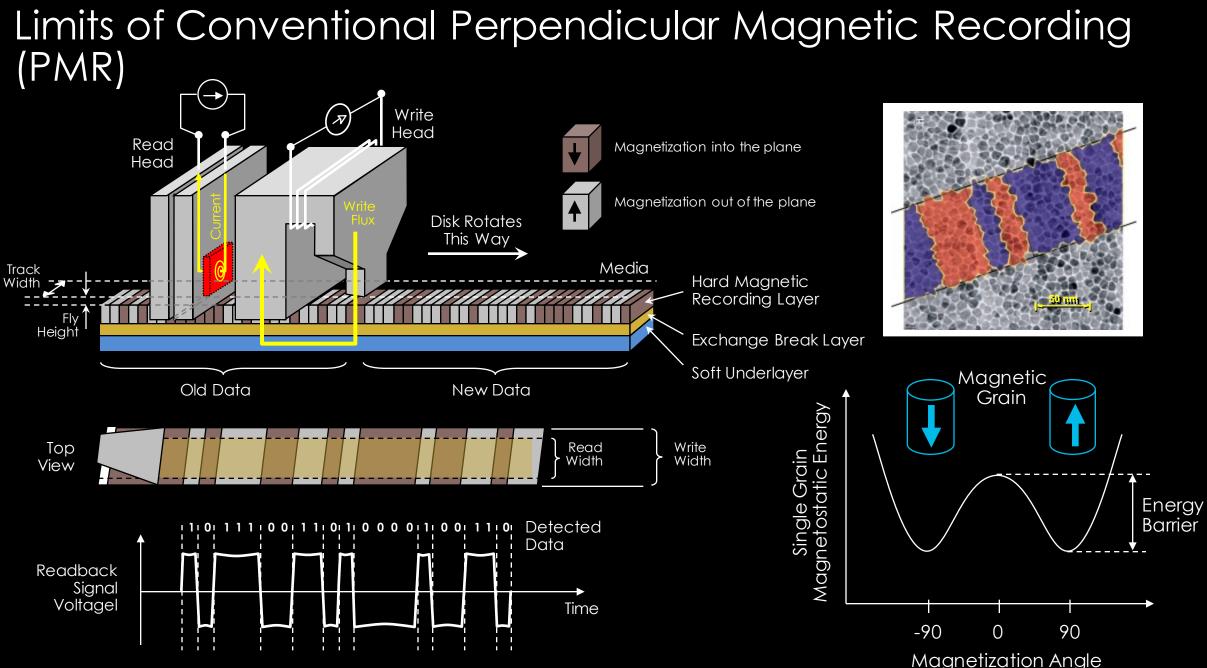


### Areal Density Increases Supported by Innovative Technologies



#### Time >50 Million Increase in Areal Density Over 50 Years

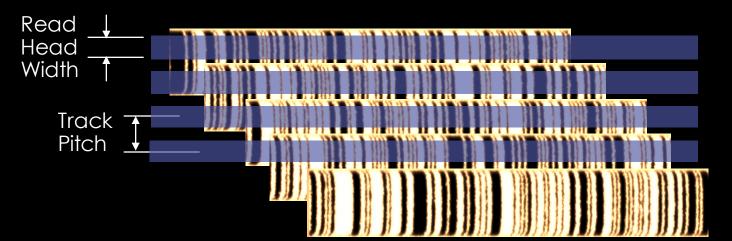
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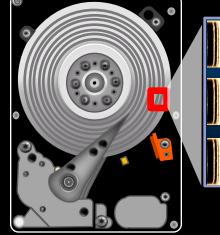


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# Shingled Magnetic Recording (SMR)

- Write overlapping tracks like shingles on a roof, and use an indirection system to handle data placement
- Enables 1.3x recording density
- Introduced in 2015











Data in Discrete Tracks

Zone

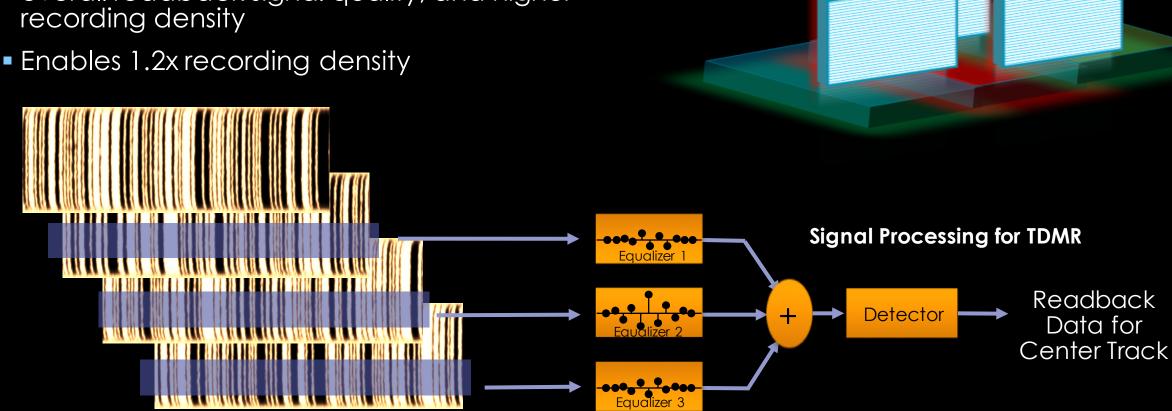
SMR HDD

Data in Zones of Overlapped Tracks

# Two-Dimensional Magnetic Recording (TDMR)

 A read head containing multiple independent read elements provides multiple views of the same recorded data and enables noise cancellation from adjacent tracks for higher overall readback signal quality, and higher recording density

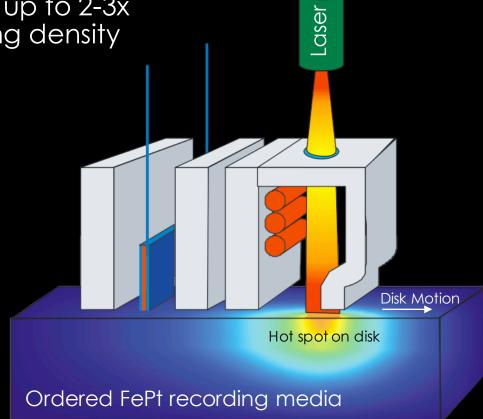
TDMR Head With Three Readers

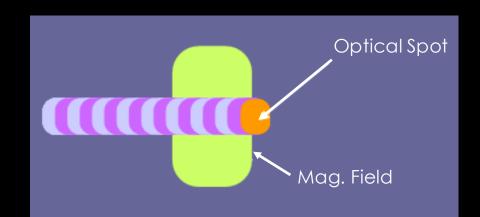


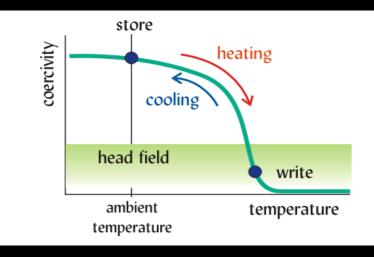
### Heat-Assisted Magnetic Recording (HAMR)

 A laser in the write head is used to heat up a small spot on the disk, which enables data to be recorded on higher density iron-platinum storage media

Enables up to 2-3x recording density







### HDD Technologies

#### **Shingled Recording**

Mature shingled recording head/media technology and firmware base

#### **TDMR/HAMR**

Broad scope of investments in future recording technologies

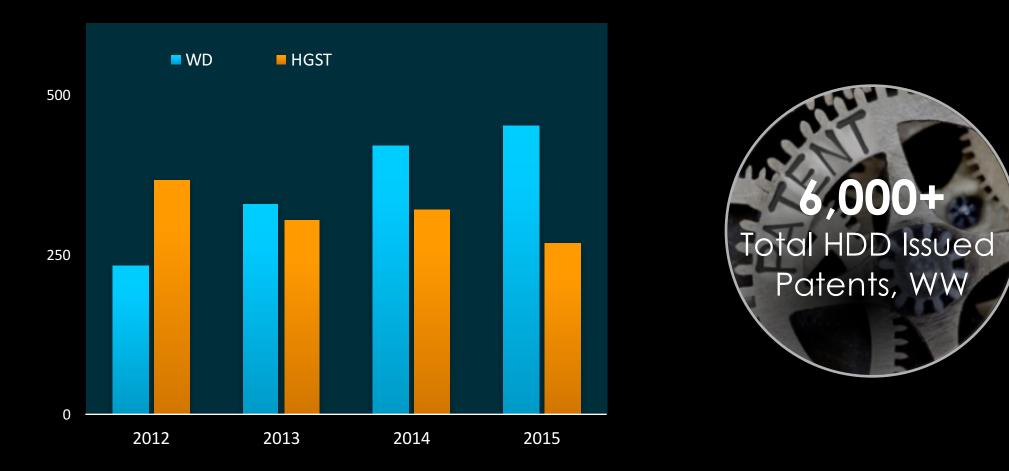
#### Helium

Industry-leading 3<sup>rd</sup> generation Helium sealed drive technology More than 12M He HDDs shipped



### Industry-Leading HDD Technology Portfolio

#### **US Issued HDD Patents**



Source: WDC estimates

# Leveraging Core Engineering Competencies Across Portfolio

Storage System Software **Data Center** Client Solutions Solutions Low-Latency Interconnect Network and Compute ECC and Security Architecture Controller & Firmware HDD SSD & NVM Devices Products ASIC Design, Fab Relationships Packaging & Thermal Design Precision Mechanical Design **HDD Heads** Memory High-Volume Manufacturing (NAND & SCM) & Media Semiconductor Fabrication Processes Fundamental Physics, Materials Science, Modeling & Characterization

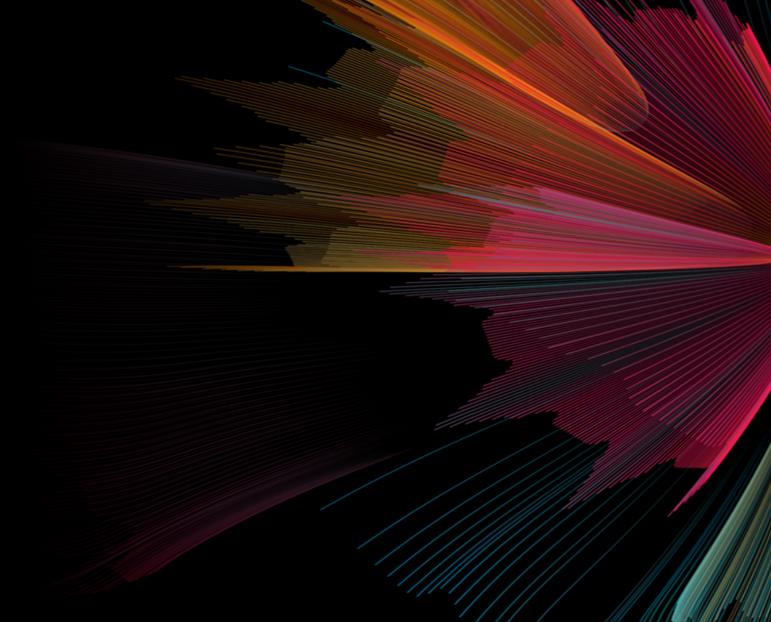
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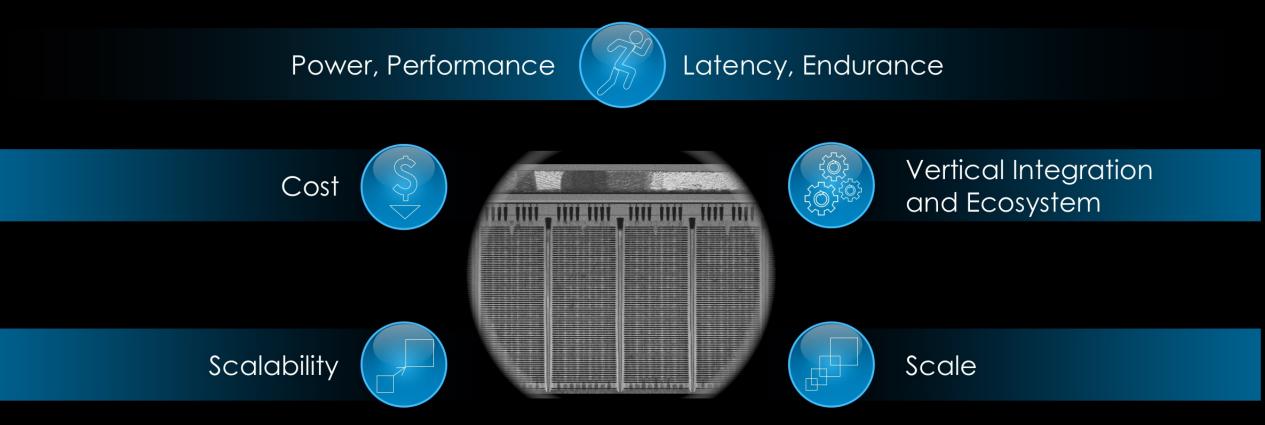
### **NAND Flash and Beyond**

Dr. Siva Sivaram Executive Vice President, Memory Technology

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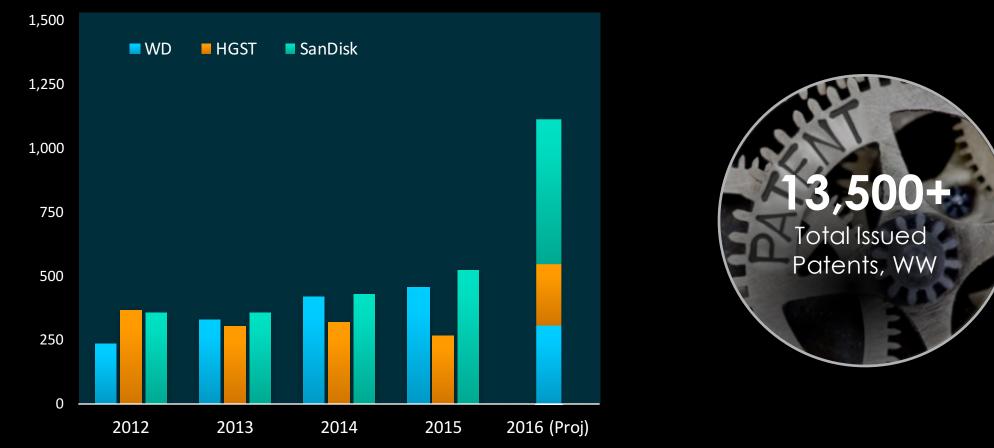
### Elements of WDC Technology Leadership



#### On Time, On Target, All the Time

# Culture of IP Excellence at All Three Legacy Companies

#### Total US Issued Patents



Source: WDC estimates

# Technology Platforms to Meet Expanding Customer Needs

System 15nm 1Z: World's most successful Integration **2D NAND** 2D NAND technology **Firmware** BiCS3: World's first 64 layer >**3D NAND: BICS 3D NAND products** Controller 3D ReRAM: Highly scalable Storage Class Memory fast access memory **IC Assembly** 

### Memory Technology Roadmap

2D NAND	CY 2015 <b>15nm 1Z X2</b> ,	2016 X3*	2017	2018	2019	2020
3D NAND: BICS	BiCS2 48L	X3 BiCS3	64L X3, X4*	BiCS4	BiC	C\$5
Storage Class Memory	ReRAM (Res	istive RAM) R&D		Gen 1		Gen 2
Western Digital.	2016 Inves	stor Day   Milpitas, CA   I	December 6, 2016		*X2: 2 bits per X3: 3 bits per X4: 4 bits per	r cell, TLC

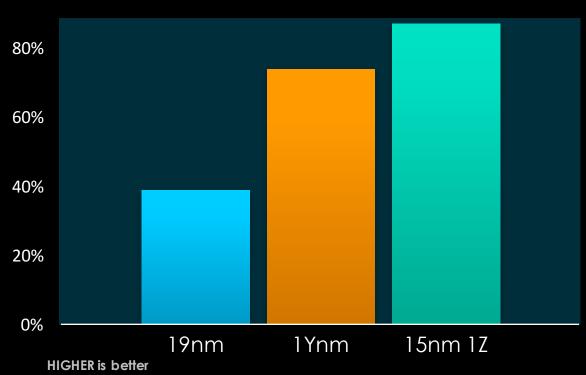
### 2D NAND: 11 Generations of Learning and Leadership

2D NAND	CY 2013 1Y nm X2, X3	2014	2015 15nm 12 X2, X3	2016	2017	2018
<b>3D NAND: BiCS</b>						
Storage Class Memory						

#### The Three Bits Per Cell Advantage

- WDC leads the industry in X3 device and system technologies
- Wide market acceptance of our X3 solutions
  - Retail, embedded, and SSDs

#### X3 % of Total 2D Bits Shipped by WDC

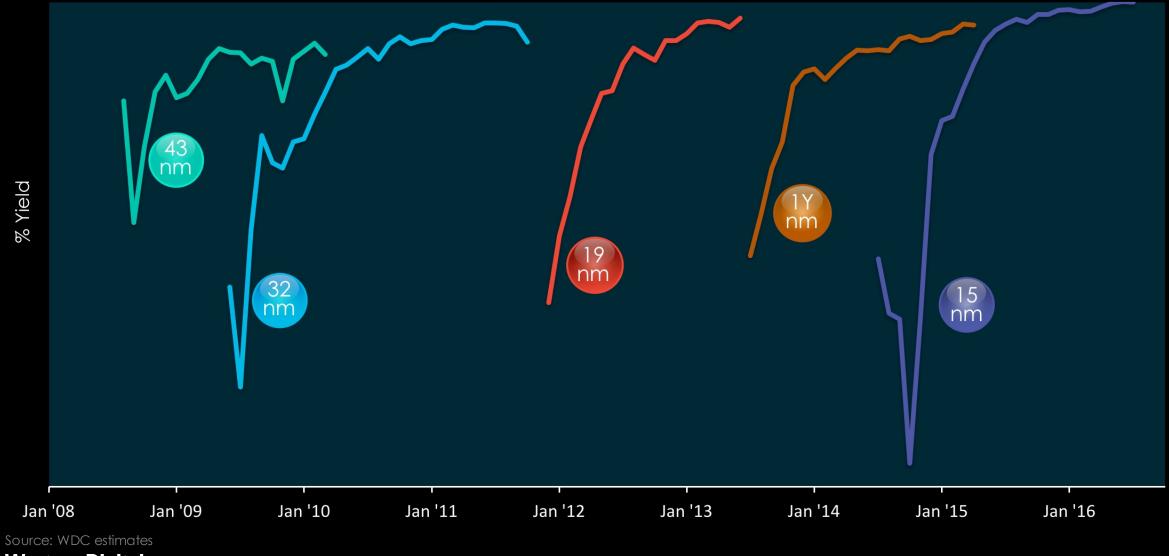


Average in Year of Volume Ramp

#### Logical Scaling Enabled by Vertical Integration

Source: WDC estimates Western Digital.

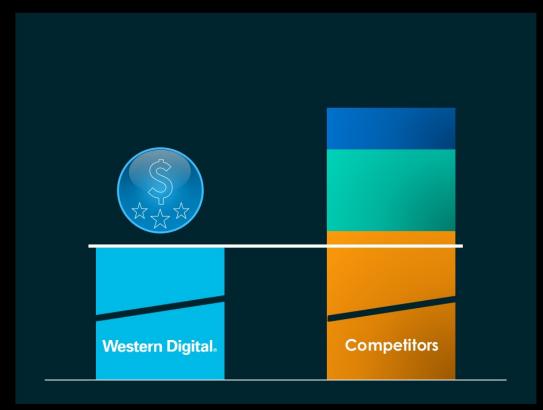
#### 15nm 1Z: Highest Yields and Fastest Yield Learning



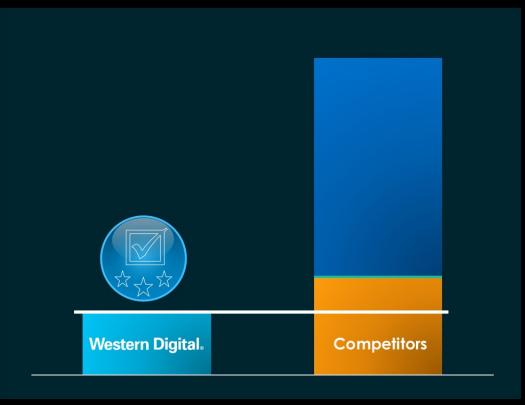
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#### 15nm 1Z: World's Best 2D NAND Flash Technology

**Best Cost – X3** Die Size 15nm 1Z vs. Competitors, Including 14nm



End of Life Bit Error Rate for X3 15nm 1Z vs. Competitors, Including 14nm



LOWER is better

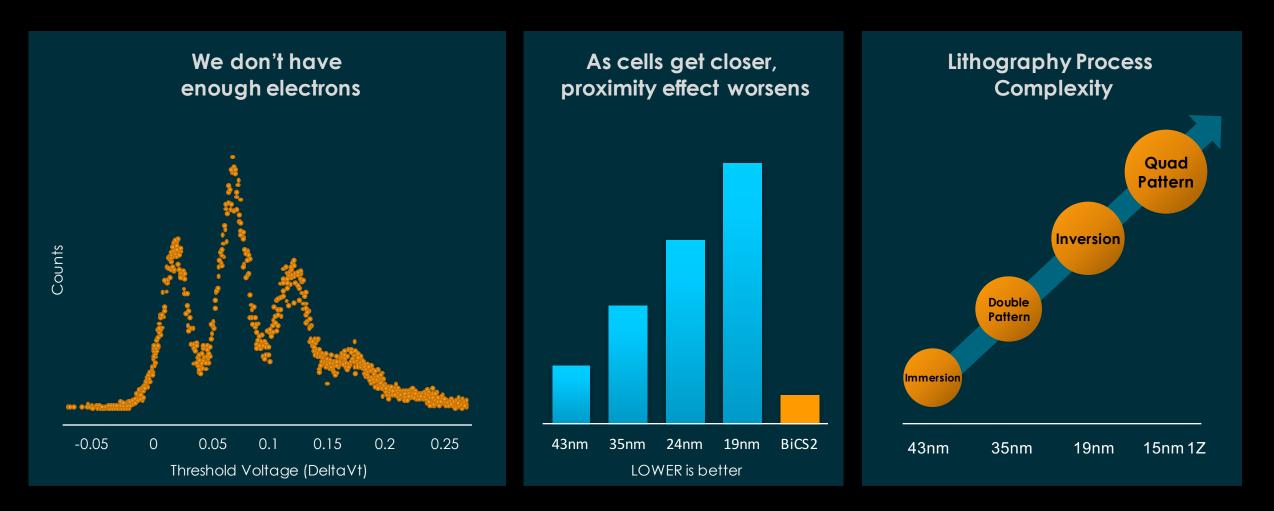
LOWER is better

Source: WDC estimates Western Digital.

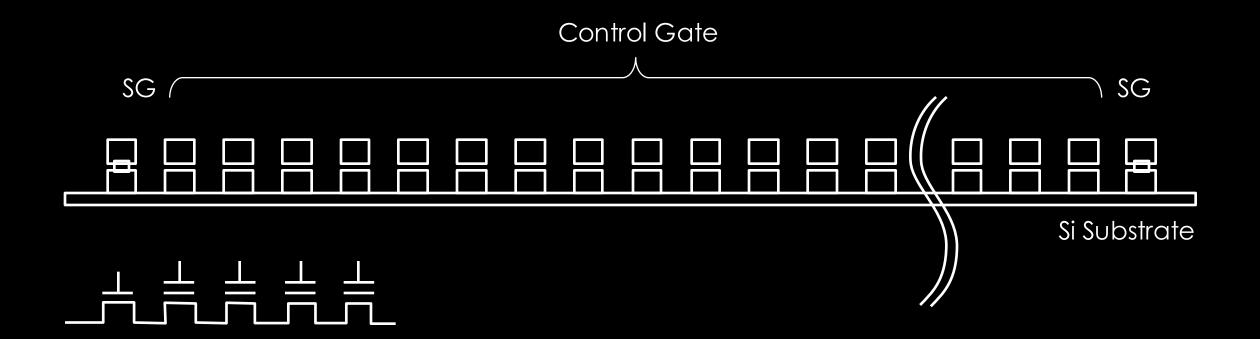
#### 3D NAND Flash: The Future Is Here

2D NAND		2016		2018		
3D NAND: BiCS	BiCS2 48L X3	BiCS3	64L X3, X4	BiCS4	BiC	:\$5
Storage Class Memory						

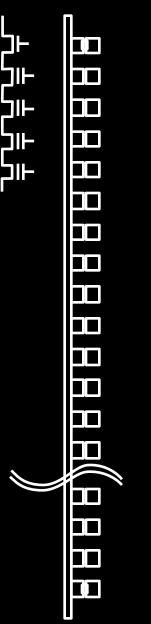
### No Moore: End of Line for 2D NAND Scaling



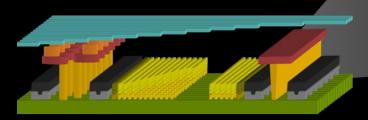
#### NAND Strings Go Vertical



### NAND Strings Go Vertical



#### From the Suburbs to Downtown



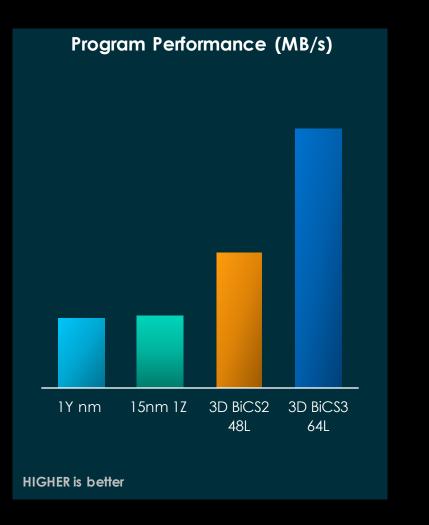


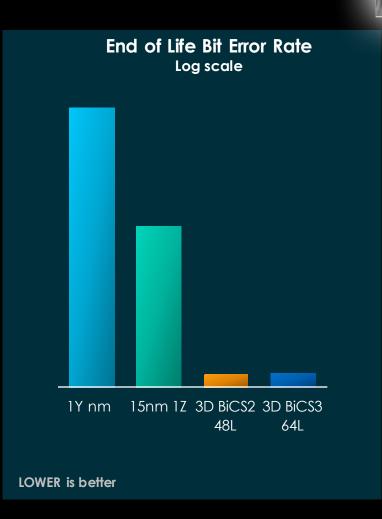
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**3D NAND Architecture** 

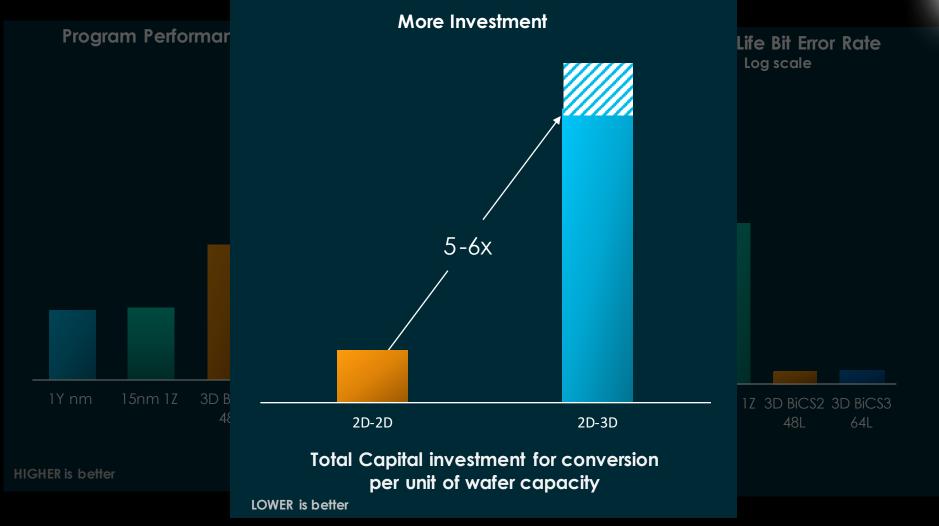
#### 3D NAND Faster, Stronger,





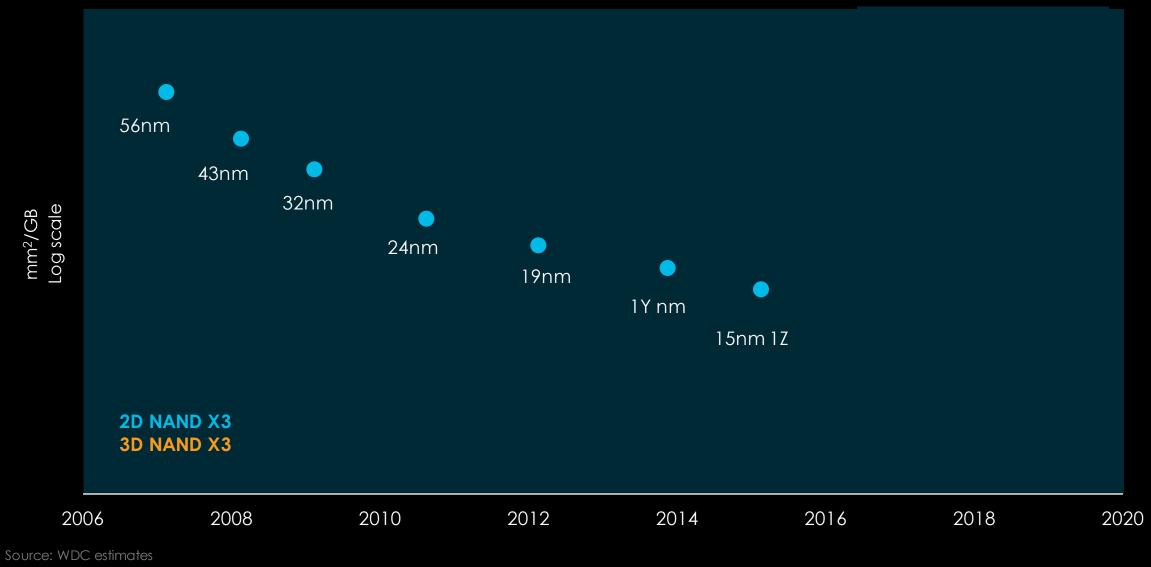
Source: WDC estimates Western Digital.

### 3D NAND Faster, Stronger, but...



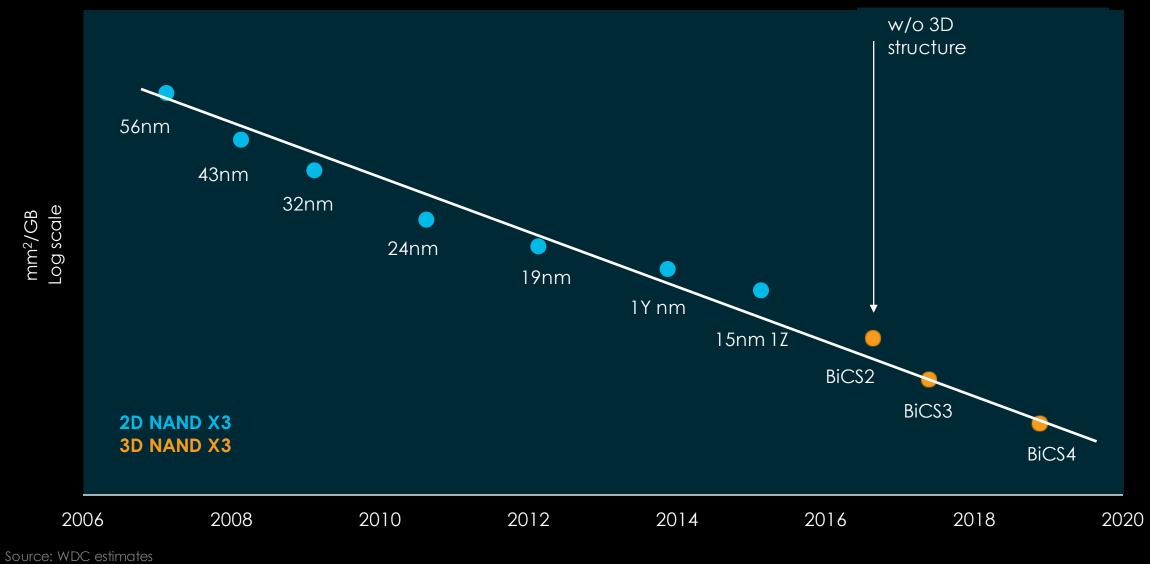
Source: WDC estimates Western Digital.

#### Bit by Bit, NAND Scaling Falls in Line



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#### Bit by Bit, NAND Scaling Falls in Line



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### World's first 64-layer **3D NAND** architecture

Smallest 256Gb chip in the industry

### **Continuing the Technology Leadership Tradition**

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Capacities including

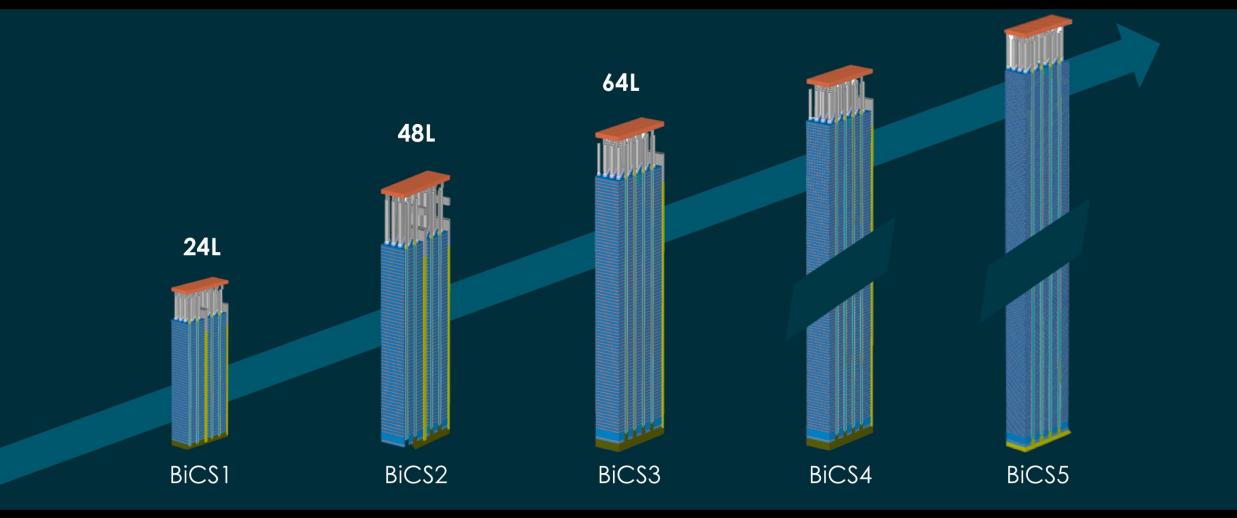
**512Gb** on a single chip

Retail products

sampling has begun

shipping now; **OEM** 

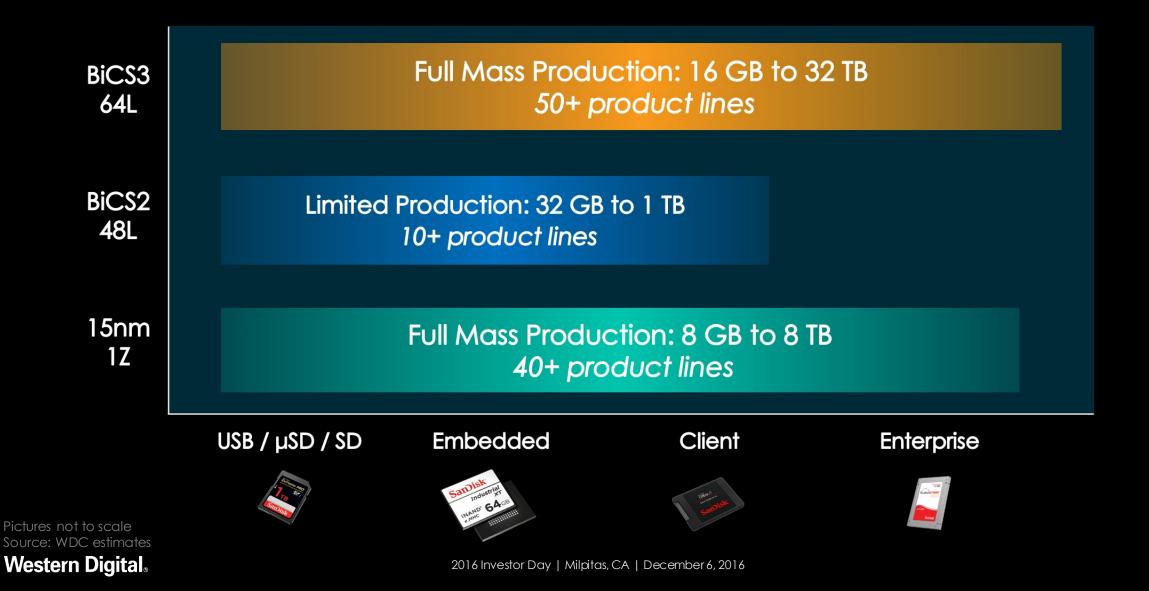
#### BiCS3: First Commercially Viable 3D NAND



Predictable Scaling Path: x, y, z and Logical Scaling

Pictures not to scale Source: WDC estimates Western Digital.

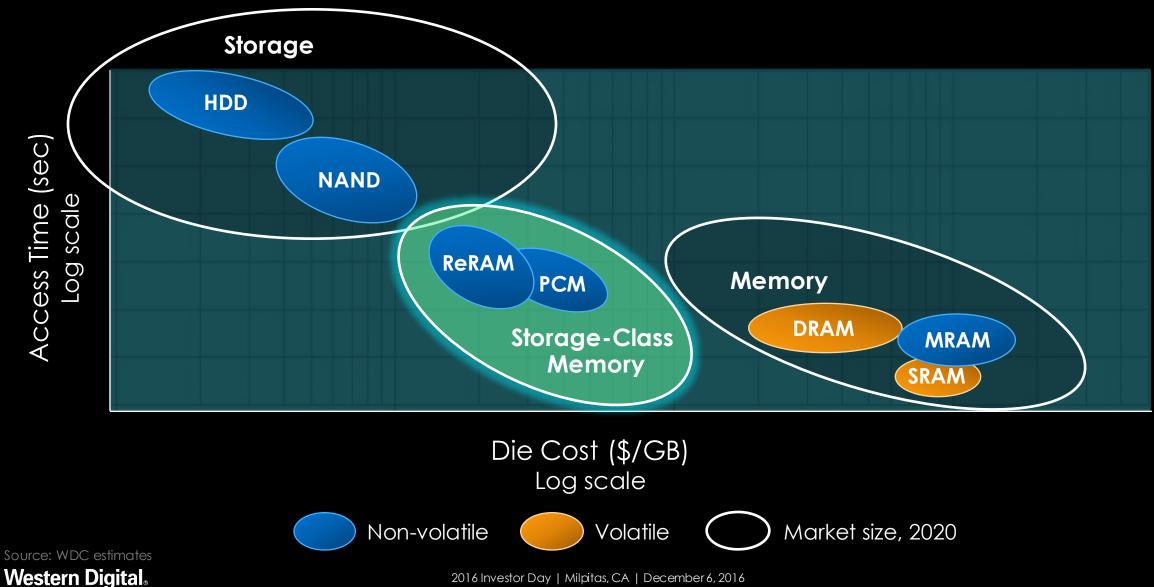
#### BiCS3 64 Layer: Products for All Focus Segments



### SCM: A New Computing Paradigm

2D NAND	CY 2015	2016	2017	2018	2019	2020
<b>BiCS</b> Bit Cost Scalable 3D NAND						
Storage Class Memory (SCM)	ReRAM (Res	istive RAM) R&	D	Gen 1	G	en 2

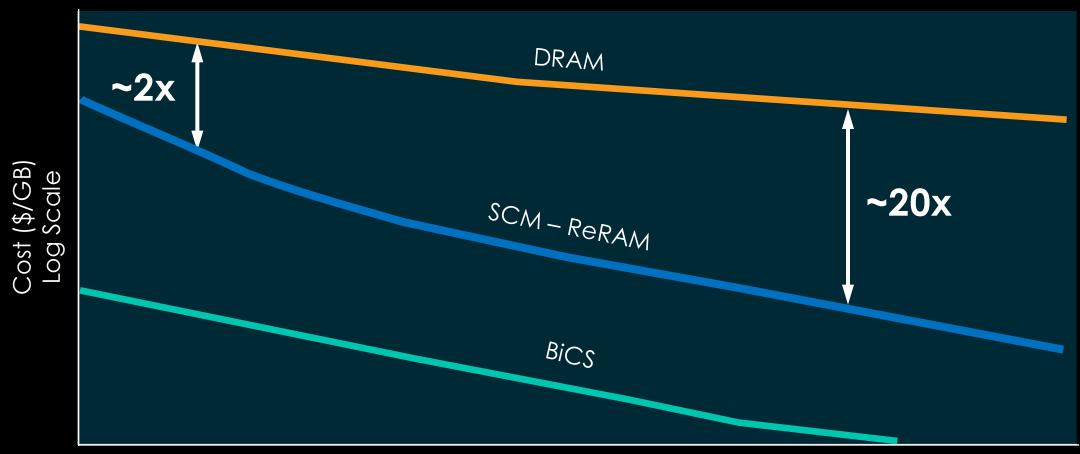
#### SCM: Faster, Cheaper, and Non-Volatile



#### Bringing the Computer to the Data

Data Center **Data Center Client Compute** Mobile Rack Scale Cheap CPUs Around SCM Complements DRAM for Large Memory Requirements Architecture Petabytes of SCM Compute Intensive Clients for Virtual Reality 100G Ethernet Pooled SCM TTTT Server Tray SanDisk ----Ultra 256 дв МУЗ Server Tray SRAM / eDRAM DRAM / MRAM GPU Server Tray SCM Controller eDRAM SCM DDR / New SCM CPU / DDR / Controller **Pooled Flash** AP CS New SSD PCIe-NVMe ТМ NAND CNTLR SCM JBOD Time

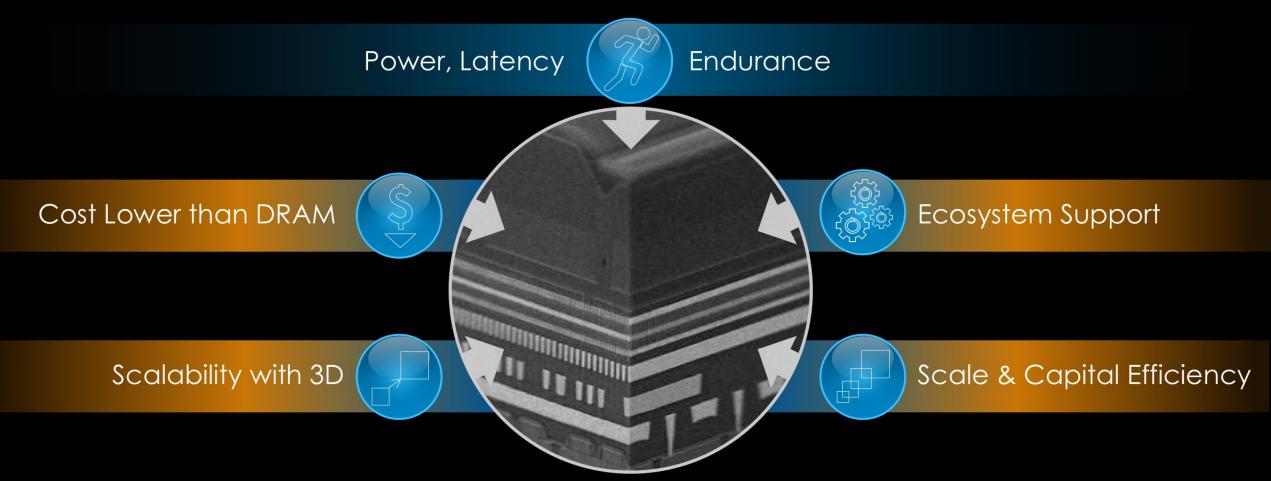
#### Scalability and Scale: ReRAM Follows BiCS



Year

Note: Technology transition cadence assumed 18 months for all technologies Source: WDC estimates; DRAM data source: IDC ASP forecast with 45% GM assumed

#### 3D Resistive RAM as Storage Class Memory



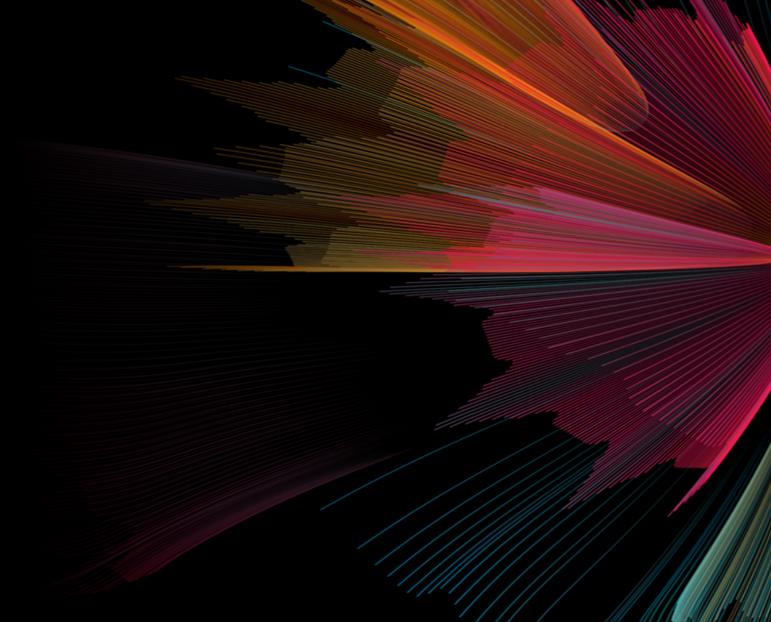
ReRAM Is Western Digital's Choice for SCM

Western Digital.

## Thank You

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### From Silicon to SSD, Manufacturing in the 3D Era

Manish Bhatia Executive Vice President, Silicon Operations

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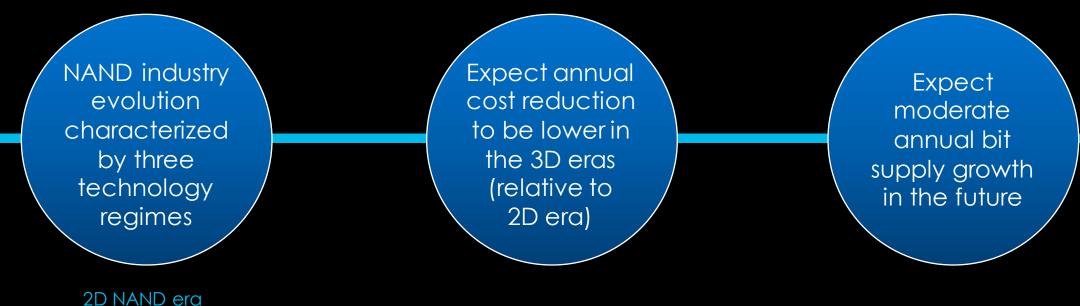


#### NAND Flash Industry Outlook

WDC Fab Strategy

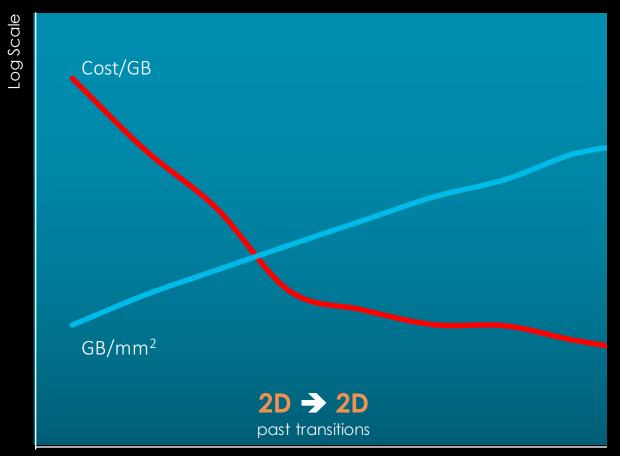
WDC Silicon Supply Chain

#### Key Industry Observations



2D NAND era 2D → 3D conversion era (current) 3D NAND era

#### 2D NAND Era

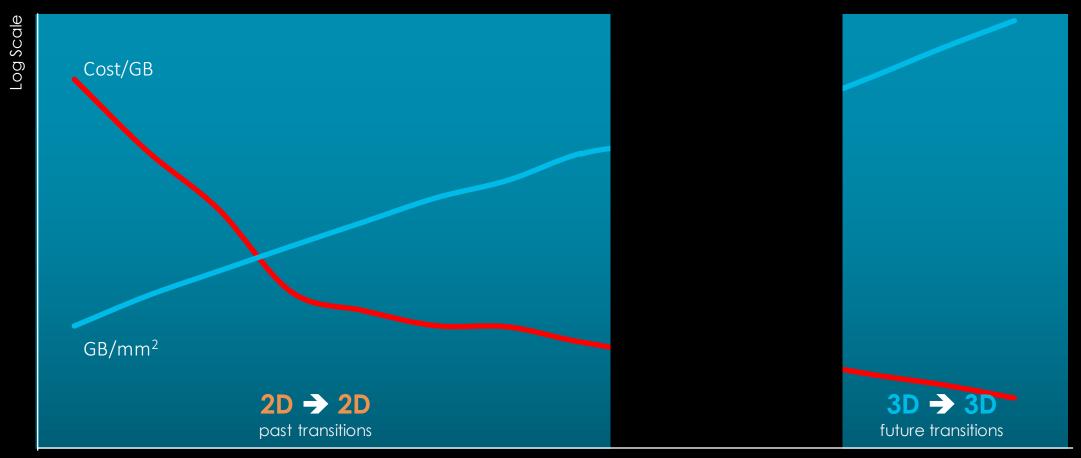


Wafer Size: 200mm (8 in)  $\rightarrow$  300mm (12 in) Lithography: KrF  $\rightarrow$  ArF  $\rightarrow$  ArF Immersion Memory cell: SLC  $\rightarrow$  MLC  $\rightarrow$  TLC

Technology (node-to-node)  $\rightarrow$ 

Source: WDC estimates Western Digital.

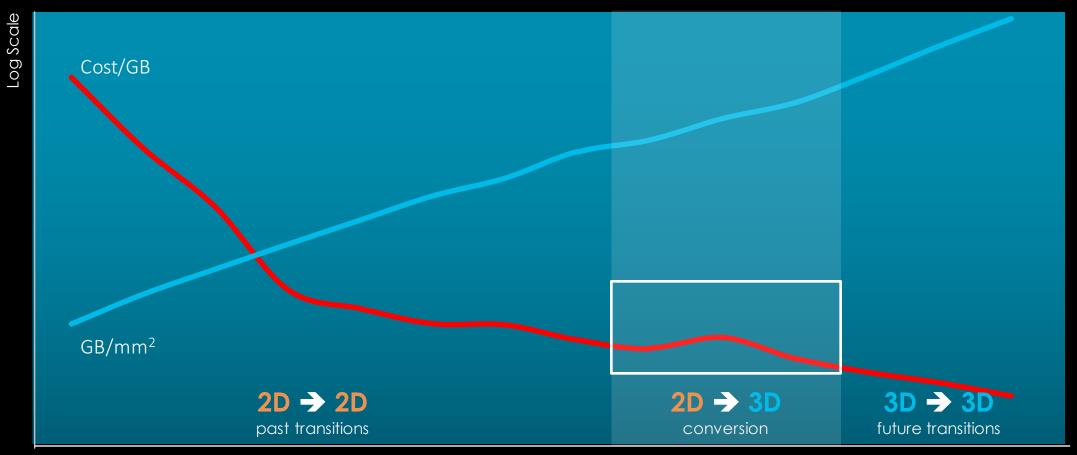
#### 3D NAND Innovation Extends NAND Industry Cost Scaling



Technology (node-to-node)  $\rightarrow$ 

Source: WDC estimates Western Digital.

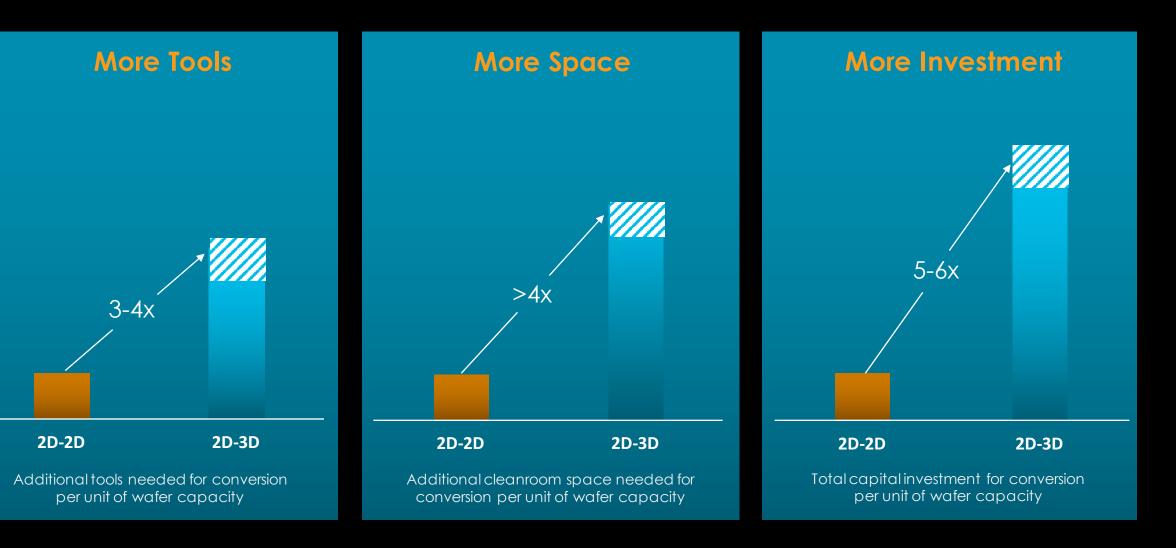
# $2D \rightarrow 3D$ Conversion Expected to Be a Period of Limited Cost Declines for the Industry



Technology (node-to-node) →

Source: WDC estimates Western Digital.

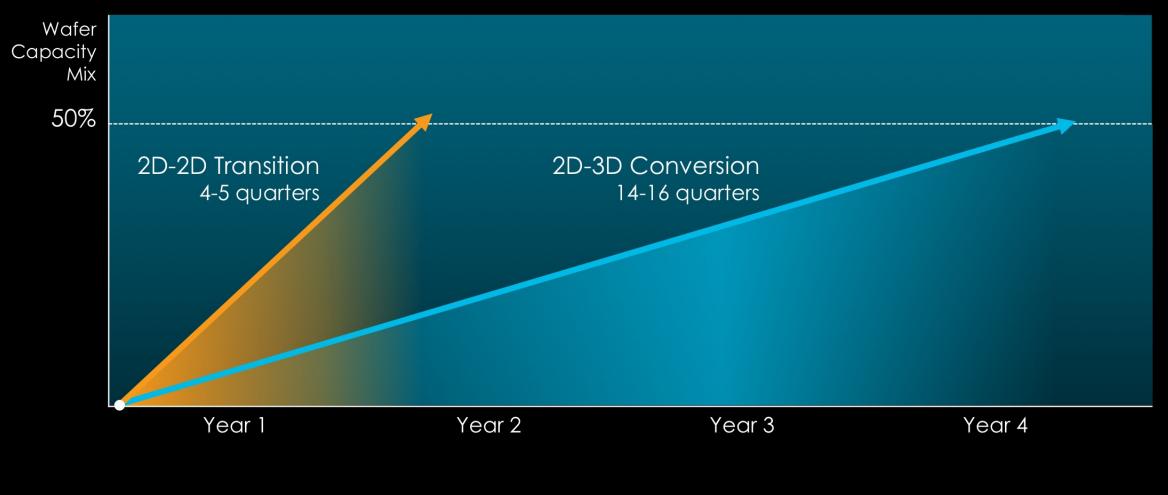
## 2D $\rightarrow$ 3D NAND Conversion Is More Complex than Past 2D $\rightarrow$ 2D Transitions



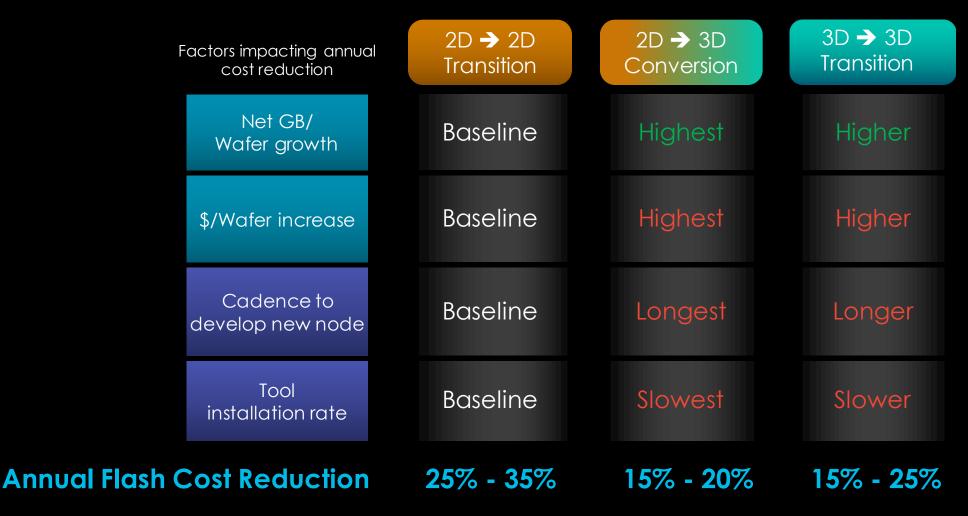
Source: WDC estimates Western Digital.



#### Converting to 3D NAND Takes Longer than Past 2D Transitions



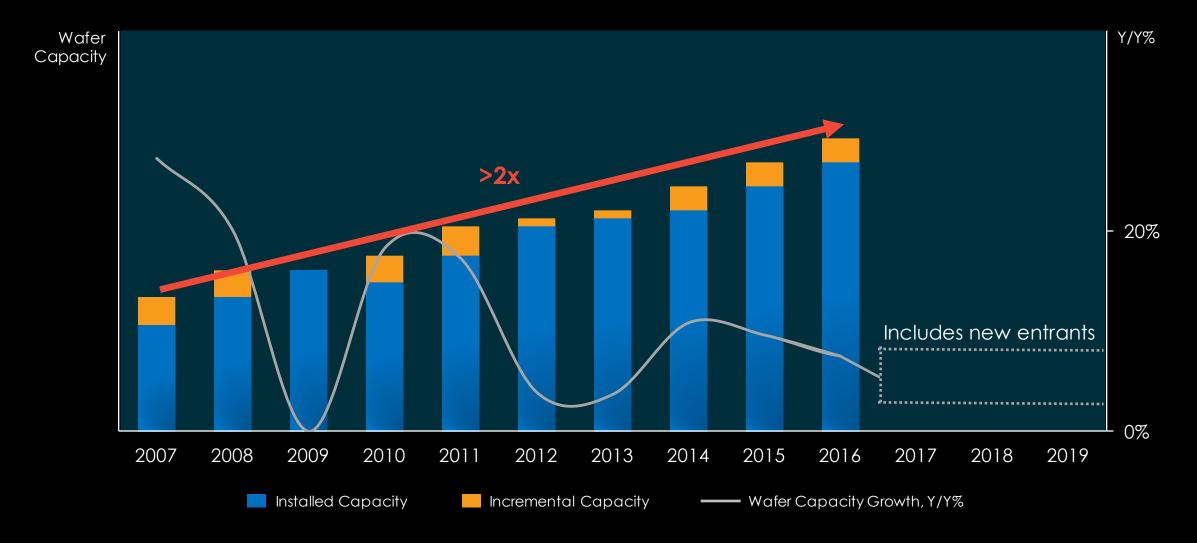
# Manufacturing Complexity of 3D NAND Reduces the Rate of Cost Decline for the Industry



Cost/GB reduction New technology conversion rate

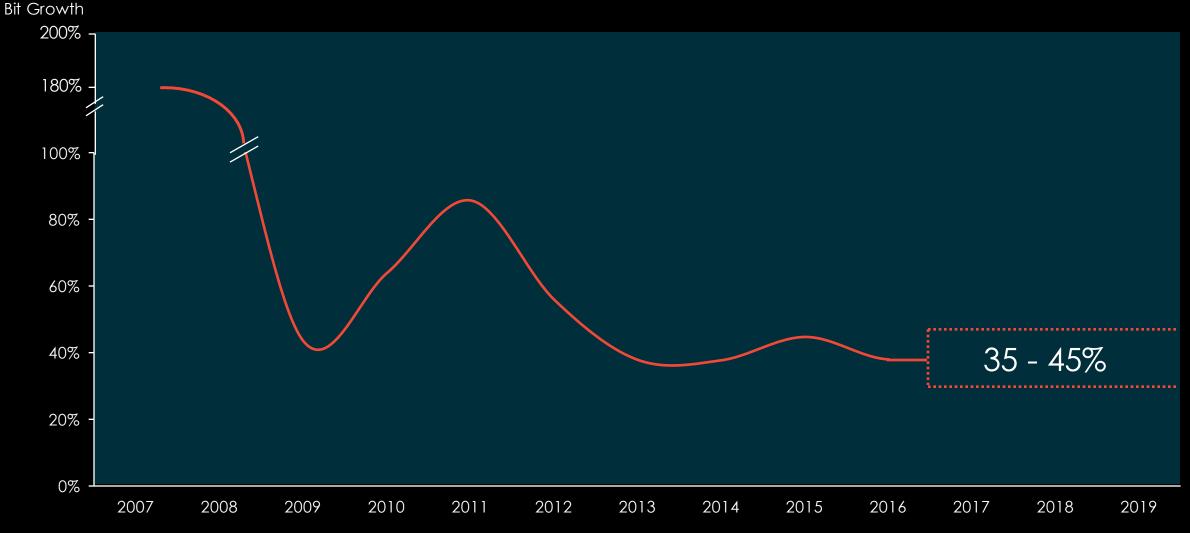
#### Source: WDC estimates Western Digital.

## Large Installed Base Moderates the Impact of Future Capacity Additions



Western Digital.

## NAND Industry Bit Growth Expected to be 35 - 45% Y/Y through this Decade



Source: WDC estimates

Western Digital.

#### Expectations for the NAND Industry

1	3D NAND manufacturing complexity slows rate of annual cost decline
2	New fab space will be required for continued 3D conversions
3	Size of installed capacity reduces impact of future capacity additions
4	2017-2019 outlook for industry bit growth similar to recent range including new entrants

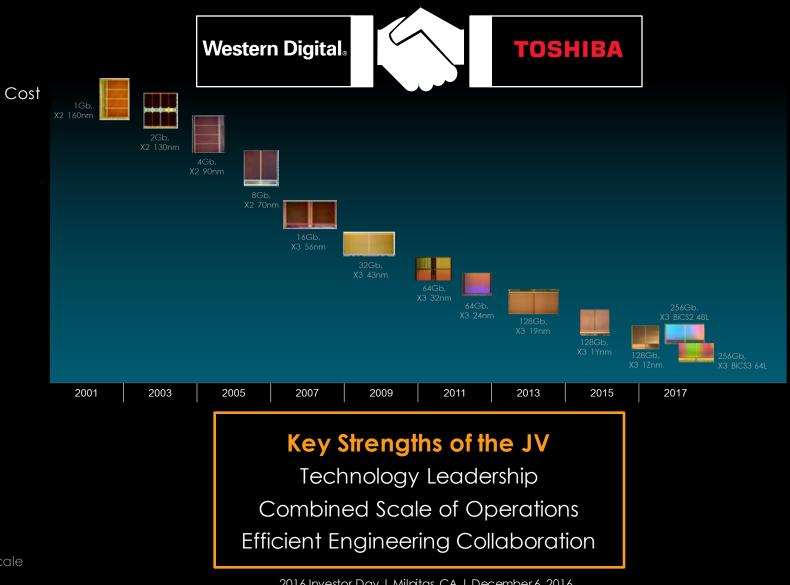


#### NAND Flash Industry Outlook

WDC Fab Strategy

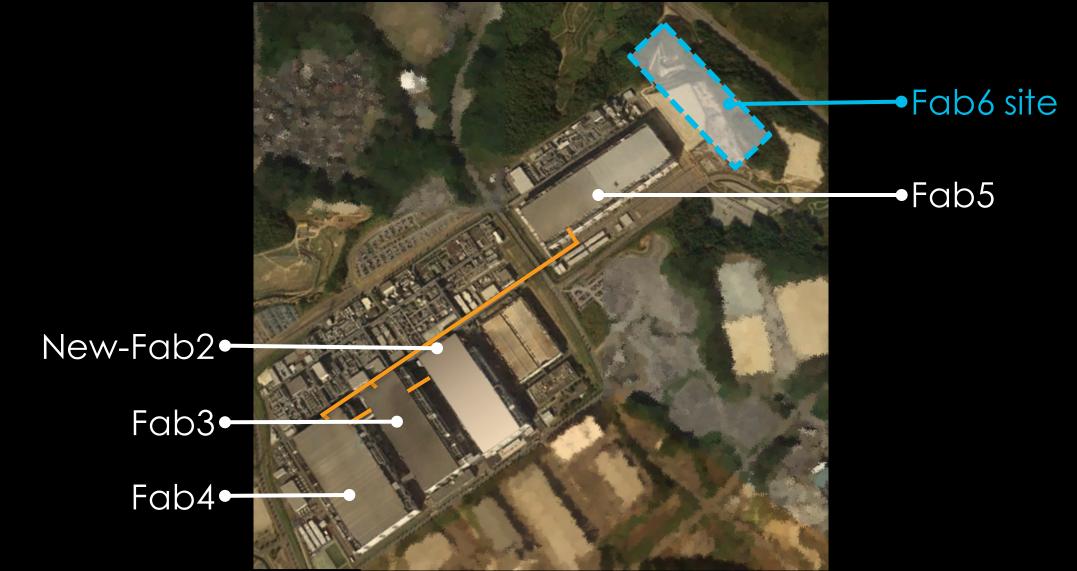
WDC Silicon Supply Chain

#### Western Digital-Toshiba Partnership: 17 Years and Going Strong

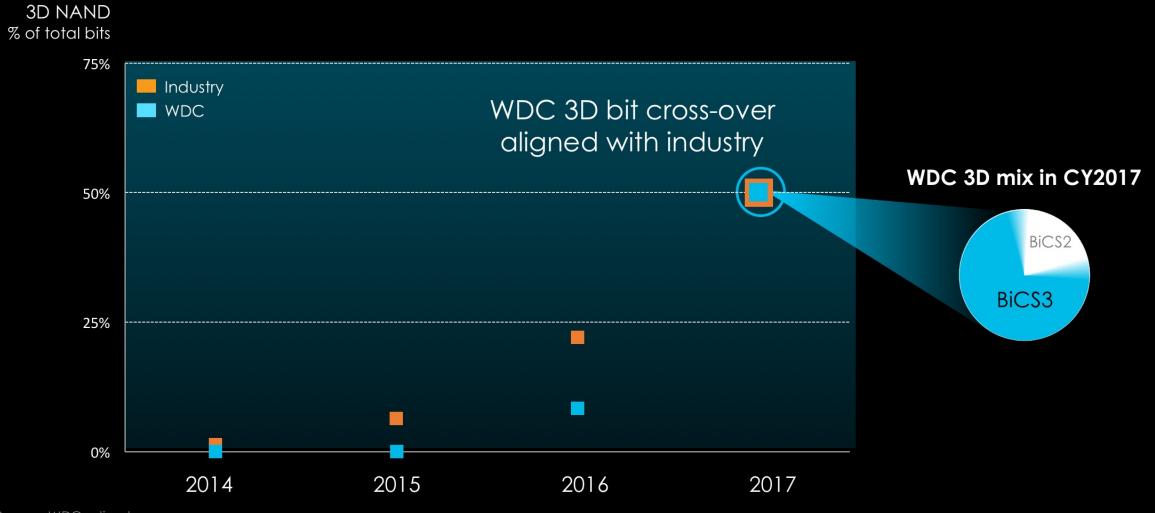


Note: Images are not to scale Western Digital.

## Yokkaichi: One Interconnected Mega Fab



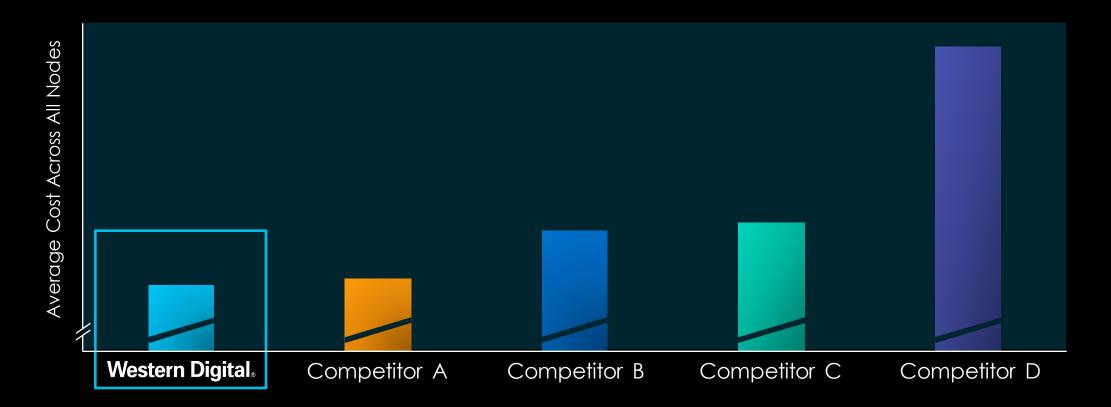
# Rapid Ramp of BiCS3 64L in CY2017



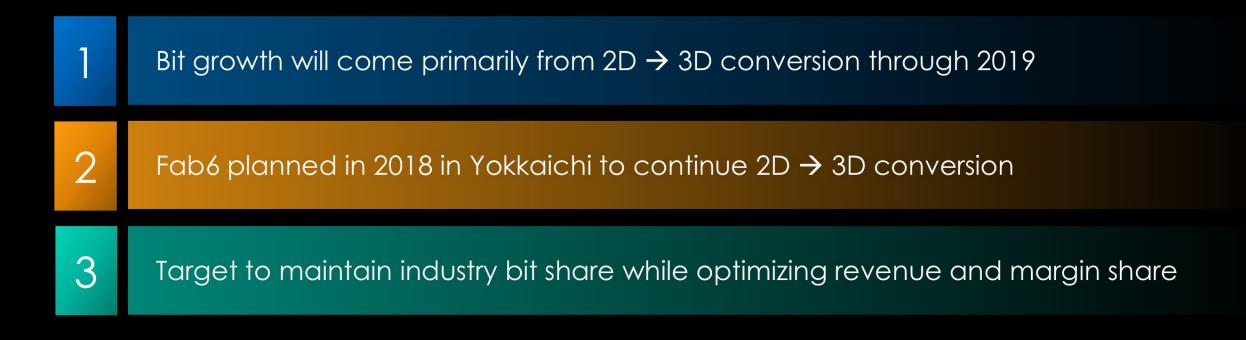
Source: WDC estimates

# Industry Cost Leadership in CY2016

- WDC has the lowest cost structure in the NAND industry in CY16
- With BiCS3 64L ramping, expect cost leadership to continue in CY17



# Western Digital Fab Strategy



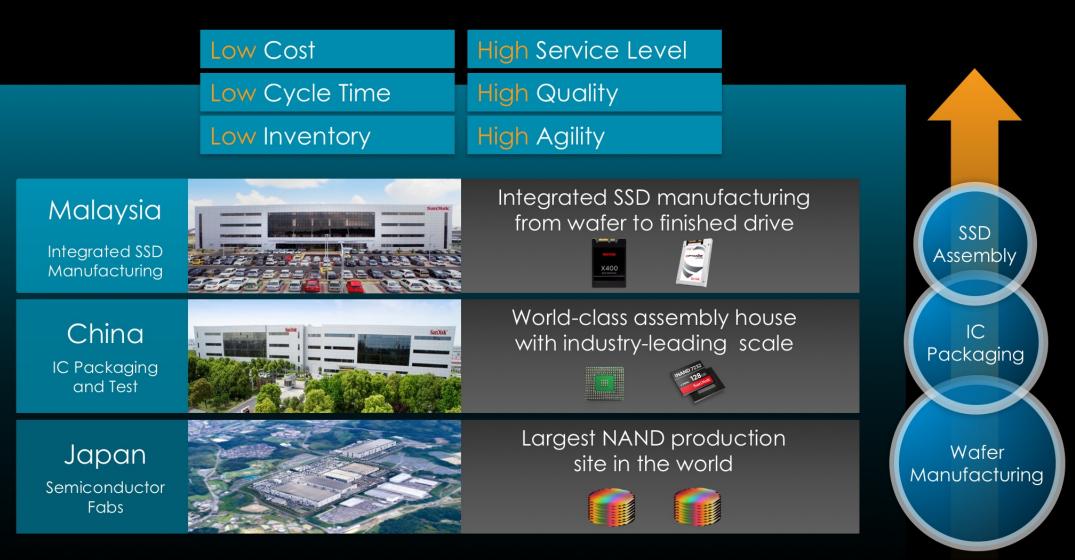


NAND Flash Industry Outlook

WDC Fab Strategy

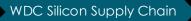
WDC Silicon Supply Chain

# NAND Flash Vertical Integration: Key Competitive Advantage

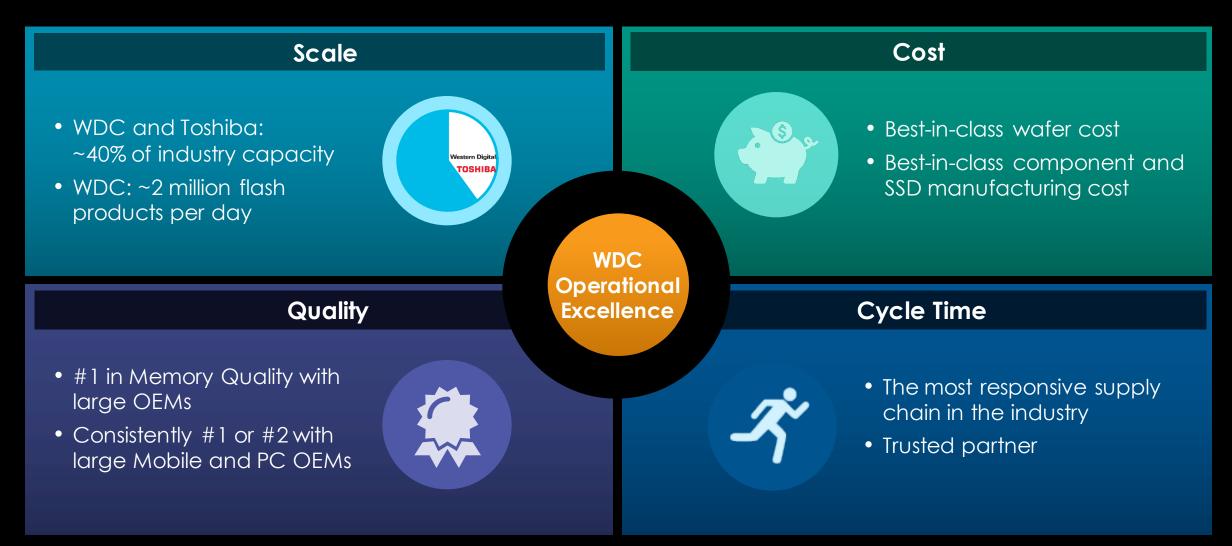


#### Western Digital

WDC Silicon Supply Chain



## Scale, Cost, Quality, Cycle Time Enable Operational Excellence

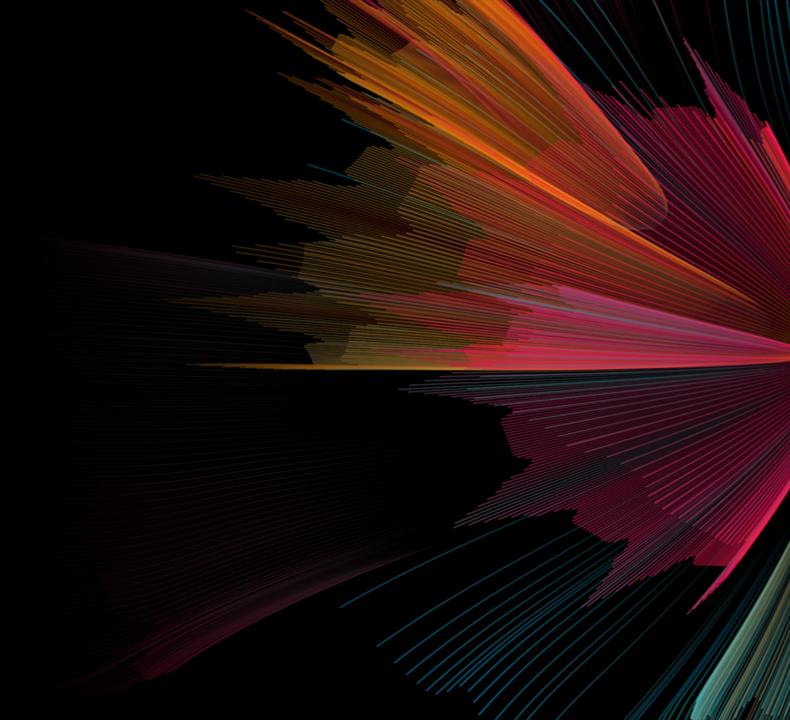


# Conclusions

3D NAND manufacturing complexity leads to lower annual cost declines and moderate annual bit growth
17-year WDC-Toshiba partnership going strong – Fab6 in Yokkaichi expected in 2018 to support further 3D NAND conversion
Executing well on our BiCS3 64L strategy – expect industry leadership in cost
WDC vertical integration and world-class back-end supply chain operations are differentiators providing quality and responsiveness to our customers

# Thank You

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# **Creating Shareholder Value**

Mark Long Chief Financial Officer

**INVESTOR DAY 2016** 

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2016 Investor Day | Milpitas, CA | December 6, 2016

# Western Digital®

### We Are Fundamental to an Increasingly Data-centric World

Western Digital<sub>®</sub>

2016 Investor Day | Milpitas, CA | December 6, 2016



### Storage Solutions Leader



### Portfolio Drivers and Growth Opportunity



### Financial Model



Capital Structure and Liquidity



### Storage Solutions Leader



### Portfolio Drivers and Growth Opportunity



### inancial Mode





# A Global Leader in Storage Solutions



Source: Company website; Public filings; analyst reports; S&P Capital IQ

<sup>1</sup> Last 4 quarters ending Sep 30, 2016 for WDC, Seagate, Toshiba, Samsung, Micron and SK Hynix; ending Oct 1, 2016 for Intel; ending Oct 28, 2016 for NetApp; and ending Jun 30, 2016 for EMC

<sup>2</sup> For the LTM, Toshiba revenue converted to USD at an average exchange rate of 111.78 JPY/USD; Samsung and SK Hynix revenue converted to USD at an average exchange rate of 1160.00 KRW/USD

<sup>3</sup> Includes Non-Volatile Memory (Trade and Non-Trade) and Other

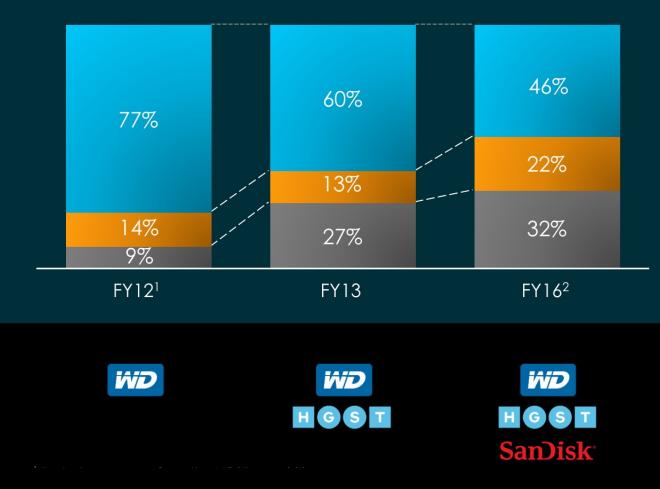
#### Western Digital.

#### 2016 Investor Day | Milpitas, CA | December 6, 2016

# Evolution as a Storage Solutions Leader

Portfolio Diversification (Revenue Mix)

Client Client DC Devices Devices Solutions & Solutions



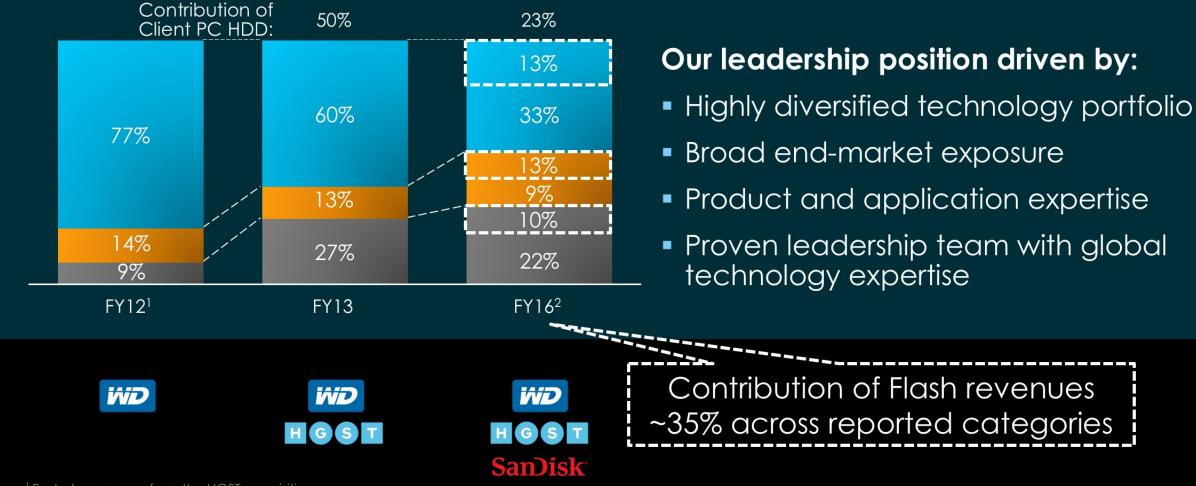
### Our leadership position driven by:

- Highly diversified technology portfolio
- Broad end-market exposure
- Product and application expertise
- Proven leadership team with global technology expertise

## Evolution as a Storage Solutions Leader Portfolio Diversification (Revenue Mix)

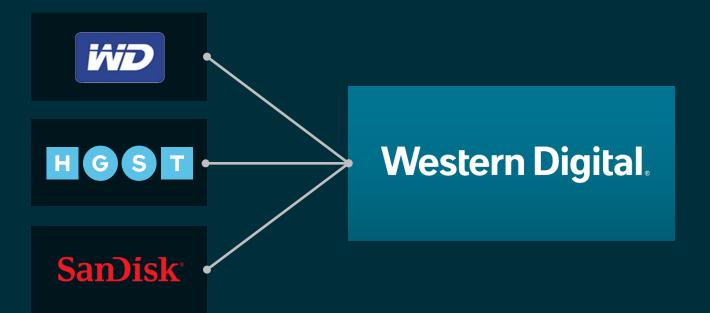
Flash Revenue Contribution





#### <sup>1</sup> Excludes revenue from the HGST acquisition <sup>2</sup> FY 2016 includes pro forma for LTM SNDK revenue

# Successful Transformation



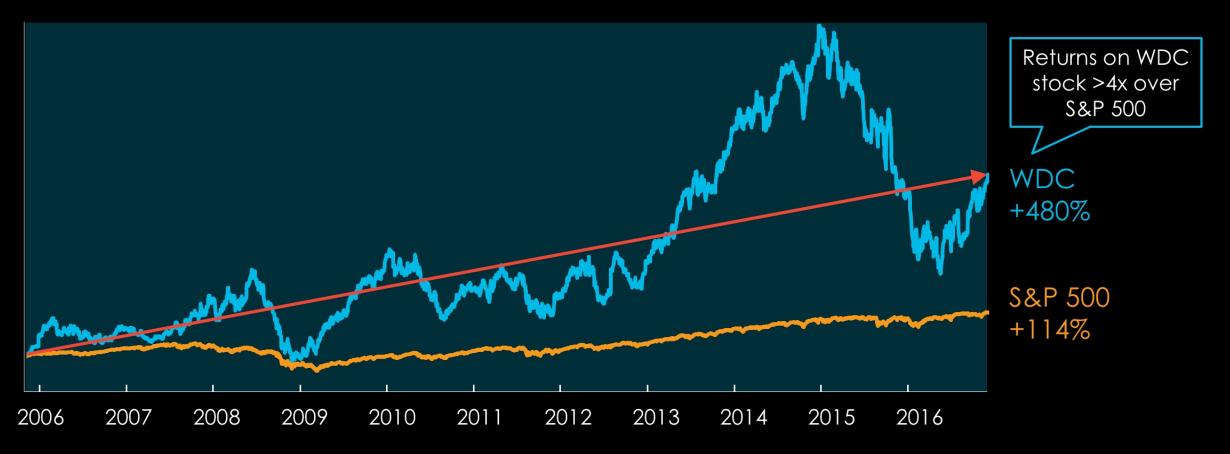
### Driving Value Capture:

- Successful operational integration
- World class leadership team
- Strong customer and partner engagement
- Synergy realization on-target

### Global Storage Solutions Leader with Broad Diversification, Significant Scale and Growth Potential

### Generating Significant Shareholder Value Strategy Enabled a ~17.1% CAGR in WDC Stock

Total Shareholder Returns (Dividend-Adjusted)

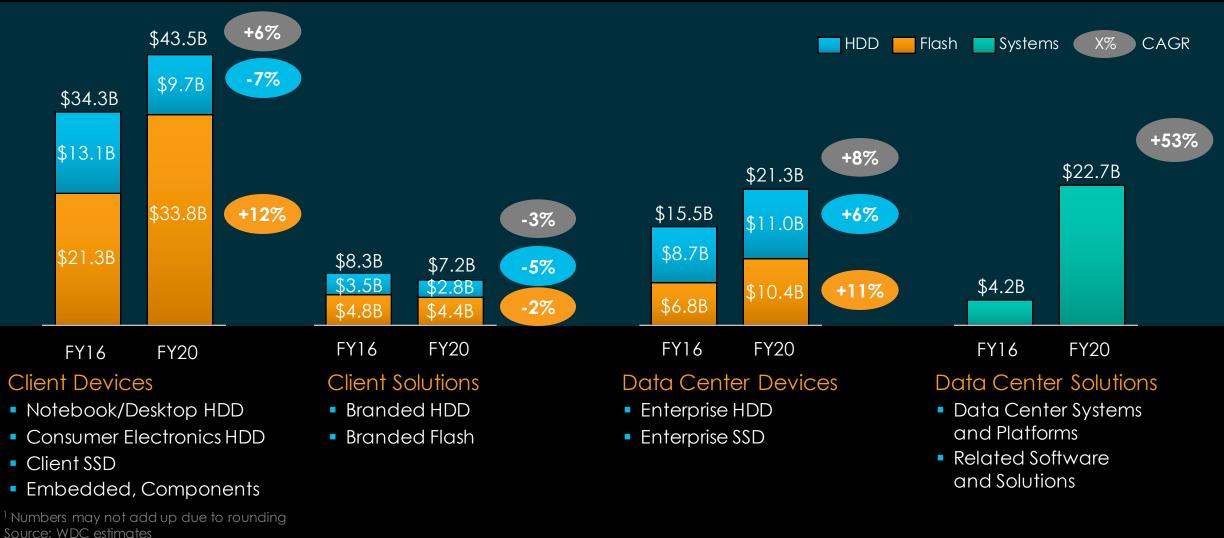


Source: S&P Capital IQ as of 12/2/2016 Western Digital.

2016 Investor Day | Milpitas, CA | December 6, 2016

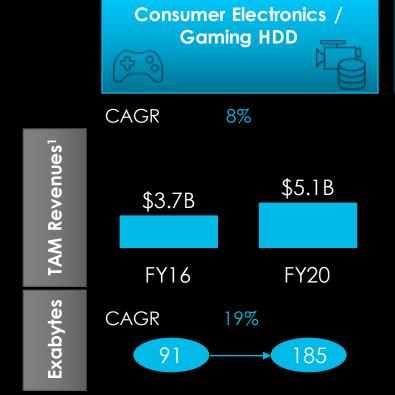
# ~\$72B TAM in Core Business; Incremental ~\$23B TAM in Data Center Solutions Estimated by FY20

TAM Revenues<sup>1</sup>



# Client Devices Market Opportunity





- Steady demand in traditional CE markets
- Emerging higher-growth applications
- Increasing video quality and richer media in gaming driving bit growth

<sup>1</sup> Numbers may not add up due to rounding Source: WDC estimates

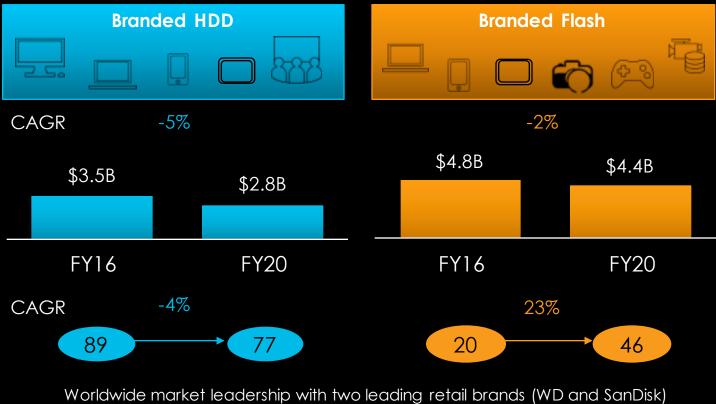
#### Western Digital.



PC market stabilization in second half of 2016

- Increasing flash penetration in PCs; gross margins for overall segment impacted by shift
- Shift towards higher capacity drives
- Ultra mobile PC growth and corporate market adoption are key drivers for growth
- Strong mobility / phone demand; rapidly increasing per unit capacities
- Rapidly growing next gen applications

# Client Solutions Market Opportunity



Continued, rapid proliferation of connected devices & personal content creation

Strength of retail channel a strategic asset

- Mix shift to higher capacities and hybrid Cloud solutions designed for Prosumer to SMBs
- WD brand leadership driving performance gains as retailers consolidate suppliers
- SanDisk's premium brand drives segmentleading profitability
- Mobile products and connected storage are key growth drivers

<sup>1</sup> Numbers may not add up due to rounding Source: WDC estimates

#### Western Digital.

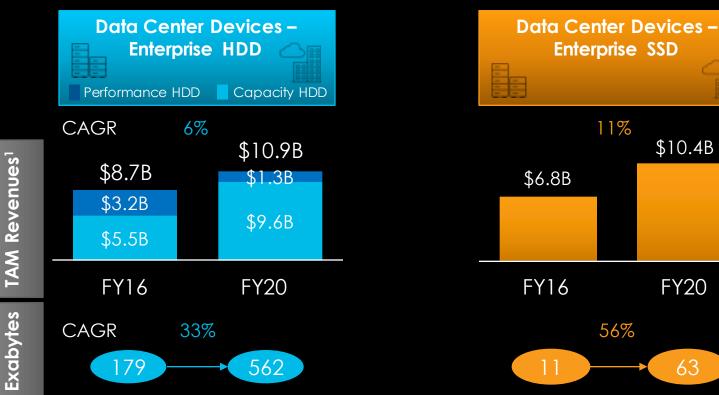
IAM Revenues<sup>1</sup>

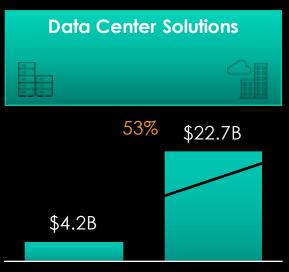
Exabytes

HDD Flash

Systems

# Data Center Devices and Solutions Market Opportunity





FY16 FY20

- Continued rapid growth in worldwide Cloud infrastructure buildout
- Capacity, performance and TCO are all factors in IT purchasing decisions
- Increasing demand for Capacity Enterprise from hyperscale
- Helium products driving leadership in Capacity HDD

<sup>1</sup> Numbers may not add up due to rounding Source: WDC estimates

#### Western Digital.

- Increasing Performance Enterprise workloads driving flash adoption in hyperscale, enterprise data centers
- Strong portfolio across interfaces helps address evolving customer needs

- Market opportunity to move up the stack
- Vertical innovation creating unique, end-to-end solutions for customers
- Distinctive vertical integration advantage in HDD and flash systems
- JV with Unisplendour, a go-to-market vehicle for China market

HDD Flash

Systems



### Storage Solutions Leader



### Portfolio Drivers and Growth Opportunity



### Financial Model





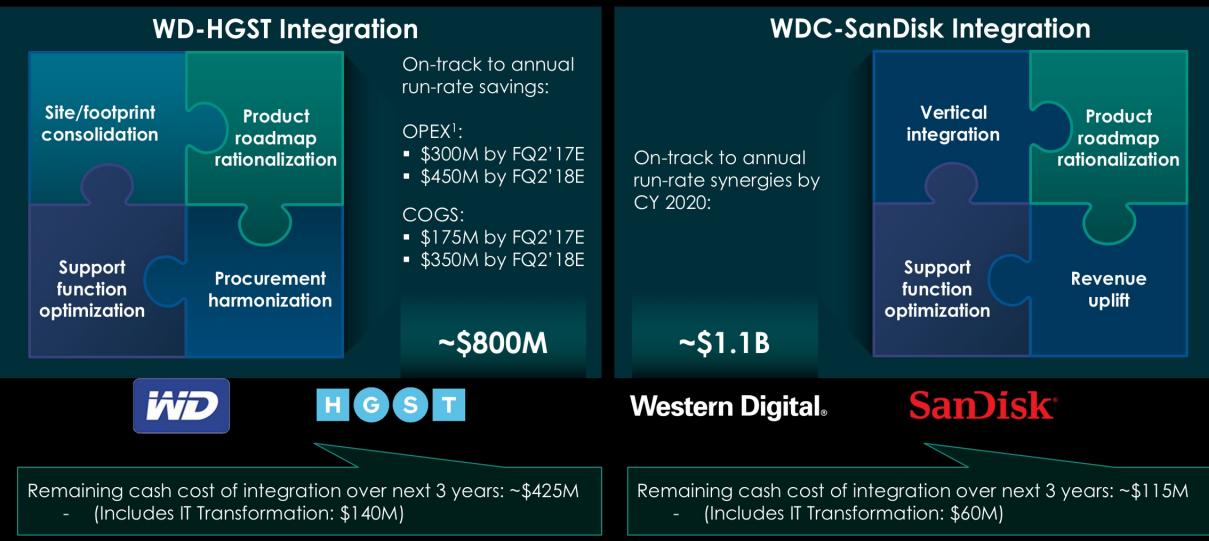
## Executing Our Integration Plans and Committed to Achieving Our Value Creation Goals

#### **WDC-SanDisk Integration WD-HGST** Integration On-track to annual On-track to annual run-rate savings: synergies 18 months post-closing: Site/footprint Vertical Product Product OPEX<sup>1</sup>: consolidation integration roadmap roadmap \$300M by FQ2'17E Expenses rationalization rationalization (annual run-rate): \$450M by FQ2'18E \$180M by FQ2'18E COGS: \$175M by FQ2'17E Revenue/vertical \$350M by FQ2'18E integration/margin: Support Support Procurement Revenue ~\$350M by FQ2'18E function function harmonization uplift optimization optimization ~\$500M ~\$800M ŴD SanDisk<sup>®</sup> H G S T Western Digital Remaining cash cost of integration over next 3 years: ~\$425M Remaining cash cost of integration over next 3 years: ~\$115M (Includes IT Transformation: \$60M)

(Includes IT Transformation: \$140M)

<sup>1</sup> Includes run-rate Stock Based Compensation savings of ~\$20M

# Executing Our Integration Plans and Committed to Achieving Our Value Creation Goals



<sup>1</sup> Includes run-rate Stock Based Compensation savings of ~\$20M

# Compelling Long-Term Financial Model

	Long-Term Financial Model	Commentary
Revenue Growth CAGR (%)	4% - 8%	<ul> <li>Broad exposure to end-markets provides unique position to manage our participation</li> </ul>
Non-GAAP Gross Margin (% of Revenue)	33% - 38%	<ul> <li>Balancing mix and volume changes while maximizing margins</li> </ul>
Non-GAAP Operating Expenses (% of Revenue)	14% - 16%	<ul> <li>Focused on efficient cost structure while continuing to invest in R&amp;D</li> </ul>
Non-GAAP Operating Margin (% of Revenue)	18% - 23%	<ul> <li>Mix shift and operating leverage</li> </ul>
<b>Tax Rate</b> (% of Pre-Tax Income)	7% - 12%	<ul> <li>In line with our long-term target</li> </ul>
<b>Cash CapEx</b> (% of Revenue)	6% - 8%	<ul> <li>Investment in technology transitions</li> </ul>

Our long-term financial targets are as of December 6, 2016 and are based upon a variety of estimates and assumptions which may not be realized. The assumptions our management used as a basis for the long-term financial targets are not facts and should not be relied upon as being necessarily indicative of future results. The company does not intend, and undertakes no duty, to update these long-term financial targets to reflect subsequent events or circumstances; however, the company may update these long-term financial targets to reflect subsequent events or circumstances; however, the company may update these long-term financial targets to reflect subsequent events or circumstances; however, the company may update these long-term financial targets to reflect subsequent events or circumstances; however, the company may update these long-term financial targets or any portion thereof at any time at its discretion.

# End Market Revenue and Non-GAAP Gross Margin

WDC Revenue

Data Center Devices & Solutions

**Client Solutions** 

#### **Client Devices**

FY18E

<sup>1</sup> FY16 includes pro forma SanDisk
 <sup>2</sup> Includes revenue synergies from SanDisk acquisition

#### Western Digital.

FY16<sup>1</sup>

FY20E

**Non-GAAP** Gross

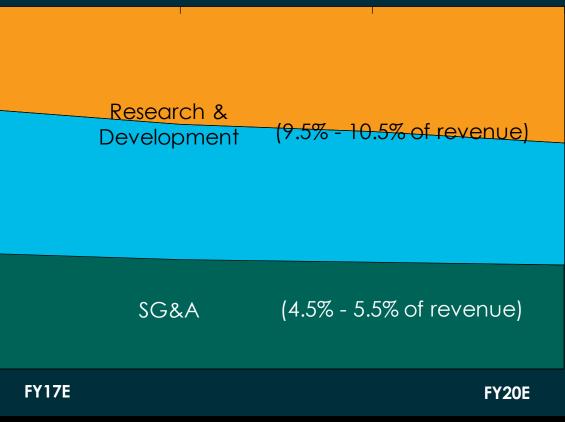
Reported Revenue Category	Long-term CAGR <sup>2</sup>	Margin vs. Corporate Average	
Data Center Devices & Solutions	Up low double digit to mid-teens	Above	
Enterprise HDD & Systems	Up high single to low double digits		
Enterprise SSD	Up low double digit to mid-teens		
Client Solutions	Flat to Up low single digits	In-line	
Branded HDD	Flat to Down low single digits		
Branded Flash	Flat to Up low single digits		
Client Devices	Flat to Up low single digits	Below	
Notebook/Desktop & CE HDD	Down mid to high single digits		
Client SSD, Embedded & Components	Up mid to high-teens		
Total	4% - 8%	33% - 38%	

## Non-GAAP Operating Expenses Long-Term Operating Expense<sup>1</sup> Target of 14% - 16% of Revenue

- OpEx synergies from both integrations supporting long-term target range
- Continued investment in R&D to support our growth markets
- Efficient SG&A functions to enable the business model
- Initial incremental investment in product development, go-tomarket and IT

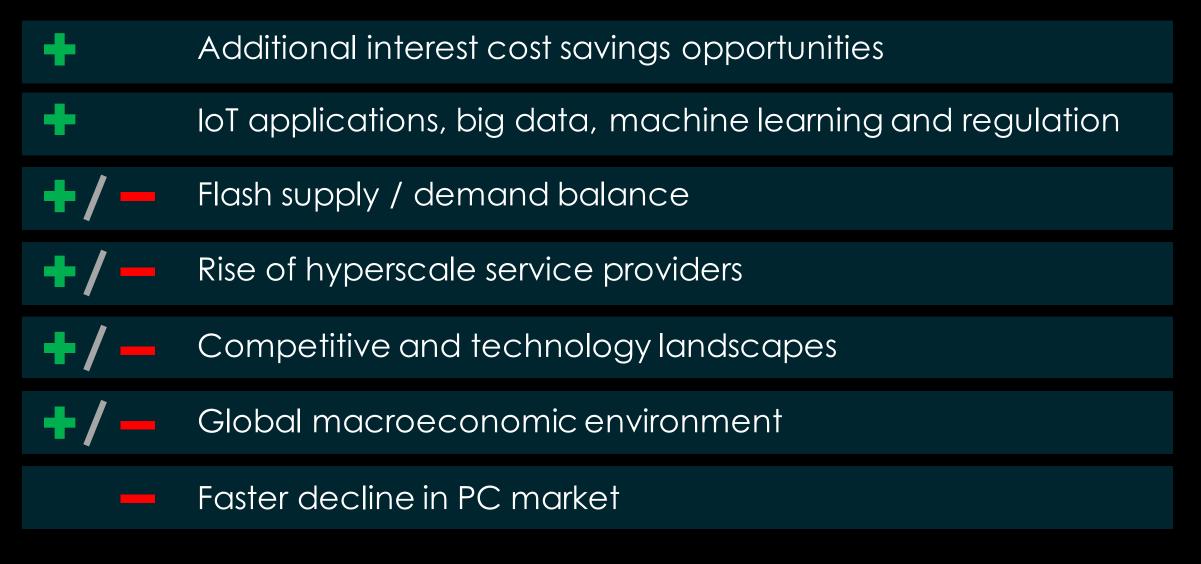
#### 🗖 R&D: Solid State 📩 R&D: HDD & Systems

#### Long-Term Target, % of Total Operating Expense



<sup>1</sup> Excludes stock-based compensation and amortization of intangibles expenses

# Key Potential Headwinds / Tailwinds





### Storage Solutions Leader

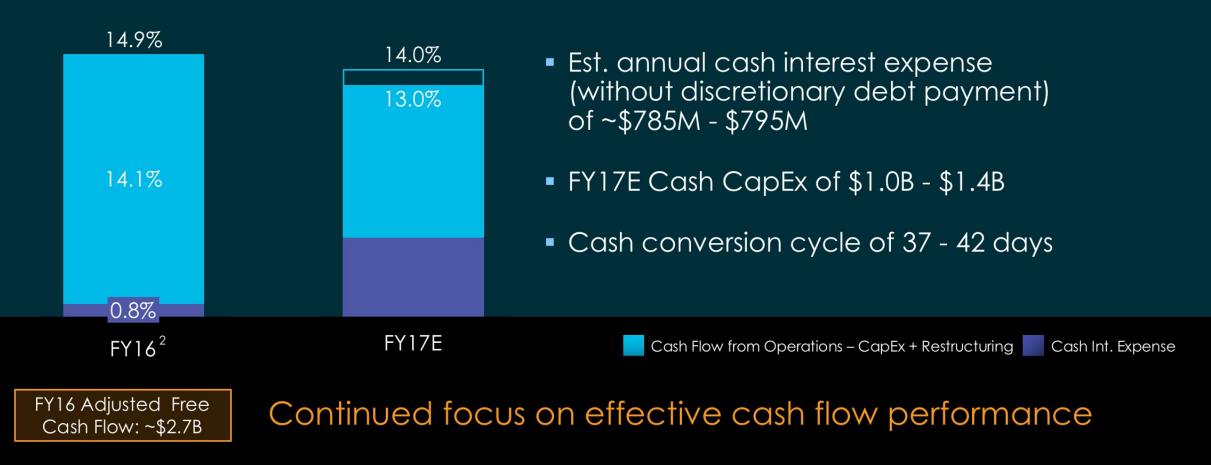


### Portfolio Drivers and Growth Opportunity

\$\$\$ 1 nancial Model

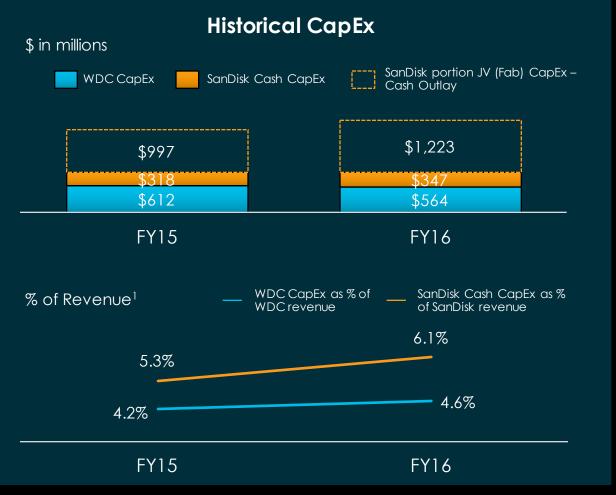


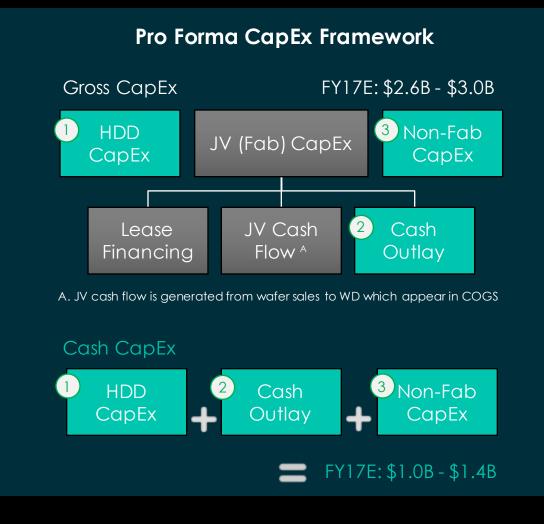
### Adjusted Free Cash Flow FY17E Adjusted Free Cash Flow<sup>1</sup> 13.0% - 14.0% of Revenue



<sup>1</sup> Pro forma Adjusted Free Cash Flow is a non-GAAP measure equal to cash provided by operating activities minus notes receivable issuances to Flash Venture, plus notes receivable proceeds from Flash Ventures, minus cash interest expense plus cash restructuring charges. Please see appendix for a reconciliation to the comparable GAAP metric <sup>2</sup> Includes SanDisk financials for Western Digital FY 2016

## Efficient Capital Investment Framework Cash CapEx Estimate of 6% - 8% of Revenue





<sup>1</sup> Represents stand-alone value of WDC and SanDisk prior to SanDisk acquisition

## Capital Structure Debt and Liquidity

- ~\$5.4B in Liquidity
  - \$4.4B in Cash and Cash Equivalents including available-for-sale securities as of Sep 30, 2016
  - \$1.0B in Revolver Capacity
- \$13.3B Total Debt; \$8.9B Net Debt
- Repaid ~\$3.8B of debt issued for SanDisk acquisition
- Continuing our de-leveraging efforts while also investing in the business

#### Debt Summary (\$M)

Debt	Base Rate	Maturity	Balance Outstanding (Nov 30, 2016)
Term Loan A (floor of 0 bps) <sup>1</sup>	L+200	Apr 29, 2021	\$4,125
Term Loan B-1 Dollar (floor of 75 bps)1	L+375	Apr 29, 2023	\$2,993
Term Loan B-1 Euro (floor of 75 bps) <sup>1,2</sup>	E+325	Apr 29, 2023	\$935
Sr. Secured Notes <sup>3</sup>	7.375%	Apr 1, 2023	\$1,875
Total Secured Debt	<b>4</b> .179%⁴		\$9,928
Sr. Unsecured Notes <sup>3</sup>	10.500%	Apr 1, 2024	\$3,350
SanDisk Convertible Notes	0.500%	Oct 15, 2020	\$35
Total Debt	5.760%4		\$13,313

 $^{1}$  L = 1 Month LIBOR, E = 1 Month EURIBOR

<sup>2</sup> Original Issued Principal in EURO denominated debt of Euro 885M and current balance of Euro 883M as of 11/30/16, converted at EUR/USD exchange rate of 1.0590 <sup>3</sup> Notes are callable in 3 years (starting April 1, 2019)

<sup>4</sup> Weighted average interest rate as of Nov 30, 2016

# Key Capital Allocation Priorities



Organic Investment	Dividend	Debt Deleverage	Focused M&A
Next generation Technologies, Future Products and Solutions	Committed to the Dividend	Reduce Gross Debt-to-EBITDA <sup>1</sup> Leverage to <1.5x within 2.5 - 4.5 Years	Strategic Acquisitions and Investments to Improve Growth Opportunities

<sup>1</sup> EBITDA as defined in credit agreements

# Focused on Creating Shareholder Value

- Leverage growth opportunities through storage industry's broadest product portfolio
- Deliver on synergy targets
- Drive profitable growth
- Disciplined capital allocation strategy
- Continue to attract and retain world class talent

### Global Storage Solutions Leader with Diversification, Scale and Growth Potential

# Strong FQ1'17 Results

- Broad portfolio performing well across end markets
- Good execution in a favorable market environment
- Synergy targets on track achieving cost reductions and revenue synergies
- Reduced interest expense through US and EUR TLBs repricing

\$ Millions Except EPS	FQ1'17 A <sup>1</sup>	FQ2'17 E <sup>1</sup> (Original Guidance)
Revenue	\$4,714	~Flat from Q1
Non-GAAP Gross Profit (Non-GAAP GM %)	\$1,599 34%	~35%
Non-GAAP Operating Expenses	\$863	~\$805
Non-GAAP Operating Income (Non-GAAP OM %)	\$736 16%	
Non-GAAP Interest and Other Expenses, Net	\$227	~\$205
Non-GAAP Tax Rate	12%	14% - 16%
Non-GAAP EPS	\$1.54	\$1.85 - \$1.95

<sup>1</sup> Non-GAAP results, estimates, please see appendix for definitions and reconciliations for comparable GAAP metrics

### FQ2'17 Update

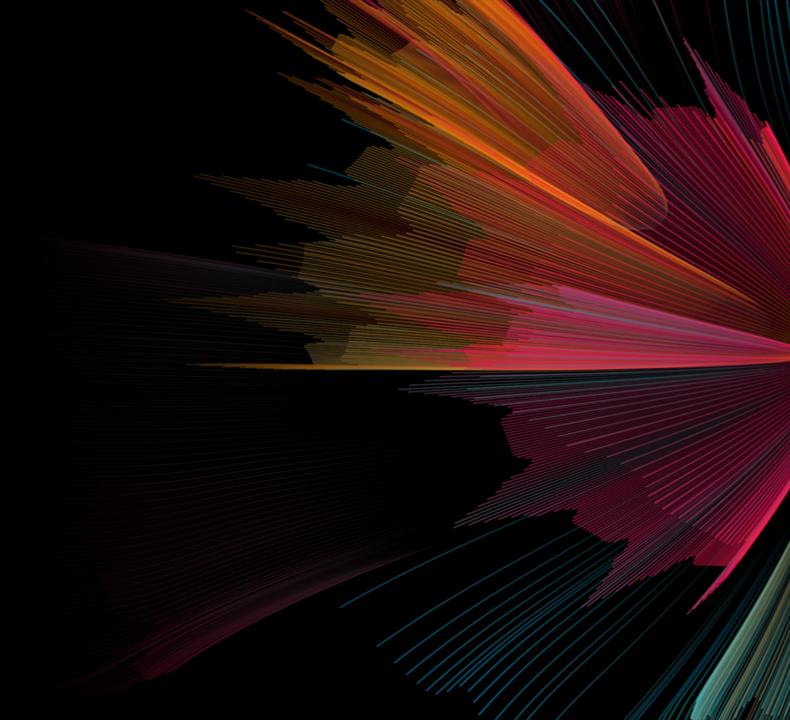
- Broad portfolio performing well across end markets
- Good execution in a favorable market environment, enhancing margins
- Samsung agreement finalized, resulting in a full quarter of royalty revenue

\$ Millions Except EPS	FQ1'17 A <sup>1</sup>	FQ2'17 E <sup>1</sup> (Original Guidance)	FQ2'17 E <sup>1</sup> (Updated Guidance)
Revenue	\$4,714	~Flat from Q1	~\$4,750
Non-GAAP Gross Profit (Non-GAAP GM %)	\$1,599 34%	~35%	~36%
Non-GAAP Operating Expenses	\$863	~\$805	~\$805
Non-GAAP Operating Income (Non-GAAP OM %)	\$736 16%		
Non-GAAP Interest and Other Expenses, Net	\$227	~\$205	~\$205
Non-GAAP Tax Rate	12%	14% - 16%	~13%
Non-GAAP EPS	\$1.54	\$1.85 - \$1.95	\$2.10 - \$2.15

<sup>1</sup> Non-GAAP results, estimates, please see appendix for definitions and reconciliations for comparable GAAP metrics

## Thank You

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# Appendix

## Mitigating Foreign Exchange Risks through Hybrid Hedging

### Foreign Exchange Contracts<sup>1</sup> (\$M)

Currency	Contract Amount (FQ1'17)	Contract Amount (FQ4'16)
Cash flow hedges:		
Japanese Yen	697	922
Malaysian Ringgit	151	118
Thailand Baht	554	487
Fair value hedges:		
Euro	9	969
Japanese Yen	299	317
Thailand Baht	191	118

- Managing a basket of currencies relatively cost effectively
- Focused on Yen due to exposure on wafer purchase from JV – lesser impact from movement in Yen to overall gross margin relative to legacy SanDisk
- Hybrid hedging program that is systematic, with discretionary approach to long-term trend

 $^1$  Currencies with >\$50M exposure in either cash flow or fair value hedges in last two quarters Source: WDC 10K for FY ending July 1, 2016

### Non-GAAP Financial Measures

This document contains non-GAAP financial measures. These non-GAAP measures are not in accordance with, or an alternative for, measures prepared in accordance with GAAP and may be different from non-GAAP measures used by other companies.

Adjusted Free Cash flow: Adjusted free cash flow is a non-GAAP financial measure defined as cash provided by operating activities less purchases of property, plant and equipment and notes receivable issuances to Flash Ventures net of notes receivable proceeds from Flash Ventures plus cash interest paid and cash payments of restructuring costs. We consider adjusted free cash flow to be useful as an indicator of our overall liquidity, as the amount of adjusted free cash flow generated in any period is representative of cash that is available for strategic opportunities including, among others, investing in the Company's business, making strategic acquisitions, strengthening the balance sheet, servicing debt, paying dividends and repurchasing stock.

Non-GAAP Gross Margin and Non-GAAP Gross Profit: Non-GAAP gross margin is a non-GAAP measure defined as non-GAAP gross profit divided by revenue. Non-GAAP gross profit is a non-GAAP measure defined as gross profit before any charges to cost of goods sold that may not be indicative of ongoing operations. We believe that non-GAAP gross profit is a useful measure to investors as an alternative method for measuring our operating performance and comparing it against prior periods' performance.

Non-GAAP Operating Expenses and Non-GAAP Operating Expenses as a percentage of revenue: Non-GAAP operating expenses as a percentage of revenues is a non-GAAP measure defined as non-GAAP operating expenses divided by revenue. Non-GAAP operating expenses is a non-GAAP measure defined as operating expenses before any charges that may not be indicative of ongoing operations. We believe that non-GAAP operating expenses is a useful measure to investors as an alternative method for measuring our expense management and comparing it against prior periods' performance.

Non-GAAP Operating Income and Non-GAAP Operating Income as a percentage of revenue: Non-GAAP operating income as a percentage of revenues is a non-GAAP measure defined as non-GAAP operating expenses divided by revenue. Non-GAAP operating income is a non-GAAP measure defined as operating income before any charges that may not be indicative of ongoing operations. We believe that non-GAAP operating income is a useful measure to investors as an alternative method for measuring our income from operations and comparing it against prior periods' performance.

Non-GAAP Interest and other expense, net: Non-GAAP interest and other expense, net is a non-GAAP measure defined as interest and other expense, net before any charges that may not be indicative of ongoing operations. We believe that non-GAAP interest and other expense, net is a useful measure to invest as an alternative method for measuring our expense management and comparing it against prior periods' performance.

Non-GAAP Net Income and Non-GAAP EPS: Non-GAAP EPS are non-GAAP measures defined as net income and EPS, respectively, before any charges that may not be indicative of ongoing operations, or any tax impact related to those charges. We believe that non-GAAP net income and non-GAAP EPS are useful measures to investars as an alternative method for measuring our earnings performance and comparing it against prior periods' performance.

Non-GAAP income tax provision as a percentage of non-GAAP pre-tax income: Non-GAAP income tax provision is a non-GAAP measure defined as income tax provision plus any income tax adjustments that may not be indicative of ongoing operations. We believe that non-GAAP income tax provision as a percentage of non-GAAP pre-tax income is a useful measure to investors as an alternative method for measuring our effective tax rate and comparing it against prior periods' performance.

#### As described above, we exclude the following items from our non-GAAP measures:

Amortization of acquired intangible assets: We incur expenses from the amortization of acquired intangible assets over their economic lives. Such charges are significantly impacted by the timing and magnitude of our acquisitions and any related impairment charges.

Stock-based compensation expense: Because of the variety of equity awards used by companies, the varying methodologies for determining stock-based compensation expense, the subjective assumptions involved in those determinations, and the volatility in valuations that can be driven by market conditions outside our control, we believe excluding stock-based compensation expense enhances the ability of management and investors to understand and assess the underlying performance of our business over time and compare it against our peers, a majority of whom also exclude stock-based compensation expense from their non-GAAP results.

Acquisition-related charges: In connection with our business combinations, we incur expenses which we would not have otherwise incurred as part of our business operations. These expenses include third-party professional service and legal fees, third-party integration services, severance costs, non-cash adjustments to the fair value of acquired inventory, contract termination casts, and retention bonuses. We may also experience other accounting impacts in connection with these transactions. These charges and impacts are related to acquisitions, are inconsistent in amount and frequency, and are not indicative of the underlying performance of our business.

Charges related to cost saving initiatives: In connection with the transformation of our business, we have incurred charges related to cost saving initiatives which do not qualify for special accounting treatment as exit or disposal activities. These charges, which are not indicative of the underlying performance of our business, primarily relate to costs associated with rationalizing our channel partners or vendors, transforming our information systems infrastructure, integrating our product roadmap, and accelerated depreciation on assets.

Employee termination, asset impairment and other charges: From time-to-time, in order to realign our operations with anticipated market demand or to achieve cost synergies from the integration of acquisitions, we may terminate employees and/or restructure our operations. From time-to-time, we may also incur charges from the impairment of intangible assets and other long-lived assets. These charges (including any reversals of charges recorded in prior periods) are inconsistent in amount and frequency and are not indicative of the underlying performance of our business.

Convertible debt activity, net: We exclude non-cash economic interest expense associated with the convertible seniar notes, the gains and losses on the conversion of the convertible senior notes and call option, and urrealized gains and losses related to the change in fair value of the exercise option and call option. These charges and gains and losses do not reflect our cash operating results and are not indicative of the underlying performance of our business.

**Debt extinguishment costs:** From time-to-time, we replace our existing debt with new financing at more favorable interest rates or utilize available capital to settle debt early, both of which generate interest savings in future periods. We incur debt extinguishment charges consisting of the costs to call the existing debt and/or the write-off of any related unamortized debt issuance costs. These gains and losses related to our debt activity occur infrequently and are not indicative of the underlying performance of our business.

Other charges: From time-to-time, we sell investments or other assets which are not considered strategic or necessary to our busines; are a party to legal or arbitration proceedings, which could result in an expense or benefit due to settlements, final judgments, or accruals for loss contingencies; or incur other charges or gains which are not a part of the ongoing operation of our business. The resulting expense or benefit is inconsistent in amount and frequency. In addition, we have a liability for stock appreciation rights ("SARs") related to our acquisition of HGST. These SARs are fully vested, and their fair values are now solely subject to market price fluctuations. As such, we have excluded the mark-to-market impact of this liability from our non-GAAP operating results as it is not indicative of ongoing operations.

Income tax adjustments: Income tax adjustments reflect the difference between income taxes based on a forecasted annual non-GAAP tax rate and a forecasted annual GAAP tax rate as a result of the timing of certain non-GAAP pre-tax adjustments.

### GAAP / Non-GAAP Reconciliation (1/5)

Reconciliation of Gross Margin to Non-GAAP Gross Margin & Gross Profit to Non-GAAP Gross Profit (\$ in millions, %)

	FQ1'17
Gross Profit	1,335
Amortization of acquired intangible assets	202
Stock-based compensation	13
Acquisition-related charges	17
Charges related to cost saving initiatives	30
Other charges	2
Non-GAAP Gross Profit	1,599
Revenue	4,714
Gross Margin	28%
Non-GAAP Gross Margin	34%

Reconciliation of Operating Expenses to Non-GAAP Operating Expenses (\$ in millions)

	FQ1'17
Total Operating Expenses	1,103
Amortization of acquired intangible assets	(40)
Stock-based compensation	(86)
Acquisition-related charges	(10)
Charges related to cost saving initiatives	(33)
Employee termination, asset impairment and other charges	(68)
Other charges	(3)
Non-GAAP Operating Expenses	863

### GAAP / Non-GAAP Reconciliation (2/5)

Reconciliation of Operating Income to Non-GAAP Operating Income & Reconciliation of Operating Margin to Non-GAAP Operating Margin (\$ in millions)

	FQ1'17
Operating Income (Loss)	232
Amortization of acquired intangible assets	242
Stock-based compensation	99
Acquisition-related charges	27
Charges related to cost saving initiatives	63
Employee termination, asset impairment and other charges	68
Other charges	5
Non-GAAP Operating Income	736
Revenue	4,714
Operating Margin	5%
Non-GAAP Operating Margin	16%

Reconciliation of Interest and other expense, net to Non-GAAP Interest and other expense, net (\$ in millions)

	FQ1'17
Interest and Other Expense, net	503
Convertible debt activity, net	(5)
Debt extinguishment costs	(267)
Other charges	(4)
Non-GAAP Interest and other expense, net	227

### GAAP / Non-GAAP Reconciliation (3/5)

Reconciliation of Net Loss to Non-GAAP Net Income (\$ in millions)

	FQ1'17
Net Loss	(366)
Amortization of acquired intangible assets	242
Stock-based compensation	99
Acquisition-related charges	27
Charges related to cost saving initiatives	63
Employee termination, asset impairment and other charges	68
Convertible debt activity, net	5
Debt extinguishment costs	267
Other charges	9
Income tax adjustments	34
Non-GAAP Net Income	448
EPS	(1.28)
Non-GAAP EPS	1.54
Diluted Shares Outstanding	285
Non-GAAP Diluted Shares Outstanding	290

Reconciliation of Income Tax Provision as a percentage of Pre-tax income to Non-GAAP income tax provision as a percentage of Non-GAAP Pre-tax income (\$ in millions, %)

	FQ1'17
Net Loss	(366)
Income tax expense (benefit)	95
Pre-tax Loss	(271)
Income tax provision as a percentage of pre-tax Loss	-35%
Non-GAAP Net Income	448
Income tax expense (benefit)	95
Income tax adjustments	(34)
Non-GAAP income tax expense (benefit)	61
Non-GAAP pre-tax income	509
Non-GAAP income tax provision as a percentage of Non-GAAP pre-tax income	12%

### GAAP / Non-GAAP Reconciliation (4/5)

#### FQ2'17 Guidance Reconciliation

Our non-GAAP FQ2 '17 estimates exclude the amortization of acquired intangible assets and stock-based compensation expense consisting of \$214 million in gross profit, or 4.5% of gross margin, and \$130 million in operating expenses, totaling \$344 million in net income, or \$1.17 diluted earnings per share. The timing and amount of additional charges we exclude from our non-GAAP financial measures are dependent on the timing of certain actions and cannot be reasonably predicted. In addition, our estimate for the amortization of acquired intangible assets is based on preliminary allocations of the SanDisk purchase price and may be adjusted as the company finalizes the valuation of these acquired assets. Accordingly, reconciliations of non-GAAP gross margin, non-GAAP operating expenses, non-GAAP interest and other expense, non-GAAP tax rate and non-GAAP diluted earnings per share to the most directly comparable GAAP financial measures (gross margin, operating expenses, interest and other expense, tax rate and diluted earnings per share, respectively) are not available without unreasonable effort.

### GAAP / Non-GAAP Reconciliation (5/5)

Long-Term Financial Model GAAP to Non-GAAP Reconciliation (%)

	GAAP Measure	Adjustments <sup>(1)</sup>	Non-GAAP Measure
Revenues	100%	-	100%
Gross Margin	29% - 38%	0% - 4%	33% - 38%
Operating Expenses	16% - 19%	2% - 3%	14% - 16%
Operating Margin	11% - 21%	2% - 7%	18% - 23%
Tax Rate	7% - 12%	-	7% - 12%
Cash CapEx <sup>(2)</sup>	6% - 8%	-	6% - 8%

<sup>1</sup> Adjustments consist of amortization of acquired intangible assets and stock-based compensation.

Cash CapEx consists of purchases of property, plant and equipment and notes receivable issuances to Flash Ventures net of notes receivable proceeds from Flash Ventures.

### Pro Forma Combined Adjusted Free Cash Flow

#### Pro Forma Combined Adjusted Free Cash Flow Year Ended July 1, 2016 (\$ in million)

	Consolidated Western Digital (including post- acquisition SanDisk) As reported	SanDisk (pre-acquisition)	Pro Forma Combined
Cash provided by operating activities	1,983	1,192	3,175
Purchases of property, plant and equipment	(584)	(300)	(884)
Notes receivable issuances to Flash Ventures	(106)	(280)	(386)
Notes receivable proceeds from Flash Ventures	16	343	359
Cash Restructuring	255	9	264
Cash Interest Expense	113	22	135
Adjusted Free Cash Flow	1,677	986	2,663

#### Cash Capital Expenditures Year Ended July 1, 2016, (\$ in million)

	Western Digital	SanDisk	Total
Consolidated Western Digital (including post- acquisition SanDisk) As reported	564	110	674
SanDisk (pre-acquisition)	0	237	237
Total	564	347	911

### Pro Forma Combined LTM Revenue

#### Last Twelve Months Ended September 30, 2016 (\$ in million)

Fiscal Period	Consolidated Western Digital (included post-acquisition SanDisk) As reported Western Digital	SanDisk (pre-acquisition)	Pro Forma Combined
FQ1'17	4,714	0	4,714
FQ4'16	3,495	491	3,986
FQ3'16	2,822	1,366	4,188
FQ2'16	3,317	1,543	4,860
Total			17,748

### Pro Forma Combined FY16 Revenue

#### Pro Forma Combined Revenue<sup>1</sup> Year Ended July 1, 2016 (\$ in million)

	Consolidated Western Digital (included post-acquisition SanDisk) As reported			SanDisk (pre-	Pro Forma
Fiscal Period	Western Digital	SanDisk	Total	acquisition)	Combined
FQ4'16	2,702	793	3,495	491	3,986
FQ3'16	2,822	0	2,822	1,366	4,188
FQ2'16	3,317	0	3,317	1,543	4,860
FQ1'16	3,360	0	3,360	1,452	4,812
Total					17,846

#### Pro Forma Combined Revenue by end market categories<sup>1</sup> Year Ended July 1, 2016, (\$ in million)

	Pro Forma Combined Revenue
Client Devices	8,228
Client Solutions	3,962
Data center Devices & Solutions	5,656
Total	17,846

### SanDisk<sup>®</sup> Capex

SanDisk Capex Fiscal Years (\$ in million)

	FY15	FY16
Gross Capex	1,315	1,570
JV Lease Financing	350	623
JV Cash Flow	647	600
Cash Capex	318	347
Gross Capex less Cash Capex	997	1,223

## Glossary

TERM	DEFINITION
ASIC	Application Specific Integrated Circuit
X2 / X3 / X4	2 Bit per Cell / 3 Bit per Cell / 4 Bit per Cell - Refers to number of bits that can be stored in a single memory cell
BiCS2	48-Layer 3D NAND
BiCS3	64-Layer 3D NAND
BiCS	Bit Cost Scalable 3D NAND Technology
CapEx	Capital Expenditure
CHDD	Client Hard Disk Drive - HDDs used for client devices such as a desktop PC, notebook PC, gaming consoles, set-top-boxes, etc.
cSSD	Client Solid State Drive - SSDs used for client devices such as a desktop PC, notebook PC, gaming consoles, set-top-boxes, etc.
CAGR	Compound Annual Growth Rate
CE	Consumer Electronics
DC	Data Center
DRAM	Dynamic Random Access Memory
EBITDA	Earning Before Interest, Tax, Depreciation and Amortization
EPS	Earnings per Share
Flash	Electronic Non-volatile Memory
eHDD	Enterprise Hard Disk Drive - HDDs used for data center systems
eSSD	Enterprise Solid State Drive - SSDs used for data center systems
ECC	Error Correcting Code - an algorithm for expressing a sequence of numbers such that any errors which are introduced can be detected and corrected (within certain limitations) based on the remaining numbers
EB	Exabytes = 1,000 petabytes = 1,000,000,000 gigabytes
G&A	General & Administration

TERM	DEFINITION
GAAP	Generally Accepted Accounting Practices
GB	Gigabytes = 1,000 megabytes = 1,000,000,000 bytes
GTM	Go To Market
GM%	Gross Margin % (Gross Profit/Revenue)
HDD	Hard Disk Drive - A mechanical storage device that uses rotating magnetic disks and heads to store data persistently
HBMR	Heat Assisted Bit Patterned Magnetic Recording - Recording technology for HDDs
HAMR	Heat Assisted Magnetic Recording - Recording technology for HDDs
He	Helium
HGST	Hitachi Global Storage Technologies - Now a Western Digital Corporation brand
laaS	Infrastructure as a Service
IOPS	Inputs/Outputs Per Second - A measure of speed/performance of a device
IC	Integrated Circuits
loT	Internet of Things
JV	Joint Venture
JBOD	Just a Bunch of Disks
JBOF	Just a Bunch of Flash
LTM	Last Twelve Months
LMR	Longitudinal Magnetic Recording - Recording technology for HDDs
LDPC	Low Density Parity Check - Method of transmitting a coded message over a noisy transmission channel

### Glossary

TERM	DEFINITION
MTBF	Mean Time Between Failure - Predicted elapsed time between inherent failures of a system during operation
M&A	Merger & Acquisitions
NVM	Non Volatile Memory
NVMe	Non Volatile Memory Express - Logical device interface specification for accessing non-volatile storage media attached via PCI Express (PCIe) bus
OM%	Operating Margin % (Operating Profit/Revenue)
OEM	Original Equipment Manufacturer
PMR	Perpendicular Magnetic Recording - Recording technology for HDDs
PB	Petabytes = 1 Million Gigabytes
PCM	Phase Change Memory
QoS	Quality of Service
KrF, ArF, ArF Immersion	Refers to lithography advances that enabled 2D scaling (lasers of different wavelengths, finer resolution from refraction)
R&D	Research & Development
S&M	Sales & Marketing
SG&A	Selling, General & Administrative
<b>SNDK</b>	SanDisk - Now a Western Digital Corporation brand
SMR	Shingled Magnetic Recording - Recording technology for HDDs
SLC / MLC / TLC / QLC	Single Level Cell / Multi Level Cell / Triple Level Cell / Quad Level Cell

TERM	DEFINITION
SMB	Small and Medium Businesses
sw	Software
SaaS	Software as a Service
SDS	Software Defined Storage - Data storage software that manages policy- based provisioning and management of data storage independent of the underlying hardware
SSD	Solid State Drive - A solid-state storage device that uses integrated circuit assemblies as memory to store data persistently
SD / HD / UHD	Standard Definition / High Definition / Ultra-High Definition - Usually refers to resolution
SCM	Storage Class Memory
тв	Terabytes = 1000 Gigabytes (please see definition for gigabytes above)
ТАМ	Total Addressable Market
ТСА	Total Cost of Acquisition
тсо	Total Cost of Ownership
TMR	Tunnel MagnetoResistance - Quantum mechanical phenomenon impacting recoding technology for HDDs
TDMR	Two Dimensional Magnetic Recording - Recording technology for HDDs
Y/Y	Year-on-Year Change

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