Investor Update

October 6, 2016

Rick Wallace
President and Chief Executive Officer

Bren Higgins
Chief Financial Officer

Safe Harbor

This presentation contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Except as otherwise specifically indicated herein, the information included in this presentation is as of the date it is delivered.

These forward-looking statements (including references to preliminary financial results and/or data for the recently completed fiscal period, the company's ability to convert bookings into completed sales, potential market and revenue opportunities, expected company introductions of new products and entry into new markets, future uses of the company's cash resources and future trends in macroeconomic and industry conditions) are based on the company's estimates, assumptions and expectations of future events and are subject to a number of risks and uncertainties. Actual results could differ materially from those projected in the forward-looking statements. For other factors that may cause actual results to differ materially from those projected and anticipated in forward-looking statements in this presentation, please refer to the company's Annual Report on Form 10-K for the year ended June 30, 2016, subsequently filed Quarterly Reports on Form 10-Q and other filings with the Securities and Exchange Commission (including, but not limited to, the risk factors described therein). The company assumes no obligation to, and does not currently intend to, update these forward-looking statements.

Agenda

Strategic Update	Rick Wallace President and Chief Executive Officer Bren Higgins Chief Financial Officer

Q & A

FY16 | Year in Review

FY16 Highlights

- Record New Orders of $3.27 billion
- Revenue grew 6%, inline with our long term growth target
- Non-GAAP operating income grew 40%; non-GAAP diluted EPS grew 56%
- We gained share in Process Control on the strength of new products
- Our new org structure was tested and performed exceptionally well
- We ended the year with $1.5 billion in backlog
- We increased our quarterly dividend to $0.52 per share

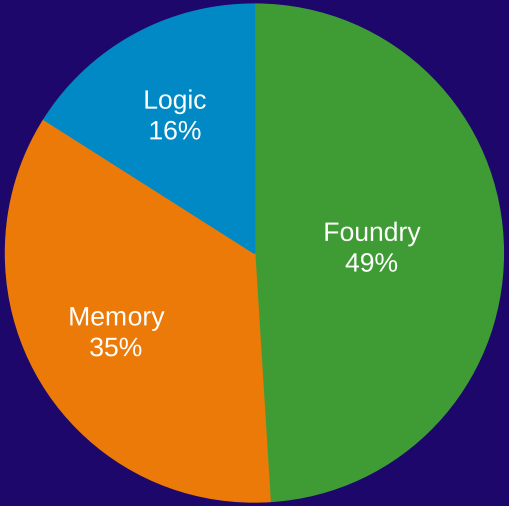
We didn’t miss a beat …

July 2015 Expectations	Results in FY16
▪ Growth in line with market	▪ Strong revenue growth vs. flat WFE
▪ Uncertain timing of 10/7 nm	▪ KLAC share grew to ~52% of market
▪ Org redesign untested	▪ Model performing at high level, with record margins and earnings in Q416
▪ Launching product cycle	

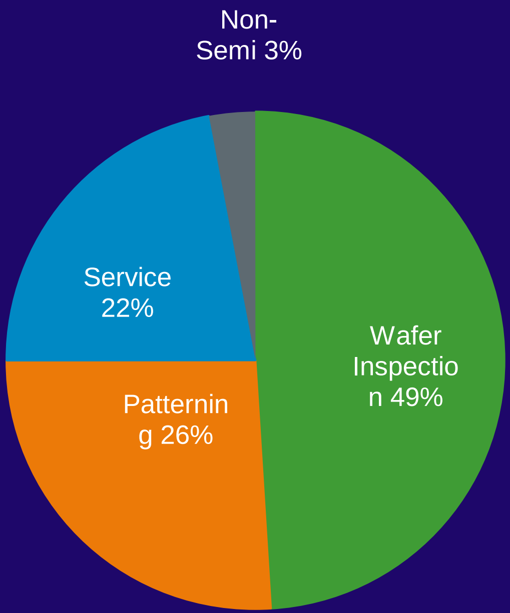
GROWTH

KLA Tencor

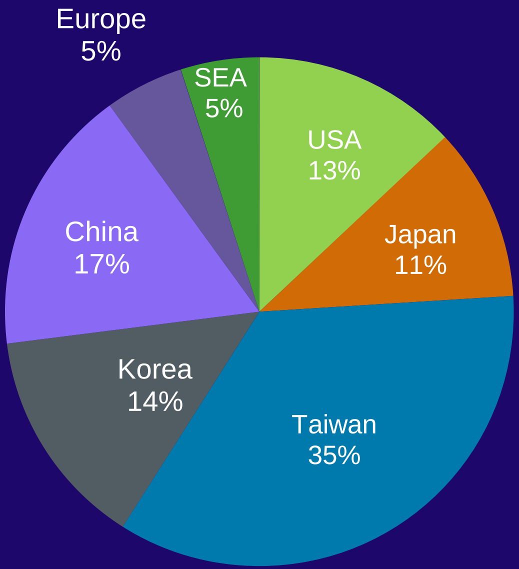
Record New Orders in FY16



WAFER FRONT-END



SEGMENT



REGION

KLA Tencor

Strategic Objectives

CUSTOMERS	Grow Share within Process Control
GROWTH	Long-term Revenue Growth Rate of 5–7%
OPERATIONAL EXCELLENCE	Grow Earnings 2x Revenue Growth Rate
TALENT	Attract, Develop, and Retain Talent

Grow Share within Process Control

Customer Focus

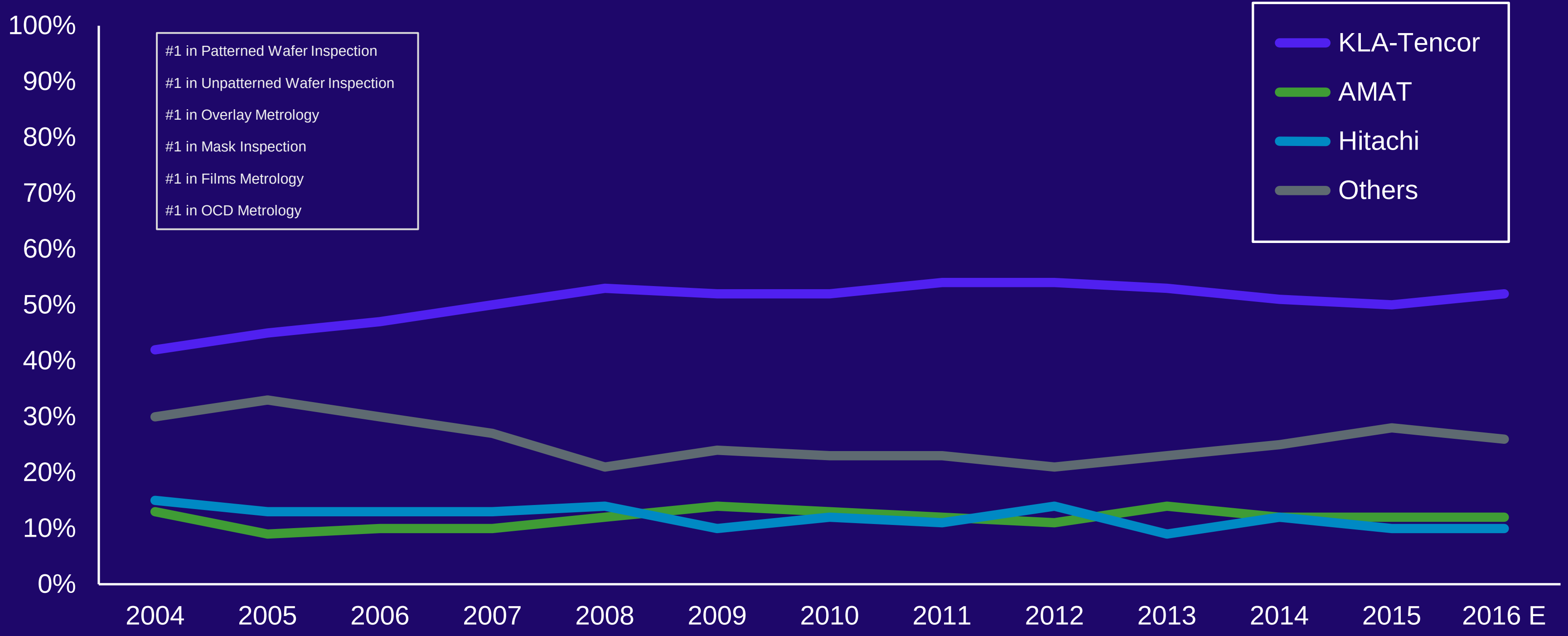
Invest at a High Level

Portfolio Approach

+1-2% Share Gain in CY16E

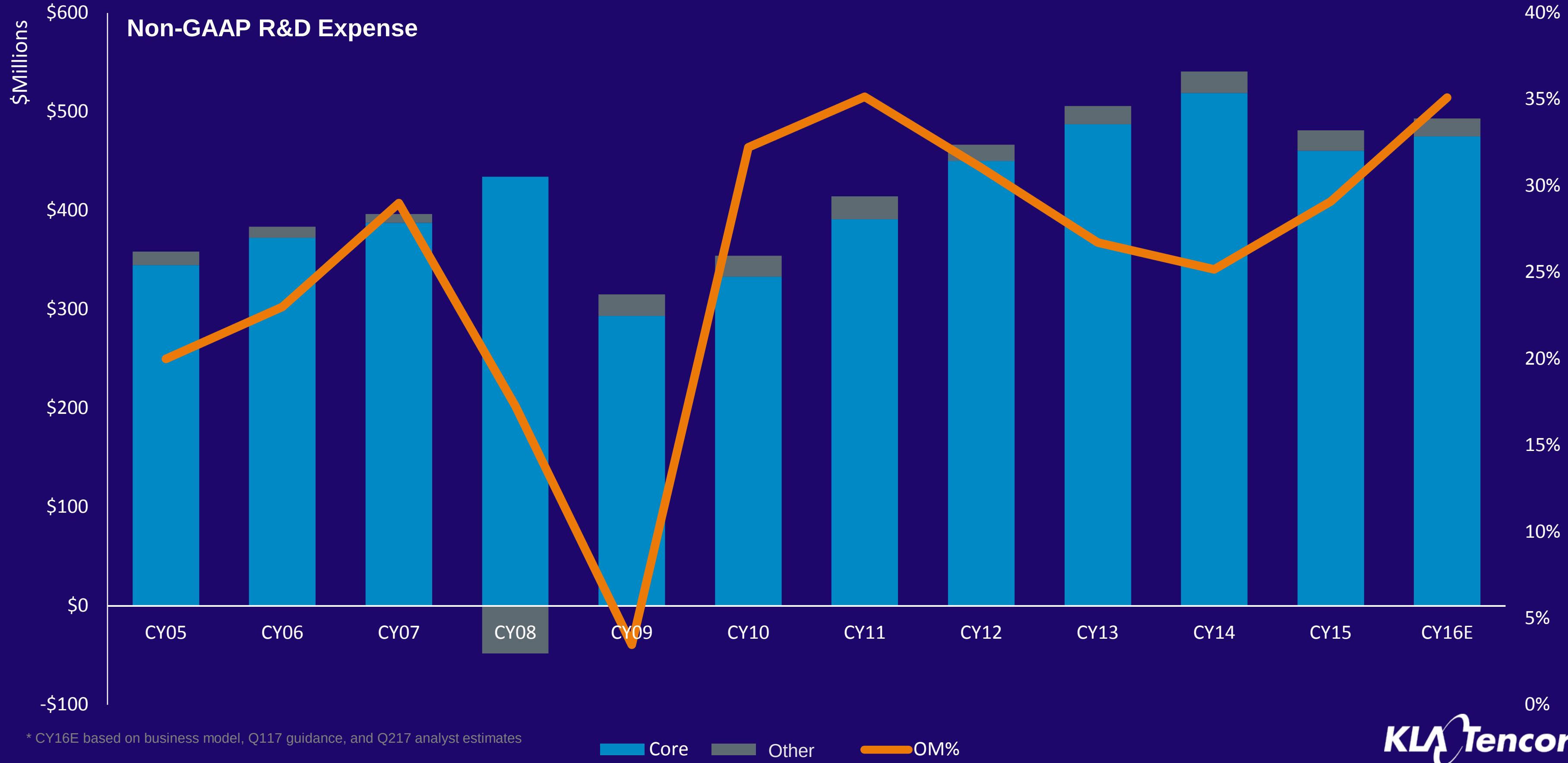
Source: Company Estimates

Grew Share in Core Markets



Source: Gartner, April 2016, Company estimates

High Levels of Investment, Strong Non-GAAP Operating Margin



* CY16E based on business model, Q117 guidance, and Q217 analyst estimates

KLA-Tencor

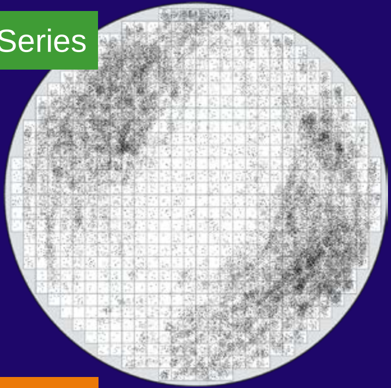
New Product Success Across the Portfolio

	Product	2010	2011	2012	2013	2014	2015	2016
Defect Inspection	Broadband Plasma	2830		2900 / 2905	2910 / 2915	2920 / 2925		2935 3905 (Gen 5)
	Laser Scanning	Puma 9500		Puma 9650		Puma 9850		Puma 9980
	e-beam Review	eDR-5210	eDR-7000		eDR-7100	eDR-7110		eDR-7289
	Unpatterned		Surfscan SP3	Surfscan SP3 450		Surfscan SP5 WaferSight PWG		Surfscan SP5^{XP}
Patterning	Overlay	Archer 300 LCM		Archer 500			Archer 500 LCM	
	Optical Films	Aleris 8330		Aleris 8510			SpectraFilm LD10	
	Optical CD		SpectraShape 8860		SpectraShape 9000		SpectraShape 10k	
	Reticle	Terascan HT Teron 610		X5.2 Teron 611		Teron 650	X5.3	TeronXL 655 Teron 640

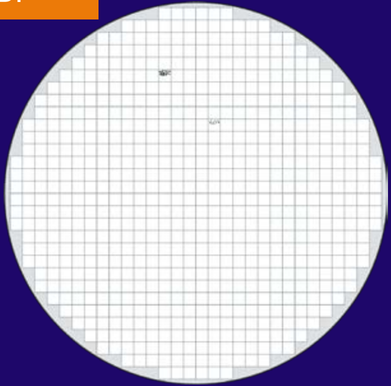
GEN5 Platform Ramping

*for equivalent inspection duration (~1 hour)

3900 Series



EBI*



2016 Strategic Overview

Mission, Strategy, and Objectives

MISSION

Improve customer yield, performance, and time-to-market, enabling the digital age

STRATEGY

Provide leading technologies, differentiated solutions, and superior customer experiences through collaboration, innovation, and execution

OBJECTIVES

Attract and inspire world-class talent that enables market leadership, industry leading growth, and a superior business model

KLA Tencor

Long-term Revenue Growth Rate of 5-7%

Market Leadership

Portfolio of New Products

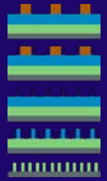
Services Growth

~10% Revenue Growth in CY16E

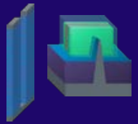
* Estimate, based on mid-point of Q1FY17 guidance and Q2FY17 analyst consensus

Process Control Adoption Drivers

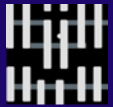
INCREASING COMPLEXITY



Multipatterning



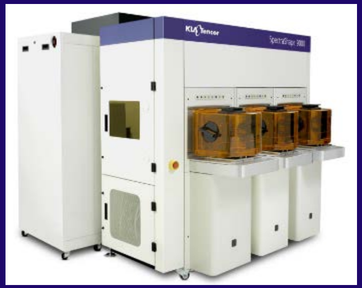
3D Devices



Defectivty

+ NEW PRODUCTS

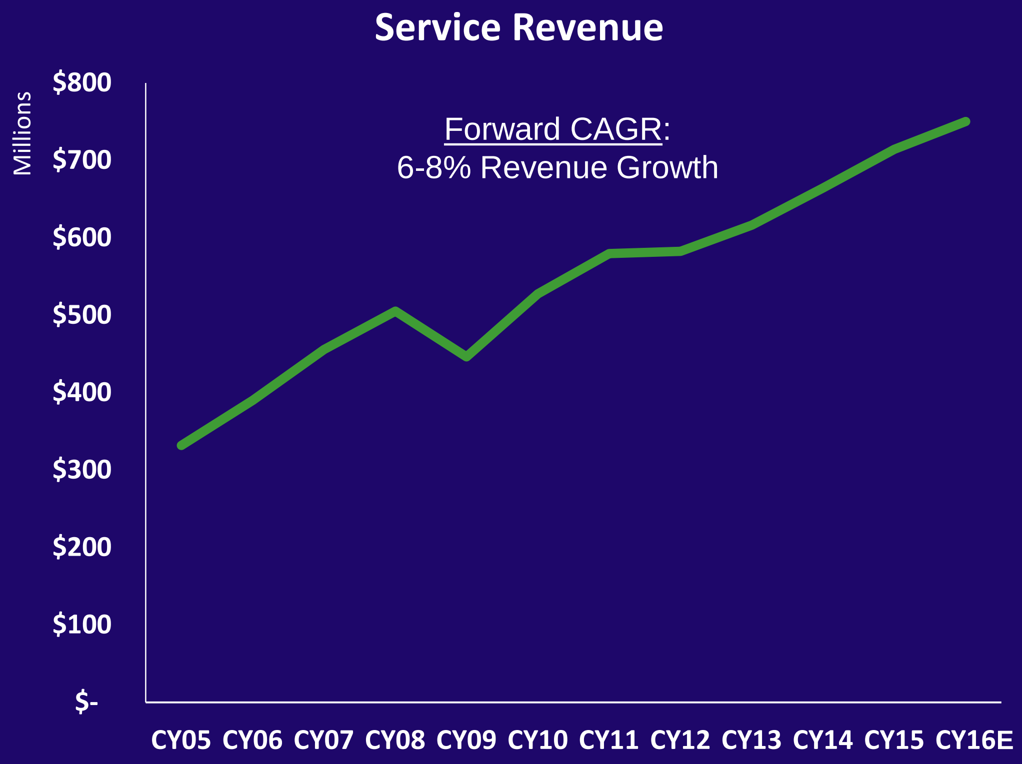
39XX / 29XX Series



+ LEADING EDGE INVESTMENT

- Key inflections
- 10/7nm Foundry
- DRAM 2X/1X nm
- 3D NAND

Services Growth



- Enhance customer productivity
- Upgrade tool capability
- Extend life of KLA-Tencor equipment
- Growth opportunity from IoT market for n-1 and earlier tools

*CY16E based on Q1-FY17 guidance, Q2-FY17 analyst estimates, and historical mix of Service revenue

Attract, Develop, and Retain Talent

Structure Follows Strategy

More than Just a Great Products

Organizational Excellence is a Competitive Advantage

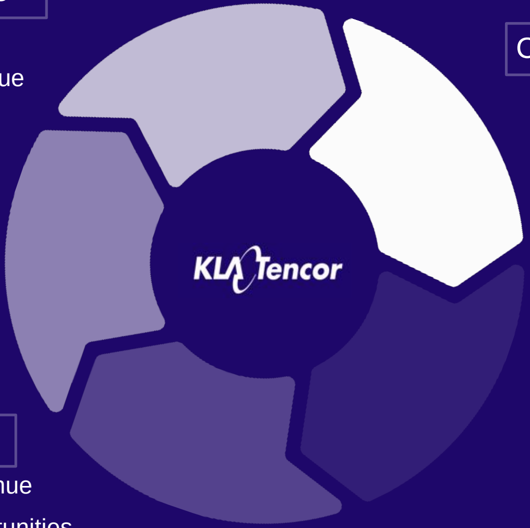
Recruit / Engage / Invigorate

2016 | Financial Update

Optimizing Value in our Market Leadership

Process Control Industry

- Technology Enabler Critical to Moore's Law
- Major Product Innovation Required with Every Cycle



Investment and Returns

- Fuels growth
- Drives stockholder value

Operations Excellence

- Process & cost discipline
- Globalization
- Industry-leading OM%

High Level of Investment

- ~$500m/yr ; 15-18% / revenue
- Allocated to our best opportunities
- Tight integration of strategic plan with PLC processes

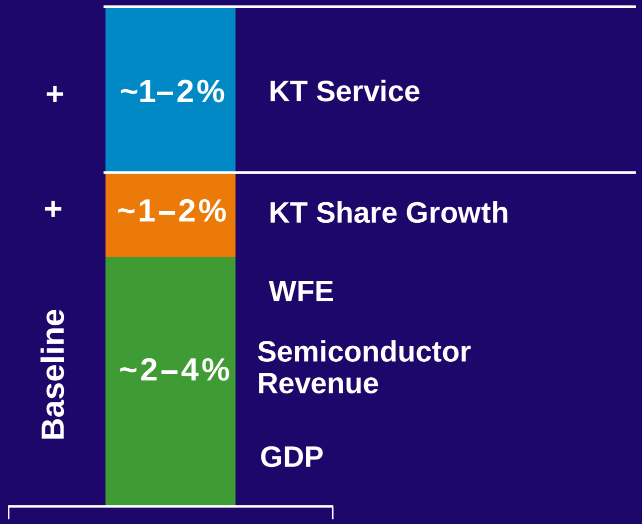
Customer Focus

- Long product cycle, working n+2 with our customers
- Portfolio approach addressing the highest-value markets in Process Control
- Services ~25%+ of revenue and growing 6-8% CAGR

Market Leadership

- Understanding the value proposition
- Pricing discipline
- Industry-leading GM%

Long-term Revenue Growth Rate of 5-7%



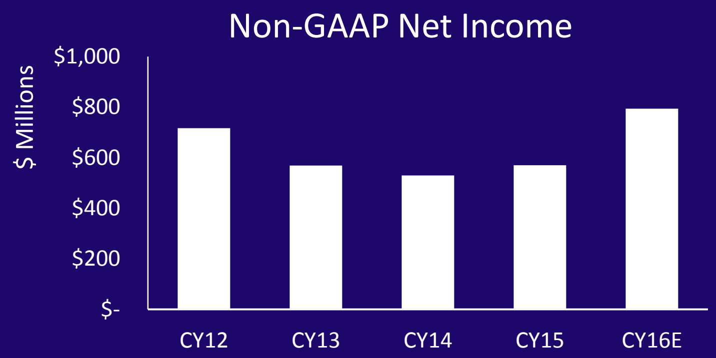
KLA-Tencor Long-term Growth Rate ~ 5-7%

2X Earnings Growth

Organizational Excellence

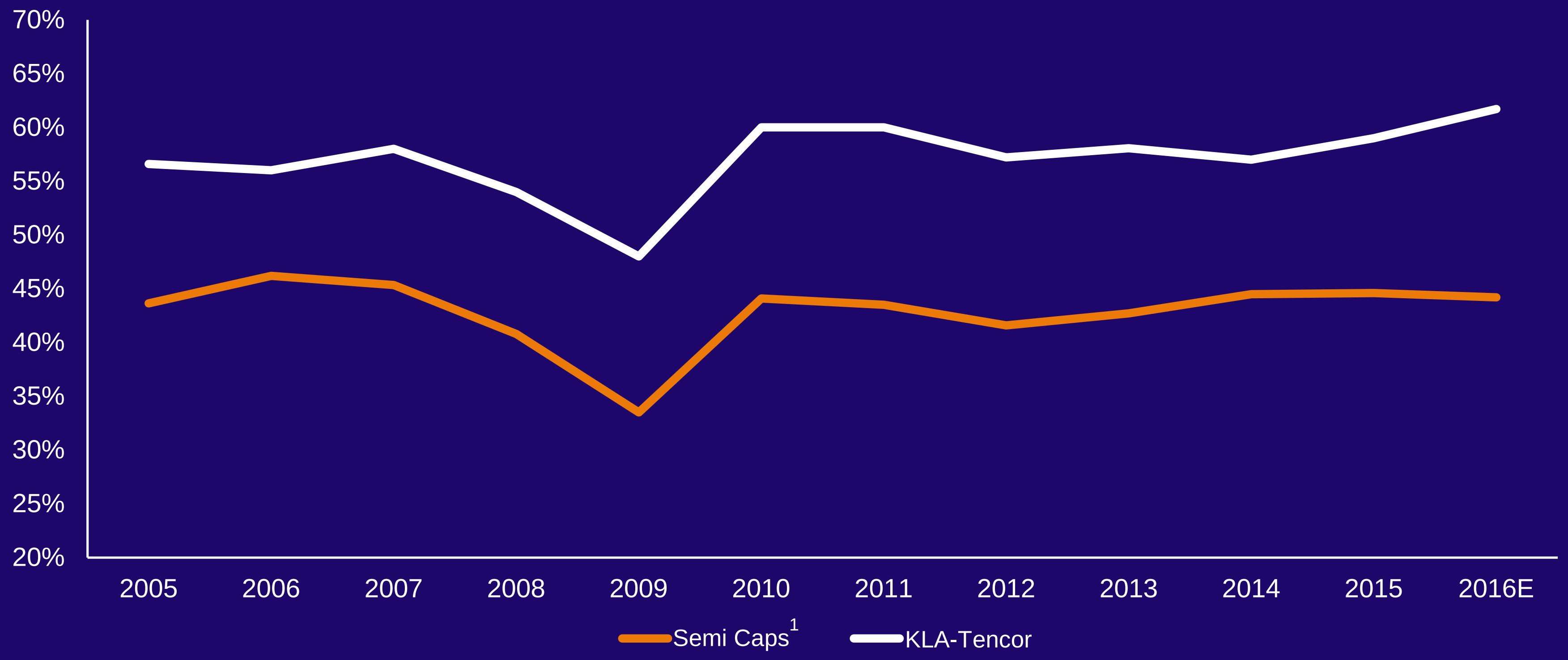
Cost Focus

Strong Execution Boosts our Competitive Advantage



* Estimate, based on mid-point of Q1FY17 guidance and Q2FY17 analyst consensus

Non-GAAP Gross Margin Reflects KLA-Tencor's Market Leadership

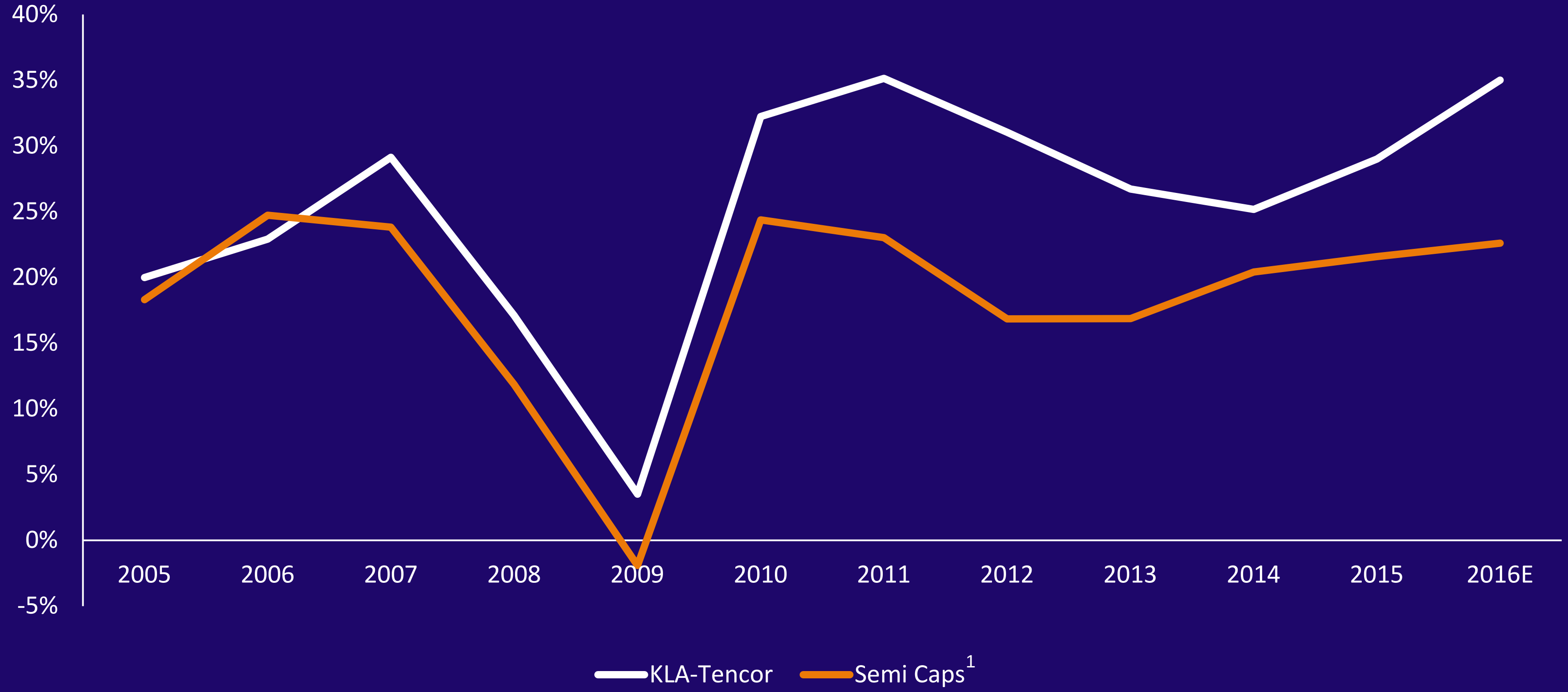


(1) Includes: AMAT, ASML, LRCX

Source: Bloomberg

** Estimates based on mid point of consensus

Non-GAAP Operating Margin Reflects KLA-Tencor's Market Leadership



(1) Includes: AMAT, ASML, LRCX

Source: Bloomberg

** Estimates based on mid point of consensus

Outperforming Our Model in New Product Cycle

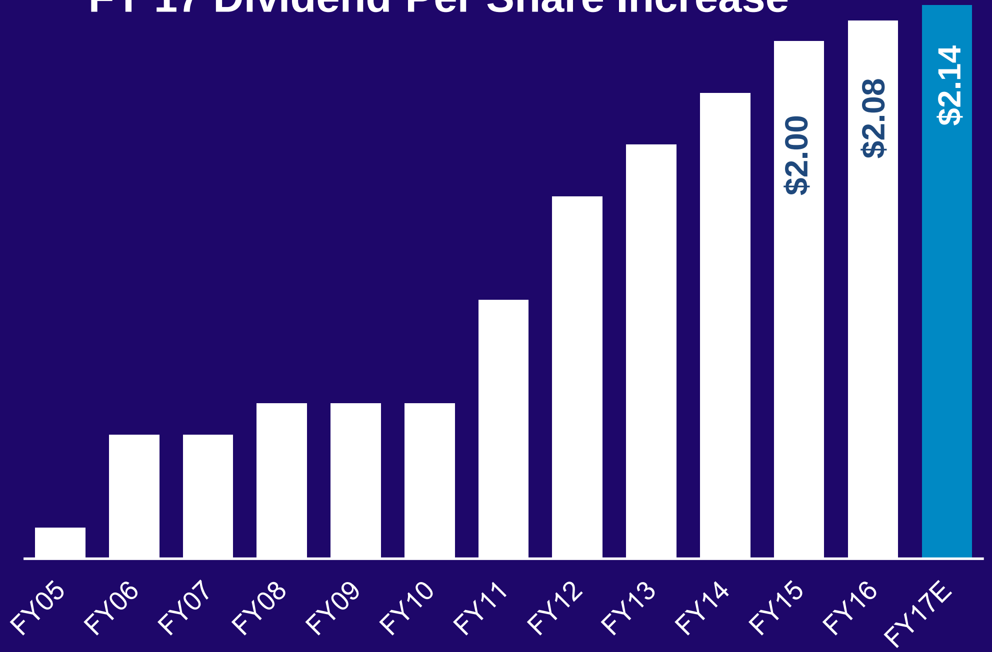
	Model	FY16 Actual	
Revenue	**$3.0B-$3.3B**	**$2.98B**	
Non-GAAP Gross Margin	**58%–59%**	**61%**	• **Product Mix** • **Strong Engineering Execution in New Product Launch**
Non-GAAP Operating Margin	**30%–32%**	**33%**	• **Ongoing Cost Discipline** • **Benefits of 2016 Org Redesign**

Grow Earnings 2x Revenue Growth Rate

KLA-Tencor

Announcing Dividend Increase

FY 17 Dividend Per Share Increase[1]



- Increasing dividend from $0.52 to $0.54
- Strong economic moat and sustainable business model
- Track record of consistent, regular increases in the dividend payout
- Dividend growth governed by long term growth in Free Cash Flow
- Payout ratio of ~40–50%

(1) Projected dividend for FY17 based on current expectations. Subject to change without notice.

Q&A

Appendix

Reconciliation of GAAP and Non-GAAP Financial Measures – Annual (Calendar Year)

(Dollars in millions)		CY 2015	CY 2014	CY 2013	CY 2012	CY 2011	CY 2010	CY 2009	CY 2008	CY 2007	CY 2006	CY 2005
GAAP net income (loss)		$ 531	$ 425	$ 552	$ 695	$ 758	$ 510	$ (66)	$ (228)	$ 474	$ 454	$ 365
Acquisition-related charges	a.	12	16	16	25	30	33	44	93	90	21	4
Restructuring, severance and other related charges	b.	35	10	7	4	6	6	36	40	7	95	-
Merger-related charges	c.	9	-	-	-	-	-	-	-	-	-	-
Debt extinguishment loss and recapitalization charges	d.	-	134	-	-	-	-	-	-	-	-	-
Goodwill and intangible asset impairment	e.	-	-	-	-	-	-	-	453	-	-	-
Restatement related charges	f.	-	-	-	-	7	5	13	21	86	31	-
Income tax effect of non-GAAP adjustments	g.	(17)	(54)	(7)	(8)	(15)	(16)	(33)	(106)	(66)	(64)	(1)
Discrete tax items	h.	-	-	-	2	15	9	9	(9)	47	-	-
Non-GAAP net income		$ 570	$ 531	$ 568	$ 718	$ 801	$ 547	$ 3	$ 264	$ 638	$ 537	$ 368
GAAP net income (loss) as a percentage of revenue		19%	15%	20%	22%	24%	21%	-5%	-11%	17%	19%	18%
Non-GAAP net income as a percentage of revenue		20%	18%	20%	23%	25%	22%	0%	12%	23%	23%	18%
GAAP operating income (loss)		$ 773	$ 698	$ 728	$ 942	$ 1,070	$ 757	$ (45)	$ (242)	$ 628	$ 392	$ 400
Acquisition-related charges	a.	12	16	16	25	30	33	44	91	90	21	4
Restructuring, severance and other related charges	b.	35	10	7	4	6	6	36	40	7	95	-
Merger-related charges	c.	9	-	-	-	-	-	-	-	-	-	-
Debt extinguishment loss and recapitalization charges	d.	-	2	-	-	-	-	-	-	-	-	-
Goodwill and intangible asset impairment	e.	-	-	-	-	-	-	-	453	-	-	-
Restatement related charges	f.	-	-	-	-	7	5	13	21	86	31	-
Non-GAAP operating income		$ 829	$ 726	$ 751	$ 971	$ 1,113	$ 801	$ 48	$ 363	$ 811	$ 539	$ 404
GAAP operating income (loss) as a percentage of revenue		27%	24%	26%	30%	34%	30%	-3%	-11%	23%	16%	20%
Non-GAAP operating income as a percentage of revenue		29%	25%	27%	31%	35%	32%	4%	17%	29%	23%	20%

Refer to the section “Reconciliation of GAAP and Non-GAAP Financial Measures” for detailed descriptions and information of each reconciling item.

Reconciliation of GAAP and Non-GAAP Financial Measures – Annual (Calendar Year)

(Dollars in millions)		CY 2015	CY 2014	CY 2013	CY 2012	CY 2011	CY 2010	CY 2009	CY 2008	CY 2007	CY 2006	CY 2005
GAAP gross margin		$ 1,653	$ 1,644	$ 1,633	$ 1,789	$ 1,868	$ 1,475	$ 621	$ 1,071	$ 1,568	$ 1,299	$ 1,137
Acquisition-related charges	a.	8	10	7	15	21	23	32	53	50	10	2
Restructuring, severance and other related charges	b.	11	-	3	-	2	-	12	29	4	30	-
Merger-related charges	c.	-	-	-	-	-	-	-	-	-	-	-
Restatement related charges	f.	-	-	-	-	-	-	-	-	2	-	-
Non-GAAP gross margin		$ 1,672	$ 1,654	$ 1,643	$ 1,804	$ 1,891	$ 1,498	$ 665	$ 1,153	$ 1,624	$ 1,339	$ 1,139
GAAP gross margin as a percentage of revenue		58%	57%	58%	57%	59%	59%	45%	50%	56%	55%	57%
Non-GAAP gross margin as a percentage of revenue		59%	57%	58%	58%	60%	60%	48%	54%	58%	56%	57%
GAAP research and development expenses ("R&D")		$ 492	$ 550	$ 513	$ 470	$ 421	$ 358	$ 323	$ 423	$ 427	$ 404	$ 379
Acquisition-related charges	a.	(2)	(3)	(3)	(3)	(4)	(4)	(3)	(32)	(29)	(8)	(2)
Restructuring, severance and other related charges	b.	(9)	(6)	(4)	-	(3)	-	(5)	(5)	(3)	(3)	-
Merger-related charges	c.	-	-	-	-	-	-	-	-	-	-	-
Non-GAAP R&D expenses		$ 481	$ 541	$ 506	$ 467	$ 414	$ 354	$ 315	$ 386	$ 395	$ 393	$ 377
GAAP R&D expenses as a percentage of revenue		17%	19%	18%	15%	13%	14%	24%	20%	15%	17%	19%
Non-GAAP R&D expenses as a percentage of revenue		17%	19%	18%	15%	13%	14%	23%	18%	14%	17%	19%
GAAP other expense (income), net		$ 112	$ 56	$ 42	$ 41	$ 40	$ 52	$ 18	$ (22)	$ (73)	$ (82)	$ (53)
Acquisition-related charges	a.	-	-	-	-	-	-	-	(1)	-	-	-
Non-GAAP other expense (income), net		$ 112	$ 56	$ 42	$ 41	$ 40	$ 52	$ 18	$ (23)	$ (73)	$ (82)	$ (53)
GAAP other expense (income), net as a percentage of revenue		4%	2%	1%	1%	1%	2%	1%	-1%	-3%	-3%	-3%
Non-GAAP other expense (income), net as a percentage of revenue		4%	2%	1%	1%	1%	2%	1%	-1%	-3%	-3%	-3%

Refer to the section “Reconciliation of GAAP and Non-GAAP Financial Measures” for detailed descriptions and information of each reconciling item.

KLA-Tencor

Reconciliation of GAAP and Non-GAAP Financial Measures – Annual (Fiscal Year)

(In thousands, except per share amounts)		**FY 2016**	**FY 2015**
GAAP net income		$ 704,422	$ 366,158
Acquisition-related charges	a.	7,493	15,336
Restructuring, severance and other related charges	b.	8,945	33,409
Merger-related charges	c.	18,197	-
Debt extinguishment loss and recapitalization charges	d.	-	134,147
Income tax effect of non-GAAP adjustments	g.	(8,999)	(61,258)
Non-GAAP net income		$ 730,058	$ 487,792
GAAP net income per diluted share		$ 4.49	$ 2.24
Non-GAAP net income per diluted share		$ 4.66	$ 2.98
Shares used in diluted shares calculation		156,779	163,701
GAAP net income as a percentage of revenue		24%	13%
Non-GAAP net income as a percentage of revenue		24%	17%
GAAP operating income		$ 960,445	$ 661,340
Acquisition-related charges	a.	7,493	15,336
Restructuring, severance and other related charges	b.	8,945	33,409
Merger-related charges	c.	18,197	-
Debt extinguishment loss and recapitalization charges	d.	-	2,478
Non-GAAP operating income		$ 995,080	$ 712,563
GAAP operating income as a percentage of revenue		32%	24%
Non-GAAP operating income as a percentage of revenue		33%	25%

Refer to the section “Reconciliation of GAAP and Non-GAAP Financial Measures” for detailed descriptions and information of each reconciling item.

Reconciliation of GAAP and Non-GAAP Financial Measures

Explanation of Non-GAAP Financial Measures:

To supplement our condensed consolidated financial statements presented in accordance with GAAP, we provide certain non-GAAP financial information and reconciliation of GAAP and non-GAAP financial measures, which are adjusted from results based on GAAP to exclude certain costs and expenses, as well as other supplemental information. The non-GAAP and supplemental information is provided to enhance the user's overall understanding of our operating performance and our prospects in the future. Specifically, we believe that the non-GAAP information provides useful measures to both management and investors regarding financial and business trends relating to our financial performance by excluding certain costs and expenses that we believe are not indicative of our core operating results. The non-GAAP information is among the budgeting and planning tools that management uses for future forecasting. However, because there are no standardized or generally accepted definitions for most non-GAAP financial metrics, definitions of non-GAAP financial metrics (for example, determining which costs and expenses to exclude when calculating such a metric) are inherently subject to significant discretion. As a result, non-GAAP financial metrics may be defined very differently from company to company, or even from period to period within the same company, which can potentially limit the usefulness of such information to an investor. The presentation of non-GAAP and supplemental information is not meant to be considered in isolation or as a substitute for results prepared and presented in accordance with United States GAAP.

a. Acquisition-related charges includes amortization of intangible assets associated with acquisitions, various acquisition related fair value adjustments and in-process research and development associated with prior acquisitions . Management believes that the expense associated with the amortization of acquisition related intangible assets as well as various acquisition related fair value adjustment and in-process research and development associated with prior acquisitions are appropriate to be excluded because a significant portion of the purchase price for acquisitions may be allocated to intangible assets that have short lives or various acquisition related fair value adjustments as well as adjustments for in-process research and development are not expected to recur, and exclusion of these expenses allows comparisons of operating results that are consistent over time for both KLA-Tencor's newly acquired and long-held businesses. Management believes excluding these items helps investors compare our operating performance with our results in prior periods as well as with the performance of other companies.

b. Restructuring, severance and other related charges include costs associated with employee severance and other exit costs, facilities consolidations, impairment of certain long-lived assets. Management believes excluding these items helps investors compare our operating performance with our results in prior periods as well as with the performance of other companies.

c. Merger-related charges that are directly related to the previously announced merger between KLA-Tencor and Lam Research on October 21, 2015. Charges primarily includes costs for advisory services, appraisals, legal services, employee-related expenses and auditing services. Management believes that it is appropriate to exclude these items as they are not indicative of ongoing operating results and therefore limit comparability and excluding these items helps investors compare our operating performance with our results in prior periods as well as with the performance of other companies.

Reconciliation of GAAP and Non-GAAP Financial Measures

d. Debt extinguishment loss and recapitalization charges include a pre-tax loss on early extinguishment of debt related to the 6.900% Senior Notes due in 2018, net and certain other expenses incurred in connection with the leveraged recapitalization plan which was completed in the second quarter of fiscal year ended June 30, 2015. Management believes that it is appropriate to exclude these items as they are not indicative of ongoing operating results and therefore limit comparability and excluding these items helps investors compare our operating performance with our results in prior periods as well as with the performance of other companies.

e. Goodwill and intangible asset impairment includes non-cash expense recognized as a result of the Company's annual testing for goodwill impairment performed in the second quarter of every fiscal year and testing for intangible asset impairment driven by certain macroeconomic and company-specific triggering events, as well as the impairment of goodwill and intangible assets as a result of discontinuing acquired products and making acquired products available for sale. Management believes that it is appropriate to exclude those items as they are not indicative of ongoing operating results and therefore limit comparability. Management believes excluding these items helps investors compare our operating performance with our results in prior periods as well as with the performance of other companies.

f. Restatement related charges include legal and other expenses related to the stock option investigation, shareholder litigation and related matters as well as compensation related to reimbursement payments by KLA-Tencor to non-executive employees for penalty taxes under section 409A of the Internal Revenue Code. Management believes that it is appropriate to exclude those items as they are not indicative of ongoing operating results and therefore limit comparability. Management believes excluding these items helps investors compare our operating performance with our results in prior periods as well as with the performance of other companies.

g. Income tax effect of non-GAAP adjustments includes the income tax effects of the excluded items noted above. Management believes that it is appropriate to exclude the tax effects of the items noted above in order to present a more meaningful measure of non-GAAP net income.

h. Management believes that it is appropriate to exclude the tax effects of the discrete tax items in order to present a more meaningful measure of non-GAAP net income.

KLA-Tencor