

**Innovation Through Simulation** 

**Investor Presentation** 

**Second Quarter 2018** 

**NASDAQ: ANSS** 

## **Safe Harbor**

Certain statements contained in this presentation regarding matters that are not historical facts, including, but not limited to, statements regarding our projections for the third quarter of 2018 and fiscal year 2018 (both GAAP and non-GAAP to exclude acquisition accounting adjustments to deferred revenue, acquisition-related amortization, stock-based compensation expense and acquisition-related transaction costs with related tax impacts); statements regarding management's use of non-GAAP financial measures; statements regarding investing in the business; statements regarding the Tax Cuts and Jobs Act; and statements regarding the intent to integrate ANSYS Discovery Live within PTC's Creo 3D CAD software are "forward-looking" statements (as defined in the Private Securities Litigation Reform Act of 1995). Because such statements are subject to risks and uncertainties, actual results may differ materially from those expressed or implied by such forward-looking statements. All forward-looking statements in this press release are subject to risks and uncertainties, including, but not limited to, the risk that adverse conditions in the global and domestic markets will significantly affect ANSYS' customers' ability to purchase products from the Company at the same level as prior periods or to pay for the Company's products and services; the risk that declines in ANSYS' customers' business may lengthen customer sales cycles; the risk of declines in the economy of one or more of ANSYS' primary geographic regions; the risk that ANSYS' revenues and operating results will be adversely affected by changes in currency exchange rates or economic declines in any of the countries in which ANSYS conducts transactions; the risk that the assumptions underlying ANSYS' anticipated revenues and expenditures will change or prove inaccurate; the risk that ANSYS has overestimated its ability to maintain growth and profitability, and control costs; uncertainties regarding the demand for ANSYS' products and services in future periods; uncertainties regarding customer acceptance of new products; the risk of ANSYS' products' future compliance with industry quality standards and its potential impact on the Company's financial results; the risk that the Company may need to change its pricing models due to competition and its potential impact on the Company's financial results; the risk that ANSYS' operating results will be adversely affected by possible delays in developing, completing or shipping new or enhanced products; the risk that enhancements to the Company's products or products acquired in acquisitions may not produce anticipated sales; the risk that the Company may not be able to recruit and retain key executives and technical personnel; the risk that third parties may misappropriate the Company's proprietary technology or develop similar technology independently; the risk of unauthorized access to and distribution of the Company's source code; the risk of the Company's implementation of its new IT systems; the risk of difficulties in the relationship with ANSYS' independent regional channel partners; the risk of ANSYS' reliance on perpetual licenses and the result that any change in customer licensing behavior may have on the Company's financial results; the risk that ANSYS may not achieve the anticipated benefits of its acquisitions or that the integration of the acquired technologies or products with the Company's existing product lines may not be successful; the risk of periodic reorganizations and changes within ANSYS' sales organization; the risk of industry consolidation and the impact it may have on customer purchasing decisions; and other factors that are detailed from time to time in reports filed by ANSYS, Inc. with the Securities and Exchange Commission, including ANSYS, Inc.'s 2017 Annual Report on Form 10-K. We undertake no obligation to publicly update or revise any forward-looking statements, whether changes occur as a result of new information or future events, after the date they were made.



#### **ANSYS** is the simulation leader

#### **FOCUSED**

#### This is all we do.

Leading product technologies in all physics areas. Largest development team focused on simulation

### **TRUSTED**

97 FORTUNE 100 industrials

More than **45,000** customers worldwide

ISO 9001-2015 CERTIFIED

#### **PROVEN**

Member of the prestigious

STANDARD &POOR'S 500

**\$15B+** market capitalization

#### **GLOBAL**

75
offices in 40 countries



### **LARGEST**

**3X** the size of our nearest competitor (revenue)

#### **INDEPENDENT**

Long-term financial stability **CAD agnostic** 



### **COMMITTED**

Overall customer satisfaction globally is at **87.8%** in 2017

#### **DRIVEN**

Helping customers address new market challenges: digital exploration, additive manufacturing and digital twins



## World-class companies leveraging our platform























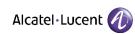
































































#### **Key 2017 achievements**

- > Reported \$1.1 billion in revenue at double-digit growth
- > Added to the S&P 500 Index
- Maintained industry-leading margins for sector and software vertical
- Provided long-term financial objectives
- Executed on capital allocation strategy through acquisitions and share repurchases
- Established our Pervasive Simulation strategy
- Outlined our next generation technology roadmap



## (Non-GAAP) – as of June 30, 2018

	Q2 2018	Q2 YTD 2018
Revenue	\$299M	\$584M
Operating Margin	45.5%	45.4%
Tax rate	22.0%	21.2%
EPS	\$1.24	\$2.46



# ANSYS offers the only true simulation platform with best-of-breed simulation across all major physics

#### Market Leader Across Individual Physics with Industry-Leading Platform

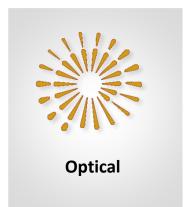












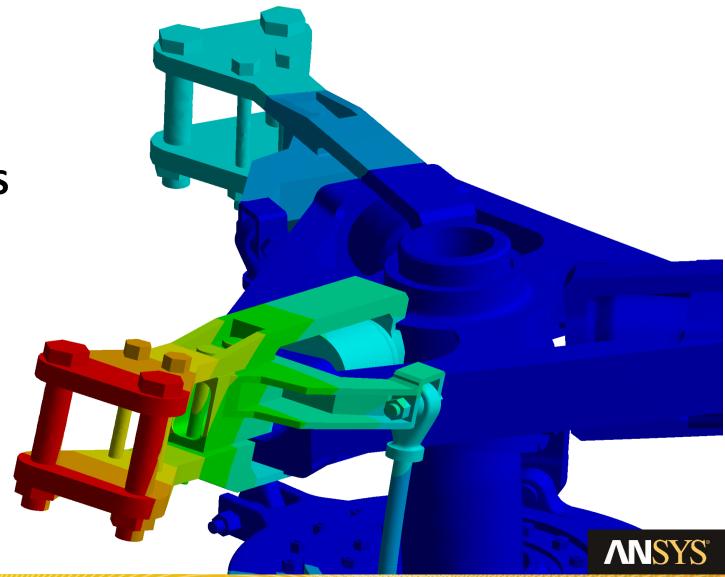
#### **Platform**





### **OUR MISSION**

EMPOWER OUR CUSTOMERS
TO DESIGN AND DELIVER
TRANSFORMATIONAL
PRODUCTS



#### **IDEATION**



80% of costs locked in early in the design phase

#### **IN PRODUCT**

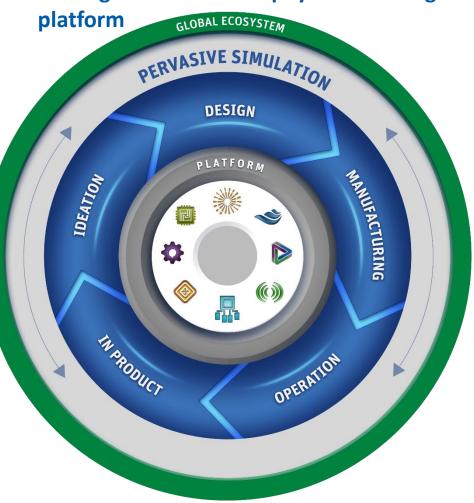


Reduce time needed to validate autonomous vehicles from 10,000 years to 2-3 years

## **OUR LONG-TERM VISION**

#### **PERVASIVE SIMULATION**

... integration across all physics on a single



#### **DESIGN**



Reduce development time 9X while warranty costs 89% more likely to decrease

#### **MANUFACTURING**



Reduce weight of part by 25% through topology optimization and additive manufacturing

#### **OPERATIONS**

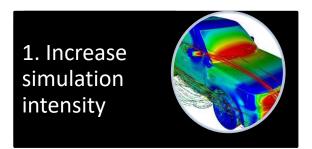


Increased performance with 10-20% reduction in maintenance costs Extend asset life; increase efficiency of assets



#### Our key growth initiatives

Low penetration of engineering simulation usage





- > Medical
- > Additive manufacturing
- > Autonomous vehicles
- Consumer



- > Design phase
- > Manufacturing phase
- **➤** Operations digital twins
- > Digital development



### Our customers face increased pressure to deliver on the classic challenges



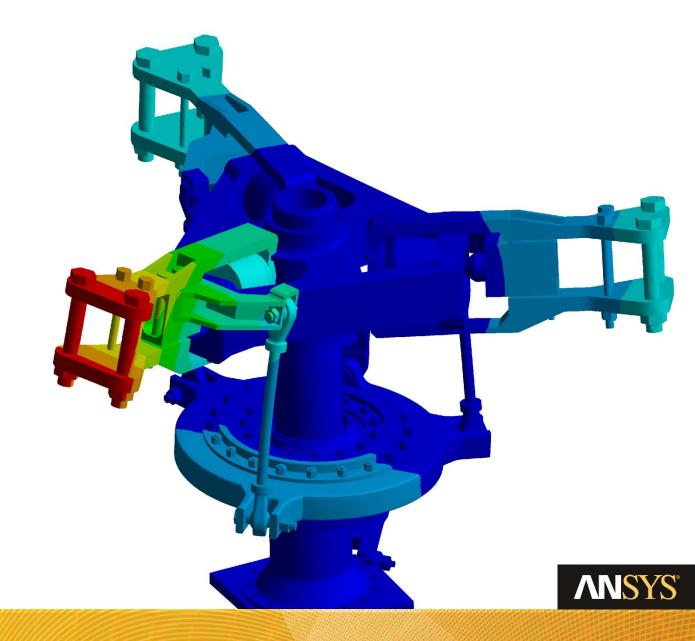


#### The digital revolution is making the problem even harder

**Every product will soon be connected (and smart)** Chips are ever more complex and sophisticated Additive manufacturing is transforming manufacturing **Electronics are everywhere** The Internet of Things is changing the way **Products are made of increasingly** complex composite materials products are delivered and maintained



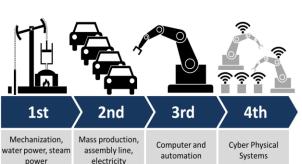
## **SIMULATION IS THE ANSWER**



## A time of profound industry transformation



Greatest value creation since the industrial revolution



UBER









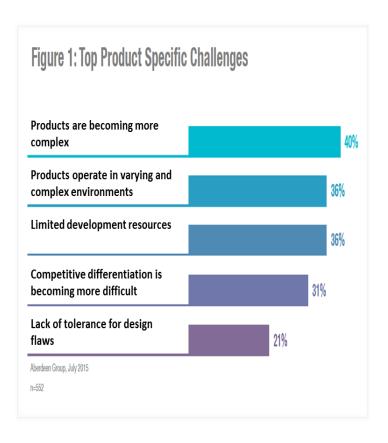
Honeywell



+\$11 trillion potential by 2025



Product complexity is increasing dramatically





**Engineering simulation** critical to the products of tomorrow

Top 3 technologies that will have the biggest impact on product design and development over the next 5 years?

- 1. Additive Manufacturing
- 2. Engineering Simulation
- 3. Advanced Materials

SIMULATION vs NO SIMULATION **Simulated Environments Experience:** 

Length of Development Time Overall **Product Cost** 



#### Simulation enables product managers to...

- Drive **INNOVATION**
- Manage COMPLEXITY



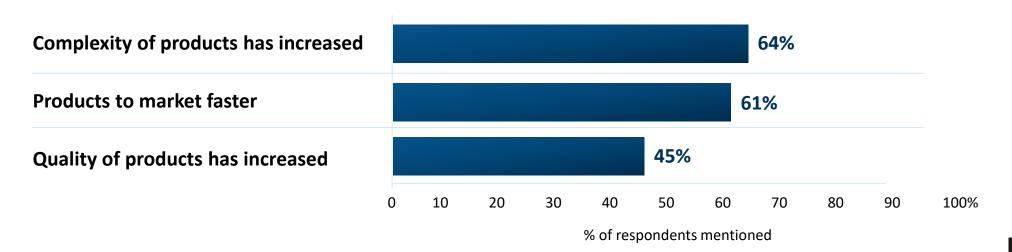
- Lower CYCLE TIME
- Reduce COSTS



- Increase **QUALITY**
- Eliminate RISK

#### ...which is driving simulation usage

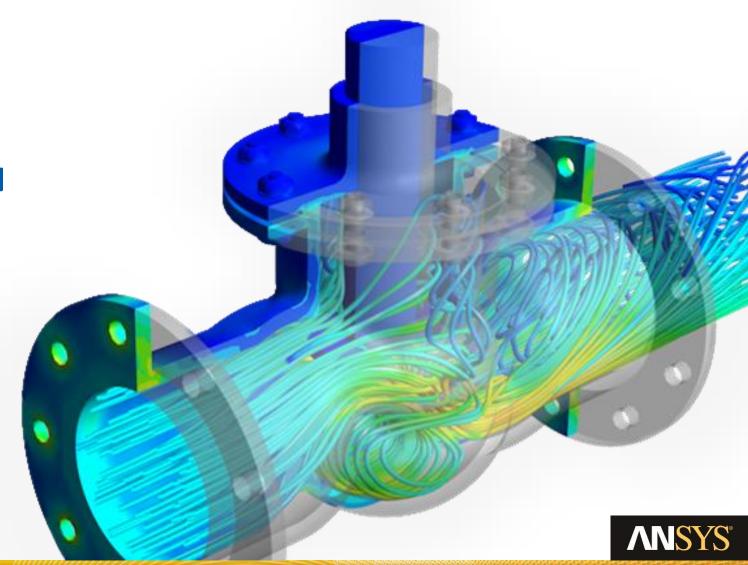
Top 3 responses to: Which of the following are driving your company to use more simulation?



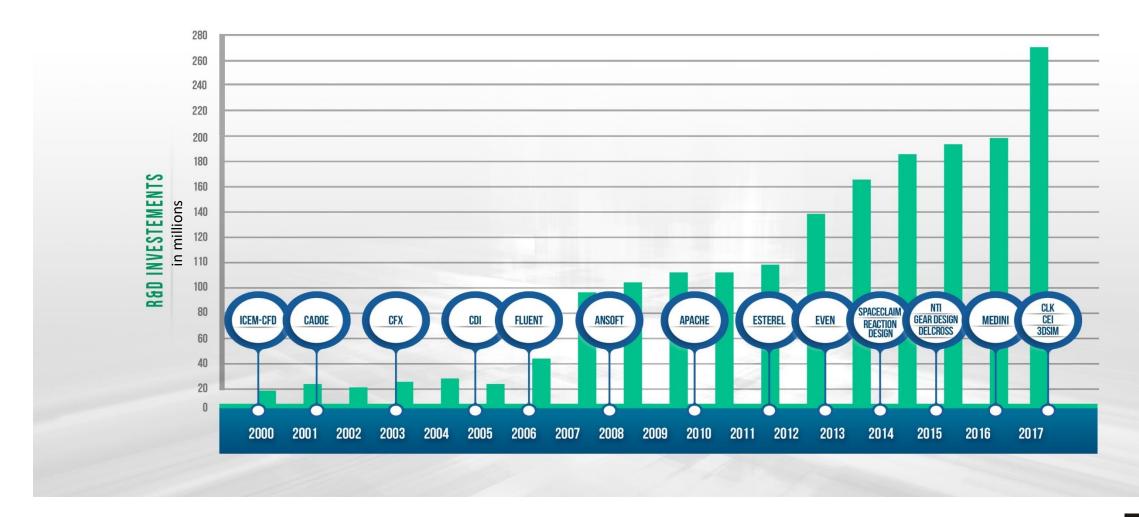


Source: ANSYS customer survey April 2017 (N = 582)

# WHERE DOES SIMULATION GO FROM HERE?

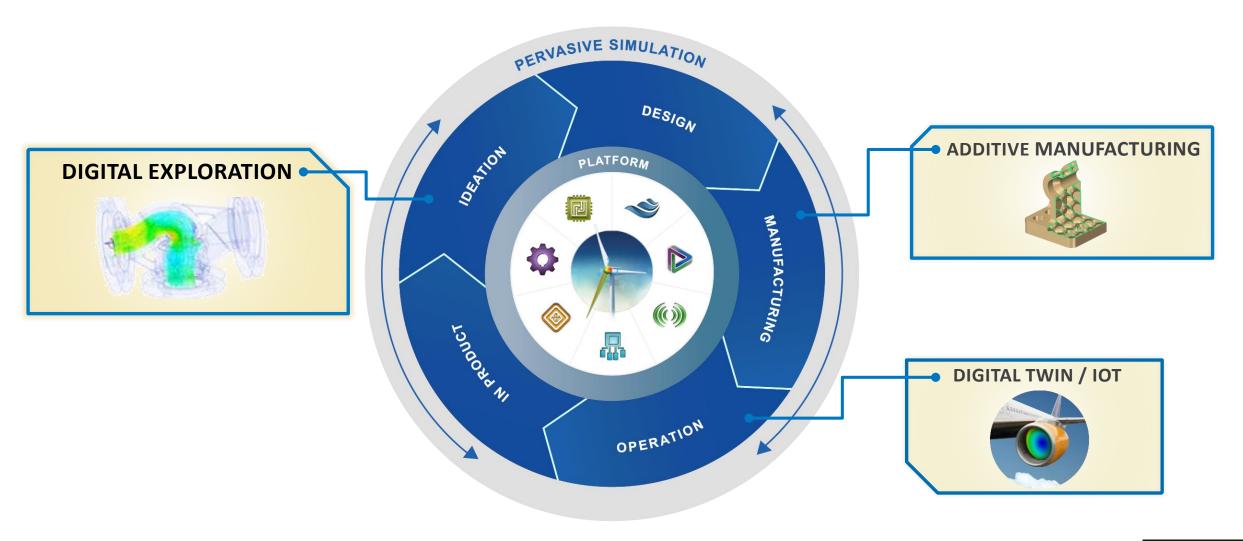


## Our ongoing financial commitment to deliver value





### We are expanding our technology to enable next-generation use cases





#### Recent acquisitions and new product announcements



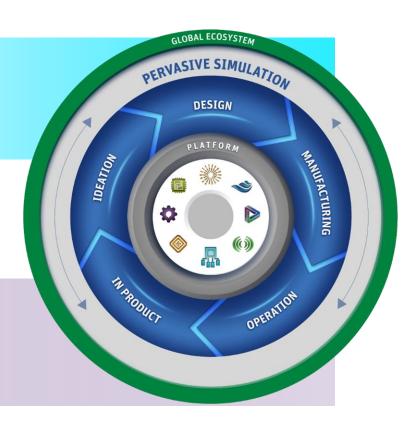
Additive manufacturing



- Optical 5th physics area
- Applications in AV, aero and electronics



- Discovery family
- Democratize simulation within design communities





#### **ANSYS Discovery Live**

A new paradigm in 3D design exploration, bringing real time simulation into the hands of every engineer.

#### **Features:**

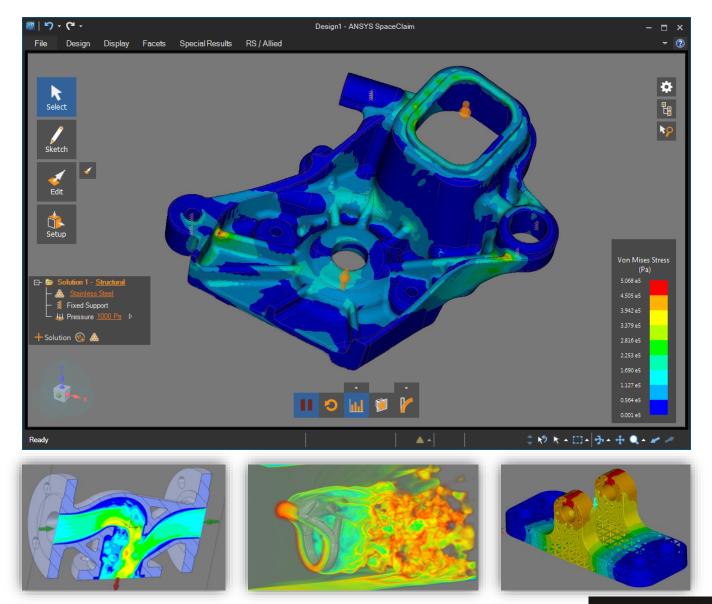
- **Speed** Instantaneous simulation experience
- Ease of use Run 1st simulation in minutes.
- **Geometry Enabled** Edit geometry from any CAD source.
- Interactive Edit physics inputs, geometry, or alter display characteristics, and simulations update in real-time.

#### **Technology**

- Massively parallel solvers and post-processing running on GPUs
- Fast, flexible, CAD-neutral geometry platform (SpaceClaim)
- Volumetric simulation approach

#### **Benefits:**

- Quickly create & test multiple design variations
- Minimal learning curve
- Negligible setup time (no meshing/time step) choices
- Robust no failed simulations
- Scales with future compute advances





#### **Expanding the ANSYS ecosystem through partnerships**



- SAP incorporating ANSYS Twin Builder in cloud-based Predictive Engineering Insights
- Replace time-based maintenance of industrial assets with predictive and prescriptive maintenance
- Will help sell flagship products to R&D groups



- PTC embedding ANSYS Discovery Live and AIM within Creo for CAD-embedded
- Improve ideation and enable designers to develop better, lower-cost products
- Will create opportunities to sell flagship products to experts / analysts



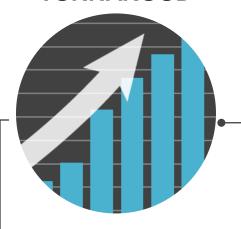
- Synopsys integrating ANSYS RedHawk with Synopsys IC Compiler for earlier signoff accuracy
- Accelerate time to market of next generation of high-performance computing, mobile and automotive products



#### The cloud opportunity for simulation

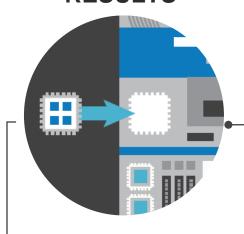
Product complexity, and need for agility and collaboration driving cloud adoption

#### REDUCED TURNAROUD



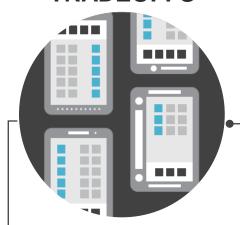
ENHANCE ENGINEERING
PRODUCTIVITY BY REMOVING
HARDWARE RESOURCE
CONSTRAINTS AND
INCREASING SIMULATION
THROUGHPUT

## MORE ACCURATE RESULTS



MAKE MORE ACCURATE
DESIGN DECISIONS BY
INCORPORATING FINER
MESHES, HIGHER FIDELITY
PHYSICS AND COMPLETE
SYSTEMS

## BETTER DESIGN TRADEOFFS



INNOVATE FASTER BY
ENABLING USERS TO
CONSIDER MORE DESIGN
IDEAS AND SHARE RESULTS
WITH MORE ENGINEERS

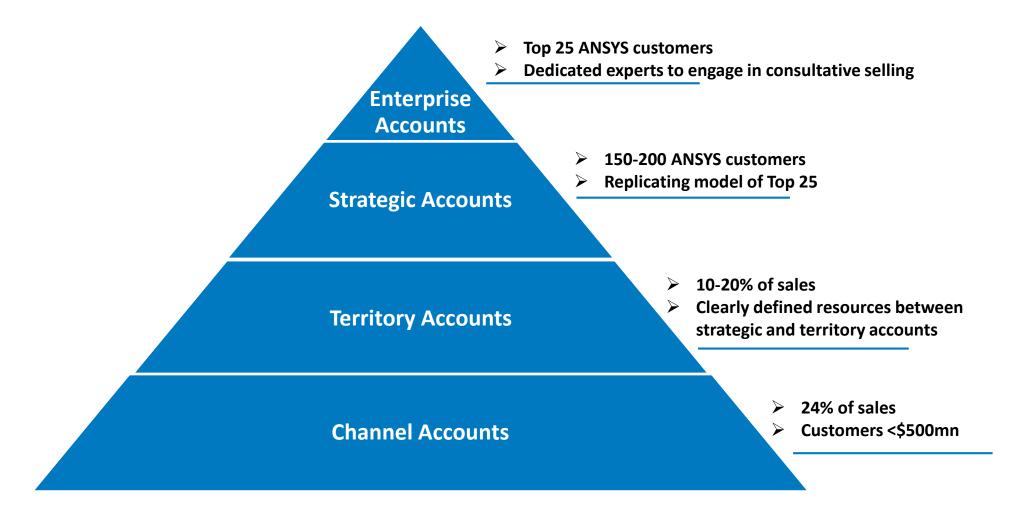
## NEW MARKETS & APPLICATIONS



EXPAND SIMULATION
THROUGHOUT PRODUCT
LIFECYCLE AND DEPLOY FOR
NON-TRADITIONAL
APPLICATIONS AND USERS



#### Our go-to-market strategy



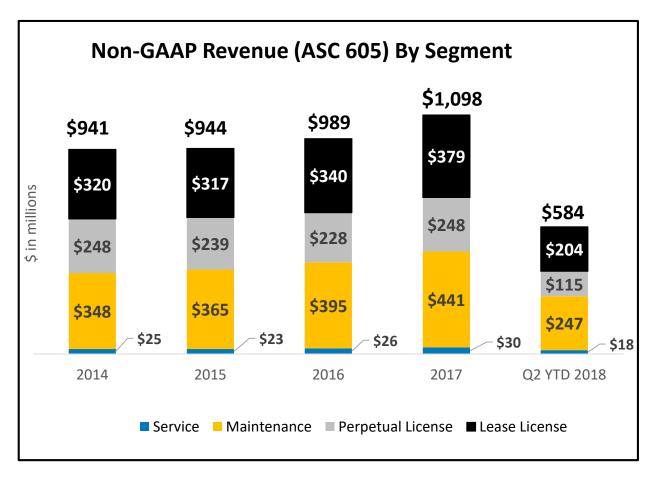


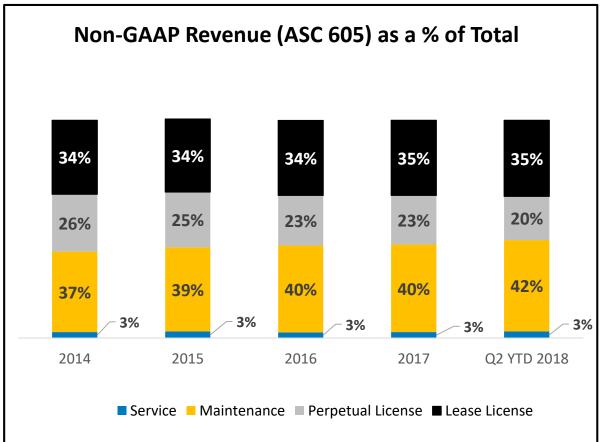
#### Increasingly strong financial foundation

- > Crossed the \$1B revenue threshold in 2017
- > Diversified customer base and revenue streams
- > High rate of recurring revenue
- > Continuing to build deferred revenue and backlog
- > Strong balance sheet
- > Industry leading margins
- > Generating strong business momentum



#### Diverse revenue sources



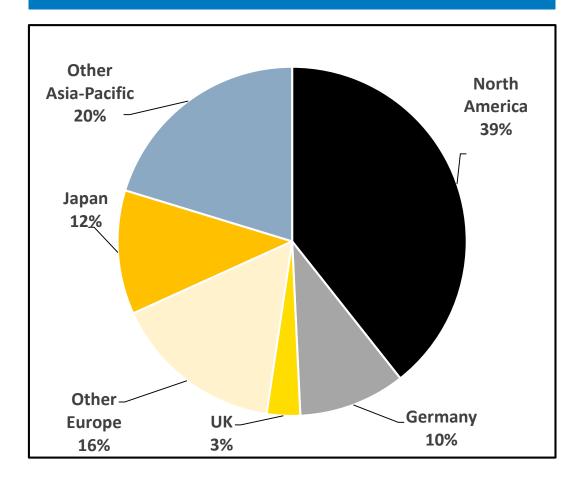




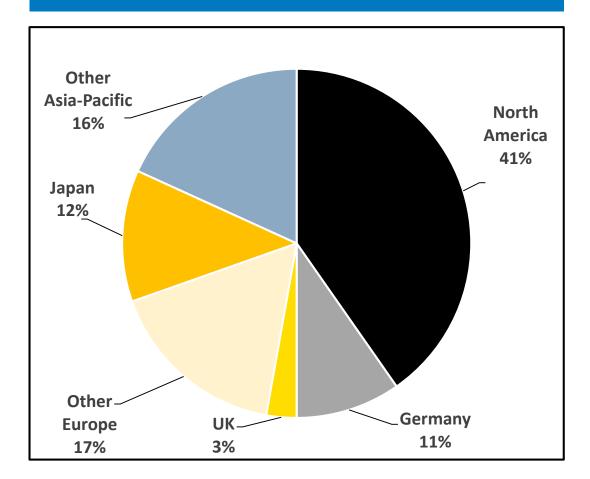
ASC 605

## Diverse geography mix

#### **FY 2017 Revenues By Geography**



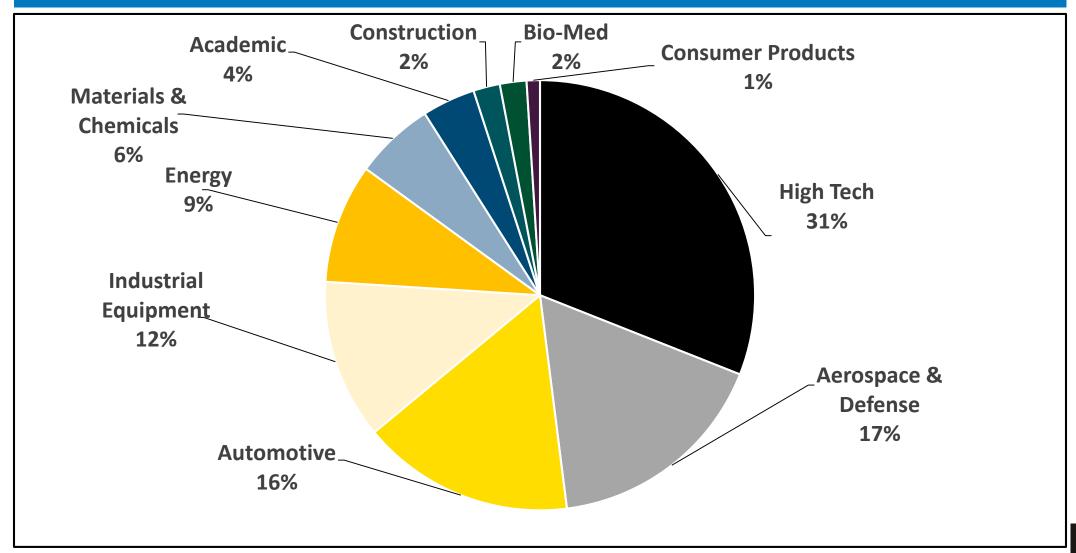
### Q2 YTD 2018 Revenues By Geography





### **Diverse industry mix**

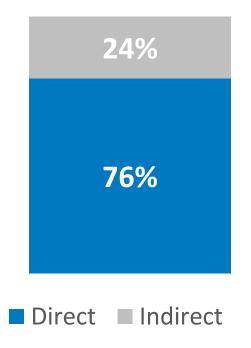
## Trailing Twelve Months Sales By Industry – Q2 2018



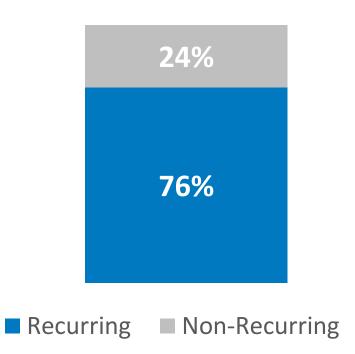


### High recurring revenue

Q2 2018 Revenue Direct vs. Indirect

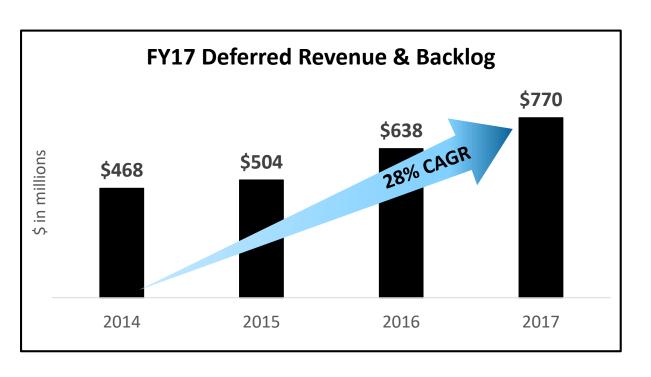


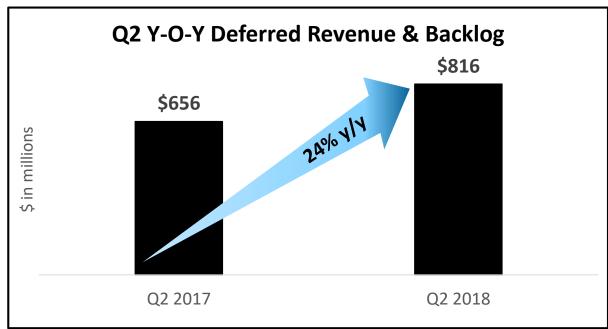
Q2 2018
Recurring vs. New





## Continuing to build deferred revenue and backlog







## **Strong Balance Sheet**

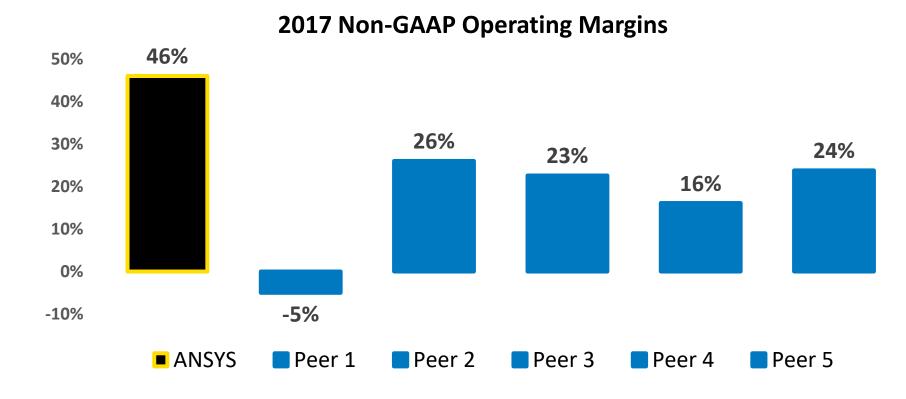
## Q2 2018 (Non-GAAP) – as of June 30, 2018

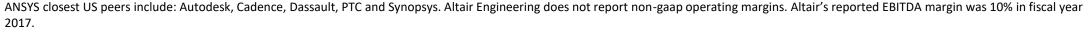
Cash & short-term investments	\$696M
Debt	\$0M
Operating cash flows	\$111M



### **Industry-leading margins**

- Our margins remain industry-leading
- We are committed to maintaining our industry-leading margins while investing for future growth

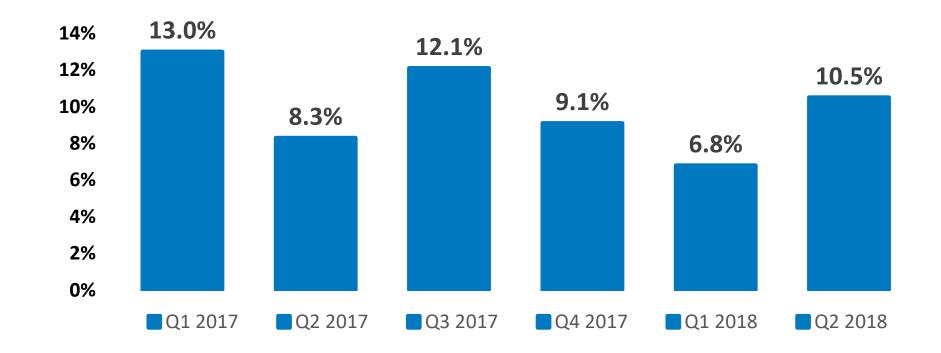






### We have generated great momentum

#### **ANSYS Constant Currency Revenue Growth**



Non-GAAP constant currency – ASC 605



#### **Our long-term targets**

Our 2020 target is sustained double-digit organic revenue growth...

while maintaining financial discipline and best-in-class operating margins

Target 2020 Growth & Operating Margin Target (non-GAAP)

10%+

43-45%



### Further opportunity to drive growth will require incremental investment



#### **Go-to-market**

- People (increased ratio of field engineers to sales reps, channel expansion and remote sales capability)
- Tools/systems (quote-to-cash, low touch renewals)
- Processes (customer advisory councils, data-driven planning)

#### **Product**

- Extending core technology leadership (physics, platform)
- Investing in next-generation innovation (digital exploration, additive manufacturing, digital twin, IoT)

#### **Scale Infrastructure**

- Tools and systems (CRM, HRIS)
- Expand competencies (FP&A, pricing, M&A)
- New talent acquisition

# Partnerships and Acquisitions

- Investing to build strategic partnerships
  - Customers: GE, Flowserve
  - Peers: PTC, Synopsys

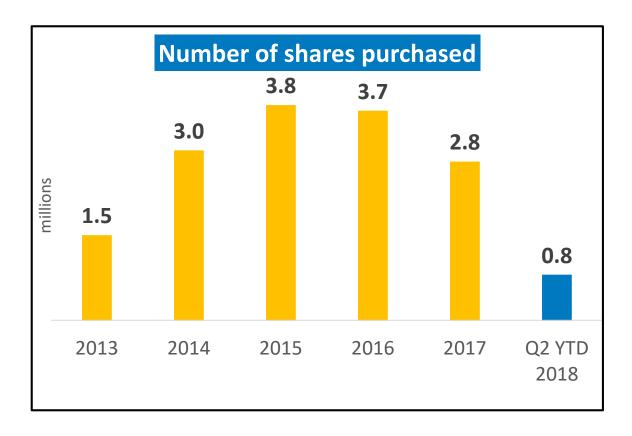


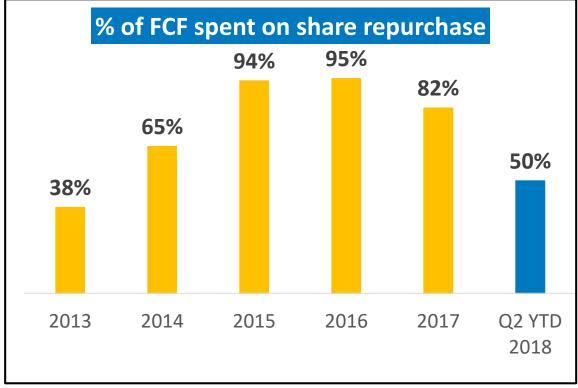
#### **Capital allocation priorities**

- > Investment in organic growth of the core business
- > M&A to enhance growth
  - Size not determining factor proven technology is key
  - Experienced talent
  - Synergy with customer base and global channel
  - Financially accretive within a reasonable timeframe
- > Stock repurchase
  - Commitment to return excess cash to stockholders



## **Return of excess capital to stockholders**







## Q2 2018 (non-GAAP) – as of June 30, 2018 (\$ in millions, except EPS)

Revenue	ASC 606 - \$308.9 ASC 605 - \$298.9
Operating Margin	ASC 606 - 47.3% ASC 605 - 45.5%
Tax rate	ASC 606 - 21.3% ASC 605 - 22.0%
EPS	ASC 606 - \$1.35 ASC 605 - \$1.24
Annual Contract Value (ACV)	\$293.0

Projected ACV – FY 2018	\$1,252.0 - \$1,282.0
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## Q2 YTD 2018 (non-GAAP) – as of June 30, 2018 (\$ in millions, except EPS)

Revenue	ASC 606 - \$592.1 ASC 605 - \$584.1
Operating Margin	ASC 606 - 46.2% ASC 605 - 45.4%
Tax rate	ASC 606 - 20.9% ASC 605 - 21.2%
EPS	ASC 606 - \$2.54 ASC 605 - \$2.46
Annual Contract Value	\$586.9





## ANSYS, INC. AND SUBSIDIARIES ASC 606 Reconciliation of Non-GAAP Measures (Unaudited)

**Three Months Ended** 

	_			June 30, 2018			
(in thousands, except percentages and per share data)	GAAP Results_				_		Non-GAAP Results
Total revenue	\$	305,913	\$	2,948	(1)	\$	308,861
Operating income		108,553		37,556	(2)		146,109
Operating profit margin		35.5 %	, D	•	` ,		47.3 %
Net income	\$	92,596	\$	23,250	(3)	\$	115,846
Earnings per share – diluted:	•	,	•	, , , ,	ν-,	·	.,.
Earnings per share	\$	1.08				\$	1.35
Weighted average shares	•	85,986				Ψ	85,986

- (1) Amount represents the revenue not reported during the period as a result of the acquisition accounting adjustment associated with the accounting for deferred revenue in business combinations.
- (2) Amount represents \$20.6 million of stock-based compensation expense, \$0.4 million of excess payroll taxes related to stock-based awards, \$12.6 million of amortization expense associated with intangible assets acquired in business combinations, \$1.0 million of transaction expenses related to business combinations and the \$2.9 million adjustment to revenue as reflected in (1) above.
- (3) Amount represents the impact of the adjustments to operating income referred to in (2) above, decreased for the related income tax impact of \$14.2 million and rabbi trust income of \$0.1 million.



## ANSYS, INC. AND SUBSIDIARIES ASC 606 Reconciliation of Non-GAAP Measures (Unaudited)

Six Months Ended

				June 30, 2018			
(in thousands, except percentages and per share data)	_ GAAP_			Adjustments	_		Non-GAAP Results
Total revenue	\$	588,786	\$	3,349	(1)	\$	592,135
Operating income		203,614		69,907	(2)		273,521
Operating profit margin		34.6 %	)	•	• •		46.2 %
Net income	\$	176,876	\$	42,034	(3)	\$	218,910
Earnings per share – diluted:	•	,	•	,	(-,	•	,
Earnings per share	\$	2.06				\$	2.54
Weighted average shares	•	86,069				·	86,069

- (1) Amount represents the revenue not reported during the period as a result of the acquisition accounting adjustment associated with the accounting for deferred revenue in business combinations.
- (2) Amount represents \$35.9 million of stock-based compensation expense, \$3.5 million of excess payroll taxes related to stock-based awards, \$24.8 million of amortization expense associated with intangible assets acquired in business combinations, \$2.3 million of transaction expenses related to business combinations and the \$3.3 million adjustment to revenue as reflected in (1) above.
- (3) Amount represents the impact of the adjustments to operating income referred to in (2) above, decreased for the related income tax impact of \$29.3 million and rabbi trust income of \$0.1 million, and increased for a measurement-period adjustment related to the Tax Cuts and Jobs Act of \$1.4 million.



#### ANSYS, INC. AND SUBSIDIARIES ASC 605 Reconciliation of Non-GAAP Measures (Unaudited)

	Three Months Ended													
				June 30, 2018							June 30, 2017			
(in thousands, except percentages and per share data)	GAAP Results		Adjustments		_	_	Non-GAAP Results		GAAP Results		Adjustments			Non-GAAP Results
Total revenue	\$	294,026	\$	4,860	(1)	\$	298,886	\$	263,924	\$	424	(4)	\$	264,348
Operating income		96,666		39,468	(2)		136,134		98,394		29,163	(5)		127,557
Operating profit margin		32.9 %		·	` ,		45.5 %	, D	37.3 %			` ,		48.3 %
Net income	\$	82,412	\$	24,611	(3)	\$	107,023	\$	69,730	\$	16,659	(6)	\$	86,389
Earnings per share – diluted:	·	- ,	·	,-	(-)	·	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,		,	-,	(-)	,	,
Earnings per share	\$	0.96				\$	1.24	\$	0.80				\$	0.99
Weighted average shares		85,986				•	85,986		86,895					86,895

- Amount represents the revenue not reported during the period as a result of the acquisition accounting adjustment associated with the accounting for deferred revenue in business combinations.
- Amount represents \$20.6 million of stock-based compensation expense, \$0.4 million of excess payroll taxes related to stock-based awards, \$12.6 million of amortization expense associated with intangible assets acquired in business combinations, \$1.0 million of transaction expenses related to business combinations and the \$4.9 million adjustment to revenue as reflected in (1) above.
- Amount represents the impact of the adjustments to operating income referred to in (2) above, decreased for the related income tax impact of \$14.8 million and rabbi trust income of \$0.1 million.
- Amount represents the revenue not reported during the period as a result of the acquisition accounting adjustment associated with the accounting for deferred revenue in business combinations.
- Amount represents \$14.1 million of stock-based compensation expense, \$12.1 million of amortization expense associated with intangible assets acquired in business combinations, \$2.0 million of restructuring charges, \$0.5 million of transaction expenses related to business combinations and the \$0.4 million adjustment to revenue as reflected in (4) above.
- Amount represents the impact of the adjustments to operating income referred to in (5) above, adjusted for the related income tax impact of \$12.5 million.



## ANSYS, INC. AND SUBSIDIARIES ASC 605 Reconciliation of Non-GAAP Measures (Unaudited)

	Six Months Ended													
			June 30, 2018		June 30, 2017									
(in thousands, except percentages and per share data)	GA	AAP Results		Adjustments	_		Non-GAAP Results	(	GAAP Results	. <u></u>	Adjustments	_	_	Non-GAAP Results
Total revenue	\$	578,595	\$	5,464	(1)	\$	584,059	\$	517,329	\$	567	(4)	\$	517,896
Operating income		193,423		72,022	(2)		265,445		183,866		61,274	(5)		245,140
Operating profit margin		33.4 %	, 0	·			45.4 %		35.5 %			. ,		47.3 %
Net income	\$	168,165	\$	43,547	(3)	\$	211,712	\$	133,036	\$	30,842	(6)	\$	163,878
Earnings per share – diluted:		•	-	•	` ,	•	·	•	·		,	,		·
Earnings per share	\$	1.95				\$	2.46	\$	1.53				\$	1.88
Weighted average shares	•	86,069				*	86,069	*	87,060				*	87,060

- (1) Amount represents the revenue not reported during the period as a result of the acquisition accounting adjustment associated with the accounting for deferred revenue in business combinations.
- (2) Amount represents \$35.9 million of stock-based compensation expense, \$3.5 million of excess payroll taxes related to stock-based awards, \$24.8 million of amortization expense associated with intangible assets acquired in business combinations, \$2.3 million of transaction expenses related to business combinations and the \$5.5 million adjustment to revenue as reflected in (1) above.
- (3) Amount represents the impact of the adjustments to operating income referred to in (2) above, decreased for the related income tax impact of \$29.9 million and rabbi trust income of \$0.1 million, and increased for a measurement-period adjustment related to the Tax Cuts and Jobs Act of \$1.4 million.
- (4) Amount represents the revenue not reported during the period as a result of the acquisition accounting adjustment associated with the accounting for deferred revenue in business combinations.
- (5) Amount represents \$24.6 million of stock-based compensation expense, \$24.1 million of amortization expense associated with intangible assets acquired in business combinations, \$11.3 million of restructuring charges, \$0.7 million of transaction expenses related to business combinations and the \$0.6 million adjustment to revenue as reflected in (4) above.
- (6) Amount represents the impact of the adjustments to operating income referred to in (5) above, adjusted for the related income tax impact of \$30.4 million.



#### ASC 606 requires three primary changes relative to current practice

Immediate license revenue recognition (including the license portion embedded in a lease)

1

Revenue allocation based on estimated selling price rather than Vendor-Specific Objective Evidence (VSOE)

2

Increased financial statement disclosures (including unbilled receivables, and the expected rollout of deferred revenue and backlog)



#### **Overview of ASC 606 impact**

#### YEAR 1 IMPACT

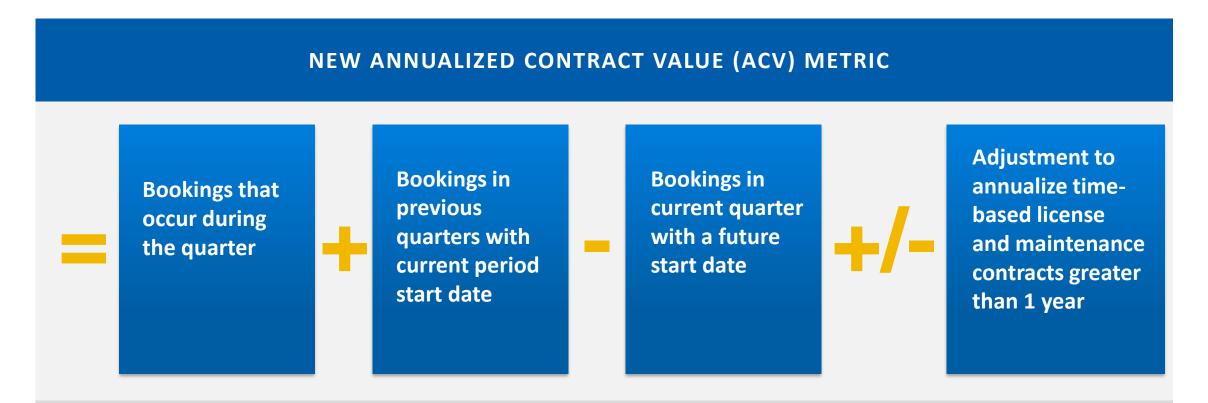
- Revenue recognition change will accelerate revenue
- Large, multi-year deals will create some volatility depending on timing (minority of the business)
- Modified retrospective implementation approach will provide disclosure of results under current rules for the first year
- Cash-flow impact for tax consequences of accelerated revenue
- No material change in accounting for sales commissions

#### **GO-FORWARD IMPACT**

- Minimal impact on future comparability for the vast majority of business volume
- Large, multi-year deals will create some volatility depending on timing (minority of the business)
- Impact likely to decrease over time as predictability increases
- ACV metric will provide clarity into business health
- No material change in accounting for sales commissions unless plan structure changes



#### New ACV metric will provide increased clarity into business health



- We will continue to report and provide guidance on the same key financial metrics as we do today (revenue, operating margin, EPS, tax rate, etc.)
- We will begin disclosing fiscal year guidance on operating cash flow, free cash flow and ACV





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