

The background is a collage of images: a person in a surgical cap and mask, a microchip, and two telecommunications towers. The collage is overlaid with a blue and white geometric pattern.

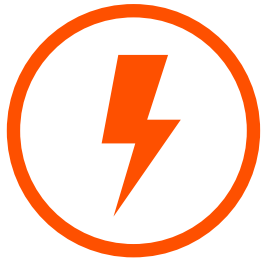
A Best-in-Class Industrial Growth Enterprise

April 2022

SAFE HARBOR

The company's guidance with respect to anticipated financial results for future periods, potential future growth and profitability, future business mix, expectations regarding future market trends, future performance within specific markets and other statements herein that are not historical information are forward-looking statements and are subject to the Safe Harbor provision of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements are subject to known and unknown risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statements. These risks are described in Advanced Energy's Form 10-K, Form 10-Q and other reports and statements filed with the Securities and Exchange Commission (SEC). These reports and statements are available on the SEC's website at www.sec.gov. Copies may also be obtained from our Investors page at ir.advancedenergy.com. Forward-looking statements are based on information available to the company on the date of this presentation. Aspirational goals and targets discussed in the presentation materials should not be interpreted as guidance. The company assumes no obligation to update the information in this presentation.

PRECISION POWER LEADER FOR THE DIGITAL ECONOMY



PURE PLAY POWER LEADER

Strategic focus on power ensures sustainable advantage and scale



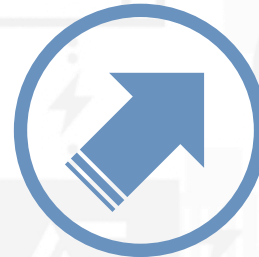
OUTPERFORMING MARKETS

Track record of growing share, adding content and broadening market reach



PROPRIETARY SOLUTIONS

Lead with differentiated, highly-engineered, high value products and technologies

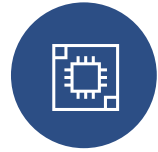


ACCELERATING EARNINGS

Capture long life-cycle revenues and optimize margins to grow EPS >2X faster than revenue

WE ARE THE PURE PLAY POWER LEADER

AE provides precision power conversion and control solutions for a wide range of high value and long life-cycle applications



SEMICONDUCTOR EQUIPMENT



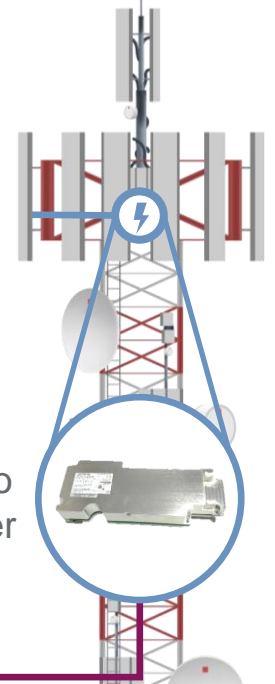
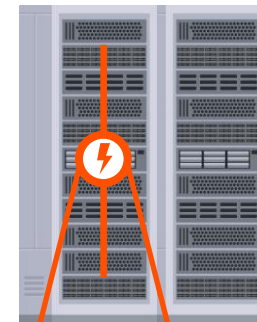
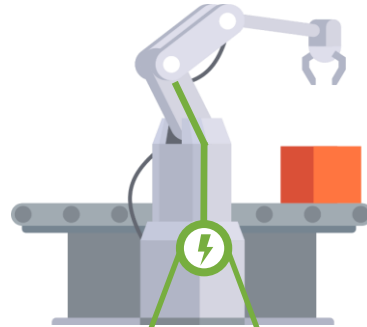
INDUSTRIAL & MEDICAL



DATA CENTER COMPUTING



TELECOM & NETWORKING



Grid Power



Facility Power

Process Power

Custom Power

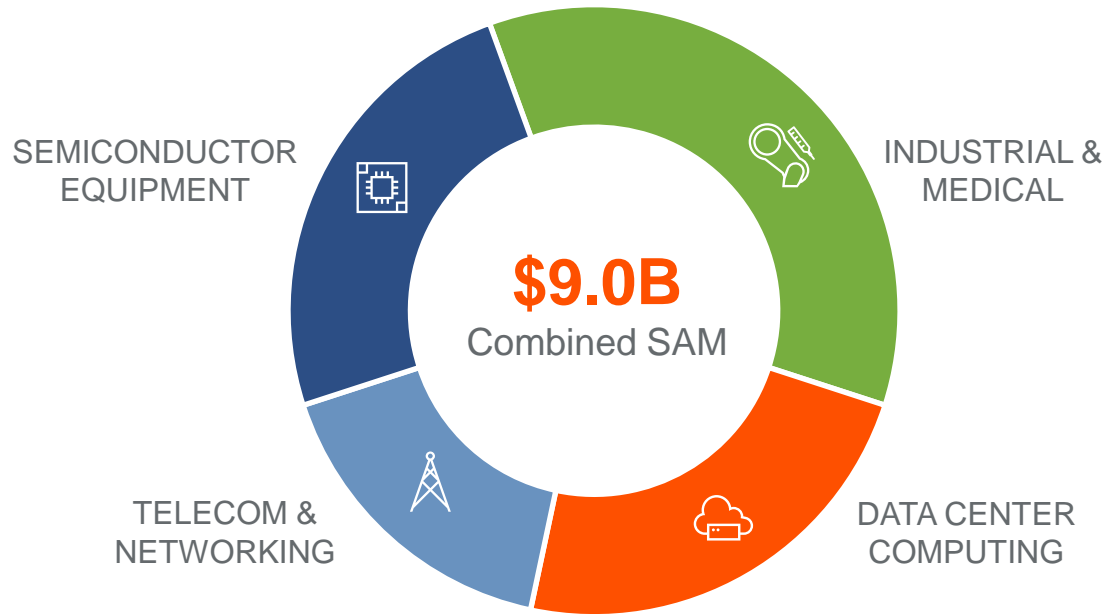
Server Power

Radio Power

>70% of Revenue Comes from Proprietary Products

OUR LEADERSHIP ENABLES SOLID FINANCIAL PERFORMANCE

Large & Diversified Growing Market



#1 or #2 in All Four Markets

2021 Reported Results



\$1.46 billion
RECORD REVENUE



\$211 million
NON-GAAP OP PROFIT⁽¹⁾
Operating margin 15%



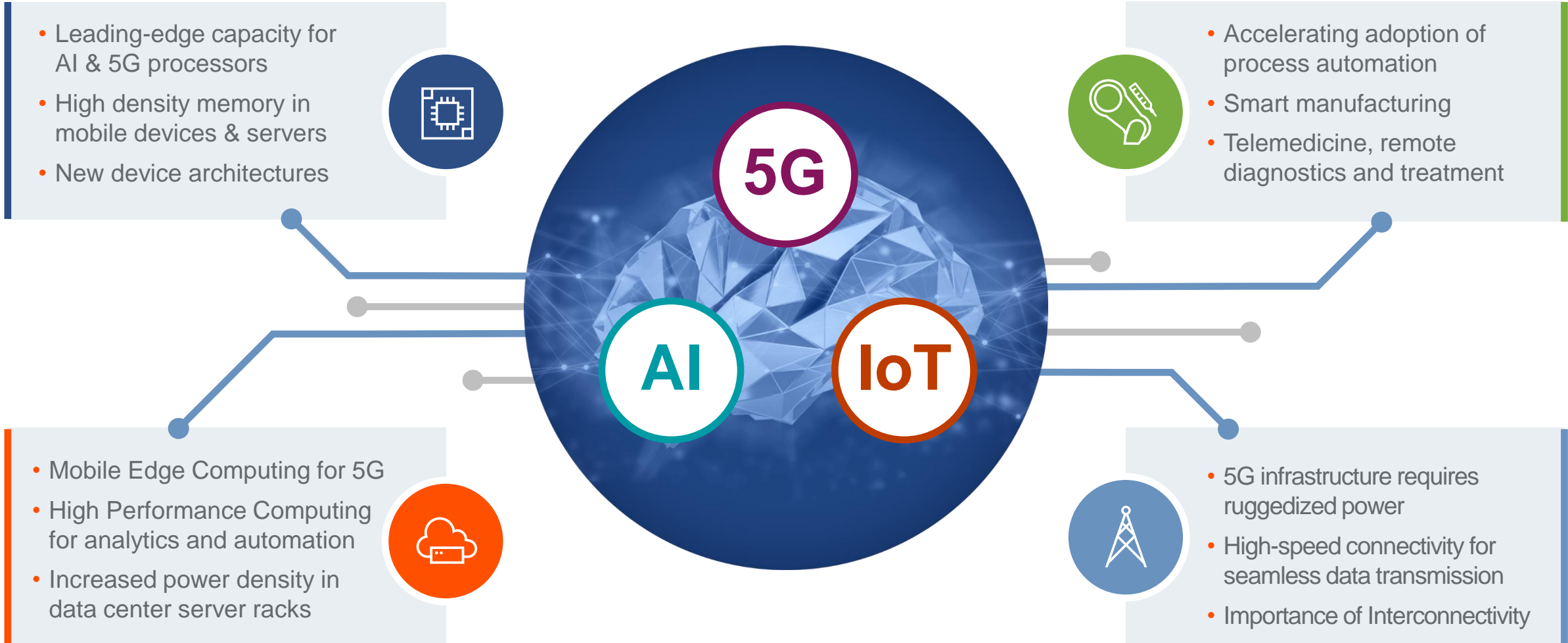
\$4.78
NON-GAAP EPS⁽¹⁾



\$141 million
OPERATING CASH FLOW⁽²⁾
10% of Sales

(1) Refer to the non-GAAP reconciliation for additional detail.
(2) Cash flow from operating activities from continuing operations

DIGITAL ECONOMY DRIVES GROWTH ACROSS OUR 4 VERTICALS



A HISTORY OF INNOVATION AND TECHNOLOGY LEADERSHIP



AE leads with generations of power delivery innovations

FOCUS ON PROPRIETARY DESIGNS TO ACCELERATE GROWTH

AE TARGETED GROWTH STRATEGIES



GROW SHARE

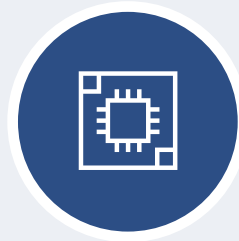
Across Mission-Critical Precision Power Verticals



Invest in **INNOVATION** and Technology Leadership



Leverage Strong Financials and Increased Scale to Capitalize on **NEW OPPORTUNITIES**



Semiconductor:
Extending Our Leadership



Industrial & Medical:
Expanding Our Portfolio of Proprietary Solutions



Data Center Computing:
From Fast Follower to Technology Leader



Telecom & Networking:
Targeting 5G Infrastructure

SEMICONDUCTOR: EXTENDING OUR LEADERSHIP

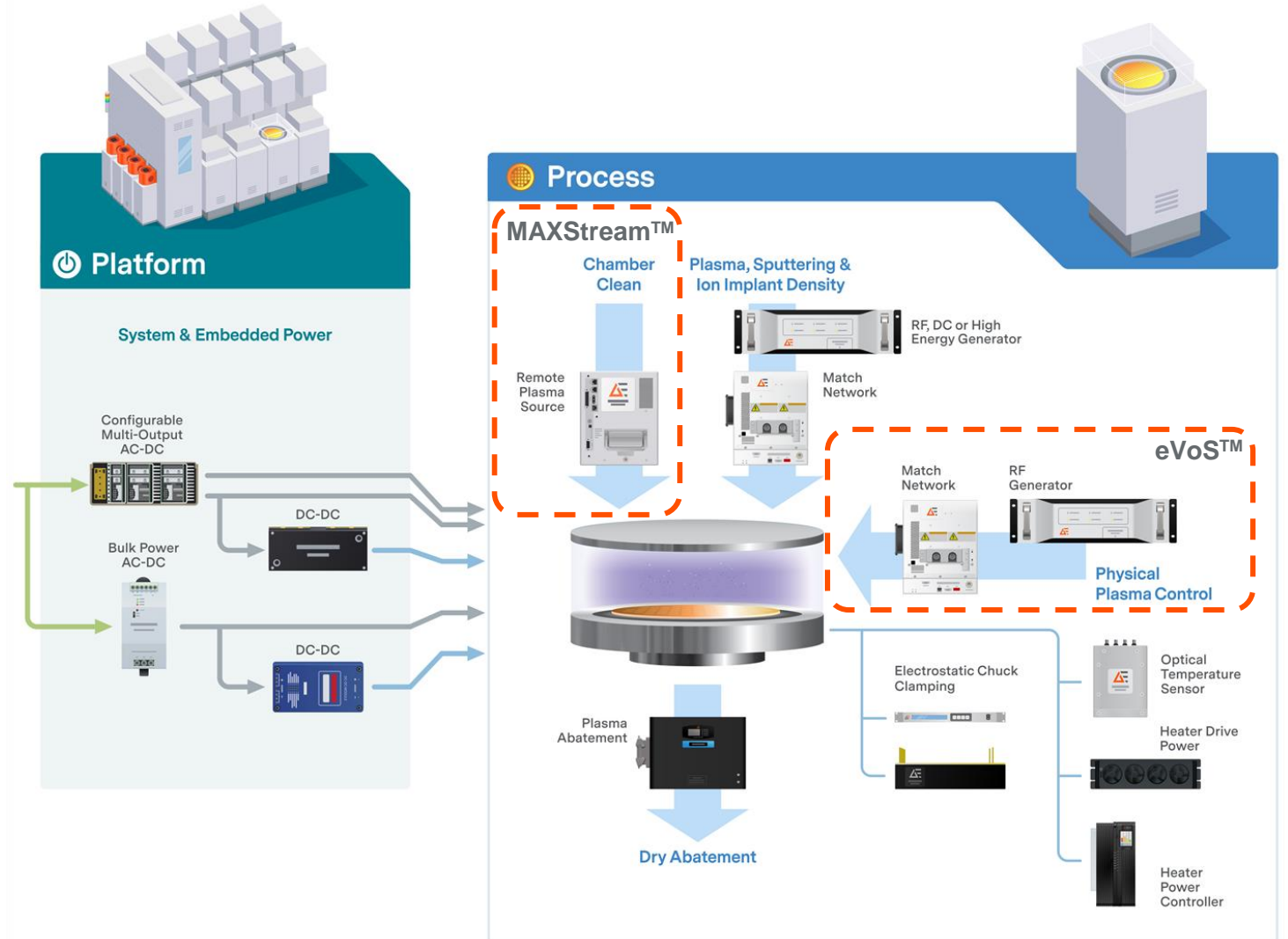
MARKET LEADER WITH PROVEN TRACK RECORD

~2X Process Power Market Share vs. Next Competitor⁽¹⁾

16% 10-year Semi Product Revenue CAGR⁽²⁾

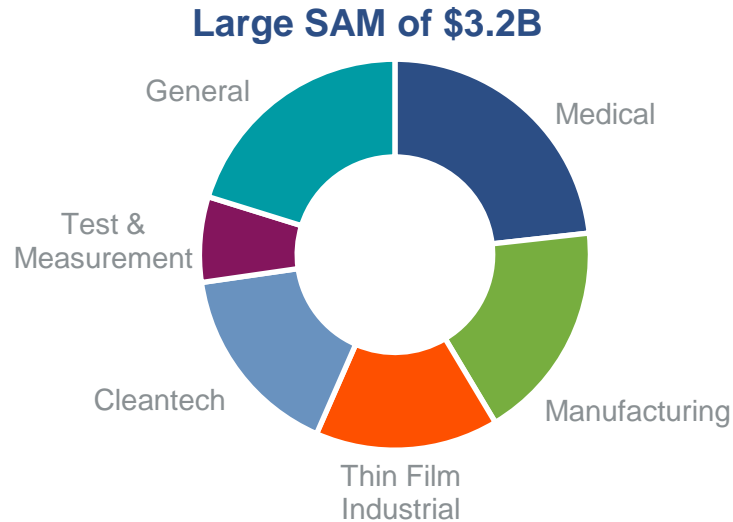
TARGET TO CONTINUE TO OUTGROW OUR MARKET

>1.2X AE Targeted Revenue CAGR over WFE CAGR



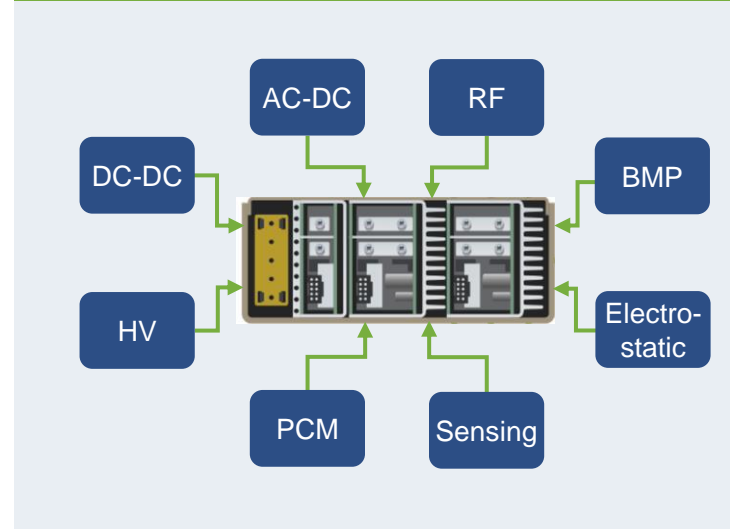
INDUSTRIAL & MEDICAL: EXPANDING OUR PORTFOLIO OF PROPRIETARY SOLUTIONS

LARGE MARKET WITH WIDE RANGE OF NICHE OPPORTUNITIES



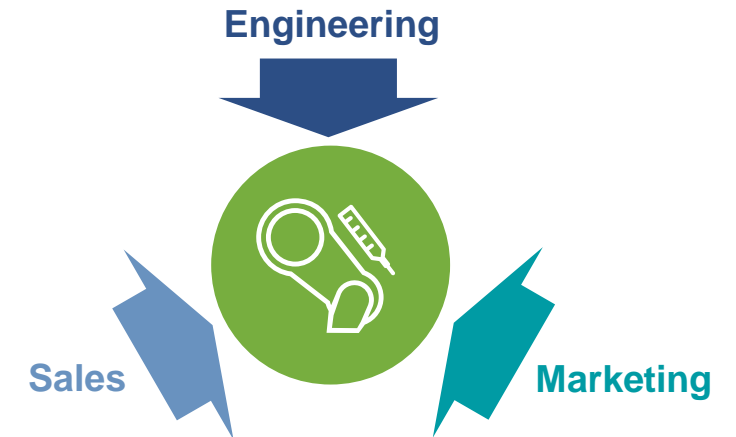
- Large SAM consists of many small and medium **high-value opportunities**
- Target long-life cycle and proprietary applications to capture **sole-source positions**

LEVERAGE BROAD PORTFOLIO OF STANDARD PRODUCTS TO DELIVER CUSTOM SOLUTIONS



- Most **comprehensive portfolio** of standard power products
- Develop **modified standard or full custom solutions** to solve customers' challenging power delivery problems

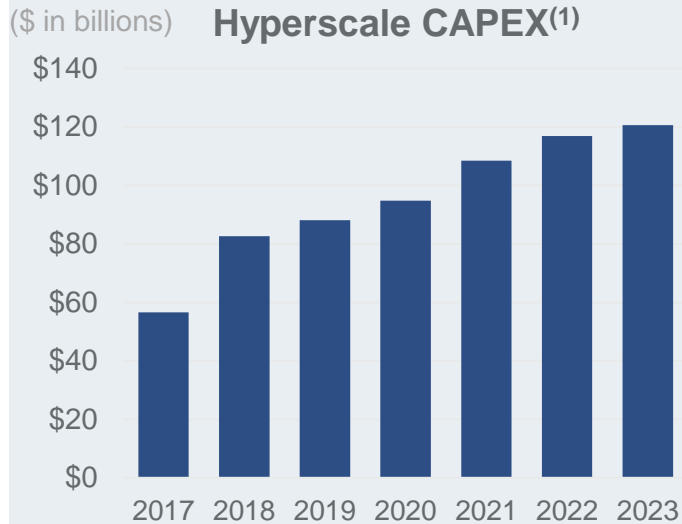
ACCELERATING INVESTMENTS TO DRIVE GROWTH



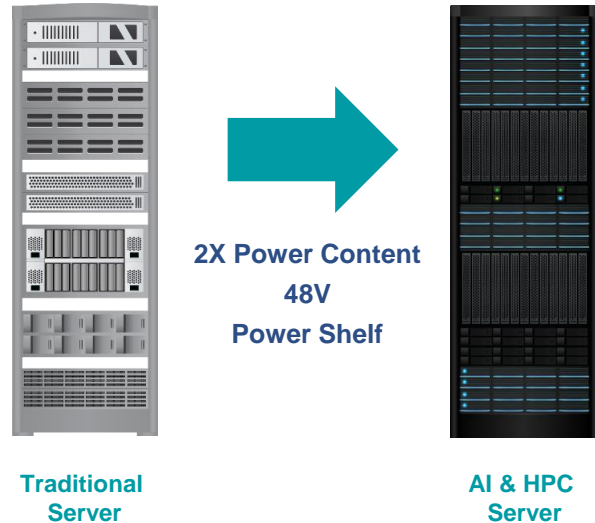
- **Allocate more** engineering, sales and marketing resources to I&M applications
- Grow **design win funnel**, accelerate cross selling and drive profitable revenue growth

DATA CENTER COMPUTING: FROM FAST FOLLOWER TO TECHNOLOGY LEADER

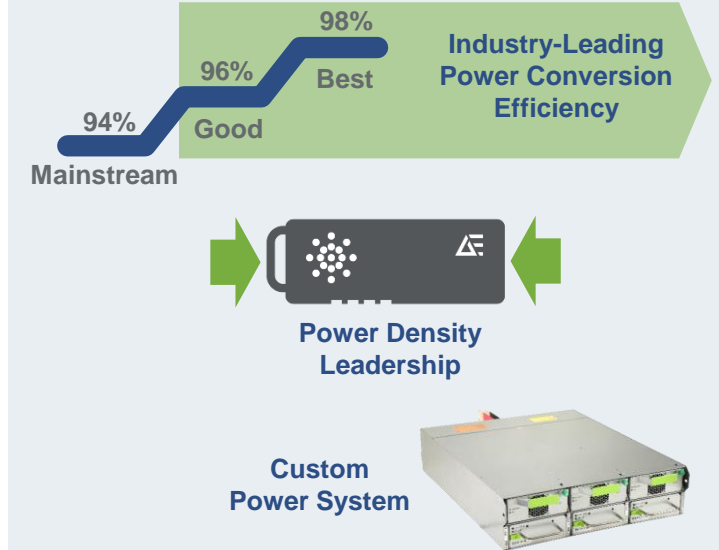
GROWING INVESTMENTS



MORE HIGH VALUE CONTENT



AE TECHNOLOGY LEADERSHIP

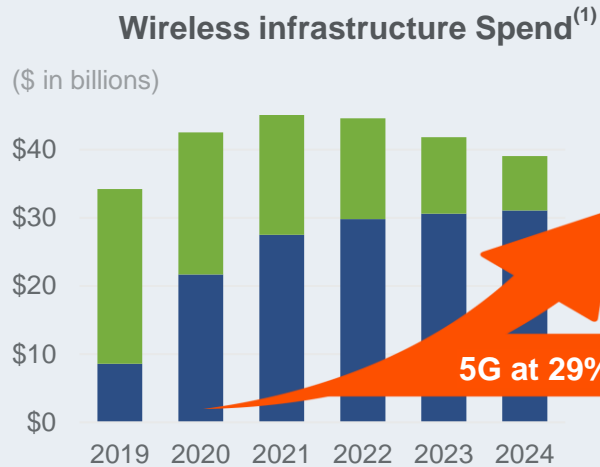


OUR WINNING STRATEGIES

- **Technologies** to address the most difficult power delivery problems
- Win **high value applications** at Tier-I and Tier-II hyperscale customers
- Capture additional opportunities with **48V transition**
- Deliver **best-in-class** quality and performance

TELECOM & NETWORKING: TARGETING 5G INFRASTRUCTURE

5G INFRASTRUCTURE MARKET GROWTH TREND



- Growth returning to wireless infrastructure with 5G launch
- Increased capacity demand driven by expanding use cases

GROWTH STRATEGY

- Win proprietary designs in 5G radio power for both macro and small cells
- Target high value opportunities in Data Center Networking

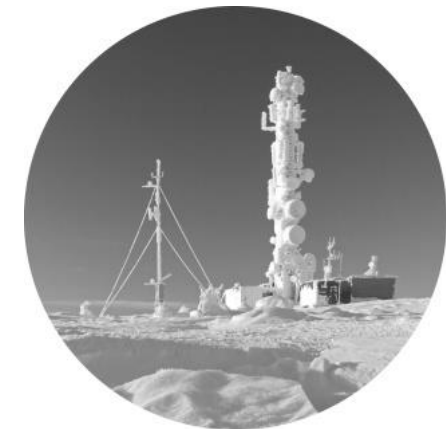
WHY WE WIN

- Industry-leading high density, rugged power supplies for outdoor radio
- Deep application knowledge necessary in 5G radio design
- 20+ years of customer intimacy with leading OEMs

Powering many of the largest wireless networks across the world



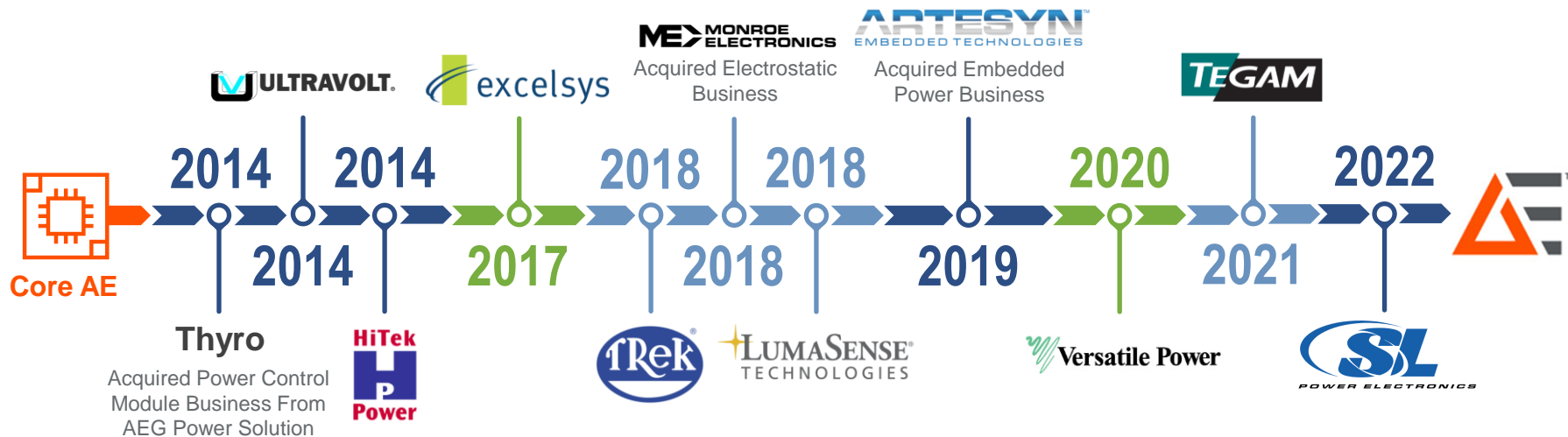
**High reliability
ruggedized power
supply for the harshest
environments**



INORGANIC GROWTH: GROWING SCOPE AND LEVERAGING SCALE

Track Record

Deployed >\$700M
Across 11 Acquisitions
All Accretive



Well-Defined Acquisition Criteria

- Precision Power and Controls
- Expand SAM, portfolio & technology
- Synergistic with current organization

Building a Solid Funnel

- Large and fragmented power market
- Plenty of differentiated high-value targets
- Extend our leadership

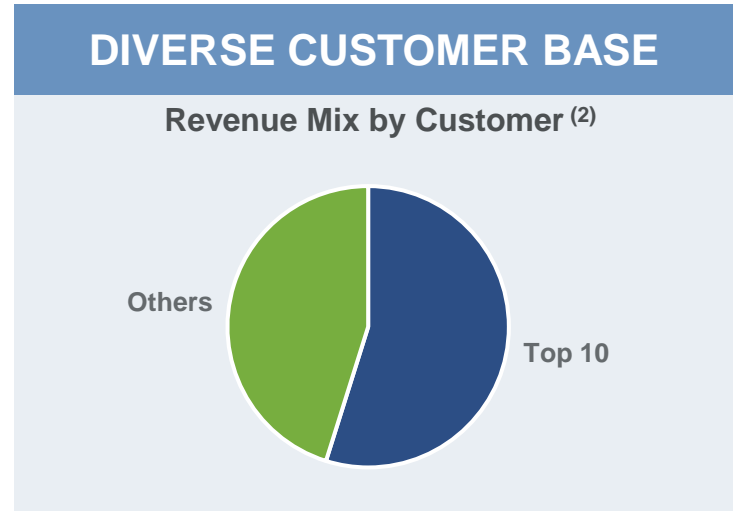
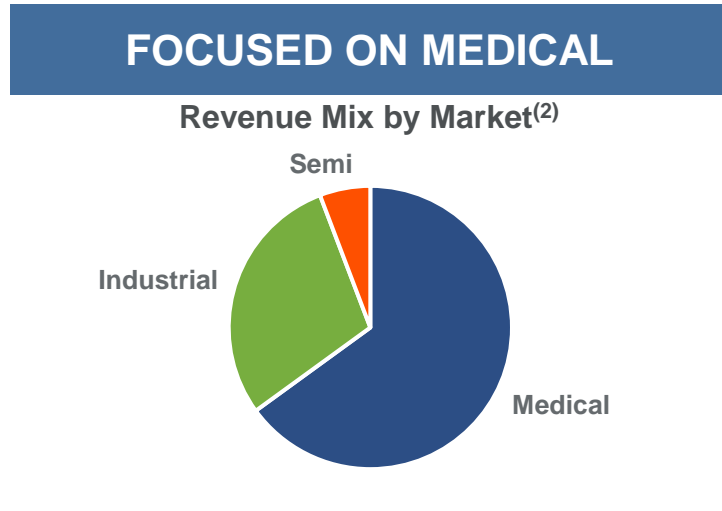
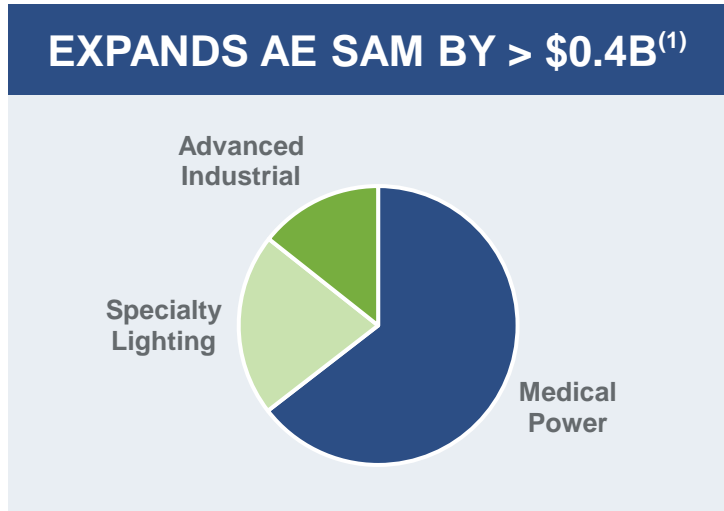
Discipline and Value Creation

- Analytical and deliberate
- Accretive within first year
- Target ROIC > 10%

LATEST ACQUISITION: SL POWER ELECTRONICS



- Leading supplier of power conversion products for medical and advanced industrial applications
- Trusted partner for providing customized solutions to leading medical equipment OEMs
- Years of experience in mission-critical applications



HIGHLIGHTS



2021 REVENUE
\$66 million



PRODUCT FAMILIES
>20



YEARS IN BUSINESS
60



EMPLOYEES
543



NO. OF SITES
5

(1) Company estimates; incremental to previously disclosed AE SAM of \$9.0B
(2) Revenue mix based on 3-year average from fiscal 2019 to 2021

SL POWER ACQUISITION BENEFITS AND DETAILS

STRATEGIC BENEFITS

- Expands AE's addressable market in industrial and medical power supplies by > \$400 million
- Complements AE's medical portfolio with low operating power, low emission (EMI/EMC), medical-grade power supplies
- Broadens AE's reach in advanced industrial applications, including specialty lighting and test and measurement
- Delivers significant potential revenue and cost synergies by cross selling and integration into AE's operations
- Enhances AE's core competency in power conversion technologies
- Expected to be Non-GAAP earnings accretive in Year 1 and non-GAAP margin accretive after full integration⁽¹⁾

TRANSACTION DETAILS

Total Consideration

Profitability

Meeting Return Criteria

Timing and Approval

- Total purchase price of \$144.5 million, subject to customary adjustments
- All cash transaction, using available cash from balance sheet
- 2021 non-GAAP operating margin structure similar to AE
- Expect operating synergies ~\$4M within 2 years
- Non-GAAP EPS⁽¹⁾ accretive in Year 1
- Post synergy ROIC at > 10%
- Expect to close within Q2 2022
- Subject to customary closing conditions

REACCELERATING EARNINGS GROWTH AS SUPPLY IMPROVES



A FRAMEWORK TO ACHIEVE OUR LONG-TERM VISION

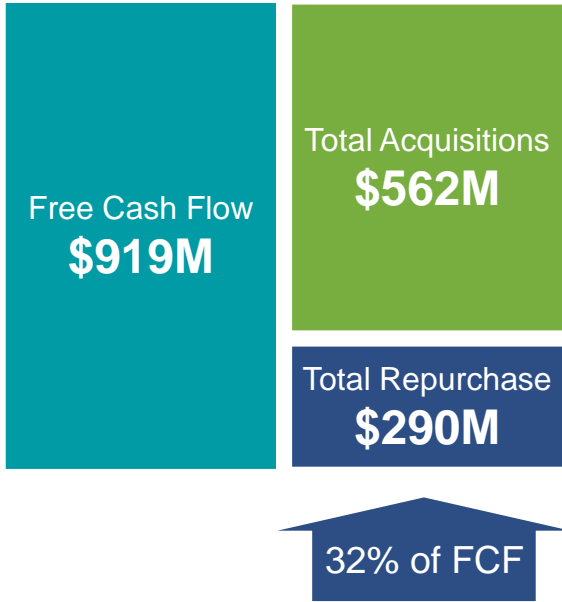
	3-YEAR ASPIRATIONAL GOALS	LONG-TERM ORGANIC FINANCIAL FRAMEWORK	INORGANIC GROWTH ASSUMPTIONS	LONG-TERM VISION (6-8 YEARS)
Revenue (\$M)	\$1,650	5-6% Net CAGR	Add ~\$500M	\$2,500
Non-GAAP Operating Margins	21%	OPEX at ½ rev. CAGR 35-45% incr. margins	>10% acquired margins	21%
Non-GAAP EPS (\$/sh)	\$7.50	>2X revenue CAGR	Accretive in Year 1	\$12.00
ROIC	23%	Maintain >20%	Targeted ROIC at >10%	>20%

CLEAR ROADMAP TO CREATE LONG-TERM SHAREHOLDER VALUE

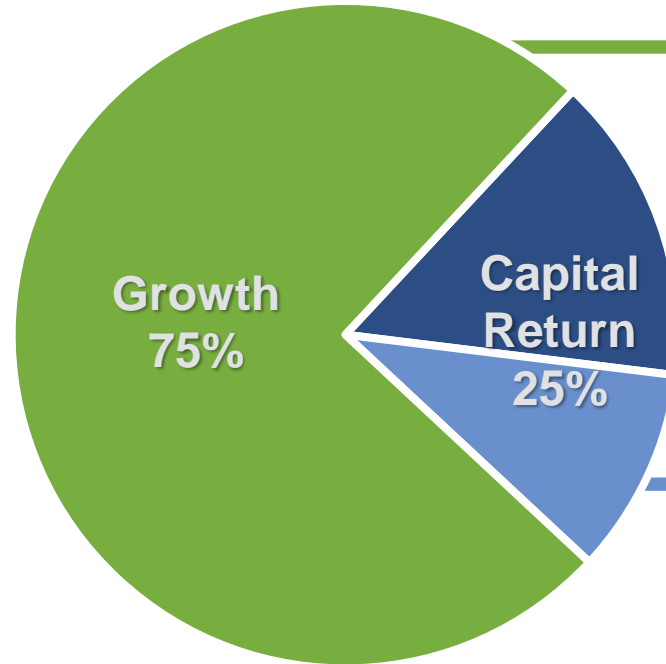
CAPITAL ALLOCATION PLAN

Capital Allocation Track Record

2014 to 2021 Total



Allocation of Free Cash Flow



GROWTH: ~75%

- M&A Engine with a disciplined process
- Building a solid funnel
- Maintain gross debt leverage at 1.0-1.5x, and comfortable raising to 2.5X
- Ample liquidity with an unused LOC of \$150M and accordion of \$250M

SHARE REPURCHASE: ~15%

- Opportunistic program to take advantage of market volatility
- Target to offset dilution over time

DIVIDEND PROGRAM: ~10%

- Initiating quarterly dividend program, starting in Q1 2021
- Supported by financial strength, scale and cash flow
- Initial yield at ~0.4% with room to increase in the future



Strong Balance Sheet
supports continued inorganic growth

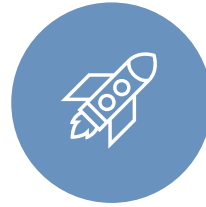
Q4 2021 RESULTS SURPASSED HIGH END OF GUIDANCE



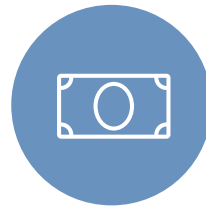
REVENUE
\$397 million
 Up 15% Q/Q



BACKLOG
\$928 million
 Up 20% Q/Q



NON-GAAP EPS⁽¹⁾
\$1.36
 Up 53% Q/Q



OPERATING CASH FLOW
\$34.5 million
 8.7% of sales



NON-GAAP GROSS MARGIN⁽¹⁾
35.5%
 Down 60 bps Q/Q



NON-GAAP OP MARGIN⁽¹⁾
13.8%
 Up 190 bps Q/Q

PRECISION POWER LEADER FOR THE DIGITAL ECONOMY



PURE PLAY POWER LEADER

Strategic focus on power ensures sustainable advantage and scale



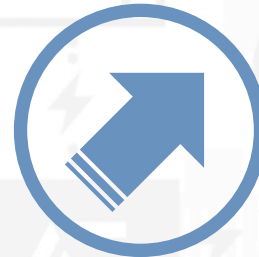
OUTPERFORMING MARKETS

Track record of growing share, adding content and broadening market reach



PROPRIETARY SOLUTIONS

Lead with differentiated, highly-engineered, high value products and technologies



ACCELERATING EARNINGS

Capture long life-cycle revenues and optimize margins to grow EPS >2X faster than revenue

The text 'THANK YOU' is centered in a dark blue, all-caps, sans-serif font. The background is a light blue and white geometric pattern with a faint image of a person in a lab coat and safety glasses on the left, and two communication towers in the center.

THANK YOU

NON-GAAP MEASURES

Advanced Energy's non-GAAP measures exclude the impact of non-cash related charges such as stock-based compensation and amortization of intangible assets, as well as discontinued operations, and non-recurring items such as acquisition-related costs and restructuring expenses. Beginning in the second quarter of 2020, Advanced Energy's non-GAAP measures exclude non-cash unrealized foreign currency gains or losses that result from remeasurement to functional currency long-term obligations related to pension and operating lease liabilities as the remeasurement does not represent current economic exposure and is unrelated to our overall operating performance. These long-term obligations were acquired in connection with the Artesyn acquisition and the company previously used derivatives to hedge the exposure; however, the company has determined it will no longer hedge these non-economic exposures. The tax effect of our non-GAAP adjustments represents the anticipated annual tax rate applied to each non-GAAP adjustment after consideration of their respective book and tax treatments. The non-GAAP measures included in this presentation are not in accordance with, or an alternative for, similar measures calculated under generally accepted accounting principles and may be different from non-GAAP measures used by other companies. In addition, these non-GAAP measures are not based on any comprehensive set of accounting rules or principles. Advanced Energy believes that these non-GAAP measures provide useful information to management and investors to evaluate business performance without the impacts of certain non-cash charges, non-economic foreign currency remeasurements, and other cash charges which are not part of the company's usual operations. The company uses these non-GAAP measures to assess performance against business objectives, make business decisions, develop budgets, forecast future periods, assess trends, and evaluate financial impacts of various scenarios. In addition, management's incentive plans include these non-GAAP measures as criteria for achievements. Additionally, the company believes that these non-GAAP measures, in combination with its financial results calculated in accordance with GAAP, provide investors with additional perspective. While some of the excluded items may be incurred and reflected in the company's GAAP financial results in the foreseeable future, the company believes that the items excluded from certain non-GAAP measures do not accurately reflect the underlying performance of its continuing operations for the period in which they are incurred. The use of non-GAAP measures has limitations in that such measures do not reflect all of the amounts associated with the company's results of operations as determined in accordance with GAAP, and these measures should only be used to evaluate the company's results of operations in conjunction with the corresponding GAAP measures.

Q1 2022 GUIDANCE

	Q1 2022
Revenue	\$360M +/- \$20M
GAAP EPS from continuing operations	\$0.61 +/- \$0.25
Non-GAAP* EPS	\$0.94 +/- \$0.25

NON-GAAP* RECONCILIATION

Reconciliation of Non-GAAP measure - operating expenses and operating income, excluding certain items

	Three Months Ended			Year Ended	
	December 31,		September 30,	December 31,	
	2021	2020	2021	2021	2020
Gross profit from continuing operations, as reported	\$ 139,747	\$ 145,549	\$ 120,039	\$ 532,322	\$ 541,869
Adjustments to gross profit:					
Stock-based compensation	(19)	122	218	764	567
Facility expansion, relocation costs and other	997	741	1,357	6,189	4,349
Acquisition-related costs	234	25	3,259	3,585	5,381
Non-GAAP gross profit	<u>140,959</u>	<u>146,437</u>	<u>124,873</u>	<u>542,860</u>	<u>552,166</u>
Non-GAAP gross margin	35.5%	39.5%	36.1%	37.3%	39.0%
Operating expenses from continuing operations, as reported	97,537	89,764	95,830	380,641	365,846
Adjustments:					
Amortization of intangible assets	(5,556)	(5,065)	(5,607)	(22,060)	(20,129)
Stock-based compensation	(2,939)	(2,483)	(3,456)	(14,975)	(11,705)
Acquisition-related costs	(679)	387	(1,768)	(6,803)	(10,209)
Facility expansion, relocation costs and other	(17)	(443)	(98)	(229)	(2,213)
Restructuring charges	(2,231)	(5,226)	(1,272)	(4,752)	(13,166)
Non-GAAP operating expenses	<u>86,115</u>	<u>76,934</u>	<u>83,629</u>	<u>331,822</u>	<u>308,424</u>
Non-GAAP operating income	<u>\$ 54,844</u>	<u>\$ 69,503</u>	<u>\$ 41,244</u>	<u>\$ 211,038</u>	<u>\$ 243,742</u>
Non-GAAP operating margin	13.8%	18.7%	11.9%	14.5%	17.2%

Reconciliation of Non-GAAP measure - income excluding certain items

	Three Months Ended			Year Ended	
	December 31,		September 30,	December 31,	
	2021	2020	2021	2021	2020
Income from continuing operations, less non-controlling interest, net of income taxes	\$ 39,753	\$ 41,841	\$ 21,041	\$ 134,663	\$ 135,096
Adjustments:					
Amortization of intangible assets	5,556	5,065	5,607	22,060	20,129
Acquisition-related costs	913	(362)	5,027	10,388	15,590
Facility expansion, relocation costs, and other	1,014	1,184	1,455	6,418	6,562
Restructuring charges	2,231	5,226	1,272	4,752	13,166
Unrealized foreign currency (gain) loss	(134)	3,786	(2,092)	(3,543)	8,384
Acquisition-related costs and other included in other income (expense), net	(3,093)	90	(79)	(2,186)	716
Tax effect of non-GAAP adjustments	<u>3,017</u>	<u>(1,532)</u>	<u>(1,036)</u>	<u>(1,346)</u>	<u>(7,611)</u>
Non-GAAP income, net of income taxes, excluding stock-based compensation	49,257	55,298	31,195	171,206	192,032
Stock-based compensation, net of taxes	<u>2,233</u>	<u>1,993</u>	<u>2,811</u>	<u>12,042</u>	<u>9,418</u>
Non-GAAP income, net of income taxes	<u>\$ 51,490</u>	<u>\$ 57,291</u>	<u>\$ 34,006</u>	<u>\$ 183,248</u>	<u>\$ 201,450</u>

Reconciliation of non-GAAP measure - per share earnings excluding certain items

	Three Months Ended			Year Ended	
	December 31,		September 30,	December 31,	
	2021	2020	2021	2021	2020
Diluted earnings per share from continuing operations, as reported	\$ 1.05	\$ 1.09	\$ 0.55	\$ 3.51	\$ 3.51
Add back (subtract):					
Per share impact of non-GAAP adjustments, net of tax	0.31	0.40	0.34	1.27	1.72
Non-GAAP per share earnings	<u>\$ 1.36</u>	<u>\$ 1.49</u>	<u>\$ 0.89</u>	<u>\$ 4.78</u>	<u>\$ 5.23</u>

Quarterly results may not sum to year to date due to rounding

RECONCILIATION OF GUIDANCE

Reconciliation of Q1 2022 Guidance

	<u>Low End</u>	<u>High End</u>
Revenue	\$340 million	\$380 million

Reconciliation of non-GAAP earnings per share

GAAP earnings per share	\$ 0.36	\$ 0.86
Stock-based compensation	0.11	0.11
Amortization of intangible assets	0.15	0.15
Restructuring and other	0.13	0.13
Tax effects of excluded items	(0.06)	(0.06)
Non-GAAP earnings per share *	<u>\$ 0.69</u>	<u>\$ 1.19</u>