

A collage of images including a person in a surgical mask and cap, a microchip, and two telecommunications towers, set against a geometric background of blue, white, and green shapes.

A Best-in-Class Industrial Growth Enterprise

January 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



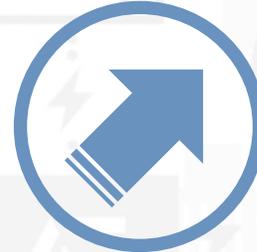
OUTPERFORMING MARKETS

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



PROPRIETARY SOLUTIONS

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

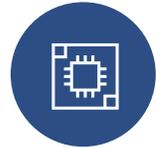


ACCELERATING EARNINGS

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



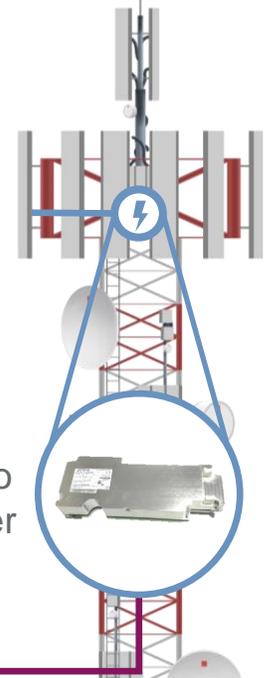
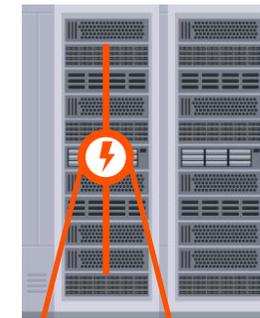
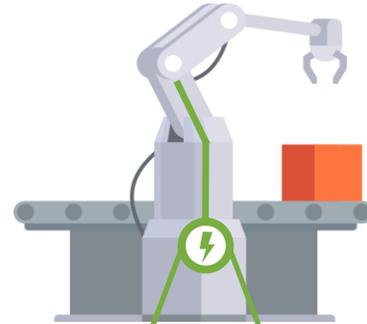
INDUSTRIAL & MEDICAL



DATA CENTER COMPUTING



TELECOM & NETWORKING



Grid Power



Facility Power

Process Power

Custom Power

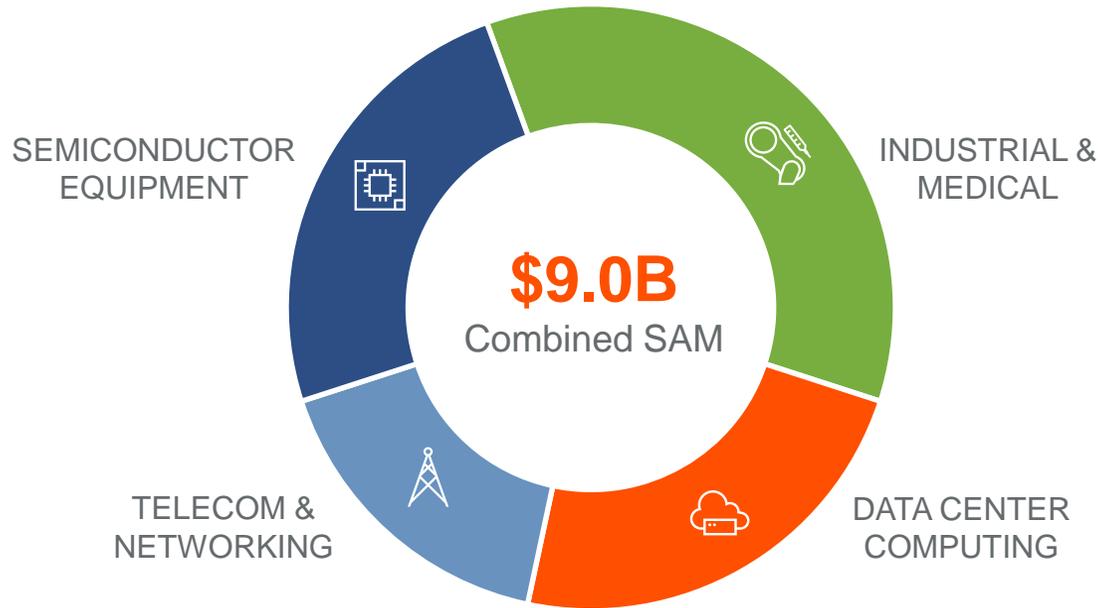
Server Power

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

L4Q Reported Results



\$1.43 billion
REVENUE



\$226 million
NON-GAAP OP PROFIT⁽¹⁾
Operating margin 15.8%



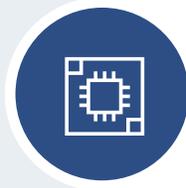
\$4.92
NON-GAAP EPS⁽¹⁾



\$174 million
OPERATING CASH FLOW⁽²⁾
12.1% of Sales

DIGITAL ECONOMY DRIVES GROWTH ACROSS OUR 4 VERTICALS

- Leading-edge capacity for AI & 5G processors
- High density memory in mobile devices & servers
- New device architectures



5G

- Accelerating adoption of process automation
- Smart manufacturing
- Telemedicine, remote diagnostics and treatment



AI

IoT

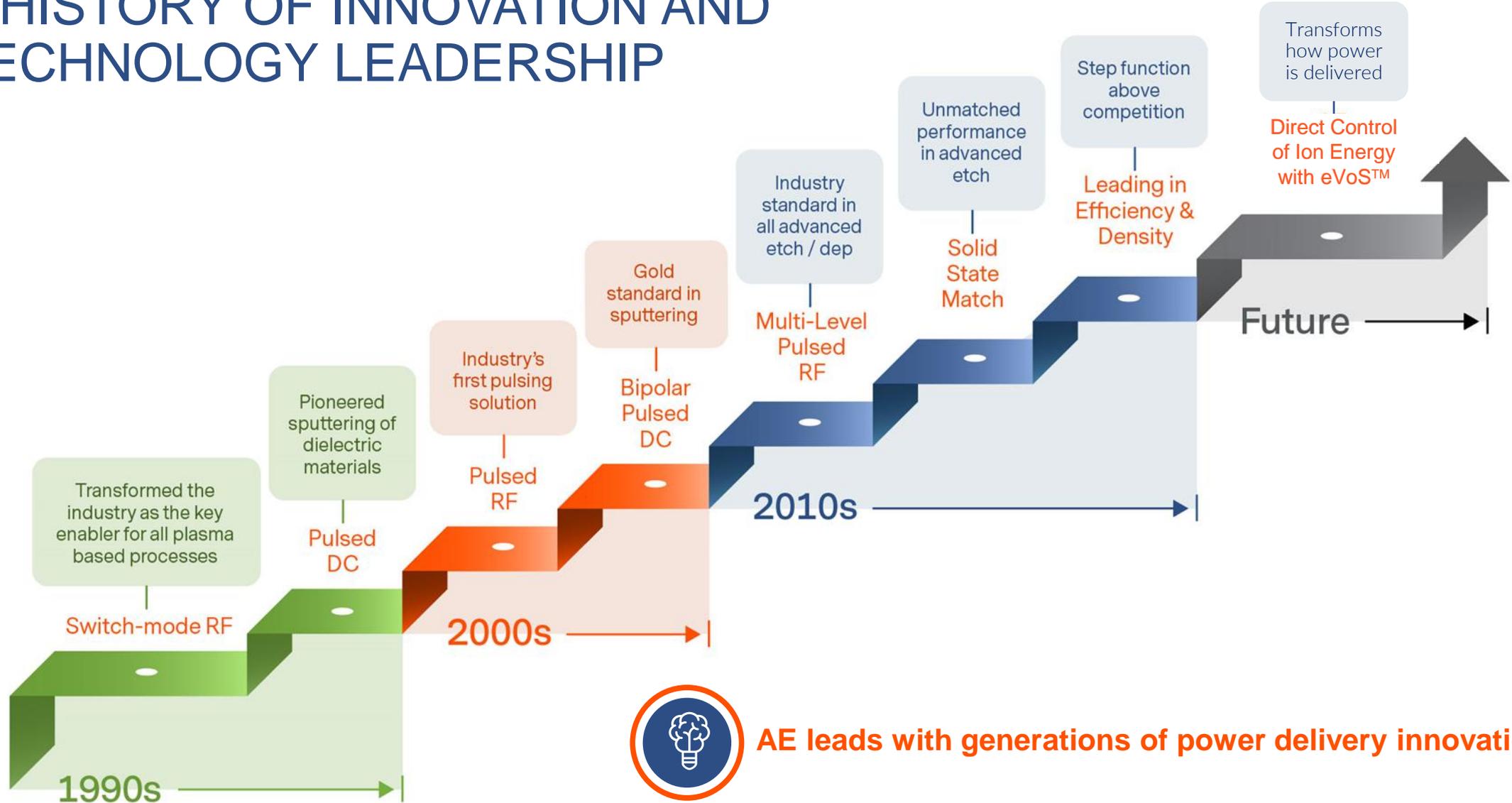
- Mobile Edge Computing for 5G
- High Performance Computing for analytics and automation
- Increased power density in data center server racks



- 5G infrastructure requires ruggedized power
- High-speed connectivity for seamless data transmission
- Importance of Interconnectivity



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

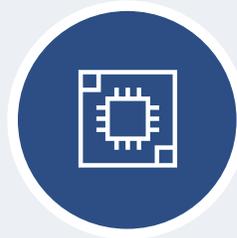
Across Mission-Critical Precision Power Verticals



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

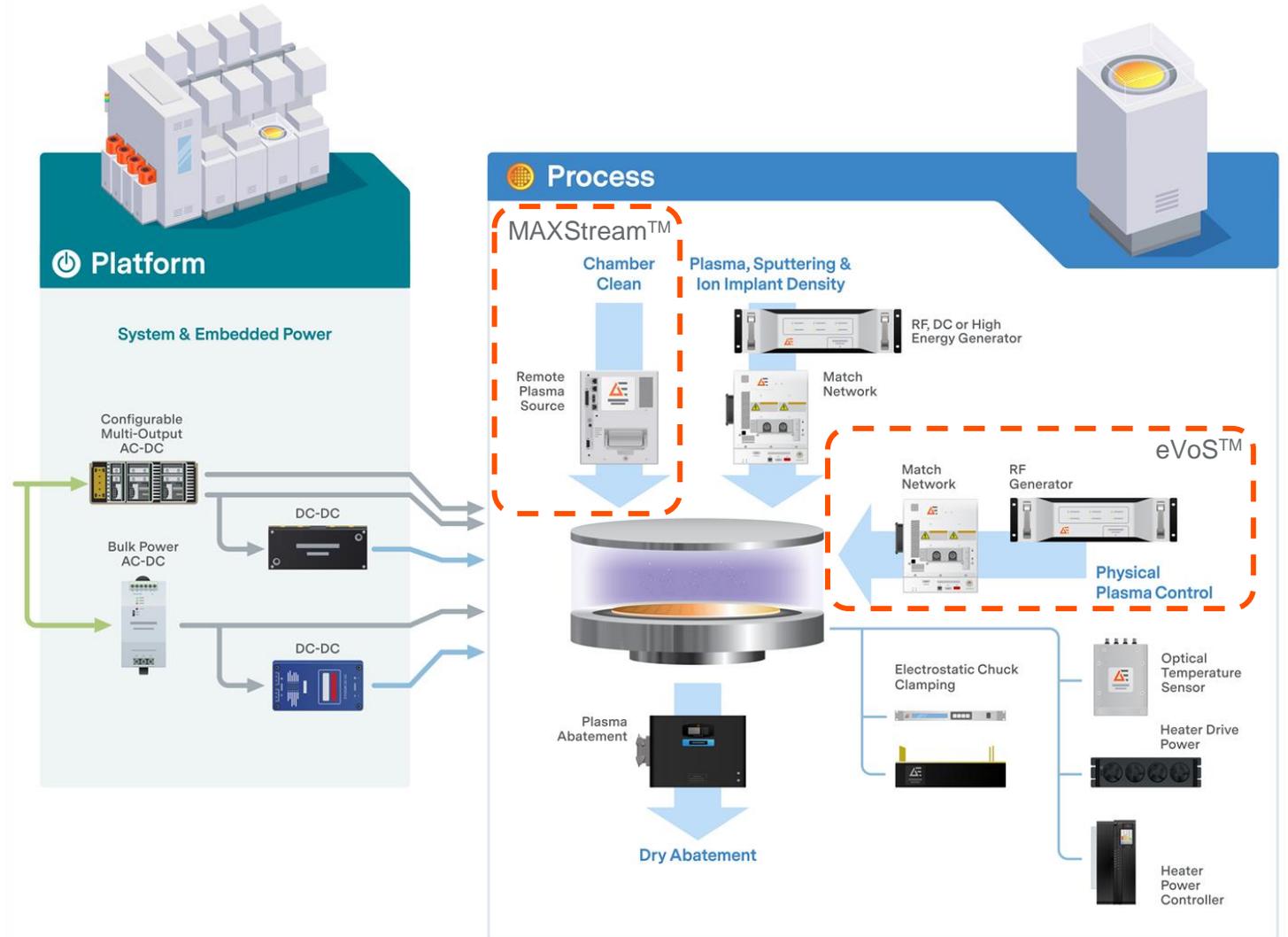
MARKET LEADER WITH PROVEN TRACK RECORD

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

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

TARGET TO CONTINUE TO OUTGROW OUR MARKET

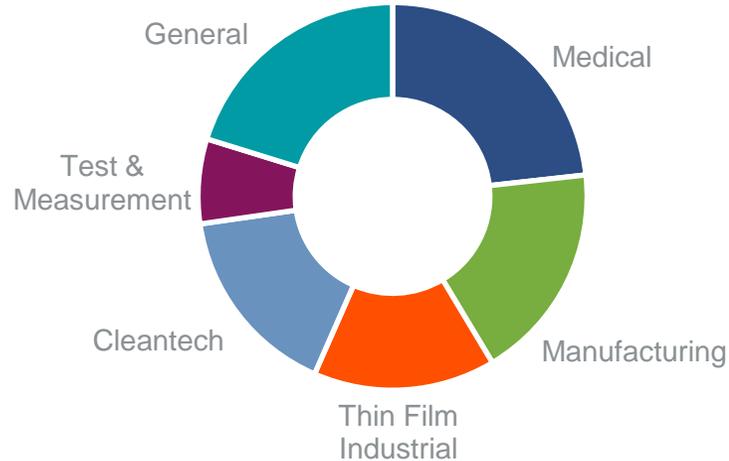
>1.2X AE Targeted Revenue CAGR over WFE CAGR



INDUSTRIAL & MEDICAL: EXPANDING OUR PORTFOLIO OF PROPRIETARY SOLUTIONS

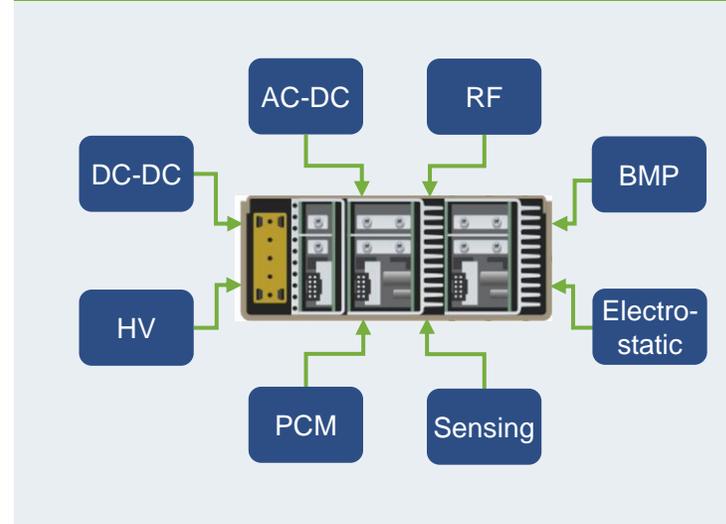
LARGE MARKET WITH WIDE RANGE OF NICHE OPPORTUNITIES

Large SAM of \$3.2B



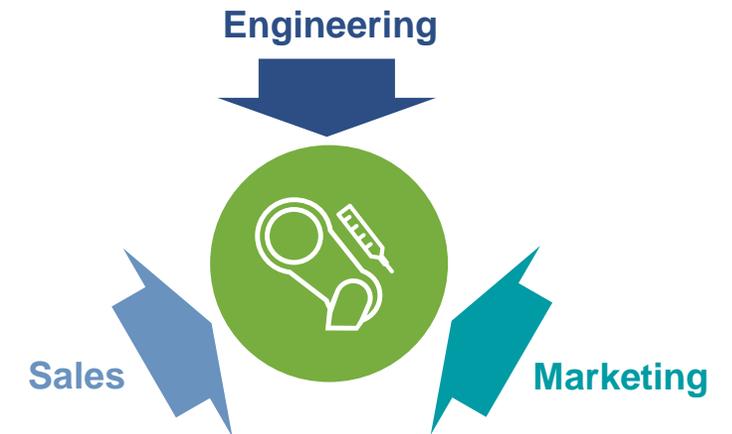
- Large SAM consists of many small and medium **high-value opportunities**
- Target long-life cycle and proprietary applications to capture **sole-source positions**

LEVERAGE BROAD PORTFOLIO OF STANDARD PRODUCTS TO DELIVER CUSTOM SOLUTIONS



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

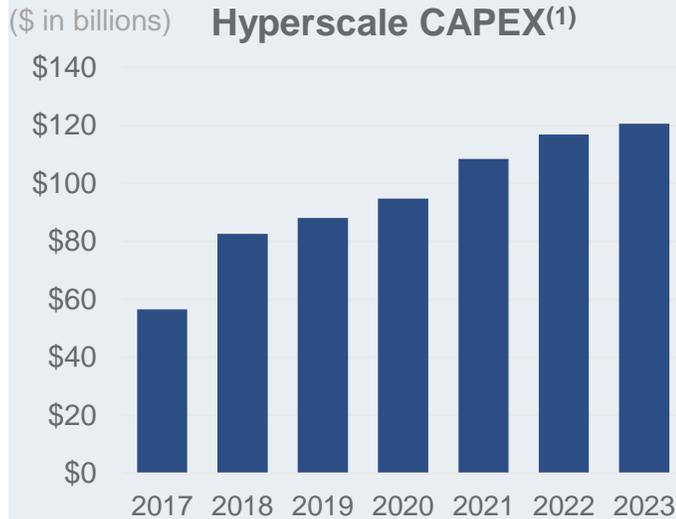
ACCELERATE INVESTMENTS TO DRIVE GROWTH



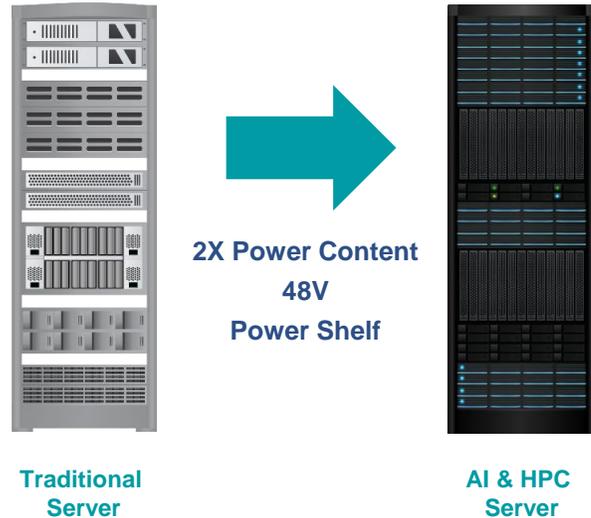
- **Allocate more** engineering, sales and marketing resources to I&M applications
- Grow **design win funnel**, accelerate cross selling and drive profitable revenue growth

DATA CENTER COMPUTING: FROM FAST FOLLOWER TO TECHNOLOGY LEADER

GROWING INVESTMENTS



MORE HIGH VALUE CONTENT



AE TECHNOLOGY LEADERSHIP

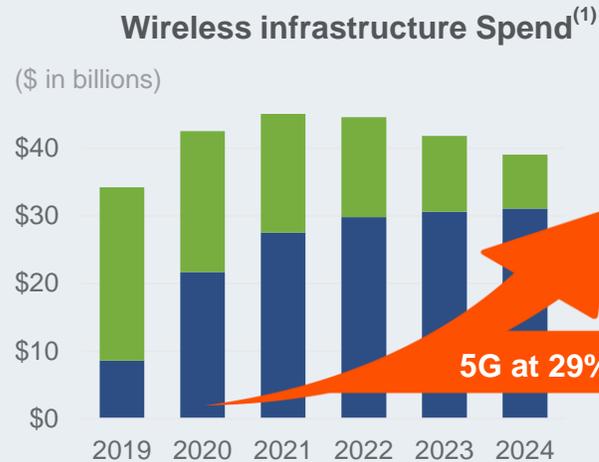


OUR WINNING STRATEGIES

- **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



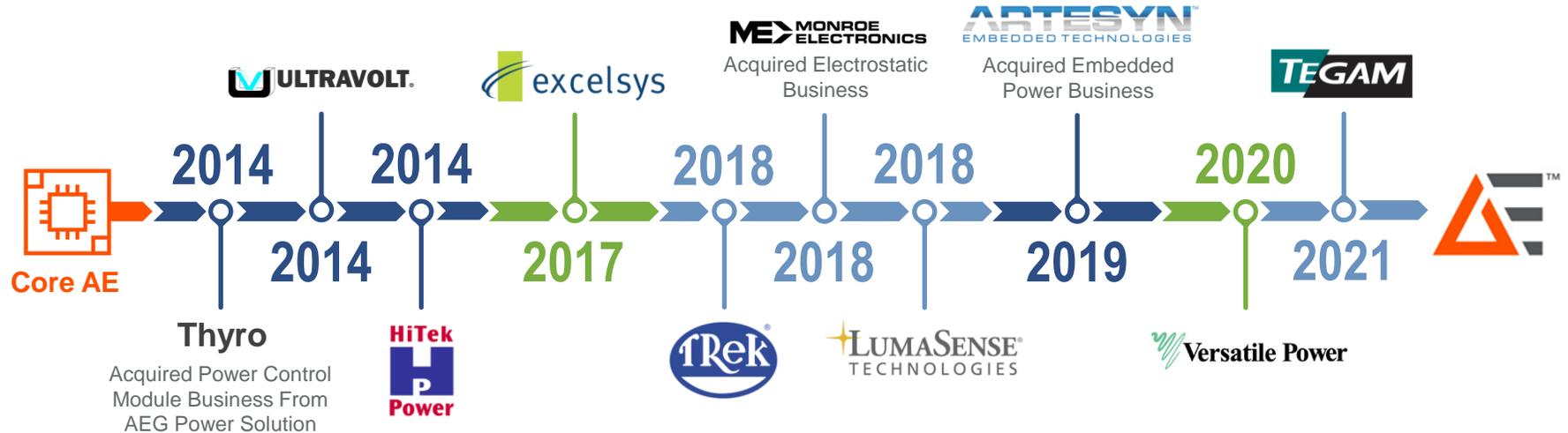
**High reliability
ruggedized power
supply for the harshest
environments**



INORGANIC GROWTH: GROWING SCOPE AND LEVERAGING SCALE

Track Record

Deployed ~\$560M adding >\$760M of pro forma revenue⁽¹⁾



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%

(1) Pro-forma annualized revenue

REACCELERATING EARNINGS GROWTH AS SUPPLY IMPROVES



A FRAMEWORK TO ACHIEVE OUR LONG-TERM VISION

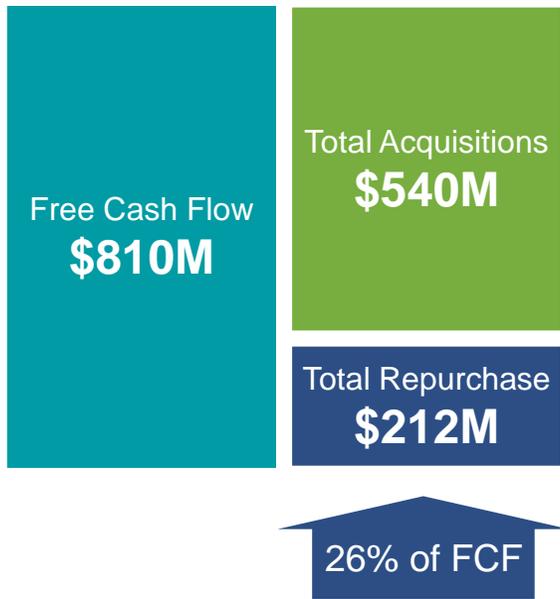
	3-YEAR ASPIRATIONAL GOALS	LONG-TERM ORGANIC FINANCIAL FRAMEWORK	INORGANIC GROWTH ASSUMPTIONS	LONG-TERM VISION (6-8 YEARS)
Revenue (\$M)	\$1,650	5-6% Net CAGR	Add ~\$500M	\$2,500
Non-GAAP Operating Margins	21%	OPEX at ½ rev. CAGR 35-45% incr. margins	>10% acquired margins	21%
Non-GAAP EPS (\$/sh)	\$7.50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

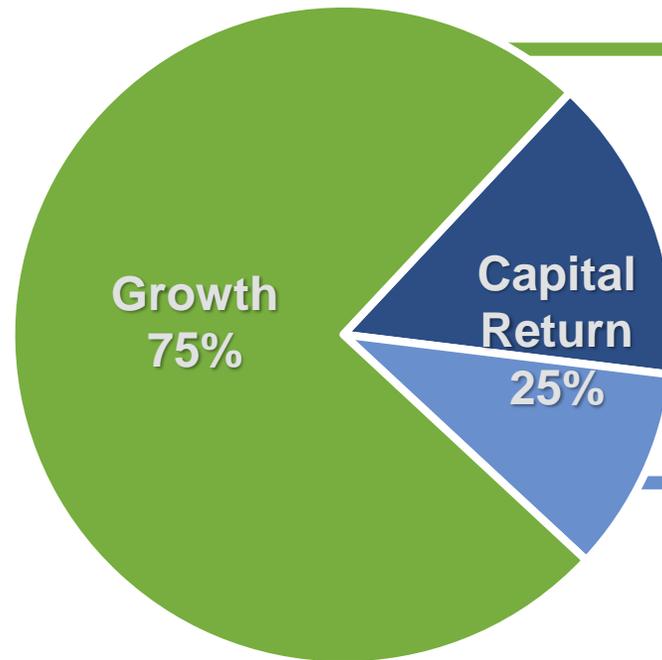
CAPITAL ALLOCATION PLAN

Capital Allocation Track Record

2014 to 2020 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

Q3 2021 FINANCIAL HIGHLIGHTS



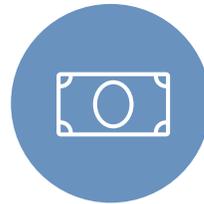
REVENUE
\$346 million
 Down 4% Q/Q



BACKLOG
\$771 million
 Up 44% Q/Q



NON-GAAP EPS⁽¹⁾
\$0.89
 Above target of \$0.80



OPERATING CASH FLOW
\$18.3 million
 5.3% of sales



NON-GAAP GROSS MARGIN⁽¹⁾
36.1%
 Down 190 bps Q/Q



NON-GAAP OP MARGIN⁽¹⁾
11.9%
 Down on lower sales, GM

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' in a dark blue, all-caps, sans-serif font, centered on a white background. The background features a collage of images: a person in a surgical mask and cap, a microchip, and communication towers.

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, minority interest, and non-recurring items such as acquisition-related costs and restructuring expenses. The non-GAAP measures 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 and other 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. Please refer to the Form 8-K regarding this presentation furnished today to the Securities and Exchange Commission.

Q4 2021 GUIDANCE

	Q4 2021
Revenue	\$355M +/- \$20M
GAAP EPS from continuing operations	\$0.62 +/- \$0.25
Non-GAAP* EPS	\$0.92 +/- \$0.25

NON-GAAP RECONCILIATION

	Twelve months ended December 31,			
	2017	2018	2019	2020
Revenue	\$ 671.0	\$ 718.9	\$ 788.9	\$ 1,415.8
GAAP Operating Income	\$ 200.8	\$ 171.6	\$ 54.4	\$ 176.0
Add back:				
Restructuring Charges	-	4.2	5.0	13.2
Acquisition-related Costs	0.2	2.3	20.3	15.6
Stock-based Compensation	12.5	9.7	7.3	12.3
Amortization of Intangible Assets	4.4	5.8	12.2	20.1
Facility Transition and Relocation Costs	-	1.8	4.8	6.6
Non-GAAP Operating Income	\$ 217.8	\$ 195.4	\$ 104.1	\$ 243.7
<i>Non-GAAP Operating Margin % of Revenue</i>	<i>32.5%</i>	<i>27.2%</i>	<i>13.2%</i>	<i>17.2%</i>

	Twelve months ended December 31,			
	2017	2018	2019	2020
GAAP Income from Continuing Operations	\$ 136.1	\$ 147.1	\$ 56.5	\$ 135.2
Add back:				
Restructuring Charges	-	4.2	5.0	13.2
Acquisition-related Costs	0.2	2.3	20.3	16.3
Stock-based Compensation	12.5	9.7	7.3	12.3
Amortization of Intangible Assets	4.4	5.8	12.2	20.1
Foreign Exchange Losses	3.5	-	-	8.4
Facility Transition and Relocation Costs	-	1.8	4.8	6.6
Incremental Expense Associated with Start-up of the Asia Regional Headquarters	1.1	-	-	-
Central Inverter Services Business Sale	-	-	(13.7)	-
Nonrecurring Tax (Benefit) Expense Associated with Inverter Business Sale	(33.8)	-	-	-
Tax Cuts and Jobs Act Impact	72.9	5.7	-	-
Tax Effect of Non-GAAP Adjustments	(5.3)	(4.6)	1.5	(10.5)
Non-GAAP Net Income	\$ 191.5	\$ 172.0	\$ 93.9	\$ 201.5
Share Outstanding (Millions)	40.2	39.4	38.5	38.5
Non-GAAP EPS	\$ 4.77	\$ 4.37	\$ 2.44	\$ 5.23

NON-GAAP RECONCILIATION

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

	Three Months Ended			Nine Months Ended	
	September 30,		June 30,	September 30,	
	2021	2020	2021	2021	2020
Gross profit from continuing operations, as reported	\$ 120,039	\$ 153,785	\$ 135,033	\$ 392,575	\$ 396,320
Adjustments to gross profit:					
Stock-based compensation	218	67	215	783	445
Facility expansion, relocation costs and other	1,357	1,095	1,997	5,192	3,608
Acquisition-related costs	3,259	—	84	3,351	5,356
Non-GAAP gross profit	<u>124,873</u>	<u>154,947</u>	<u>137,329</u>	<u>401,901</u>	<u>405,729</u>
Non-GAAP gross margin	36.1%	39.8%	38.0%	38.0%	38.8%
Operating expenses from continuing operations, as reported	95,830	94,831	93,953	283,104	276,082
Adjustments:					
Amortization of intangible assets	(5,607)	(5,049)	(5,513)	(16,504)	(15,064)
Stock-based compensation	(3,456)	(3,714)	(3,229)	(12,036)	(9,221)
Acquisition-related costs	(1,768)	(5,214)	(2,328)	(6,124)	(10,597)
Facility expansion, relocation costs and other	(98)	(415)	(63)	(212)	(1,770)
Restructuring charges	(1,272)	(1,494)	(211)	(2,521)	(7,940)
Non-GAAP operating expenses	<u>83,629</u>	<u>78,945</u>	<u>82,609</u>	<u>245,707</u>	<u>231,490</u>
Non-GAAP operating income	<u>\$ 41,244</u>	<u>\$ 76,002</u>	<u>\$ 54,720</u>	<u>\$ 156,194</u>	<u>\$ 174,239</u>
Non-GAAP operating margin	11.9%	19.5%	15.1%	14.7%	16.7%

Reconciliation of Non-GAAP measure - income excluding certain items

	Three Months Ended			Nine Months Ended	
	September 30,		June 30,	September 30,	
	2021	2020	2021	2021	2020
Income from continuing operations, less non-controlling interest, net of income taxes	\$ 21,041	\$ 45,577	\$ 35,511	\$ 94,910	\$ 93,255
Adjustments:					
Amortization of intangible assets	5,607	5,049	5,513	16,504	15,064
Acquisition-related costs	5,027	5,214	2,412	9,475	15,953
Facility expansion, relocation costs, and other	1,455	1,510	2,060	5,404	5,378
Restructuring charges	1,272	1,494	211	2,521	7,940
Unrealized foreign currency (gain) loss	(2,092)	3,540	885	(3,409)	4,598
Acquisition-related costs and other included in other income (expense), net	(79)	625	899	907	625
Tax effect of non-GAAP adjustments	<u>(1,036)</u>	<u>(2,115)</u>	<u>(2,043)</u>	<u>(4,363)</u>	<u>(6,080)</u>
Non-GAAP income, net of income taxes, excluding stock-based compensation	31,195	60,894	45,448	121,949	136,733
Stock-based compensation, net of taxes	2,811	2,892	2,636	9,809	7,425
Non-GAAP income, net of income taxes	<u>\$ 34,006</u>	<u>\$ 63,786</u>	<u>\$ 48,084</u>	<u>\$ 131,758</u>	<u>\$ 144,158</u>

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

	Three Months Ended			Nine Months Ended	
	September 30,		June 30,	September 30,	
	2021	2020	2021	2021	2020
Diluted earnings per share from continuing operations, as reported	\$ 0.55	\$ 1.18	\$ 0.92	\$ 2.46	\$ 2.42
Add back (subtract):					
Per share impact of non-GAAP adjustments, net of tax	0.34	0.48	0.33	0.96	1.32
Non-GAAP per share earnings	<u>\$ 0.89</u>	<u>\$ 1.66</u>	<u>\$ 1.25</u>	<u>\$ 3.42</u>	<u>\$ 3.74</u>

RECONCILIATION OF Q4 2021 GUIDANCE

	Low End		High End
Revenue	\$335M	-	\$375M
Reconciliation of non-GAAP* earnings per share			
GAAP earnings per share	\$0.37	-	\$0.87
Stock-based compensation	\$0.11	-	\$0.11
Amortization of intangible assets	\$0.14	-	\$0.14
Restructuring and other	\$0.10	-	\$0.10
Tax effects of excluded items	-\$0.05	-	-\$0.05
Non-GAAP* earnings per share	\$0.67	-	\$1.17