

The background is a collage of images related to technology and industry. On the left, there is a close-up of a person wearing safety glasses and a face mask, holding a square microchip. Below this, there are two tall, lattice-structured communication towers. The entire image is overlaid with a geometric pattern of blue and white triangles.

A Best-in-Class Industrial Growth Enterprise

MARCH 2021

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 or made on the conference call that are not historical information are 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. 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. Such risks and uncertainties include, but are not limited to: (a) the effects of global macroeconomic conditions upon demand for our products and services; (b) the volatility and cyclical nature of the industries the company serves, particularly the semiconductor industry; (c) delays in capital spending by end-users in our served markets; (d) the risks and uncertainties related to the acquisition and integration of Artesyn Embedded Power including the optimization and reduction of our global manufacturing sites; (e) the continuing spread of COVID-19 and its potential adverse impact on our product manufacturing, supply chain and operations; (f) the accuracy of the company's estimates related to fulfilling solar inverter product warranty and post-warranty obligations; (g) the company's ability to realize its plan to avoid additional costs after the solar inverter wind-down; (h) the accuracy of the company's assumptions on which its financial statement projections are based; (i) the impact of product price changes, which may result from a variety of factors; (j) the timing of orders received from customers; (k) the company's ability to realize benefits from cost improvement efforts including avoided costs, restructuring plans and inorganic growth; (l) the company's ability to obtain in a timely manner the materials necessary to manufacture its products; (m) unanticipated changes to management's estimates, reserves or allowances; (n) changes and adjustments to the tax expense and benefits related to the U.S. tax reform that was enacted in late 2017; and (o) the effects of U.S. government trade and export restrictions, Chinese retaliatory trade actions, and other governmental action related to tariffs upon the demand for our, and our customers', products and services and the U.S. economy. These and other risks are described in Advanced Energy's Form 10 K, Forms 10 Q and other reports and statements filed with the Securities and Exchange Commission (the "SEC"). These reports and statements are available on the SEC's website at www.sec.gov. Copies may also be obtained from Advanced Energy's investor relations page at ir.advanced-energy.com or by contacting Advanced Energy's investor relations at 970 407 6555. Forward-looking statements are made and based on information available to the company on the date of this presentation. Aspirational goals and targets discussed on the conference call or in the presentation materials should not be interpreted in any respect as guidance. The company assumes no obligation to update the information in this presentation.

POWERING THE 4TH INDUSTRIAL REVOLUTION



PURE PLAY POWER LEADER

Strategic focus on power ensures sustainable advantages and scale



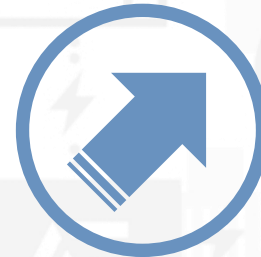
OUTPERFORMING MARKETS

Track record of growing share, content and increasing SAM



4TH INDUSTRIAL REVOLUTION

Data economy and digitization drive growth across our markets

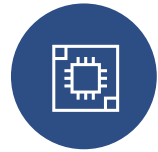


ACCELERATING EARNINGS

Target earnings growth at 3-Year CAGR of 13%, >2X faster than revenue, and ROIC of >20%

WE ARE THE PURE PLAY POWER LEADER

AE provides
precision power
conversion and
control solutions for
a wide range of
technologies and
applications



SEMICONDUCTOR
EQUIPMENT



INDUSTRIAL &
MEDICAL



DATA CENTER
COMPUTING



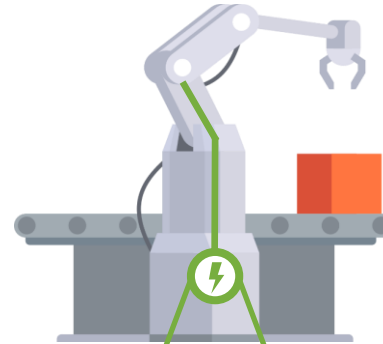
TELECOM &
NETWORKING



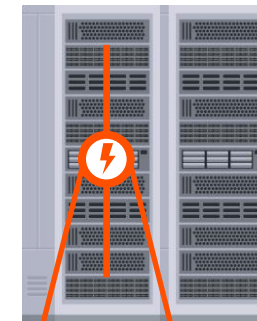
Grid
Power



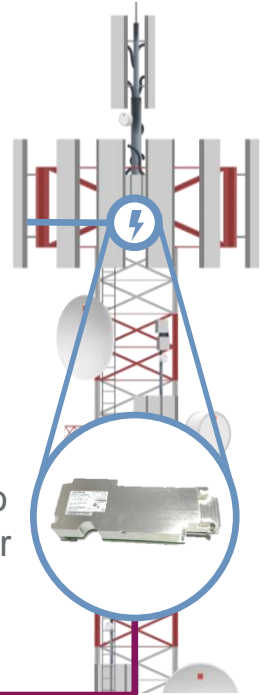
Process
Power



Custom
Power



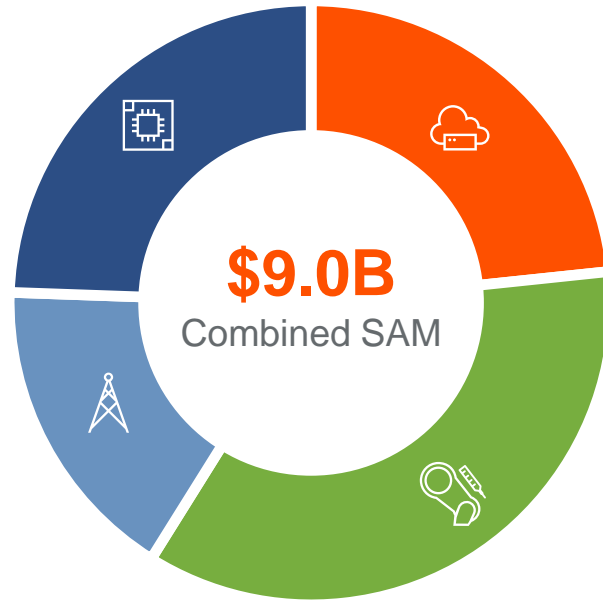
Server
Power



Radio
Power

OUR LEADERSHIP ENABLES SOLID FINANCIAL PERFORMANCE

Large & Diversified Growing Market



#1 or #2 in All Four Markets

2020 Reported Results



\$1.42 billion
REVENUE
79% YoY Growth



\$244 million
NON-GAAP OP PROFIT⁽¹⁾
134% YoY Growth



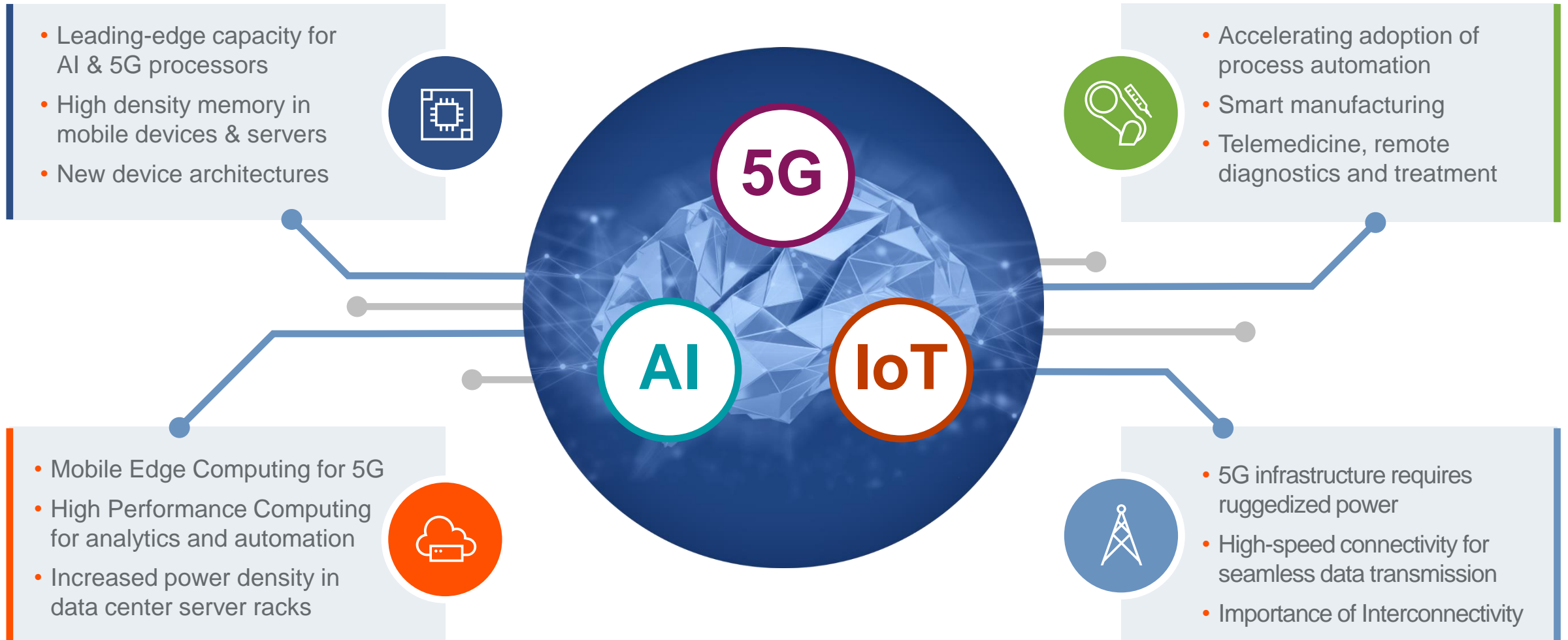
\$5.23
NON-GAAP EPS⁽¹⁾
114% YoY Growth



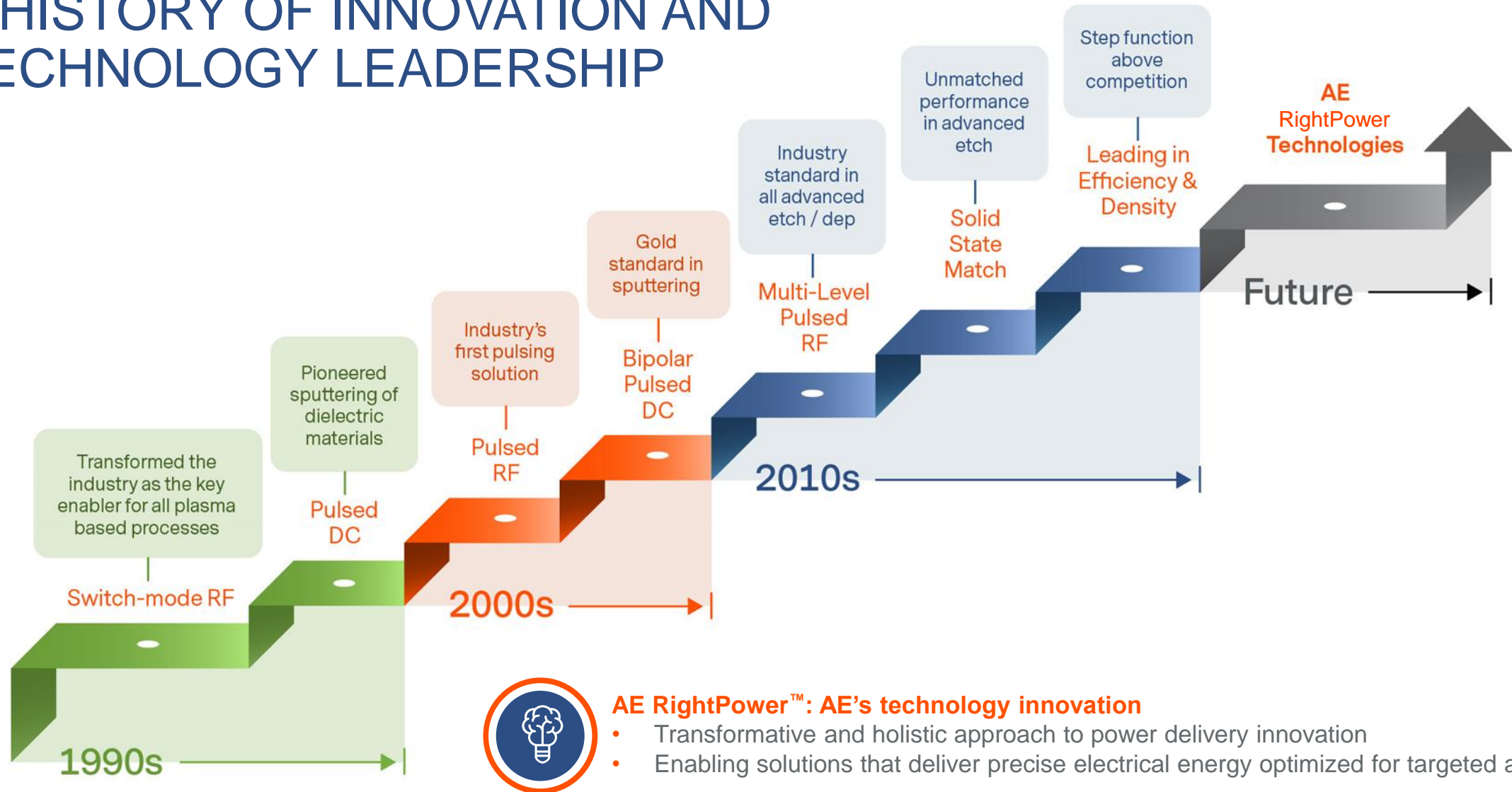
\$202 million
OPERATING CASH FLOW⁽²⁾
322% YoY Growth

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

4TH INDUSTRIAL REVOLUTION DRIVES GROWTH ACROSS OUR 4 VERTICALS



A HISTORY OF INNOVATION AND TECHNOLOGY LEADERSHIP



AE RightPower™: AE's technology innovation

- Transformative and holistic approach to power delivery innovation
- Enabling solutions that deliver precise electrical energy optimized for targeted applications

STRONG CADENCE OF NEW PRODUCTS INTRODUCED IN 2020



▶ **eVoS™ LE:** Beyond RF for Next Gen Etch/Dep



▶ **OCP ORv3 Power Shelf:** for 48V Data Center



▶ **BDQ1300:** Isolated DC-DC Converters for 48V Telecom and Computing



▶ **Navigator® II FCI:** High-Speed Solid-State Match for ALE/ALD



▶ **Ascent® MS:** 5-Output DC Power System for Solar Cell Manufacturing



▶ **iTSTM + iHPSTM:** Intelligent Lighting and Control System for Horticulture



▶ **Paramount® HFi:** Integrated RF System for Advanced Dep



▶ **Impac® 600:** Modular, Field-Configurable Pyrometry Platform



▶ **CoolIX® 3000:** High Power Configurable for Medical Applications



▶ **MAXstream™:** RPS with Best-in-Class Capabilities and Reliability



▶ **Thyro-A+:** SCR Power Controller for Heating Applications



▶ **CS1000:** High Power Fanless for Medical and Industrial Applications

4 KEY AREAS FOR GROWTH

AE TARGETED GROWTH STRATEGIES



GROW SHARE

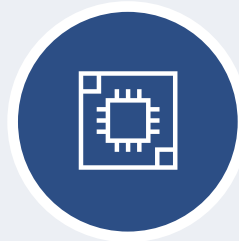
Across Mission Critical,
Precision Power Verticals



Invest in **INNOVATION** and
Technology Leadership



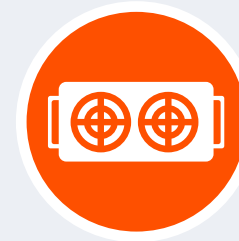
Leverage Strong Financials
and Increased Scale to
Capitalize on
NEW OPPORTUNITIES



Semiconductor:
Extending Our
Leadership



Industrial & Medical:
Enabling Smart
Applications

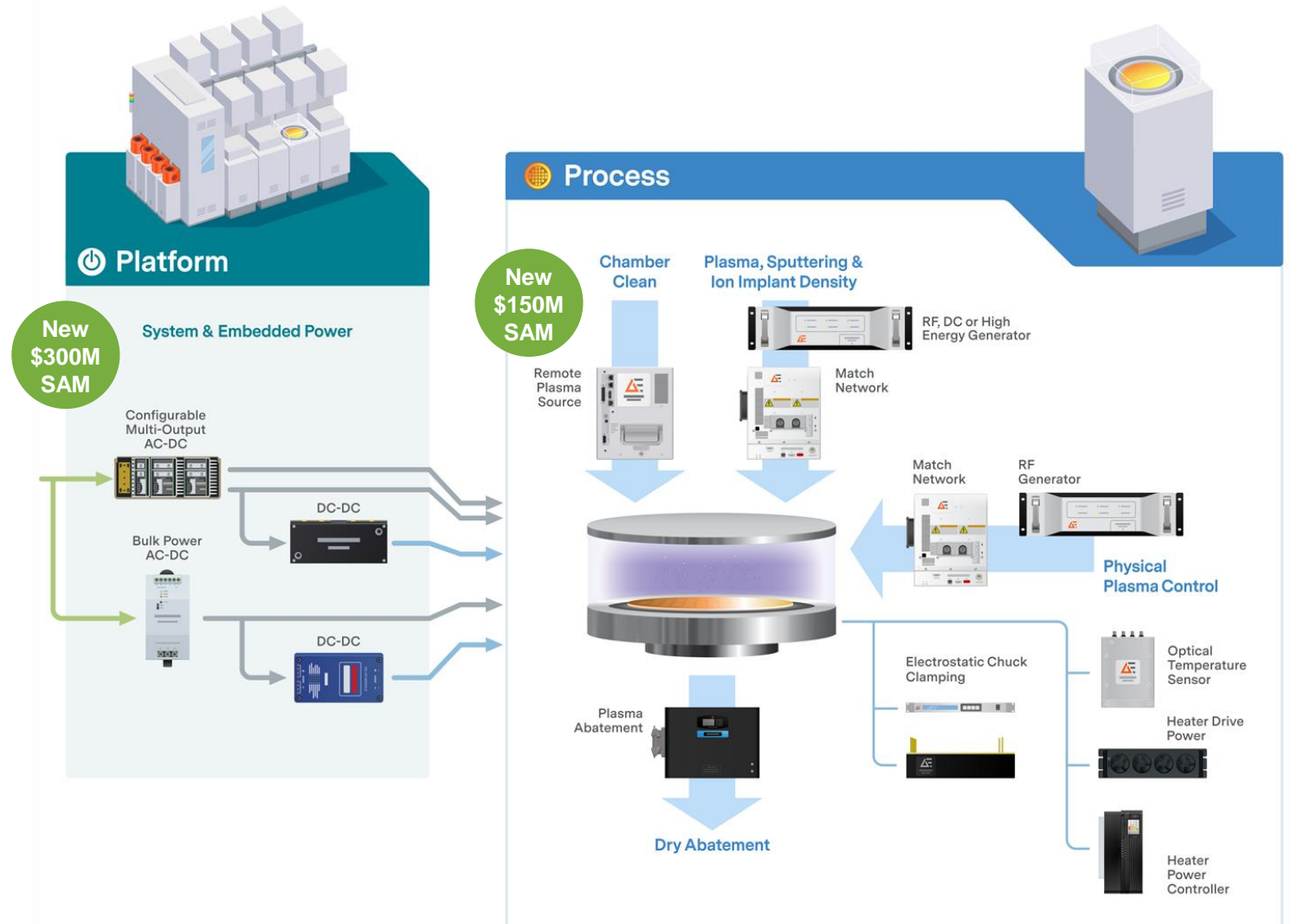


Hyperscale:
From Fast Follower
to Market Leader



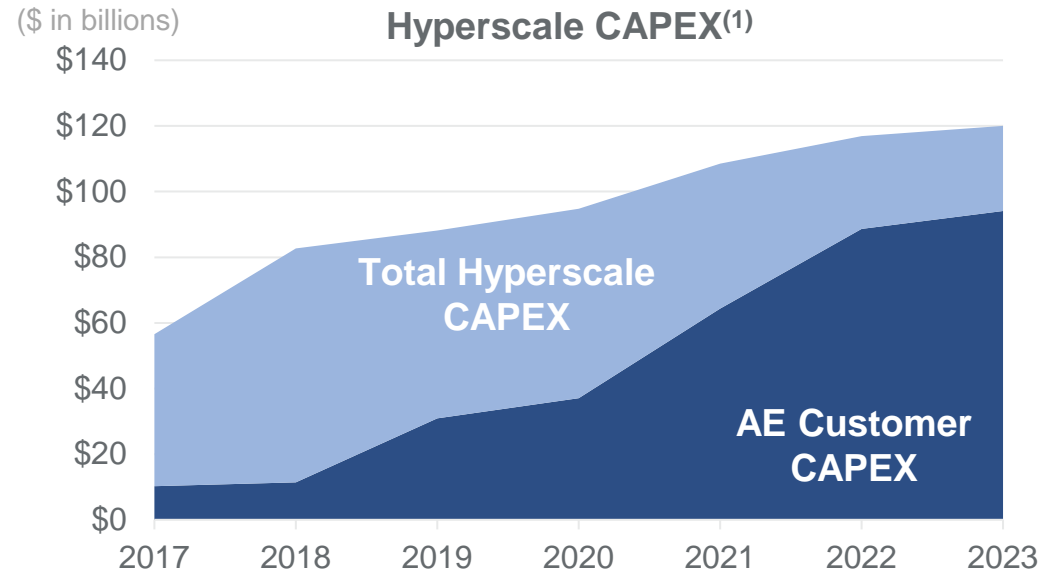
Inorganic Growth:
Growing Scope and
Leveraging Scale

SEMI: EXTENDING OUR LEADERSHIP

MARKET LEADER WITH
PROVEN TRACK RECORD~2X RF Power Market Share
vs. Next Competitor⁽¹⁾13% 10-year Semi Product
Revenue CAGRTARGET TO CONTINUE TO
OUTGROW OUR MARKET>1.2X AE Targeted Revenue
CAGR over WFE CAGR

HYPERSCALE: FROM FAST FOLLOWER TO MARKET LEADER

MARKET SHARE GAINS AT HYPERSCALE



GROWTH TARGETS

~2X

AE Targeted SAM CAGR vs. Server Power Supply Market⁽²⁾

40-50%

AE Hyperscale CAGR Target from 2017 to 2023

**Add
>\$100M/year**

AE Data Center Computing Revenue Goal from 2020 to 2023

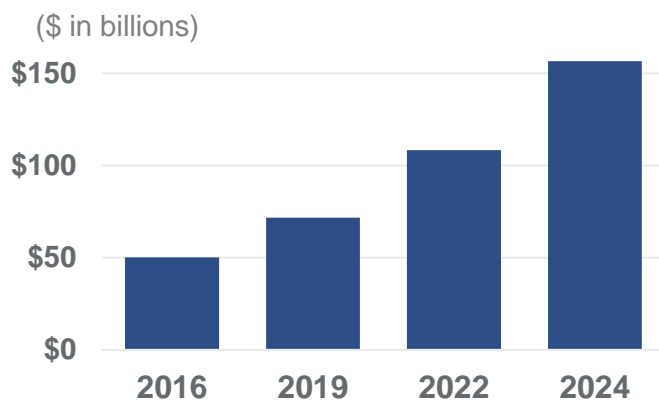
OUR WINNING STRATEGIES

- Lead with power **efficiency and density**
- **Gain share** at Tier-I and Tier-II hyperscale customers
- Capture additional opportunities with **48V transition**
- Win with **system-level solutions** with advanced capabilities
- Deliver **best-in-class** quality, operations and customer relationships

INDUSTRIAL & MEDICAL: ENABLING SMART APPLICATIONS

FAVORABLE MARKET TREND IN “SMART EVERYTHING”

Industry 4.0 Market⁽¹⁾



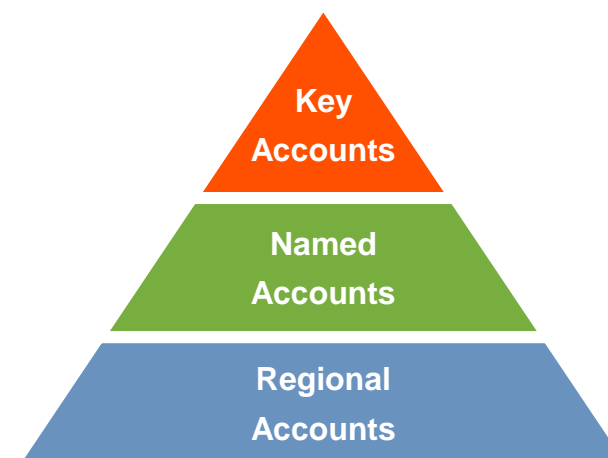
- Industry 4.0 related investments expected to grow at a 16.9% 2019-24 CAGR⁽¹⁾
- Digital transformation and smart everything
- AE leading with AI/ML based controls, digital functionalities and IoT integration

LEADERSHIP IN CONFIGURABLE



- Highly flexible platform using existing off the shelf modules to create custom solutions
- Accelerates time to market by enabling quick customization
- AE is the market leader in this SAM of \$140M with 35% share⁽²⁾

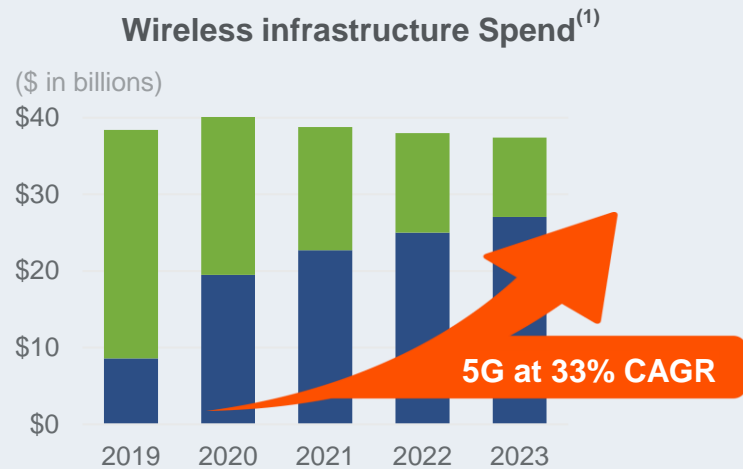
GLOBAL CHANNEL AS A GROWTH ENGINE



- Optimized global channel to drive scale in coverage and increases efficiency
- Trusted supplier to our partners
- Accelerate cross selling, grow design win funnel and drive profitable revenue growth

TELECOM & NETWORKING: TARGETING 5G INFRASTRUCTURE

FAVORABLE MARKET GROWTH TREND



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

GROWTH STRATEGY

- Win new designs in 5G radio power for both macro cells and small cells
- Targeting new growth opportunities in Data Center Networking

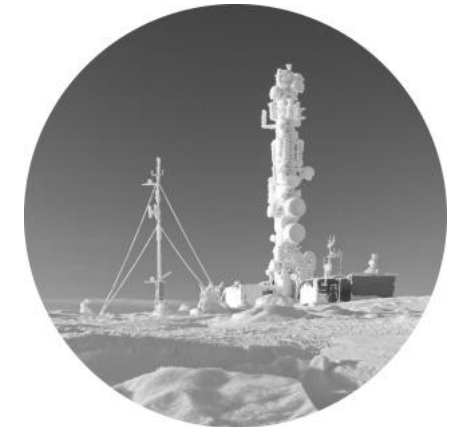
WHY WE WIN

- Leading reputation in high density, rugged power supplies for outdoor radio applications
- 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



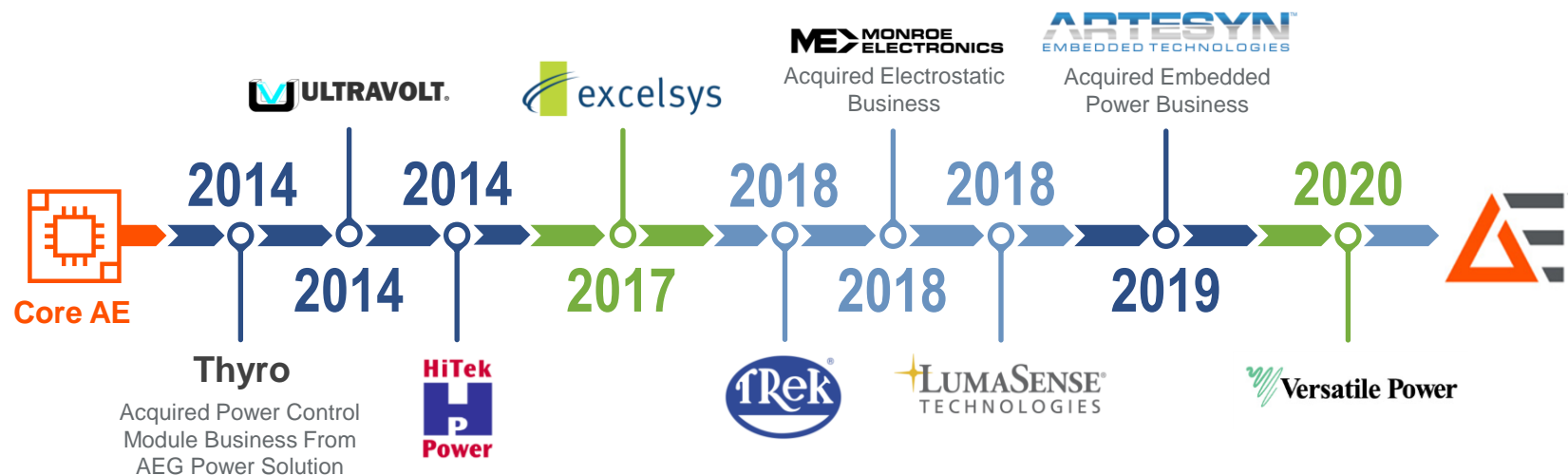
**High reliability
ruggedized power
supply for the harshest
of environments**



INORGANIC GROWTH: GROWING SCOPE AND LEVERAGING SCALE

Track Record

Deployed ~\$540M
adding >\$750M of
pro forma revenue⁽¹⁾



Well-Defined Acquisition Criteria

- Pure Play Power
- Expand SAM, portfolio & technology
- Synergistic with current organization

Building a Solid Funnel

- Plenty of opportunities in the large and fragmented power market
- Extend our efforts in 4th Industrial Revolution

Discipline and Value Creation

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

ESG INITIATIVES ARE INCORPORATED ACROSS OUR BUSINESS AND OUR PRODUCTS



ENVIRONMENTAL

- Energy efficient products
- Energy efficient operations
- Recycling



SOCIAL

- Empowering our community
- Scholarships and educational improvement
- Volunteerism



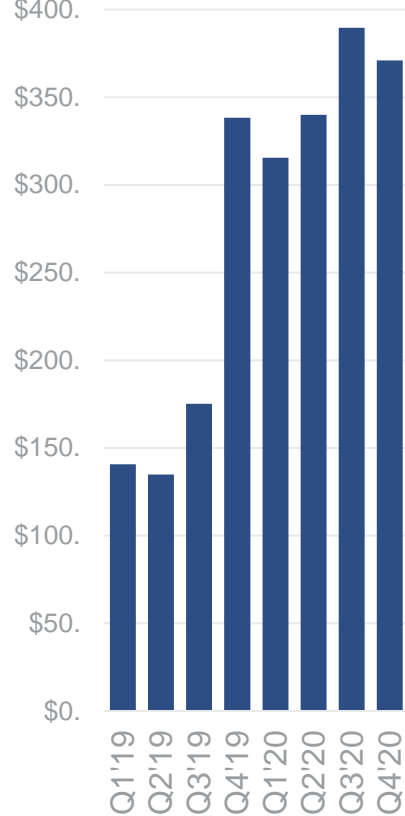
GOVERNANCE

- Supply chain human rights
- Employee development and training
- Diverse Board

DELIVERING RECORD FINANCIAL PERFORMANCE

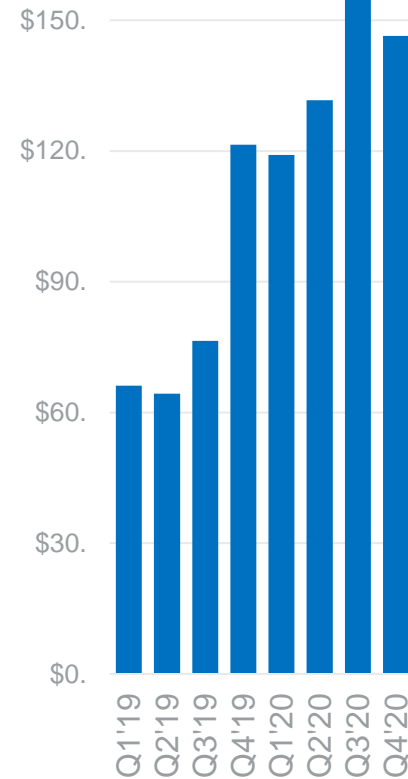
REVENUE

(\$ in millions)
\$400.



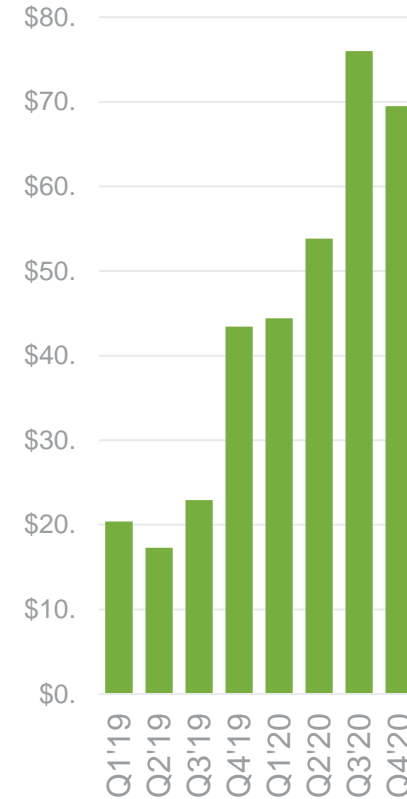
GROSS PROFIT

(\$ in millions)



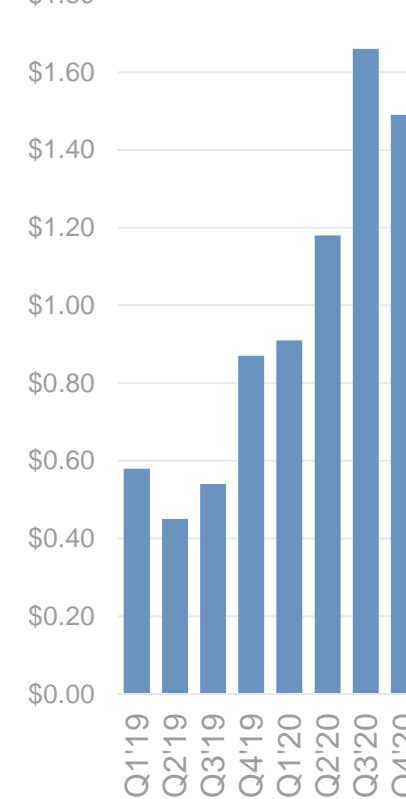
NON-GAAP OP INCOME

(\$ in millions)



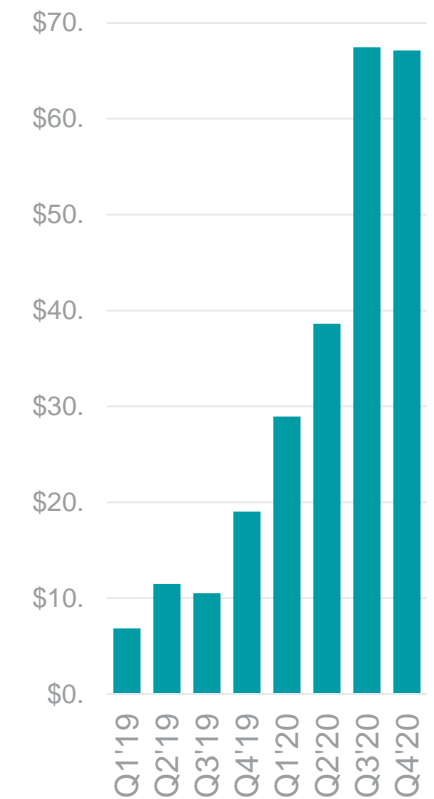
NON-GAAP EPS

(\$ per share)
\$1.80

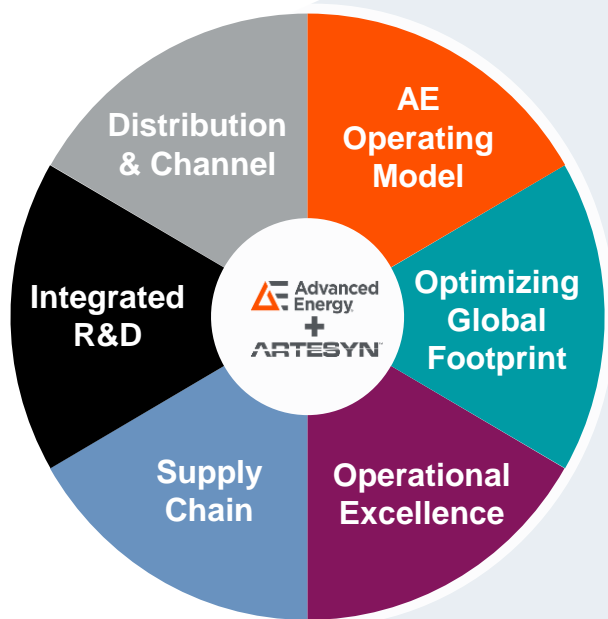


CASH FLOW

(\$ in millions)



ARTESYN INTEGRATION AHEAD OF SCHEDULE



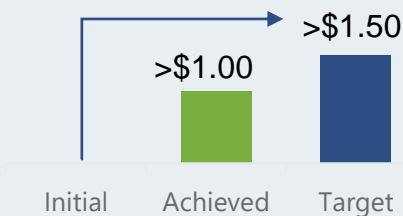
AE Functional Integration

Ahead of Plan to deliver synergies and long-term model

ACHIEVED **>\$30M**
ANNUALIZED SYNERGIES



ACHIEVED **>\$1.00** PER
SHARE ACCRETION



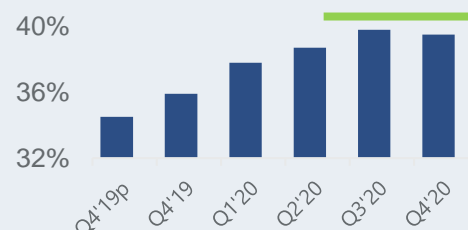
FULLY INTEGRATED
FUNCTIONAL ORGANIZATIONS



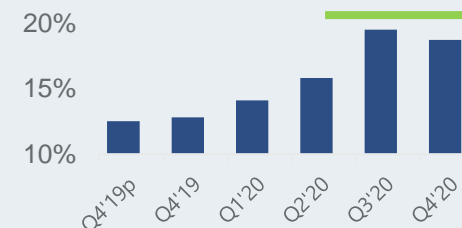
INTRODUCED iHP -
THE FIRST SEMI CROSS SALE



APPROACHING LT GM TARGET



APPROACHING LT OM TARGET



Note: Q4'19p represents original plans at the close of the Artesyn acquisition

ACCELERATING EARNINGS GROWTH

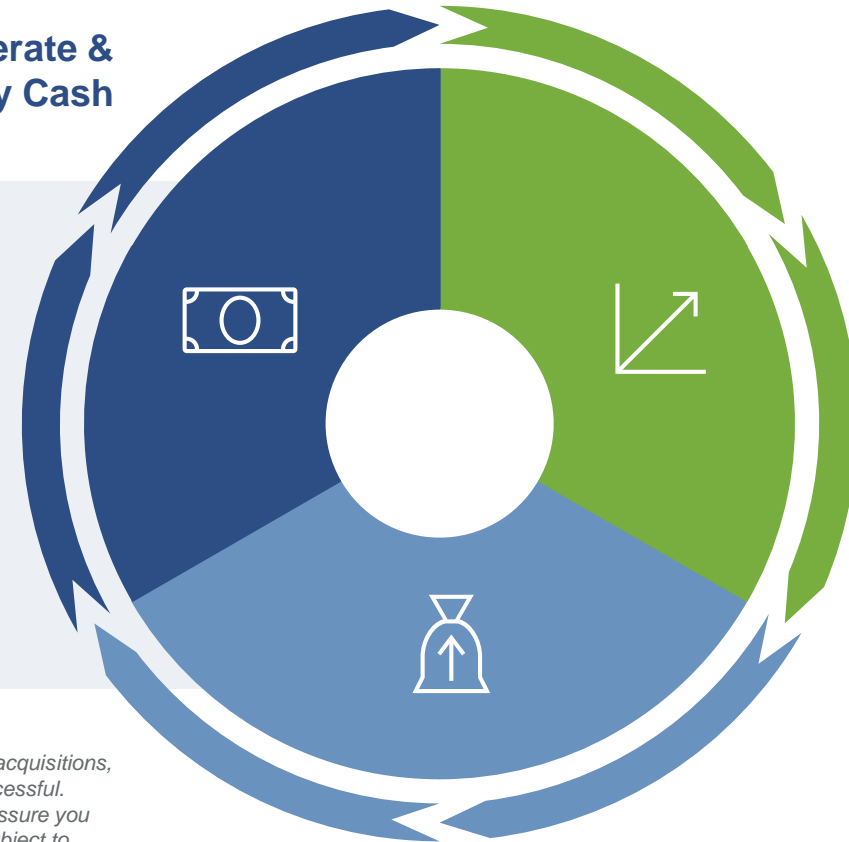


THREE-YEAR ASPIRATIONAL GOALS

Aspirational Goals⁽¹⁾ :

- Revenue: **\$1.65B**
- Non-GAAP EPS⁽²⁾ : **\$7.50**
- ROIC⁽³⁾ : **23%**

Generate &
Deploy Cash



Grow &
Diversify

Drive Strong
Profitability

(1) Please note that hypothetical scenarios regarding revenue growth, EBITDA, EPS, (GAAP or non-GAAP), ROIC, cash generation, acquisitions, aspirational goals and targets and similar statements illustrate various possible outcomes of our different strategies if they are successful. These hypothetical scenarios and illustrations should not be treated as forecasts or projections or financial guidance. We cannot assure you that we will be able to accomplish any of these goals, metrics or opportunities at any point in the future (if at all), all of which are subject to significant risks and uncertainties. Long-term aspirational goals generally reflect an approximately 3-year time frame, depending on the timing of market cycles.

(2) Refer to the non-GAAP reconciliation for additional detail.

(3) ROIC calculated as Non-GAAP Operating Income After Tax divided by Invested Capital, which is defined as Total Assets less Cash, Payables, Accrued Expenses

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	>2.0X revenue CAGR	Accretive in Year 1	\$12.00
ROIC	23%	Maintain >20%	Targeted ROIC at >10%	>20%

CLEAR ROADMAP FOR CREATING LONG-TERM SHAREHOLDER VALUE

CAPITAL ALLOCATION PLAN

Capital Allocation Track Record

2014 to 2020 Total

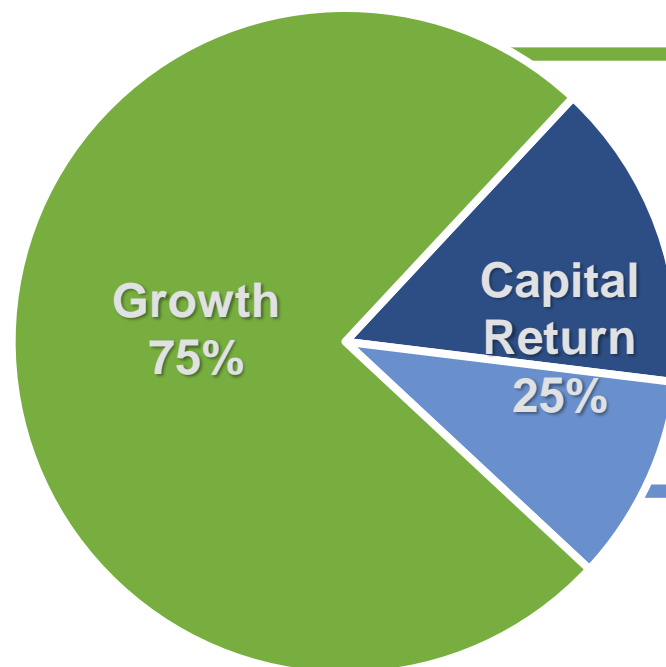
Free Cash Flow
\$810M

Total Acquisitions
\$540M

Total Repurchase
\$212M

26% of FCF

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

POWERING THE 4TH INDUSTRIAL REVOLUTION



PURE PLAY POWER LEADER

Strategic focus on power ensuring sustainable advantages and scale



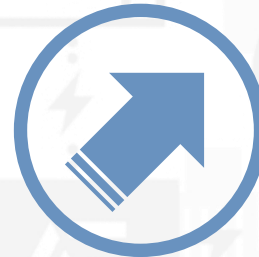
OUTPERFORMING MARKETS

Track record of growing share, content and increasing SAM



4TH INDUSTRIAL REVOLUTION

Data economy and digitization drive growth across our markets



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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.

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			Year Ended	
	December 31,		September 30,	December 31,	
	2020	2019	2020	2020	2019
Gross profit from continuing operations, as reported	\$ 145,549	\$ 112,295	\$ 153,785	\$ 541,869	\$ 315,652
Adjustments to gross profit:					
Stock-based compensation	122	160	67	567	525
Facility expansion, relocation costs and other	741	2,229	1,095	4,349	3,891
Acquisition-related costs	25	6,784	—	5,381	8,290
Non-GAAP gross profit	<u>146,437</u>	<u>121,468</u>	<u>154,947</u>	<u>552,166</u>	<u>328,358</u>
Non-GAAP gross margin	39.5%	35.9%	39.8%	39.0%	41.6%
Operating expenses from continuing operations, as reported	89,764	90,093	94,831	365,846	261,264
Adjustments:					
Amortization of intangible assets	(5,065)	(5,319)	(5,049)	(20,129)	(12,168)
Stock-based compensation	(2,483)	(2,115)	(3,714)	(11,705)	(6,803)
Acquisition-related costs	387	(2,562)	(5,214)	(10,209)	(12,002)
Facility expansion, relocation costs and other	(443)	(651)	(415)	(2,213)	(948)
Restructuring charges	(5,226)	(1,418)	(1,494)	(13,166)	(5,038)
Non-GAAP operating expenses	<u>76,934</u>	<u>78,028</u>	<u>78,945</u>	<u>308,424</u>	<u>224,305</u>
Non-GAAP operating income	<u>\$ 69,503</u>	<u>\$ 43,440</u>	<u>\$ 76,002</u>	<u>\$ 243,742</u>	<u>\$ 104,053</u>
Non-GAAP operating margin	18.7%	12.8%	19.5%	17.2%	13.2%

Reconciliation of Non-GAAP measure - income excluding certain items

	Three Months Ended			Year Ended	
	December 31,		September 30,	December 31,	
	2020	2019	2020	2020	2019
Income from continuing operations, less non-controlling interest, net of income taxes	\$ 41,841	\$ 10,474	\$ 45,577	\$ 135,096	\$ 56,461
Adjustments:					
Amortization of intangible assets	5,065	5,319	5,049	20,129	12,168
Acquisition-related costs	(362)	9,346	5,214	15,590	20,292
Facility expansion, relocation costs and other	1,184	2,879	1,510	6,562	4,838
Restructuring charges	5,226	1,418	1,494	13,166	5,038
Unrealized foreign currency (gain) loss	3,786	—	3,540	8,384	—
Acquisition-related and other costs included in Other income (expense), net	90	—	625	716	(29)
Central inverter services business sale	—	1,067	—	—	(13,737)
Tax effect of Non-GAAP adjustments	(1,532)	1,195	(2,115)	(7,611)	3,206
Non-GAAP income, net of income taxes, excluding stock-based compensation	55,298	31,698	60,894	192,032	88,237
Stock-based compensation, net of taxes	1,993	1,740	2,892	9,418	5,627
Non-GAAP income, net of income taxes	<u>\$ 57,291</u>	<u>\$ 33,438</u>	<u>\$ 63,786</u>	<u>\$ 201,450</u>	<u>\$ 93,864</u>

includes a \$274 noncash fixed asset write-off, which was recognized in Other income (expense), net.

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

	Three Months Ended			Year Ended	
	December 31,		September 30,	December 31,	
	2020	2019	2020	2020	2019
Diluted earnings per share from continuing operations, as reported	\$ 1.09	\$ 0.27	\$ 1.18	\$ 3.51	\$ 1.47
Add back (subtract):					
Per share impact of Non-GAAP adjustments, net of tax	0.40	0.60	0.48	1.72	0.97
Non-GAAP per share earnings	<u>\$ 1.49</u>	<u>\$ 0.87</u>	<u>\$ 1.66</u>	<u>\$ 5.23</u>	<u>\$ 2.44</u>

RECONCILIATION OF Q1 2021 GUIDANCE

	Low End		High End
Revenue	\$335M	-	\$365M
Reconciliation of non-GAAP* earnings per share			
GAAP earnings per share	\$0.87	-	\$1.17
Stock-based compensation	\$0.08	-	\$0.08
Amortization of intangible assets	\$0.13	-	\$0.13
Restructuring and other	\$0.05	-	\$0.05
Tax effects of excluded items	-\$0.03	-	-\$0.03
Non-GAAP* earnings per share	\$1.10	-	\$1.40