The background features a collage of images: a person in a surgical cap and mask, a microchip, and two telecommunications towers. The design is accented with blue, green, and orange geometric shapes.

# Advanced Energy (AEIS) 2020 Investor Briefing

DECEMBER 14, 2020

# SAFE HARBOR STATEMENT

The company's guidance with respect to anticipated financial results, 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 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 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, research & development, supply chain, services and administrative 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 impact of political, economic and policy tensions and conflicts between China and the United States including, but not limited to, trade wars and export restrictions between the two countries, China's national security law for Hong Kong, and China's expansion of control over the South China Sea, any of which could negatively impact our customers' and our presence, operations, and financial results. 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](http://www.sec.gov). Copies may also be obtained from Advanced Energy's investor relations page at [ir.advanced-energy.com](http://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 as of December 14<sup>th</sup>, 2020. Aspirational goals and targets discussed during the event 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.

# PRESENTER AND AGENDA



**Yuval Wasserman**

President and  
Chief Executive Officer



**Paul Oldham**

Executive Vice President  
and Chief Financial Officer



**Dana Huth**

Chief Revenue Officer



**Edwin Mok**

Vice President, Strategic  
Marketing and Investor Relations

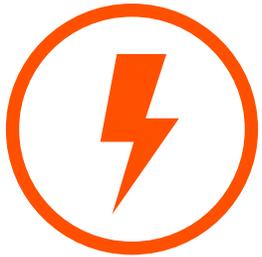
Presenter	Topic
Yuval Wasserman	A Best-in-Class Industrial Growth Enterprise
Dana Huth	Realizing Growth Potential
Paul Oldham	Delivering Long-term Shareholder Value
All	Q&A Session

A collage of images including a person in a surgical mask and cap, a microchip, and two telecommunications towers, all in a light blue, semi-transparent style. The background is composed of dark blue and light blue geometric shapes.

# A Best-in-Class Industrial Growth Enterprise

YUVAL WASSERMAN | PRESIDENT AND CEO

# POWERING THE 4<sup>TH</sup> 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



## 4<sup>TH</sup> INDUSTRIAL REVOLUTION

Data economy and digitization drive growth across our markets

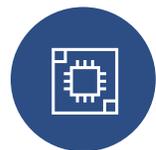


## ACCELERATING EARNINGS

Targeting earnings growth at over 2X faster than revenue and ROIC of over 20%

# WE ARE THE PURE PLAY POWER LEADER

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



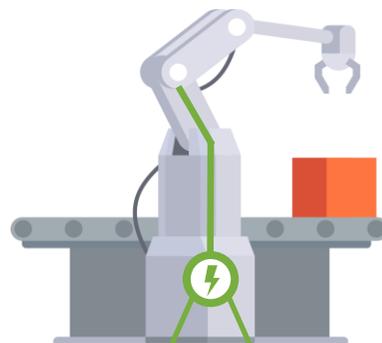
SEMICONDUCTOR EQUIPMENT



Process Power



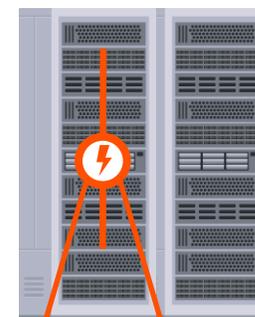
INDUSTRIAL & MEDICAL



Custom Power



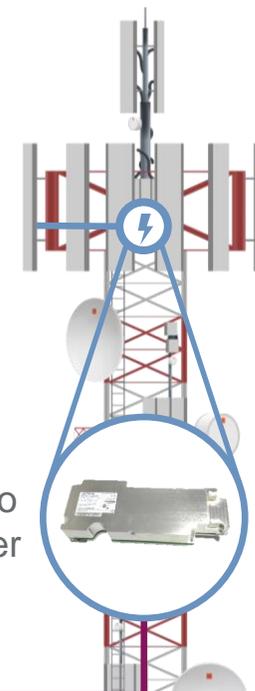
DATA CENTER COMPUTING



Server Power



TELECOM & NETWORKING



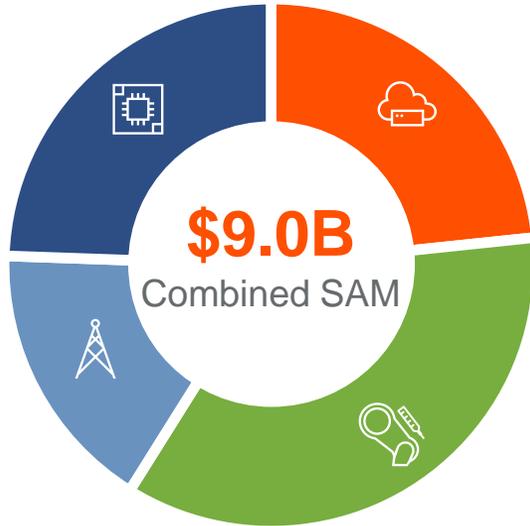
Radio Power



Grid Power

# OUR LEADERSHIP DRIVES SOLID PERFORMANCE

## Large & Diversified Growing Market



**#1 or #2  
in All Four  
Markets**

Delta Electronics

**Advanced Energy**

Mean Well

TDK-Lambda

## Last 4 Quarters Reported Results



**\$1.38 billion**  
REVENUE  
129% YoY Growth



**\$218 million**  
NON-GAAP OP PROFIT<sup>(1)</sup>  
144% YoY Growth



**\$4.62**  
NON-GAAP EPS<sup>(1)</sup>  
101% YoY Growth



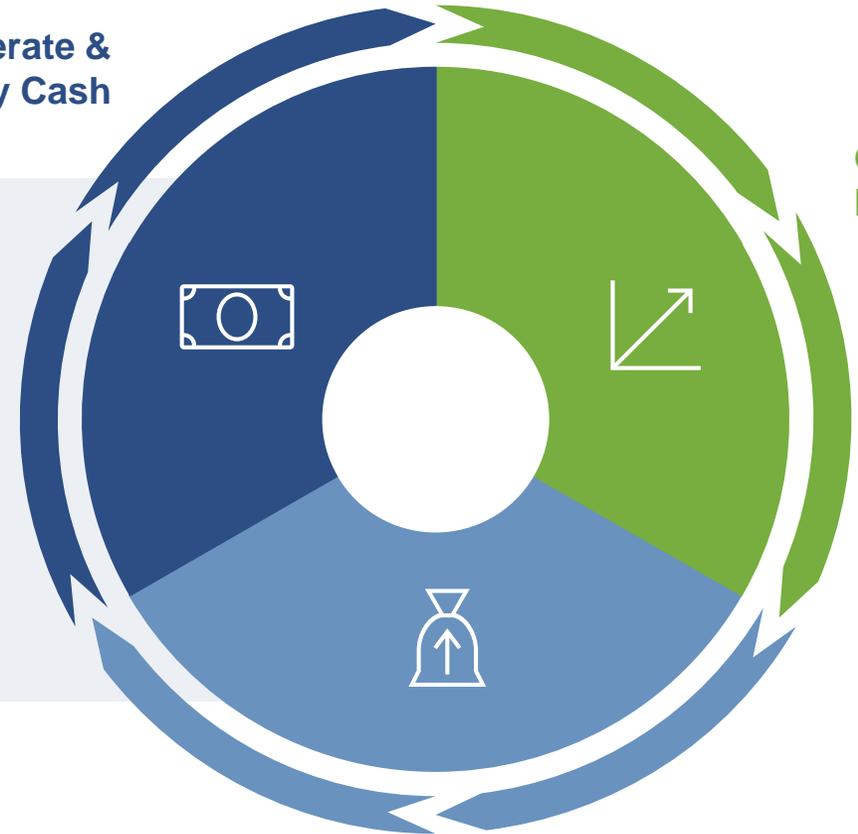
**\$154 million**  
OPERATING CASH FLOW  
149% YoY Growth

# UPDATED 3-YEAR ASPIRATIONAL GOALS<sup>(1)</sup>

	Last Year's Goal	New Aspirational Goals
Revenue :	<b>\$1.50B</b>	<b>\$1.65B</b>
Non-GAAP EPS <sup>(2)</sup> :	<b>\$6.50</b>	<b>\$7.50</b>
ROIC <sup>(3)</sup> :	<b>23%</b>	<b>23%</b>

Generate & Deploy Cash

Grow & Diversify



Drive Strong Profitability

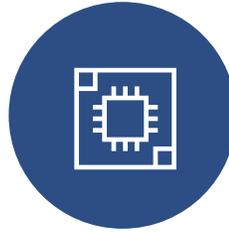
(1) Please note that hypothetical scenarios regarding revenue growth, EBITDA, EPS, (GAAP or non-GAAP), ROIC, cash generation, acquisitions, aspirational goals, long-term vision and similar statements illustrate various possible outcomes of our different strategies if they are successful. These hypothetical 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.

(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

**5G**

# 5G: A CATALYST ACROSS OUR VERTICALS



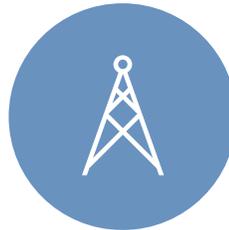
## SEMICONDUCTOR EQUIPMENT

- Leading-edge foundry/logic for creating 5G smartphone SoC
- High density memory needed in mobile devices
- RF devices drive upgrades and retrofits



## DATA CENTER COMPUTING

- Mobile Edge Computing
- Cloud service providers providing telecom cloud solutions
- Telecom carrier's own datacenter



## TELECOM & NETWORKING

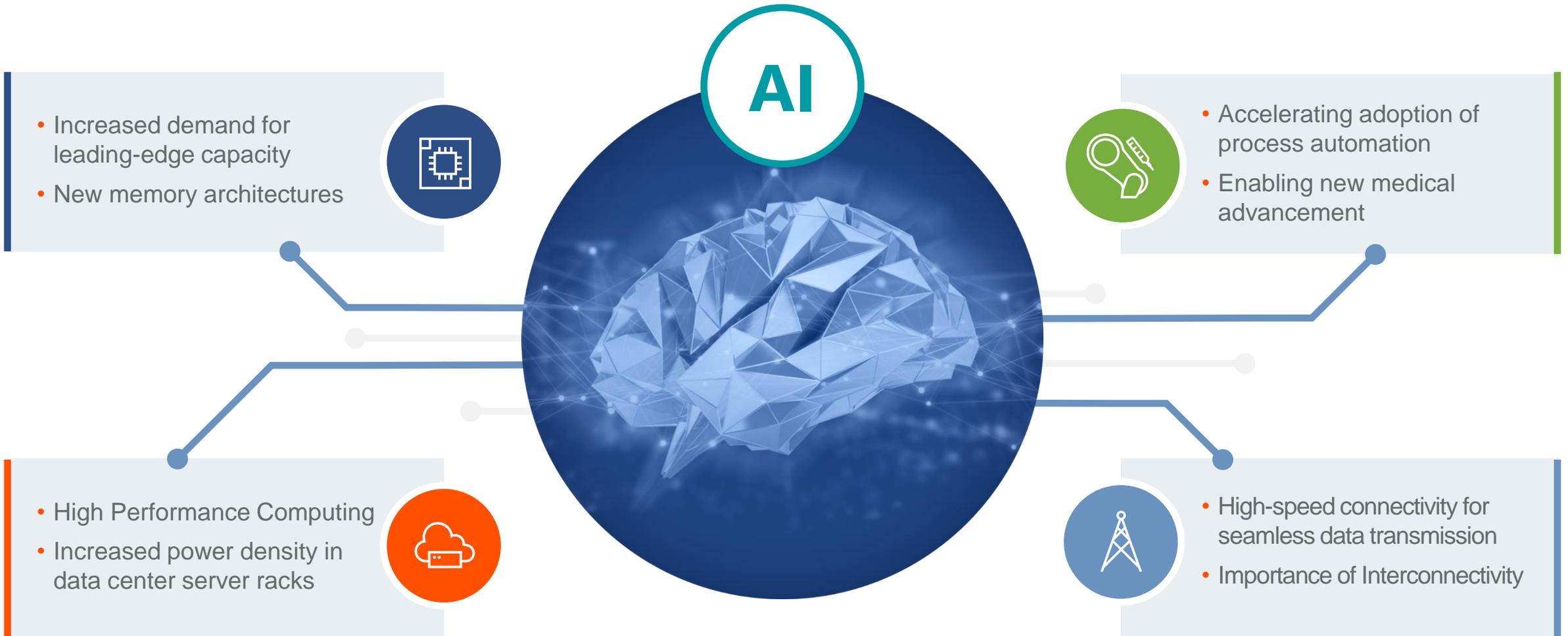
- 5G infrastructure requires ruggedized power
- Remote radio head and base station power solutions
- Backhaul network for transmitting large amounts of data



## INDUSTRIAL & MEDICAL

- Enterprise/factory-owned localized 5G networks
- Telecom 5G solutions for industrial applications
- Telemedicine, remote diagnostics and treatment

# ARTIFICIAL INTELLIGENCE: TRANSFORMING OUR MARKETS



# INDUSTRIAL IOT: ENABLING SMART MANUFACTURING

IoT

## Data Center Computing

Cloud & Edge computing for analytics and automation



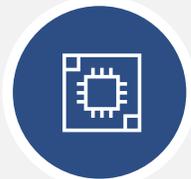
## High Speed Connectivity

Enabling data connection and an autonomous factory



## Semiconductor

At the heart of enabling IoT capabilities



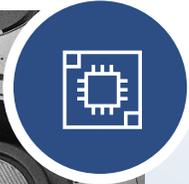
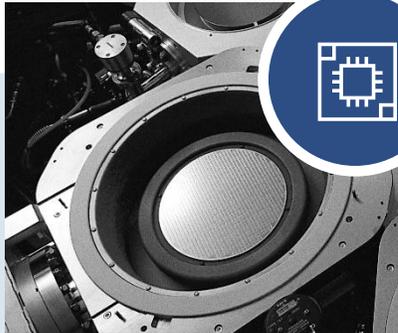
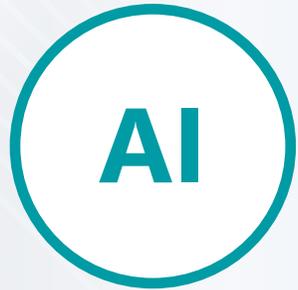
## Industrial Production

Smart manufacturing drives I&M business



# 4<sup>TH</sup> INDUSTRIAL REVOLUTION DRIVES GROWTH ACROSS OUR 4 VERTICALS

## KEY TECHNOLOGIES BEHIND THE 4<sup>TH</sup> INDUSTRIAL REVOLUTION

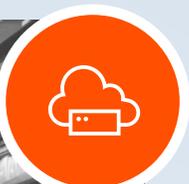


SEMICONDUCTOR EQUIPMENT



INDUSTRIAL & MEDICAL

## DRIVING GROWTH ACROSS OUR 4 VERTICALS



DATA CENTER COMPUTING



TELECOM & NETWORKING

# 4 KEY AREAS FOR GROWTH

## AE TARGETED GROWTH STRATEGIES



### **GROW SHARE**

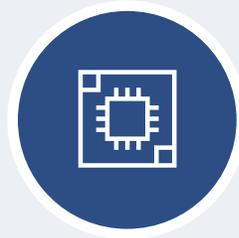
Across Mission Critical, Precision Power Verticals



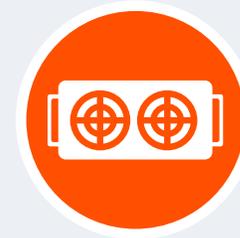
Invest in **INNOVATION** and Technology Leadership



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



**Semiconductor:**  
Extending Our Leadership



**Hyperscale:**  
From Fast Follower to Market Leader



**Industrial & Medical:**  
Enabling Smart Applications



**Inorganic Growth:**  
Leveraging Scale to Grow Scope

# SEMI: EXTENDING OUR LEADERSHIP

**Track Record:** Outgrowing the market and our competitors

**~2X** RF Power Market Share vs. Next Competitor<sup>(1)</sup>

**61%** 2020 YTD Revenue YoY Growth

**13%** 10-year Semi Product Revenue CAGR<sup>(2)</sup>

**>2X** AE CAGR over WFE<sup>(3)</sup>

**Targeting to continue to outgrow the market**

**Undisputed leadership in RF:**  
Most advanced matching and integration



- RF Match a fast-growing product category
- Industry-leading capabilities in tuning, metrology and triple-frequencies
- Extending leadership with Solid State matching technology and integrated RF system

**Changing the game in RPS:**  
MAXstream™ addressing customers' pain points



- Up to 60% improvement in power accuracy
- Industry's most dependable ignition
- Reliable and cost-effective small form factor

**Representing SAM of \$150MM**

(1) Market share estimates by VLSI Research, based on 5-year average data from 2015 to 2019

(2) CAGR is calculated using 2020 forecast based on the mid-point of Q4 2020 guidance

(3) Comparing AE 10-year product revenue CAGR to WFE CAGR according to VLSI research

# HYPERSCALE: FROM FAST FOLLOWER TO MARKET LEADER

## Growth Targets

**>4X**

AE Hyperscale Revenue Growth vs. Market Growth<sup>(1)</sup>

**>2X**

AE Data Center Computing Annual Revenue from 2017 to 2023<sup>(2)</sup>

# INDUSTRIAL & MEDICAL: ENABLING SMART APPLICATIONS

## PRECISION THERMAL PROCESSING



Thyro-A+

## HORTICULTURE SYSTEMS



iHPS+iTS System

## POWER SUPPLIES FOR MEDICAL

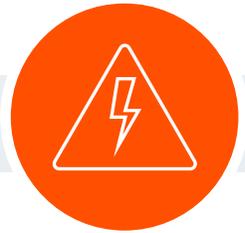


CoolX 3000

New products enabling our customers to deliver on the promise of Industry 4.0

# INORGANIC GROWTH: LEVERAGING SCALE TO GROW SCOPE

## Successful Acquisition Criteria



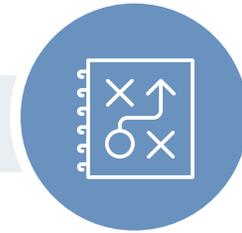
Pure Play Power



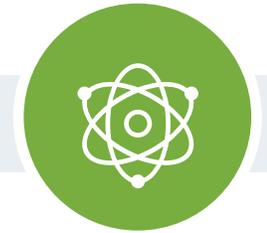
Expanding reach, served market or portfolio



Enables cross selling across our verticals



Synergistic with current operations



Technical leadership or differentiated products

Track Record

Building a Solid Funnel

Discipline and Value Creation

# 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

## LONG-TERM VISION

	LAST 12-MONTH RESULTS	NEW 3-YEAR ASPIRATIONAL GOALS	LONG TERM VISION (6-8 YEARS)
Revenue	<b>\$1.38B</b>	<b>\$1.65B</b>	<b>\$2.50B</b>
Non-GAAP EPS <sup>(1)</sup>	<b>\$4.62</b>	<b>\$7.50</b>	<b>\$12.00</b>
ROIC <sup>(2)</sup>	<b>20%</b>	<b>23%</b>	<b>20%</b>

(1) Non-GAAP financial measures can be found at the back of this presentation

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

The background features a collage of images: a person in a surgical cap and mask, a microchip, and two telecommunications towers. The collage is overlaid with a light blue geometric pattern of overlapping triangles and lines. The top right corner is a dark blue triangle, and the bottom left corner is a green and orange triangle.

# Realizing Growth Potential

DANA HUTH

| CHIEF REVENUE OFFICER

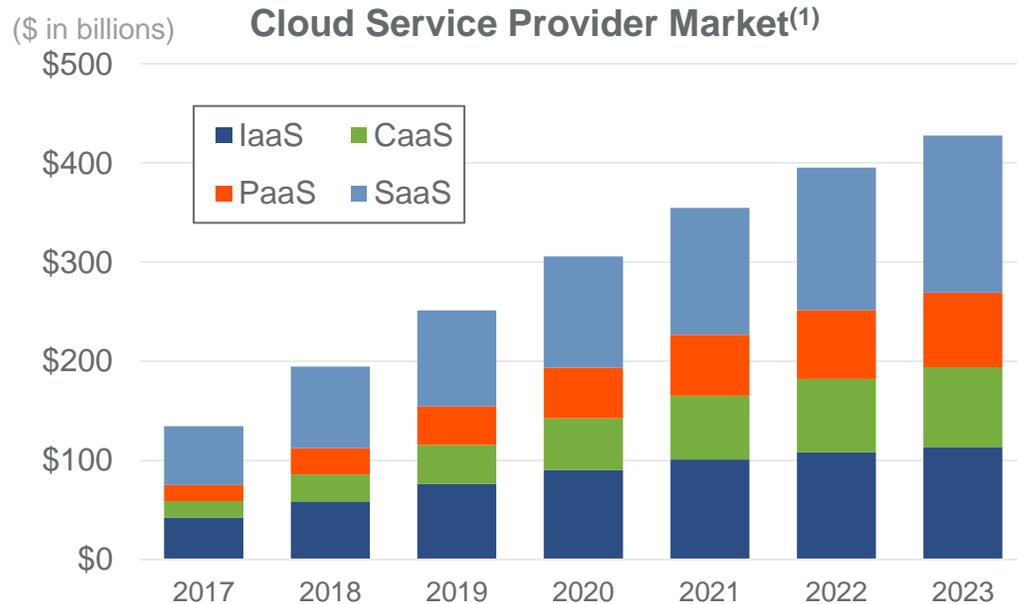
## TOPICS TODAY

**DATA CENTER HYPERSCALE**

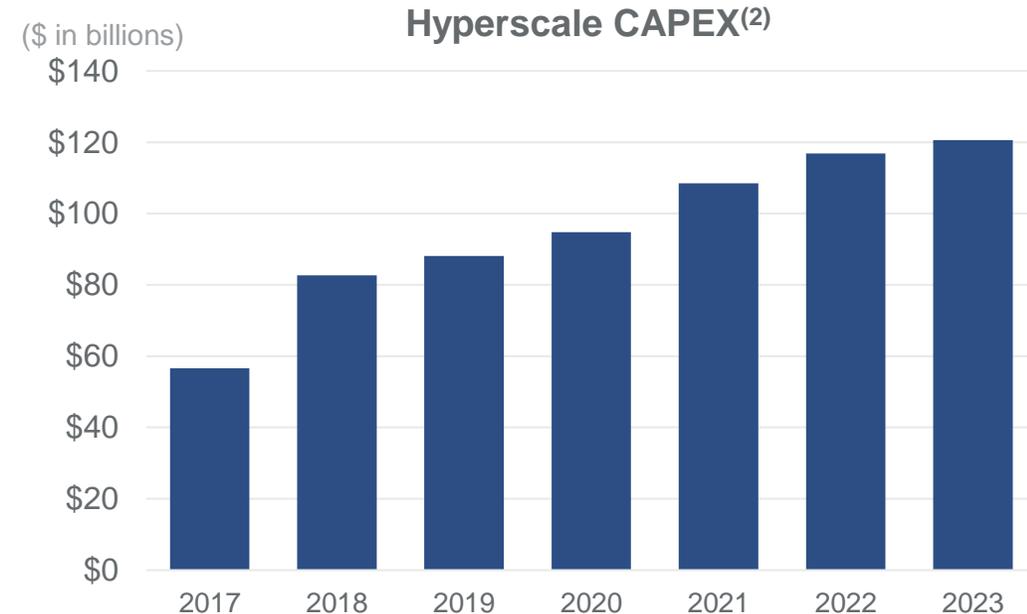
**INDUSTRIAL & MEDICAL**

# STRONG SECULAR GROWTH IN DATA CENTER MARKET

## ACCELERATED ADOPTION OF CLOUD COMPUTING AND INTERNET USAGE



## GROWING INVESTMENTS IN HYPERSCALE DATA CENTER INFRASTRUCTURE



- Demand growth projected to continue for many years
- Driven by accelerated digital transformation and the 4IR

- Hyperscale infrastructure is the fastest growing segment
- These infrastructure owners are focused on Total Cost of Ownership (TCO) of the data center

(1) Source: Omdia, Credit Suisse Research

(2) Source: Company Reports, Morgan Stanley, Credit Suisse Research, RBC Capital Markets, Internal Estimates

# A HYPERSCALE EVOLUTION FOR RACK-SCALE INFRASTRUCTURE OWNER

**TRADITIONAL SERVERS  
IN ENTERPRISE**



**CUSTOM SERVERS OPTIMIZED  
FOR APPLICATIONS**



**SYSTEM LEVEL SOLUTION TO  
MAXIMIZE ENERGY SAVINGS**



**MANY SUPPLIERS**



**SOME SUPPLIERS**



**TOP SUPPLIERS**



**STANDARD  
POWER  
SUPPLY**



**CUSTOM  
IN-SERVER  
POWER SUPPLY**



**CUSTOM  
POWER  
SYSTEM**



# INCREASED IMPORTANCE OF TOTAL COST OF OWNERSHIP

DATA CENTER  
TOTAL COST OF OWNERSHIP



**CAPEX**



**OPEX**

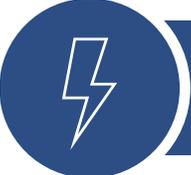
## DRIVERS OF LOWERING COSTS

- Total rack level design for cost optimization
- Reduced hardware redundancy without compromise
- Increased compute density

- Electricity is the biggest driver of operating costs
- Maximizing energy efficiency saves \$ millions
- Visibility and control of energy and battery backup

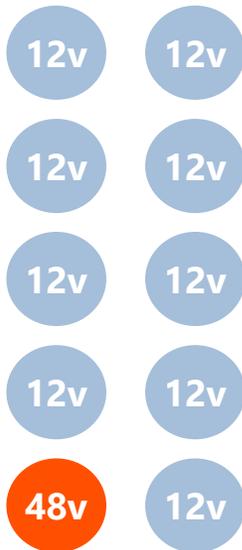
## POWER SHELF ADDRESSES THESE NEEDS

# 48V SERVER ACCELERATES ADOPTION OF POWER SHELF



## DEPLOYMENT

**NOW**



**2023**

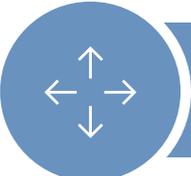


Rack power types of Top 10 Hyperscalers<sup>(1)</sup>



## BENEFITS

- Improves server power efficiency
- Reduces copper and power distribution costs
- Reduces TCO



## CATALYST

- 48V accelerates adoption by Tier-I and Tier-II hyperscalers
- Infrastructure owners are moving towards own rack-scale solutions with power shelf

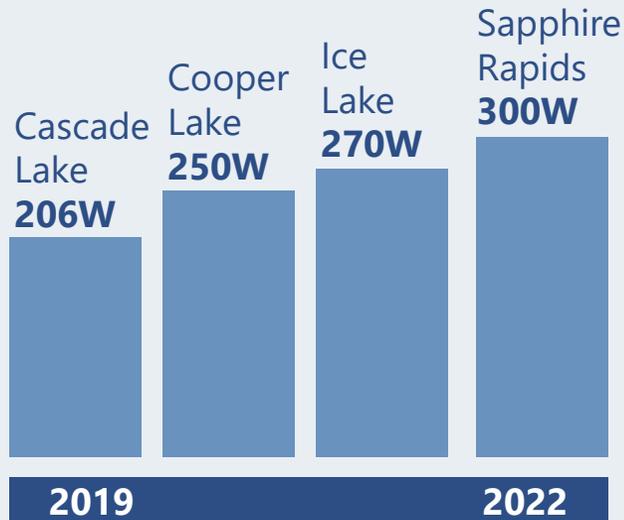


## AE CURRENT STATUS

- AE 48V power shelf under evaluation by customers
- New opportunities with AE's Board-Mounted DC-DC converter
- Opportunity for upgrading existing assets to 48V

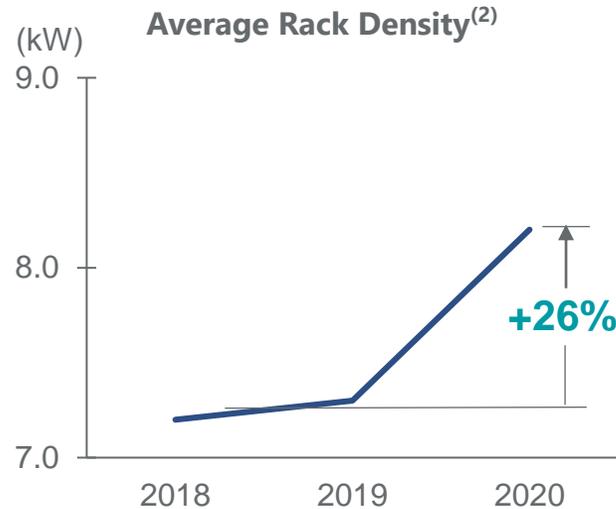
# POWER CONTENT GROWING IN DATA CENTER RACK

## INCREASED POWER WITH ADVANCED MPU ROADMAP<sup>(1)</sup>



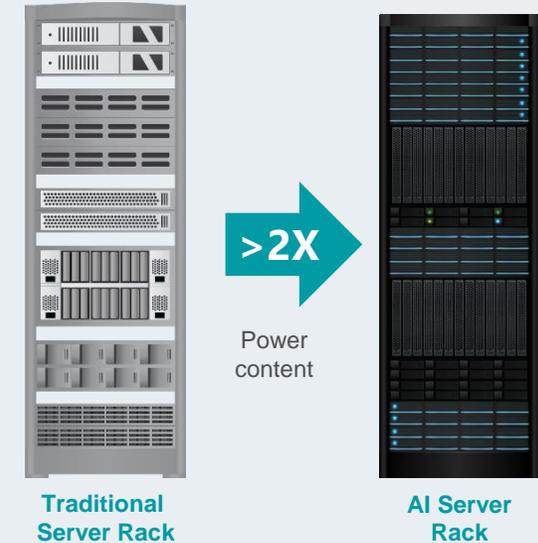
- Increased Microprocessor TPU drives higher power needs for servers
- New architecture stimulates demand for upgrades to power systems

## GROWING RACK DENSITY IN DATA CENTER



- Average rack power density increased by 26% in 2 years
- Power supply content per rack is 2-3x higher than rack density due to redundancy and oversizing

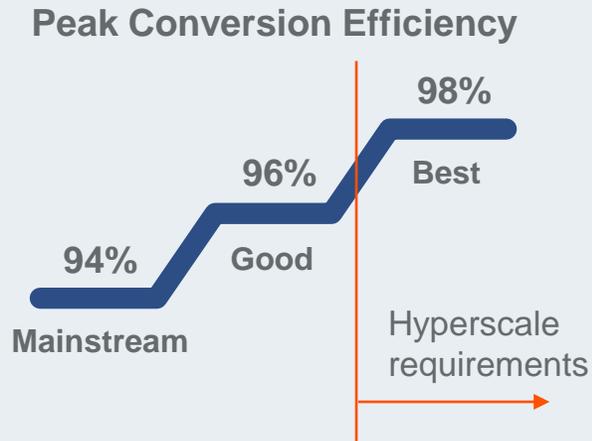
## POWER SUPPLY CONTENT MORE 2X IN AI RACKS



- Traditional server rack typically has power supply content of 10-25kW<sup>(3)</sup>
- AI server rack has power supply content of 30-60kW<sup>(3)</sup>, >2x traditional rack

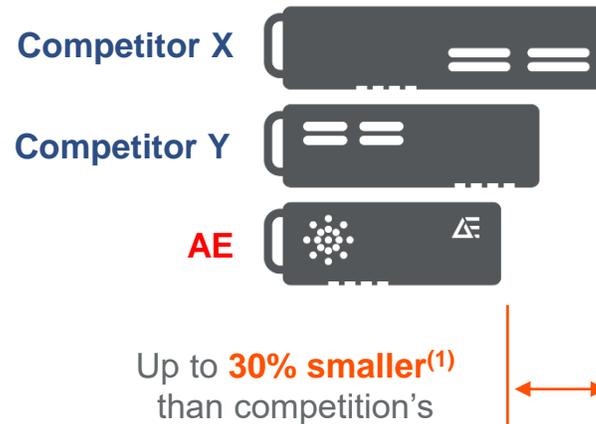
# AE TECHNOLOGY LEADERSHIP ENABLES STRONG COMPETITIVE ADVANTAGES

## INDUSTRY-LEADING POWER CONVERSION EFFICIENCY



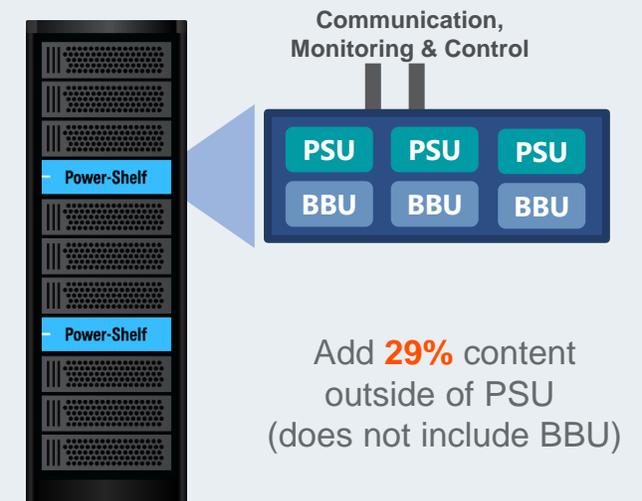
- AE among the first to demonstrate 98% efficiency
- Increased efficiency crucial in reducing electricity costs of data center

## POWER DENSITY LEADERSHIP



- Density leadership at 75 Watt/in<sup>3</sup> by integrating components
- Enabling high-power, high efficiency design in the smallest form factor
- More real estate for server components

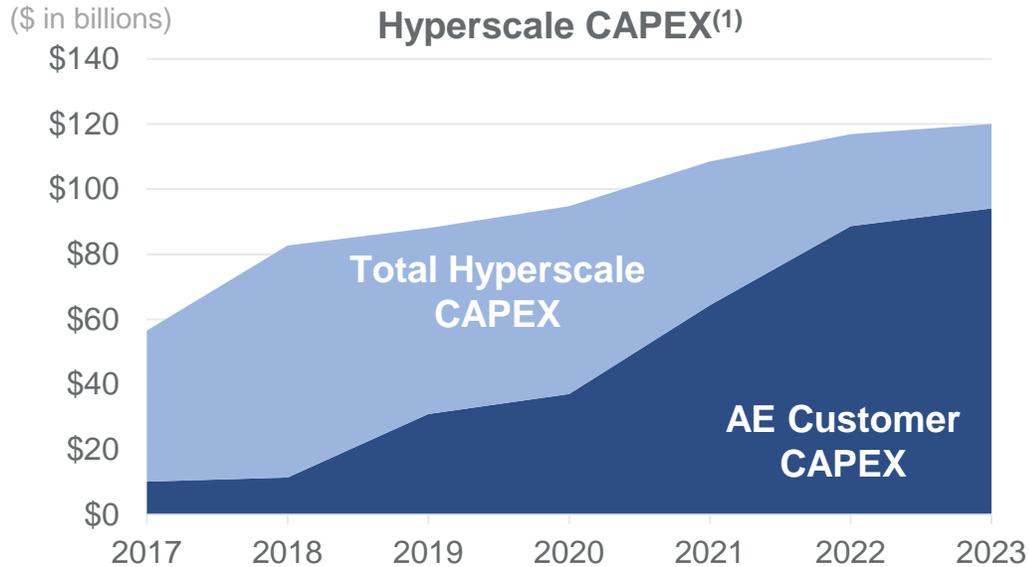
## SYSTEM LEVEL SOLUTIONS WITH ADVANCED CAPABILITIES



- A rack-level power system solution housing PSUs and/or BBUs<sup>(2)</sup>
- Enables analytics, network functions, direct control and monitoring of rack power and back up batteries

# GROWING SUBSTANTIALLY FASTER THAN THE MARKET

## FROM FAST FOLLOWER TO LEADER



## GROWTH TARGETS

**2X** AE Targeted SAM CAGR vs. Server Power Supply Market<sup>(2)</sup>

**40-50%** AE Hyperscale CAGR Target from 2017 to 2023

**Add >\$100M/yr** AE Data Center Computing Revenue Target by 2023

## OUR WINNING STRATEGIES

- Gain share at Tier-I hyperscale customers
- In an early stage of ramping initial design wins
- Penetrate multiple Tier-II hyperscale customers
- Win with system-level solutions
- Best-in-class quality, operations and customer relationships

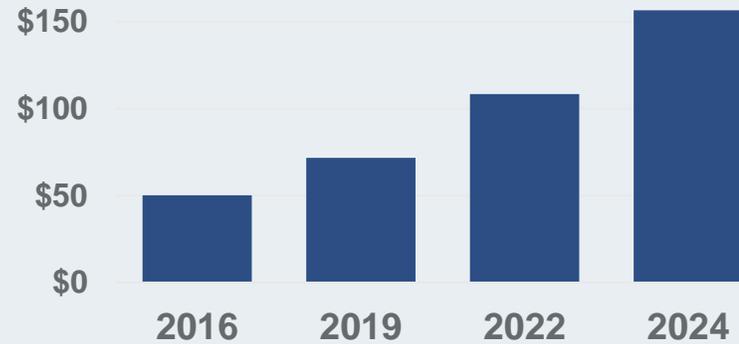
# INDUSTRIAL AND MEDICAL: 4<sup>TH</sup> INDUSTRIAL REVOLUTION FOR SMART APPLICATIONS



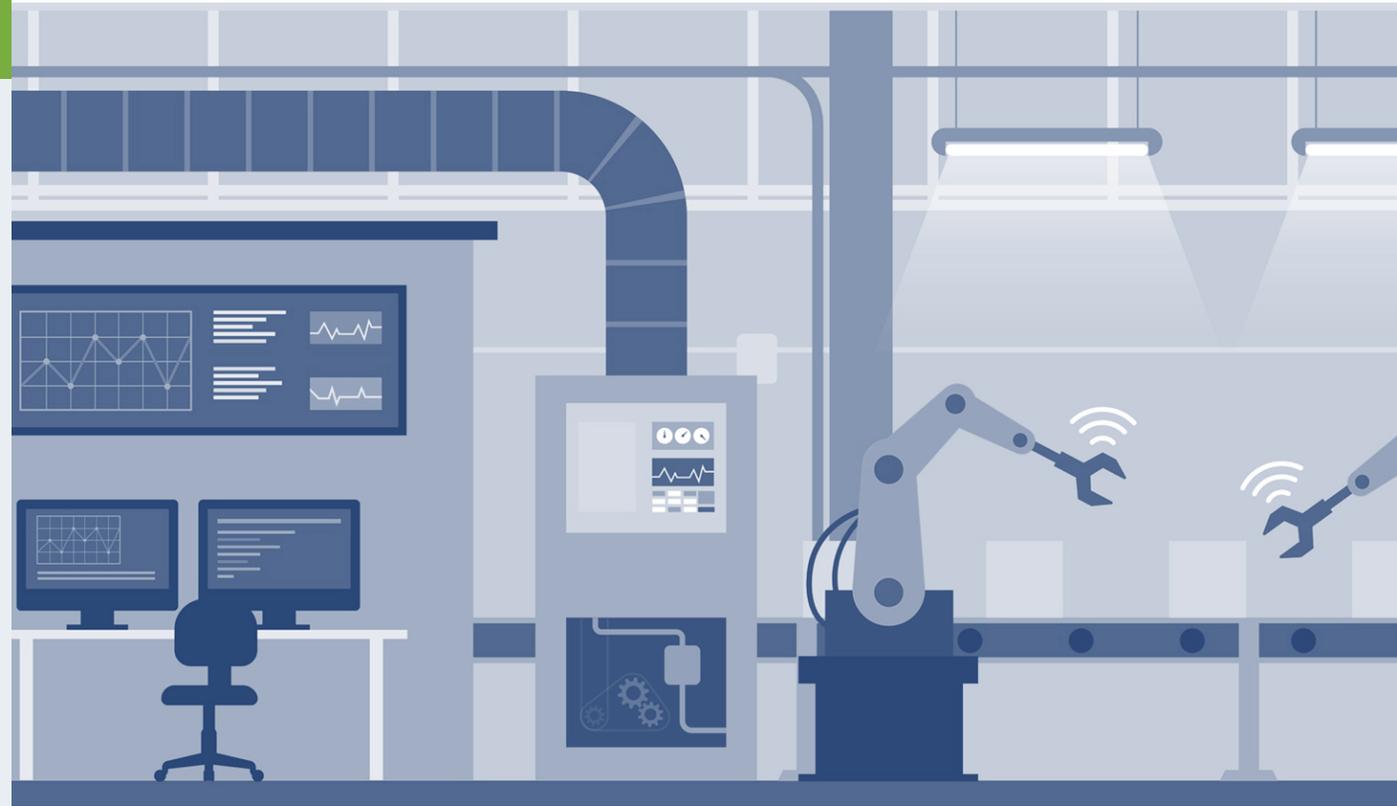
## FAVORABLE MARKET GROWTH TREND

Industry 4.0 Market<sup>(1)</sup>

(\$ in billions)



- Industry 4.0 related investments expected to grow at a 16.9% 2019-24 CAGR<sup>(1)</sup>
- Digital transformation and smart everything
- Increased use of artificial intelligence and digital functionalities in industrial and medical



# AE'S INDUSTRIAL & MEDICAL EXPOSURE

## General Industrial 37%

Growth profile: GDP+  
Cleantech to outperform

### Broadline Industrial

Ex. Industrial Motor Drive,  
Commercial Display, Mil/Aero

### Scientific Instruments

Ex. Mass Spec, Oscilloscopes

### CleanTech

Ex. Battery charging, Horticulture

### CleanTech Production

Ex. Solar Cell, LED manufacturing

### Advanced Materials Processing

Ex. FPD, Industrial and Hard Coating,  
Consumer Electronics Coating

## Medical 22%

Growth profile: High Single-Digit %  
CAGR; High mix, low volume

### Diagnostic

Ex: MRI, CT Scan, Analytical Instruments

### Therapeutic

Ex: Medical Laser, Ablation, Surgical robots

### Life Science

EX: DNA/RNA Sequencer, Electrophoresis

### Manufacturing

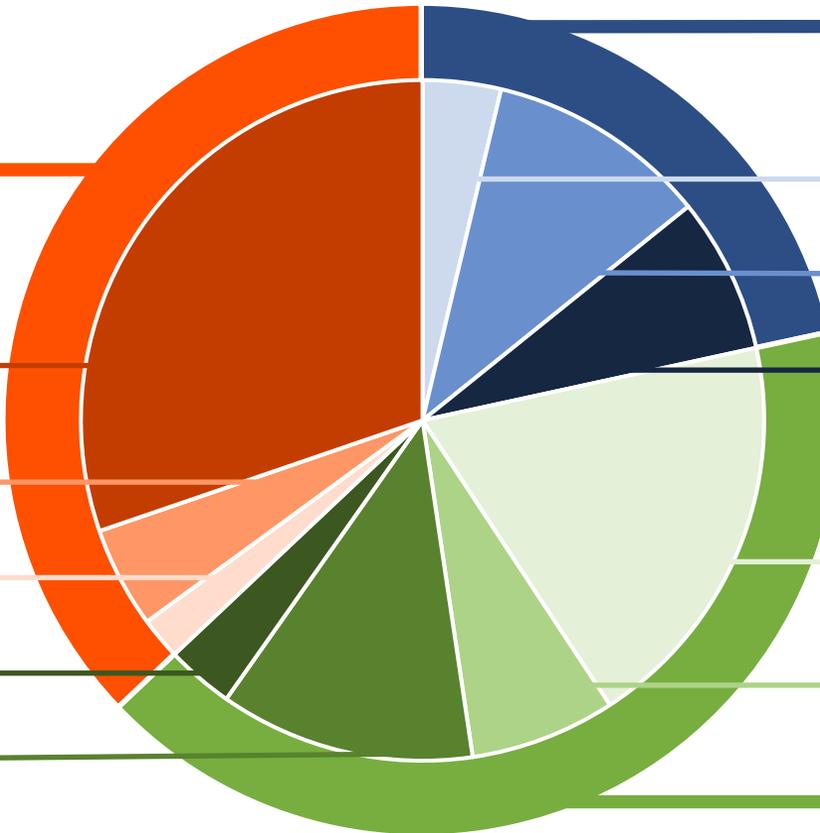
Ex. Robotics, Process Control,  
Factory Automation,

### Heavy Industries

Ex. Metal, Glass, Steel

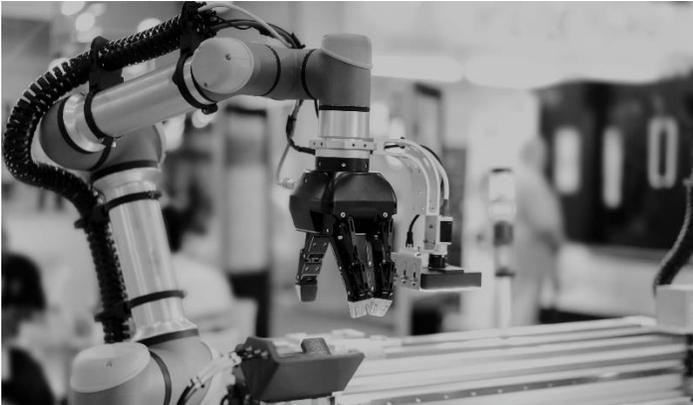
## Industrial Production 41%

Growth profile: PMI+ & more cyclical  
than GDP; sector-specific drivers



Revenue exposure over the last 12 months

# ADVANCED POWER SOLUTIONS ENABLE “SMART EVERYTHING”



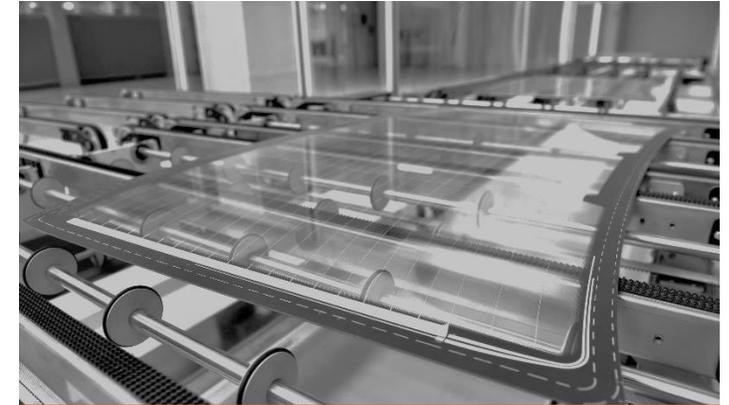
## SMART MANUFACTURING

- Proven flexible digital platform with software
- Enables customization, control and monitoring capabilities
- Connectivity and digital control functionalities



## HORTICULTURE SYSTEMS

- Patented system-level solution
- Transforming the industry with the lowest TCO
- Improves efficiency, reduces energy waste and increases the quality of crop yield



## ADVANCED MATERIALS PROCESSING

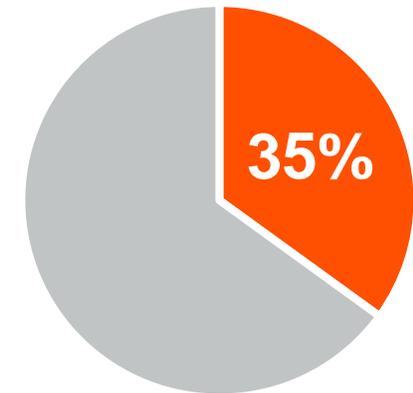
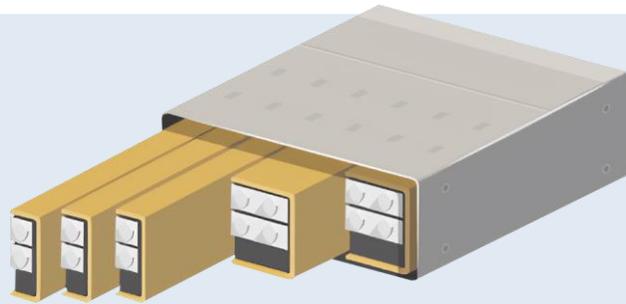
- Advanced power solutions enabling higher performance and lower costs
- Truly differentiated with machine learning-based controls
- Leading the way in IIoT integration with customer's system

# CONFIGURABLE LEADERSHIP DRIVES GROWTH

CONFIGURABLE POWER SUPPLIES

ENABLING CUSTOMER INNOVATION

STRONG LEADERSHIP POSITION

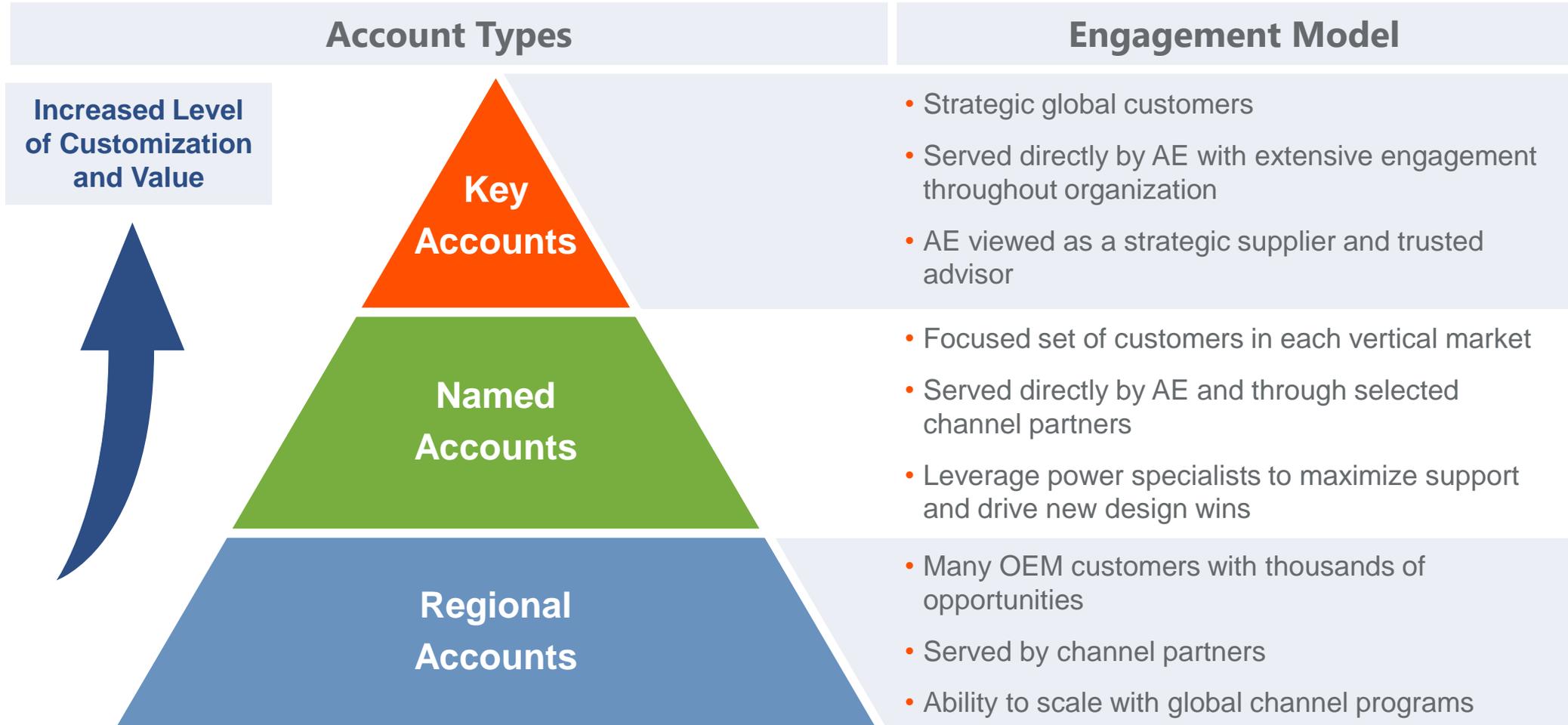


A \$140M SAM and Growing<sup>(1)</sup>

- Configurable is a highly flexible platform using existing off the shelf modules to create custom solutions
- Broadest portfolio of medium to high power multi-output solutions

- Accelerates time to market by enabling our customer to quickly customize and easily integrate
- Advanced topology with fanless design ideal for medical applications

# AE GO TO MARKET STRATEGY



# LEVERAGING GLOBAL CHANNEL TO DRIVE GROWTH

Growing Channel Sales



**OPTIMIZING  
GLOBAL  
CHANNEL**

- Less fragmented and more strategic
- Drives scale in coverage and increases efficiency

**TRUSTED  
SUPPLIER TO  
OUR PARTNERS**

- Become more relevant to our partners by investing in them
- Grow with our partners

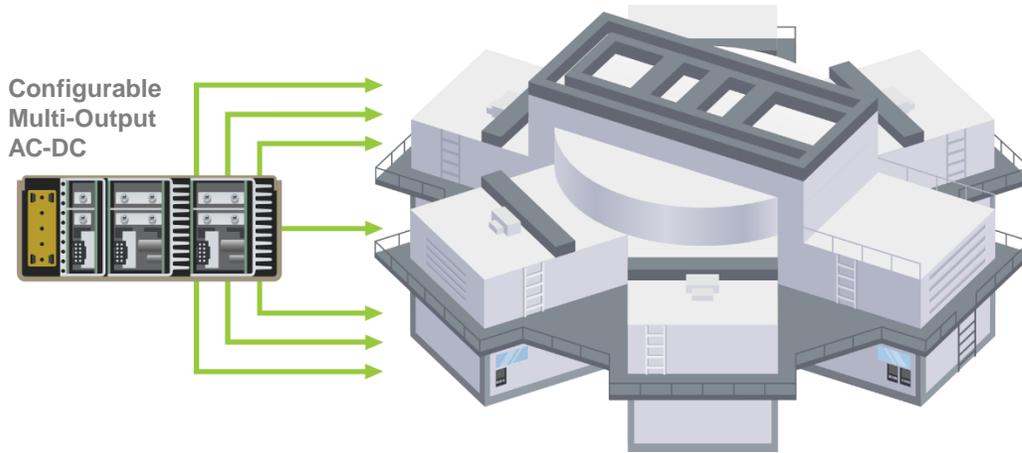
**ACCELERATING  
CROSS SELLING**

- Grow design win funnel to drive profitable revenue growth
- Gain share through access to channel of global customers

# INITIAL CROSS SELLING SUCCESS STORIES



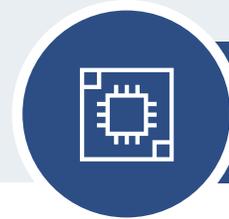
## INDUSTRIAL & MEDICAL



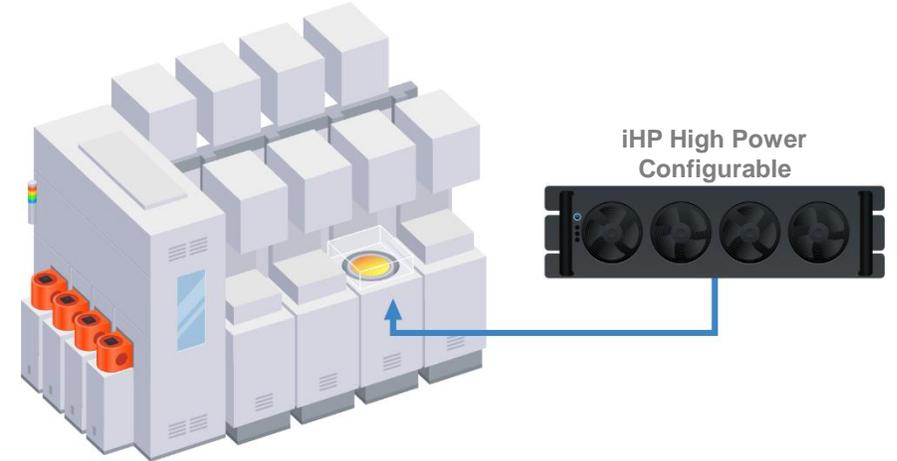
**Wide range of opportunities across multiple end markets**

### Industrial equipment design win:

- Multi-output configurable solution for auxiliary power in Flat Panel Display equipment
- Won due to AE's highly flexible design, monitoring capabilities and value-add features



## SEMICONDUCTOR EQUIPMENT



### Semiconductor equipment design win:

- High power solution for heater in the electrostatic chuck within process chamber
- Won due to AE's reliable embedded power solution, connectivity and value-add features

# REALIZING GROWTH POTENTIAL

- Focused on key growth trends within Data Center Computing and Industrial & Medical markets
- Lead with technology and differentiated solutions to address the fastest growing parts of the markets
- Proven winning strategies and optimized channel
- Positioned to grow with the 4<sup>th</sup> Industrial Revolution

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 and white triangles.

# Delivering Long-term Shareholder Value

PAUL OLDHAM | EVP AND CFO

# PLATFORM FOR EARNINGS GROWTH AND TOP TIER ROIC

- Record financial results & increased revenue diversity
- Accelerated earnings growth with 2020E EPS<sup>(1)</sup> up 2X from last year
- Synergies and accretion well ahead of target
- Balance sheet and cash flow enable growth and shareholder return
- Increasing aspirational goals and vision

## BUILDING UPON A STRONG FOUNDATION

- Leader in power for Semi Equipment
- Demonstrated ability to profitably expand into new industrial markets
- Best in class financial model
- Strong cash flow generation
- Deployed cash for shareholder return and growth



**Proven Team and Strategy**

## STRENGTHENED COMPANY THROUGH SEMI DOWNTURN

- Remained profitable and operating cash flow positive in every quarter
- Invested for growth in R&D and factory capability
- Integrated prior acquisitions
- Streamlined SG&A and operating footprint
- Positioned for growth as markets recover



**Resilient Financial Model**

## PLATFORM FOR EARNINGS GROWTH & TOP TIER ROIC

- Acquired Artesyn Embedded Power
- Expanded addressable market
- Increased diversification
- Immediately accretive
- Synergies & scale drive accelerated earnings growth
- Lean operations enable top quartile return on invested capital
- Cash flow & balance sheet enable future acquisitions



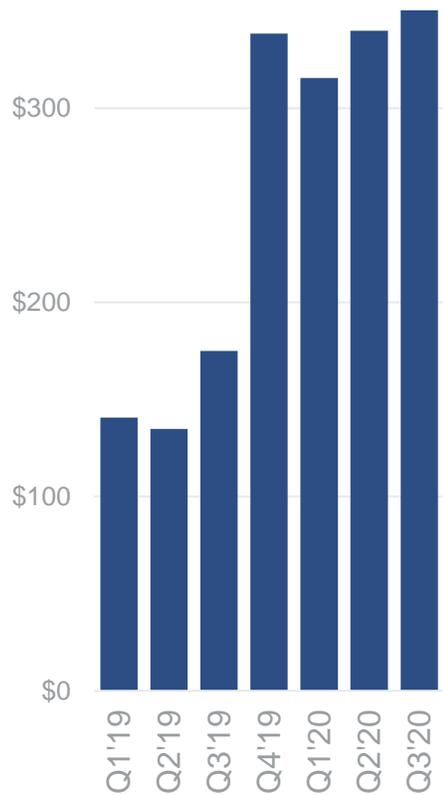
**Top-Quartile Diversified Technology Results**

From 2019 Analyst Event Presentation

# DELIVERING RECORD FINANCIAL PERFORMANCE

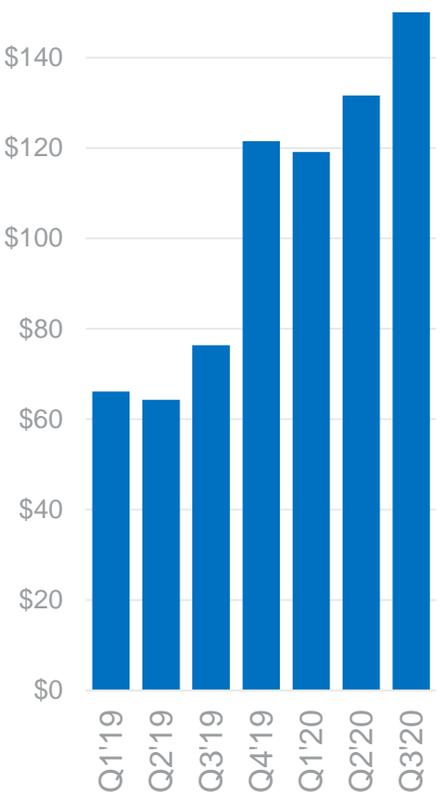
## REVENUE

(\$ in millions)



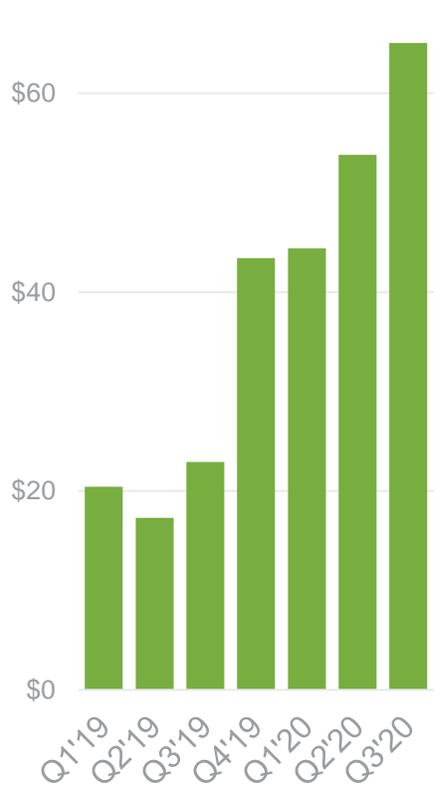
## GROSS PROFIT

(\$ in millions)



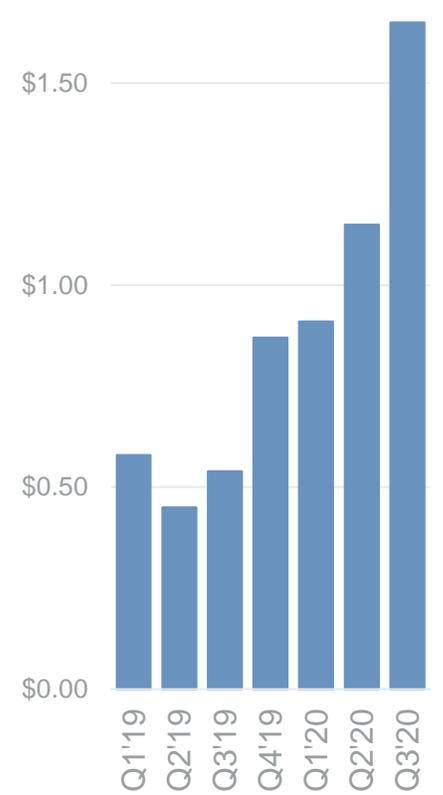
## NON-GAAP OP INCOME

(\$ in millions)



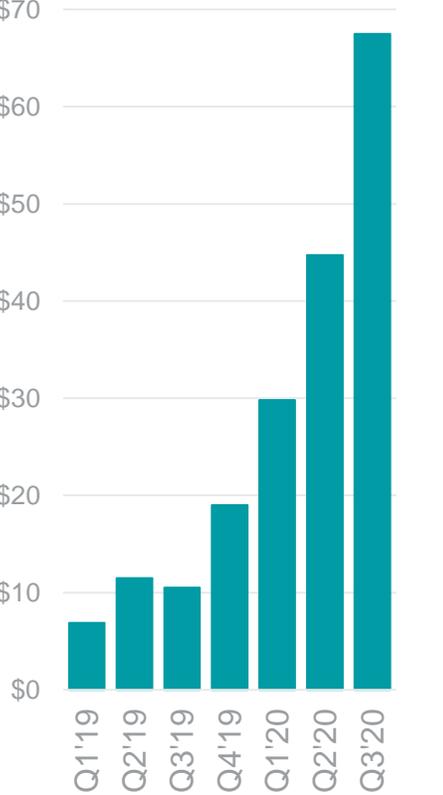
## NON-GAAP EPS

(\$ per share)



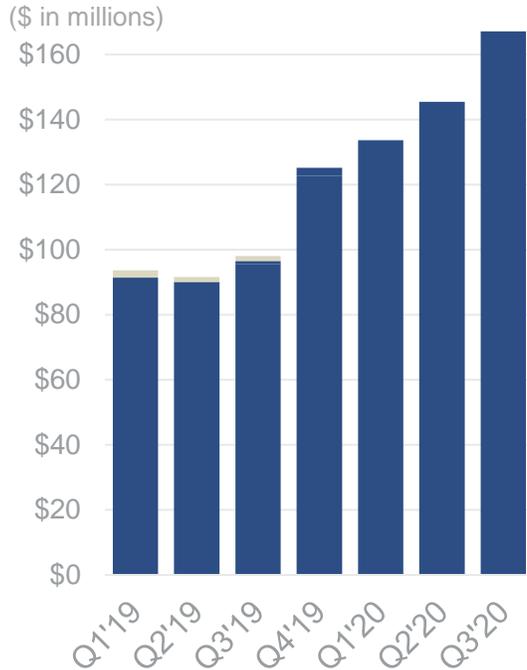
## CASH FLOW

(\$ in millions)



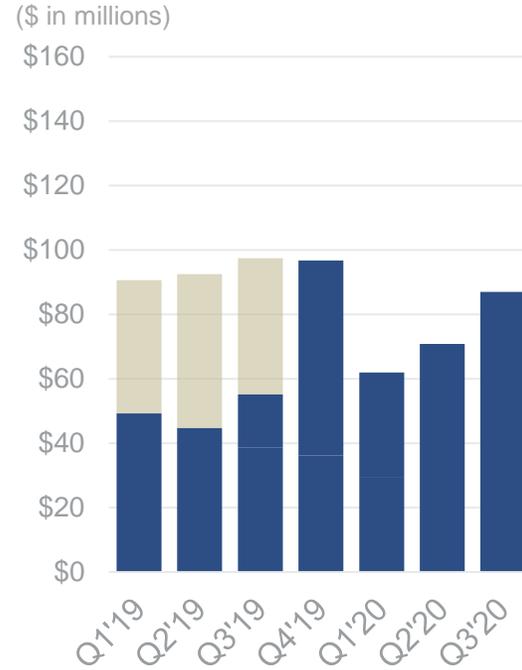
# DIVERSIFIED PERFORMANCE ACROSS MARKETS

## SEMICONDUCTOR EQUIPMENT



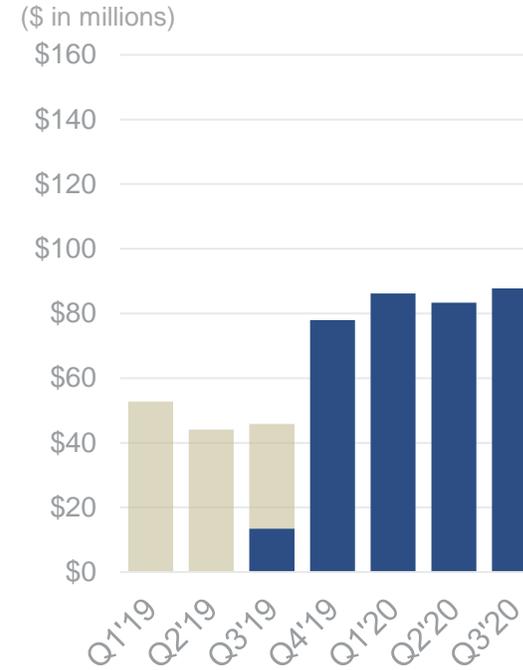
- **Record** Semi revenue
- Growing faster than WFE and peers
- Achieved first EP cross sale
- Semi remains strong

## INDUSTRIAL & MEDICAL



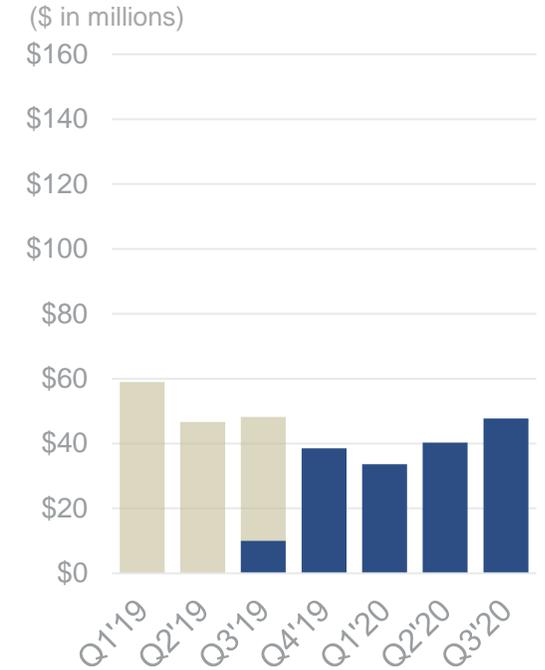
- Recovering post COVID decline
- **Record** medical revenue
- GDP improvement drives growth

## DATA CENTER COMPUTING



- **Record** DCC revenue
- Up ~2x on hyperscale share gain
- Penetrated 3 hyperscale accounts
- Near term digestion above prior peak

## TELECOM & NETWORKING



- Improving post COVID & geopolitical issues
- 5G content beginning to increase

# 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



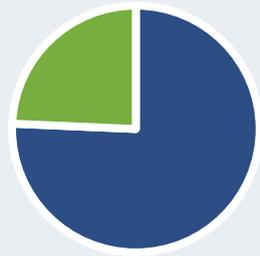
APPROACHING LT OM TARGET



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

# DIVERSIFIED REVENUE MITIGATES CYCLICALITY

## Diversified Revenue Base



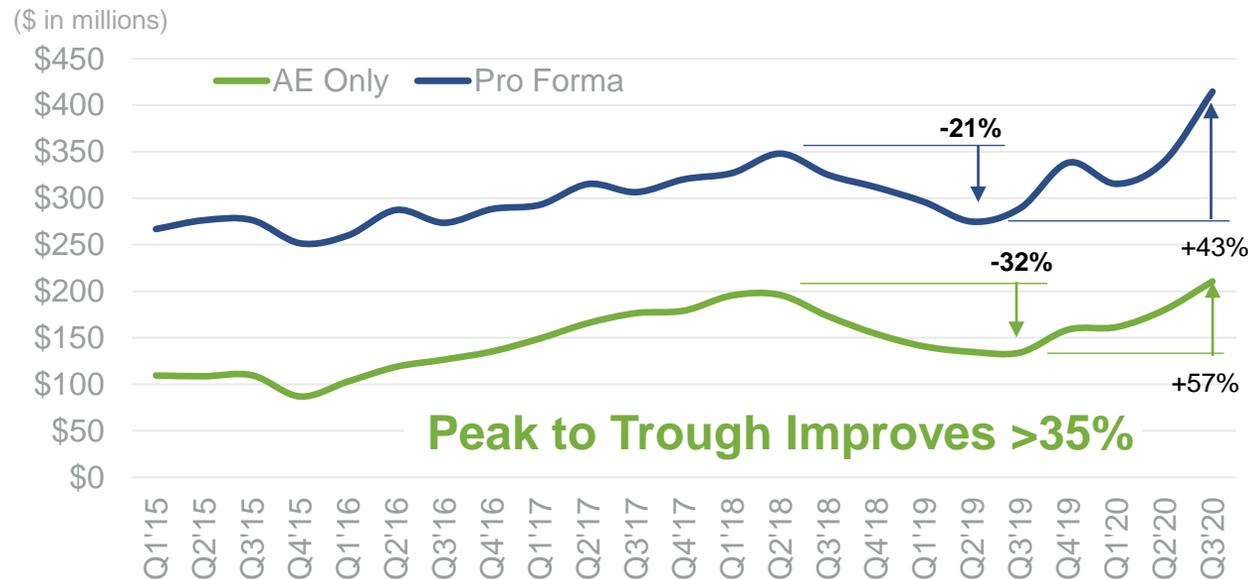
AE 2018



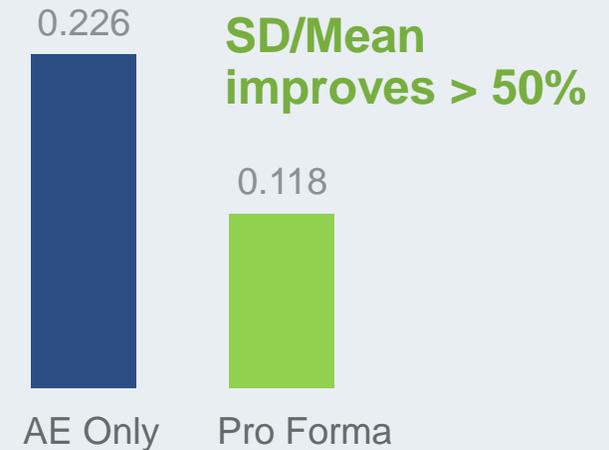
AE 2020

- Broader end market exposure
- More than subsystems
- Cycles do not move in tandem
- Larger industrial / medical exposure tied to secular / macro factors

## Reduced Cyclicity While Still Capturing the Upside



## Reduced Revenue Volatility



# MOVING BEYOND SEMI EQUIPMENT SUBSYSTEMS TO INDUSTRIAL GROWTH PEERS

## TRADITIONAL SEMICAP PEERS

- |      |      |
|------|------|
| AMAT | BRKS |
| ACLS | ENTG |
| KLAC | ICHR |
| LRCX | MKSI |
| ONTO | UCTT |

Semiconductor equipment suppliers

Semiconductor equipment subsystem & component peers

**P/E = 15.8**

**P/E = 18.6**

## NEW INDUSTRIAL GROWTH PEERS

- |         |     |      |
|---------|-----|------|
| COSEL   | AME | FTV  |
| DELTA   | APH | KN   |
| LITE-ON | BDC | LFUS |
| VERTIV  | CFX | TDY  |
| XPP     | EMR | TEL  |

Global power solutions peers

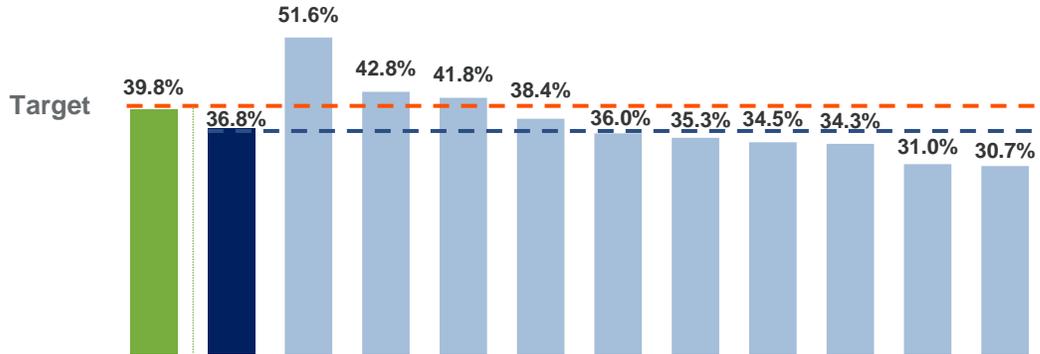
Diversified industrial technology companies

**P/E = 18.1**

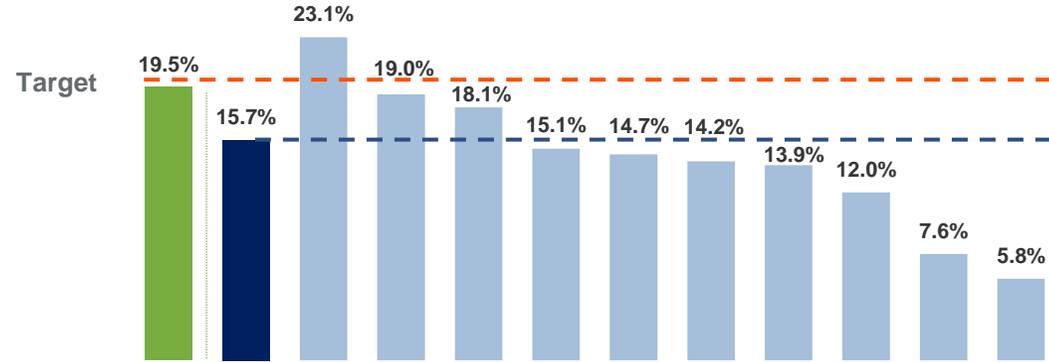
**P/E = 21.0**

# TOP-TIERED PERFORMANCE VS. INDUSTRIAL GROWTH COMPS

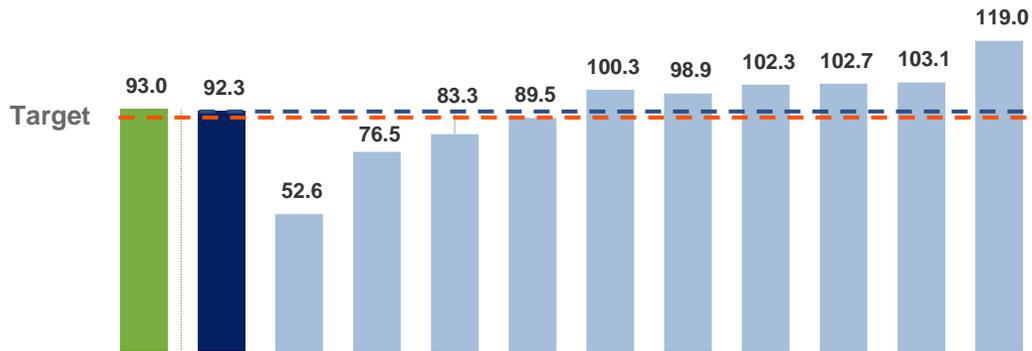
Gross Margin



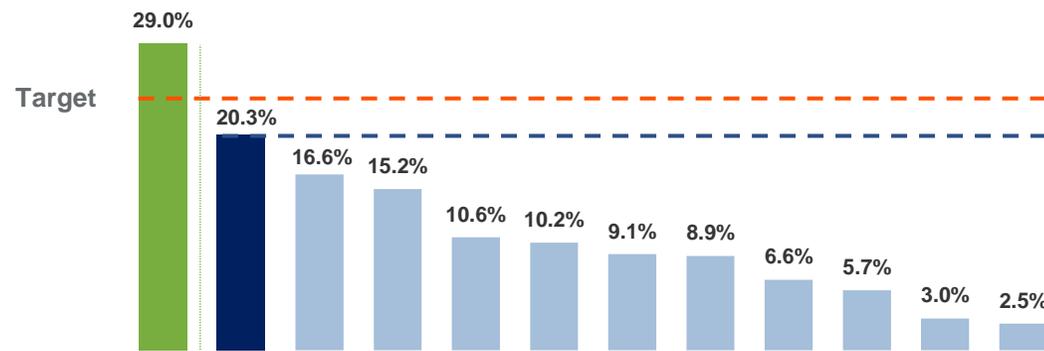
Adjusted Operating Margin



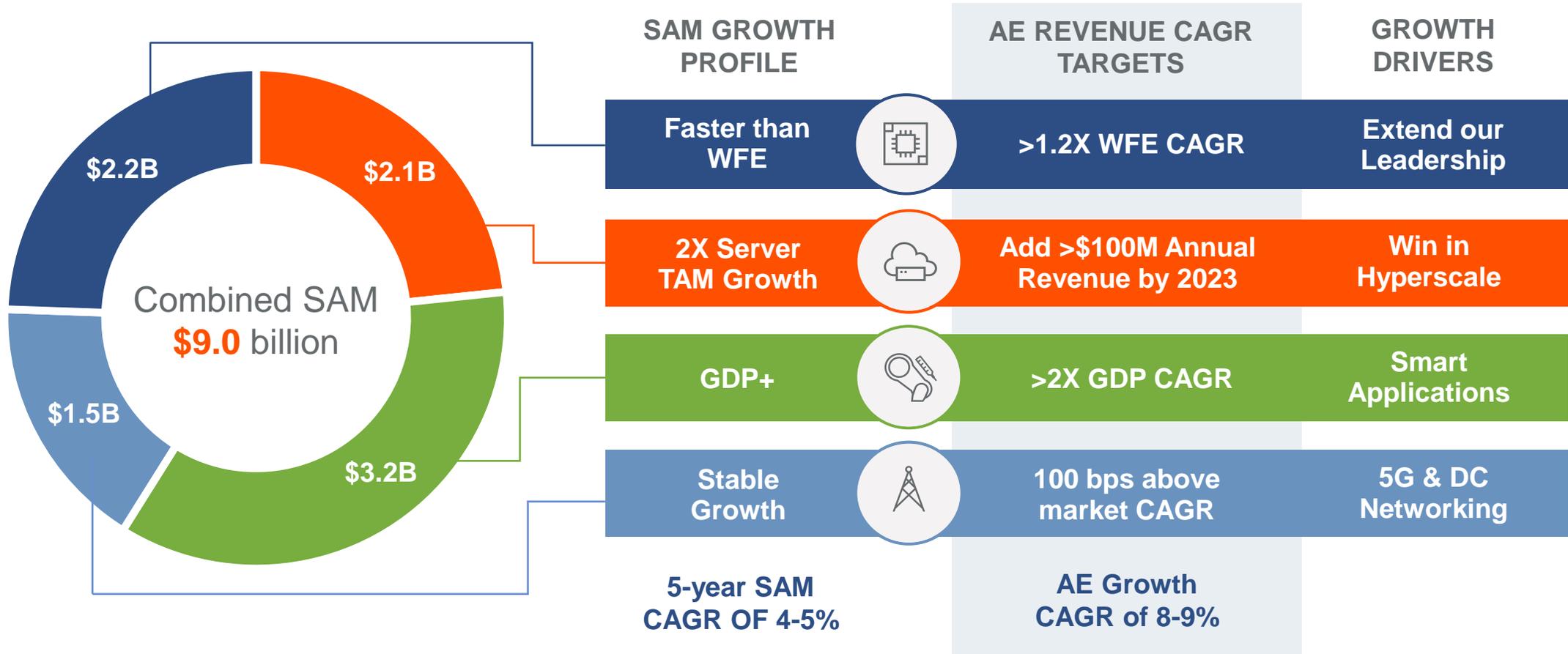
Cash to Cash Days



Return on Invested Capital



# TARGETING GROWTH ABOVE OUR MARKETS



# PORTFOLIO OPTIMIZATION ACCELERATES EARNINGS GROWTH

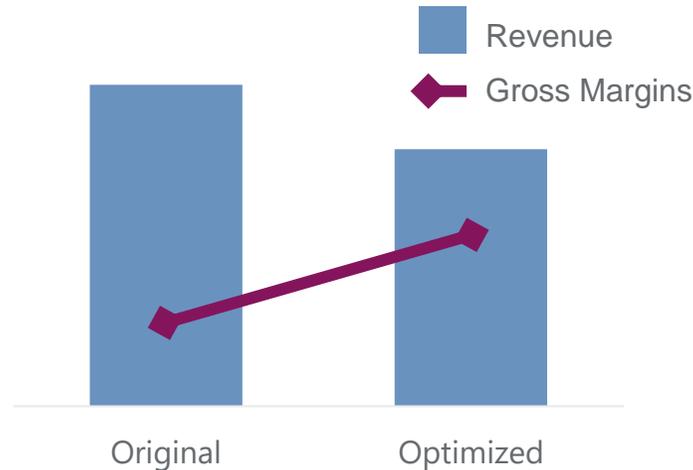
## OPTIMIZING PORTFOLIO TO ACHIEVE HIGHER PROFITABILITY



Move distribution of product to higher margins

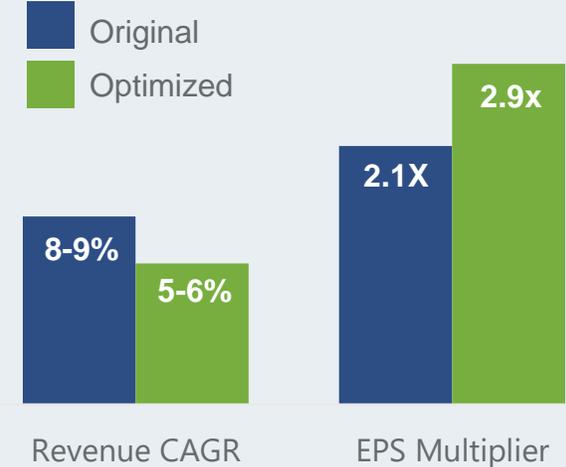
- Focused on improving margins of products
- Realizing initial benefits of a 3-year process
- Goal is to increase gross margins and improve returns on R&D dollars invested

## PORTFOLIO OPTIMIZATION EXAMPLE



- Gross margins increased after optimization
- Gross profit stable despite lower revenue
- Free up resources to focus on our customers' most valued solutions

## NET EFFECTS OF OPTIMIZATION



- Impact to revenue by ~2 pts, resulting in net revenue CAGR of 5-6%
- Increase profitability to targeted gross margins of >40%
- Earnings CAGR >2X of revenue CAGR

# ACCELERATE EARNINGS GROWTH



# UPDATED 3-YEAR ASPIRATIONAL GOALS

	FROM 2019 ANALYST EVENT		2020 UPDATE	
	ORIGINAL PLAN AT ARTESYN CLOSE <sup>(1)</sup>	OLD ASPIRATIONAL GOALS	LAST 12-MONTH RESULTS	NEW ASPIRATIONAL GOALS
Revenue (\$M)	\$1,240	\$1,500	\$1,383	<b>\$1,650</b>
N.G. Gross Margins <sup>(2)</sup>	34-36%	40-41%	38.1%	<b>41%</b>
N.G. Operating Margins <sup>(2)</sup>	9-12%	19-21%	15.7%	<b>21%</b>
Cash Flow (\$M)	\$80	\$180	\$154	<b>\$220</b>
Non-GAAP EPS <sup>(2)</sup>	\$2.72	\$6.50	\$4.62	<b>\$7.50</b>
ROIC <sup>(3)</sup>	12%	23%	20%	<b>23%</b>

(1) Annualized based on Q4 2019 guidance after the closure of the Artesyn acquisition

(2) Non-GAAP financial measures can be found at the back of this presentation

(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.

# LONG-TERM FINANCIAL FRAMEWORK

	3-YEAR ASPIRATIONAL GOALS	LONG-TERM ORGANIC FINANCIAL FRAMEWORK
Revenue	\$1,650	5-6% Net CAGR
Non-GAAP Operating Margins	21%	OPEX at ½ rev. CAGR 35-45% incr. margins
Non-GAAP EPS	\$7.50	>2.0X revenue CAGR
ROIC	23%	Maintain >20%

# LONG-TERM FINANCIAL FRAMEWORK + INORGANIC GROWTH

	3-YEAR ASPIRATIONAL GOALS	LONG-TERM ORGANIC FINANCIAL FRAMEWORK		INORGANIC GROWTH ASSUMPTIONS
Revenue	\$1,650	5-6% Net CAGR	+	Add ~\$500M
Non-GAAP Operating Margins	21%	OPEX at ½ rev. CAGR 35-45% incr. margins		>10% acquired margins
Non-GAAP EPS	\$7.50	>2.0X revenue CAGR		Accretive in Year 1
ROIC	23%	Maintain >20%		Targeted ROIC at >10%

# LONG-TERM VISION

	3-YEAR ASPIRATIONAL GOALS	LONG-TERM ORGANIC FINANCIAL FRAMEWORK	INORGANIC GROWTH ASSUMPTIONS	LONG-TERM VISION (6-8 YEARS)
Revenue	\$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	\$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**

# UPDATED CAPITAL ALLOCATION PLAN

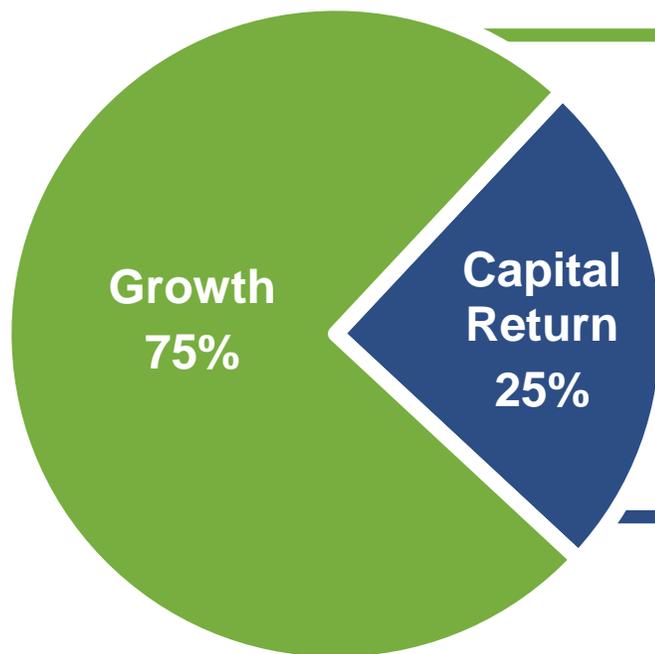
## Capital Allocation Track Record

2014 to Q3'20 Total



28% of FCF

## Allocation of Free Cash Flow



- 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

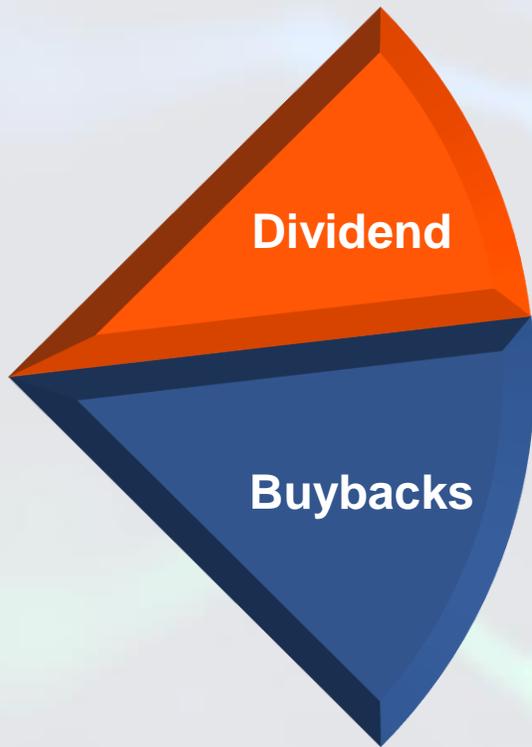
- Targeting to return ~25% of free cash flow generation to shareholders
- Maintain opportunistic share repurchase program
- Target to offset dilution over time



**Position Balance Sheet** to support continued inorganic growth

# ANNOUNCING INITIATION OF QUARTERLY DIVIDEND

**FCF allocated to  
Capital Return to Shareholders**

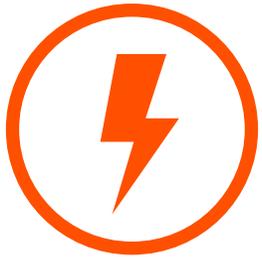


## INITIATION OF NEW DIVIDEND PROGRAM

Starting in Q1 2021  
Quarterly dividend of \$0.10/share\*

- Financial strength and scale supports an ongoing dividend
- Supported by strong cash flow
- Initial yield at ~0.4% with room to increase in the future
- Represents ~10% of Free Cash Flow

# POWERING THE 4<sup>TH</sup> 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



## 4<sup>TH</sup> INDUSTRIAL REVOLUTION

Data economy and digitization drive growth across our markets



## ACCELERATING EARNINGS

Targeting earnings growth at over 2X faster than revenue and an ROIC of over 20%



**Yuval Wasserman**

President and  
Chief Executive Officer



**Paul Oldham**

Executive Vice President  
and Chief Financial Officer



**Dana Huth**

Chief Revenue Officer



**Edwin Mok**

Vice President, Strategic  
Marketing and Investor Relations



## **Q&A SESSION**

# NON-GAAP MEASURES

Advanced Energy's non-GAAP measures exclude the impact of non-cash related charges such as stock-based compensation, amortization of intangible assets, and unrealized foreign exchange gain or loss on long-term facility lease and pension obligations, as well as discontinued operations and non-recurring items such as acquisition-related costs and restructuring expenses. The non-GAAP measures included in this release 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 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.

# NON-GAAP RECONCILIATION – LAST 4 QUARTERS

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

	FOUR QUARTERS ENDED	
	September 30,	
	2020	2019
Gross profit from continuing operations, as reported	\$ 508,615	\$ 278,545
Adjustments to gross profit:		
Stock-based compensation	605	531
Facility expansion and relocation costs	5,837	2016
Acquisition-related costs	12,140	1917
Non-GAAP gross profit	527,197	283,009
Non-GAAP gross margin	38.12%	46.79%
Operating expenses from continuing operations, as reported	366,175	226,789
Adjustments:		
Amortization of intangible assets	-20,383	-8,665
Stock-based compensation	-11,336	-6,765
Acquisition-related costs	-13,159	-9,856
Facility expansion and relocation costs	-2,421	-297
Restructuring charges	-9,358	-7,456
Non-GAAP operating expenses	309,518	193,750
Non-GAAP operating income	\$ 217,679	89,259
Non-GAAP operating margin	15.74%	14.76%

## Reconciliation of Non-GAAP measure - income excluding certain items

	FOUR QUARTERS ENDED	
	September 30,	
	2020	2019
Income from continuing operations, less noncontrolling interest, net of income taxes	\$ 103,729	\$ 65,205
Adjustments:		
Amortization of intangible assets	20,383	8,665
Acquisition-related costs <sup>(1)</sup>	25,650	11,744
Facility expansion, relocation costs and other <sup>(2)</sup>	8,531	2,313
Restructuring charges	9,358	7,456
Tax Cuts and Jobs Act Impact	0	1,452
Unrealized foreign currency (gain) loss	4,598	0
Central inverter services business sale	1,067	-14,804
Tax effect of Non-GAAP adjustments	-4,885	813
Non-GAAP income, net of income taxes, excluding stock-based compensation	168,431	82,844
Stock-based compensation, net of taxes	9,165	5,592
Non-GAAP income, net of income taxes	\$ 177,596	\$ 88,436
Diluted earnings per share from continuing operations, as reported	\$ 2.69	\$ 1.70
Add back (subtract):		
Per share impact of Non-GAAP adjustments, net of tax	1.93	0.60
Non-GAAP per share earnings	\$ 4.62	\$ 2.30

# NON-GAAP RECONCILIATION – PAST FOUR YEARS

	Twelve months ended December 31,			
	2016	2017	2018	2019
<b>Revenue</b>	<b>\$ 483.7</b>	<b>\$ 671.0</b>	<b>\$ 718.9</b>	<b>\$ 788.9</b>
GAAP Operating Income	\$ 126.9	\$ 200.8	\$ 171.6	\$ 54.4
<b>Add back:</b>				
Restructuring Charges	-	-	4.2	5.0
Acquisition-related Costs	-	0.2	2.3	20.3
Stock-based Compensation	6.3	12.5	9.7	7.3
Amortization of Intangible Assets	4.2	4.4	5.8	12.2
Facility Transition and Relocation Costs	-	-	1.8	4.8
Non-GAAP Operating Income	\$ 137.4	\$ 217.8	\$ 195.4	\$ 104.0
<i>Non-GAAP Operating Margin % of Revenue</i>	<i>28.4%</i>	<i>32.5%</i>	<i>27.2%</i>	<i>13.2%</i>

	Twelve months ended December 31,			
	2016	2017	2018	2019
GAAP Income from Continuing Operations	\$ 116.9	\$ 136.1	\$ 147.1	\$ 56.5
<b>Add back:</b>				
Restructuring Charges	-	-	4.2	5.0
Acquisition-related Costs	-	0.2	2.3	20.3
Stock-based Compensation	6.3	12.5	9.7	7.3
Amortization of Intangible Assets	4.2	4.4	5.8	12.2
Loss on Foreign Exchange Hedge	-	3.5	-	-
Facility Transition and Relocation Costs	-	-	1.8	4.8
Incremental Expense Associated with Start-up of the Asia Regional Headquarters	-	1.1	-	-
Nonrecurring Tax (Benefit) Expense Associated with Inverter Business	-	(33.8)	-	-
Central inverter services business sale	-	-	-	(13.7)
Tax Cuts and Jobs Act Impact	-	72.9	5.7	-
Tax Effect of Non-GAAP Adjustments	(2.9)	(5.3)	(4.6)	1.5
Non-GAAP Net Income	\$ 124.6	\$ 191.5	\$ 172.0	\$ 93.9
Share Outstanding (Millions)	40.0	40.2	39.4	38.5
<b>Non-GAAP EPS</b>	<b>\$ 3.11</b>	<b>\$ 4.77</b>	<b>\$ 4.37</b>	<b>\$ 2.44</b>