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 cyclicality 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. 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 as of December 14th, 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

<table>
<thead>
<tr>
<th>Presenter</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yuval Wasserman</td>
<td>A Best-in-Class Industrial Growth Enterprise</td>
</tr>
<tr>
<td>Dana Huth</td>
<td>Realizing Growth Potential</td>
</tr>
<tr>
<td>Paul Oldham</td>
<td>Delivering Long-term Shareholder Value</td>
</tr>
<tr>
<td>All</td>
<td>Q&amp;A Session</td>
</tr>
</tbody>
</table>
A Best-in-Class Industrial Growth Enterprise

YUVAL WASSERMAN | PRESIDENT AND CEO
POWERING THE 4TH INDUSTRIAL REVOLUTION

PURE PLAY POWER LEADER
Strategic focus on power ensuring sustainable advantages and scale

4TH INDUSTRIAL REVOLUTION
Data economy and digitization drive growth across our markets

OUTPERFORMING MARKETS
Track record of growing share, content and increasing SAM

ACCELERATING EARNINGS
Targeting earnings growth at over 2X faster than revenue and ROIC of over 20%
AE provides precision power conversion and control solutions for a wide range of technologies and applications.
# OUR LEADERSHIP DRIVES SOLID PERFORMANCE

## Large & Diversified Growing Market

<table>
<thead>
<tr>
<th>Market</th>
<th>Leader (#1 or #2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delta Electronics</td>
<td>Advanced Energy</td>
</tr>
<tr>
<td>Mean Well</td>
<td>TDK-Lambda</td>
</tr>
</tbody>
</table>

## Last 4 Quarters Reported Results

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
<th>YoY Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>$1.38 billion</td>
<td>129%</td>
</tr>
<tr>
<td>Non-GAAP OP Profit</td>
<td>$218 million</td>
<td>144%</td>
</tr>
<tr>
<td>Non-GAAP EPS</td>
<td>$4.62</td>
<td>101%</td>
</tr>
<tr>
<td>Operating Cash Flow</td>
<td>$154 million</td>
<td>149%</td>
</tr>
</tbody>
</table>

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

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## Updated 3-Year Aspirational Goals (1)

<table>
<thead>
<tr>
<th>Last Year’s Goal</th>
<th>New Aspirational Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue : $1.50B</td>
<td>$1.65B</td>
</tr>
<tr>
<td>Non-GAAP EPS (2) : $6.50</td>
<td>$7.50</td>
</tr>
<tr>
<td>ROIC (3) : 23%</td>
<td>23%</td>
</tr>
</tbody>
</table>

(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.

---

**Key Messages**

- **Last Year's Goal**
  - Revenue: $1.50B
  - Non-GAAP EPS (2): $6.50
  - ROIC (3): 23%

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

---

**Generate & Deploy Cash**

**Grow & Diversify**

**Drive Strong Profitability**
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

Secular Drivers

- Increased demand for leading-edge capacity
- New memory architectures
- High-speed connectivity for seamless data transmission
- Importance of Interconnectivity
- Accelerating adoption of process automation
- Enabling new medical advancement
- High Performance Computing
- Increased power density in data center server racks
- High-speed connectivity for seamless data transmission
- Importance of Interconnectivity
INDUSTRIAL IOT: ENABLING SMART MANUFACTURING

**Secular Drivers**

- **IoT**
- **Data Center Computing**
  
  Cloud & Edge computing for analytics and automation

- **High Speed Connectivity**
  
  Enabling data connection and an autonomous factory

**IoT**

- **Semiconductor**
  
  At the heart of enabling IoT capabilities

- **Industrial Production**
  
  Smart manufacturing drives I&M business

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4TH INDUSTRIAL REVOLUTION DRIVES GROWTH ACROSS OUR 4 VERTICALS

KEY TECHNOLOGIES BEHIND THE 4TH INDUSTRIAL REVOLUTION

5G
AI
IoT

SEMICONDUCTOR EQUIPMENT
INDUSTRIAL & MEDICAL
DATA CENTER COMPUTING
TELECOM & NETWORKING

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4 KEY AREAS FOR GROWTH

AE TARGETED GROWTH STRATEGIES

GROW SHARE
Across Mission Critical, Precision Power Verticals

Semiconductor:
Extending Our Leadership

Hyperscale:
From Fast Follower to Market Leader

Industrial & Medical:
Enabling Smart Applications

Inorganic Growth:
Leveraging Scale to Grow Scope

Invest in INNOVATION and Technology Leadership

Leverage Strong Financials and Increased Scale to Capitalize on NEW OPPORTUNITIES
# SEMI: EXTENDING OUR LEADERSHIP

<table>
<thead>
<tr>
<th>Track Record:</th>
<th>Outgrowing the market and our competitors</th>
<th>Undisputed leadership in RF: Most advanced matching and integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>~2X</td>
<td>RF Power Market Share vs. Next Competitor(1)</td>
<td>• RF Match a fast-growing product category</td>
</tr>
<tr>
<td>61%</td>
<td>2020 YTD Revenue YoY Growth</td>
<td>• Industry-leading capabilities in tuning, metrology and triple-frequencies</td>
</tr>
<tr>
<td>13%</td>
<td>10-year Semi Product Revenue CAGR(2)</td>
<td>• Extending leadership with Solid State matching technology and integrated RF system</td>
</tr>
<tr>
<td>&gt;2X</td>
<td>AE CAGR over WFE(3)</td>
<td><strong>Changing the game in RPS:</strong> MAXstream™ addressing customers’ pain points</td>
</tr>
</tbody>
</table>

**Targeting to continue to outgrow the market**

| 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

---

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HYPERSCALE: FROM FAST FOLLOWER TO MARKET LEADER

Growth Strategies

Growth Targets

>4X AE Hyperscale Revenue Growth vs. Market Growth\(^{(1)}\)

>2X AE Data Center Computing Annual Revenue from 2017 to 2023\(^{(2)}\)

---

\(^{(1)}\) Hyperscale market growth rates are internal estimates based on forecast by companies, Morgan Stanley, Credit Suisse Research & RBC Capital Markets

\(^{(2)}\) 2017 Data Center Computing revenue is based on pro forma historical revenue of Artesyn before acquisition
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

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## LONG-TERM VISION

<table>
<thead>
<tr>
<th>LAST 12-MONTH RESULTS</th>
<th>NEW 3-YEAR ASPIRATIONAL GOALS</th>
<th>LONG TERM VISION (6-8 YEARS)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue</strong></td>
<td><strong>$1.38B</strong></td>
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<td><strong>20%</strong></td>
<td><strong>23%</strong></td>
</tr>
</tbody>
</table>

(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.
Realizing Growth Potential

DANA HUTH | CHIEF REVENUE OFFICER
STRONG SECULAR GROWTH IN DATA CENTER MARKET

ACCELERATED ADOPTION OF CLOUD COMPUTING AND INTERNET USAGE

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

GROWING INVESTMENTS IN HYPERSONE DATA CENTER INFRASTRUCTURE

- 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

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

OPEX

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

DRIVERS OF LOWERING COSTS

POWER SHELF ADDRESSES THESE NEEDS
48V SERVER ACCELERATES ADOPTION OF POWER SHELF

**DEPLOYMENT**

**NOW**
- 12v
- 48v
- 12v
- 12v
- 48v
- 12v

**2023**
- 12v
- 48v
- 12v
- 48v
- 12v
- 48v

Rack power types of Top 10 Hyperscalers

**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

Based on publicly available information provided by companies
POWER CONTENT GROWING IN DATA CENTER RACK

INCREASED POWER WITH ADVANCED MPU ROADMAP

- 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
- AI server rack has power supply content of 30-60kW, >2x traditional rack

(1) Source: Intel
(2) Source: AFCOM State of the Data Center reports user survey
(3) Internal estimates
AE TECHNOLOGY LEADERSHIP ENABLES STRONG COMPETITIVE ADVANTAGES

INDUSTRY-LEADING POWER CONVERSION EFFICIENCY

Peak 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/in³ 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
- Enables analytics, network functions, direct control and monitoring of rack power and back up batteries

(1) Internal estimates
(2) PSU = Power Supply Units; BBU = Battery Backup Units
GROWING SUBSTANTIALLY FASTER THAN THE MARKET

FROM FAST FOLLOWER TO LEADER

Hyperscale CAPEX(1)

Total Hyperscale CAPEX

AE Customer CAPEX

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

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/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

INDUSTRIAL AND MEDICAL: 4TH INDUSTRIAL REVOLUTION FOR SMART APPLICATIONS

FAVORABLE MARKET GROWTH TREND

Industry 4.0 Market

($ in billions)

$150
$100
$50
$0

2016 2019 2022 2024

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

(1) Source: Markets and Markets Industry 4.0 Market Report, December 2019
AE’S INDUSTRIAL & MEDICAL EXPOSURE

Growth profile: GDP+
Cleantech to outperform

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

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

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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

- 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

ENABING CUSTOMER INNOVATION

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

STRONG LEADERSHIP POSITION

A $140M SAM and Growing\(^{(1)}\)

(1) Market share and SAM are internal estimate
AE GO TO MARKET STRATEGY

Account Types

- **Key Accounts**
  - Strategic global customers
  - Served directly by AE with extensive engagement throughout organization
  - AE viewed as a strategic supplier and trusted advisor

- **Named Accounts**
  - Focused set of customers in each vertical market
  - Served directly by AE and through selected channel partners
  - Leverage power specialists to maximize support and drive new design wins

- **Regional Accounts**
  - Many OEM customers with thousands of opportunities
  - Served by channel partners
  - Ability to scale with global channel programs

Engagement Model

- Increased Level of Customization and Value

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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

Go To Market

Growing Channel Sales


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INITIAL CROSS SELLING SUCCESS STORIES

**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 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

Wide range of opportunities across multiple end markets

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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 4th Industrial Revolution
Delivering Long-term Shareholder Value

PAUL OLDHAM | EVP AND CFO
Introduction

PLATFORM FOR EARNINGS GROWTH AND TOP TIER ROIC

- Record financial results & increased revenue diversity
- Accelerated earnings growth with 2020E EPS\(^{(1)}\) 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

---

\(^{(1)}\) 2020E EPS based on the mid-point of Q4 2020 non-GAAP EPS guidance
DELIVERING RECORD FINANCIAL PERFORMANCE
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

AE Products Revenue
Artesyn Products Revenue prior to acquisition
ARTESYN INTEGRATION AHEAD OF SCHEDULE

Ahead of Plan to deliver synergies and long-term model

**Achieved >$30M Annualized Synergies**

- **Initial**: $30
- **Achieved**: $40

**Achieved >$1.00 Per Share Accretion**

- **Initial**: $1.00
- **Achieved**: $1.50

**Fully Integrated Functional Organizations**

**Approaching LT GM Target**

- Q4'19: 32%
- Q1'20: 36%
- Q2'20: 40%
- Q3'20: 40%

**Approaching LT OM Target**

- Q4'19: 12%
- Q1'20: 16%
- Q2'20: 20%
- Q3'20: 20%

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

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DIVERSIFIED REVENUE MITIGATES CYCLICALITY

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

Reduced Cyclically While Still Capturing the Upside

Peak to Trough Improves >35%

Reduced Revenue Volatility

0.226  SD/Mean improves > 50%
0.118
MOVING BEYOND SEMI EQUIPMENT SUBSYSTEMS TO INDUSTRIAL GROWTH PEERS

**TRADITIONAL SEMICAP PEERS**

AMAT  
ACLS  
KLAC  
LRCX  
ONTO

**NEW INDUSTRIAL GROWTH PEERS**

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

Semiconductor equipment suppliers  
Semiconductor equipment subsystem & component peers  
Global power solutions peers  
Diversified industrial technology companies

P/E = 15.8  
P/E = 18.6  
P/E = 18.1  
P/E = 21.0

Note: Group average P/E is based on each company’s 6-month average P/E relative to 2021 consensus EPS.
TOP-TIERED PERFORMANCE VS. INDUSTRIAL GROWTH COMPS

Gross Margin

Adjusted Operating Margin

Cash to Cash Days

Return on Invested Capital

AEIS – Q3 2020
AEIS – L4Qtrs
Industrial Growth Peers – L4Qtrs

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TARGETING GROWTH ABOVE OUR MARKETS

Combined SAM $9.0 billion

5-year SAM CAGR OF 4-5%

SAM GROWTH PROFILE

$2.2B

$2.1B

$1.5B

$3.2B

AE REVENUE CAGR TARGETS

Faster than WFE

>1.2X WFE CAGR

Extend our Leadership

2X Server TAM Growth

Add >$100M Annual Revenue by 2023

Win in Hyperscale

GDP+

>2X GDP CAGR

Smart Applications

Stable Growth

100 bps above market CAGR

5G & DC Networking

AE Growth CAGR of 8-9%

$2.2B

$2.1B

$1.5B

$3.2B

Combined SAM $9.0 billion

Add >$100M Annual Revenue by 2023

Win in Hyperscale

Smart Applications

5G & DC Networking

AE Growth CAGR of 8-9%
PORTFOLIO OPTIMIZATION ACCELERATES EARNINGS GROWTH

**OPTIMIZING PORTFOLIO TO ACHIEVE HIGHER PROFITABILITY**

- 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

<table>
<thead>
<tr>
<th>Original</th>
<th>Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue CAGR</td>
<td>8-9%</td>
</tr>
<tr>
<td>EPS Multiplier</td>
<td>2.1X</td>
</tr>
</tbody>
</table>

*Platform for growth*
ACCELERATE EARNINGS GROWTH

(1) Last 12 month reported non-GAAP EPS
(2) This figure represents our aspirational goal and is not to be treated as guidance

Target >50% earnings growth
>2X revenue growth rate
**UPDATED 3-YEAR ASPIRATIONAL GOALS**

<table>
<thead>
<tr>
<th>FROM 2019 ANALYST EVENT</th>
<th>OLD ASPIRATIONAL GOALS</th>
<th>2020 UPDATE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue ($M)</strong></td>
<td><strong>$1,240</strong></td>
<td><strong>$1,383</strong></td>
</tr>
<tr>
<td><strong>N.G. Gross Margins(^{(2)})</strong></td>
<td><strong>34-36%</strong></td>
<td><strong>38.1%</strong></td>
</tr>
<tr>
<td><strong>N.G. Operating Margins(^{(2)})</strong></td>
<td><strong>9-12%</strong></td>
<td><strong>15.7%</strong></td>
</tr>
<tr>
<td><strong>Cash Flow ($M)</strong></td>
<td><strong>$80</strong></td>
<td><strong>$154</strong></td>
</tr>
<tr>
<td><strong>Non-GAAP EPS(^{(2)})</strong></td>
<td><strong>$2.72</strong></td>
<td><strong>$4.62</strong></td>
</tr>
<tr>
<td><strong>ROIC(^{(3)})</strong></td>
<td><strong>12%</strong></td>
<td><strong>20%</strong></td>
</tr>
</tbody>
</table>

### Platform for growth

(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 Vision

### Long-term Financial Framework

<table>
<thead>
<tr>
<th></th>
<th>3-Year Aspirational Goals</th>
<th>Long-term Organic Financial Framework</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue</strong></td>
<td>$1,650</td>
<td>5-6% Net CAGR</td>
</tr>
<tr>
<td><strong>Non-GAAP Operating Margins</strong></td>
<td>21%</td>
<td><strong>OPEX at ( \frac{1}{2} ) rev. CAGR</strong></td>
</tr>
<tr>
<td><strong>Non-GAAP EPS</strong></td>
<td>$7.50</td>
<td>35-45% incr. margins</td>
</tr>
<tr>
<td><strong>ROIC</strong></td>
<td>23%</td>
<td><strong>&gt;2X revenue CAGR</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Maintain &gt;20%</strong></td>
</tr>
</tbody>
</table>

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# Long-Term Financial Framework + Inorganic Growth

## Long-Term Vision

### 3-Year Aspirational Goals

<table>
<thead>
<tr>
<th>Category</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>$1,650</td>
</tr>
<tr>
<td>Non-GAAP Operating Margins</td>
<td>21%</td>
</tr>
<tr>
<td>Non-GAAP EPS</td>
<td>$7.50</td>
</tr>
<tr>
<td>ROIC</td>
<td>23%</td>
</tr>
</tbody>
</table>

### Long-Term Organic Financial Framework

- 5-6% Net CAGR
- OPEX at ½ rev. CAGR
- 35-45% incr. margins
- >2.0X revenue CAGR
- Maintain >20%

### Inorganic Growth Assumptions

- Add ~$500M
- >10% acquired margins
- Accretive in Year 1
- Targeted ROIC at >10%
## Long-term Vision

### 3-Year Aspirational Goals

<table>
<thead>
<tr>
<th>Metric</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>$1,650</td>
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<tr>
<td>Non-GAAP EPS</td>
<td>$7.50</td>
</tr>
<tr>
<td>ROIC</td>
<td>23%</td>
</tr>
</tbody>
</table>

### Long-term Organic Financial Framework

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-6% Net CAGR</td>
<td></td>
</tr>
<tr>
<td>OPEX at ½ rev. CAGR</td>
<td></td>
</tr>
<tr>
<td>35-45% incr. margins</td>
<td></td>
</tr>
<tr>
<td>&gt;2.0X revenue CAGR</td>
<td></td>
</tr>
<tr>
<td>Maintain &gt;20%</td>
<td></td>
</tr>
</tbody>
</table>

### Inorganic Growth Assumptions

<table>
<thead>
<tr>
<th>Assumption</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add ~$500M</td>
<td>$2,500</td>
</tr>
<tr>
<td>&gt;10% acquired margins</td>
<td>21%</td>
</tr>
<tr>
<td>Accretive in Year 1</td>
<td>$12.00</td>
</tr>
<tr>
<td>Targeted ROIC at &gt;10%</td>
<td>&gt;20%</td>
</tr>
</tbody>
</table>

## Clear Roadmap for Creating Long-term Shareholder Value
UPDATED CAPITAL ALLOCATION PLAN

Allocation of Free Cash Flow

- Growth 75%
- Capital Return 25%

Capital Allocation Track Record

2014 to Q3’20 Total

- Free Cash Flow $754M
- Total Acquisitions $534M
- Total Capital Return $212M
- 28% of FCF

- 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

* Subject to declaration of dividend by the Board of Directors
Key Messages

POWERING THE 4TH INDUSTRIAL REVOLUTION

PURE PLAY POWER LEADER
Strategic focus on power ensuring sustainable advantages and scale

4TH INDUSTRIAL REVOLUTION
Data economy and digitization drive growth across our markets

OUTPERFORMING MARKETS
Track record of growing share, content and increasing SAM

ACCELERATING EARNINGS
Targeting earnings growth at over 2X faster than revenue and an ROIC of over 20%
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.
## Reconciliation of Non-GAAP measure - operating expenses and operating income, excluding certain items

<table>
<thead>
<tr>
<th></th>
<th>FOUR QUARTERS ENDED</th>
<th>September 30,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2020</td>
</tr>
<tr>
<td>Gross profit from continuing operations, as reported</td>
<td>$508,615</td>
<td>$278,545</td>
</tr>
<tr>
<td>Adjustments to gross profit:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stock-based compensation</td>
<td>605</td>
<td>531</td>
</tr>
<tr>
<td>Facility expansion and relocation costs</td>
<td>5,837</td>
<td>2016</td>
</tr>
<tr>
<td>Acquisition-related costs</td>
<td>12,140</td>
<td>1917</td>
</tr>
<tr>
<td>Non-GAAP gross profit</td>
<td>527,197</td>
<td>283,009</td>
</tr>
<tr>
<td>Non-GAAP gross margin</td>
<td>38.12%</td>
<td>46.79%</td>
</tr>
</tbody>
</table>

Operating expenses from continuing operations, as reported

<table>
<thead>
<tr>
<th></th>
<th>FOUR QUARTERS ENDED</th>
<th>September 30,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2020</td>
</tr>
<tr>
<td>Amortization of intangible assets</td>
<td>-20,383</td>
<td>-8,665</td>
</tr>
<tr>
<td>Stock-based compensation</td>
<td>-11,336</td>
<td>-6,765</td>
</tr>
<tr>
<td>Acquisition-related costs</td>
<td>-13,159</td>
<td>-9,856</td>
</tr>
<tr>
<td>Facility expansion and relocation costs</td>
<td>-2,421</td>
<td>-297</td>
</tr>
<tr>
<td>Restructuring charges</td>
<td>-9,358</td>
<td>-7,456</td>
</tr>
<tr>
<td>Non-GAAP operating expenses</td>
<td>309,518</td>
<td>193,750</td>
</tr>
<tr>
<td>Non-GAAP operating income</td>
<td>$217,679</td>
<td>$89,259</td>
</tr>
<tr>
<td>Non-GAAP operating margin</td>
<td>15.74%</td>
<td>14.76%</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>FOUR QUARTERS ENDED</th>
<th>September 30,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2020</td>
</tr>
<tr>
<td>Income from continuing operations, less noncontrolling interest, net of income taxes</td>
<td>$103,729</td>
<td>$65,205</td>
</tr>
<tr>
<td>Adjustments:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amortization of intangible assets</td>
<td>20,383</td>
<td>8,665</td>
</tr>
<tr>
<td>Acquisition-related costs</td>
<td>25,650</td>
<td>11,744</td>
</tr>
<tr>
<td>Facility expansion, relocation costs and other</td>
<td>8,531</td>
<td>2,313</td>
</tr>
<tr>
<td>Restructuring charges</td>
<td>9,358</td>
<td>7,456</td>
</tr>
<tr>
<td>Tax Cuts and Jobs Act Impact</td>
<td>0</td>
<td>1,452</td>
</tr>
<tr>
<td>Unrealized foreign currency (gain) loss</td>
<td>4,598</td>
<td>0</td>
</tr>
<tr>
<td>Central inverter services business sale</td>
<td>1,067</td>
<td>-14,804</td>
</tr>
<tr>
<td>Tax effect of Non-GAAP adjustments</td>
<td>-4,885</td>
<td>813</td>
</tr>
<tr>
<td>Non-GAAP income, net of income taxes, excluding stock-based compensation</td>
<td>168,431</td>
<td>82,844</td>
</tr>
<tr>
<td>Stock-based compensation, net of taxes</td>
<td>9,165</td>
<td>5,592</td>
</tr>
<tr>
<td>Non-GAAP income, net of income taxes</td>
<td>$177,596</td>
<td>$88,436</td>
</tr>
</tbody>
</table>

Diluted earnings per share from continuing operations, as reported

<table>
<thead>
<tr>
<th></th>
<th>FOUR QUARTERS ENDED</th>
<th>September 30,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2020</td>
</tr>
<tr>
<td>Add back (subtract):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Per share impact of Non-GAAP adjustments, net of tax</td>
<td>1.93</td>
<td>0.60</td>
</tr>
<tr>
<td>Non-GAAP per share earnings</td>
<td>$4.62</td>
<td>$2.30</td>
</tr>
</tbody>
</table>
## Non-GAAP Reconciliation – Past Four Years

<table>
<thead>
<tr>
<th></th>
<th>Twelve months ended December 31,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2016</td>
</tr>
<tr>
<td><strong>Revenue</strong></td>
<td>$483.7</td>
</tr>
<tr>
<td><strong>GAAP Operating Income</strong></td>
<td>$126.9</td>
</tr>
<tr>
<td><strong>Add back:</strong></td>
<td></td>
</tr>
<tr>
<td>Restructuring Charges</td>
<td>-</td>
</tr>
<tr>
<td>Acquisition-related Costs</td>
<td>-</td>
</tr>
<tr>
<td>Stock-based Compensation</td>
<td>6.3</td>
</tr>
<tr>
<td>Amortization of Intangible Assets</td>
<td>4.2</td>
</tr>
<tr>
<td>Facility Transition and Relocation Costs</td>
<td>-</td>
</tr>
<tr>
<td><strong>Non-GAAP Operating Income</strong></td>
<td>$137.4</td>
</tr>
<tr>
<td><strong>Non-GAAP Operating Margin % of Revenue</strong></td>
<td>28.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Twelve months ended December 31,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2016</td>
</tr>
<tr>
<td><strong>GAAP Income from Continuing Operations</strong></td>
<td>$116.9</td>
</tr>
<tr>
<td><strong>Add back:</strong></td>
<td></td>
</tr>
<tr>
<td>Restructuring Charges</td>
<td>-</td>
</tr>
<tr>
<td>Acquisition-related Costs</td>
<td>-</td>
</tr>
<tr>
<td>Stock-based Compensation</td>
<td>6.3</td>
</tr>
<tr>
<td>Amortization of Intangible Assets</td>
<td>4.2</td>
</tr>
<tr>
<td>Loss on Foreign Exchange Hedge</td>
<td>-</td>
</tr>
<tr>
<td>Facility Transition and Relocation Costs</td>
<td>-</td>
</tr>
<tr>
<td>Incremental Expense Associated with Start-up of the Asia Regional Headquarters</td>
<td>-</td>
</tr>
<tr>
<td>Nonrecurring Tax (Benefit) Expense Associated with Inverter Business</td>
<td>-</td>
</tr>
<tr>
<td>Central inverter services business sale</td>
<td>-</td>
</tr>
<tr>
<td>Tax Cuts and Jobs Act Impact</td>
<td>-</td>
</tr>
<tr>
<td>Tax Effect of Non-GAAP Adjustments</td>
<td>(2.9)</td>
</tr>
<tr>
<td><strong>Non-GAAP Net Income</strong></td>
<td>$124.6</td>
</tr>
<tr>
<td><strong>Share Outstanding (Millions)</strong></td>
<td>40.0</td>
</tr>
<tr>
<td><strong>Non-GAAP EPS</strong></td>
<td>$3.11</td>
</tr>
</tbody>
</table>