



Advanced Energy (AEIS) 2024 Analyst Day

NOVEMBER 19, 2024

Safe Harbor

Advanced Energy Industries, Inc.'s guidance and other statements herein or made on the Analyst Day conference call contain, in addition to historical information, forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Statements in this presentation that are not historical information are forward-looking statements. For example, statements relating to Advanced Energy's beliefs, expectations, and plans are forward-looking statements, as are statements that certain actions, conditions, events, or circumstances will continue. The inclusion of words such as "anticipate," "expect," "estimate," "can," "may," "might," "continue," "enable," "plan," "intend," "should," "predict", "could," "would," "will," "likely," "potential," "future", "target," "need," "drive," "next-gen," "exit," "model," "believe," "grow," "accelerate," "gain," "win," "deliver," "optimize," "outperform," "maintain," "raise," "add," "sustain," and similar expressions and the negative versions thereof indicate forward-looking statements; however, not all forward-looking statements may contain such words or expressions. Although Advanced Energy believes that the expectations reflected in or suggested by these forward-looking statements are reasonable, the company may not achieve the results, performance, plans, or objectives expressed or implied by such forward-looking statements. Forward-looking statements involve risks and uncertainties, which are difficult to predict and many of which are beyond Advanced Energy's control. Actual results could differ materially and adversely from those expressed in any forward-looking statements, and investors are cautioned not to place undue reliance on forward-looking statements. Factors that could contribute to these differences or prove the forward-looking statements herein, by hindsight, to be overly optimistic or unachievable include the risk factors described in Advanced Energy's Form 10-K, Form 10-Q and other reports and statements filed with the Securities and Exchange Commission (SEC), which can be obtained from the SEC's website at www.sec.gov or from Advanced Energy's Investors page at ir.advancedenergy.com. Other factors might also contribute to the differences between these forward-looking statements and Advanced Energy's actual results. All forward-looking statements are made and based on information available to Advanced Energy's management team as of the Q3 2024 earnings call on October 30, 2024. The 2030 target financial model, long-term goals, and other targeted metrics in this presentation should not be interpreted in any respect as guidance. The company assumes no obligation to update the information in this presentation.

Non-GAAP Measures

All financial figures presented in this presentation, such as gross margin, operating expense item, operating margins, EBITDA, other income, tax rate, earnings per share and depreciation, are on a non-GAAP financial basis unless otherwise specified. Detailed reconciliations of GAAP to non-GAAP financials can be found on the subsequent slides.

Management uses non-GAAP gross margin and other non-GAAP measures to evaluate business performance without the impacts of certain non-cash charges and other charges which are not part of our usual operations. We use these non-GAAP measures to assess performance against business objectives and make business decisions, including developing budgets and forecasting future periods. In addition, management's incentive plans include these non-GAAP measures as criteria for achievements. These non-GAAP measures are not prepared in accordance with U.S. GAAP and may differ from non-GAAP methods of accounting and reporting used by other companies. However, we believe these non-GAAP measures provide additional information that enables investors to evaluate our business from the perspective of management. The presentation of this non-GAAP information should not be considered a substitute for results prepared in accordance with U.S. GAAP.

Advanced Energy's non-GAAP measures exclude the impact of non-cash related charges such as stock-based compensation, amortization of intangible assets, and long-term unrealized foreign exchange gains and losses. In addition, we exclude discontinued operations and other non-recurring items such as acquisition-related costs, facility expansion and related costs, and restructuring expenses, as they are not indicative of future performance. The tax effect of our non-GAAP adjustments represents the anticipated annual tax rate applied to each non-GAAP adjustment after consideration of their respective book and tax treatments. In addition, the tax effect also includes a discrete tax benefit associated with the release of a portion of our deferred tax asset valuation allowance.

Today's Speakers



Steve Kelley
President and Chief Executive Officer

Paul Oldham
Executive Vice President and Chief Financial Officer

Juergen Braun
Senior Vice President Plasma Power Products

Emdrem Tan
Executive Vice President System Power Products

John Donaghey
Executive Vice President and Global Head of Sales

Edwin Mok
Vice President, Strategic Marketing & Investor Relations

Agenda

- 01 **Lead the Future of Precision Power**
Steve Kelley

- 02 **Extend Semiconductor Leadership**
Juergen Braun

- 03 **Capture AI Opportunity in Data Center Computing**
Emdrem Tan

- 04 **Accelerate Growth in Industrial & Medical**
John Donaghey

- 05 **Deliver Shareholder Value**
Paul Oldham

- 06 **Closing Remarks**
Steve Kelley

- 07 **Q&A Session**
All





Lead the Future of Precision Power

Steve Kelley

President and Chief Executive Officer

AEIS 2024 Analyst Day

November 19, 2024

Lead the Future of Precision Power



01

Precision power leader enabling next generation processes and technologies

02

Expanding set of high-end opportunities across diverse end markets

03

Solid revenue growth driven by new products, share gain, and acquisitions

04

Superior earnings power with well-defined path to expand non-GAAP gross margin⁽¹⁾ to ~43%

(1) Gross margin on a non-GAAP basis; Detailed explanations of non-GAAP financials and reconciliations of GAAP to non-GAAP financials can be found at the end of this presentation

2030 Target Financial Model



REVENUE

\$3.0B

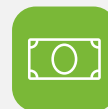
\$2.5B organic +
\$0.5B inorganic



NON-GAAP⁽¹⁾
GROSS MARGINS

~43%

Maintain > 40% through
business cycles



NON-GAAP⁽¹⁾
EPS

\$15.00

> 2X revenue growth
on improved margins

(1) Detailed explanations of non-GAAP financials and reconciliations of GAAP to non-GAAP financials can be found at the end of this presentation

Proprietary Power Solutions for High-Value Markets

AE KEY ATTRIBUTES:

Broad portfolio of leadership technologies

Long life-cycle applications

> 70% of revenues from sole-sourced designs

Strong new product and design win momentum



SEMICONDUCTOR EQUIPMENT



Process Power



INDUSTRIAL



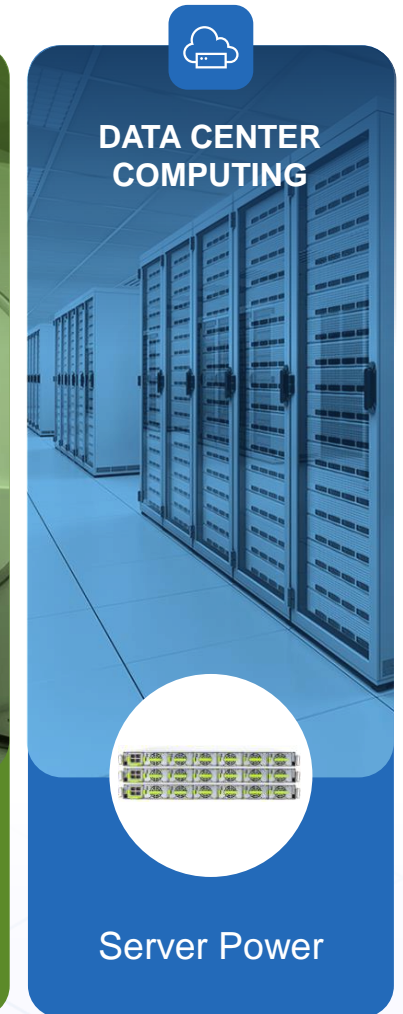
Industrial Power






MEDICAL



Medical Power



DATA CENTER COMPUTING



Server Power

Sustainable Competitive Advantages



Industry-leading power technologies for advanced processes



Broadest portfolio of precision power products



Largest technical team of ~1,500 power designers and development engineers



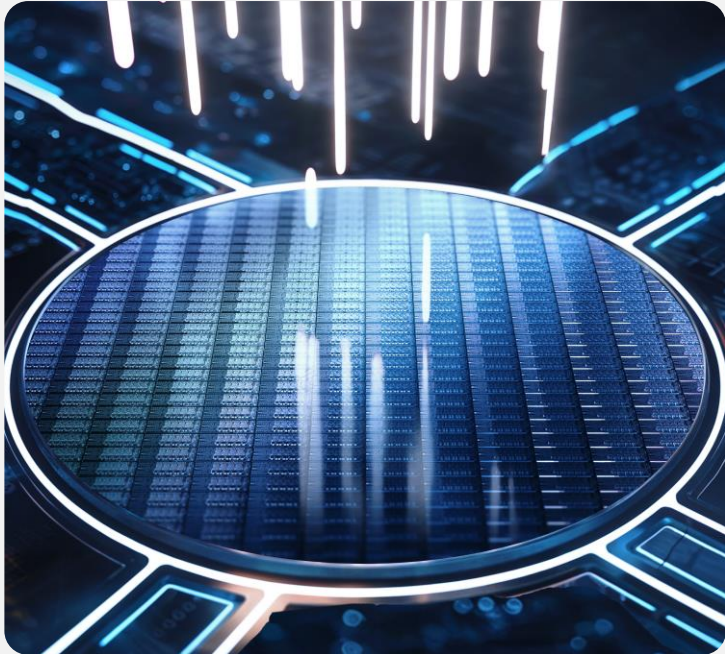
Deepest application know-how



Operational excellence with award-winning execution and quality

Lead the precision power industry with advanced technologies and scale, focused on capturing high-value differentiated applications

Technology Leadership and Market Leading Positions



Semi Process Power

#1 in plasma power⁽¹⁾

Enabling sub-2nm logic and 3D device architectures



Industrial Power

Large portfolio of high-value and configurable solutions

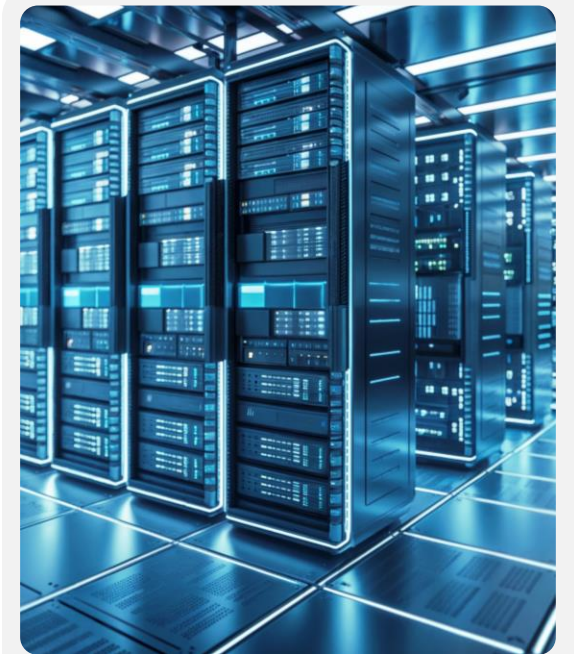
Powering wide-range of industrial applications



Medical Power

#2 in Medical power⁽²⁾

Enabling therapeutic, diagnostic and patient care innovation



Data Center Power

Best-in-class power efficiency, density and reliability

Fueling power-hungry AI applications

(1) 2023 market share based on TechInsight Critical Subsystems Market Share report, 2024 Edition

(2) 2023 market share based on WAWT Global AC-DC and DC-DC Merchant Power Supply Market report, 2024 Edition

“One AE” Strategy a Force Multiplier



More New Products
Leverage and combine best-in-class technologies to accelerate development



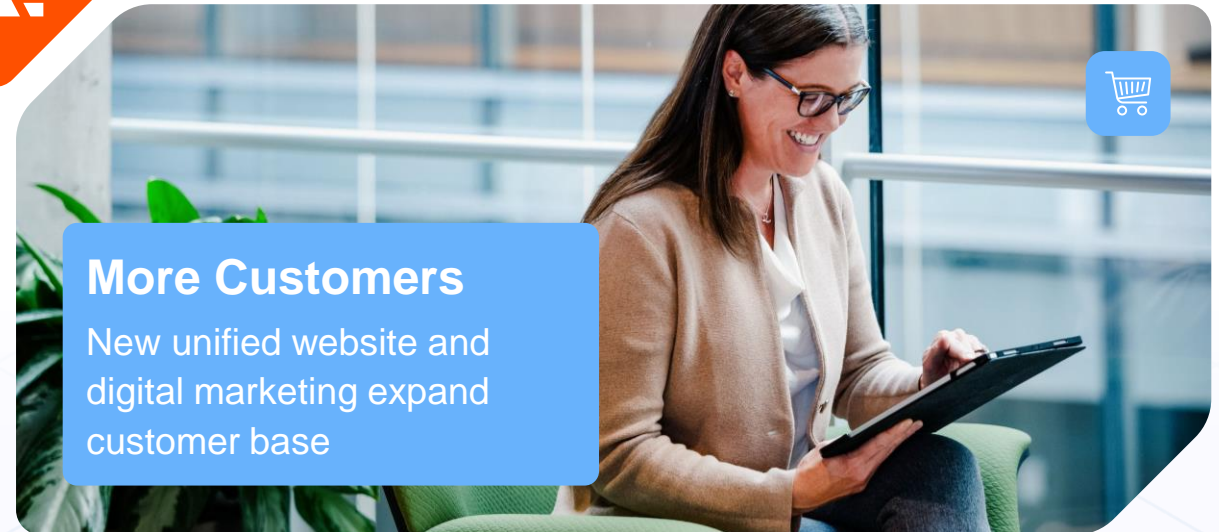
More Efficiency
Consolidated factories to drive world-class execution, quality and cost




Fast Integration
One culture across the company



| Advanced Energy At A Glance | | | |
|--|------------------|---------------------|--|
| Headquartered in Denver Colorado, Advanced Energy has power, enabling design breakthroughs and driving growth. | | | |
| BY THE NUMBERS | | | |
| 1981 | 12,000+ | 60+ | |
| Founded | Global Employees | Locations Worldwide | |
| OUR MARKETS: | | | |
| Sector Equipment, Industrial, Medical, Data Center, Computing | | | |



More Customers
New unified website and digital marketing expand customer base



World-Class Leadership Team

Seasoned industry operators with solid track record

Deep operating knowledge in the power and semiconductor markets

Average of over 30 years of industry experience



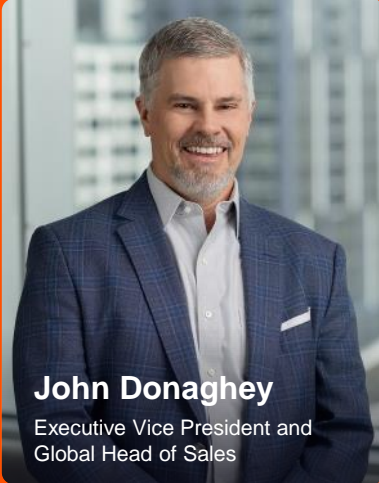
Steve Kelley

President and Chief Executive Officer



Paul Oldham

Executive Vice President and Chief Financial Officer



John Donaghey

Executive Vice President and Global Head of Sales



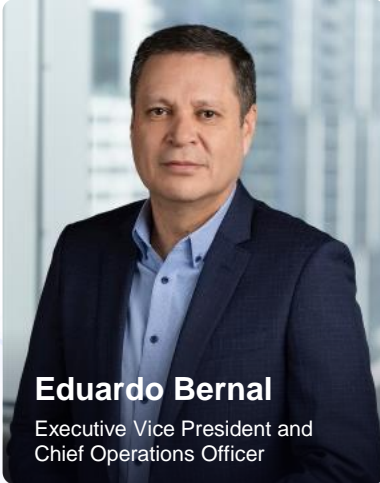
Emdrem Tan

Executive Vice President, System Power Products



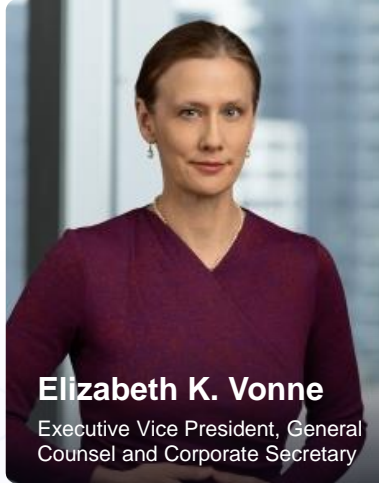
Juergen Braun

Senior Vice President, Plasma Power Products



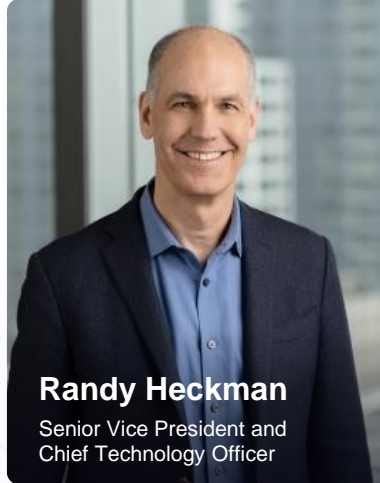
Eduardo Bernal

Executive Vice President and Chief Operations Officer



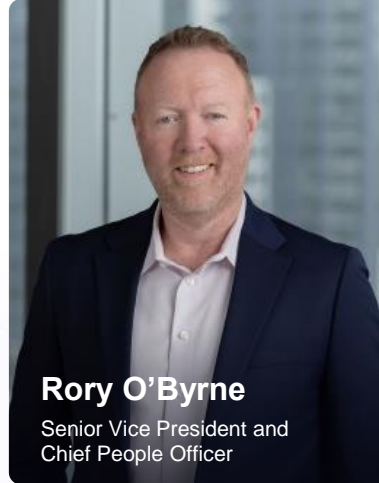
Elizabeth K. Vonne

Executive Vice President, General Counsel and Corporate Secretary



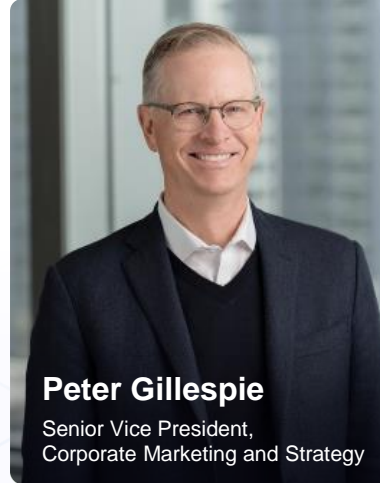
Randy Heckman

Senior Vice President and Chief Technology Officer



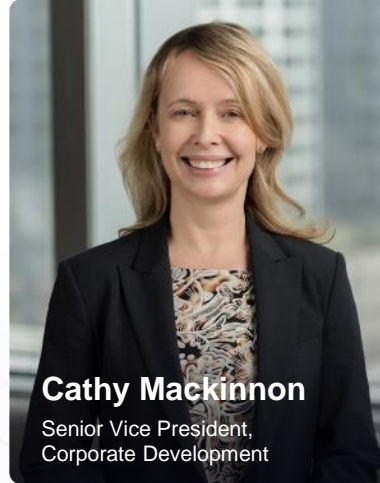
Rory O'Byrne

Senior Vice President and Chief People Officer



Peter Gillespie

Senior Vice President, Corporate Marketing and Strategy



Cathy Mackinnon

Senior Vice President, Corporate Development

A \$10.5 Billion Precision Power SAM

Growing at 6.5%+ CAGR⁽¹⁾



\$3.1B



Semiconductor
Growing demand for wafer processing with increased etch/dep intensity at the leading-edge



\$4.5B



Industrial and Medical
Fragmented market with growing sub-verticals and long life-cycle applications



\$1.7B



Data Center Computing
Rapidly accelerating demand for high power AI applications

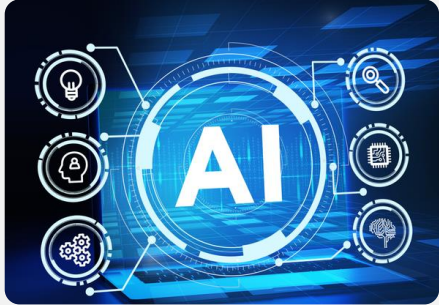


\$1.2B



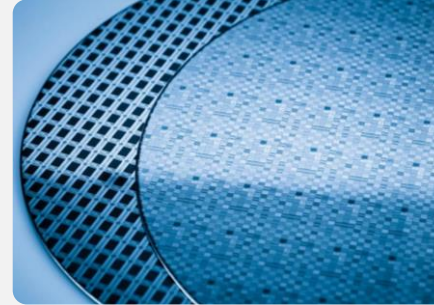
Telecom and Networking
Stable market with selected high-value opportunities

Multiple Macro Drivers



Artificial Intelligence

Driving increased power consumption in data center and demand for leading-edge silicon



\$1 Trillion Semi Market⁽¹⁾

Increasing use of semiconductor technology across many industries



Energy Efficiency

Need to reduce power consumption and increase efficiency of large capital equipment



Electrification

Increasing demand for precision power solutions in industrial applications



Industrial Automation

Support the need for improved, low-cost, high-quality manufacturing output



Medical Innovation

Customized and certified power solutions that enable medical innovation

(1) According to forecasts by McKinsey & Company and SEMI, the global semiconductor industry is projected to grow to over \$1 trillion dollars by around 2030

Semiconductor Technology Leadership



#1 in plasma power technology and market share⁽¹⁾



Provide critical technologies for building 3D device architectures



Solid momentum and on-track to ship >250 units of next generation plasma platforms by year-end 2024



Modular platforms accelerate qualification and customers' time-to-market



Expand our market with a wide range of process and system power solutions

eVoS™ ME
Bias Solution



New platforms enable meaningful target market share gains through 2030

Accelerate Growth in Industrial & Medical

01

Growing portfolio of best-in-class power solutions

02

“Quick turn” engineering teams customize solutions for demanding applications

03

Customer-friendly website and digital marketing enable AE to reach many new customers

04

In-house manufacturing ensures high quality and long-term product support

Multiple design wins and expanded reach expected to drive share gains as markets recover

Evergreen™ High Power AC-DC Platform



Capturing AI Opportunities in Data Center Computing



Focus on high-end, proprietary applications enables profitable growth



Technology leader with roadmap to enable Megawatt power for AI applications



Pipeline of proprietary opportunities expected to add over \$100 million in annual revenue

AE leads in power efficiency, density and reliability to meet the advanced AI requirements

ORv3 HPR
Power Shelf



Inorganic Strategy Focus on Growing Scope and Leveraging Scale

ACQUISITION CRITERIA

Precision power solutions

Expanding reach, served market or portfolio

Synergistic with current operations

Technical leadership or differentiated products



A solid track record in acquiring and growing profitable businesses

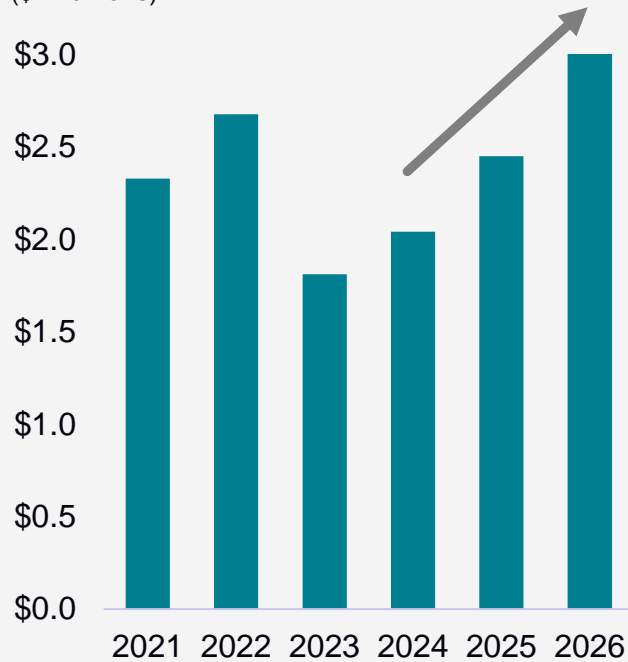
Focus on large accretive targets in I&M market and technology tuck-ins

Financial discipline with a focus on value creation

Markets Recovering Going into 2025

Semi Power Critical Subsystem Market⁽¹⁾

(\$ in billions)

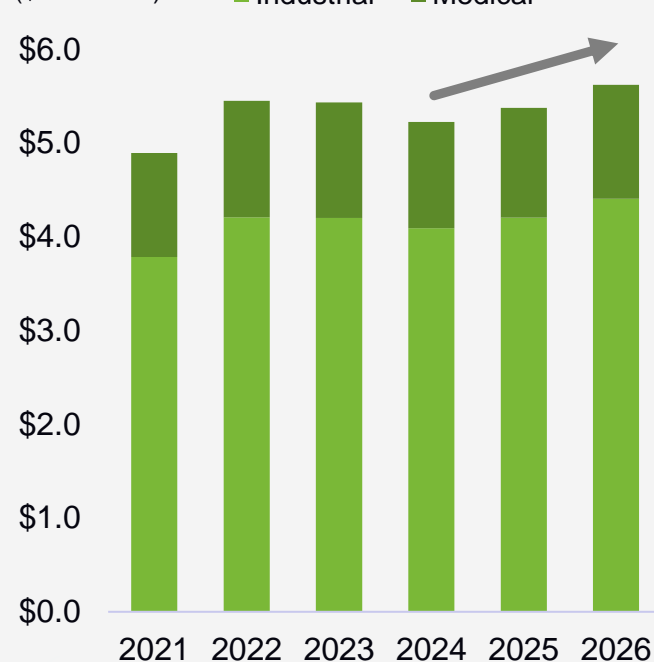


Semiconductor

Low-Voltage PSU Sales in Industrial & Medical⁽²⁾

(\$ in billions)

■ Industrial ■ Medical

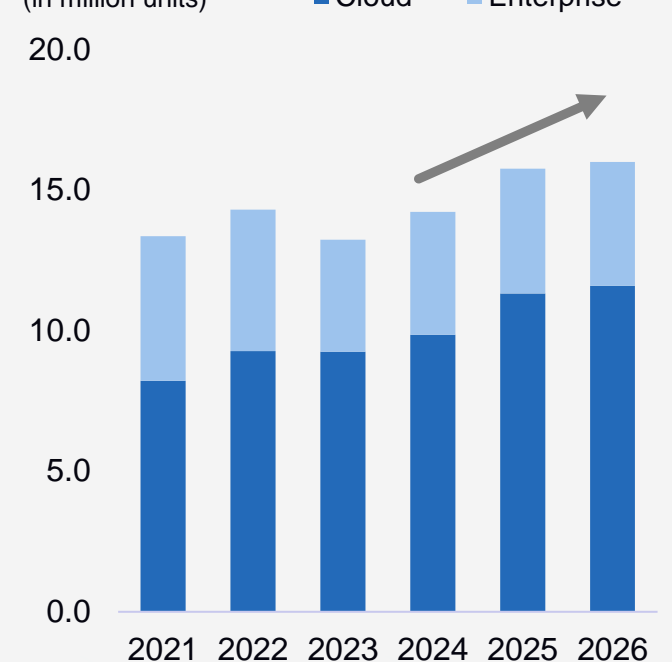


Industrial and Medical

Server Unit Shipments⁽³⁾

(in million units)

■ Cloud ■ Enterprise



Data Center Computing

(1) TechInsight Critical Subsystems Forecast, September 2024

(2) WAWT Global AC-DC and DC-DC Merchant Power Supply Market Report, 2024 Edition

(3) Dell'Oro Data Center IT Forecast, July 2024

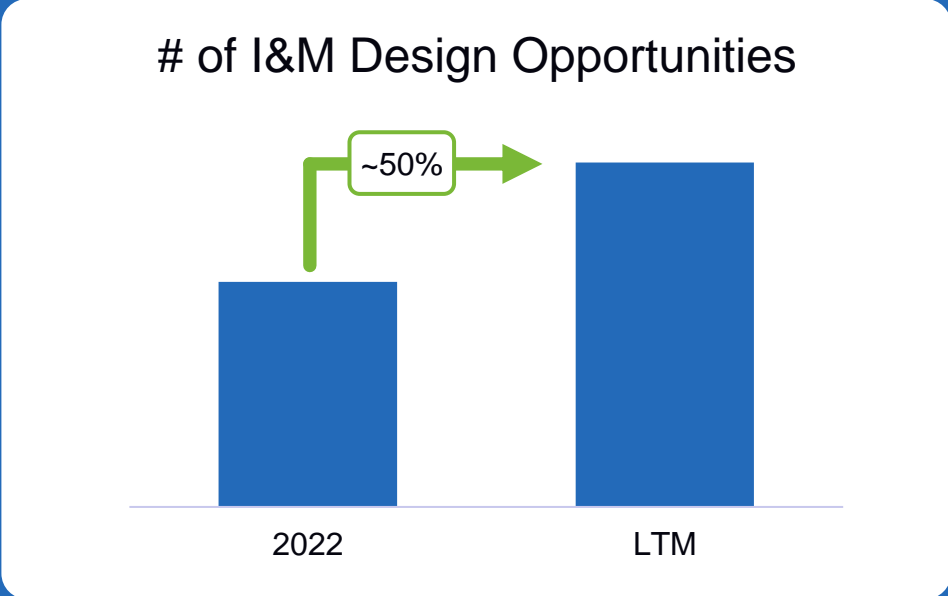
Accelerated Launch of New Platforms

Accelerated Launch of New Platforms



- Technology-leading product platforms
- Delivering > 2X number of custom products
- Strong customer pull reinforces technology leadership

Growing Pipeline of Design Wins



- High design win conversion rate (>33%)
- Strong momentum in Industrial and Medical pipeline
- New design wins will drive share gain

Improved Digital Capability Expanding Reach

WEB PERFORMANCE IMPROVEMENTS:

3X
Traffic

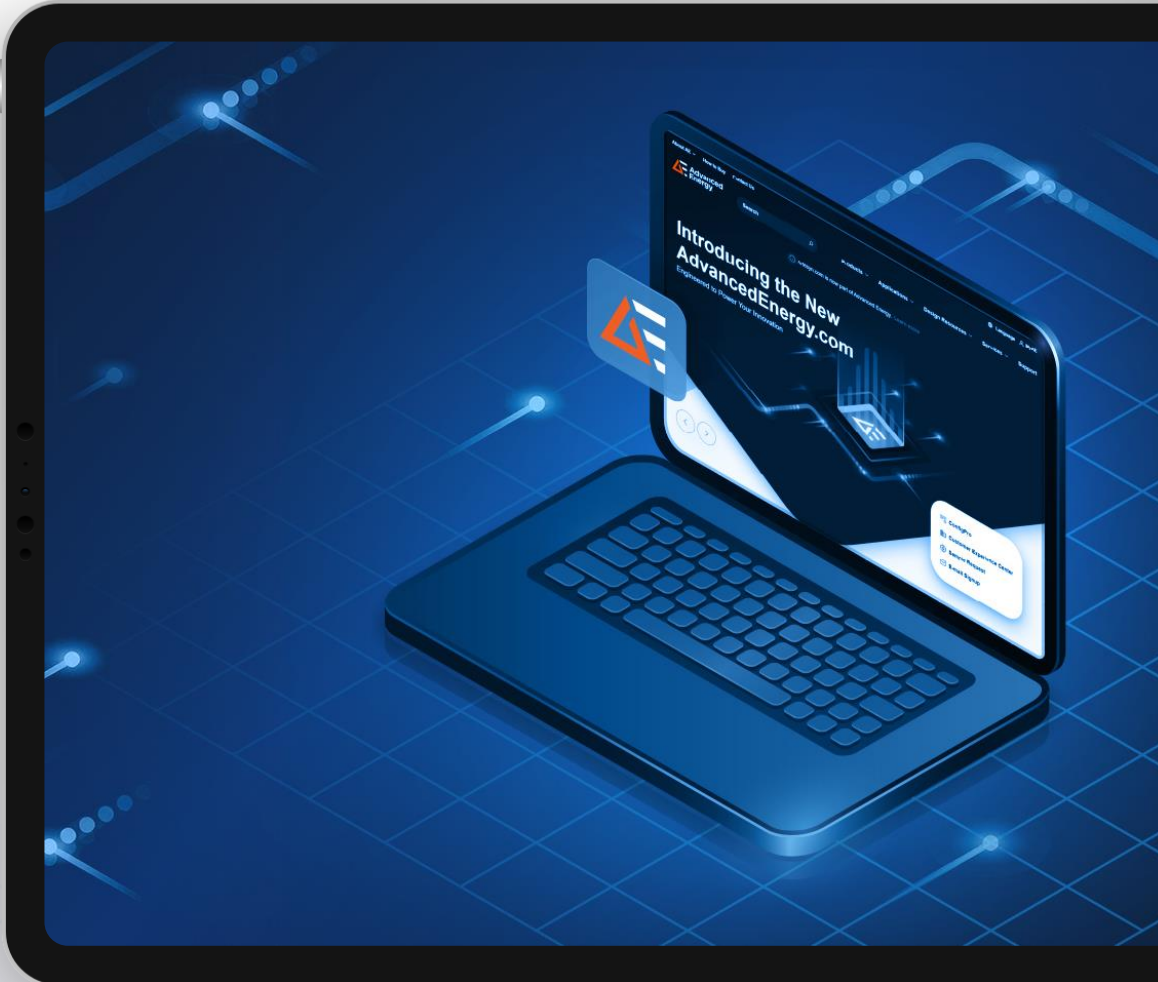
3X
of Registered Users

2X
Sales Leads

DRIVING BUSINESS RESULTS:

>600
New Customers Added

>150
New Design Wins



(1) Performance metrics represents changes in 1 year after new website was launched in August 2023

Operational Excellence Enables Superior Financial Performance

01

Consolidating into five large manufacturing sites in Southeast Asia and Mexico

02

Cost-effective infrastructure for high-mix, low-volume manufacturing

03

Internal manufacturing to better support long-life cycle products

04

Continuous improvement in quality and cost to drive best-in-class operations



World-class manufacturing operation to power \$3 billion in revenue

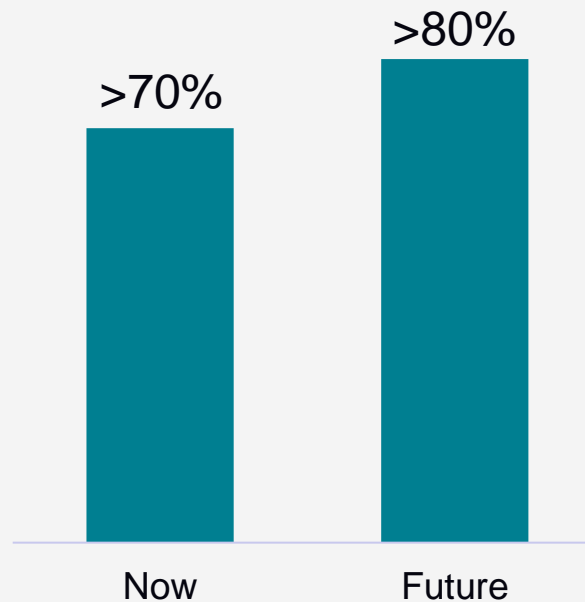


Driving Structural Gross Margin Improvement

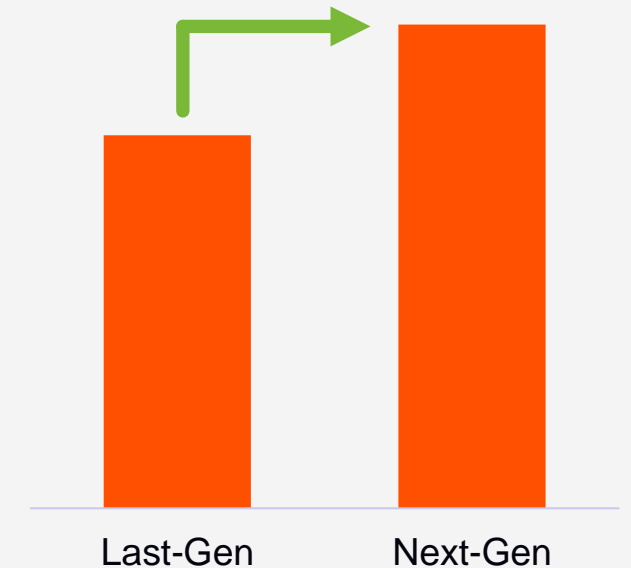
Manufacturing overhead costs after consolidation



Increase mix of sole-sourced revenue



Margin uplift from next-gen products



Target > 400bps in gross margin expansion⁽¹⁾ through manufacturing site consolidation and increased mix of higher margin products

(1) Relative to 1H 2024 non-GAAP gross margin; all gross margin figures are on a non-GAAP basis; Detailed explanations of non-GAAP financials and reconciliations of GAAP to non-GAAP financials can be found at the end of this presentation

Lead the Future in Precision Power



01

Precision power leader enabling next generation processes and technologies

02

Expanding set of high-end opportunities across diverse end markets

03

Solid revenue growth driven by new products, share gain, and acquisitions

04

Superior earnings power with well-defined path to expand non-GAAP gross margin⁽¹⁾ to ~43%

(1) Gross margin on a non-GAAP basis; Detailed explanations of non-GAAP financials and reconciliations of GAAP to non-GAAP financials can be found at the end of this presentation



Extend Leadership in Semiconductor

Juergen Braun

Senior Vice President

Plasma Power Products

AEIS 2024 Analyst Day

November 19, 2024



Key Messages



#1 in plasma power technology and market share⁽¹⁾



Strong customer pull for next-generation plasma power platforms to drive share gain



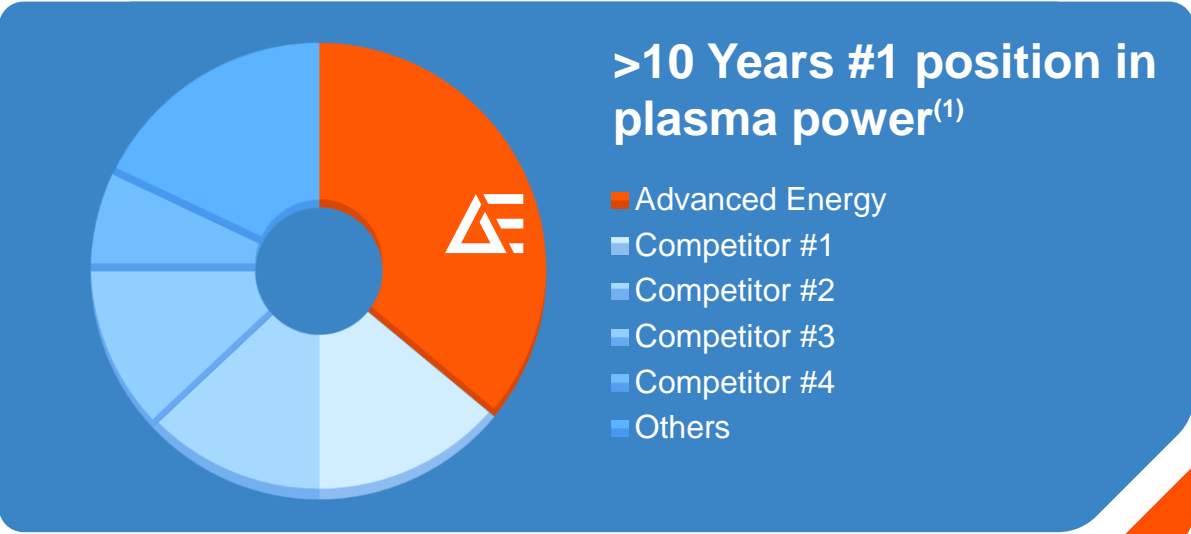
Provider of critical technologies used to build 3D device architectures



Expand market opportunities with a wide range of process and system power solutions



The Undisputed Leader in Plasma Power



Outgrowing our end markets⁽²⁾

| | Peak-to-Peak ('18 to '22 CAGR) | Trough-to-Trough ('19 to '23 CAGR) |
|----------------------------|--------------------------------|------------------------------------|
| Total Fab Equipment | 13.7% | 14.9% |
| Critical Subsystems | 12.3% | 12.4% |
| • AEIS Semi Revenue | <u>14.9%</u> | <u>16.6%</u> |

Most advanced portfolio of technologies

eVoS™ Matchless Bias

eVerest™ Pulsed RF

NavX™ RF Match

Ascent Pulsed DC

MAXStream™ RPS

High Voltage

Deep application knowledge

Understand processes:

- Conductor Etch
- Dielectric Etch
- Deposition
- Ion Implantation
- Chamber Clean
- Abatement

Expertise in plasma power:

- Dynamic multi-level pulsing
- Precise ion energy control
- Multiple state tuning
- High efficiency plasma delivery
- PowerInsight™ analytics

(1) Based on over 10 years of data from TechInsight Critical Subsystems Vendor Shares, RF & DC Power Subsystems; pie chart based on 2023 report

(2) Total Fab Equipment and Critical Subsystems CAGRs based on TechInsight data; AEIS Semi Sales CAGR based on reported Semi revenue

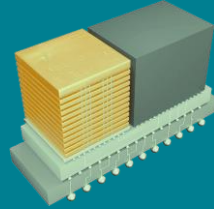
AE Plasma Power Enables Industry Technology Inflections

Multiple Industry Inflections with 3D architectures

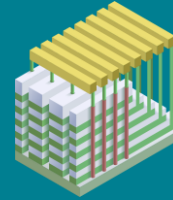
< 2 nm Logic



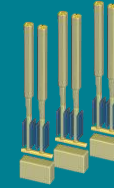
HBM



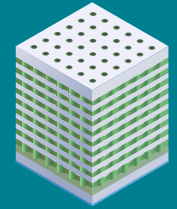
> 400L NAND



4F² DRAM



3D DRAM



Drives increasingly challenging process requirements

- >100:1 high aspect ratio etching
- New etch/dep processes for new materials
- Combine multiple etch/dep steps into a single in-situ process
- Etch/dep processes with atomic-level precision for ultra-thin layers
- Complex process kinetics with highly dynamic conditions require ultra-fast plasma control
- Wide range of wafer processing temperatures, from high temp to cryogenic



Addressed by AE's groundbreaking innovations

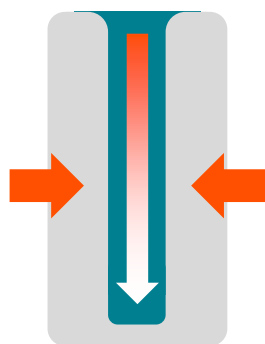
- AE has a rich history of delivering major plasma power innovations over the past 40 years
- AE's technologies have enabled every leading-edge generations of plasma processes
- AE's new technology platforms continue this legacy and enable the 3D transition



eVoS Enables Device Scaling as RF Reaches its Limits



01 Process requirements



- Next-gen 3D devices require deeper and narrower high aspect ratio (HAR) etch processes
- Profile control and etch rates slow as aspect ratio increases

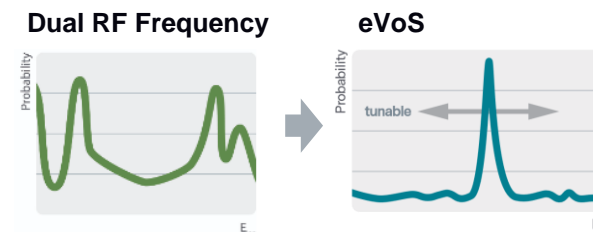
02 Technical challenges



Multiple stacks of tiers required to create deep and narrow HAR features

- Multiple stacks are required to create very high aspect ratio holes, and each additional stack adds another complete process module
- Current RF solution limits HAR etch, driving the need for tier stacking to achieve taller 3D structure

03 eVoS enables 3D scaling



< 100:1

> 100:1

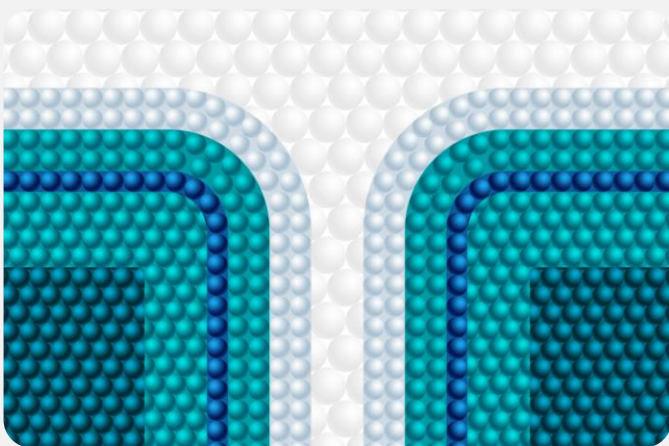
- Unique non-sinusoidal pulsed DC provides precise ion energy distribution compared to traditional RF with undesirable dual distributions
- Enables arc-free delivery of higher bias voltage, achieving >100:1 HAR etching without device damage

eVoS enables best-in-class throughput and yield for advanced node processes

eVerest Expands Process Window for 3D Devices

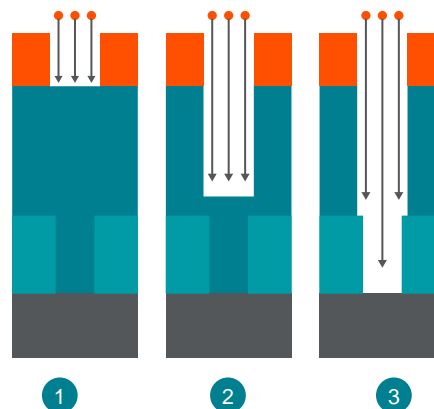


01 Process requirements



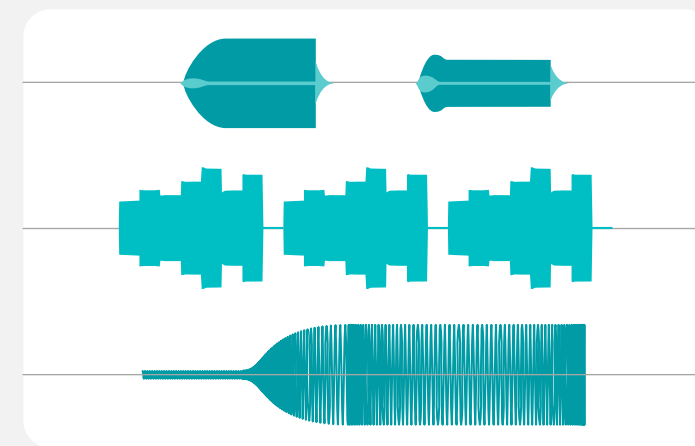
- Atomic-level precision for etch and deposition processes is required for ultra-thin layers in $< 2\text{nm}$ devices
- Increased number of process steps and types of materials needed to create 3D geometry

02 Technical challenges



- Changing chemistries require rapid response to control process kinetics for precise etch/dep of critical layers
- Increased etch selectivity challenges on very thin layers and 3D geometries

03 Require advanced pulsing

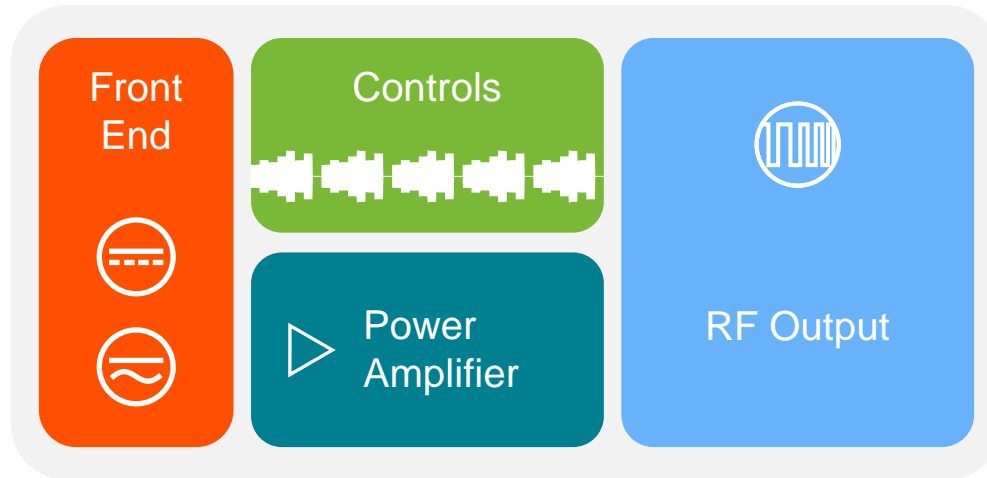


- Multi-level pulsing and ultra-fast rise time provide unprecedented precision in controlling process kinetics
- Industry-leading plasma controls delivering advanced pulse patterns and precision pulsing alignment

Industry's most advanced pulsing and $< 1 \mu\text{s}$ rise time deliver unprecedented results

Modular Architecture Accelerates Deployment

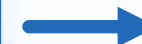
Meeting Many Different Requirements



- Different input voltages
- Process-specific frequencies
- Optimized power levels
- Customized feature development
- High power density with small form factors
- Increased engineering efficiency

Shortens development cycle to as quick as 3 months

1 Platform
Launched 16 months ago



> 25 Unique Solutions
15 delivered and > 10 in progress

In Qualification Across Process and Device Types

Processes in Qualification:

Conductor Etch
Dielectric Etch
Metal Deposition
PECVD
PEALD

Targeted Device Inflections:

< 2 nm Gate-All-Around transistor
< 2 nm logic interconnect and backside power
> 400 layers NAND
4F² DRAM

Current Program Status:






> 250 units by year-end
8 major design wins
> 20 programs in customer qualification
> 10 OEM systems under process qualification in wafer fabs



Solid traction expected to propel meaningful market share gains through 2030 and beyond

Large and Growing Installed Base Expands Service and Upgrade Opportunities

Service Offerings

| | |
|---|---|
|  Calibration |  Upgrades |
|  Retrofit |  Refurbish |
|  Repair | |

Service offerings range from repair of field units to multiple value-added services

10-year Revenue CAGR of 10%⁽¹⁾

Growing Installed base⁽²⁾



Upgrade Opportunities



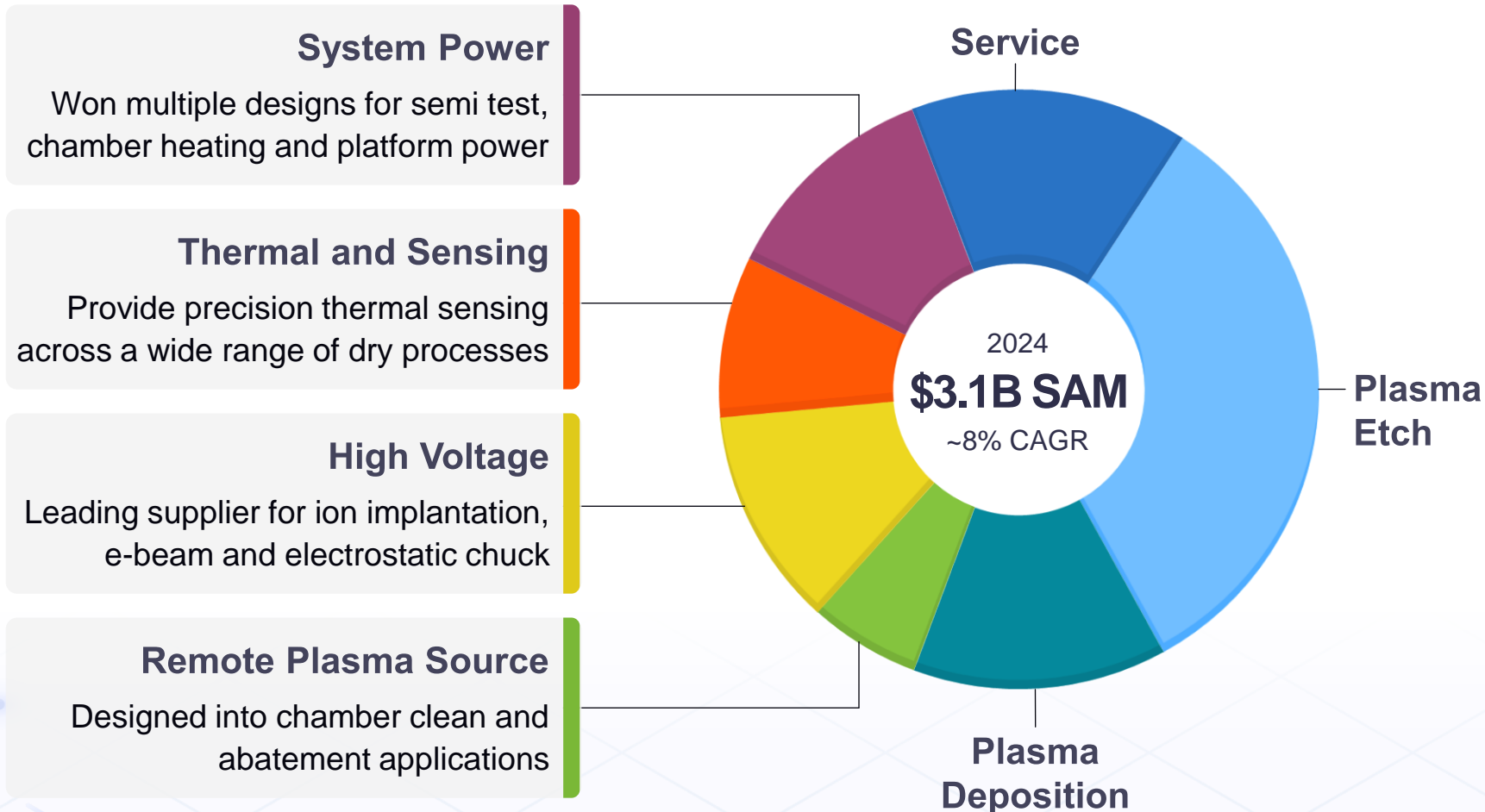
Revenue opportunities as OEMs upgrade to next generation chambers with new power solutions

(1) 2015 to 2024F CAGR based on mid-point of Q4'24 guidance and AE's total service revenue as reported

(2) Install base figures represent combination of Plasma and High Voltage products (RF generator, Matching network, DC generator and High Voltage systems)

Expanding into a Wide Range of Adjacent Opportunities

SEMICONDUCTOR MARKET SIZE BY APPLICATIONS⁽¹⁾



Target to win designs in adjacent applications by leveraging broad portfolio of AE technologies and solutions

(1) Market sizes and CAGR are based on SEMI, TechInsight, Wall Street reports, and management estimates

Outgrow WFE on Increased Intensity and Share Gains

Higher Etch/Deposition and power intensity

3rd Party '24-'29 CAGR Forecast⁽¹⁾:

Increased Etch/Dep Intensity

+110 bps

Plasma Etch/Dep Equipment Market CAGR above Fab Equipment Market

Increased Power Content

+40 bps

Process Power Subsystem Market CAGR above Plasma Etch/Dep Equipment Market

Share gains from new plasma power products



eVoS



eVerest



NavX

Strong customer pull due to **large technical differentiation**

Win share in **Dielectric Etch**, Conductor Etch, and Deposition

Expect to **add > \$100 million** of incremental annual revenue

Win new designs in Semi adjacent power applications



System Power



Thermal & Sensing



Remote Plasma Source



High Voltage

Add **~\$1B SAM⁽²⁾**

Expect to **add > \$40 million** of incremental annual revenue



Raising growth target to > 1.3X WFE CAGR driven by increased etch/dep and power intensity, share gains in plasma power and winning in other power applications

(1) TechInsight Semiconductor Manufacturing Equipment Revenues and TechInsight Critical Subsystems Forecast reports, September 2024

(2) Market size is based on SEMI, TechInsight, and management estimates

Key Messages



#1 in plasma power technology and market share⁽¹⁾



Strong customer pull for next-generation plasma power platforms to drive share gain



Provider of critical technologies used to build 3D device architectures



Expand market opportunities with a wide range of process and system power solutions





Capture AI Opportunity in Data Center Computing

Emdrem Tan

Executive Vice President

System Power Products

AEIS 2024 Analyst Day

November 19, 2024

Key Messages



Focus on high-end, proprietary applications enables profitable growth



Key technology enabler with roadmap to enable Megawatt power for AI applications



Pipeline of proprietary opportunities expected to add >\$100 million in annual revenue



Leverage technologies developed for data center computing into other markets



AE Strategy in Data Center Computing

Focus strategically on high-end proprietary applications

Target sole-sourced and differentiated opportunities

Accelerate pace of innovation and reduce time-to-market to meet the shortened design cycles for AI applications

Transformed from commodity-like products to a growing, technology-driven portfolio

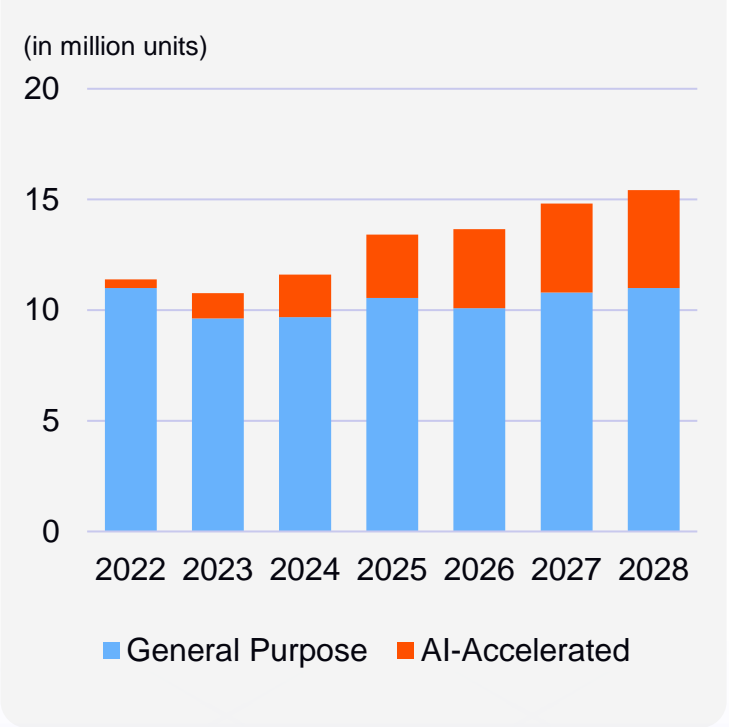
Collaborate closely with leading-edge customers



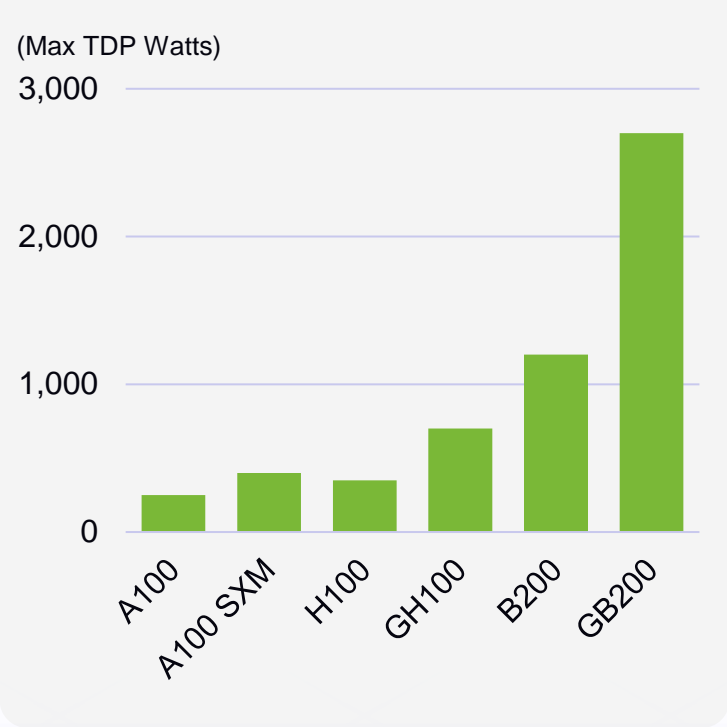
Selective strategy enables higher, sustainable product margins and drives profitable growth

AI Accelerates Rack Power Content

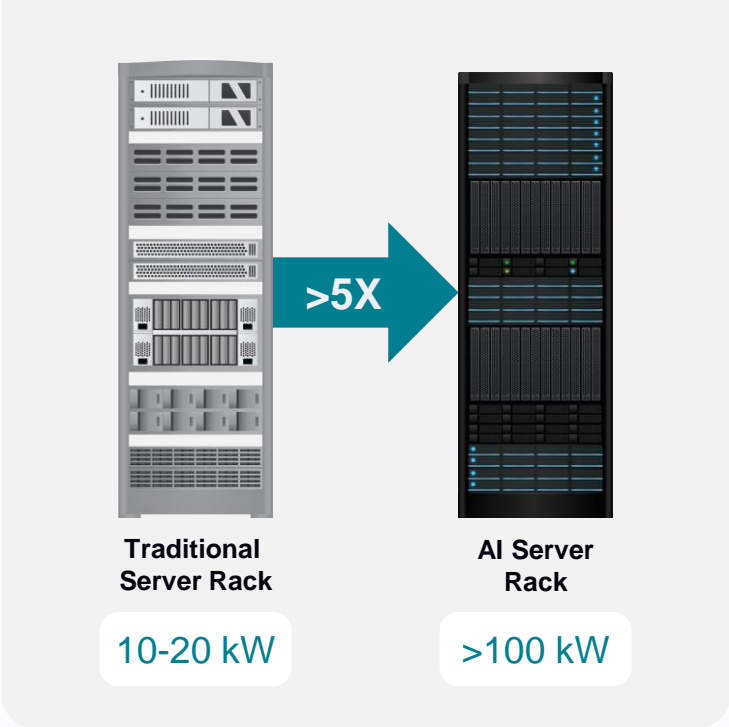
AI to represent most of future server unit growth⁽¹⁾



Increasing peak power of NVIDIA AI GPUs⁽²⁾



Requires significantly more power in the same rack



Increasing importance of power efficiency, density, and reliability in high power AI applications

(1) Dell'Oro Data Center IT Capex Forecast, September 2024

(2) NVIDIA; TDP = Thermal Design Power; GPU with higher TDP would also consume more power

AE Key Differentiators

AE leads the industry in what matters most in an AI-centric world

- Industry-leading peak power efficiency of up to ~98%
- Best-in-class AC-DC power density at $>100 \text{ W/in}^3$
- Highest standards in quality and reliability
- First in delivering industry-leading, production-ready solutions

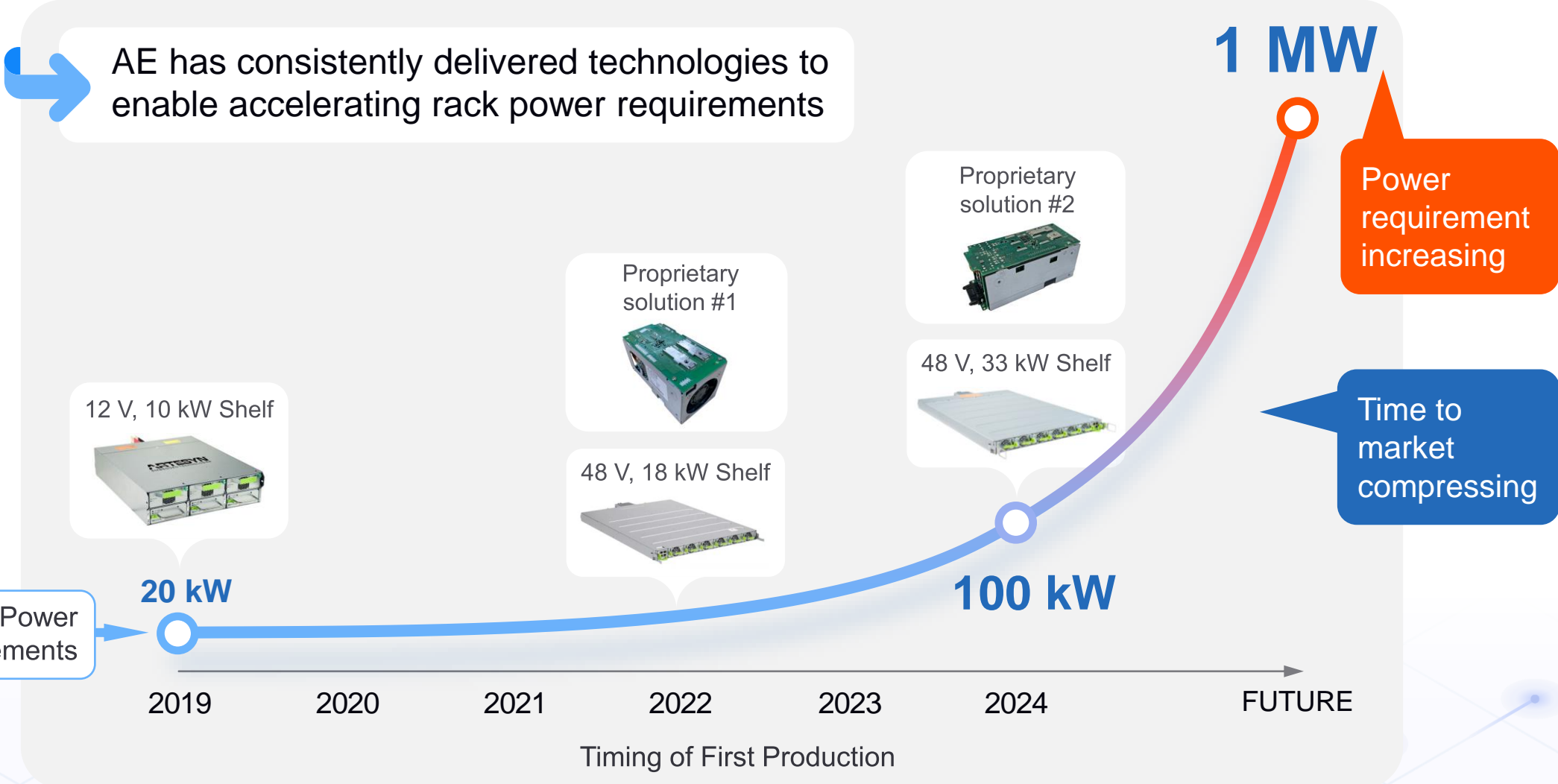
Value propositions critical to winning in the high-end proprietary space

- Strong engineering to solve customers' toughest power conversion challenges
- Deep application knowledge in data center rack power requirements
- Proven supplier that consistently meets stringent hyperscale needs
- Dedicated teams to provide best-in-class service and respond to customers



ORv3 HPR
Power Shelf 

Technology Roadmap to Support Growing AI Demand



Opportunity in the Data Center Computing Market



Major portfolio optimization completed, while continuing to remain selective



Revenue growth target to exceed server unit market growth of 6% CAGR⁽¹⁾



Pipeline of proprietary opportunities expected to add over \$100 million in annual revenue

(1) Dell'Oro Data Center IT Capex Forecast, Worldwide Server and Storage System Market 2024-2028, July 2024



Leveraging Data Center Technologies to Other Markets

01 Create technical advantages

Increased importance of power density and efficiency

Growing demand for high-power

AE leads the industry with these differentiators



Power Density



Power Efficiency



High Power scalable to >1MW

02 Implement modular approach

Use modules across markets and applications

Maximize engineering efficiency

Reduce time-to-market

Lower costs with commonality

Resonant Converter



PFC⁽¹⁾ Choke



Buck Module



AUX Module



03 Deliver solutions leveraging Data Center architectures

Use best-in-class data center modules for other high-power applications

Leverage hot-swappable architecture

Bring system-level know how to other markets and applications



Evergreen™ Vento FCM Shelf



Custom Shelf for Semi Test



LumaDrive™ Systems

(1) Power Factor Correction

Key Messages



Focus on high-end, proprietary applications enables profitable growth



Key technology enabler with roadmap to enable Megawatt power for AI applications



Pipeline of proprietary opportunities expected to add >\$100 million in annual revenue



Leverage technologies developed for data center computing into other markets





Accelerate Growth in Industrial and Medical

John Donaghey

Executive Vice President

Global Head of Sales

AEIS 2024 Analyst Day

November 19, 2024



Key Messages



Large and underpenetrated market with small niche competitors



Large dedicated technical teams provide scalable service and create a sustainable competitive advantage



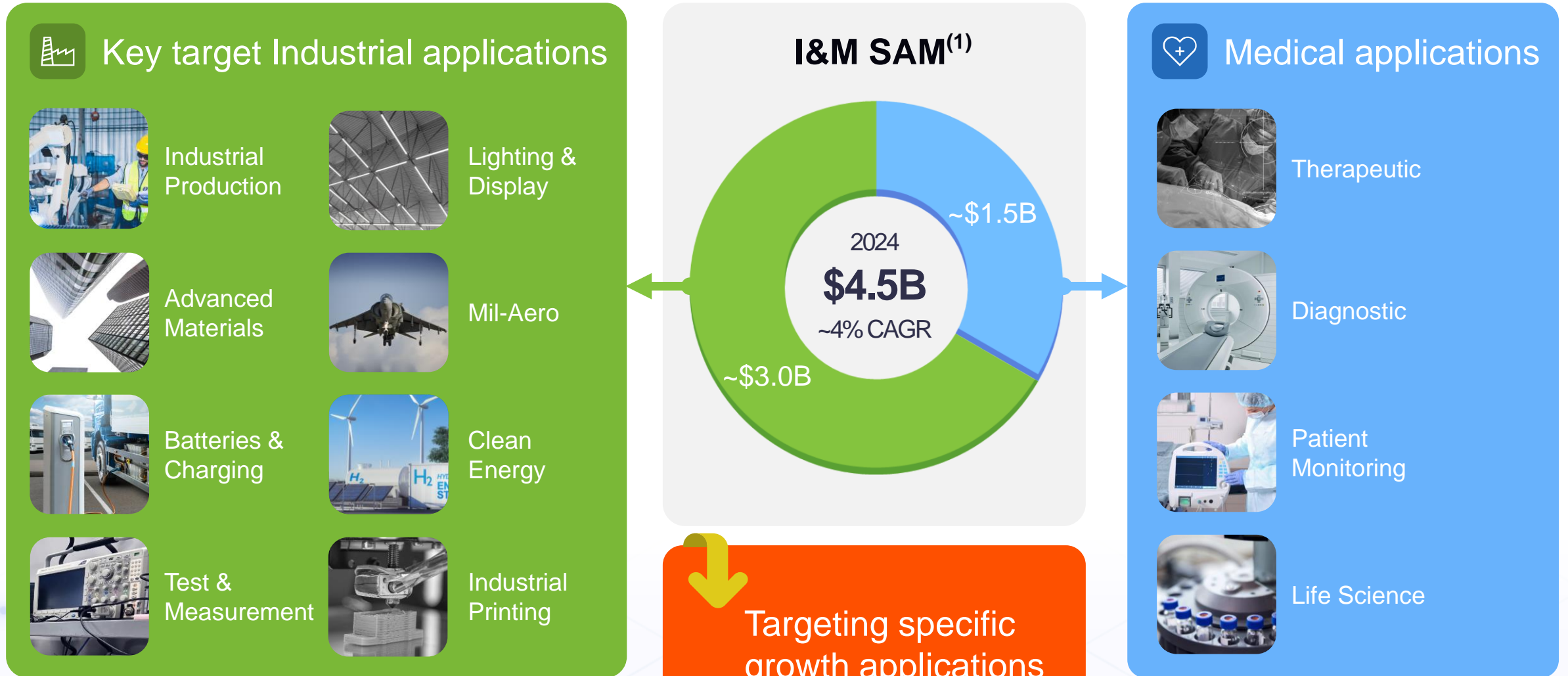
Growing portfolio of I&M power solutions with a high velocity of new product launches



Enhanced digital platform and increased focus on distribution contributing to record design win activity



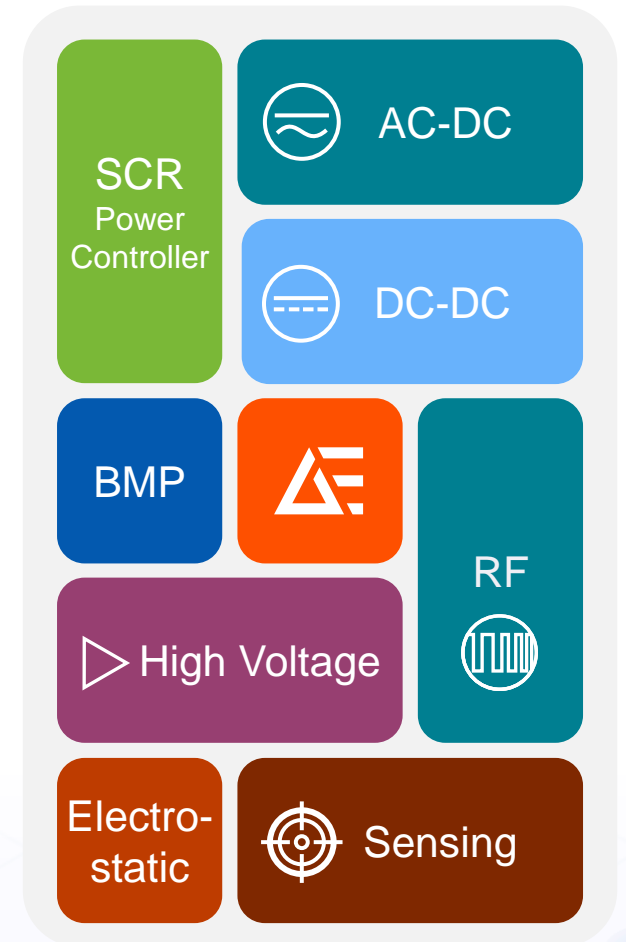
Large Underpenetrated Market with Targeted Verticals



(1) Market sizes and CAGR are based on WAWT, MTC, Wall Street reports, and management estimates

Broad Portfolio of Solutions

- Best-in-class high power, high efficiency and density for Industrial and Medical applications
- Diverse power conversion and sensing technologies open doors across a wide variety of applications
- Catalog and customized solutions for customers to meet specific needs
- Leader in configurable power supplies with one of the most extensive portfolios



FlexiCharge:

World's only combined capacitor charging and multi-output power supply

Accelerating New Industrial and Medical Platform Launches



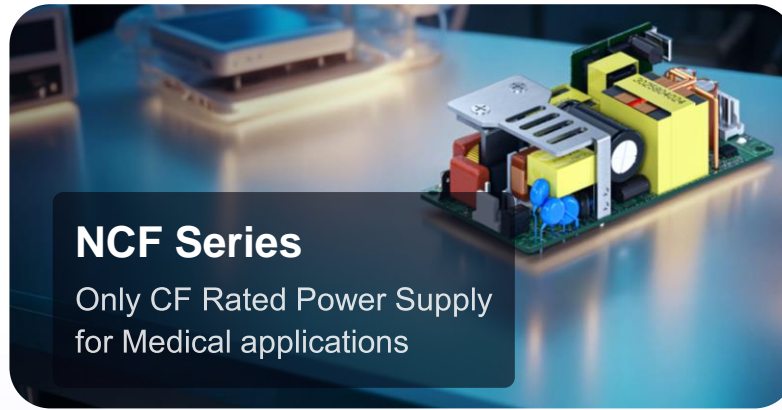
Evergreen™

Industrial high-power modular and scalable platform with industry-leading density and efficiency



NeoPower

AC-DC configurable power supply, best-in-class power density



NCF Series

Only CF Rated Power Supply for Medical applications



LumaDrive

High density solution for efficient deployment of large-scale lighting system

➔ Platforms designed to scale multiple new products that address customer requirements for today and tomorrow

Dedicated Technical Teams Create a Competitive Advantage



Technical Sales and Support Teams

Positioned close to customers with engineering and application expertise



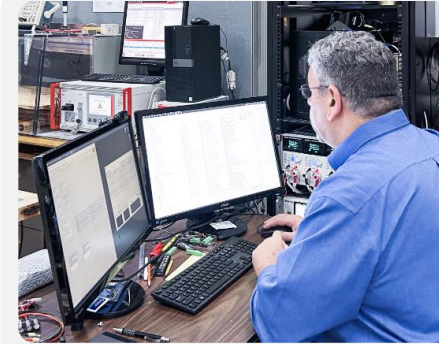
Quick Turn Customization Team

Large, dedicated engineering team for rapid design of custom solutions to accelerate customers' time-to-market



Dedicated I&M Engineering Experts

Technology partner of choice who works as an extension of the customers' engineering teams



Live Online Technical Support

Always-on website with live online tech support to help customers select, configure and implement power solutions



Customer Design Cycle Support

Network of Customer Experience Centers to support customer's design cycle, from testing and verification to certification

Industry's leading engineering and technical sales teams help win and support customers throughout the design cycle



Deep Engagement and Customized Solution Case Study

01

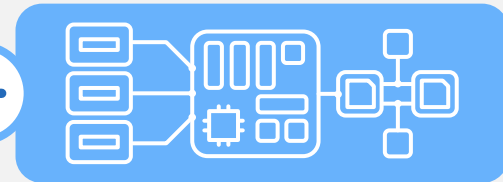
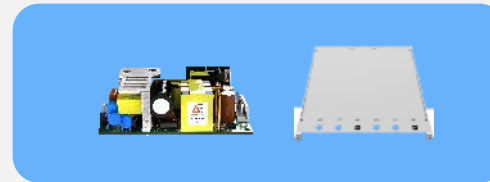
Diagnostic Application

Tier-1 customer needed a partner who understands power, the medical sector, and specific application to develop a proprietary solution that meets unique requirements for medical imaging device



02

Leverage AE Portfolio and Technical Capabilities



Existing AE technologies:

Best-in-class high power and low power AC-DC modules from different AE platforms

Customization teams:

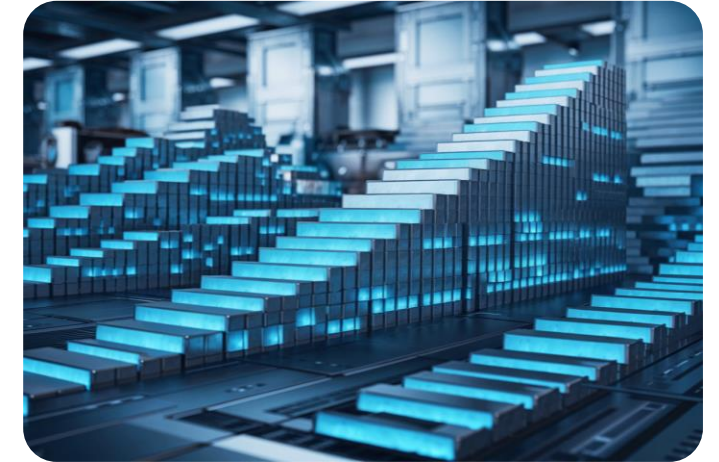
Rapid custom design
Value-add engineering
Technical sales support

03

Land & Expand Strategy

Won design with a proprietary medical solution, driving more opportunities at this Tier-1 customer

Enhanced Digital Footprint Driving Results



01 Unified customer-friendly website⁽¹⁾

- 3X Traffic
- 3X Number of registered users
- 2X Sales Leads

02 Live support and other advanced capabilities

- Dedicated Live Tech Support team for customer support
- Video chat provides hands-on technical demos to customers worldwide
- eCommerce to order samples

03 Increased design wins and revenue

- Thousands of new leads monthly
- Adding new customers with more cross-selling opportunities
- High design win conversion
- Millions in incremental revenue

Expanded Sales Reach and Optimized Distribution Network

FOCUSED SALES AND DISTRIBUTION EFFORTS:

~50%

of AE Sales team focused on I&M

2X

of SKUs available through distribution

25

of highly engaged and focused key distributors

DRIVING BUSINESS RESULTS:

#1

off-board power supply revenue at AE's top 3 distributors

2X

of new opportunities at AE's top distributors



Focused on Growth Verticals with Rinse and Repeat Strategy



Rinse & Repeat Strategy

Deploy application knowledge and value proposition from wins to target similar opportunities at other under-penetrated customers



Factory Automation

APPLICATION

Motorized conveyor systems used in factories

PRODUCT

Custom 3-phase AC-DC

WHY WE WIN

Unique requirements; small footprint; dirty environment

6 new customers



Warehouse Robots

APPLICATION

Autonomous Robot Charging Station

PRODUCT

Custom Charging Solution

WHY WE WIN

Delivers scalable current; quick turn customization

Driving \$Ms in revenue



Tethered Drones

APPLICATION

Drones for surveillance, safety and defense

PRODUCT

AC-DC Board Mounted Power

WHY WE WIN

Low-profile high-voltage architecture; harsh conditions

10 new customers



Electrosurgery

APPLICATION

Pulsed Field Ablation device for treating atrial fibrillation

PRODUCT

Custom AC-DC + High Voltage

WHY WE WIN

Deep application knowledge; integration of multiple technologies

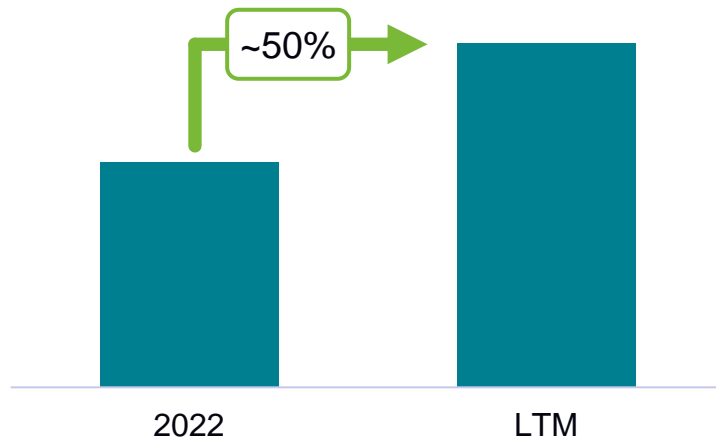
Won Top 3 OEMs

DESIGN WIN EXAMPLES

Solid Design Win Momentum to Drive Share Gains

Growing Pipeline and Design Wins

of I&M Opportunities



High design win conversion rate (>33%)

Strong momentum in Industrial and Medical pipeline

New design wins suggest future share gains



I&M market forecast to grow at ~4% CAGR after customer inventories normalize from current levels⁽¹⁾



New design wins expected to drive over \$125M in incremental annual revenue

Target to grow AE I&M revenue at > 2X market growth driven by share gains and expanded reach

(1) I&M long-term market growth rate is based on WAWT, MTC, and management estimates

Key Messages



Large and underpenetrated market with small niche competitors



Large dedicated technical teams provide scalable service and create a sustainable competitive advantage



Growing portfolio of I&M power solutions with a high velocity of new product launches



Enhanced digital platform and increased focus on distribution contributing to record design win activity





Deliver Shareholder Value

Paul Oldham

Executive Vice President and
Chief Financial Officer

AEIS 2024 Analyst Day

November 19, 2024

Key Messages



Diverse markets deliver better through-cycle revenue and earnings performance



Growing faster than market on new products, share gains, and expanded customer reach



Accelerated earnings and cash flow from higher gross margin and operating leverage



Optimized capital structure for organic and inorganic growth

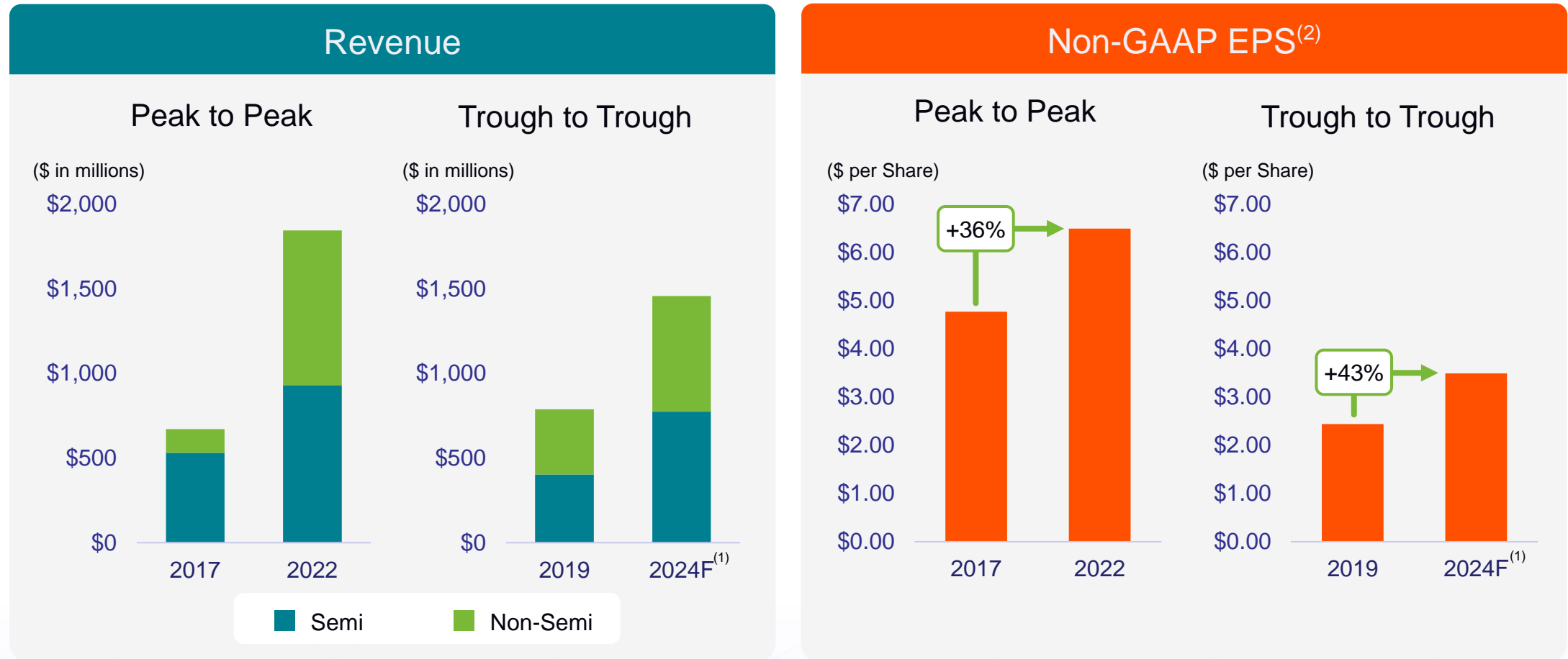




Strong Foundation

Diverse markets deliver better through-cycle revenue and earnings performance

Higher Through-Cycle Financial Performance



Record 2022 drives higher peak revenue and earnings ...
 ... while maintaining higher trough financial performance in 2024

(1) 2024F figures are based on first 9-months results and Q4'24 guidance

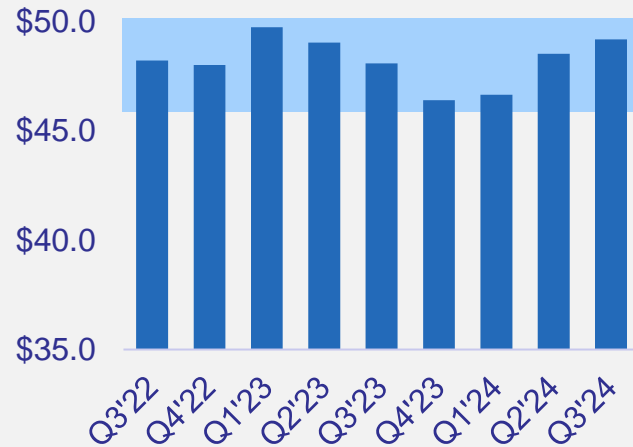
(2) Detailed explanations of non-GAAP financials and reconciliations of GAAP to non-GAAP financials can be found at the end of this presentation

Investing Through Downturn to Strengthen Position

Investing in R&D through downturn

Quarterly Non-GAAP R&D Spending⁽¹⁾

(\$ in millions)
\$55.0

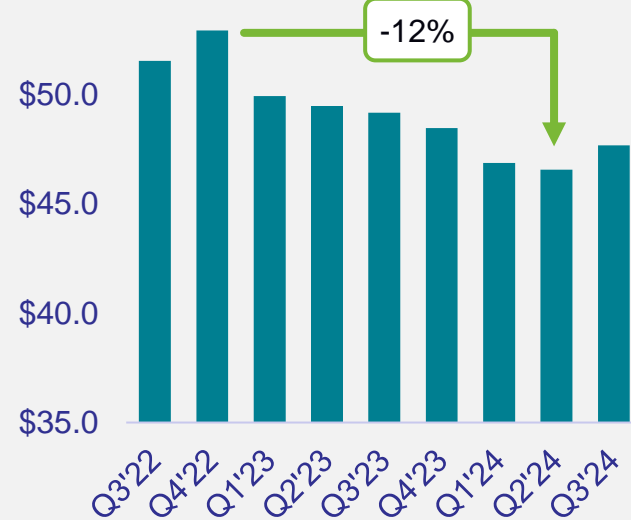


Maintained R&D investment to accelerate **new platforms** and deliver **>2X # of custom products**

Controlling SG&A despite high inflation

Quarterly Non-GAAP SG&A spending⁽¹⁾

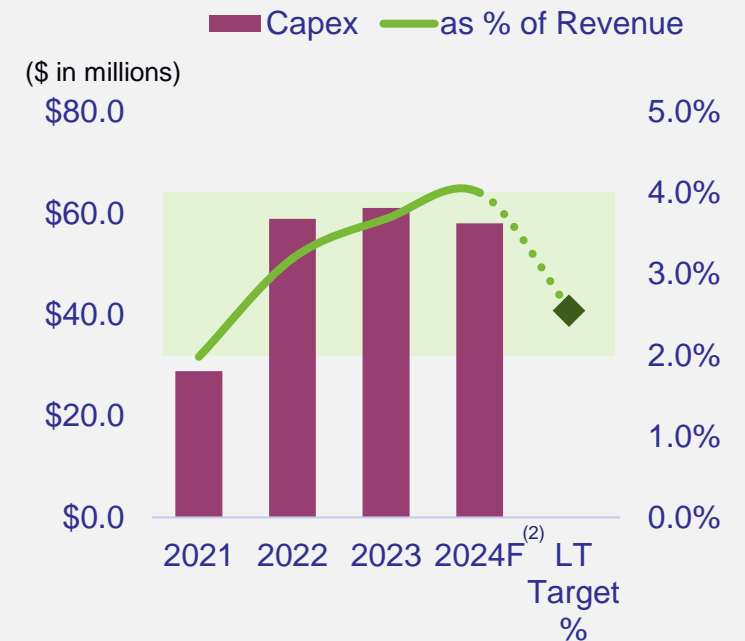
(\$ in millions)
\$55.0



Reduced quarterly SG&A by 12% in a high inflationary environment

Investments enable scale

Capital Investments



Enables new products, **lower operations overhead (>20%)** and better IT infrastructure (**from 13 ERPs to 2 to 1**)

(1) Non-GAAP R&D and SG&A excluding stock base compensation and other one-time items; detailed explanations of non-GAAP financials and reconciliations of GAAP to non-GAAP financials can be found at the end of this presentation

(2) 2024F figures are based on first 9-months results and Q4'24 guidance



Outperform Growing Markets

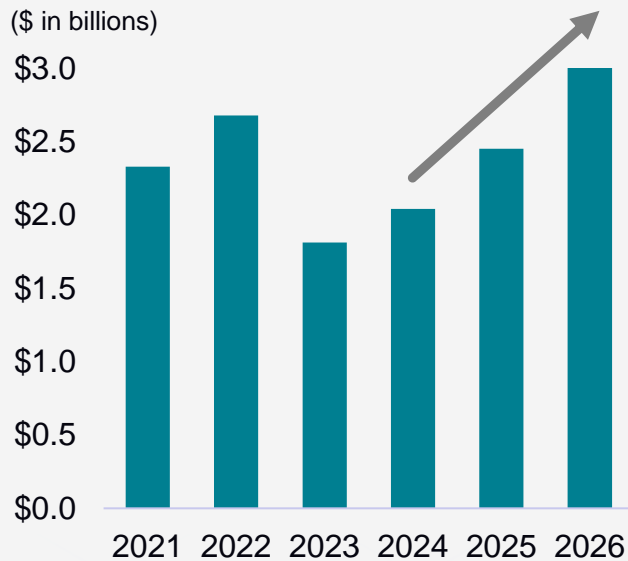
Growing faster than market on new products,
share gains, and expanded customer reach

Growing End Markets

Semi market growing to >\$1T with increased capital intensity

~8% Long-term CAGR

Process Power Critical Subsystem Market⁽¹⁾

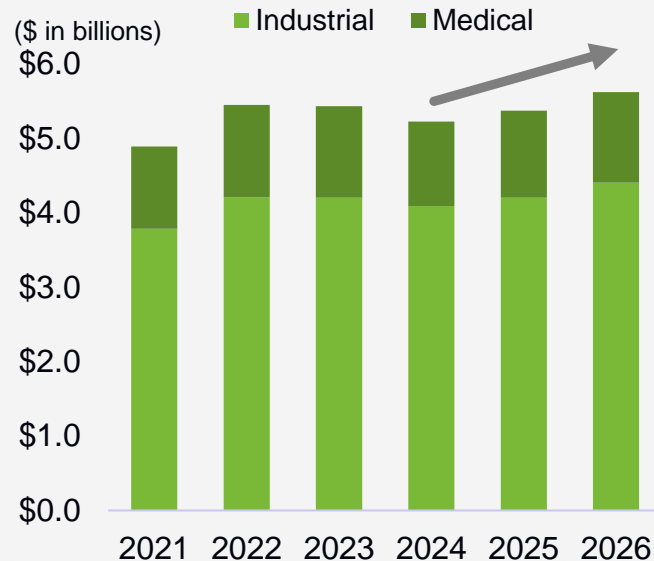


Semiconductor

Market to normalize after inventory destocking complete within 2025

~4% Long-term CAGR

Low-Voltage PSU Sales in Industrial & Medical⁽²⁾

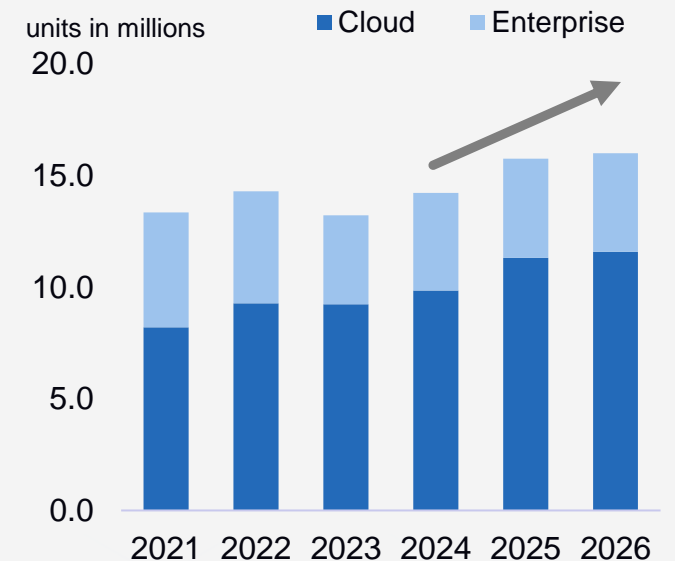


Industrial and Medical

Continued AI demand across Hyperscale and Enterprise

~6% Long-term CAGR

Server Unit Shipments⁽³⁾



Data Center Computing

(1) TechInsight Critical Subsystems Forecast, September 2024

(2) WAWT Global AC-DC and DC-DC Merchant Power Supply Market Report, 2024 Edition

(3) Dell'Oro Data Center IT Forecast, July 2024

Outgrow WFE on Increased Intensity and Share Gains

Higher Etch/Deposition and power intensity

3rd Party '24-'29 CAGR Forecast⁽¹⁾:

Increased Etch/Dep Intensity

+110 bps

Plasma Etch/Dep Equipment Market CAGR above Fab Equipment Market

Increased Power Content

+40 bps

Process Power Subsystem Market CAGR above Plasma Etch/Dep Equipment Market

Share gains from new plasma power products



eVoS



eVerest



NavX

Strong customer pull due to **large technical differentiation**

Win share in **Dielectric Etch**, Conductor Etch, and Deposition

Expect to **add > \$100 million** of incremental annual revenue

Win new designs in Semi adjacent power applications



System Power



Thermal & Sensing



Remote Plasma Source



High Voltage

Add **~\$1B SAM⁽²⁾**

Expect to **add > \$40 million** of incremental annual revenue



Raising growth target to > 1.3X WFE CAGR driven by increased etch/dep and power intensity, share gains in plasma power and winning in other power applications

(1) TechInsight Semiconductor Manufacturing Equipment Revenues and TechInsight Critical Subsystems Forecast reports, September 2024

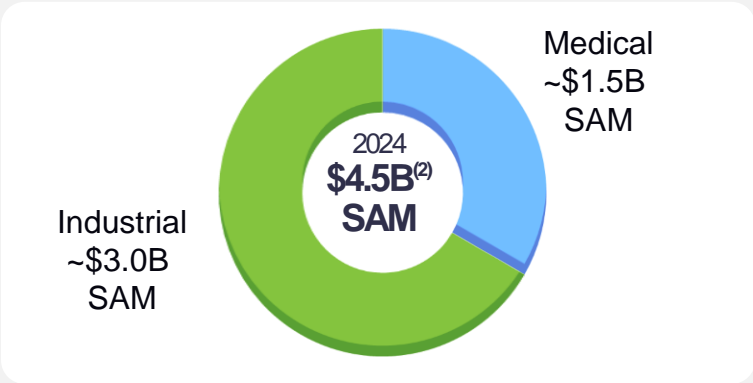
(2) Market size is based on SEMI, TechInsight, and management estimates

Accelerate Growth in Industrial and Medical

01 Large underpenetrated and fragmented market

High-end, long-life cycle applications
 AE's scale and dedicated technical teams compete well against smaller, niche competitors

#2 medical in 2023⁽¹⁾



02 Accelerating launch of new I&M platforms

2X # of custom solutions

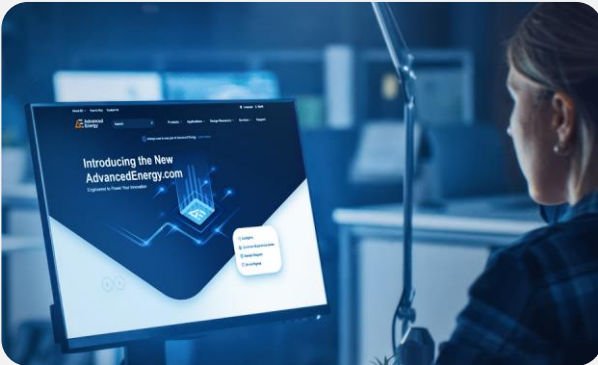
Leverage common platforms to deliver proprietary solutions



03 Grow design wins with website and expanded reach

Large funnel of opportunities with >33% design win conversion

Expect to add > \$125 million of incremental annual revenue



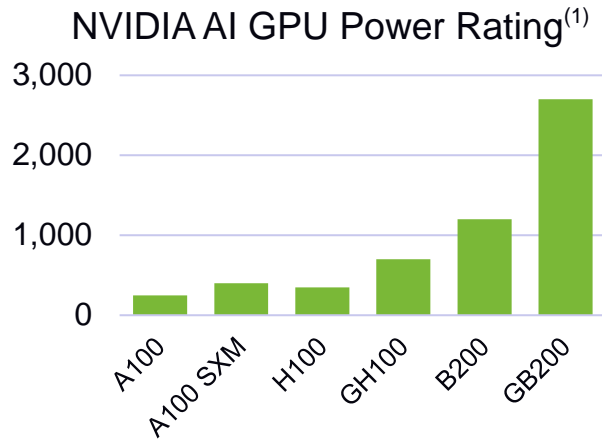
Target > 2X market growth driven by accelerated new product introductions, expanded customer reach and growing design wins

(1) Based on 2023 market share in the WAWT Global AC-DC and DC-DC Merchant Power Supply Market Report, 2024 Edition

(2) Market sizes and CAGR are based on WAWT, MTC, Wall Street reports, and management estimates

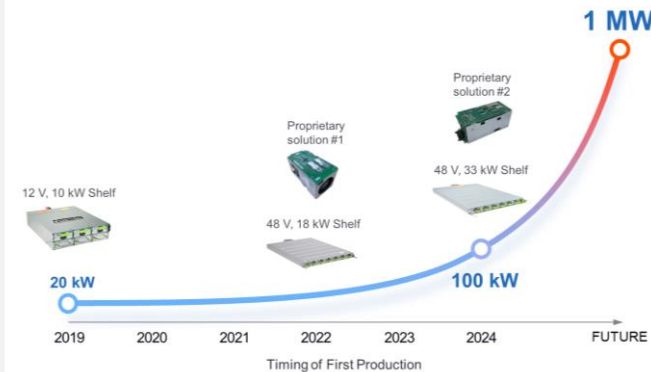
Data Center Computing Leverages AI Technology Roadmap

AI driving need for higher rack power ...



Increasing importance of power **efficiency, density and reliability**

... while compressing time to market



Key technology enabler with a **roadmap to Megawatt power**

Pipeline of proprietary solutions enables faster than market growth

Many more solutions ahead

Proprietary solution #1

Proprietary solution #2

New

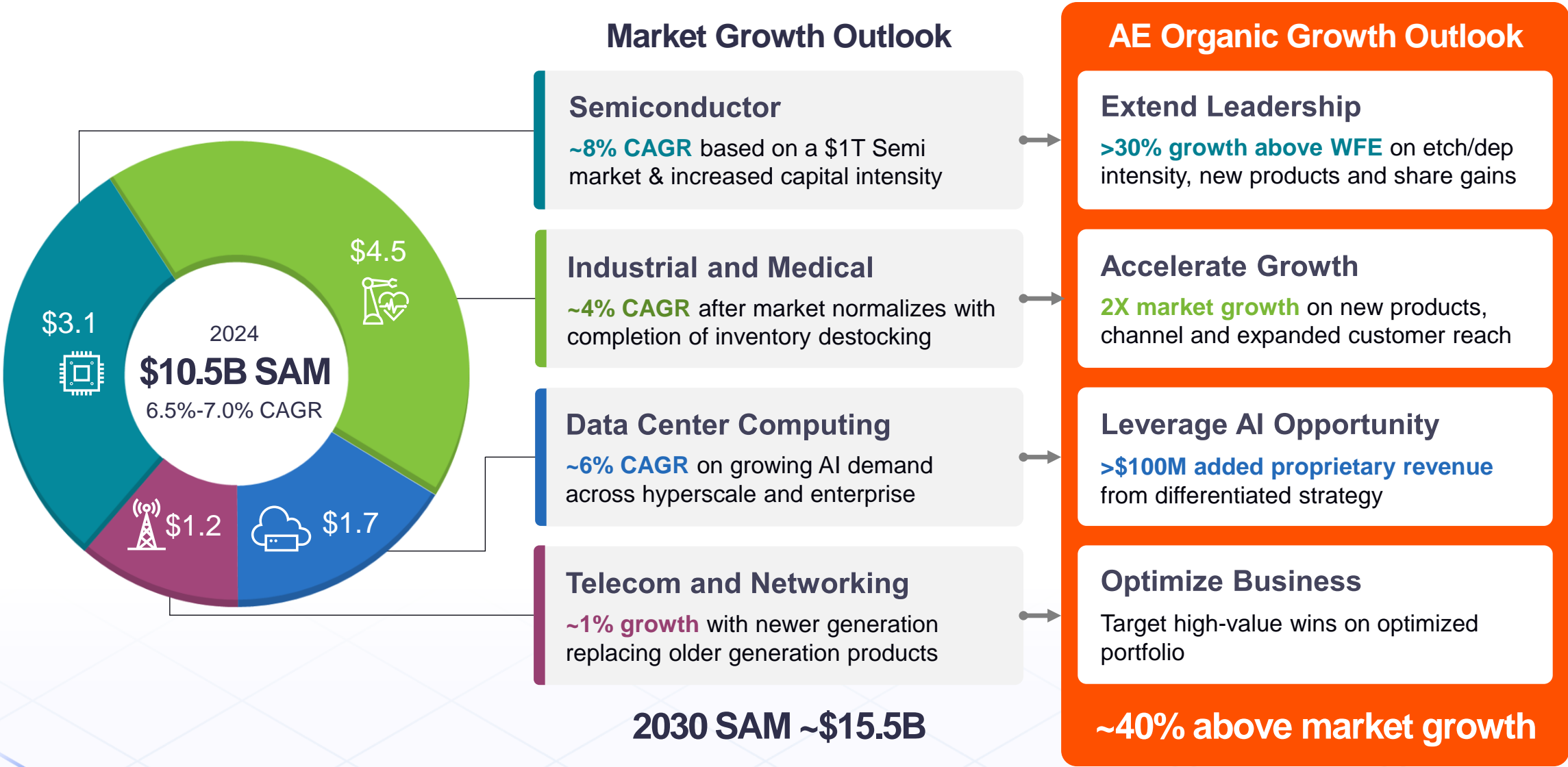
Expect to **add >\$100 million** of proprietary annual revenue



Focus on high-end proprietary AI applications to drive profitable growth

(1) Represented by Maximum GPU Thermal Design Power in Watts; GPU with higher TDP would also consume more power

Targeting Healthy Growth Above Our Markets





Superior Earnings Power

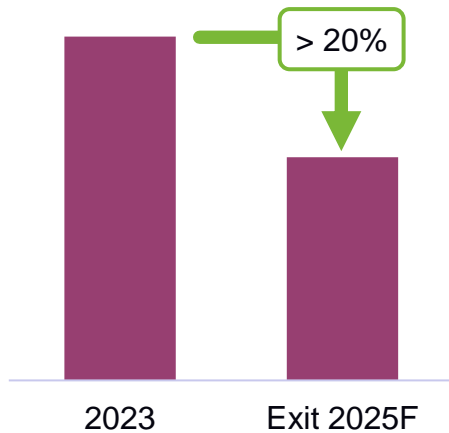
Accelerated earnings and cash flow from higher gross margin
and operating leverage

Structurally Expand Gross Margin

01

Manufacturing and Cost Improvements

Manufacturing overhead costs after consolidation



Benefits

From 1H'24 levels

200-250 bps

02

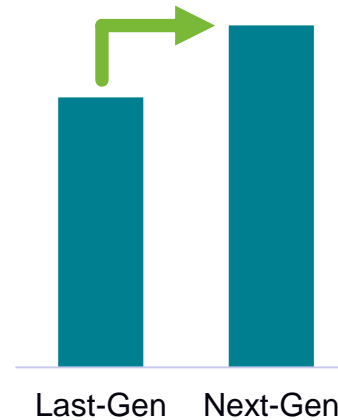
Improve Product Mix

Focus on growing margin accretive markets



Sole-sourced from >70% to >80%

Margin uplift from Next-gen products



Benefits

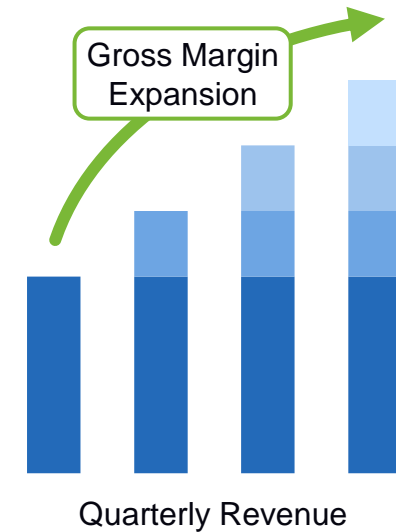
From 1H'24 levels

200-300 bps

03

Volume Leverage

Gross Margin Expansion



Benefits

From 1H'24 levels

100-350 bps

➔ Target to increase gross margin by 500-900 bps and maintain > 40% through business cycles

(1) All gross margin figures are on a non-GAAP basis; Detailed explanations of non-GAAP financials and reconciliations of GAAP to non-GAAP financials can be found at the end of this presentation

Drive Operating Leverage

INVESTING WHILE
MAINTAINING
COST DISCIPLINE:

< 50%

OPEX growth rate vs
revenue growth

~40%

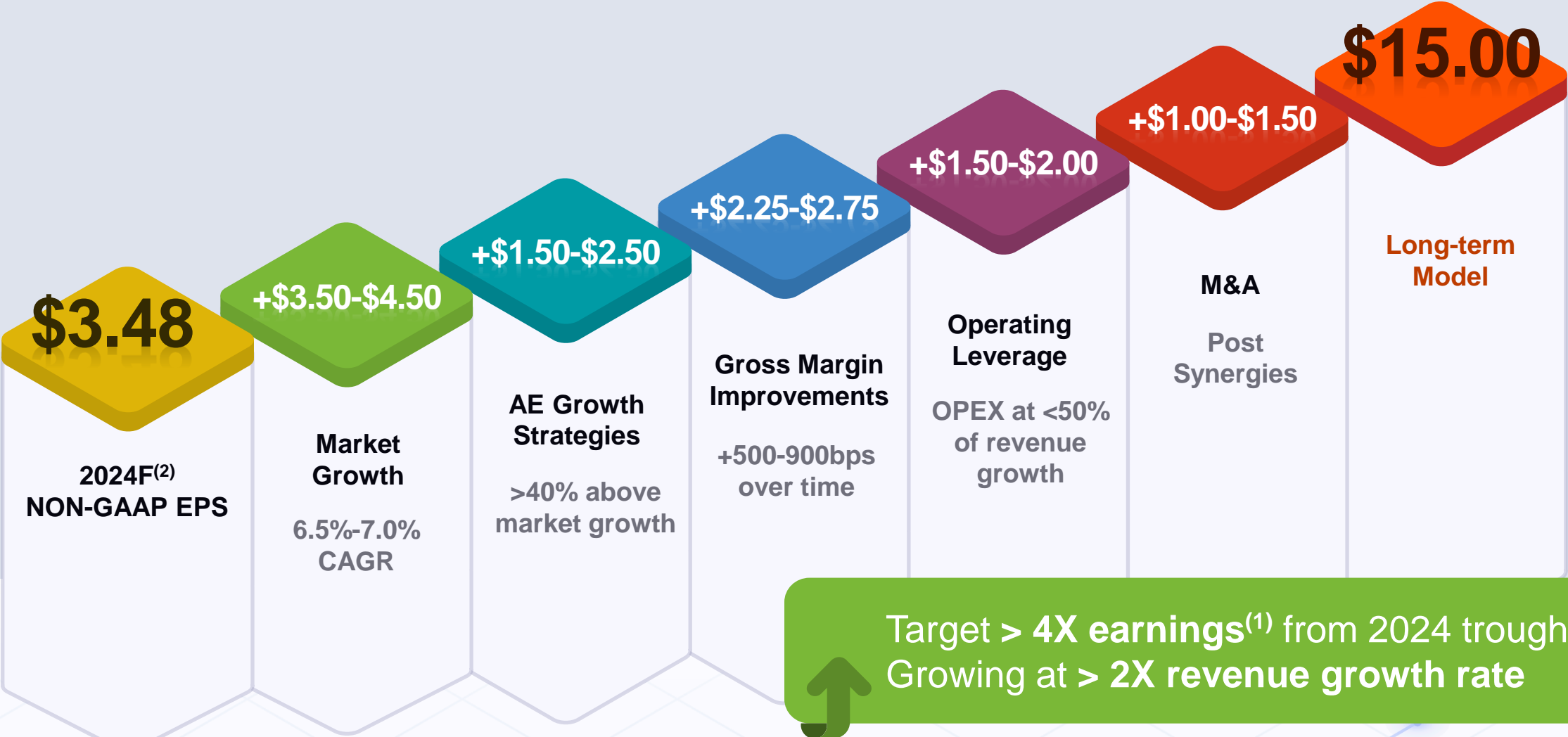
Long-term operating
leverage target⁽¹⁾

DRIVES EARNINGS
AND CASH FLOW:

~1,400bps

Increase to operating margin in 2030
target financial model⁽¹⁾

Accelerate Earnings Growth



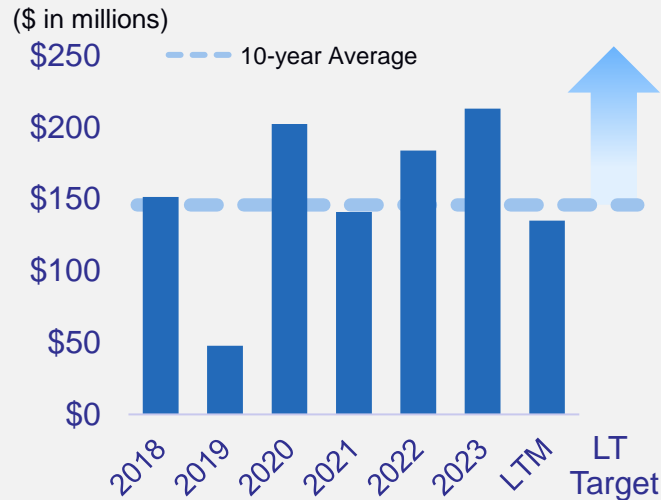
(1) All EPS figures are non-GAAP EPS; detailed explanations of non-GAAP financials and reconciliations of GAAP to non-GAAP financials can be found at the end of this presentation

(2) Based on mid-point of Q4 2024 guidance

Sustain Higher Cash Flow Generation

Positive Operating Cash Flow through market cycles

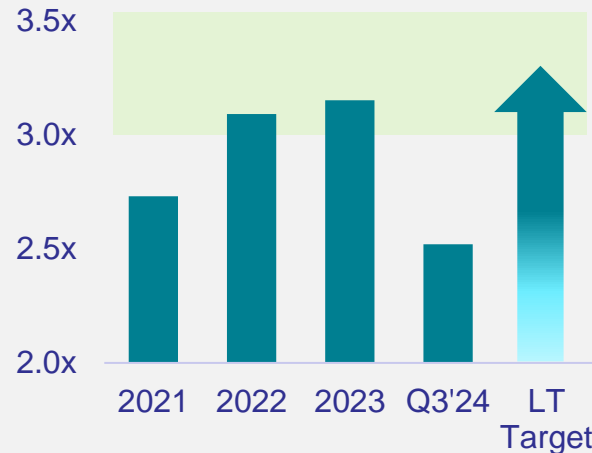
Cash Flow from Operations⁽¹⁾



Operating Cash Flow to reach **above historical range** on higher margins

Improving Working Capital with inventory returning to best-in-class

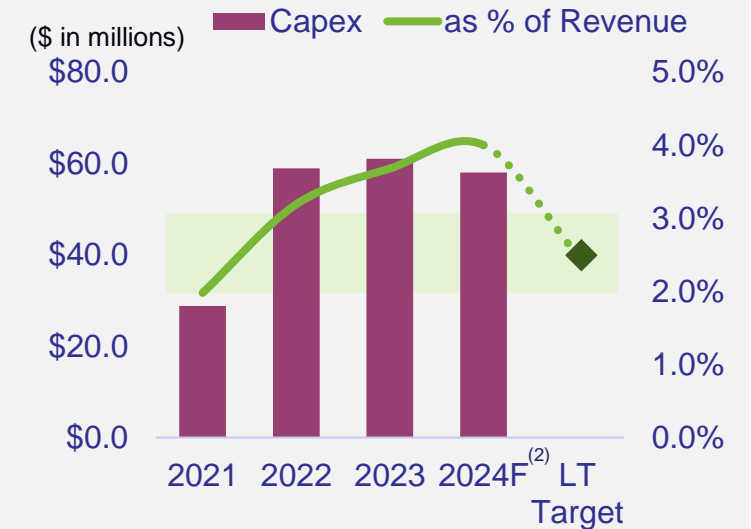
Inventory Turns



Bring inventory back to **3.0 to 3.5 turns**, adding **> \$125M in Cash Flow**

Reducing Capex in 2026 after investments for scale completed

Capital Investments



Post capital investment cycle, Capex should **normalize to 2-3% of revenue**

Target Net Income to Free Cash Flow Conversion of 60-85% on higher margin, improved inventory turns and lower CAPEX through market cycles

(1) Net cash from operating activities from continuing operations; LTM = Last 12 months ending September 2024

(2) 2024F figures are based on first 9-months results and Q4'24 guidance



Capital Structure

Optimized for organic and inorganic growth

Capital Allocation Remains Focused on Growth

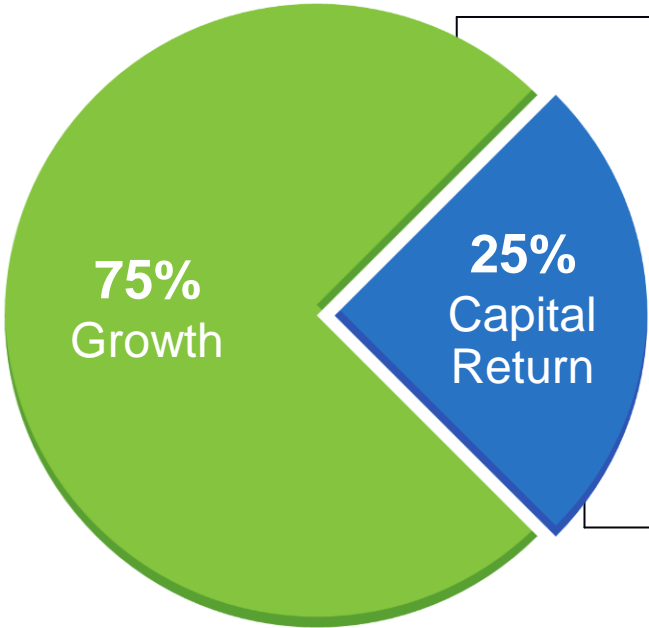
Capital Allocation Track Record
10-year Cumulative (Q4'14 to Q3'24)

Free Cash Flow
\$1,150M

Total Acquisitions
\$667M

Capital Return
\$390M

Allocation of Free Cash Flow



Growth Through Strategic Acquisitions: ~75%

- Disciplined M&A process
- Solid track record of value-creating acquisitions
- Solid funnel of targets in a fragmented market

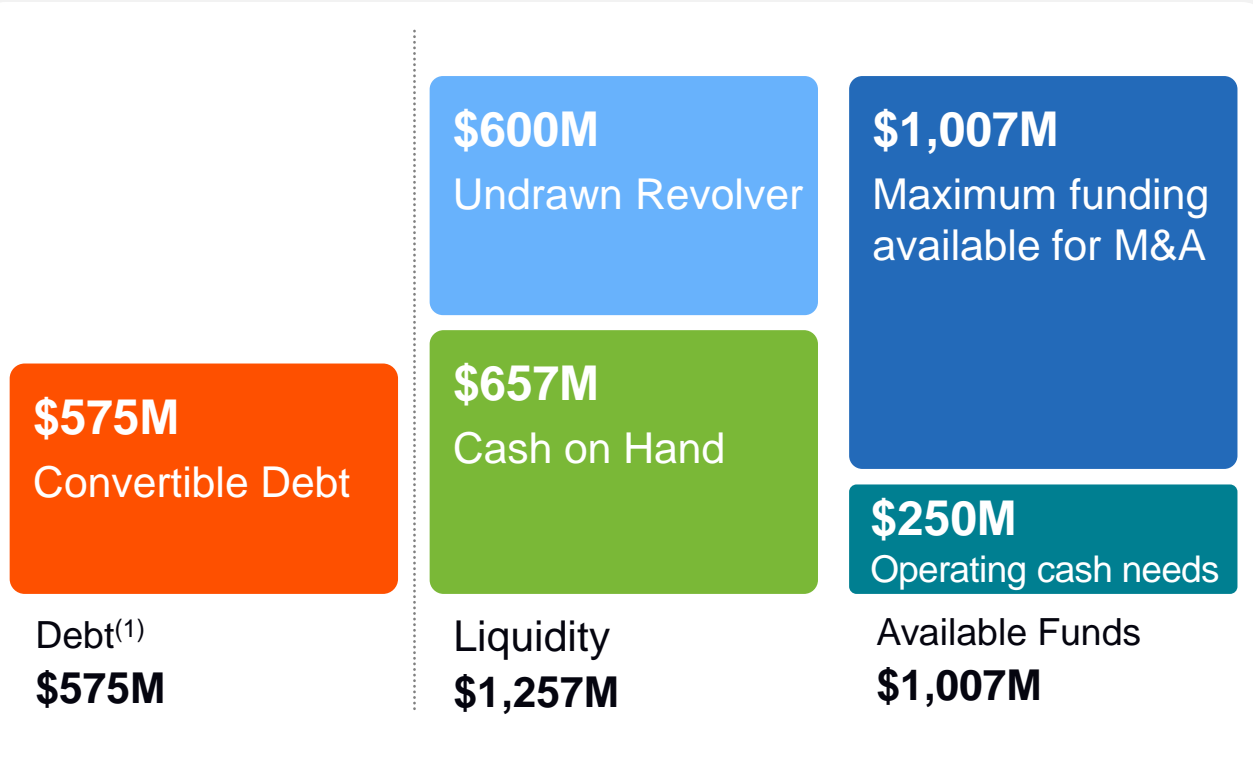
Share Repurchase and Dividend Program: ~25%

- Opportunistic repurchase program to take advantage of market volatility
- Target to offset dilution over time
- Quarterly dividend program at \$0.10/share

Capital allocation focused on growth through strategic acquisitions while offsetting dilution

Targeted Capital Structure for Funding M&A

Capital Structure as of Q3'24



Amended credit agreement in Q3'24 to reduce interest expense while preserving overall financing capacity and flexibility to fund growth

M&A Financial Discipline

Acquisition Financial Targets:

- Deal returns > Cost of Capital
- Gross margin at > 40%
- Earnings accretive⁽²⁾ in Year 1

Post-Deal Leverage:

- Net debt⁽³⁾⁽⁴⁾ at < 3.0x
- Gross debt⁽³⁾ at < 5.0x
- Debt/Equity⁽⁵⁾ at < 1.5x

(1) Gross debt excluding debt discount and operating leases

(2) Defined as accretion to non-GAAP EPS; detailed explanations of non-GAAP financials and reconciliations between GAAP and non-GAAP financials can be found at the end of this presentation

(3) Defined as (Net or Gross) Net Debt / LTM Adjusted EBITDA; Adjusted EBITDA is a non-GAAP measure

(4) Net Debt = Gross Debt – Cash & Cash Equivalents

(5) Debt/Equity = Gross Debt / Total Stockholder's Equity



Long-term Financial Targets

2030 Organic Model Revenue Scenarios

| (\$ in millions, except per share data) | 2024F ⁽¹⁾ | \$1.75B | \$2.00B | \$2.25B | 2030 Organic Model |
|---|----------------------|---------|---------|---------|--------------------|
| Revenue | \$1,459 | \$1,750 | \$2,000 | \$2,250 | \$2,500 |
| Gross Margin ⁽²⁾ | 36.0% | 39.8% | 41.3% | 42.4% | 43.5% |
| OPEX as % of Sales ⁽²⁾ | 26.4% | 24.1% | 22.3% | 20.8% | 19.8% |
| Operating Margin ⁽²⁾ | 9.6% | 15.7% | 19.0% | 21.6% | 23.7% |
| EBITDA Margin ⁽²⁾ | 12.5% | 19.0% | 21.9% | 24.2% | 26.0% |
| Earnings Per Share ⁽²⁾ | \$3.48 | \$6.25 | \$8.75 | \$11.25 | \$13.75 |
| Free Cash Flow | | \$170 | \$260 | \$350 | \$440 |

(1) 2024F figures are based on first 9-months results and the mid-points of Q4'24 guidance; management has not provided cash flow guidance

(2) Non-GAAP financial basis; detailed explanations of non-GAAP financials and reconciliations of GAAP to non-GAAP financials can be found at the end of this presentation

(3) The \$1.75B, \$2.00B and \$2.25B revenue scenarios reflect the full benefit of gross margin expansion programs

Financial Framework to 2030 Long-term Target Model

| (\$ in millions, except per share data) | 2024F ⁽¹⁾ | 2030 Organic Model | Organic Model Assumptions | Acquisition (Post Synergies) | 2030 Long-term Model |
|---|----------------------|--------------------|---|------------------------------|----------------------|
| Revenue | \$1,459 | \$2,500 | > 9% CAGR on market recovery + AE growth strategies | \$500 | \$3,000 |
| Gross Margin ⁽²⁾ | 36.0% | 43.5% | Structural GM improvement + volume leverage | 42.0% | 43.3% |
| OPEX as % of Sales ⁽²⁾ | 26.4% | 19.8% | < 50% of revenue growth | 20.0% | 19.8% |
| Operating Margin ⁽²⁾ | 9.6% | 23.7% | ~40% incremental margins | 22.0% | 23.4% |
| EBITDA Margin ⁽²⁾ | 12.5% | 26.0% | Demonstrates operating leverage | 24.0% | 25.7% |
| Earnings Per Share ⁽²⁾ | \$3.48 | \$13.75 | > 2.0X revenue growth | \$1.25 | \$15.00 |

(1) 2024F figures are based on first 9-months results and Q4'24 guidance

(2) Non-GAAP financial basis; detailed explanations of non-GAAP financials and reconciliations of GAAP to non-GAAP financials can be found at the end of this presentation

Key Messages



Diverse markets deliver better through-cycle revenue and earnings performance



Growing faster than market on new products, share gains, and expanded customer reach



Accelerated earnings and cash flow from higher gross margin and operating leverage



Optimized capital structure for organic and inorganic growth



Closing Remarks

Steve Kelley

President and Chief Executive Officer

AEIS 2024 Analyst Day

November 19, 2024



2024 Analyst Event Summary



01

Lead the industry with advanced technologies

Focus on capturing high-value differentiated applications

02

Grow 40% faster than our markets

Gain share from new products, design win momentum, & customer expansion

03

Accelerate earnings growth to > 2X faster than revenue growth

Leverage solid financial foundation for accretive M&A

04

Launched 2030 target model with \$3B in revenue and \$15 in EPS⁽¹⁾

Raised long-term gross margin target from ~40% to ~43%⁽¹⁾

(1) Earnings and gross margin are on a non-GAAP basis; Detailed explanations of non-GAAP financials and reconciliations of GAAP to non-GAAP financials can be found at the end of this presentation

Q&A Session



Steve Kelley

President and
Chief Executive Officer



Paul Oldham

Executive Vice President and
Chief Financial Officer



Juergen Braun

Senior Vice President
Plasma Power Products



Emdrem Tan

Executive Vice President
System Power Products



John Donaghey

Executive Vice President and
Global Head of Sales



Edwin Mok

Vice President, Strategic
Marketing & Investor Relations

Thank You

Q4 2024 Guidance⁽¹⁾

| | <u>Q4 2024</u> |
|-------------------------------------|--------------------------------|
| Revenue | \$392 million +/- \$20 million |
| GAAP EPS from continuing operations | \$0.47 +/- \$0.29 |
| Non-GAAP EPS | \$1.08 +/- \$0.25 |

(1) Q4 2024 guidance were made and based on information available to Advanced Energy's management team as of the Q3 2024 earnings call on October 30, 2024, and the company assumes no obligation to update the information.

Non-GAAP Measures

All financial figures presented in this presentation, such as gross margin, operating expense item, operating margins, EBITDA, other income, tax rate, earnings per share and depreciation, are on a non-GAAP financial basis unless otherwise specified. Detailed reconciliations of GAAP to non-GAAP financials can be found on the subsequent slides.

Management uses non-GAAP gross margin and other non-GAAP measures to evaluate business performance without the impacts of certain non-cash charges and other charges which are not part of our usual operations. We use these non-GAAP measures to assess performance against business objectives and make business decisions, including developing budgets and forecasting future periods. In addition, management's incentive plans include these non-GAAP measures as criteria for achievements. These non-GAAP measures are not prepared in accordance with U.S. GAAP and may differ from non-GAAP methods of accounting and reporting used by other companies. However, we believe these non-GAAP measures provide additional information that enables investors to evaluate our business from the perspective of management. The presentation of this non-GAAP information should not be considered a substitute for results prepared in accordance with U.S. GAAP.

Advanced Energy's non-GAAP measures exclude the impact of non-cash related charges such as stock-based compensation, amortization of intangible assets, and long-term unrealized foreign exchange gains and losses. In addition, we exclude discontinued operations and other non-recurring items such as acquisition-related costs, facility expansion and related costs, and restructuring expenses, as they are not indicative of future performance. The tax effect of our non-GAAP adjustments represents the anticipated annual tax rate applied to each non-GAAP adjustment after consideration of their respective book and tax treatments. In addition, the tax effect also includes a discrete tax benefit associated with the release of a portion of our deferred tax asset valuation allowance.

Non-GAAP Reconciliation

(\$ in thousands, except percentage and \$ per share)

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

| | Year Ended | | | | | | | Nine Months | |
|--|------------|------------|------------|-------------------|------------|------------|------------|-------------------|-------------------|
| | 2017 | 2018 | 2019 | December 31, 2020 | 2021 | 2022 | 2023 | Jan - Sep 30 2023 | Jan - Sep 30 2024 |
| Gross profit from continuing operations, as reported | \$ 356,381 | \$ 365,607 | \$ 315,652 | \$ 541,869 | \$ 532,322 | \$ 675,506 | \$ 592,398 | \$ 449,532 | \$ 374,638 |
| Adjustments to gross profit: | | | | | | | | | |
| Stock-based compensation | | 742 | 525 | 567 | 764 | 1,478 | 2,059 | 1,587 | 2,931 |
| Facility expansion, relocation costs and other | | 1,328 | 3,891 | 4,349 | 6,189 | 5,295 | 2,334 | 1,188 | 2,337 |
| Acquisition-related costs | | 569 | 8,290 | 5,381 | 3,585 | (299) | 238 | 194 | (13) |
| Non-GAAP gross profit | 356,381 | 368,246 | 328,358 | 552,166 | 542,860 | 681,980 | 597,029 | 452,501 | 379,893 |
| Non-GAAP gross margin | 53.1% | 51.2% | 41.6% | 39.0% | 37.3% | 37.0% | 36.1% | 36.2% | 35.6% |
| Operating expenses from continuing operations, as reported | 155,611 | 194,054 | 261,264 | 365,846 | 380,641 | 442,411 | 478,704 | 349,608 | 372,041 |
| Adjustments: | | | | | | | | | |
| Amortization of intangible assets | (4,350) | (5,774) | (12,168) | (20,129) | (22,060) | (26,114) | (28,254) | (21,186) | (20,519) |
| Stock-based compensation | (12,549) | (8,961) | (6,803) | (11,705) | (14,975) | (18,371) | (28,942) | (21,226) | (31,372) |
| Acquisition-related costs | (150) | (1,726) | (12,002) | (10,209) | (6,803) | (8,637) | (4,026) | (2,654) | (4,781) |
| Facility expansion, relocation costs and other | | (518) | (948) | (2,213) | (229) | — | (189) | — | (488) |
| Restructuring | | (4,239) | (5,038) | (13,166) | (4,752) | (6,814) | (26,977) | (9,095) | (29,416) |
| Non-GAAP operating expenses | 138,562 | 172,836 | 224,305 | 308,424 | 331,822 | 382,475 | 390,316 | 295,447 | 285,465 |
| Non-GAAP operating expenses as % of revenue | 20.6% | 24.0% | 28.4% | 21.8% | 22.8% | 20.7% | 23.6% | 23.6% | 26.8% |
| Non-GAAP operating income | \$ 217,819 | \$ 195,410 | \$ 104,053 | \$ 243,742 | \$ 211,038 | \$ 299,505 | \$ 206,713 | \$ 157,054 | \$ 94,428 |
| Non-GAAP operating margin | 32.5% | 27.2% | 13.2% | 17.2% | 14.5% | 16.2% | 12.5% | 12.6% | 8.9% |

Reconciliation of Adjusted EBITDA

| | Year Ended | | | | | | | Nine Months | |
|---------------------------|------------|------------|------------|-------------------|------------|------------|------------|-------------------|-------------------|
| | 2017 | 2018 | 2019 | December 31, 2020 | 2021 | 2022 | 2023 | Jan - Sep 30 2023 | Jul - Sep 30 2024 |
| Non-GAAP operating income | \$ 217,819 | \$ 195,410 | \$ 104,053 | \$ 243,742 | \$ 211,038 | \$ 299,505 | \$ 206,713 | \$ 157,054 | \$ 94,428 |
| Adjustments: | | | | | | | | | |
| Depreciation | 5,074 | 7,818 | 13,979 | 27,641 | 30,833 | 34,182 | 38,279 | 28,578 | 31,305 |
| Adjusted EBITDA | \$ 222,893 | \$ 203,228 | \$ 118,032 | \$ 271,383 | \$ 241,871 | \$ 333,687 | \$ 244,992 | \$ 185,632 | \$ 125,733 |
| Adjusted EBITDA Margins | 36.1% | 28.3% | 15.0% | 19.2% | 16.6% | 18.1% | 14.8% | 19.6% | 17.4% |

Non-GAAP Reconciliation

(\$ in thousands, except percentage and \$ per share)

Reconciliation of Non-GAAP measure - income excluding certain items

| | Year Ended December 31, | | | | | | Nine Months | |
|---|----------------------------|------------|-----------|------------|------------|------------|-------------|----------------------|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Jan - Sep 30 2024 |
| Income from continuing operations, less non-controlling interest, net of income taxes | 136,101 | \$ 147,063 | \$ 56,461 | \$ 135,096 | \$ 134,663 | \$ 201,875 | \$ 130,749 | \$ 7,244 |
| Adjustments: | | | | | | | | |
| Amortization of intangible assets | 4,350 | 5,774 | 12,168 | 20,129 | 22,060 | 26,114 | 28,254 | 20,519 |
| Acquisition-related costs | 150 | 2,295 | 20,292 | 15,590 | 10,388 | 8,338 | 4,264 | 4,768 |
| Facility expansion, relocation costs, and other | — | 1,846 | 4,838 | 6,562 | 6,418 | 5,295 | 2,523 | 2,825 |
| Restructuring | — | 4,239 | 5,038 | 13,166 | 4,752 | 6,814 | 26,977 | 29,416 |
| Unrealized foreign currency (gain) loss | 3,489 | — | — | 8,384 | (3,543) | (7,645) | (89) | 691 |
| Acquisition-related costs and other included in other (income) expense, net | — | — | (29) | 716 | (2,186) | (8,417) | (1,516) | 3,665 |
| Other charges | 40,163 | 5,703 | (13,737) | — | — | — | — | — |
| Tax effect of non-GAAP adjustments | (5,264) | (4,626) | 3,206 | (7,611) | (1,346) | (3,008) | (31,303) | (5,292) |
| Non-GAAP income, net of income taxes, excluding stock-based compensation | 178,989 | 162,294 | 88,237 | 192,032 | 171,206 | 229,366 | 159,859 | 63,836 |
| Stock-based compensation, net of taxes | 12,549 | 9,703 | 5,627 | 9,418 | 12,042 | 15,444 | 24,181 | 27,099 |
| Non-GAAP income, net of income taxes | 191,538 | \$ 171,997 | \$ 93,864 | \$ 201,450 | \$ 183,248 | \$ 244,810 | \$ 184,040 | \$ 90,935 |
| Non-GAAP diluted earnings per share | 4.77 | \$ 4.37 | \$ 2.44 | \$ 5.23 | \$ 4.78 | \$ 6.49 | \$ 4.88 | \$ 2.41 |

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

| | Year Ended December 31, | | | | | | Nine Months | |
|--|----------------------------|---------|---------|---------|---------|---------|-------------|----------------------|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Jan - Sep 30 2024 |
| Diluted earnings per share from continuing operations, as reported | 3.39 | \$ 3.74 | \$ 1.47 | \$ 3.51 | \$ 3.51 | \$ 5.35 | \$ 3.46 | \$ 0.19 |
| Add back: | | | | | | | | |
| Per share impact of non-GAAP adjustments, net of tax | 1.37 | 0.63 | 0.97 | 1.72 | 1.27 | 1.14 | 1.42 | 2.22 |
| Non-GAAP earnings per share | 4.77 | \$ 4.37 | \$ 2.44 | \$ 5.23 | \$ 4.78 | \$ 6.49 | \$ 4.88 | \$ 2.41 |

Reconciliation of Free Cash Flow

| | Year Ended December 31, | | | | | | Jan - Sep 30 | |
|--|----------------------------|------------|-----------|------------|------------|------------|--------------|-------------|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| Cash flow from operating activities from continuing operations | 189,956 | \$ 151,427 | \$ 47,899 | \$ 202,159 | \$ 140,914 | \$ 183,731 | \$ 212,925 | \$ 20,250 |
| Adjustments: | | | | | | | | |
| Purchases of property and equipment | (9,042) | (20,330) | (25,188) | (36,483) | (28,817) | (58,885) | (61,005) | (44,045) |
| Free Cash Flow | 180,914 | \$ 131,097 | \$ 22,711 | \$ 165,676 | \$ 112,097 | \$ 124,846 | \$ 151,920 | \$ (23,795) |

Non-GAAP Reconciliation

(\$ in thousands, except percentage and \$ per share)

Reconciliation of Non-GAAP measure - Research and development

| | <u>Q3 2022</u> | <u>Q4 2022</u> | <u>Q1 2023</u> | <u>Q2 2023</u> | <u>Q3 2023</u> | <u>Q4 2023</u> | <u>Q1 2024</u> | <u>Q2 2024</u> | <u>Q3 2024</u> |
|-----------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Research and development | \$ 49,760 | \$ 49,637 | \$ 51,610 | \$ 51,413 | \$ 50,391 | \$ 49,025 | \$ 49,836 | \$ 52,335 | \$ 53,561 |
| Adjustments: | | | | | | | | | |
| Stock-based compensation | (1,497) | (1,033) | (1,859) | (2,168) | (2,254) | (2,578) | (3,137) | (3,838) | (4,372) |
| Acquisition-related costs | (46) | (46) | (16) | — | — | — | — | — | — |
| Non-GAAP Research and development | <u>\$ 48,217</u> | <u>\$ 48,558</u> | <u>\$ 49,735</u> | <u>\$ 49,245</u> | <u>\$ 48,137</u> | <u>\$ 46,447</u> | <u>\$ 46,699</u> | <u>\$ 48,497</u> | <u>\$ 49,189</u> |

Reconciliation of Non-GAAP measure - Selling, general, and administrative

| | <u>Q3 2022</u> | <u>Q4 2022</u> | <u>Q1 2023</u> | <u>Q2 2023</u> | <u>Q3 2023</u> | <u>Q4 2023</u> | <u>Q1 2024</u> | <u>Q2 2024</u> | <u>Q3 2024</u> |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Selling, general, and administrative | \$ 56,716 | \$ 57,407 | \$ 55,358 | \$ 55,613 | \$ 55,131 | \$ 54,932 | \$ 55,124 | \$ 55,013 | \$ 56,237 |
| Adjustments: | | | | | | | | | |
| Stock-based compensation | (4,071) | (2,673) | (4,559) | (5,180) | (5,207) | (5,139) | (7,039) | (6,489) | (6,497) |
| Acquisition-related costs | (265) | (233) | (862) | (800) | (561) | (1,323) | (1,217) | (1,957) | (1,581) |
| Facility expansion, relocation costs, and other | — | — | — | — | (101) | — | — | — | (488) |
| Non-GAAP income Selling, general, and administrative | <u>\$ 52,380</u> | <u>\$ 54,501</u> | <u>\$ 49,937</u> | <u>\$ 49,633</u> | <u>\$ 49,262</u> | <u>\$ 48,470</u> | <u>\$ 46,868</u> | <u>\$ 46,567</u> | <u>\$ 47,671</u> |