



**Advanced Energy<sup>®</sup>**

February 26, 2015

**Analyst Day**

# Safe Harbor:

The company's guidance given on February 2, 2015 with respect to anticipated financial results for the first quarter ending March 31, 2015, and other statements 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; (b) the volatility and cyclical nature of the industries the company serves, particularly the semiconductor industry; (c) the volatility, seasonality and delays of renewable energy projects and inverter sales; (d) our ability to integrate successfully the operations of companies we acquire, including the retention of key employees of such companies, realization of the benefits of such companies' products, the total available market and expected sales of such products, and product cost expectations surrounding the fabless manufacturing models for REFUSol and the power control modules product line we acquired from AEG Power Solutions GmbH; (e) opportunities that might present themselves, or actions we might take, as a result of our exploration of strategic alternatives for our solar inverter business, (f) with regard to the renewable energy market, tariffs on Chinese & Taiwanese solar panels, the continuation of feed-in-tariffs and other incentives in Europe and elsewhere for inverters, including the RPS (renewable portfolio standards), the timing and availability of grant programs in North America and Europe and the reduction of the investment tax credit for solar facilities in the United States after 2016; (g) the impact of price changes resulting from a variety of factors including increased competition in the solar inverter equipment market; (h) the timing of orders received from customers; (i) the company's ability to realize benefits from cost improvement efforts including avoided costs, restructuring plans and inorganic growth; (j) the company's ability to obtain materials and manufacture products; and (k) unanticipated changes to management's estimates, reserves or allowances. These and other risks are described in Advanced Energy's Form 10-K, Forms 10-Q and other reports and statements filed with the Securities and Exchange Commission (the "SEC"). These reports and statements are available on the SEC's website at [www.sec.gov](http://www.sec.gov). Copies may also be obtained from Advanced Energy's investor relations page at <http://ir.advanced-energy.com> or by contacting Advanced Energy's investor relations at 970-407-6555. Forward-looking statements are made and based on information available to the company on the date of this press release. Please note that hypothetical scenarios regarding revenue growth, EBITDA, EPS, acquisitions, aspirational goals and targets and similar statements illustrate various possible outcomes of our different strategies if they are successful. These hypothetical scenarios and illustrations should not be treated as forecasts or projections or financial guidance. We cannot assure you that we will be able to accomplish any of these goals, metrics or opportunities at any point in the future (if at all), all of which are subject to significant risks and uncertainties. The company assumes no obligation to update the information.

# Agenda

9:35<sup>AM</sup> Driving Shareholder Value  
Yuval Wasserman, President & Chief Executive Officer

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10:00<sup>AM</sup> Growing with Precision Power Products  
Randy Heckman, SVP Precision Power Products

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10:40<sup>AM</sup> Unlocking the Value of Inverter Products  
Bates Marshall, SVP Sales Marketing & Service

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11:00<sup>PM</sup> Financial Review  
Danny Herron, EVP & CFO

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11:20<sup>PM</sup> Q&A & Lunch

THANK YOU





**Advanced Energy**

Driving Shareholder Value

Yuval Wasserman, President & CEO

February 26, 2015

# Management Team

Yuval Wasserman  
PRESIDENT & CEO

Danny Herron  
EVP & CFO

Tom McGimpsey  
EVP & GC

Randy Heckman  
SVP PRECISION POWER  
PRODUCTS

Norbert Apfel  
SVP INVERTER PRODUCTS &  
MD GmbH

Bates Marshall  
SVP SALES MARKETING  
& SERVICE

Dave McCarron  
SVP Global Operations

# Driving Shareholder Value

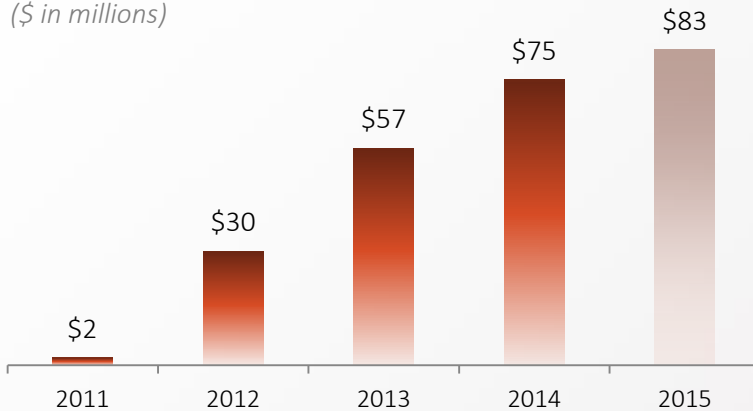


*Note: Please note that hypothetical scenarios regarding revenue growth, EBITDA, EPS, cash generation, acquisitions, aspirational goals and targets and similar statements illustrate various possible outcomes of our different strategies if they are successful. These hypothetical scenarios and illustrations should not be treated as forecasts or projections or financial guidance. We cannot assure you that we will be able to accomplish any of these goals, metrics or opportunities at any point in the future (if at all), all of which are subject to significant risks and uncertainties.*

# Strong Financial Performance

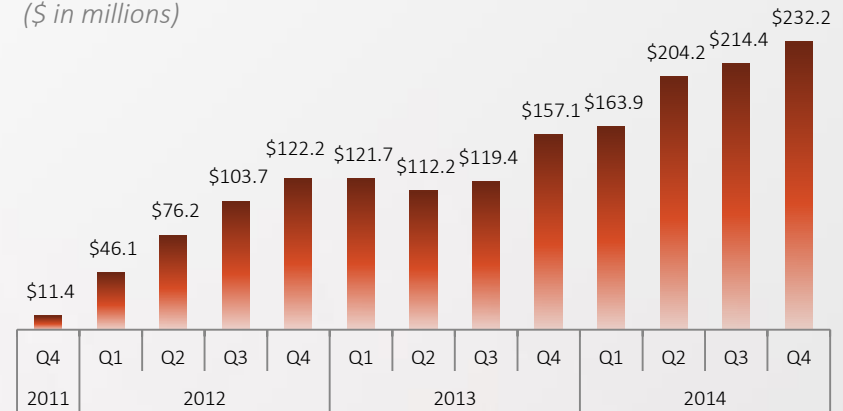
## Significantly Lower Cost Structure

(\$ in millions)



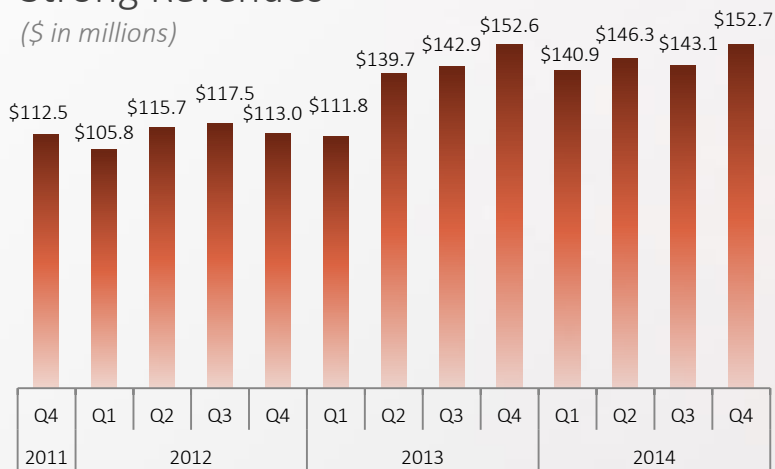
## Powerful Cumulative Cash Flow from Ops

(\$ in millions)



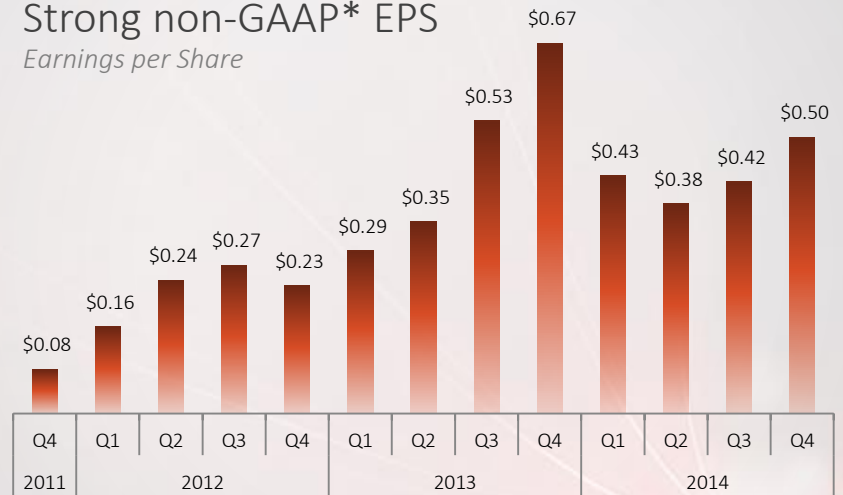
## Strong Revenues

(\$ in millions)



## Strong non-GAAP\* EPS

Earnings per Share





# Highly Competitive Model

**GROWTH**  
**OPINC**  
**CASH FLOW**

Precision Power  
Conversion Focus,  
Leadership & Talent

Operational  
Excellence

Global Footprint,  
Diverse Markets,  
Critical Applications

# Business Trajectory

Bring Inverter  
Products to  
Profitability

Grow & Diversify  
Precision Power  
Products

Accelerate Growth  
Through Strategic  
Acquisitions in  
Precision Power



# Vision for Growth – Value Products

Highly-engineered

- ◀ IP and knowhow content
- ◀ Leverage core competencies
- ◀ Design-in long term customer relationships

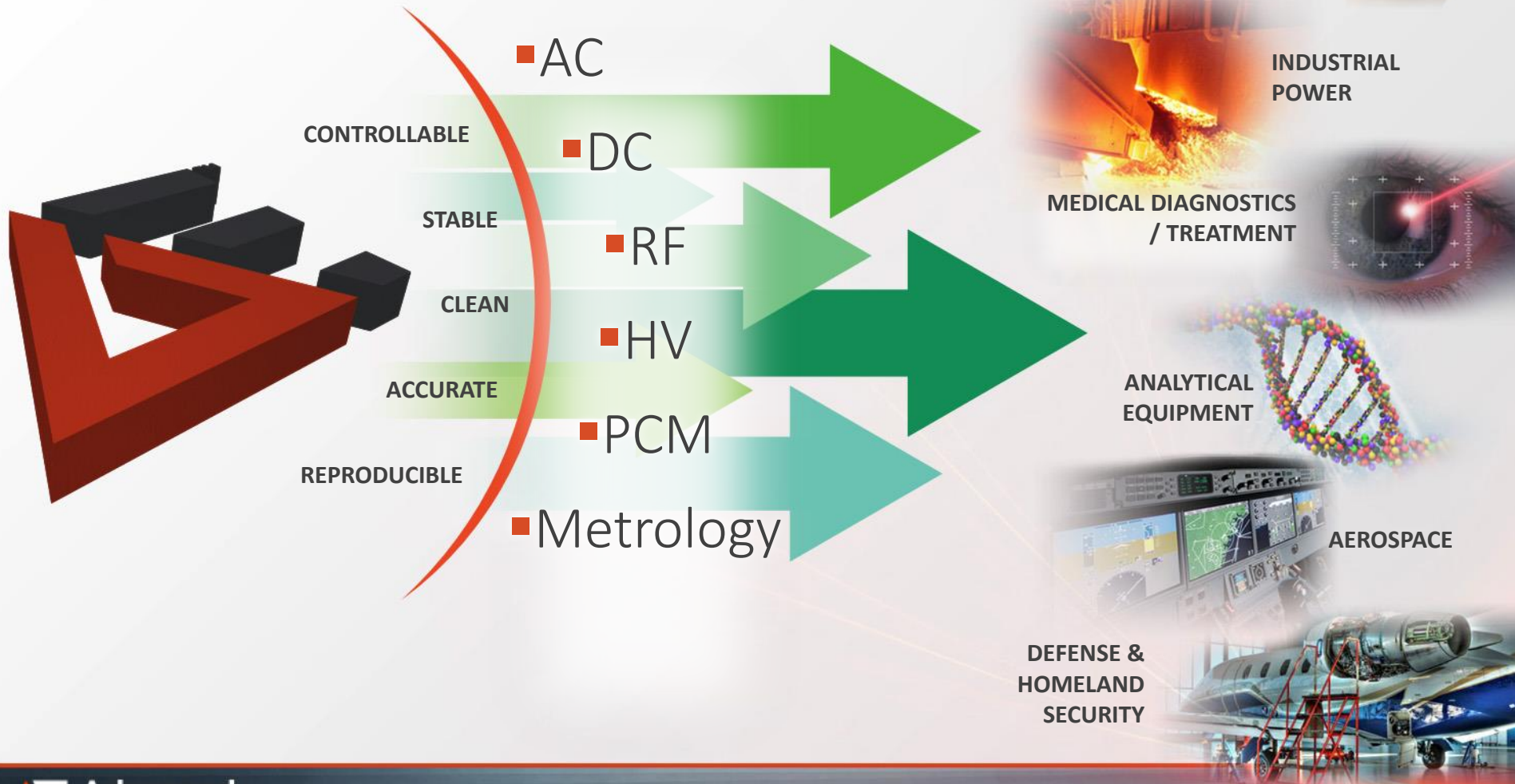
Mission and  
Applications Critical

- ◀ Enabler of performance
- ◀ High stake applications – high cost of failure
- ◀ ASP driven by value

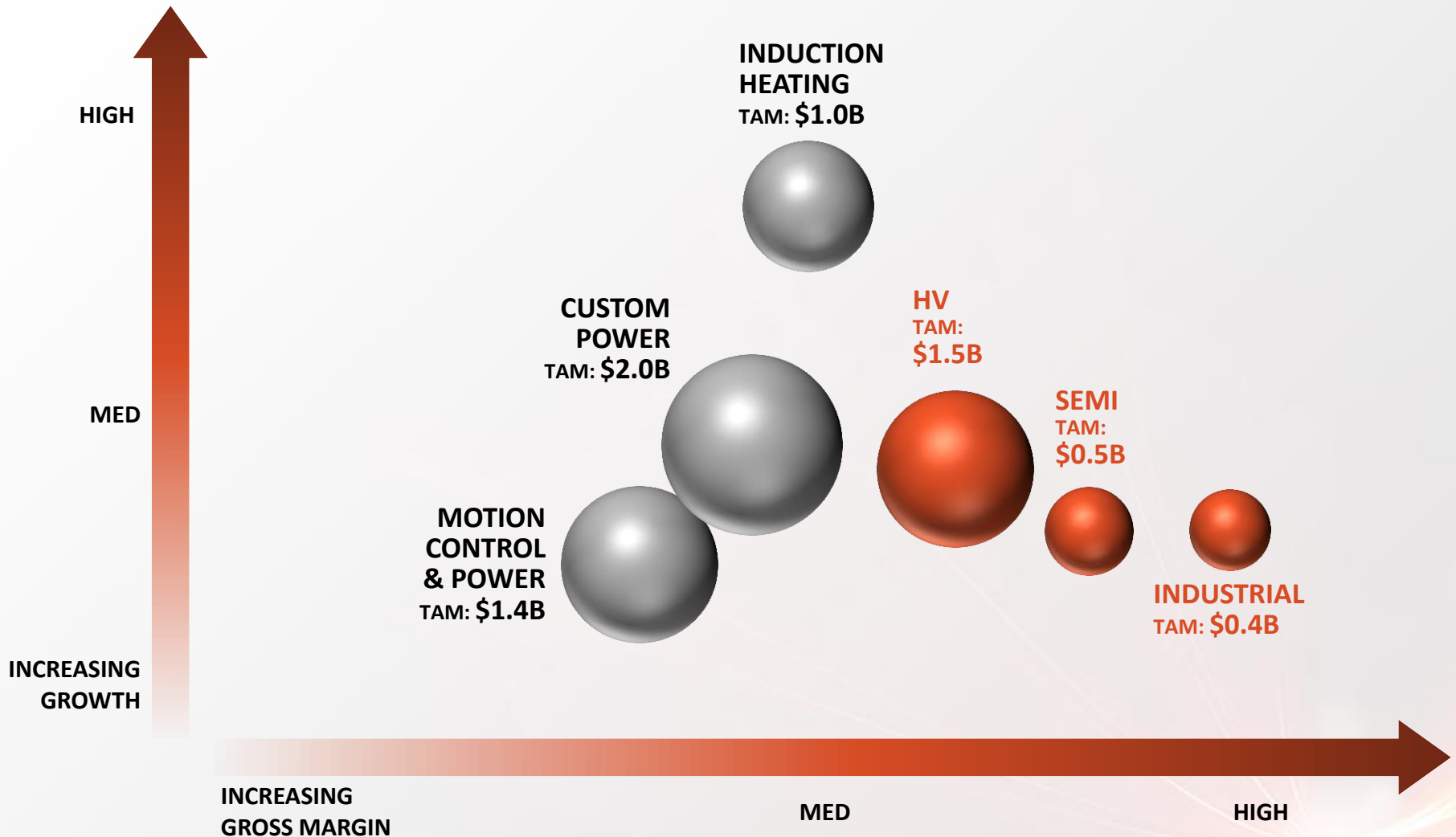
Precision Power  
Conversion Solutions

- ◀ Products and services
- ◀ Integrated products
- ◀ Derivatives and customized solutions

# Precision Power Solutions Enable Critical Applications



# Precision Power Conversion Markets



# Unlocking Value for AE

- Strategic options for Inverters
  - Advisor engaged
  - Looking at various opportunities
  - Optimizing product line during process



# Unlocking Value: 2014 Without Inverters

Revenue  
Declines  
by 38%

EPS  
Increases  
by 64%



# Aspirational Goals

**OUTPACE MARKET GROWTH**

**CASH GENERATION \$250-\$320M**

**EPS \$2-\$3**

Precision Power  
Conversation Focus,  
Leadership & Talent

Operational  
Excellence

Global Footprint,  
Diverse Markets,  
Critical Applications

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February 26, 2015

## Growing with Precision Power Products

Randy Heckman, SVP Precision Power Products

# Precision Power Solutions Enable Mobile Technology



# Precision Power Products

- Provide highly-engineered, precision power conversion solutions for high-value, mission-critical applications
- Different power conversion technologies
  - AC power
  - LV DC and HV DC
  - Radio frequency
- Common technology attributes
  - Power conversion efficiency
  - Signal purity and repeatability
  - Power density
  - Agility and accuracy
  - Power shaping

# Revenue Growth Vision



- Solvix
- Power Control Modules
- HiTek Power and UltraVolt

**NEW  
MARKETS**

## New Markets, New Solutions

Non-Plasma Applications

High Voltage, High Power, Industrial Applications, Instrumentation, Environmental, Custom Power

**ADJACENT  
MARKETS**

## Thin Films Industrial

Geographic Expansion, Integrated Solutions Services

PV Solar – Deposition, Glass coating, FPD - Deposition/Etch, Industrial/Hard Coating, In-Line Optical, Measurements, Gas abatement

**NEW  
PRODUCTS/  
TECHNOLOGY**

**INCREMENTAL  
PRODUCTS**

**HISTORICAL  
MARKETS**

## Semi

RF, DC, RPS, Deposition, Etch, Clean, Pyrometry, Integrated products

**EXISTING  
PRODUCTS**

# Precision Power Today

Revenue outpaced growth of major served applications

Increased share in core applications/technology

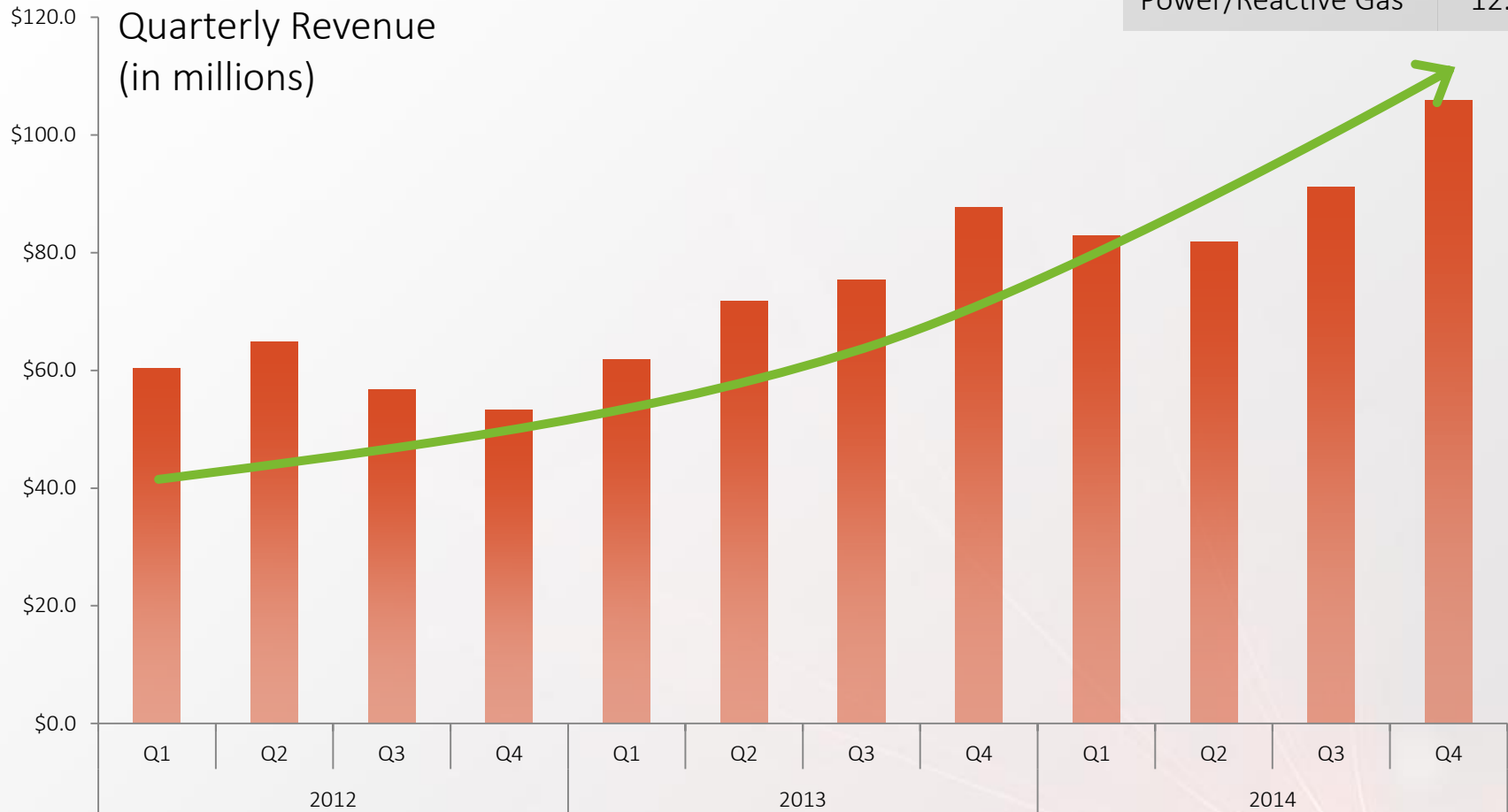
Expanded served applications with new acquisitions

Increased product development speed and efficiency

# Revenue Outpaced Growth of Major Served Applications

## CAGR 2012-2014

AE Precision Power	18% <sup>1</sup>
Semi WFE	3.3% <sup>2</sup>
Power/Reactive Gas	12.4% <sup>3</sup>

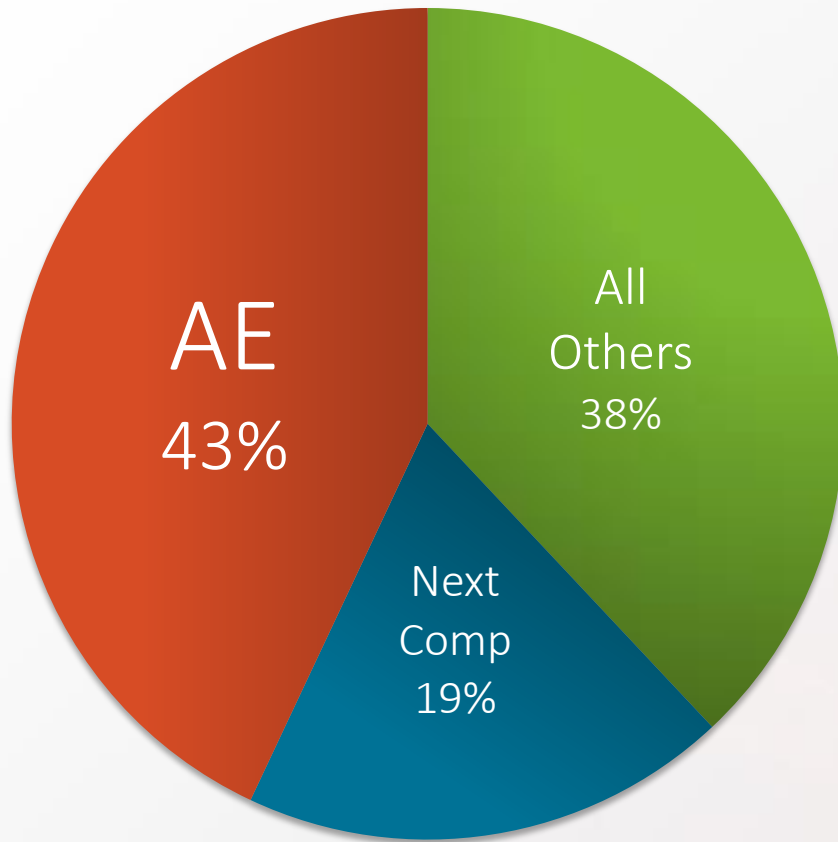


1. Growth rate excludes revenue from 2014 acquisitions

2 Gartner Wafer Level Equipment, Dec 2014

3 VLSI C-Subs Power and Reactive Gas Subsystems, Jan 2015

# Increased Share in Core Applications/Technology



- Applications Leader
  - #1 in RF/DC Subsystems\*
  - 8pt gain over previous year
- Why We Win
  - Leading product performance
  - Highest product quality
  - Localized R&D
  - Operations speed, response
  - Global support in key regions

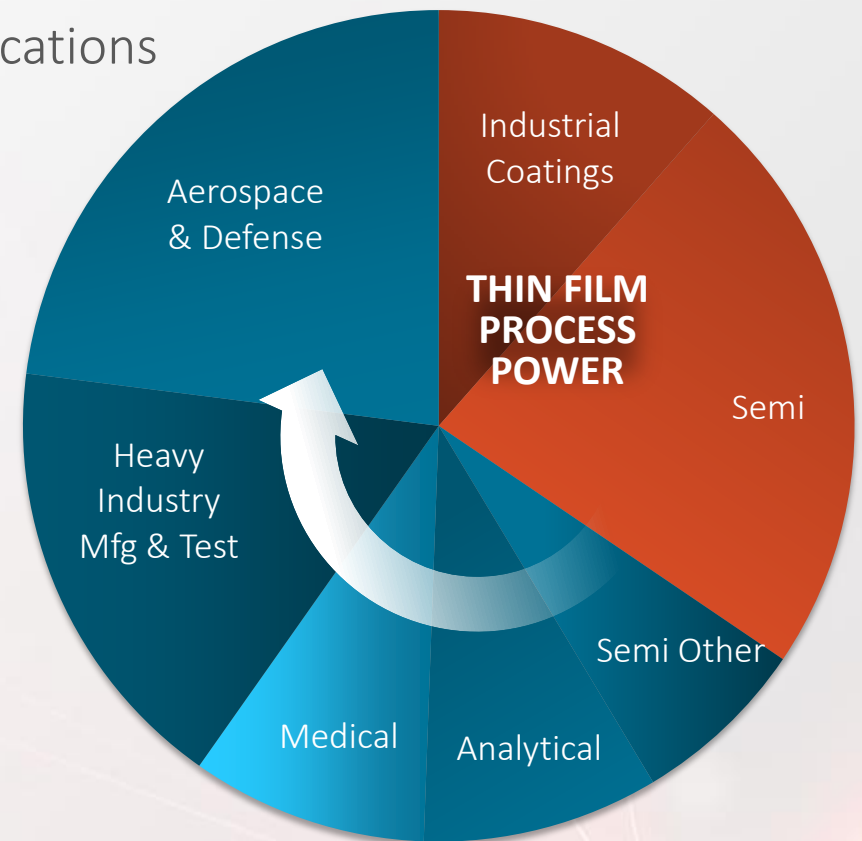
\*Reference: VLSI C-Sub Share Report, April 2014 (Power and Reactive Gas Subsystems for Semi, FPD, PV Solar, and Data Storage Applications)



# Expanded Served Applications With New Acquisitions

- PCM, from AEG Power Solutions
  - #2 in PCM in heating/furnace applications
  - Heavy Industry
- HiTek Power
  - #1 position in HV for ion implant
  - Analytical, Industrial Test and Measurement
- UltraVolt
  - Standard custom modules
  - Analytical, Medical, Aerospace, and Defense

\$2.5B TAM



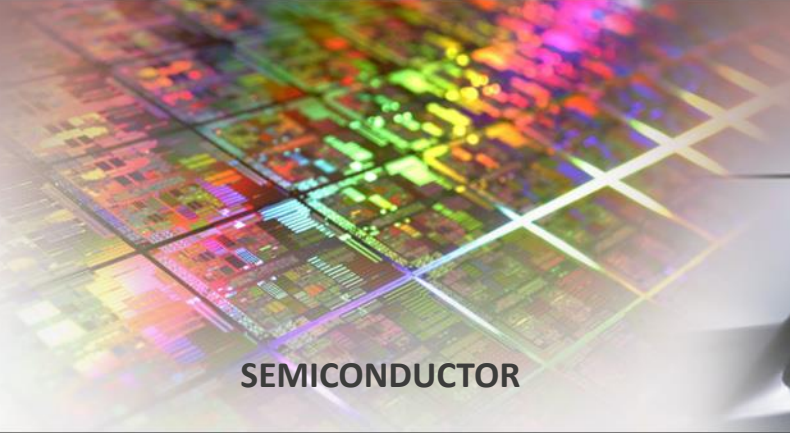
# Increased Product Development Speed and Efficiency

- Revamped product development process (PDP)
- Localized and distributed R&D
- Shenzhen engineering for fast NPI
- Net impact:
  - Faster solutions to our customers
  - Reduced product development cycle by 50%
  - Launched more products year over year

# Precision Power Tomorrow: Strategy for Growth

## Core Applications

- Share gain
- Enabling inflection points



SEMICONDUCTOR

INDUSTRIAL THIN FILMS



## New Applications

- Increase SAM
- Increasing footprint



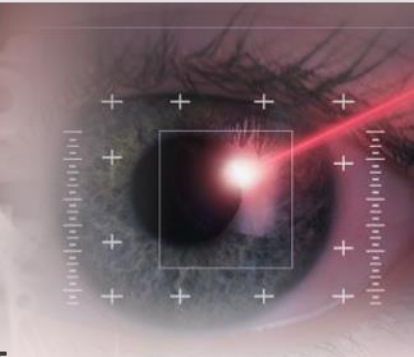
HEAVY INDUSTRY



ANALYTICAL  
INSTRUMENTS

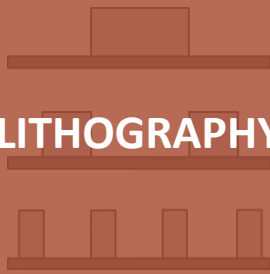
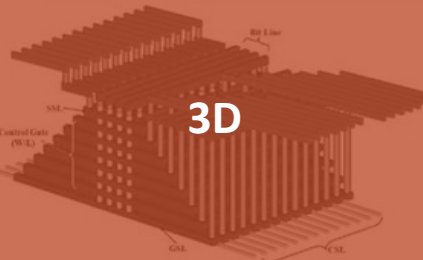
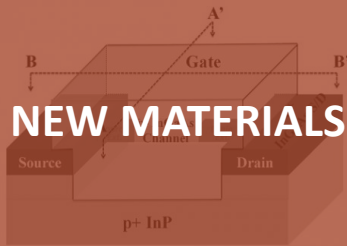


INDUSTRIAL TEST  
MEASUREMENT



MEDICAL

# Capitalizing on Semi Inflection Points

	OEM SOLUTIONS	WHAT THIS MEANS FOR AE
 <p><b>LITHOGRAPHY</b></p>	Multi-patterning below 32nm node	Exponential growth of etch and PECVD systems
 <p><b>3D</b></p>	More sophisticated etch and deposition processes	Precision control and agility of power delivery
 <p><b>NEW MATERIALS</b></p>	Advanced etch, selective material removal, ALE, and ALD	Precision power solutions that directly control critical process parameters

# Growth Strategy in Semiconductor



- Extend leadership in growth applications
  - Capitalize on AE's advanced RF pulsing solutions for Etch
  - Expand AE's 2MHz RF systems into Etch/PVD
  - Create new process sources for etch/deposition/PEALD
  - Introduce new precision power solution for 1x nm technology


- Increase market share with HV
  - Ion implant
  - SEM inspection and metrology
  - Electrostatic chuck power supplies



# Growth Strategy in Thin Films Industrial

## APPLICATIONS

## STRATEGY




Energy Efficiency

Display Technologies

Drive fast adoption of advanced bipolar technology


- Superior film performance
- Superior cost of ownership
- Retrofit large installed base



Consumer Electronics

Increase share with advanced pulsed DC

- Better film properties
- Higher deposition rates



Industrial Hard Coatings

Expand AE's Solvix hard coating solutions into new growth regions

- India and China

# Expanding into New Applications: Heavy Industry

- Expand PCM presence through global distribution channels
- Partner with Industrial Automation leaders in US, Europe, and Asia
- Develop custom integrated power control solutions in India and China
- Leverage thermal instrumentation technology to close the loop



# Expanding and Diversifying Target Applications

CAT SCAN

ELECTROPHORESIS

MASS SPECTROMETER

ANALYTICAL INSTRUMENTS

DNA SEQUENCER

LASER SCALPEL

MEDICAL

SEMICONDUCTOR

**\$1.5B High Voltage TAM**

SEMICONDUCTOR TOOLS

**Diversified Applications**

X-RAY INSPECTION

INDUSTRIAL

AEROSPACE/DEFENSE

AVIONICS DISPLAY



# Strategy for Growing in New Applications with HV

- Leverage combination of two acquired HV companies for R&D and fast product development
- Accelerate share growth through AE's global sales channel
- Focus on key growth applications with new products
  - Analytical Instruments: mass spectrometry
  - Industrial: x ray for inspection
- Leverage presence in HV applications to pull through AE core products and combined solutions

# Accelerate Growth Organically and Inorganically

- Continue to grow faster than the applications we serve
- Maintain industry leadership in our core application space
- Grow in new applications – increase TAM
- Preserve leadership position through speed in technology and product development



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## Unlocking the Value of Inverter Products

Bates Marshall, SVP Sales, Marketing & Service

# Unlocking Value of Inverters

- Inverter model distinctly different than Precision Power
  - Market dynamics dependent on government tariffs
  - Different margin structure and business model
  - Operational model
- Pursuing strategic options for Inverters
  - Engaged strategic advisor
  - Considering various options
  - Optimizing product line during process



# Market Dynamics Changing Competitive Landscape

## NEW ASIAN COMPETITORS

- Preference for local content
- Limited western suppliers access
- Asian suppliers gaining scale

## PRECIPITOUS ASP DECLINES

- Increasing commoditization
- Growth declining in mature markets
- Competition in Europe and Americas

## SCALE OR VERTICAL INTEGRATION REQUIRED

- Leaders at massive scale or vertically integrated
- Inverters as loss leaders – profits from modules or EPC businesses

# Divergence of Key Market Segments

- Utility market facing ITC cliff
  - Elimination of 30% ITC at end of 2016
  - Increasing number of suppliers contending for shrinking pool of opportunities
- Commercial market booming with better fundamentals
  - Commercial rooftop and ground mount projects offer better margins
  - Increased availability of finance options (Yieldcos, securitization)
  - Technology transition from central inverters to string inverters in Americas



# Rationalized Portfolio & Regional Deployment

- Retiring legacy product lines
- 3-phase 1000 Volt string inverter platform for solutions up to 48 kW
- Targeting rooftop and distributed generation in Americas, EMEA, Japan
- Focused portfolio of central inverter technology
- Opportunistic pursuit of utility-scale projects in N. America with key existing strategic customers





# Optimized Portfolio – Two Core Platforms

3TL



- 3-Phase string
- Scalable, flexible, global
- UL & IEC for commercial and utility

NX



- Bi-Polar central
- High performance
- UL utility-scale

# Product Development Plan

## Complete 3-phase string

Introduce UL 48 kW 3TL for N. American market

Introduce 24 kW 3TL for Japanese market

Introduce cost-reduced Gen 3 worldwide

## Cost-reduction derivatives for 1000NX platform

Supply-chain optimization

Development and introduction of 1.1 MW derivative

## Monetize key R&D programs

DOE SEGIS-AC storage inverter and controls

Next-gen SiC switching technology

Monitoring, communications, and controls to extend utility capabilities to string inverter platforms

# Supply Chain Initiatives to Reduce Costs

**COMPLETE MATERIAL RESOURCING  
TO LOW-COST REGIONS**

**COST REDUCTIONS WITH EXISTING  
SUPPLIERS**

**LOWER  
LOGISTICS COSTS**

**VALUE ANALYSIS /  
VALUE ENGINEERING**

# Key Takeaways

- Inverter model distinctly different than Precision Power
- Pursuing strategic options for Inverters
- Driving program to reduce costs and improve efficiencies during process

PRODUCT LINE  
RATIONALIZATION  
COMPLETED

COST REDUCTION  
PROGRAM UNDERWAY

UNLOCKING VALUE  
OF R&D PROGRAMS



THANK YOU





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February 26, 2015

## Financial Review

Danny Herron, EVP & CFO

# Actions Over Last Four Years

2014

Acquired

Power Control Modules

Q1'14

Acquired

HiTek Power Group

Q2'14

Acquired

UltraVolt Group

Q3'14

Rationalized

Solar Inverter Products

Q4'14

2013

Acquired  
3-phase String  
Product

Q2'13

Accelerated  
Additional  
Restructuring

Q2'13

Eliminated  
Duplicate  
Locations

Q2'13

Eliminated  
Bend  
Manufacturing

Q3'13

Moved Supply  
Chain to  
Shenzhen

Q3'13

Ongoing  
Tax Rate  
Improvement

Q4'13

2012

Moved Sub-Assemblies  
to Shenzhen

Q1'12

Implemented  
Purchasing Tools

Q1'12

Share Repurchase  
Completed

Q2'12

Acquired Hard  
Coating Product Line

Q4'12

2011

Restructured  
Thin Film

Q3'11

Restructured  
Corporate

Q3'11

Restructured  
Solar Energy

Q4'11

Share  
Repurchase  
Announced

Q4'11

Consolidated  
Fort Collins  
Offices

Q4'11

Revised  
Compensation  
Programs

Q4'11

Eliminated  
Offsite  
Warehouses

Q4'11

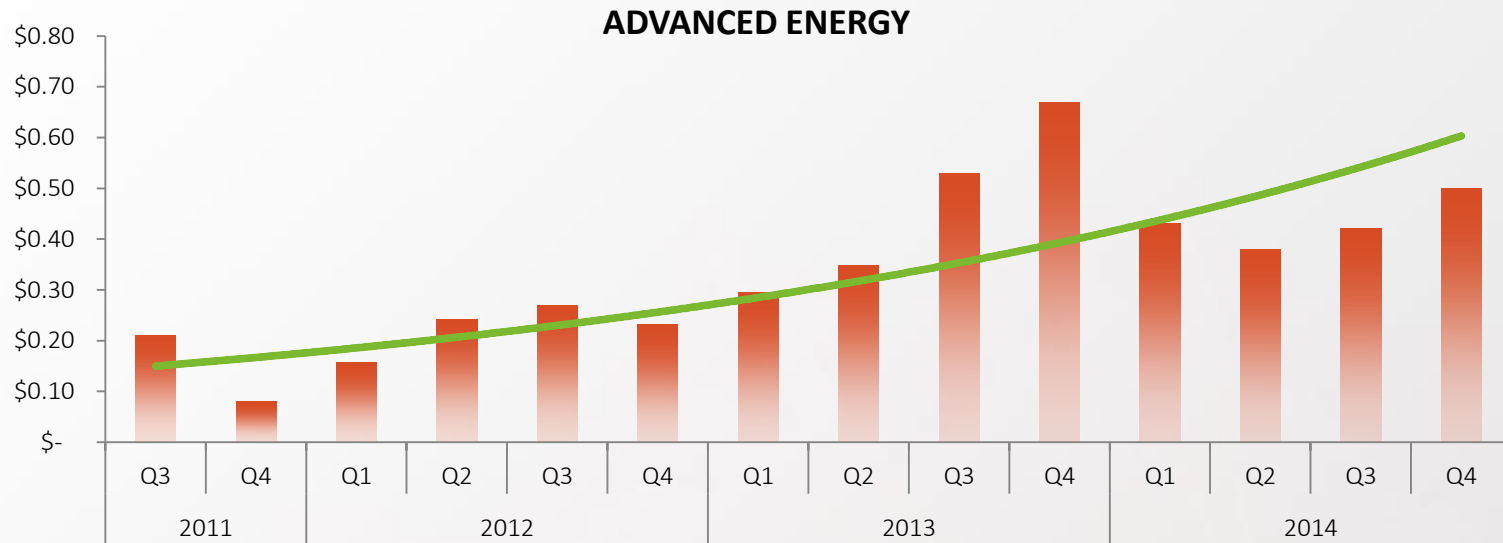
Performance Trends  
Versus  
Competitors Showing  
Significant Improvement



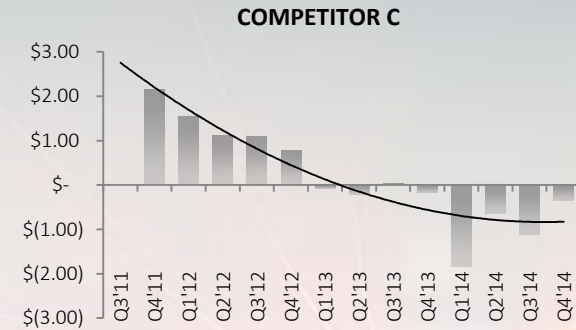
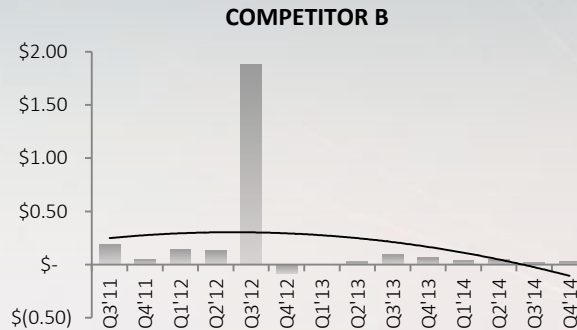
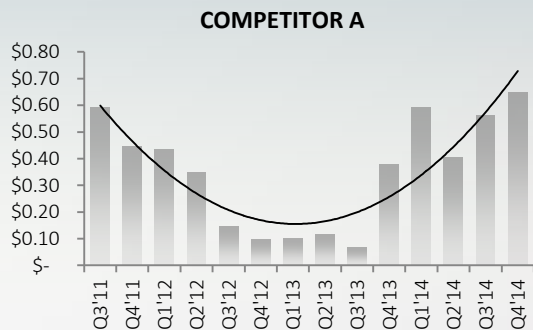


# Non-GAAP Earnings Per Share vs. Peers

Q3 2011 – Q4 2014



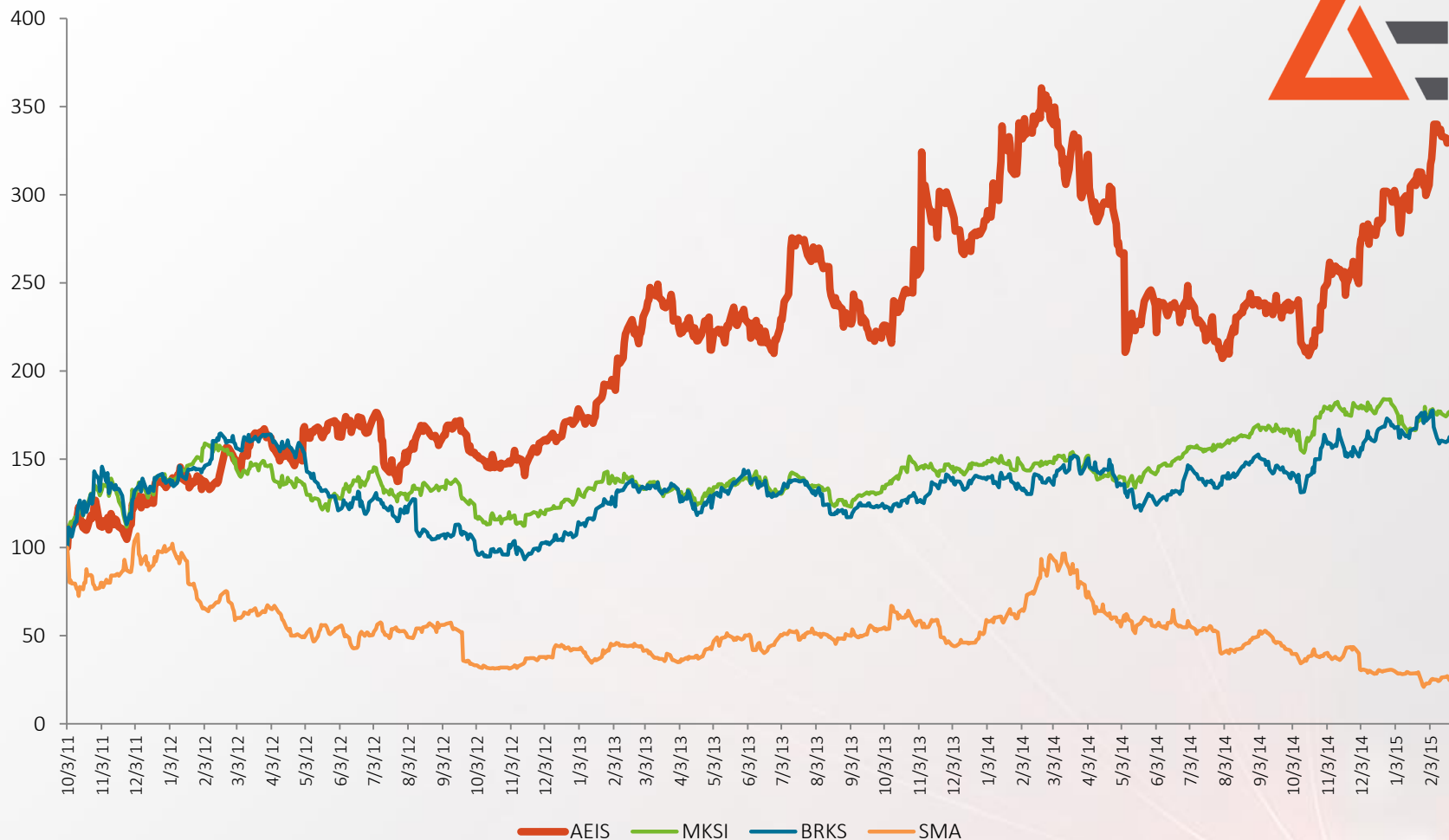
## COMPETITORS



Note: Competitor information was sourced from Factset Recurring EPS.. Variations may exist when comparing non-GAAP information since each company may have different exclusions and/or inclusions to arrive at non-GAAP EPS.

# Relative Shareholder Return vs. Peers

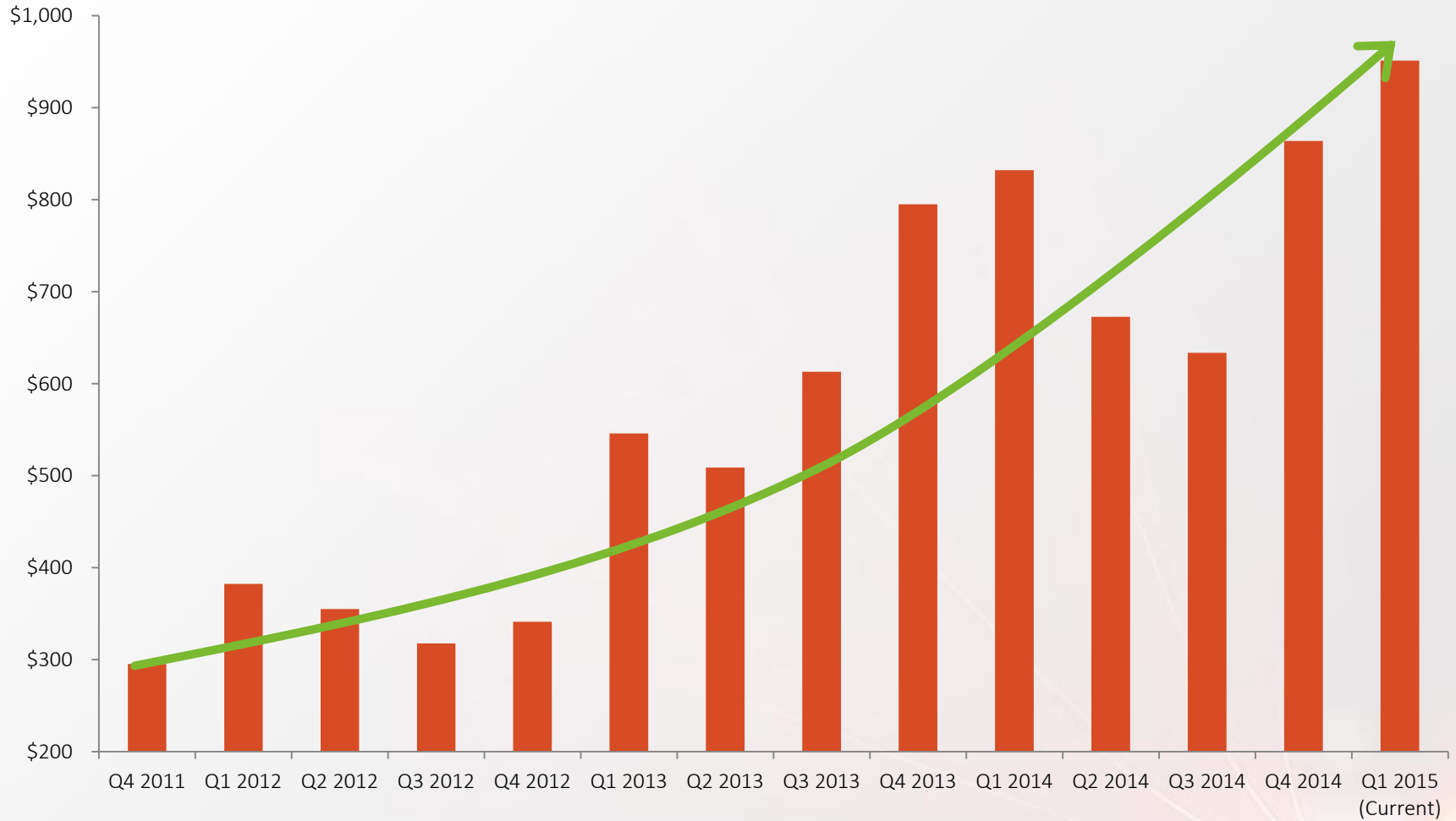
Through February, 2015



Return calculation based on \$100 investment made on 10/31/11, excluding reinvested dividends.

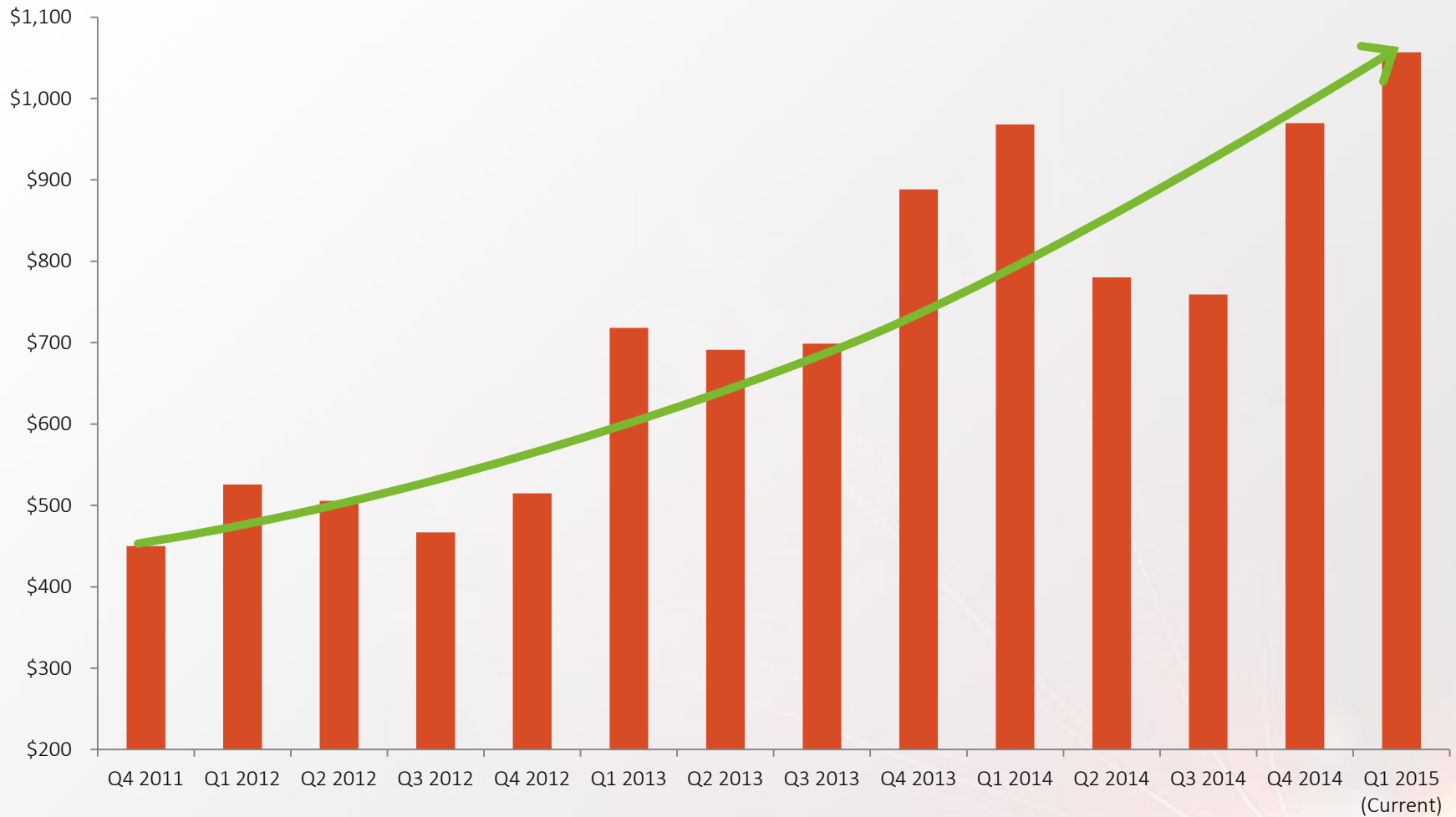
# AEIS Enterprise Value

*In millions of USD*



# AEIS Market Cap

*In millions of USD*

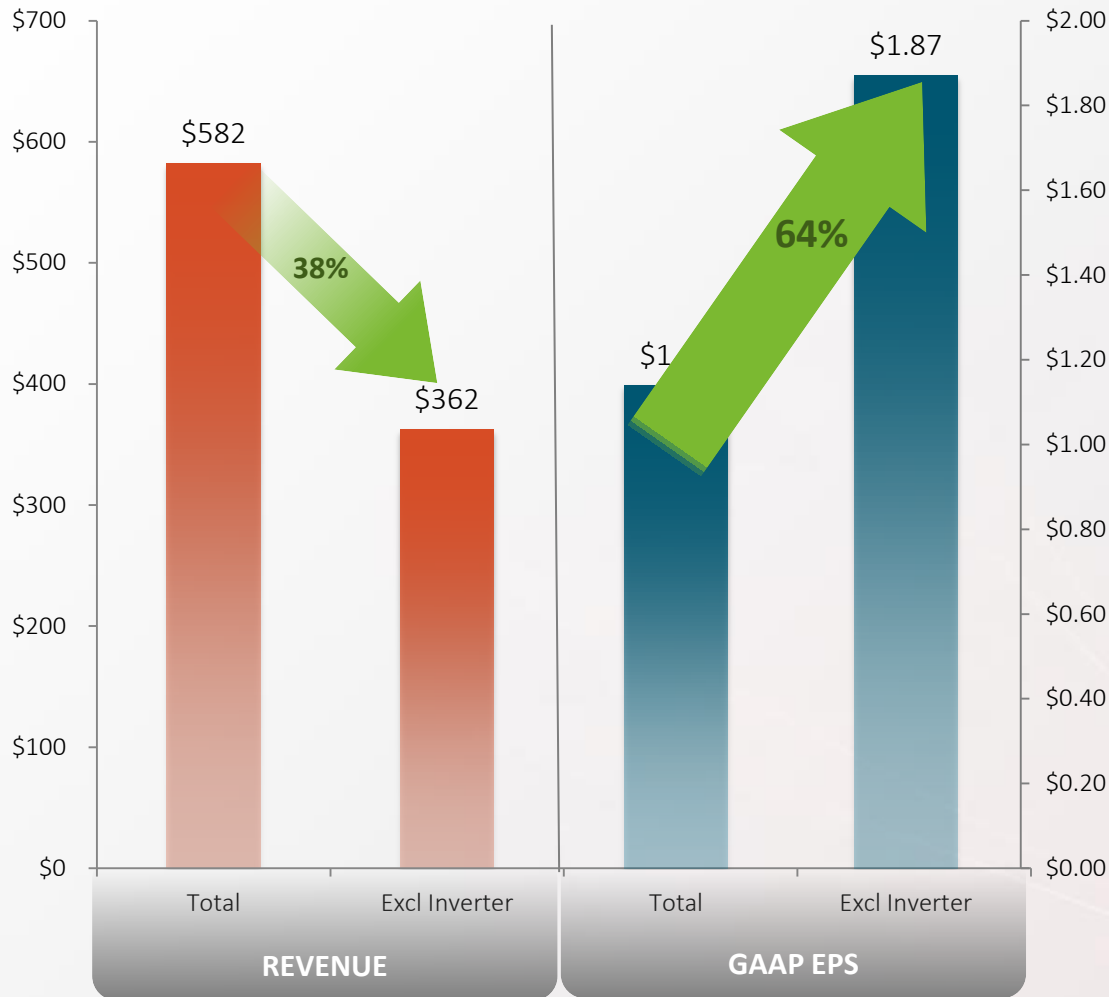


Business Model and Execution  
Should Significantly Reduce  
the Impact of Cyclicity



# What if AE Didn't Have Solar in 2014

*Ex-Inverter, Revenue Declines 38% But EPS Increases 64%*



## 2014

PPP OpInc	\$95.2M
Add Allocated Costs	\$10.0M
Revised OpInc	\$85.2M
Tax Rate	\$8.5M
Net Income	\$76.7M
EPS	\$1.87

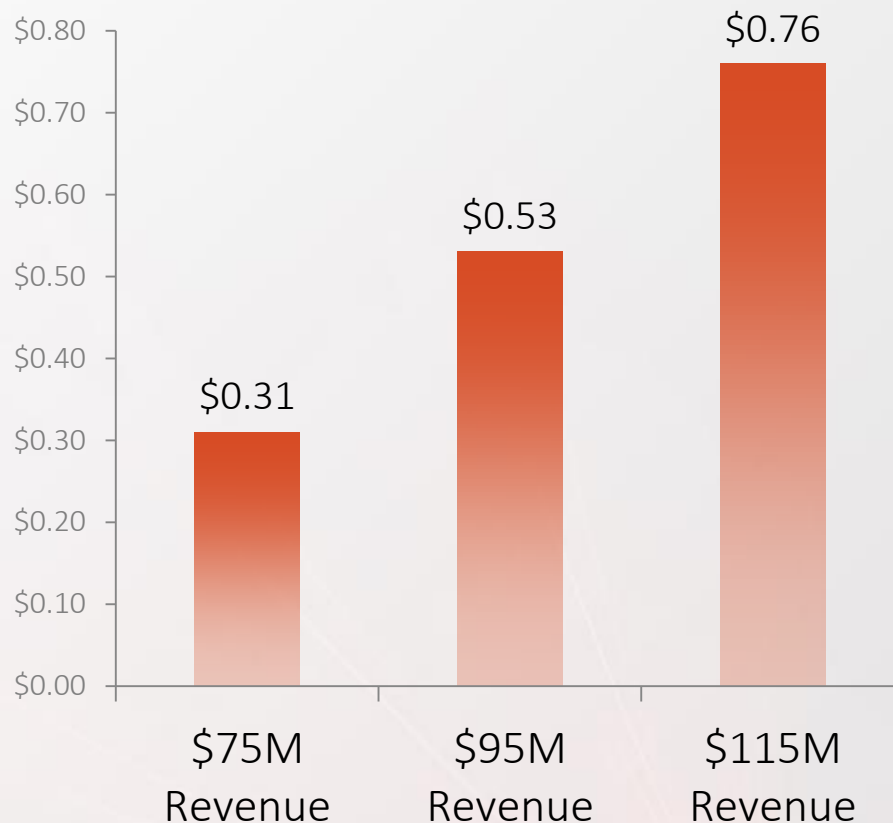
# Precision Power Quarterly EPS Scenarios

## Possible Scenarios

\$75M/Q Revenue  
20% Operating margin\*  
15% Tax rate

\$95M/Q Revenue  
26% Operating margin\*  
12.5% Tax rate

\$115M/Q Revenue  
30% Operating margin\*  
10% Tax rate



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*\*Does not include any overhead currently allocated to the Solar Inverter Business Unit.*

# Deploying Cash to Drive Growth

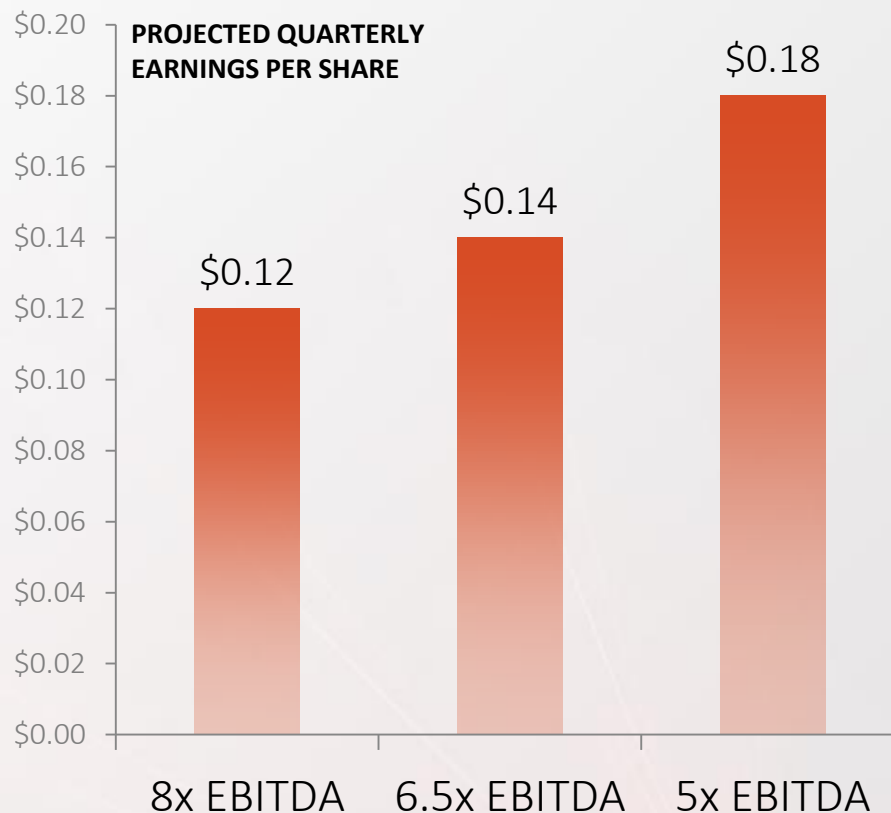
## Possible Scenarios

\$200M invested  
Synergies offset D&A  
25% Blended tax rate

8.0x EBITDA  
*\$25M EBITDA Acquired*

6.5x EBITDA  
*\$31M EBITDA Acquired*

5.0x EBITDA  
*\$40M EBITDA Acquired*



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# Cash Deployment Options

## M&A

- ◀ Acquired 3 companies / product lines in 2014
- ◀ Strategic acquisitions – complementary
- ◀ Accretive within months - synergistic

## ORGANIC GROWTH

- ◀ Core R&D in precision power technology
- ◀ Distributed R&D
- ◀ New products gain market share (Etch, PEALD)

## SHARE BUY BACKS

- ◀ Purchased \$100M in 3 years  
- \$25M in 2014

# Driving Profitability in Peaks & Troughs



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THANK YOU

