



# Rising

to the New Challenge



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to the New Challenge

# 2017 Investor Conference Business Update

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David N. Farr

Chairman and Chief Executive Officer

February 16, 2017

## Safe Harbor Statement

Our commentary and responses to your questions may contain forward-looking statements, including our outlook for the remainder of the year, and Emerson undertakes no obligation to update any such statement to reflect later developments. Factors that could cause actual results to vary materially from those discussed today are provided in our most recent Annual Report on Form 10-K and subsequent reports as filed with the SEC.

## Non-GAAP Measures

In this presentation we will discuss some non-GAAP measures (denoted with an \*) in talking about our company's performance, and the reconciliation of those measures to the most comparable GAAP measures is contained within this presentation or is available at our website [www.emerson.com](http://www.emerson.com) under the investors tab.



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# 2017 Emerson Investor Conference

## New York City, NY

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Thursday 16 February, 2017

8:30 – 10:00	Business Overview / Strategic Update	David Farr
10:00 – 10:15	Break	
10:15 – 11:15	Automation Solutions	Mike Train
11:15 – 12:15	Commercial & Residential Solutions	Bob Sharp
12:15 – 12:45	Questions & Answers	
12:45 – 2:00	Lunch	

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# Investor Conference – Emerson Attendees

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David Farr	Chairman and Chief Executive Officer
Ed Monser	President
Frank Dellaquila	Senior Executive Vice President and Chief Financial Officer
Ed Purvis	Executive Vice President and Chief Operating Officer
Steve Pelch	Executive Vice President, Organization Planning and Development
Bob Sharp	Executive President, Emerson Commercial & Residential Solutions
Mike Train	Executive President, Emerson Automation Solutions
Sara Bosco	Senior Vice President, Secretary and General Counsel
Mark Bulanda	Senior Vice President, Acquisition Planning and Development
Kathy Button Bell	Senior Vice President and Chief Marketing Officer
Craig Rossman	Director, Investor Relations
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**1** 2016 Review

**2** 2017 Performance Expectations

**3** 2021 Vision for Value Creation

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# 2016 February Investor Day Versus 2016 Actual Performance

<p><b>Step 1: Restructure</b></p>	<ul style="list-style-type: none"> <li>Continue restructuring with cost reductions in line with a challenging global economy, and a smaller, more focused Emerson</li> <li>Global economies are struggling to generate any growth acceleration. Therefore, moderate growth expectations persist through fiscal 2017</li> <li>Maintain year-to-date profitability, cash flow</li> </ul> <p><b>Action:</b> Initiated February 2015 and ongoing through 2016 – 2017, until global growth returns</p> <p>2016 Costs: \$96M<sup>1</sup>; 2017E Costs \$50 – 75M (Including Initial Pentair V&amp;C Integration)</p>	<p><b>2017 Investor Day Status:</b></p> <p> Excellent Progress -- more to be done in 2017</p>
<p><b>Step 2: Reposition</b></p>	<ul style="list-style-type: none"> <li>Complete sales of the Network Power, and Motors &amp; Drives / Power Generation businesses -- Plan to sell ClosetMaid business in 2017</li> </ul> <p><b>Action:</b> Initiated June 2015 -- Targeted to be completed before Dec 31<sup>st</sup>, 2016</p> <p>Both Signed July 30<sup>th</sup>, 2016 -- And Both Closed -- \$5.2B Gross Proceeds</p>	<p> Excellent Progress with Network Power and Motors &amp; Drives / Power Generation -- Both Sold</p>
<p><b>Step 3: Acquire</b></p>	<ul style="list-style-type: none"> <li>Aggressively pursue acquisitions to rebuild the new core, focused Emerson to ~\$20B -- Intent is to reinvest repositioning cash proceeds within two businesses platforms to rebuild sales, earnings, and cash flow</li> </ul> <p><b>Action:</b> Ongoing and increasing focus</p> <p>\$3.15B Bid Accepted for ~\$1.6B Revenue Pentair V&amp;C -- August 2<sup>nd</sup> 2016</p>	<p> Excellent Progress with Valves &amp; Controls <b>Expected Close 3/31/2017</b></p>

<sup>1</sup>From Continuing Ops

# Emerson's 2016 Financial Performance: Continuing Operations Basis

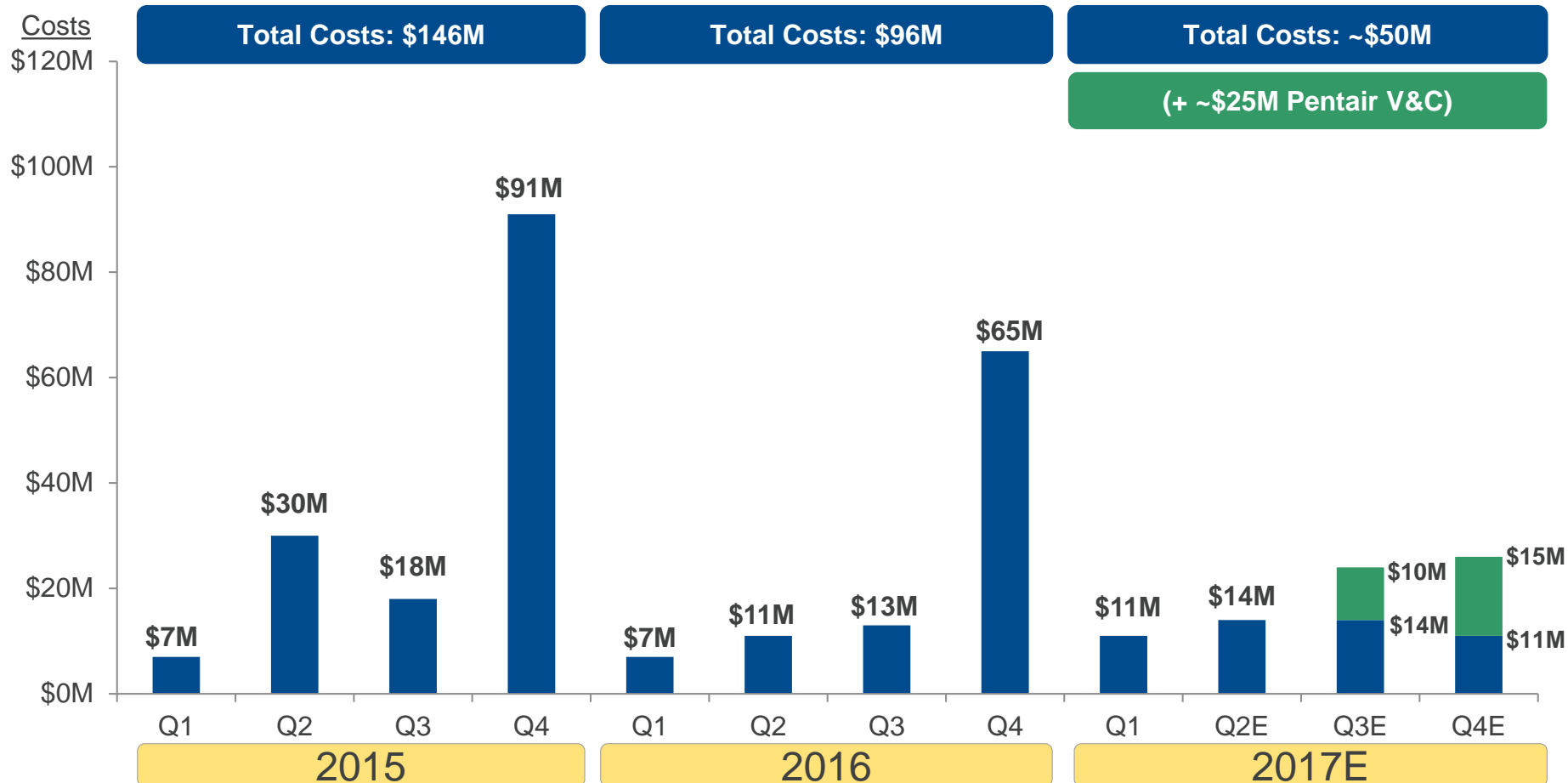
	<u>2015</u>	<u>2016</u>	<u>2015-16 Change</u>
<b>Sales</b>	<b>\$16.2B</b>	<b>\$14.5B</b>	<b>(11%)</b>
<b>Underlying*</b>			<b>(7%)</b>
<b>GP %</b>	<b>43.1%</b>	<b>43.1%</b>	<b>-</b>
<b>EBIT % Adjusted*</b>	<b>18.1%<sup>1</sup></b>	<b>17.2%</b>	<b>(90 bps)</b>
<b>Operating Cash Flow<sup>2</sup></b>	<b>\$2.5B</b>	<b>\$2.9B</b>	<b>14%</b>
<b>Shareholder Payout Ratio</b>	<b>149%</b>	<b>63%</b>	
<b>EPS Reported<sup>2</sup></b>	<b>\$3.99</b>	<b>\$2.52</b>	<b>(37%)</b>
<b>EPS Adjusted<sup>1</sup> *</b>	<b>\$2.81</b>	<b>\$2.45</b>	<b>(13%)</b>
<b>Dividends per share</b>	<b>\$1.88</b>	<b>\$1.90</b>	<b>1%</b>

<sup>1</sup>Excludes gains from divestitures of \$1,039M pretax, or \$0.90 per share in 2015, and discontinued operations in both years

<sup>2</sup>Includes Discontinued Operations

Results Continued to Be Challenged by Relatively Weak Underlying Global Markets in 2016 -- But Our Repositioned Company Is Poised to Benefit From Market Improvements in a 2<sup>nd</sup> Half Recovery in Fiscal 2017 -- Already Underway!

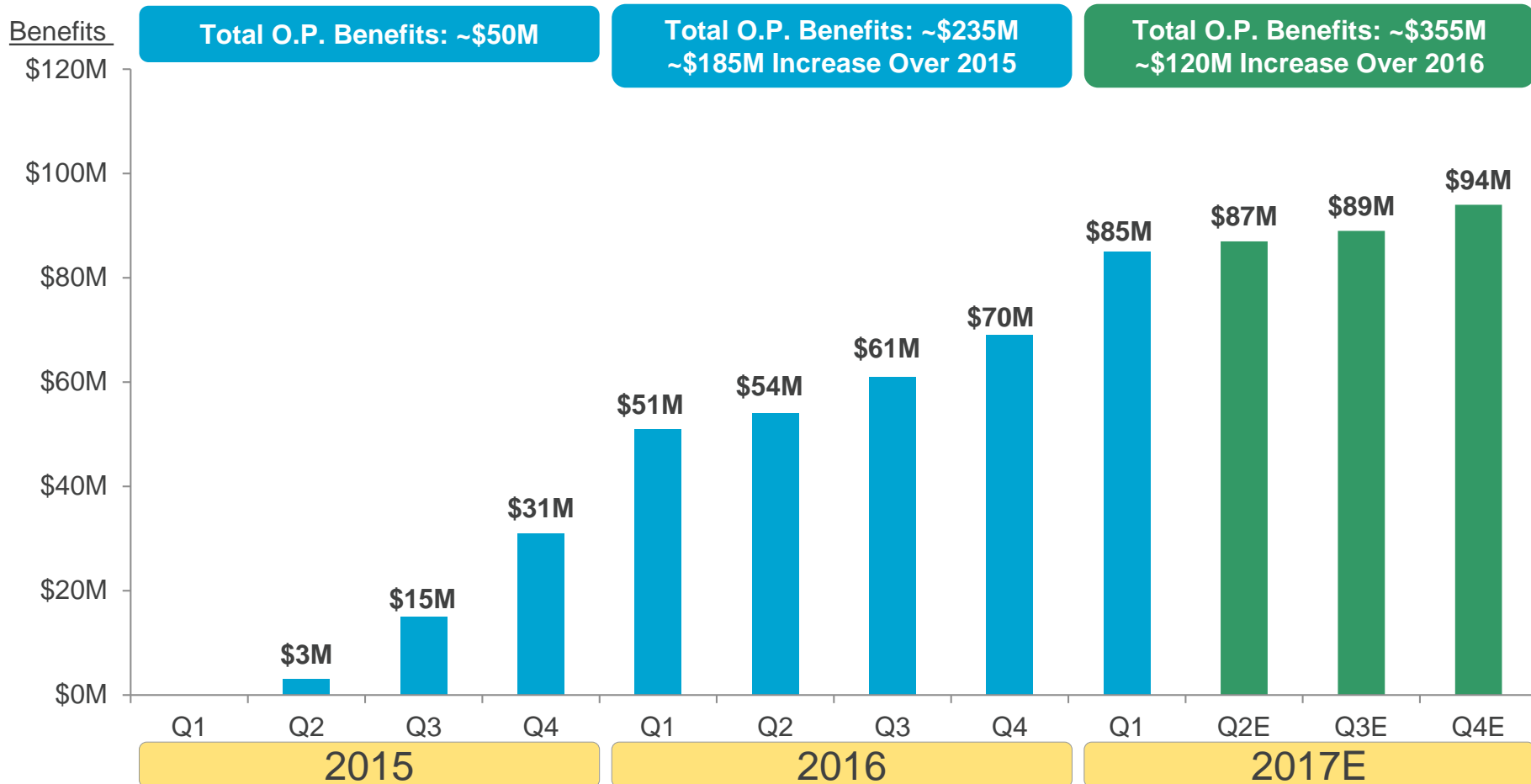
# Restructuring Update -- Costs 2015 – 2017E



Restructuring Is Being Implemented on Plan:

Base Company Restructuring Spend Expected to Decline in 2017 --  
Still Work to Be Done in 2017 and 2018 With Addition of the Pentair V&C Business

# Restructuring Update -- Benefits 2015 – 2017E



Savings Are Flowing Through --  
Forming the Foundation for Profitable Growth in the Future -- Assuming Minimal Benefits in 2017 From Initial Pentair V&C Restructuring

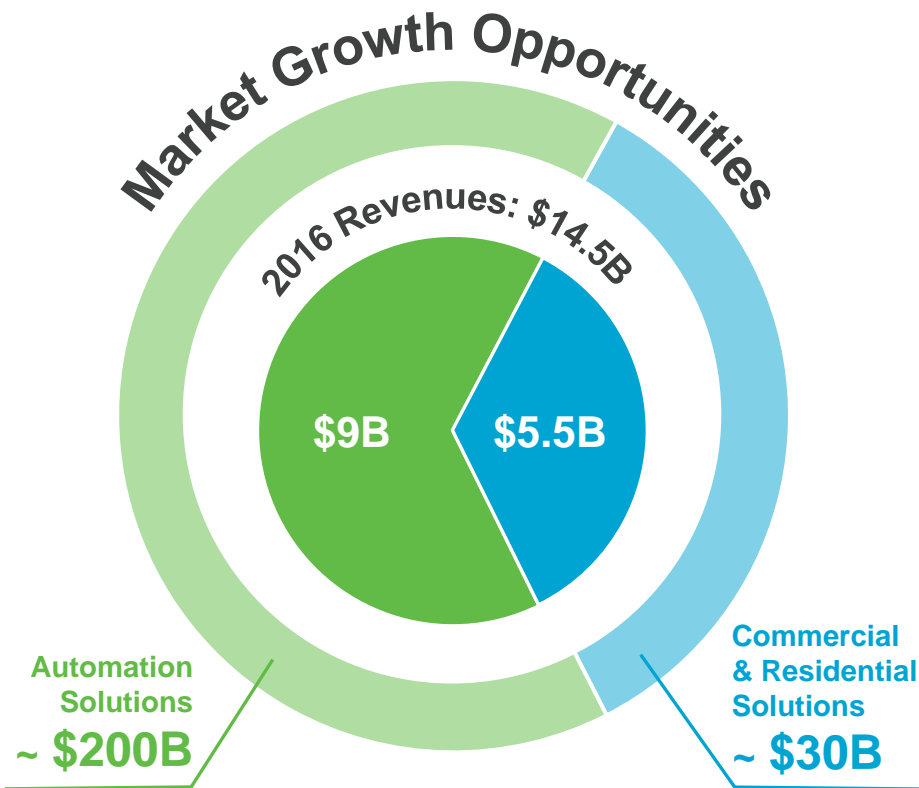
# Emerson Global Presence 2016

## -- As We Start 2017 With the New Emerson

<b>Global</b>	Sales <b>\$14.5 billion</b>	Employees <b>74,000</b>	Locations <b>155</b>
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# Emerson New Business Focus and Market Growth Opportunities



## Market Growth Drivers

### Automation Solutions

- Lifecycle Services
- Hybrid and Discrete Automation
- Wireless Solutions
- Pipeline Management
- Integrated Coordination and Control
- Pervasive Sensing
- Industrial Internet of Things
- Energy Management, Reliability and Safety

### Commercial & Residential Solutions

- HVAC, Refrigeration Lifecycle Services
- Environmentally Friendly Refrigerants
- Sensors, Controls and Connectivity
- Global Disposer Adoption
- E-commerce
- Food and Pharma Transport Solutions
- Food Waste to Energy

Two Strong, Global, Market Leading Business Platforms



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# Next Steps: 2017 Game Plan and Priorities

## Perform as “New Emerson”

- **Finish executing on restructuring plans to right-size cost structure** given global macroeconomic trends and smaller two platform business footprint
- Use cash proceeds and strong cash flow / balance sheet to **aggressively acquire and enable organic growth**
- Position company to fully **capitalize on pending global energy market recovery**

## 1. Fully Integrate Acquisitions

- Aggressively execute on initial cost and revenue synergy plans
- Explore additional synergy opportunities as they emerge

Critical for Pentair V&C

## 2. Continue Rationalizing Base

- Continue rationalization and restructuring of our 2 core platforms -- **Perfect Execution**
- Boost profitability, creating a leaner organization positioned for premium growth and premium valuation -- **Key to Controlling Our Own Destiny**

## 3. Position and Execute for Growth

- Pursue both organic growth opportunities and acquisitions, especially in Process / Hybrid / Discrete Automation and Commercial & Residential areas
- Execute **deals worth ~\$3B, adding ~\$2B to total sales by 2021**, in addition to the acquisition of Pentair V&C
- Potential for **additional \$1-2B strategic acquisition for another ~\$1B of sales**
- Regrow Emerson to \$20+B in annual revenues by 2021, recover lost earnings and cash flow

In 2017, Our Organization Will Be Aligned Towards Executing on These Strategic Priorities as We Benefit From Improvement in Our Core Markets and the Critical Integration of the Pentair V&C Acquisition

# Emerson's 2017 Key Financial Guidance -- The Current Business Make-Up

	<u>2016<sup>1</sup></u>	<u>2017E Forecast<sup>1</sup></u>	<u>% Change 2016-17E</u>
Sales (GAAP)	\$14.5B	\$14.1 – \$14.4B	(3%) – (1%)
Underlying Growth*	(7%)	(2%) – 0%	
Gross Margin	43.1%	~43.4%	+30 bps
EBIT Margin*	17.2%	~17.9%	+70 bps
EPS Reported Continuing Ops	\$2.45	\$2.47 – \$2.62	1% – 7%
Dividends Per Share	\$1.90	\$1.92	+1%
Operating Cash Flow	\$2.5B	~\$2.5B	~ Flat
Cash Returned to Shareholders	\$1.8B	~\$1.5B	

<u>Global GFI: FY 2017</u>	<u>2016-17E</u>
<u>Assumptions</u>	<u>% Change</u>
U.S.	2.0% – 3.0%
Canada	(2.5%) – (1.5%)
Europe	1.0% – 1.5%
Middle East & Africa	0.5% – 1.5%
China	4.0% – 5.0%
Asia Pacific Excl. China	2.0% – 3.0%
Latin America	(3.0%) – (2.0%)

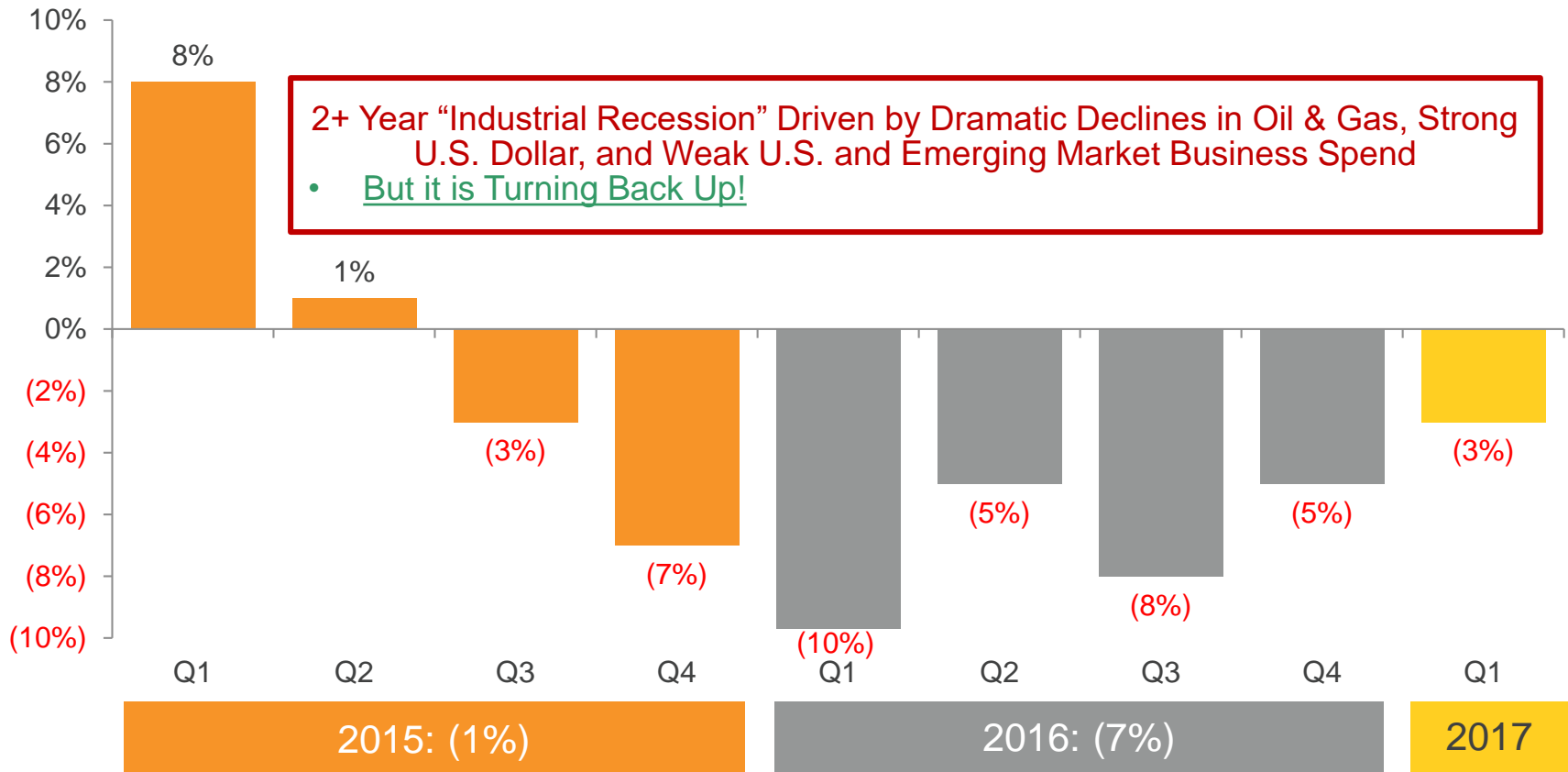
## Other 2017 key assumptions:

- Currency Headwinds ~(\$0.2)B
- Tax Rate: ~29%
- 2017 Share Repurchase: ~\$250M
- Acquisitions: ~\$3.65B (includes Pentair V&C)
- Capital Expenditures: ~\$475M, ~3.5% of sales
- Price – Cost: Expected to be in the range of (\$25)M to \$0M

<sup>1</sup> Continuing Operations; 2017 excluding Pentair V&C

# Quarterly Underlying Sales\* Growth

Emerson underlying sales growth (year over year change by quarter)

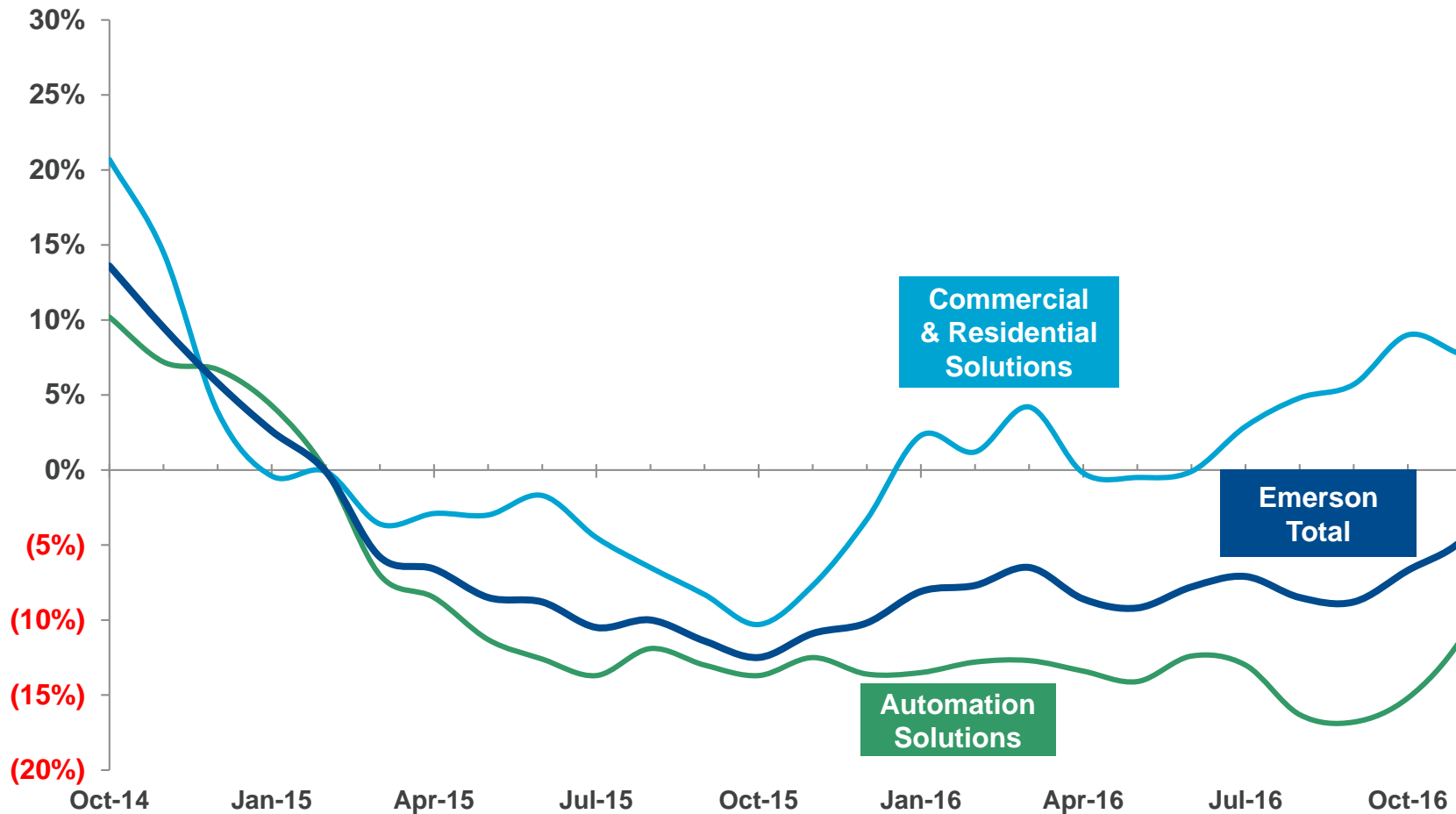


Note: All data shows Emerson continuing operations

Emerson and Many of Our Core Markets Entered an Industrial Capital Spend Recession in the 2<sup>nd</sup> Quarter of 2015. However, We Are Starting to See Some Signs of Stabilization and Recovery in Early 2017

# Underlying Order Trends

## Trailing 3-Month Average vs. Prior Year



Orders at FY17 Base Company

Trailing 3-Month Underlying Orders Decreased 0.3 Percent in December, a 4.4 Point Improvement Versus Prior Month

# World Gross Fixed Investment (GFI) Trends

## 2017 Expectations for Mature Markets

### Canada

- Improved outlook for commodity prices driving GFI growth
- Low Canadian Dollar will bolster exports

**2016: (4.4%)**  
**2017E: (2.0%)**

### Europe

- Brexit-related uncertainties, political instability, and banking problems will restrain Western European growth
- Russia's economy stabilizing

**2016: 2.2%**  
**2017E: 1.0%**

### United States

- Pickup in non-residential market and energy sector driving improved 2017 GFI
- Expected tax and regulation reforms driving improved business outlook

**2016: 1.4%**  
**2017E: 2.5%**

### World

**2016: 1.4%**  
**2017E: 2.2%**

Source: IHS Economics and Emerson Management Assessment

We Expect Mature Market Growth to Be ~1.7% in 2017  
And Total World GFI Growth of ~2.2%!

# World Gross Fixed Investment (GFI) Trends

## 2017 Expectations for Emerging Markets

### Middle East & Africa

- Low oil prices, fiscal tightening, and regional instability, have restrained growth
- Rising commodity prices are helping to revive growth -- some investments are starting to happen

**2016: (0.5%)**

**2017E: 1.0%**

### China

- Expected to slow further due to imbalances in credit, housing, and industrial markets -- excess capacity
- Input costs and output prices rising
- Still see pockets of growth for Emerson sectors

**2016: 4.5%**

**2017E: 4.0%**

### Latin America

- **Mexico's** economy depends on U.S. trade and immigration policies -- But the only real growth chance in 2017
- **Brazil's** recession is abating, but recovery / growth is far from certain

**2016: (7.4%)**

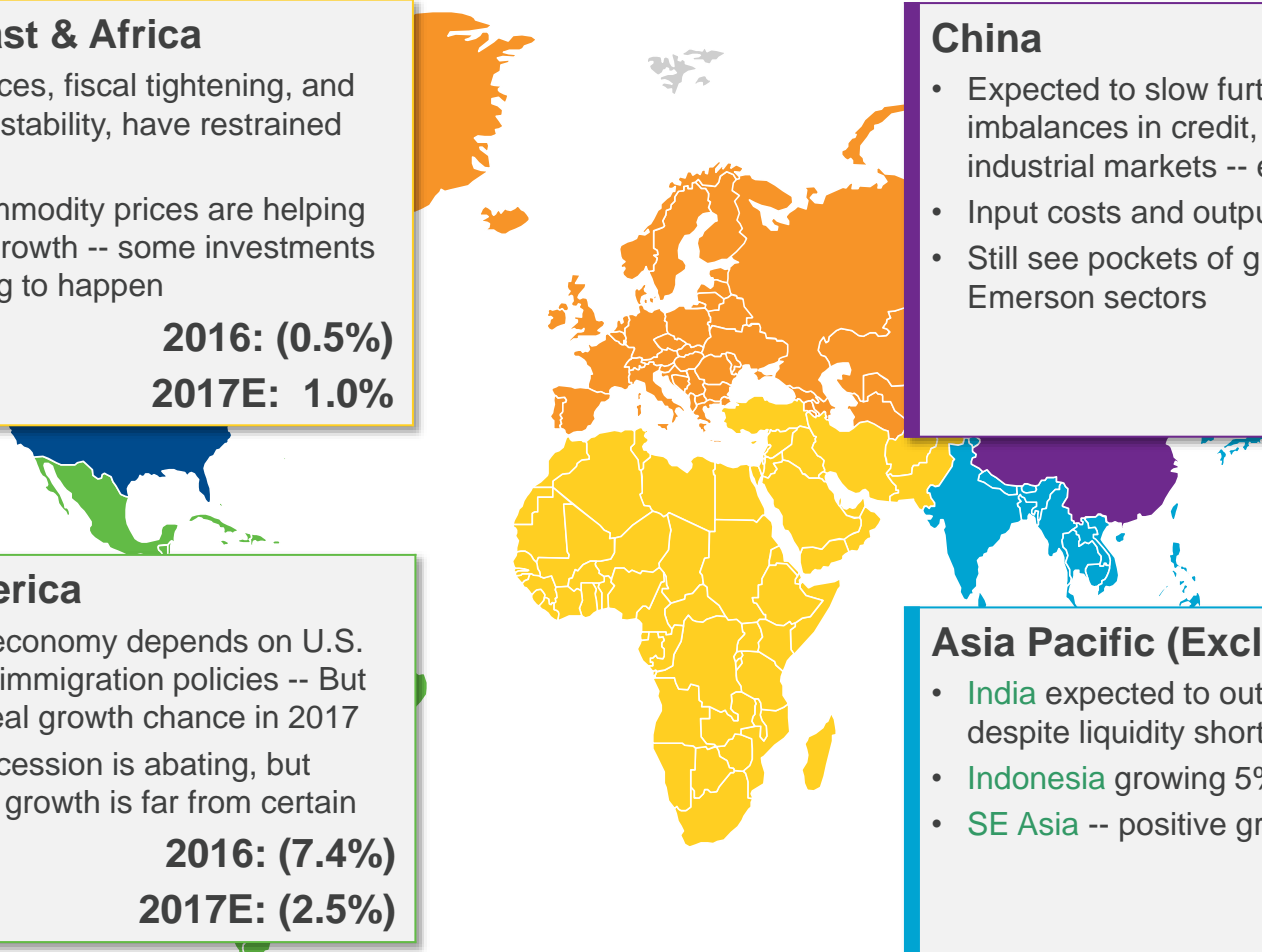
**2017E: (2.5%)**

### Asia Pacific (Excluding China)

- **India** expected to outpace China despite liquidity shortages
- **Indonesia** growing 5%+
- **SE Asia** -- positive growth

**2016: 0.5%**

**2017E: 2.5%**



Source: IHS Economics and Emerson Management Assessment

We Expect Emerging Market Growth to Be ~2.7% in 2017  
And Total World GFI Growth of ~2.2%!



# Oil & Gas Industry Capital Expenditures Priorities and Outlook

Total Industry  
CapEx

2010-2014



~\$3.6T

During the “**investment boom**” in a **high oil price environment**, many oil and gas customers executed capital projects very quickly, often sacrificing execution to bring projects online as fast as possible – **Speed was paramount to deliver increased revenue, not efficiency or operational excellence**

2015-2016



~\$1.1T

In the “**industry reset**” **low oil price environment**, new capital projects were delayed and poor performing assets were closed, as customers instead focused on **maximizing efficiency of their higher performing assets**

2017-2021



~\$3.2T

In the “**new normal**” paradigm, we expect many customers to **maintain caution** with their new project spending, but maintenance and replacement **will grow roughly in line with demand growth**. Meanwhile, **remaining producers can operate profitably at \$50-60 oil**

## Wall Street Journal “U.S. Oil Producers Ramp Up Spending” 20 Jan 2017

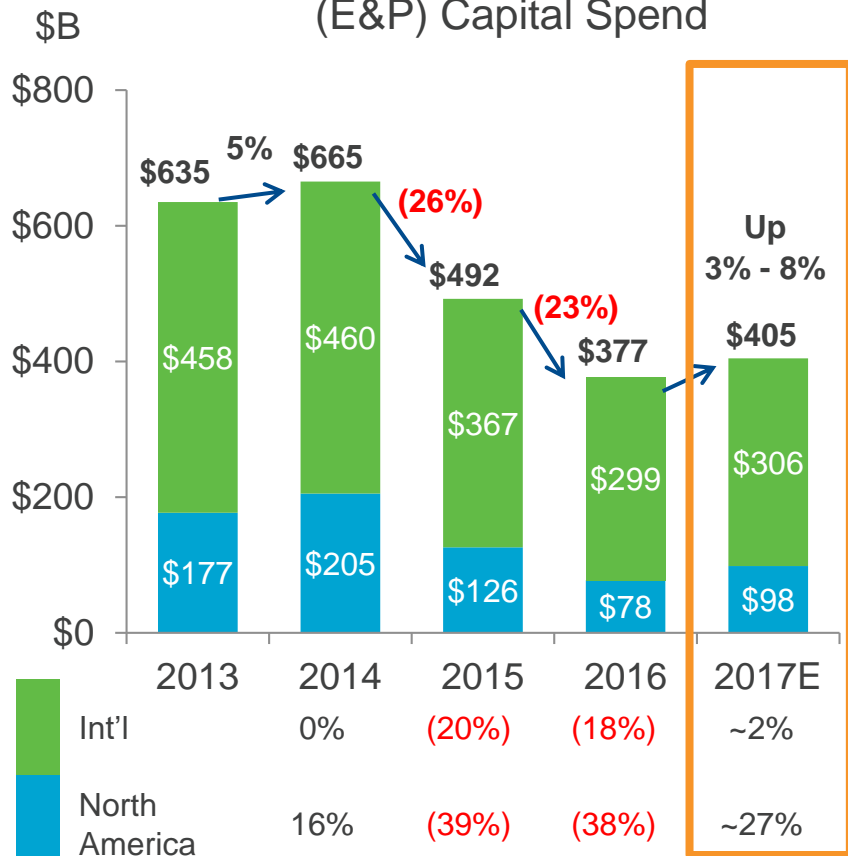
- “Preliminary capital spending plans released in recent weeks...show an average of 60% budget increase for the group.”
- “Several U.S. oil producers...have said that advanced technology and efficiency gains implemented during the downturn will allow them to not just survive but thrive.”

Source: IHS Economics and Emerson Estimates

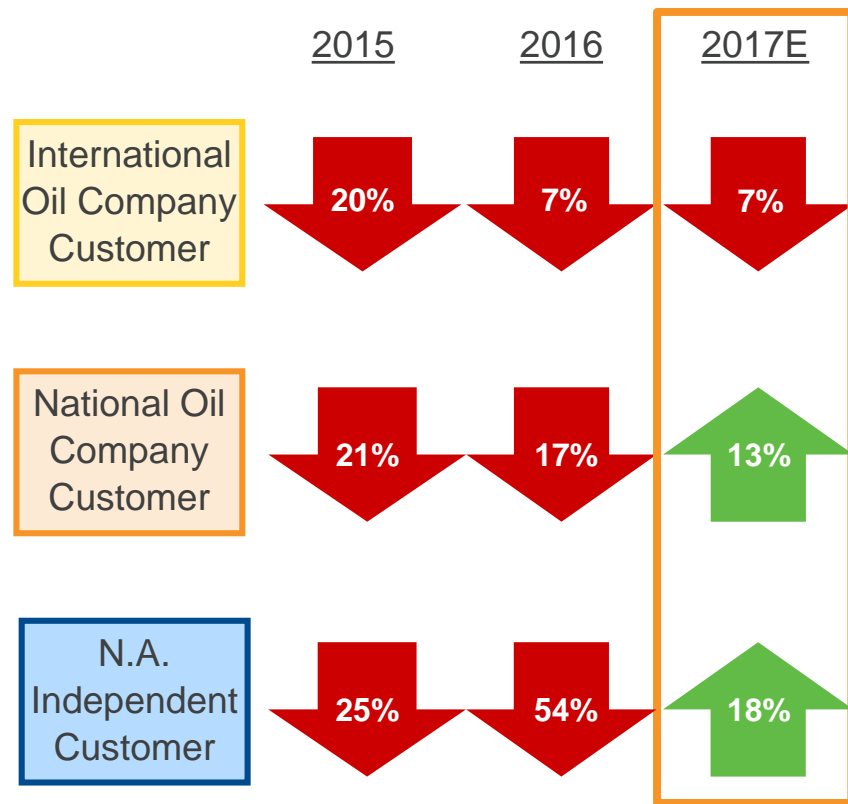
Oil & Gas Customers Will Focus on Operational Efficiency and Cash Maximization in the Near Term -- As Oil Prices Stabilize, MRO Investment Will Pick Up, and Customers Will Begin Reviving Previously Shelved Exploration and Production Projects

# 2017 Outlook For Oil & Gas Capital Spending

## Global Exploration and Production (E&P) Capital Spend




## Key Customers Capital Expenditures



Source: Barclays Sept 2016 Report, Worldwide E&P Capital Spending 2013 – 2017E, Capital IQ, Emerson Assessment

We Expect the Capital Spending for Our Large Customers to Be Mixed in 2017, But Stabilizing, after 2 Years of Sustained Heavy Reductions, Due to Increased Confidence in the Price of Oil Between \$50 – \$60+


# Automation Solutions -- 2017 End Markets Outlook



**O&G Exploration & Production**

2017E: (5%) – (6%)


Increase in investment led by North American onshore projects; international spending flat, offshore uptick still on hold



**O&G Midstream**

2017E: (3%) – (5%)


Continued investment in LNG storage and pipeline constructions and expansions



**Hybrid Industries**

2017E: 0% – 2%


Aging population and growing middle class driving Life Sciences demand; weak commodity pricing persists in Metals & Mining



**Chemical**

2017E: 0% – 2%


Favorable feedstock costs continue further expansion of ethylene and methanol capacity in the U.S.



**Power**

2017E: 0% – 1%


Regulatory standards, increase in emerging market demand generating project activity



**Refining**

2017E: (2%) – (4%)

Declining margins to slow projects but activate maintenance spending



**Discrete Industries**

2017E: 1% – 3%

Emerging market urbanization and industrialization

# Commercial & Residential Solutions -- 2017 End Markets Outlook



## Residential A/C



**2017E: 4% – 5%**

Solid housing starts; summer weather is key driver



## U.S. Home Improvements



**2017E: ~ 5%**

Driven by improved consumer wealth and increase in spending



## U.S. Non- Residential Construction



**2017E: 5% – 7%**

Aided by growth in manufacturing construction



## U.S. Residential Construction



**2017E: 5% – 7%**

Increased housing starts and private residential spending



## Commercial A/C



**2016E: 3% – 5%**

New efficiency standards drive modulation technology adoption



## Transport



**2017E: 2% – 4%**

Asia rail, truck & trailer driving market demand



## U.S. Housing Starts



**2017E: ~ 7%**

Robust building permits, and elevated homebuilder optimism fuel the growth

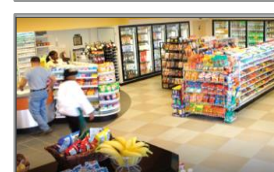


## Commercial Refrigeration



**2017E: 1% – 3%**

DOE & EPA regulations creating widespread redesigns



## Retail Solutions

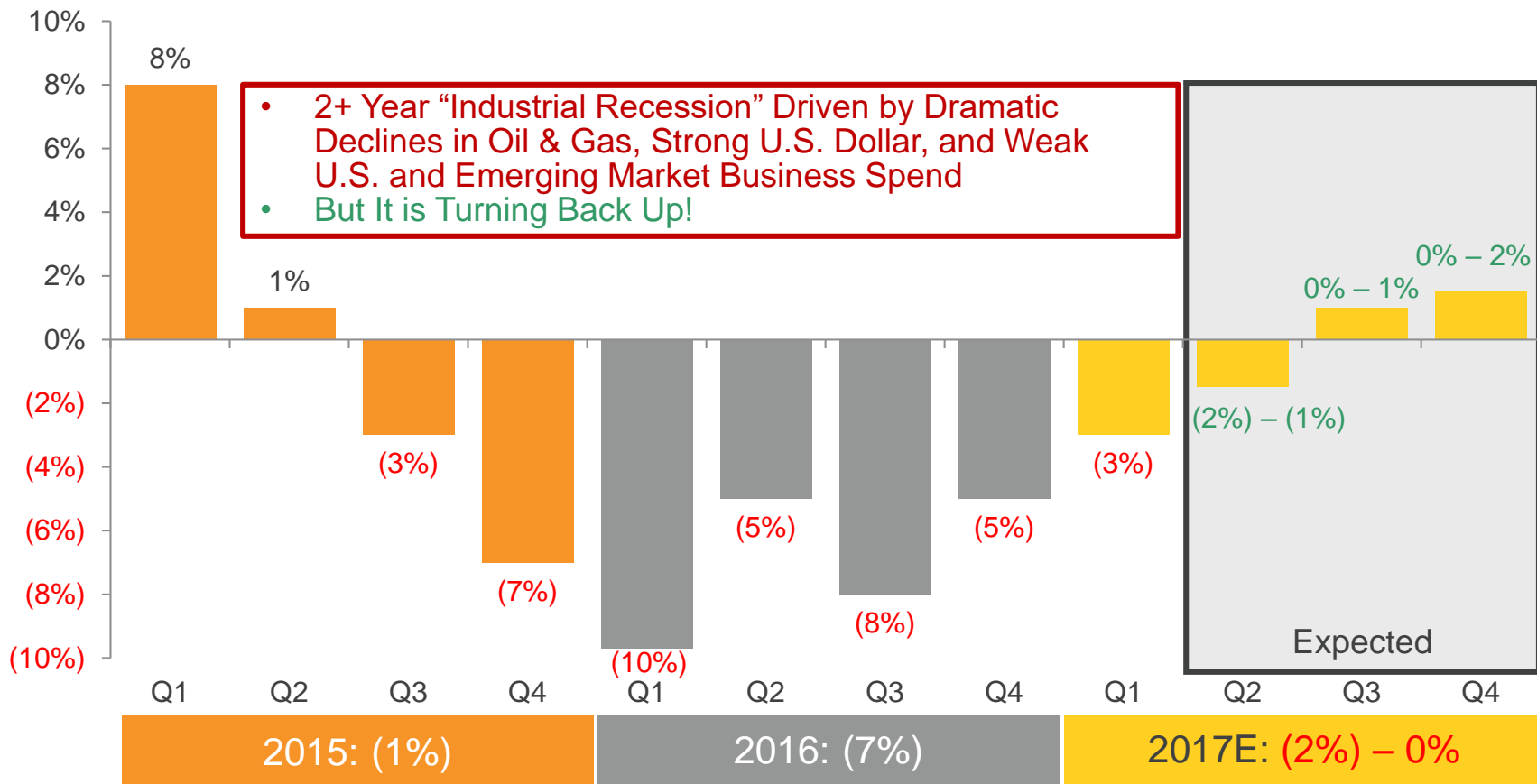


**2017E: 2% – 3%**

Rising energy costs, food quality management & profitability

# Quarterly Underlying Sales\* Growth -- Finally Turning Positive

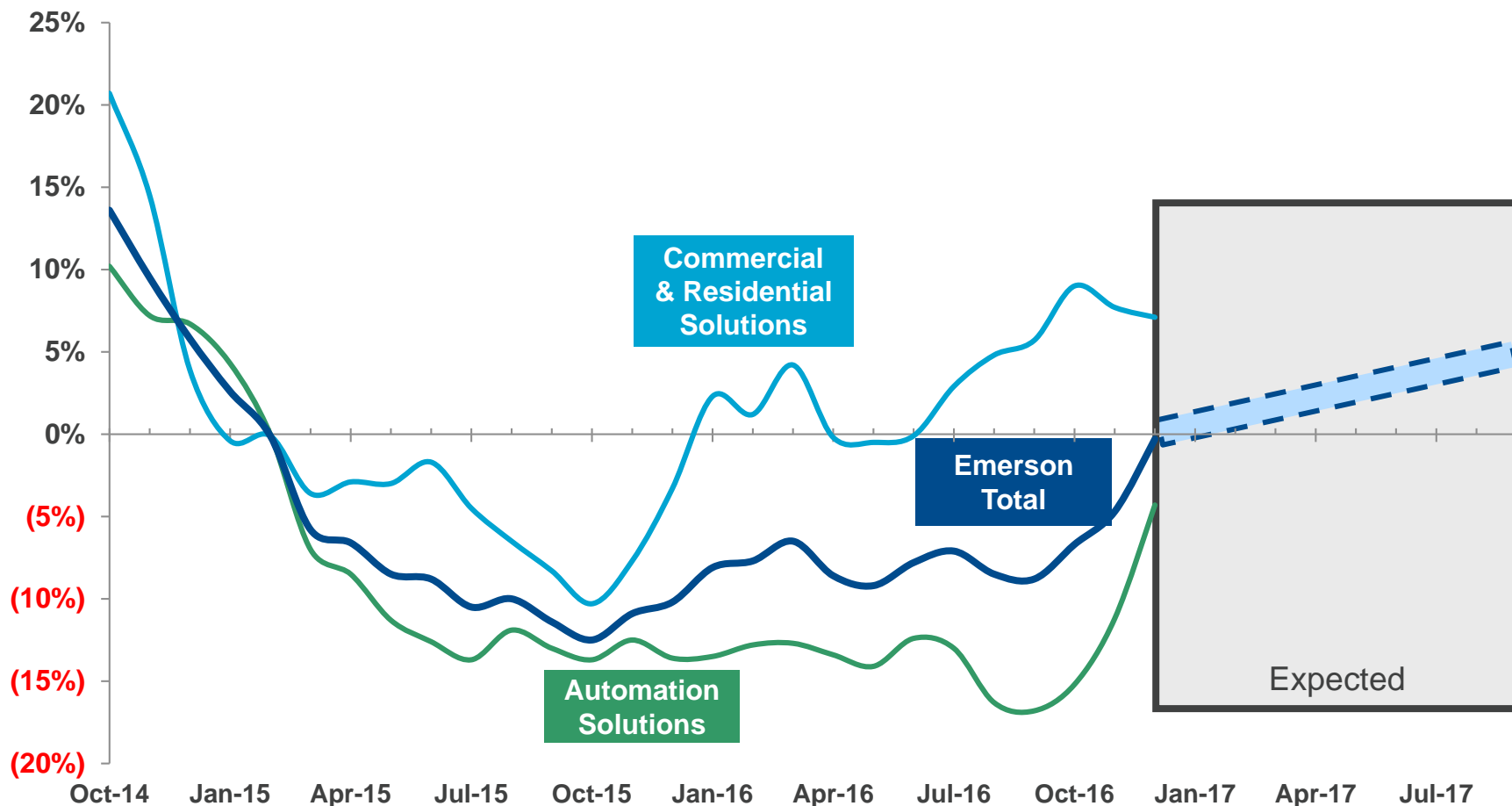
Emerson underlying sales growth (year over year change by quarter)



Note: All data shows Emerson continuing operations

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# Underlying Order Trends Trailing 3-Month Average vs. Prior Year



Note: Orders at FY17 Base Company

We Anticipate the Recent Recovery in Automation Solutions Orders to Continue to be Positive for 2<sup>nd</sup> Half of 2017. Combined with Strong Commercial & Residential Solutions Orders, We Should See Positive Overall Orders Momentum Through the End of 2017!

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# New Presidential Administration: Mixed Outlook --- The Next 180 Days Will Be Telling

Initiative	Business Impact	Commentary
Shelving of Trans Pacific Partnership (TPP)		By relinquishing its role as a trade leader in the region, the U.S. might possibly be opening the door for Chinese influence -- Need to re-engage our trade strategy
Repeal of Obamacare		Expected to consume a significant amount of the government's time and effort -- May delay other business policy priorities
Infrastructure Spending		An organized effort to repair roads, bridges, and undertake other infrastructure projects will bolster industrial investment
Corporate Tax Overhaul		Simplification and reduction in the corporate tax rate will likely positively impact corporate earnings
Cash Repatriation Holiday		Opportunity to free up "trapped cash" abroad and re-deploy within the U.S.
Personal Pressure On Outsourcing and Imports		New administration has set a strong precedent for publicly engaging companies that have plans to migrate production to Mexico or other low cost countries

The New Administration's Prioritization and Sequencing of Policy Initiatives Will Be Very Important -- Emerson Must Be Nimble in Our Approach to this Dynamic Regulatory Environment -- We Are Ready for Anything but Planning Many Scenarios Right Now -- Net, Net it Will Be Positive for U.S. Multinationals

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# 2017 Expectations

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- Continue to see slightly better **economic activity** in the U.S., Europe, and Asia-Pacific -- But do see some negative headwinds from Washington D.C. rhetoric around protectionism and new tax policies
- **OPEC production cuts** will support oil prices spurring a **modest recovery** in our core Automation Solutions End Markets -- Also improved global economic activity helps higher oil prices / output
  - Orders will flatten and turn positive by 2<sup>nd</sup> half of fiscal 2017 (maybe even Q2), driving **underlying sales\* of (2%) – 0% for the year**
- Continued margin **benefit from restructuring efforts** during the downturn → improved EBIT margin, solid operating margin, and better cash flow
- **Completed repositioning efforts will enable the more focused Emerson to make value added investments and acquisitions for sales and earnings growth**

Sales and Earnings Will Turn up as Emerson Key Strategic Actions Position Our Company for an Improvement in Core Markets in 2017 -- Will Improve Quarter by Quarter Based on Current Trends

# Emerson's 2017 Key Financial Guidance -- The Current Business Make-Up

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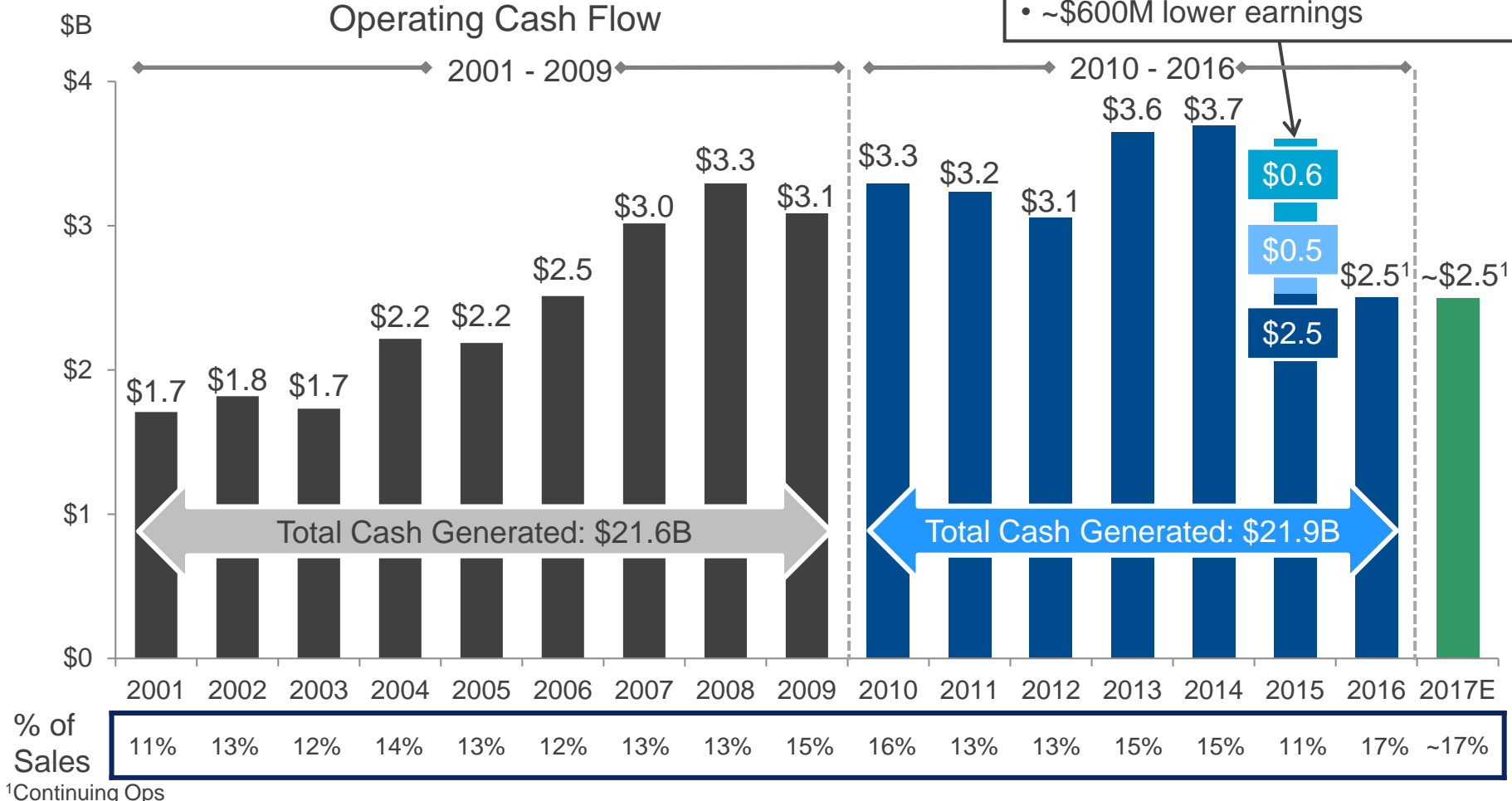
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Latin America	(3.0%) – (2.0%)

## Other 2017 key assumptions:

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- Tax Rate: ~29%
- 2017 Share Repurchase: ~\$250M
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- Price – Cost: Expected to be in the range of (\$25)M to \$0M

<sup>1</sup> Continuing Operations; 2017 excluding Pentair V&C

# Emerson Has a History of Strong Cash Flow Generation



We Will Continue to Generate Strong Cash Flow as the New Emerson to Fund Internal Investments, Increasing Dividends, Share Repurchases, and Acquisitions

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# Repositioning Nearly Complete: Acquisitions & Divestitures Update Financial Impact

## Continuing Operations



We now expect earnings from continuing operations to be **\$2.47** -- **-\$2.62 per share** for Fiscal Year 2017 -- up from \$2.45 per share in 2016

## Divestiture Closures



The sale of Network Power, Leroy-Somer and Control Techniques are done -- cash received. Final cash repatriation will occur later this year and all closing transactions will be completed in our 2<sup>nd</sup> quarter

## Pentair V&C Deal Closure



We expect to see the deal closure delay until end of March and be **slightly EPS dilutive** including restructuring and intangible amortization but excluding one time purchase accounting impact -- Cash flow accretive!

## Repatriation Efforts



**Q1 and Q2 tax bookings ~\$100M<sup>1</sup>**, but we expect to hold off on **~\$900M** of repatriation efforts in Fiscal Year 2017 until comprehensive tax reform or a repatriation holiday is announced -- later 2017

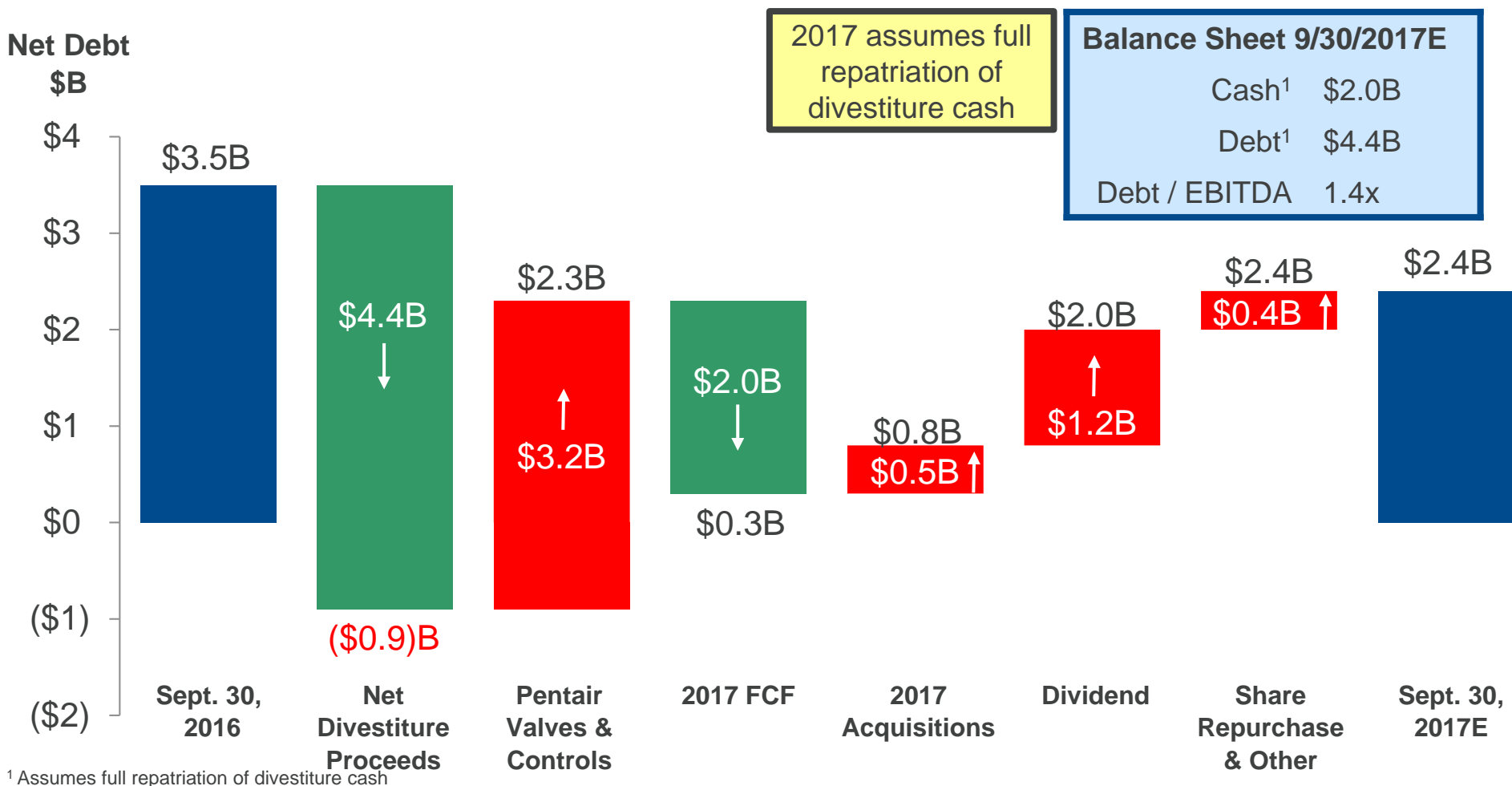
<sup>1</sup>Reported in discontinued operations

<sup>2</sup>Subject to conclusion of ongoing regulatory reviews

Note: Outlook excludes Pentair V&C

Two Large Divestitures Are Done -- We Have \$5.2B in Gross Proceeds From Divestitures -- \$1.6B Repatriation in 2017 -- Remaining Depends on New Tax Policies -- Pentair V&C Should be Closed by End of March 2017<sup>2</sup>

# Net Debt Reduced to \$2.4B by End of Fiscal 2017



Our Balance Sheet Supports Additional Acquisitions and Is Very Liquid and Flexible for the Right Strategic Moves

# Pentair Valves & Controls Acquisition Update

## Fiscal 2017<sup>1</sup>

- Acquisition is projected to be **cash accretive** -- **~\$75M Operating & ~\$45M Free Cash Flow**
- **EPS is slightly dilutive** including ~\$25M of restructuring spend & intangible amortization of ~\$50M
- **Excludes one-time purchase accounting actions at closing** -- estimate of \$225M to \$275M, (\$0.25) to (\$0.30) per share
  - Profit in inventory and backlog hurts 2017 / 2018 P&L. Expected to be recognized within 6 to 12 months after close

## Years 2 Through 5

- Continued intangible amortization of ~\$100M per year, (\$0.11) per share
- **Additional restructuring spend of ~\$175M** over the next 24 months
- **Synergy opportunity is ~\$200M**, net of SG&A investments
- **Year 5 sales target of ~\$2B** including synergies on the acquired business

<sup>1</sup> Assumes six months of contribution from Pentair V&C acquisition

V&C Acquisition Is Projected to Be Cash Accretive Immediately and EPS Accretive in Year 2. Sales Synergy Opportunity Represents Significant Upside

# Delivering Pentair Valves & Controls Acquisition Success Through Integration

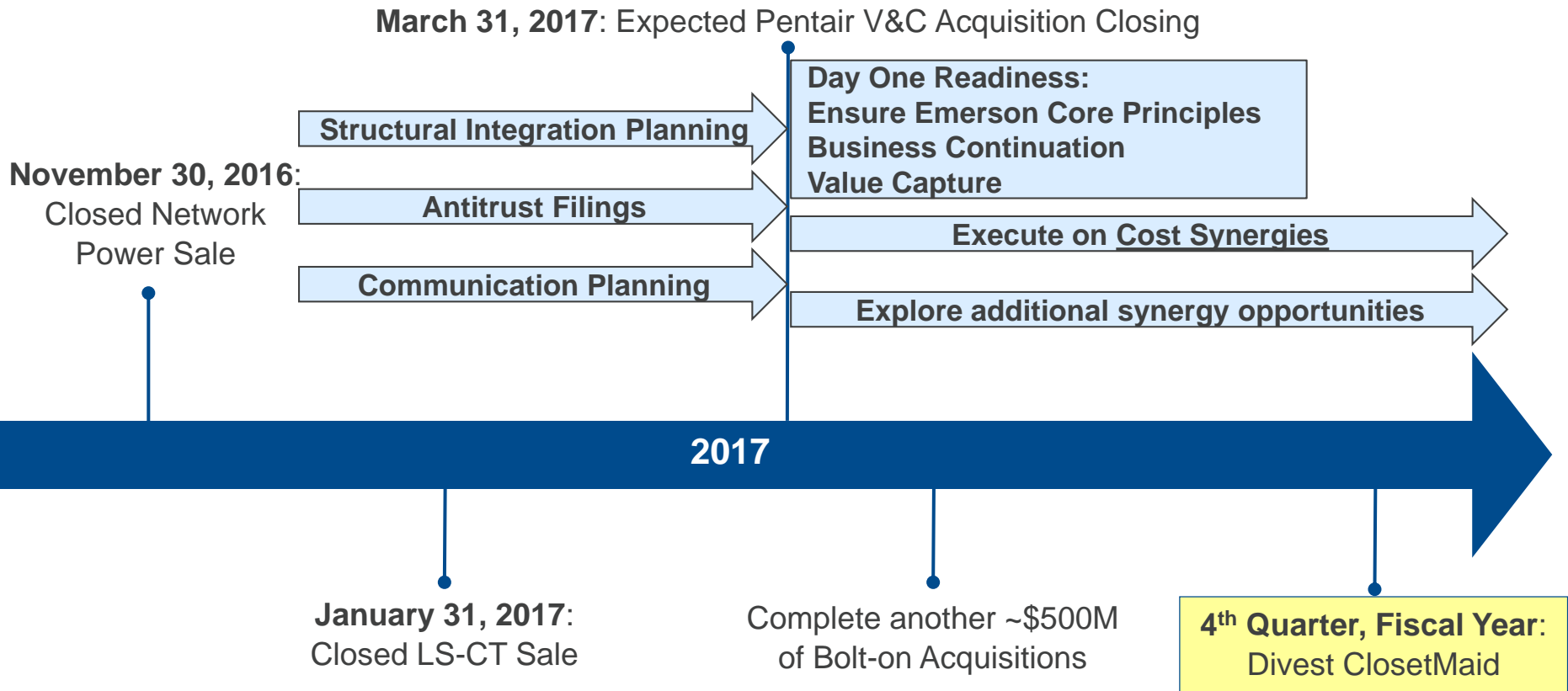
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- We picked the right target, that **fits the Emerson DNA** and growth strategy
  - We know the industry, we know the products, we know the channel, we know the customers. Emerson has done this before -- similar to the Fisher Valves Acquisition
- The Synergy Board Plan for Final Control + Pentair V&C is **heavily focused on cost in the early years, then on growth synergies** as we move past Year 2
- The identified cost actions are **known, achievable** and **begin immediately upon deal closure**
  - Pre-close period focuses on “Day One” readiness
- Synergy sales coincide with expected market recovery (2018)
- Valves & Controls’ Balance Sheet / Working Capital provides an **opportunity to drive early cash accretion**
- We continue to **identify additional synergies**
- **Dedicated focused resources** for critical activities such as integration

We Have Identified the Synergies and Know How to Get Them --  
And the Team and Consolidated Organization Will Be in Place on Day 1

# After Completing Multiple Major Accomplishments in 2016, 2017 Requires Executing the Final Critical Details

## Timeline for Key Strategic Actions



2016 Was the “Transition” Year -- 2017 Will Be the “Foundation” Building Year as Our Two Platforms Return to Growth, We Begin the Integration of Pentair V&C, and We Build a Stronger, More Focused Emerson

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# Agenda

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**1** 2016 Review

**2** 2017 Performance Expectations

**3** 2021 Vision for Value Creation

# Agenda

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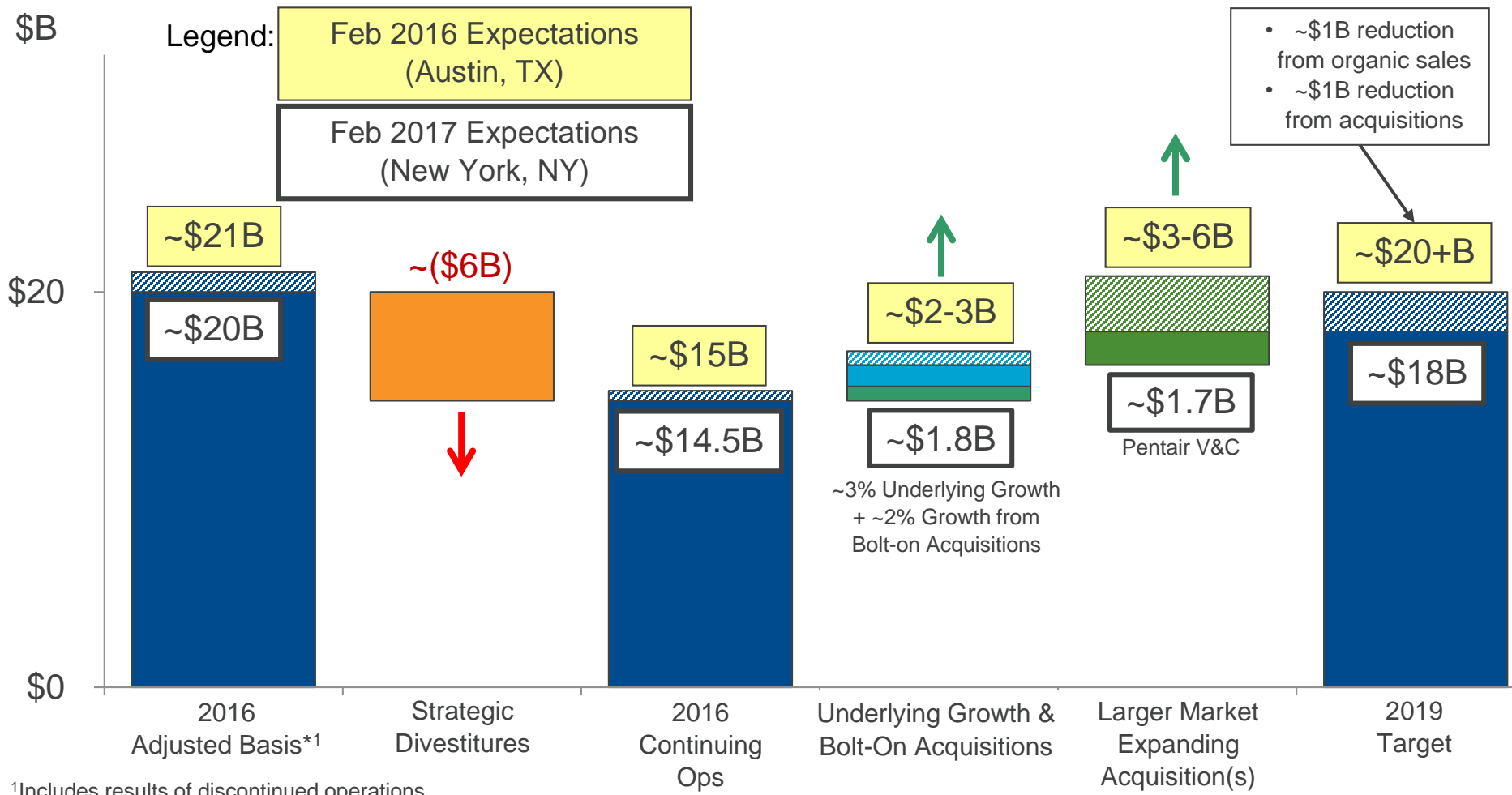
**1** 2016 Review

**2** 2017 Performance Expectations

**3** 2021 Vision for Value Creation



# 2016 Investor Conference (Austin, TX) Bridge to 2019 Sales Compared to Current Expectations

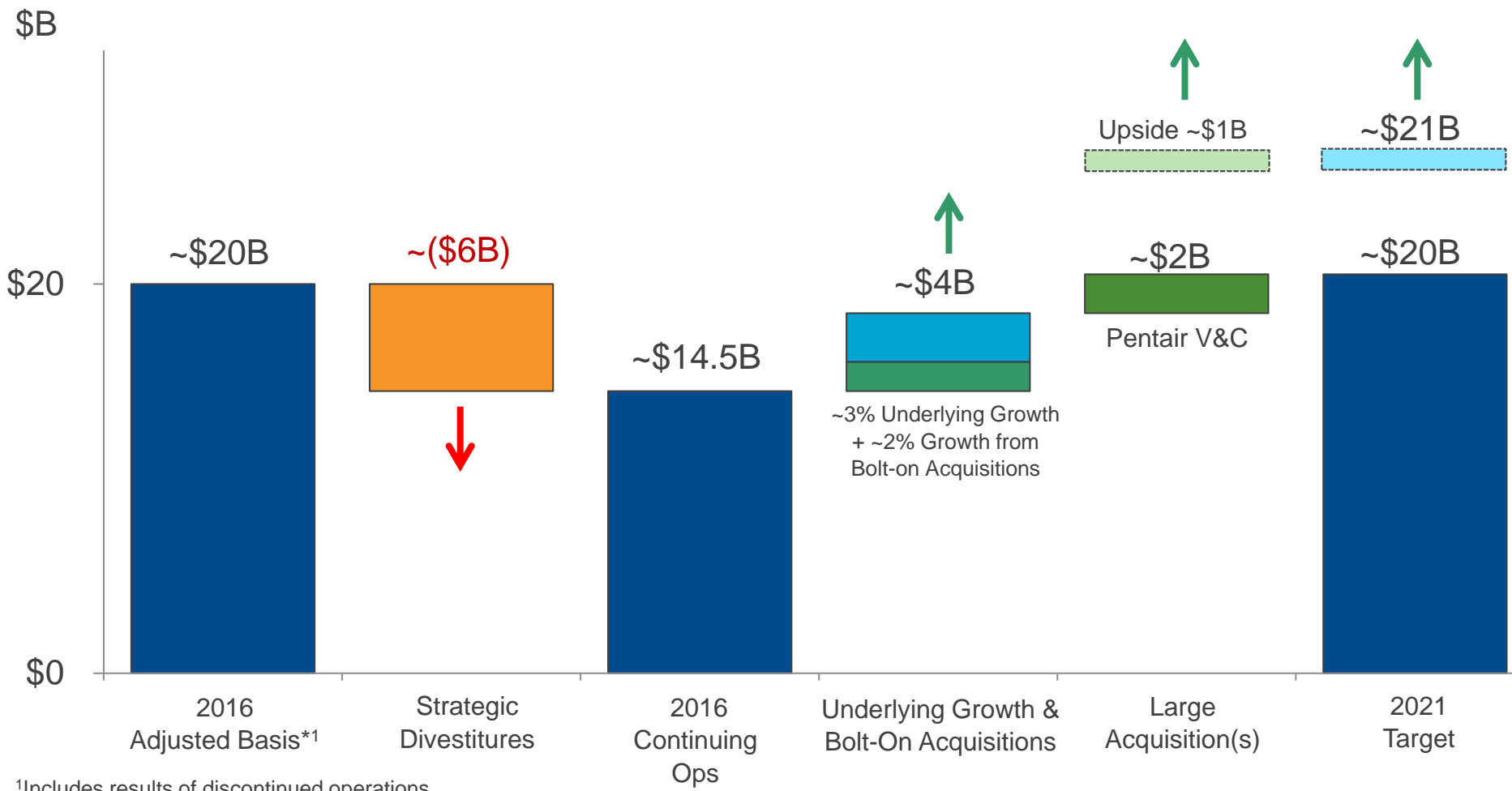


<sup>1</sup>Includes results of discontinued operations

The Rebased Emerson Has Solid Internal Growth Opportunities Along With Smaller Bolt-On Acquisitions and Potential Larger Strategic Acquisitions (Like Pentair V&C)

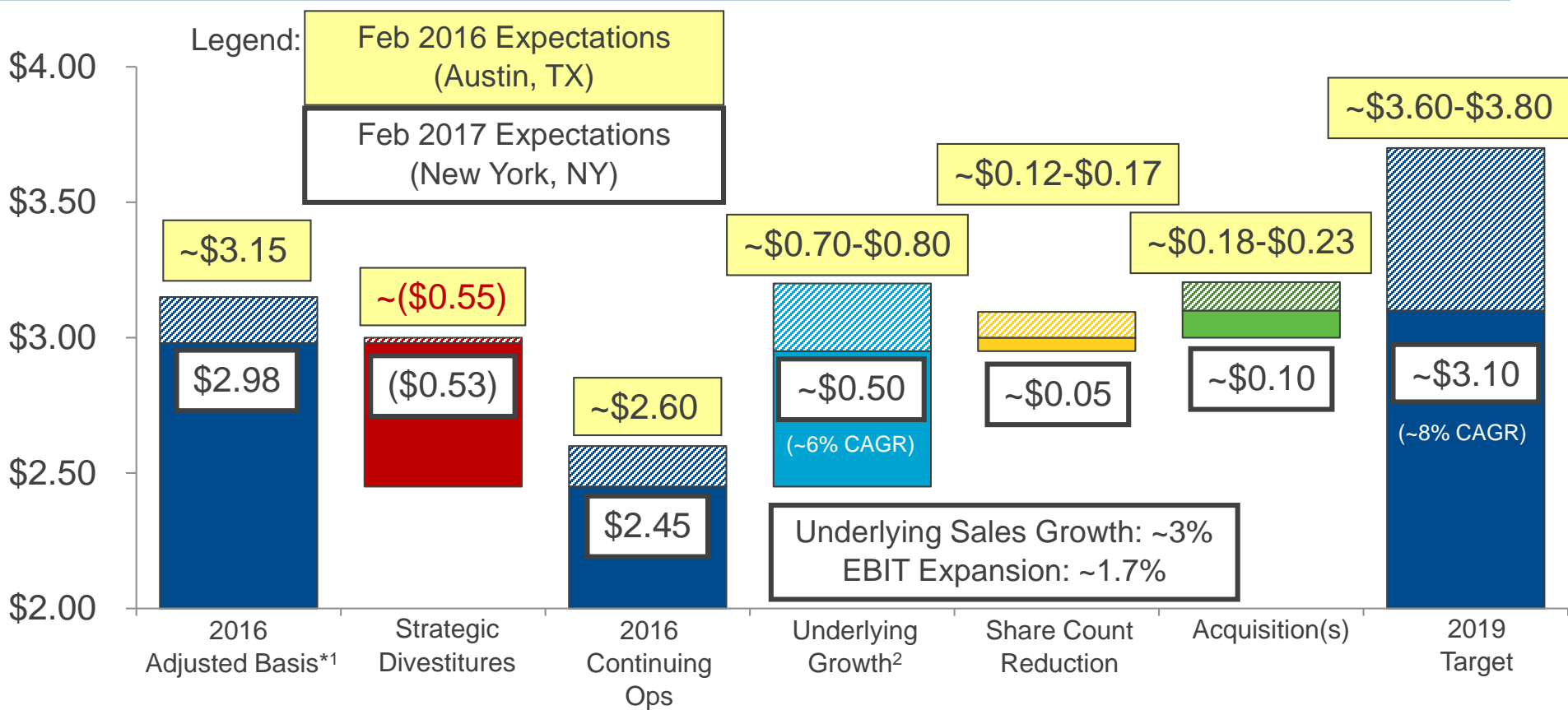
# 2017 Investor Conference (New York, NY)

## Bridge to 2021 Sales



The Rebased Emerson Has Solid Internal Growth Opportunities Along With Smaller Bolt-On Acquisitions and Potential Larger Strategic Acquisitions (Like Pentair V&C)

# 2016 Investor Conference (Austin, TX) Bridge to 2019 EPS Compared to Current Expectations



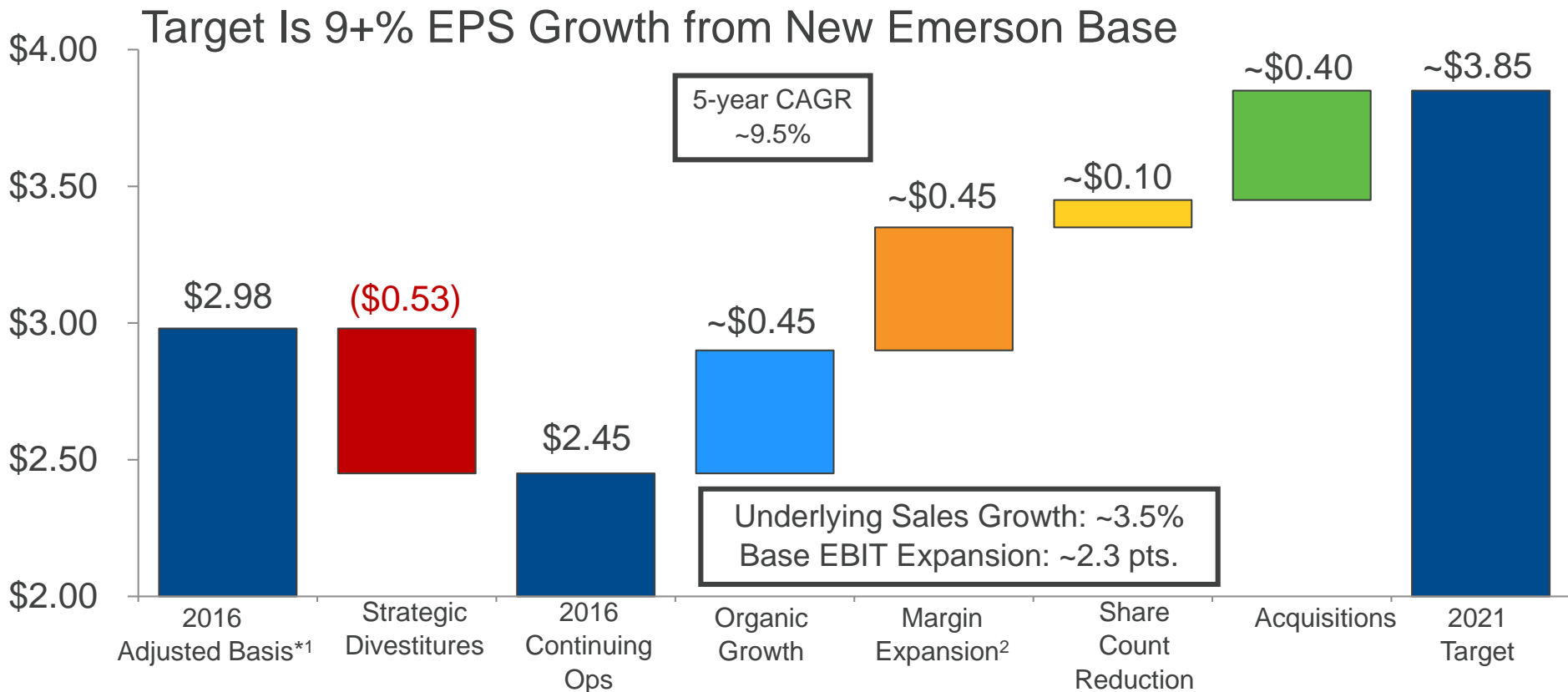
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<sup>2</sup> Includes interest reduction

The Goal of the New, Smaller, More Profitable Emerson Is to Grow Faster, Expand EBIT Margins, and Increase Acquisitions to Drive a Faster EPS Growth Company Through This 5 Year Planning Horizon

# 2017 Investor Conference (New York, NY)

## Bridge to 2021 EPS



FCF*(\$M)	\$2,537 <sup>1</sup>	\$2,052	~\$2,700
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# Gross Fixed Investment (GFI) Trends

## 2017 - 2021 Expectations for Mature Markets

### Canada

- Prices of oil and other commodities expected to rise, sparking a recovery in the Canadian dollar

**2017E – 2021F: ~2.5%**

### United States

- Sustained improved growth depends on timing and extent of regulatory and tax reforms as well as productivity gains
- Fiscal stimulus, accelerating prices and wages, and strengthening loan demand will lead to higher interest rates

**2017E – 2021F: ~3.0%**

### Europe

- Aggressive monetary stimulus and a weaker euro will support growth in Western Europe
- Political stability will determine whether that growth is sustained
- Sluggish export markets in Western Europe and adverse demographic trends will restrain growth in Emerging Europe

**2017E – 2021F: ~2.1%**

### World

**2017E – 2021F: ~3.2%**

Source: IHS Economics and Emerson Management Assessment

We Expect Mature Market Growth to Be ~2.2% for 2017 - 2021 and The World GFI to Grow ~3.2%

# Gross Fixed Investment (GFI) Trends

## 2017 - 2021 Expectations for Emerging Markets

### Middle East & Africa

- Addressing job growth and economic diversification will be critical to growth in the Middle East
- Poor infrastructure, political instability, and corruption remain obstacles in Africa

**2017E – 2021F: ~4.2%**

### China

- Services will account for ~70% of growth over this time period as China looks to transform its economy -- But productivity and energy efficiency are still key growth areas

**2017E – 2021F: ~4.5%**

### Latin America

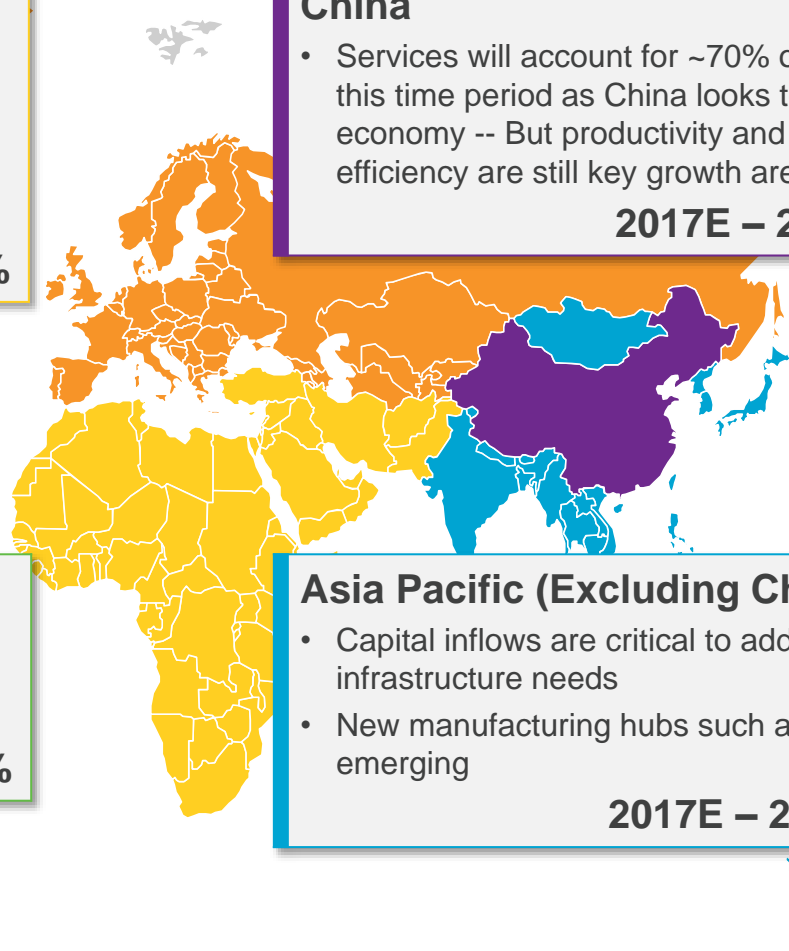
- Long-term challenges include inadequate infrastructure, restrictive business environments, and income inequality

**2017E – 2021F: ~2.5%**

### Asia Pacific (Excluding China)

- Capital inflows are critical to address infrastructure needs
- New manufacturing hubs such as Vietnam are emerging

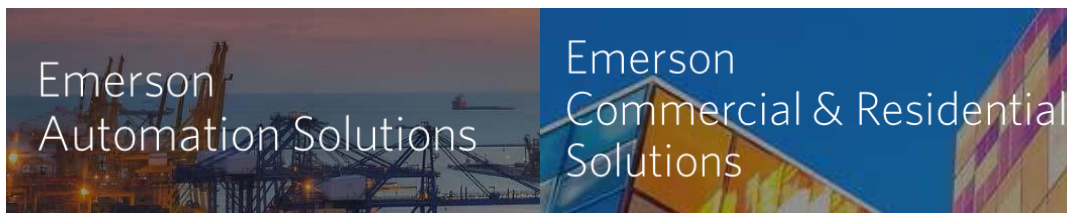
**2017E – 2021F: ~3.5%**



Source: IHS Economics and Emerson Management Assessment

We Expect Emerging Market Growth to Be ~4.3% for 2017 - 2021 and The World GFI to Grow ~3.2%

# Emerson's Core Platform Growth Through the Cycle Targets



2000 – 2015	<b>Served Market</b>	~3%	~3%
	<b>Emerson Platform Growth</b>	~6%	~3%
2016 – 2021F	<b>Served Market</b>	1% - 3%	3% - 5%
	<b>Emerson Platform Growth</b>	~3%	3.5% - 5.5%
2017E – 2021F	<b>Served Market</b>	3% - 5%	3% - 5%
	<b>Emerson Platform Growth</b>	3.5% - 6%	3.5% - 5.5%

Emerson Must Expand Upon It's History of Beating Market Growth Within Automation Solutions and Establish a Sustainable Market Growth Premium Within Commercial & Residential Solutions

# 2017 – 2021 Growth Expectations and Market Trends / Drivers

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- **U.S. Presidential Administration** – Mixed economic outcome which will largely depend on whether traditional pro-growth deregulation and fiscal stimulus initiatives outweigh the potential protectionist agenda items -- This will unfold throughout 2017 and likely be positive for U.S. multinationals
- **Energy Outlook** – Should see a positive inflection point in 2017 or early 2018 with spending starting with MRO and brownfield projects, and slowly migrating into previously delayed greenfield projects
- **Industrial Internet of Things** – There will be broader adoption by 2020 as companies begin to accurately measure and implement the value of their data streams and associated savings -- A significant opportunity for both Emerson Platforms
- **Residential and Non-Residential Construction** – We should see investment pick up in both single family and multi-family as the U.S. market sees slightly better GDP growth and family incomes rise
- **Regulations** – After a brief resetting of environmental and efficiency standards early in the new Administration, the trend will ultimately reset a course towards increasing regulation across our end markets -- But a much more balanced approach for business investments
- **U.S. Dollar Strength** – The U.S. will likely remain the world's most attractive location for foreign investment, especially as interest rates rise -- the dollar will remain relatively strong, but maybe not as strong as we have seen the last 12 months

Emerson Will Be Positioned to Capitalize on These Trends -- Targeting to Deliver Above Market Growth in Sales and Earnings Through This Cycle!



# Automation Solutions and Commercial & Residential Solutions -- A Strong Foundation Off of Which to Build!

## Emerson



Emerson  
Automation Solutions



Emerson  
Commercial & Residential  
Solutions

**Technology and  
Innovation**

**Markets and  
Customers**

**Best Practices and  
Global Enterprise**

The Combined 2 Platform Portfolio Creates a Lean, Global Enterprise With Superb Financial Footing, Leveraging Unparalleled Technology, Poised for Above Market Growth in Markets Critical to Modern Life and Industry -- A True Solutions Organization That Is Positioned for Unique Global Growth Opportunities

# Strategic Rationale for Maintaining and Leveraging Emerson's Two Platform Portfolio

## Technology and Innovation

1. Leverage Global Innovation Centers Across Both Platforms
2. Scale Sensing Technologies and Development Knowledge Across Portfolio of Intelligent Devices
3. Drive Synergies Across Common Hardware and Software Development
4. Develop Common Internet of Things Application Foundation to Enable Industry Specific Solutions

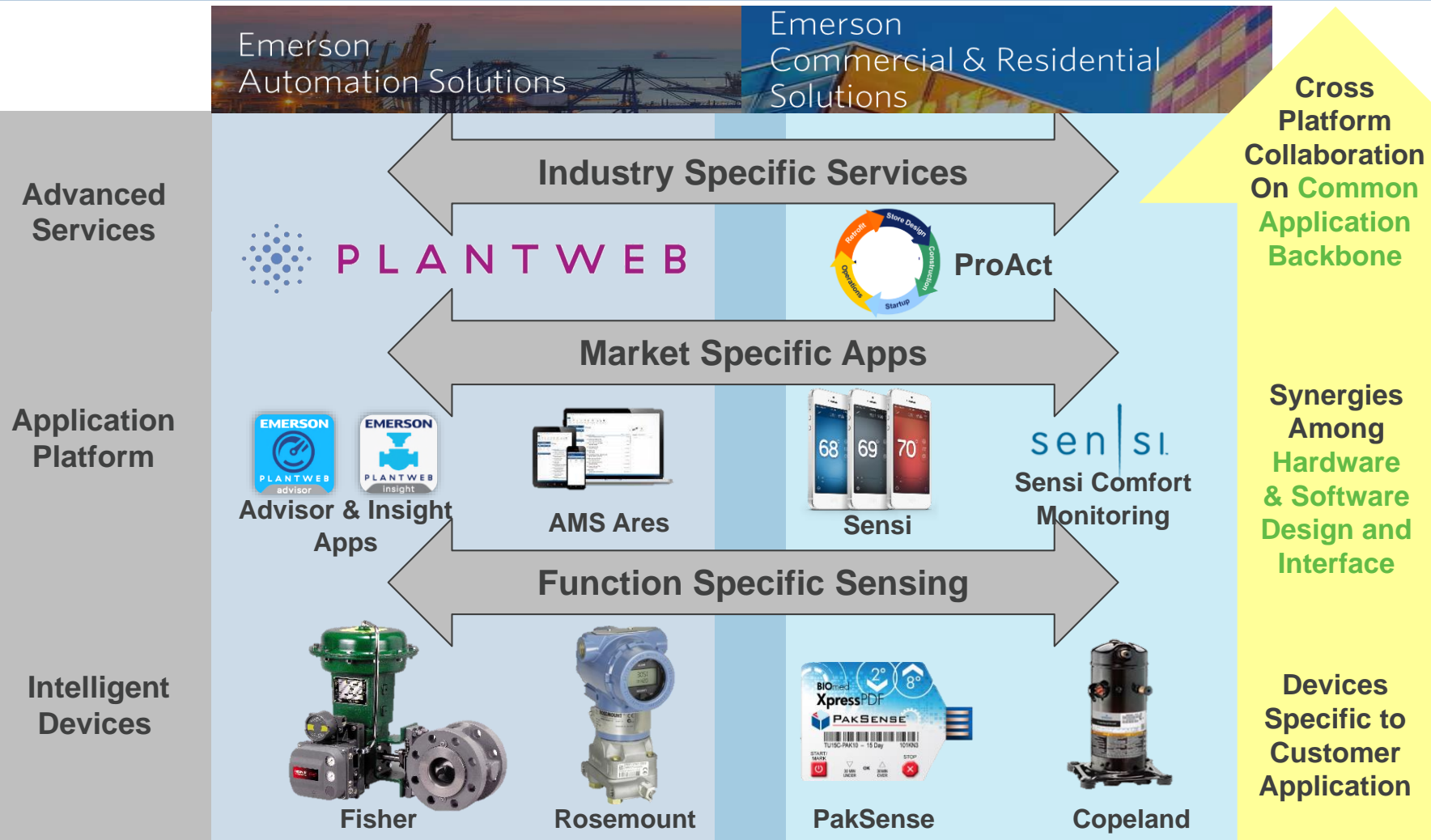
## Markets and Customers

1. Share Domain Knowledge Across Common End Markets (Life Sciences and Food & Beverage)
2. Leverage E-business and Digital Customer Experience Capabilities Across All Markets and Customers
3. New Business Model Synergies – Installed Base, Services, Solutions, Asset Management / Monitoring, Reliability, Energy
4. Pursue Common Adjacent Spaces for New Growth

## Best Practices and Global Enterprise

1. Share Best Practices and Management Processes i.e. Perfect Execution
2. Leverage and Share Talent Development
3. Maximize Shared Services and Shared Facilities
4. Achieve World Area Penetration, Share Local Trends, Government Relations, and Labor Insights

# Cross-Platform Collaboration Opportunities On Multiple Layers of the Technology “Stack”



Emerson Will Leverage Technologies and Commonalities Across Our Two Platforms

# Leverage Domain Knowledge Across Common End Markets

**Common End Markets:**

Life Sciences / Pharmaceuticals

Food & Beverage

**Key Trends:**

- Pharma 4.0
- Temperature Sensitive Biopharma
- Continuous Manufacturing
- Single Use Technologies
- Regulatory Reform

- Flexible Manufacturing
- Food Safety
- Product Traceability and Reliability
- Packaging Proliferation

**Technology:**



**Emerson Automation Solutions**

**Emerson Commercial & Residential Solutions**

Customer Insights and “Know-How” Span Across Common End Markets in Automation Solutions and Commercial & Residential Solutions

# Share Best Practices in Emerson Management Process

## Planning Conference (Growth Focus)

- Market Assessment
- Competition
- Technology Trends
- Sales Growth Initiatives
- Acquisitions

## Profit Review (Margin Focus)

- Cost Reductions
- Supply Chain
- Operations Footprint
- Material Containment
- Investments
- Margin Expansion

- New Products
- Price Initiatives
- Regionalization

- Customer Satisfaction
- Delivery Performance
- Asset Management
- Quality & Safety

## Perfect Execution Review (Speed Focus)

Our Portfolio Structure Allows Us to Leverage Best Practices Within the Emerson Management Process

# Perfect Execution Facilitates Leveraging Unique Business Model Learnings Across Platforms



	Business Models		
	Make-To-Order	Engineer & Configure-To-Order	Solutions & Services
Understand	<ul style="list-style-type: none"> <li>Lead Time Stratification</li> <li>Sales &amp; Operations Planning</li> </ul>	<ul style="list-style-type: none"> <li>Front-End Processes</li> <li>Demand Shaping &amp; Product Configurators</li> </ul>	<ul style="list-style-type: none"> <li>Customer Collaboration Through Business Process Excellence</li> <li>CRM Tools</li> </ul>
Design	<ul style="list-style-type: none"> <li>Design for Manufacturability</li> <li>Preferred SKUs</li> <li>Complexity Reduction</li> </ul>	<ul style="list-style-type: none"> <li>Modular Platforms</li> <li>Late Customization</li> </ul>	<ul style="list-style-type: none"> <li>Design for Serviceability</li> <li>Flexible Delivery Models</li> </ul>
Plan	<ul style="list-style-type: none"> <li>Delivery Frequency on High Volume Parts</li> <li>Supply Regionalization</li> </ul>	<ul style="list-style-type: none"> <li>Supply Regionalization</li> <li>Parts Management</li> </ul>	<ul style="list-style-type: none"> <li>Supply Regionalization</li> <li>Reliable Flow of Materials</li> </ul>
Execute	<ul style="list-style-type: none"> <li>Continuous Flow</li> <li>Pull Systems</li> </ul>	<ul style="list-style-type: none"> <li>Global Project Management</li> <li>Insource High Variation</li> <li>Quick Changeovers</li> </ul>	<ul style="list-style-type: none"> <li>Operational Excellence</li> <li>Pull Systems for Service Parts</li> </ul>

Business Group:  
**Auto. Sol.**  
**Comm. & Res. Sol.**

**Discrete & Industrial**

**Sensors & Controls**

**Flow Solutions**

**Refrigeration**

**Systems & Solutions**

**Tools & Home Products**

Product / Service Example:



# Evolving Our Emerson Message to Focus on “Critical Issues” and a True Solutions Approach



- Making the greatest use of the world’s valuable resources
- Helping nations move their economies forward in a responsible way
- Enabling the performance and safety of industry when it matters most
- Advancing the industries that are the backbone of daily life



- Ensuring human comfort and health
- Protecting food quality and sustainability
- Advancing energy efficiency and environmental conservation
- Creating sustainable infrastructure
- Innovating at The Helix

We Can Now Concentrate Our Efforts on the Most Complex and Important Challenges Facing the World in the Process, Industrial, Commercial, and Residential Markets. The Next Generation Emerson Foundation Is Being Built for Enhanced Growth, Profitability, and Value Creation!

# Introducing the New Emerson.com -- An Industries Solution Focus for Our Global Customers

The screenshot shows the Emerson.com website with the following elements:

- Browser address bar: www.emerson.com/en-us
- Top navigation bar: About Us, Investors, Careers, Contact Us, Sign In, Global Sites
- Secondary navigation bar: EMERSON. Automation Solutions, Commercial & Residential Solutions, **Industries**, Expertise & Best Practices, Documents & Drawings
- Search bar: Search... with a magnifying glass icon
- Dropdown menu for 'Industries':
  - Automation Solutions**
    - Automotive
    - Chemical
    - Downstream
    - Food & Bev
    - Industrial Energy
    - Life Sciences
    - Marine
  - Mining, Minerals & Metals
  - Oil & Gas
  - Packaging
  - Power Generation
  - Pulp & Paper
  - Water & Wastewater
- Commercial & Residential Solutions**
  - Commercial Buildings & Construction
  - Energy & Utilities
  - Facility Management & Maintenance
  - Food Retail
  - Food Service & Hospitality
  - Residential Construction

- Main content area:
- Text: Helping Our Customers Solve the World's Most Critical Challenges
- Text: We've focused our new core business on Automation Solutions and Commercial & Residential Solutions you can count on.
- Text: So that whatever the challenge, you can always Consider It Solved™.
- Button: THE EMERSON STORY >

Going Forward, the One Emerson Website Will Be  
Cohesive, Clear, and Intuitive -- Facilitating Visibility and Understanding for  
Our Customers, Investors, and Employees



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# Automation Solutions Market Outlook

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- Successful implementation of OPEC production cuts and stable oil prices will support **increased customer spending within our core process markets in late 2017 and into 2018**
  - We **expect a strong rebound in 2018** driven by increased maintenance, repair, and overhaul activity -- which had been deferred
  - We **expect a return to moderate growth through 2021** after an initial growth spike in 2018
- We continue to see strong market fundamentals in our **Hybrid and Discrete** market segments
- **Asia** will continue to be a significant source of market growth followed closely by **North America**

Markets Are Turning in Our Favor -- We Are Well Positioned to Take Advantage of These Improving Markets and Drive Above Market Growth

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# Key Priorities for Automation Solutions Through 2021

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## Invest

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- **Continue critical internal investment** in technology to exit industrial recession in a strong position

Plantweb digital ecosystem is the foundation for further investments!

## Acquire

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- **Add product & solution competency through acquisition** -- diversify into non-oil & gas markets

Pending acquisition of Pentair V&C is a strong start!

## Create Solutions

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- Focus on **solving the customers' biggest problems** --- productivity improvement required in today's \$50-\$60 per barrel oil price

Top Quartile Performance is a foundation for broader solutions engagement with customers!

## Perform

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- We must perform better in the next two years and **separate from the market now!**

History of outperformance -- We know how to outperform the market!

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# Commercial & Residential Solutions Market Outlook

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- Stronger U.S. economy should **fuel U.S. Residential and Commercial construction**
  - We expect to continue to benefit from the **strong performance of these markets** through 2021
  - Focus will be on increasing profitability and cash flow as we grow sales
- **Emerging markets** (especially China and India) **offer a great growth opportunity** in the Food Quality / Cold Chain arenas
- **Increasing focus on energy efficiency, sustainability, and comfort** allows us to further solidify our presence in our served markets **globally!**
  - **Global Variable Speed Residential Solutions**
  - **Global VRF Commercial Solutions**

Commercial & Residential Solutions Markets Offer  
a Resilient Source of Growth and Profits



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# Priorities for Commercial & Residential Solutions Through 2021

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## Perform in Core Markets

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- Exploit our industry leading technology to **further penetrate** existing and adjacent markets

Rebased company enables focus on core markets -- Enabling above market growth!

## Invest in Technology

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- **Invest in and acquire technologies** that have potential to scale in our ecosystem

Minority investments in 7AC and Transformative Wave -- Recent examples of successful efforts -- More will happen

## Expand in Served Markets

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- **Aggressively acquire** to enable robust solutions and expand market definition and participation

Acquired PakSense and Locus Traxx to expand served market in cold chain transport -- Will find further opportunities

## Maintain Industry Stewardship

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- Lead our customers through change as the **industry steward**

Engaging with governments and customers around the world to lead through refrigerant changes!

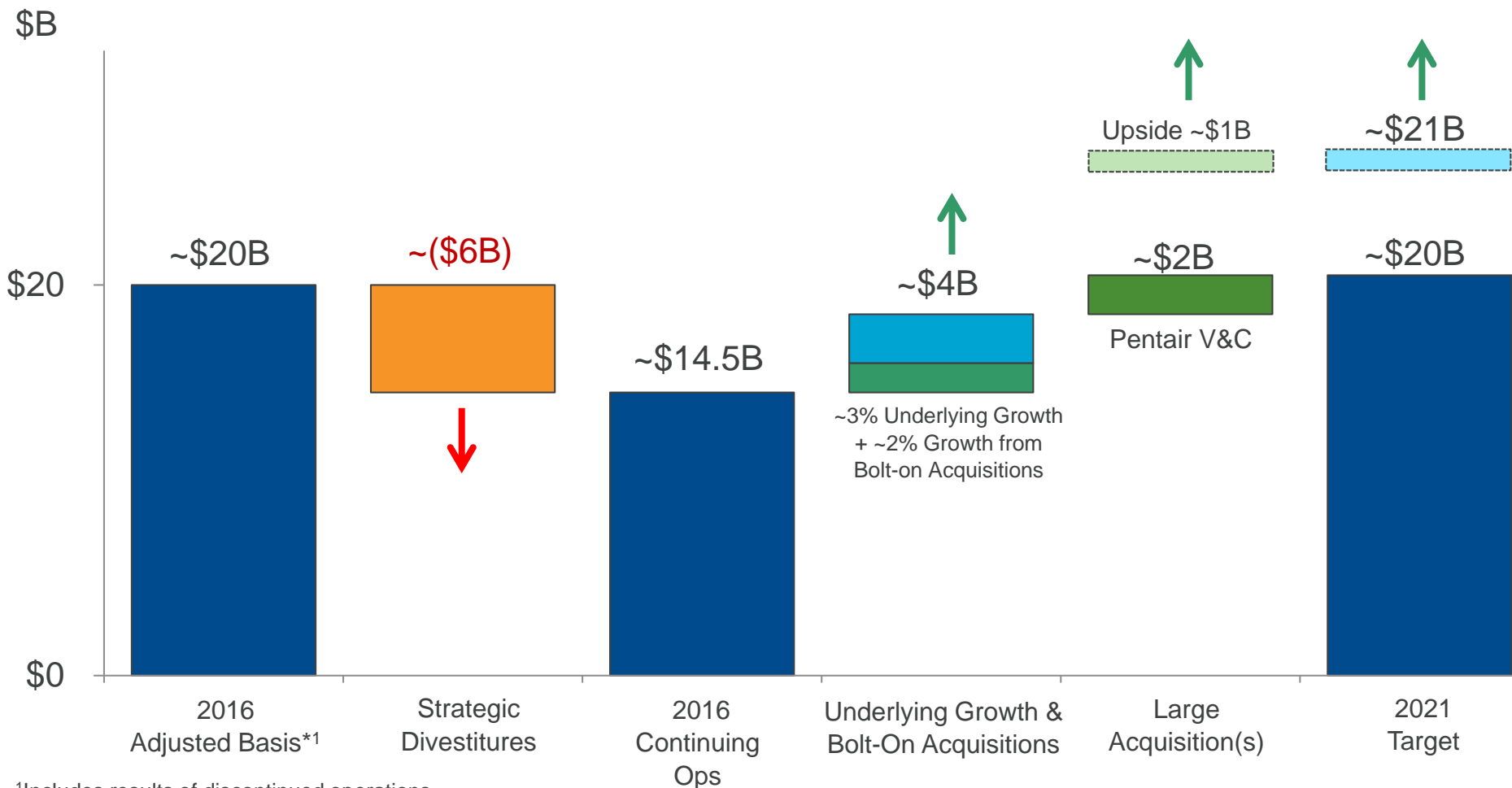
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# 2017 Investor Conference (New York, NY)

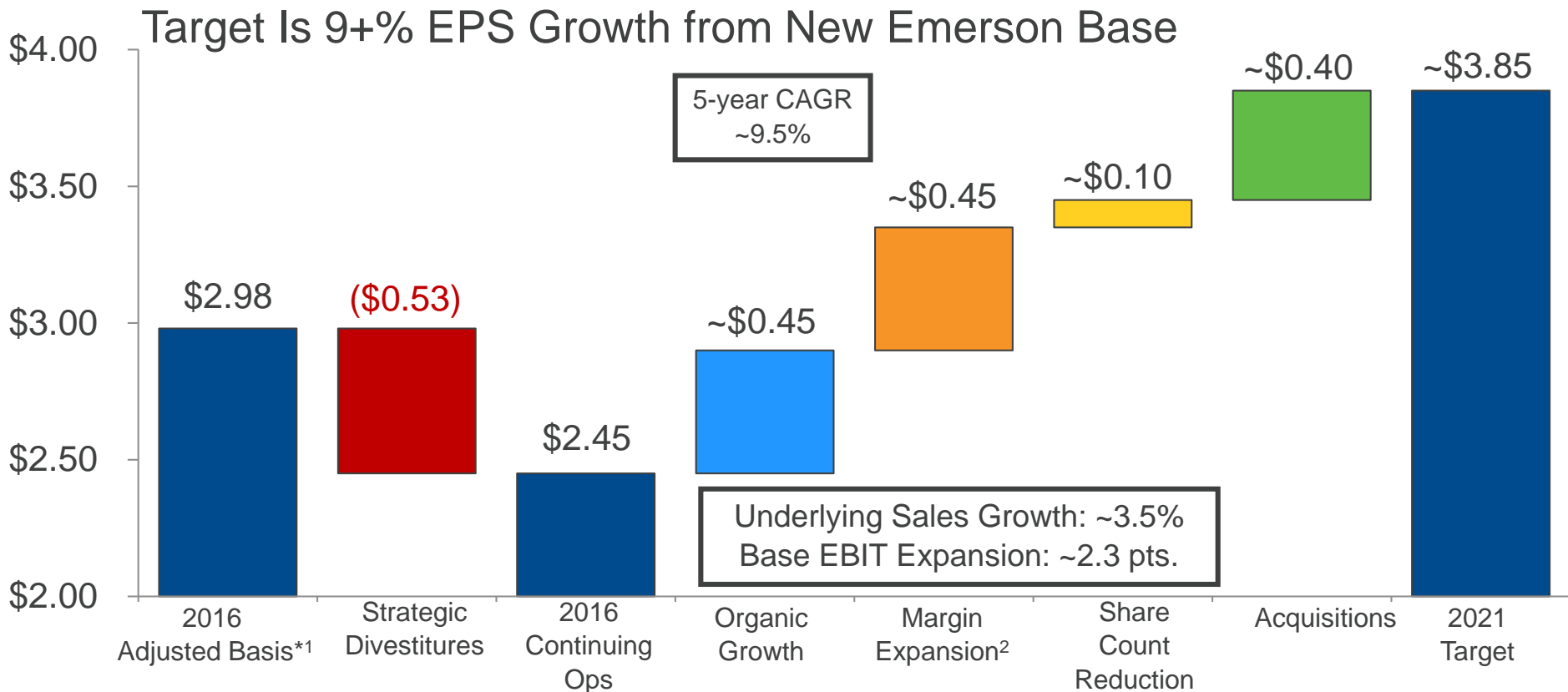
## Bridge to 2021 Sales



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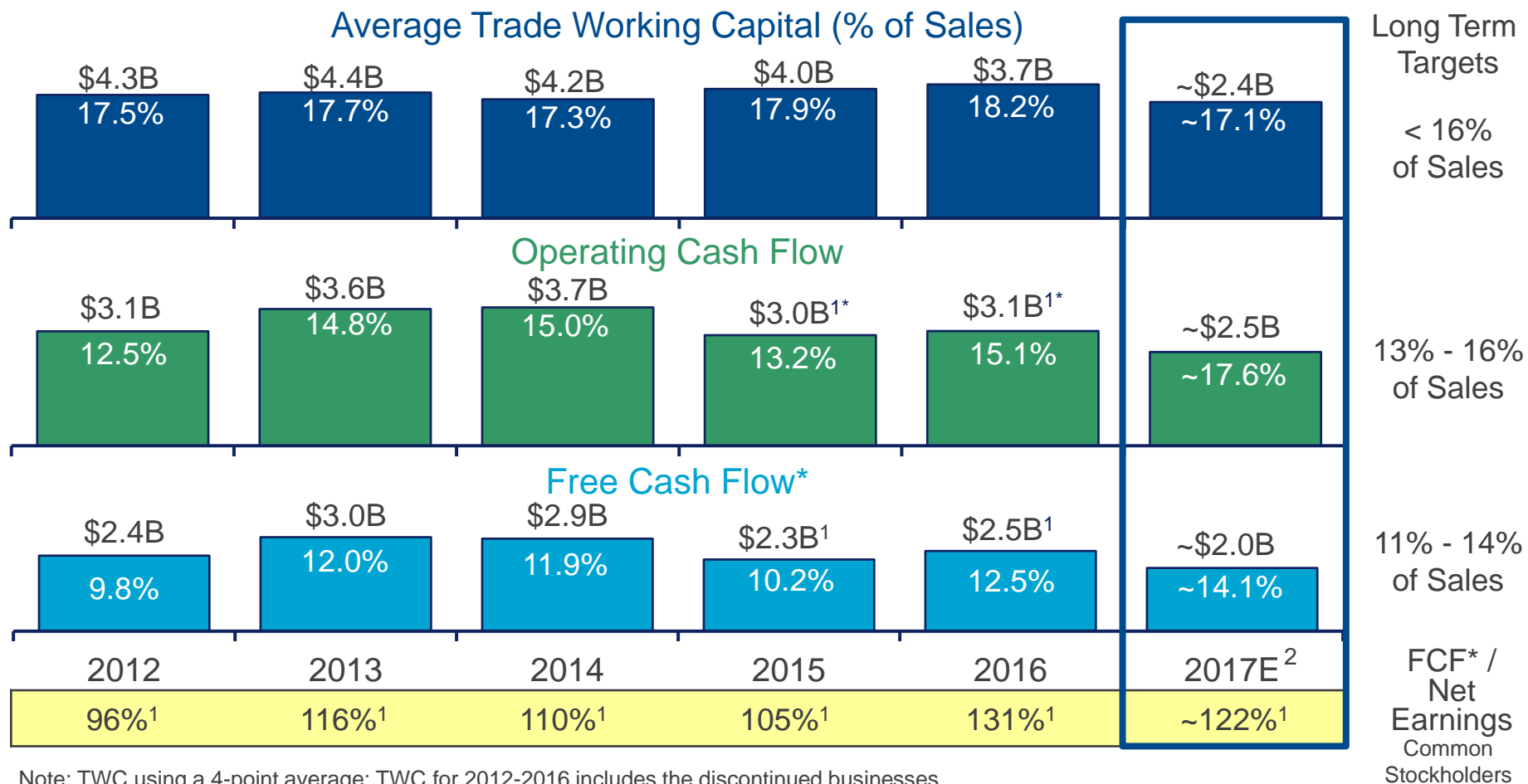
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The Goal of the New, Smaller, More Profitable Emerson Is to Grow Faster, Expand EBIT Margins, and Increase Acquisitions to Drive a Faster EPS Growth Company Through This 5 Year Planning Horizon



# Operating Capital Efficiency Drives Significantly Higher Cash Flow and Returns

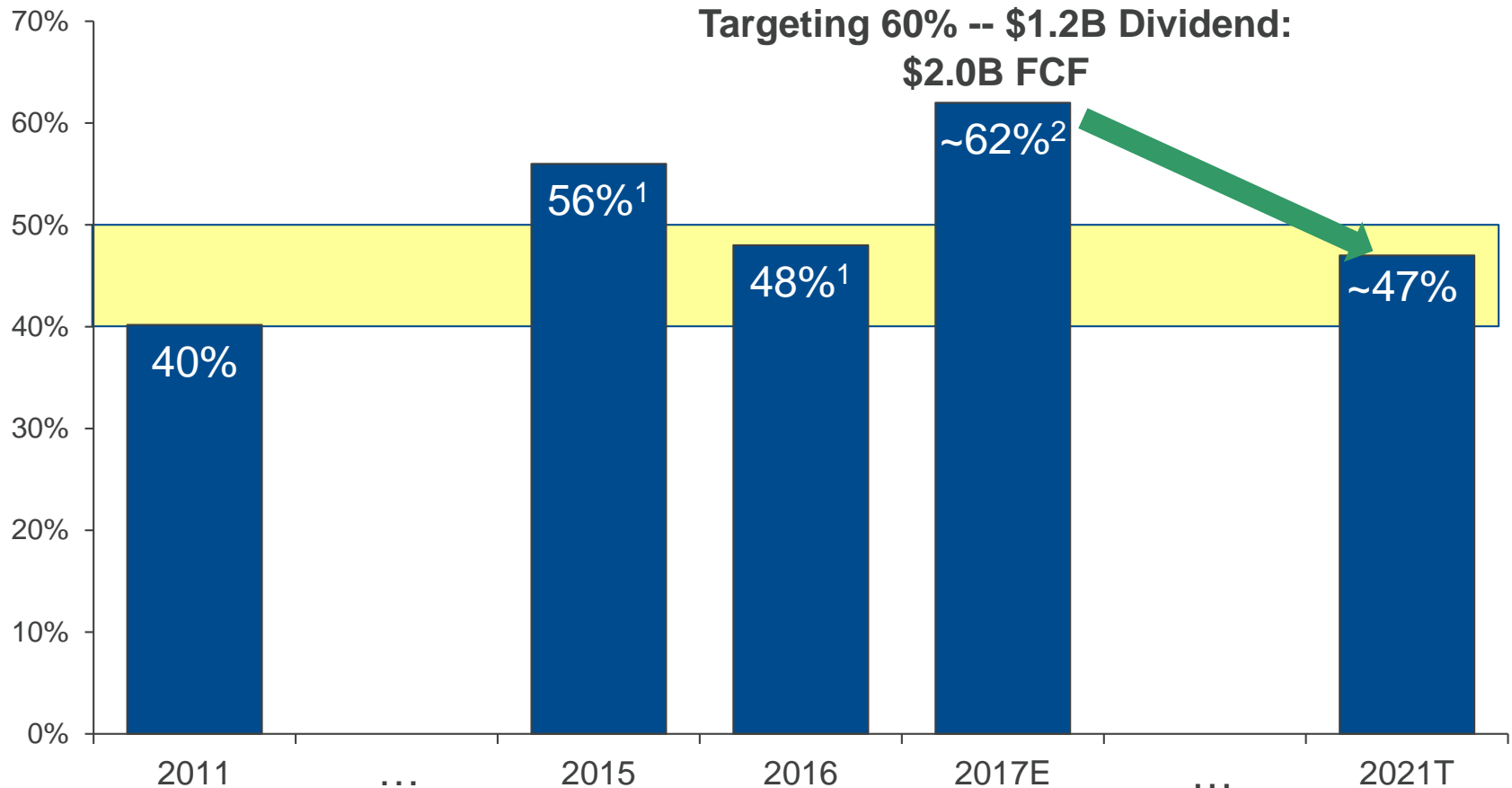


Note: TWC using a 4-point average; TWC for 2012-2016 includes the discontinued businesses

<sup>1</sup>Excludes impact of repositioning items in 2015 and 2016, divestiture gains in 2015, and impairments in 2012 through 2014; <sup>2</sup>Continuing Ops

The Long-Range Targets Include the New Pentair V&C Acquisition, so We Will Learn More After 18 - 24 Months -- But in the Near-Term the Pentair V&C Acquisition Takes Our Trade Working Capital Over 20%

# Emerson Dividend to Free Cash Flow Ratio Plan



<sup>1</sup>Excludes tax and separation costs on divestitures  
<sup>2</sup>Continuing Operations

Better Internal Growth and Acquisitions Will Be Key to Achieving Targeted Annual Dividend of 40% - 50% of Free Cash Flow -- Reaching 65 Years of DPS Increases

# The New Emerson's Roadmap to Creating Value Through 2021

## Sales Growth

Target: 2% - 4% Underlying  
+3% - 4% Through Acquisitions

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Consolidated: 5% - 8%

## Operating Margin

18% - 20+%

## EBIT Margin

16% - 19+%

## Free Cash Flow (% of Sales)

Target: 11% - 14%

## ROTC

Target: 18% - 25%

As We Move Through 2017, We Will Drive Higher Profit Margins and Higher Returns on Capital for Emerson's Shareholders -- Driving EPS Growth by 8% - 10% Annually

# 2017 – 2021 -- Roadmap to a Stronger Emerson

	2016 <sup>1</sup>	2017E <sup>1</sup>	2021T
<b>Sales</b>	\$14.5B	\$14.1 - \$14.4B	<b>~\$20+B</b>
<b>Gross Profit %</b>	43.1%	~43.4%	<b>~44%</b>
<b>EBIT %*</b>	17.2%	~17.9%	<b>~19%</b>
<b>EPS Reported Continuing Ops</b>	\$2.45	\$2.47 - \$2.62	<b>~\$3.85</b>
<b>Operating Cash Flow</b>	\$2.5B	~\$2.5B	<b>~\$3.3B</b>
<b>CapEx</b>	\$447M	~\$475M	<b>~\$600M</b>
<i>% of Sales</i>	3.1%	~3.5%	<b>~3%</b>

**Note: 2017E does not include impact of Pentair V&C, But 2021T Does**

<sup>1</sup>Continuing Operations

By 2021, We Plan to Reach 44% GP Margin, 19% EBIT Margin\*, and ~\$3.3B Operating Cash Flow for Increased Internal / Acquisition Investment to Drive Sales to \$20+B

# Next Steps: 2017 Game Plan and Priorities

## Perform as “New Emerson”

- **Finish executing on restructuring plans to right-size cost structure** given global macroeconomic trends and smaller two platform business footprint
- Use cash proceeds and strong cash flow / balance sheet to **aggressively acquire and enable organic growth**
- Position company to fully **capitalize on pending global energy market recovery**

## 1. Fully Integrate Acquisitions

- Aggressively execute on initial cost and revenue synergy plans
- Explore additional synergy opportunities as they emerge



Critical for Pentair V&C

## 2. Continue Rationalizing Base

- Continue rationalization and restructuring of our 2 core platforms -- **Perfect Execution**
- Boost profitability, creating a leaner organization positioned for premium growth and premium valuation -- **Key to Controlling Our Own Destiny**

## 3. Position and Execute for Growth

- Pursue both organic growth opportunities and acquisitions, especially in Process / Hybrid / Discrete Automation and Commercial & Residential areas
- Execute **deals worth ~\$3B, adding ~\$2B to total sales by 2021**, in addition to the acquisition of Pentair V&C
- Potential for **additional \$1-2B strategic acquisition for another ~\$1B of sales**
- Regrow Emerson to \$20+B in annual revenues by 2021, recover lost earnings and cash flow

In 2017, Our Organization Will Be Aligned Towards Executing on These Strategic Priorities As We Benefit From Improvement in Our Core Markets and the Critical Integration of the Pentair V&C Acquisition

# Emerson's 2017 Key Financial Guidance -- The Current Business Make-Up

	<u>2016<sup>1</sup></u>	<u>2017E Forecast<sup>1</sup></u>	<u>% Change 2016-17E</u>
Sales (GAAP)	\$14.5B	\$14.1 – \$14.4B	(3%) – (1%)
Underlying Growth*	(7%)	(2%) – 0%	
Gross Margin	43.1%	~43.4%	+30 bps
EBIT Margin*	17.2%	~17.9%	+70 bps
EPS Reported Continuing Ops	\$2.45	\$2.47 – \$2.62	1% – 7%
Dividends Per Share	\$1.90	\$1.92	+1%
Operating Cash Flow	\$2.5B	~\$2.5B	~ Flat
Cash Returned to Shareholders	\$1.8B	~\$1.5B	

<u>Global GFI: FY 2017</u>	<u>2016-17E</u>
<u>Assumptions</u>	<u>% Change</u>
U.S.	2.0% – 3.0%
Canada	(2.5%) – (1.5%)
Europe	1.0% – 1.5%
Middle East & Africa	0.5% – 1.5%
China	4.0% – 5.0%
Asia Pacific Excl. China	2.0% – 3.0%
Latin America	(3.0%) – (2.0%)

## Other 2017 key assumptions:

- Currency Headwinds ~(\$0.2)B
- Tax Rate: ~29%
- 2017 Share Repurchase: ~\$250M
- Acquisitions: ~\$3.65B (includes Pentair V&C)
- Capital Expenditures: ~\$475M, ~3.5% of sales
- Price – Cost: Expected to be in the range of (\$25)M to \$0M

<sup>1</sup> Continuing Operations; 2017 excluding Pentair V&C

Break

Break



# **2017 Investor Conference Automation Solutions Business Overview**

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Mike Train

Executive President

February 16, 2017

# **2017 Investor Conference Automation Solutions Business Overview**

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Mike Train

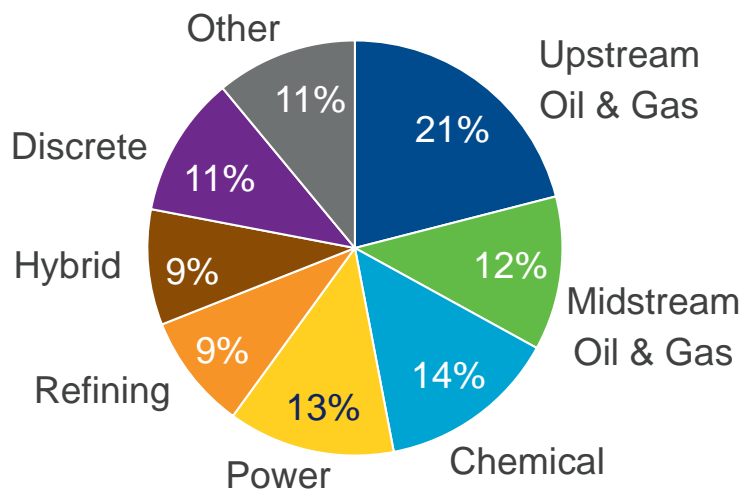
Executive President

February 16, 2017

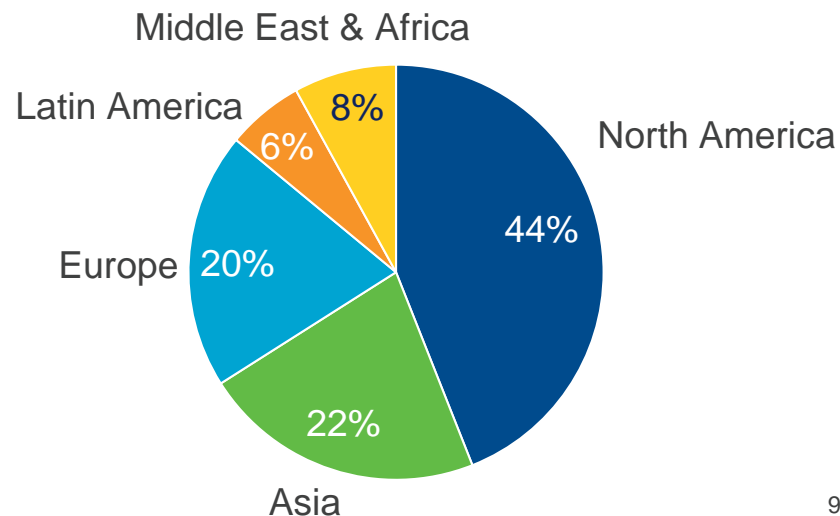
# Automation Solutions 2016 Summary

	<u>2015</u>	<u>2016</u>	<u>2015 – 2016 Change</u>
Sales	\$10.2B	\$9.0B	(12%)
EBIT	\$1.8B	\$1.5B	(21%)
% of Sales	18.2%	16.2%	(200 bps)
ROTC	22%	17%	

## 2016 Major Markets Served



## 2016 Sales by Geography



# Key Messages

---

- Our **problem solving strategy** has driven strong growth through the cycle, and is the foundation for Emerson's continued industry leadership
- Global process **markets remained challenging** in 2016 led by the Oil & Gas reset
- Made significant strides to position Automation Solutions for stronger long-term growth based on a **deep understanding of our customers** and investment trends
- Our customers must aggressively pursue **Top Quartile project and operational performance** to deliver results in this challenging business environment
- Emerson has launched **Operational Certainty** enabled by the **Plantweb Digital Ecosystem** to help customers achieve Top Quartile operational performance
- **Valves & Controls** acquisition greatly expands our ability to serve customers through new project and operational certainty offerings
- As Automation Solutions, Emerson is building off its strength in process automation to **penetrate hybrid** and **discrete** markets

Automation Solutions Is Positioned for Growth Through Expanding Relevance in Process and Building Leadership Positions in Hybrid and Discrete Industries

# Emerson Automation Solutions Trusted Advisor When it Matters Most

Taking on the industry's toughest challenges,  
and bringing predictable success  
any time, any place.



## Measure

Real-time insights to bring clarity to all aspects of your entire operation

## Control

Control your process and your business with precision, certainty and safety

## Optimize

The decision integrity to confidently run your business at its maximum potential

## Power

Safe, productive and reliable installations, even in harsh environments

## Solve

Achieve your performance goals through dependable definition, execution and support of your automation vision



The **most complete portfolio** of products, services & expertise in the industry

APPLETON™

ASCO™

BETTIS™

BRANSON

DELTA V™

FISHER™

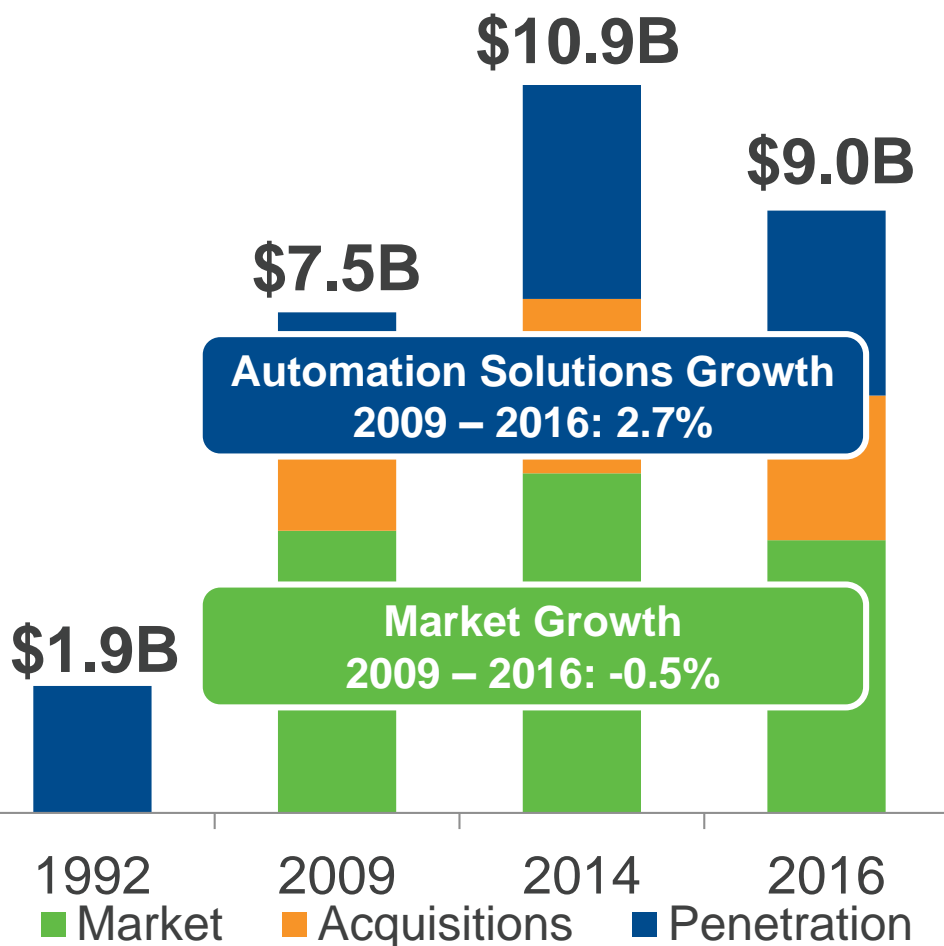
MICRO MOTION

OVATION™

ROSEMOUNT™

# Automation Solutions Has Consistently Outperformed the Market and Is Well Positioned for the Future

## Automation Solutions Market Separation



## Growth Drivers

### • Industries & Regions













- Oil & Gas
  - Floating Liquefied Natural Gas, Shale, Middle East, North Sea, Russia, Mexico
- Power
  - North America, China, Eastern Europe
- Life Sciences and Food & Beverage
  - UK, India, China
- Automotive
  - Asia Pacific

### • Strategic Acquisitions

- Non-intrusive Corrosion
- Blending & Transfer Systems
- Pipeline Management Software
- Engineered On/Off Valves
- Flame & Gas Detection



















Automation Solutions Grew +3.2 Points Above Market Through the Cycle and Gained 1.9 pts of Participation

# Process Industry Investment Trends

Process Industries	2017 Outlook	2018-21 Outlook	<u>Key Investment Trends:</u>
Oil & Gas – Upstream			NA shale recovery; increase in international NOC investments
Oil & Gas – Midstream			NA expansion with Natural Gas exports and Mexico Energy Reform
Refining			Clean fuels technology investments in Middle East, U.S., China, and India
Chemical & Petrochemical			U.S. ethylene capacity buildout; global demand for chemical derived products
Power			Continued investment in China and India; coal to gas conversions in NA
<b>Process Total</b>			

2017 Total Automation Market Down 3% to 5%;  
Expecting Trends to Turn Positive in Second Half

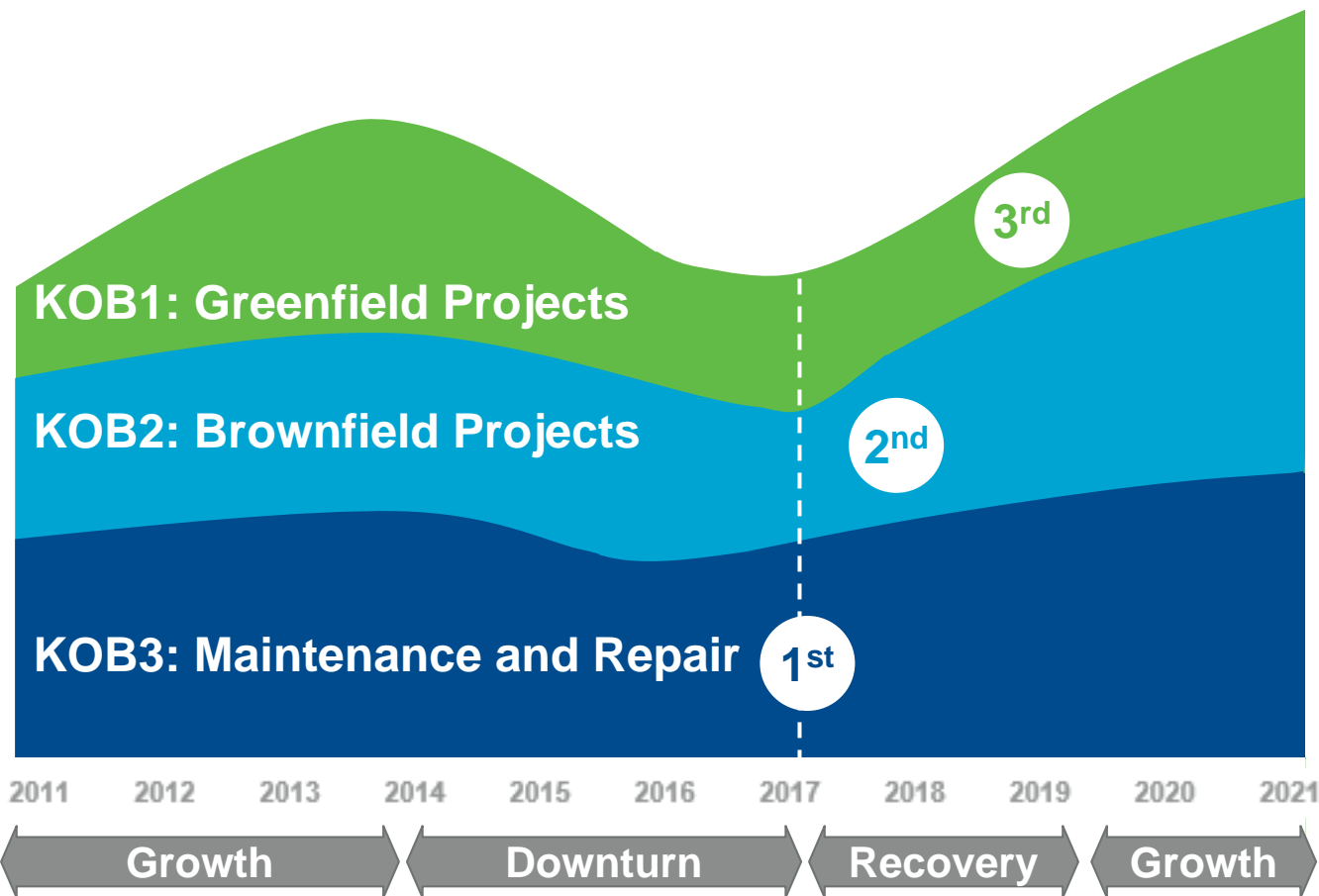
# Hybrid and Discrete Industry Investment Trends

Hybrid Industries	2017 Outlook	2018-21 Outlook	<u>Key Investment Trends:</u>
Life Sciences			Significant biotech investments in Ireland; generics growth in AP and NA
Food & Beverage			Global increase in operational improvement and food safety spend
Metals & Mining			Gold and copper recovery spurring project spend in LA and EUR
Pulp & Paper			Bio-product capacity additions in EUR; strong packaging demand in AP
<b>Hybrid Total</b>			
Discrete Industries	2017 Outlook	2018-21 Outlook	<u>Key Investment Trends:</u>
Industrial Machinery			Continued automation across industrial manufacturing segments
Automotive			Growth in production and new model programs in NA, Emerging Markets
Consumer Goods			Convenience segment growth in U.S.; emerging middle class in China
<b>Discrete Total</b>			



# Operational Improvements Will Take Priority Over New Construction as Markets Recover

## Automation Solutions Market by Type of Business



A bottom-up market recovery offers **strong margin and growth opportunity**

Customers' spend will be focused on **efficiently running, expanding and optimizing their existing assets**

# Industry Research Confirms Process Manufacturers Are Prioritizing Operational Performance Investments

## Key Customer Strategies

“...we're focused on **expanding margins** by **increasing efficiencies in our operations** and on capturing maximum value from the resource base.”

### Bruce Niemeyer

Chevron Corporation  
Vice President, Mid-Continent



“We are advancing our strategic capital investments and maintaining our **focus on operational excellence** and **value to our customers.**”

### Lynn Good

Duke Energy Corporation  
Chairman, President and CEO



## Operational Excellence Research

“There is a sense of needing to be in the top quartile to survive.”

“The challenge is knowing if there will be a real benefit... **definitely the trend in the industry is to not invest unless there is certainty it will improve things.**”

Source: IHS Markit, Operational Excellence VOC Research: 20 Industry Experts. August 22, 2016

# Life Sciences Leads Hybrid Industries Transformation With a Focus on Optimization and Pharma 4.0

**↑ 69%**

**equipment and technology budgets** for pharmaceutical companies over past 3 years<sup>1</sup>

“The increased spending for equipment and technology is based on **dramatic changes** in the **pharmaceutical** and **biotechnology industry** along with **fierce competition**.

This industry transformation is driven by **pressures to lower costs and increase productivity** and pipelines.”<sup>2</sup>

## Major Industry Trends



**Continuous Manufacturing**  
connecting modular operations with real-time monitoring, advanced control



**Pharma 4.0**  
improving technology transfer, data analytics, easy product changeover

<sup>1</sup>The 2016 Nice Insight Pharmaceutical Equipment Annual Study

<sup>2</sup><http://www.pharmamanufacturing.com/articles/2016/2016-pharmaceutical-equipment-buying-trends/?start=1>

# Discrete Industries Are Rapidly Increasing Automation

**Henkel**

“Henkel will leverage Industry 4.0 to **better plan, source, produce and deliver** its products and solutions.”

Henkel 2020+ 2016 Investor & Analyst Conference



Smart manufacturing is promising to yield **profitability** and **high efficiency**, but **87% of US manufacturers** are yet to adopt it.

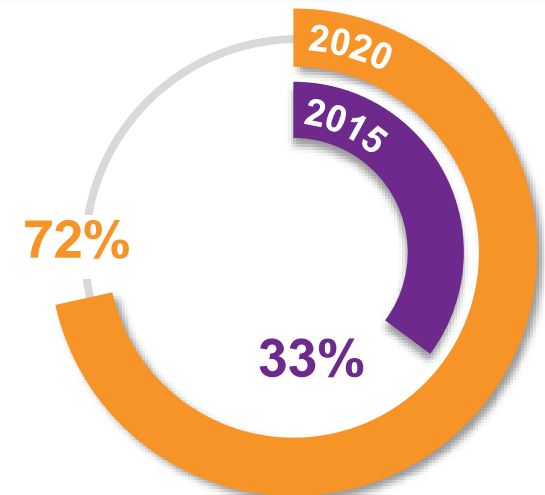
Brian Kennell, CEO Tetra Pak North America

DAIMLERBENZ

“With our vision of Industry 4.0, **we are digitizing the entire value creation process** — from design and development to production, sales and service.”

Daimler 2015 Annual Report

**Industry 4.0** adoption will more than double global level of **digitalization** by 2020

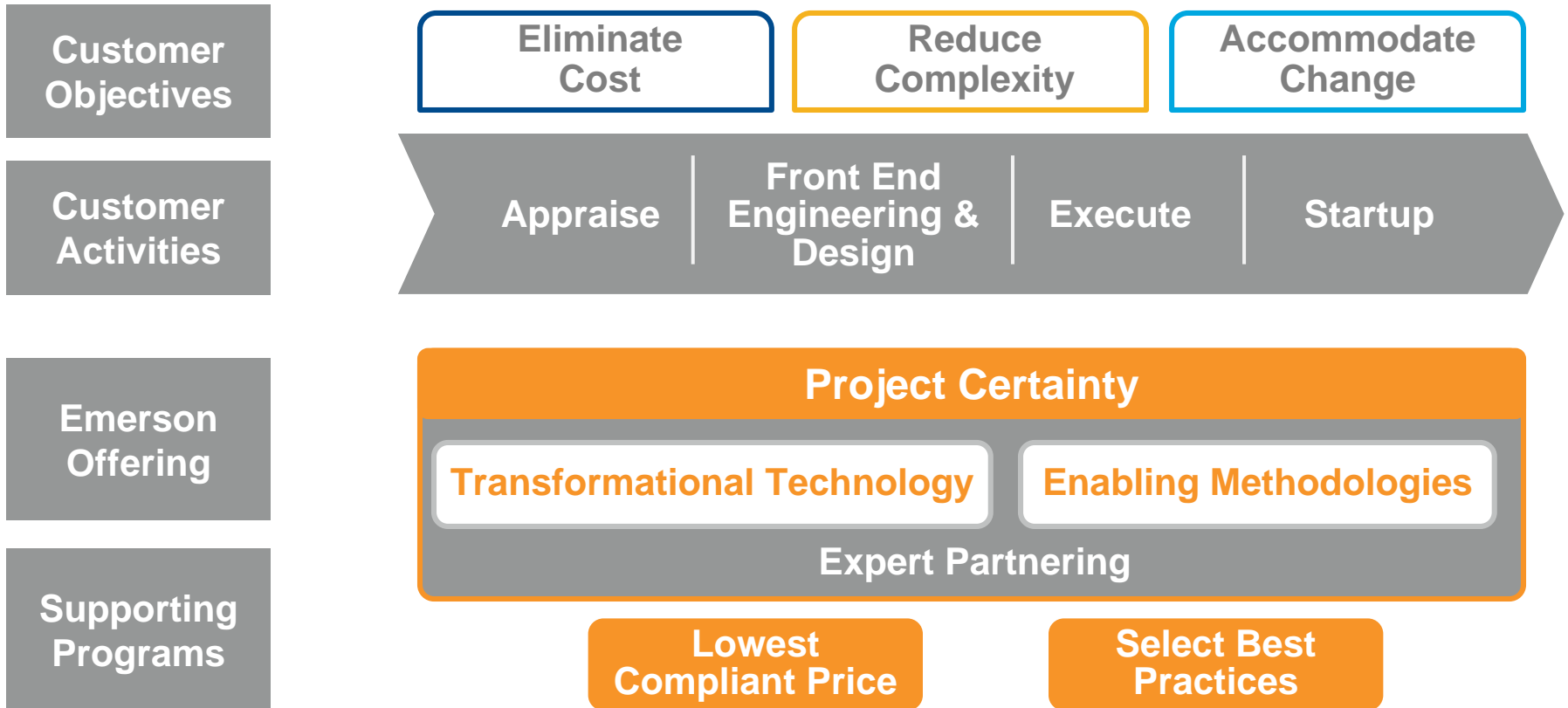


# Top Quartile Programs Enable Peer-Leading Results in Capital Investments & On-Going Operations

## Capital Efficiency

1 to 5 years

\$430B  
Opportunity



Launched Project Certainty in 2016 to Help Customers Achieve Top Quartile Project Performance

# Top Quartile Programs Enable Peer-Leading Results in Capital Investments & On-Going Operations

## Operational Efficiency

20 to 60 years

\$1T+ Opportunity

Customer Objectives

Optimize Production

Improve Reliability

Minimize Emissions

Ensure Safety

Customer Activities

Maintenance & Repair

Shutdowns, Turnarounds, & Outages

Optimize, Expand & Upgrade

Emerson Offering

### Operational Certainty



PLANTWEB

Expert Partnering

Supporting Programs

Lifecycle Services

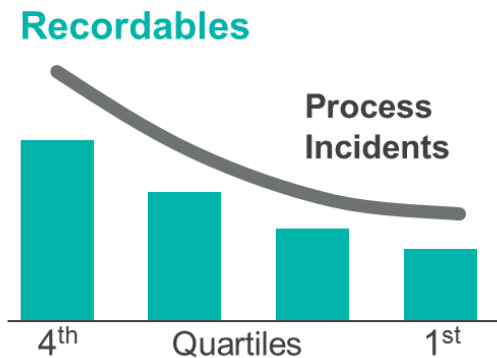
Industry Solutions

Launching Operational Certainty in 2017 to Help Customers Achieve Top Quartile Operational Performance

# Top Quartile Manufacturers Significantly Outperform Their Average Peers

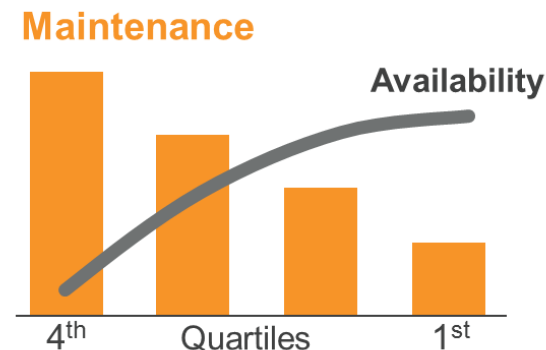
## Safety

**3X fewer recordables** and process incidents



## Reliability

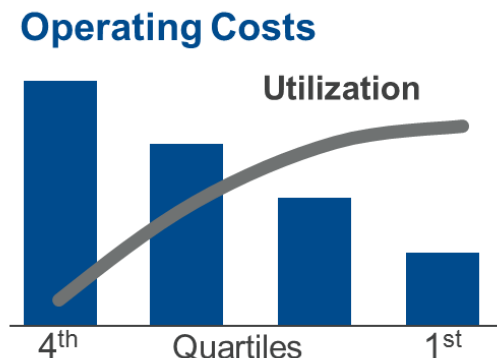
**4% higher** availability  
**Half** the maintenance costs



## Production

**20% lower** operating costs

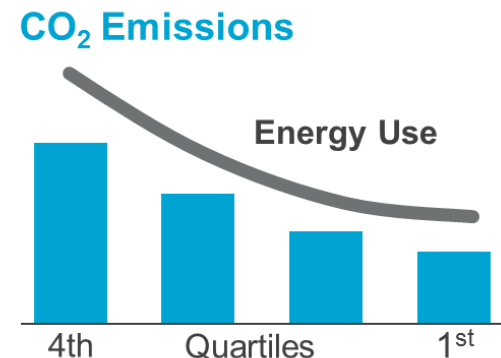
**10% higher** Utilization Rate



## Emissions

**30% lower** emissions

**30% less** energy use



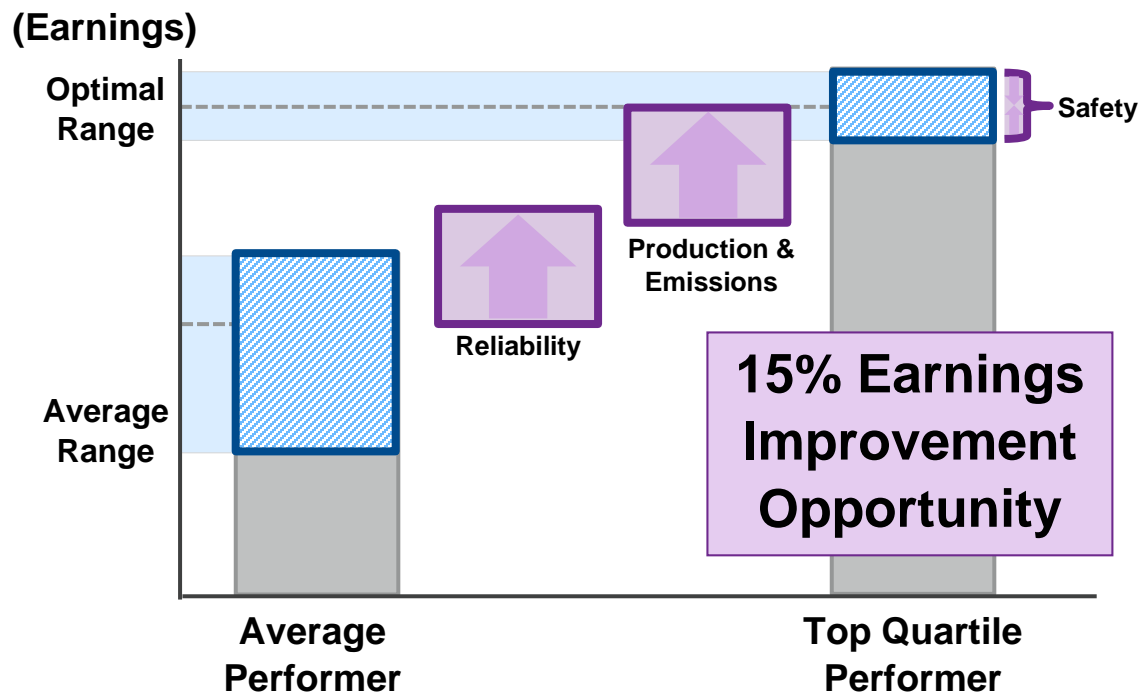
# Top Quartile Manufacturers Utilize Advanced Technology and Processes to Drive Long Term Results

## Behaviors of Top Quartile Operational Performers

- Utilize integrated information management, production and logistics
- Run proactive maintenance programs supported by condition based monitoring
- Implement automatic process control
- Optimize processes with real-time data
- **Make investment decisions for sustainable value**

## Operational Business Performance

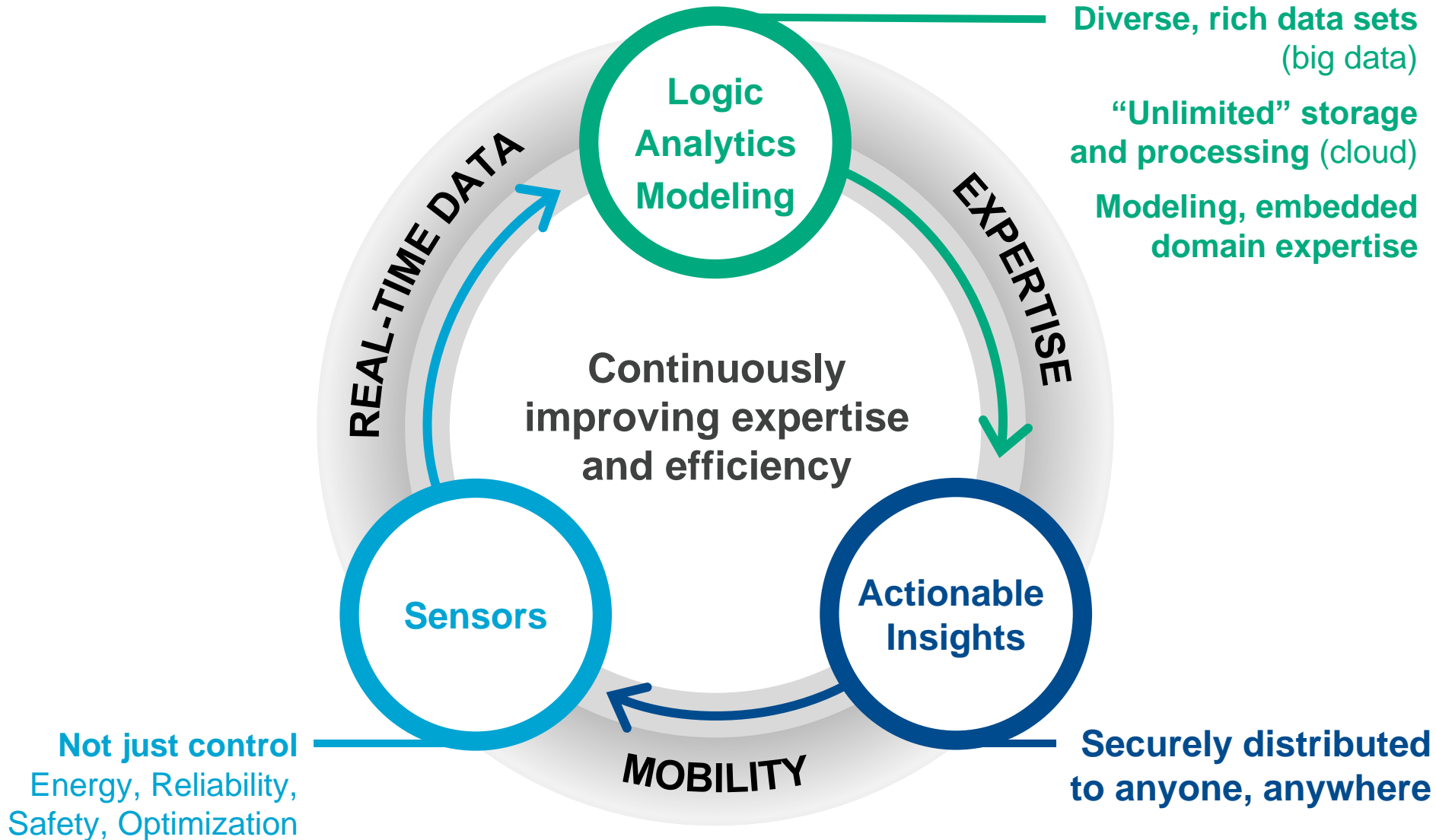
Refining and Petrochemical Industries  
For a Typical Facility



Source: Internal Estimates; EBITDA has been used as a proxy for Business Performance (Earnings)



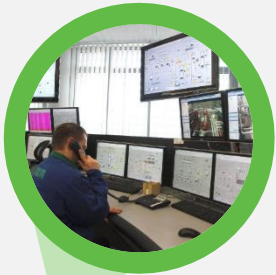
# To Achieve Top Quartile Results, Customers Must Continuously Measure, Analyze & Decide, and Act



# Industrial IoT Enables New Deployment Models for Operational Excellence Applications and Expertise

## Local Experts

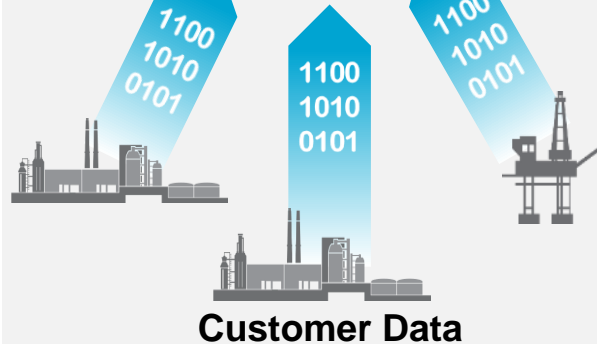
On Premise



## Centralized Expertise

On Premise or Cloud Hosted

Customer Center  
Integrated Operations Center  
Monitoring and Diagnostics Center

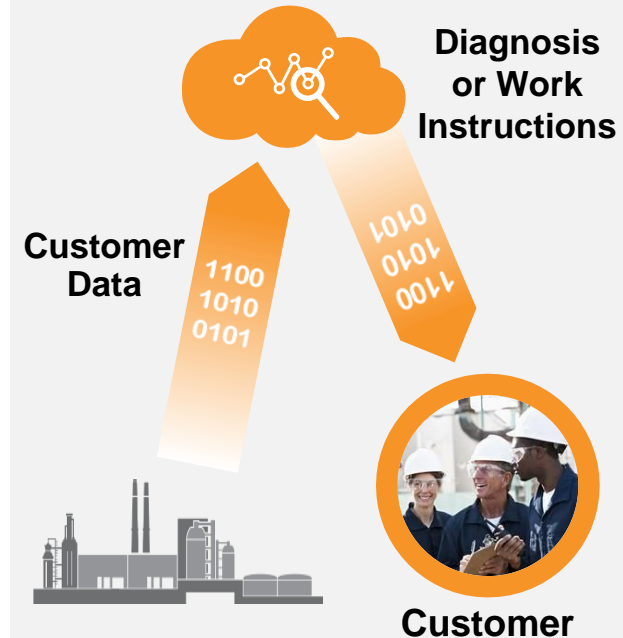


## 3<sup>rd</sup> Party Expert Services

Cloud Hosted



3<sup>rd</sup> Party Monitoring  
and Analysis  
Platform



What Customers Need Is an Approach and an Architecture that Leverages All These Deployments

# Introducing The Plantweb Digital Ecosystem: Industry's Most Comprehensive Industrial IoT Portfolio

FOUNDATIONAL SOLUTIONS

NEW SOLUTIONS



Services & Consulting

Control & Safety Systems, Asset Management

Intelligent Field Devices

Applications

**Rich Tools**

**Plantweb Advisor**

PERFORMANCE

HEALTH

ENERGY

**Standalone**

**Plantweb Insight**

PUMPS

HEAT EXCHANGER

VALVE HEALTH

STEAM TRAP

**Always Mobile**

Services

**Emerson Connected Services**

**Microsoft Azure Technology Partnership**

Security

**Traditional Data Pathways**

**Secure First Mile**

**IIoT Application Gateways**

Data

**Pervasive Sensing**

Pressure Gauge

Gas Monitor

Non-Intrusive Corrosion Monitor

Radar Level

X-Well

Electrical Monitoring

Steam Traps

Vibration

Valve Position Monitor

Tank Safety Valve Monitor

# The Plantweb Digital Ecosystem Expands Our Original Plantweb to Connect Operational Technology and IT

Business Planning and Logistics, ERP



**P L A N T W E B**

**Production  
Operations  
Management**

**Production Management, Reliability, Safety, Energy,  
Digital Infrastructure, Information Distribution**

**Supervisory  
Control**

**Control, Safety Systems, and  
Asset Management**

**Field  
Devices**

**Equipment, Field Devices  
& Control**

From Intranet to Internet of Things: Advanced Technologies Have Altered the Cost-Benefit Equation for Access to Expertise and Efficiency

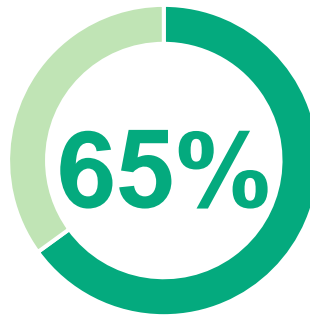
# Pervasive Sensing Is the Foundation of Plantweb, Building off Industry Leading Presence and Experience

Customers can now collect data that's **never been possible before**

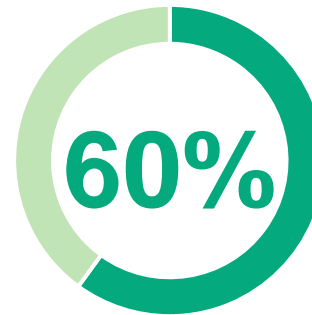
Devices are easily **deployed** and **maintained** at a **fraction of the cost**

Supported by industry **leading wireless expertise** and **services**

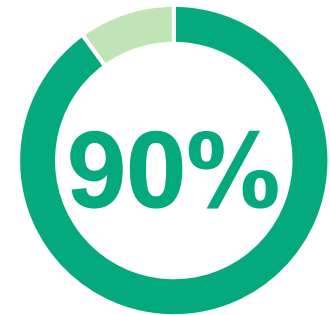
**40+** unique devices and growing



less time  
to install



lower installed  
cost



smaller rack  
room footprint

Hundreds of Thousands of Wireless Devices Installed Across  
>3500 Customer Sites Worldwide Totaling Over 8 Billion Operating Hours

# Our Secure First Mile™ Architecture Is a Simpler and Safer Approach for Connecting OT and IT Systems

## The Industrial IoT Challenge

## Emerson Solution: Secure First Mile™

### Secure IT Environment

Private Clouds



### Secure IT Environment

Microsoft Azure



## How to Securely Bridge OT and IT Environments?

Wireless Networks

RTUs & SCADA



Control Systems

Asset Management

### Secure OT Environment

Wireless Networks

RTUs & SCADA



Control Systems

Asset Management

### Secure OT Environment

## Three Key Components

### Edge Gateway

- Converts protocols and provides secure data transfer to the IT Systems

### Data Diode

- Physically disables the inbound path, creating an air gap for inbound communication

### Field Gateway

- Collects data from OT systems and converts into protocols that support unidirectional data flow

# A Scalable Suite of Applications that Delivers Actionable Information

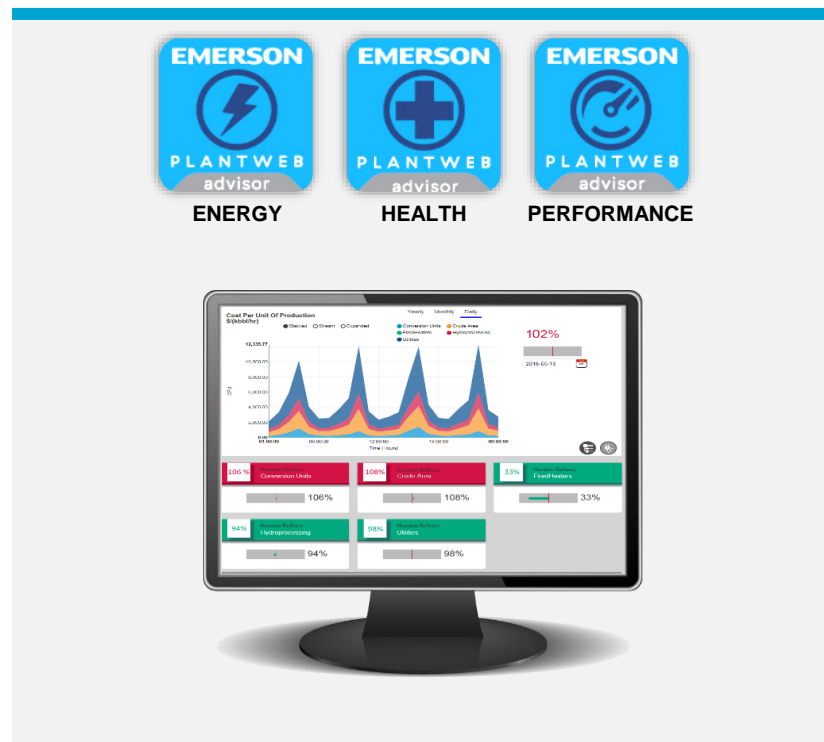
## Plantweb Insight™



**Lightweight, asset-specific apps providing pre-built analytics with minimal configuration**

- Low barrier proof-of-concept / ROI
- Minimal business system integration
- Intuitive design and consistent user interface

## Plantweb Advisor™




**Integrated suite of enterprise software providing robust, statistical analytics**

- Tight business system integration
- Leverages existing investments
- Easily scalable to thousands of assets across multiple facilities

# Connected Services Deliver Insights and Outcomes Through New Monitoring Solutions


## Emerson Connected Services



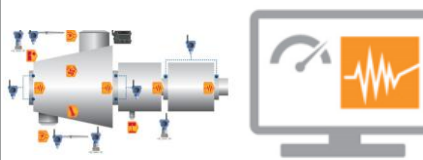
**Automation System Health Monitoring**



**Steam Trap Monitoring**

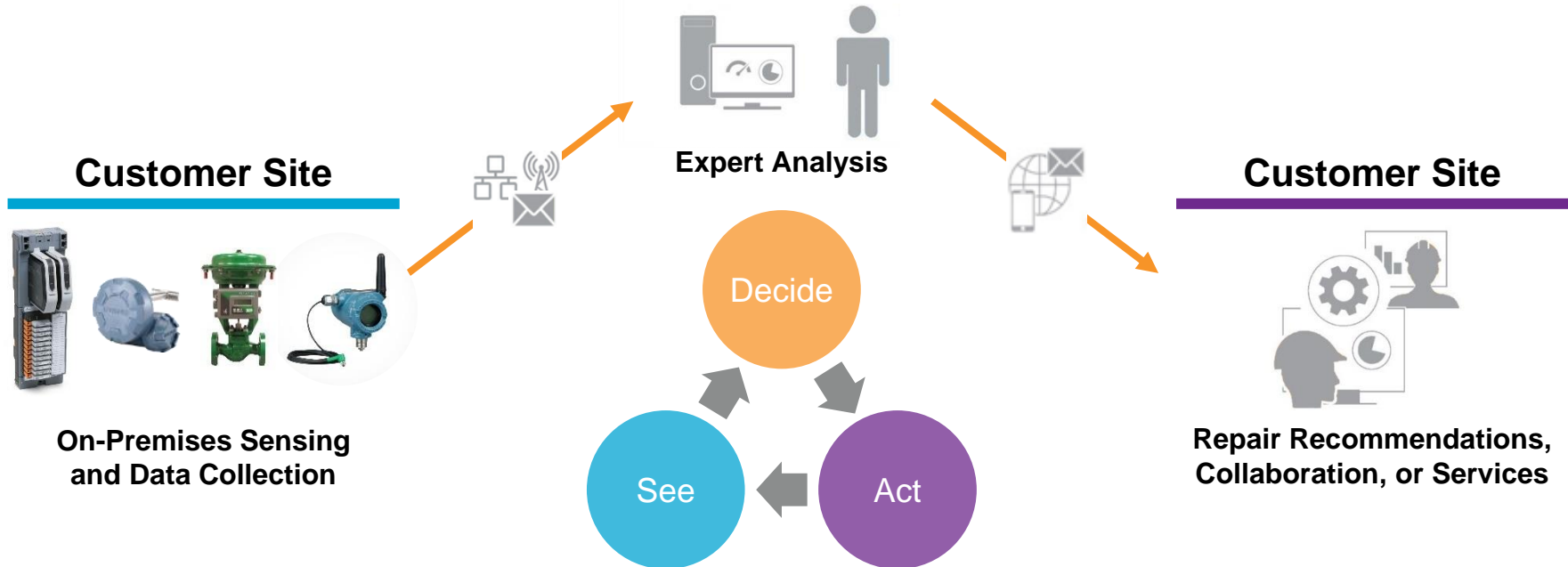


**Control Valve Condition Monitoring**



**Machinery Condition Monitoring**

### Emerson Monitoring

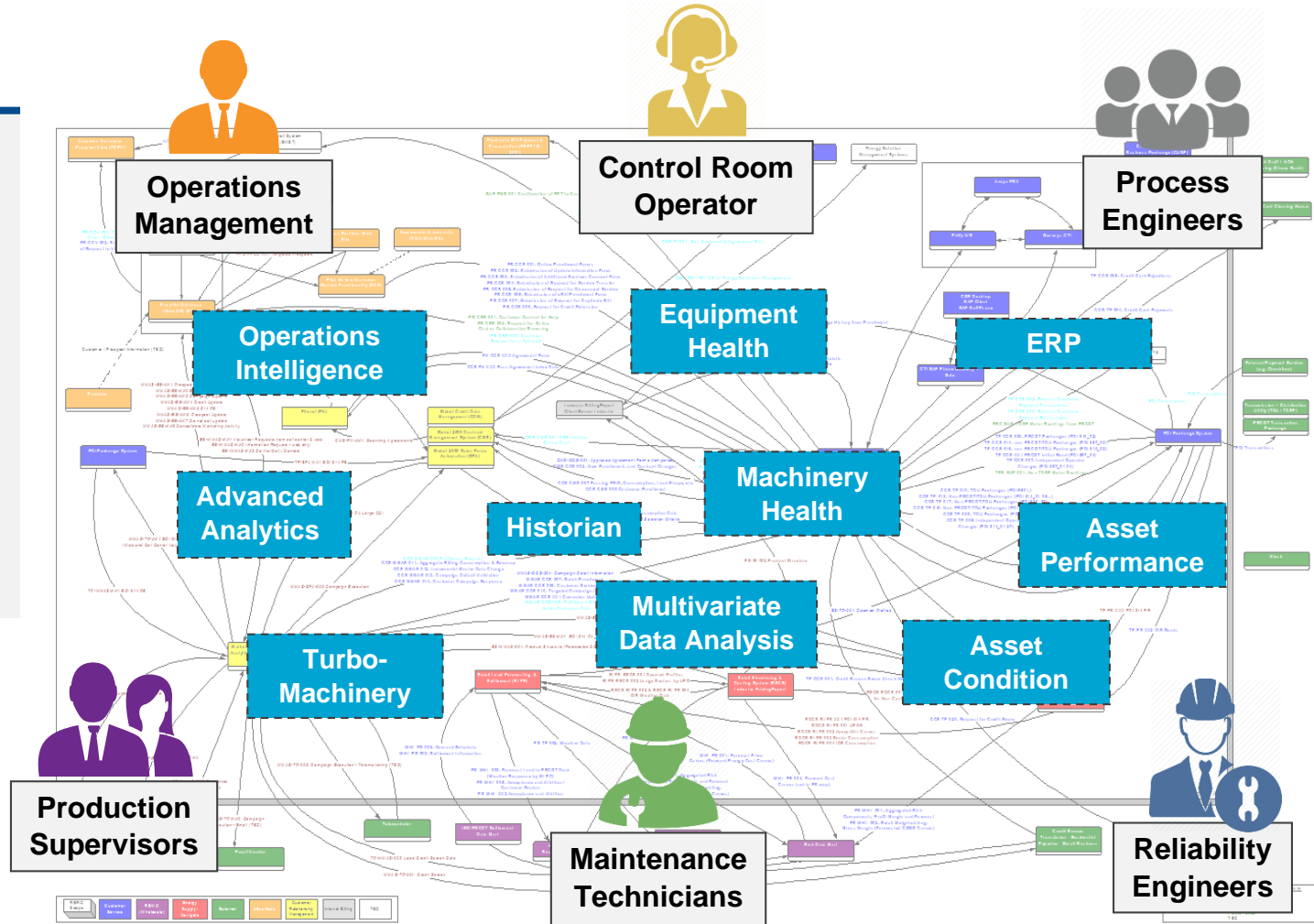




# Our Customers Have Been Investing in Operational Excellence Technologies for Years

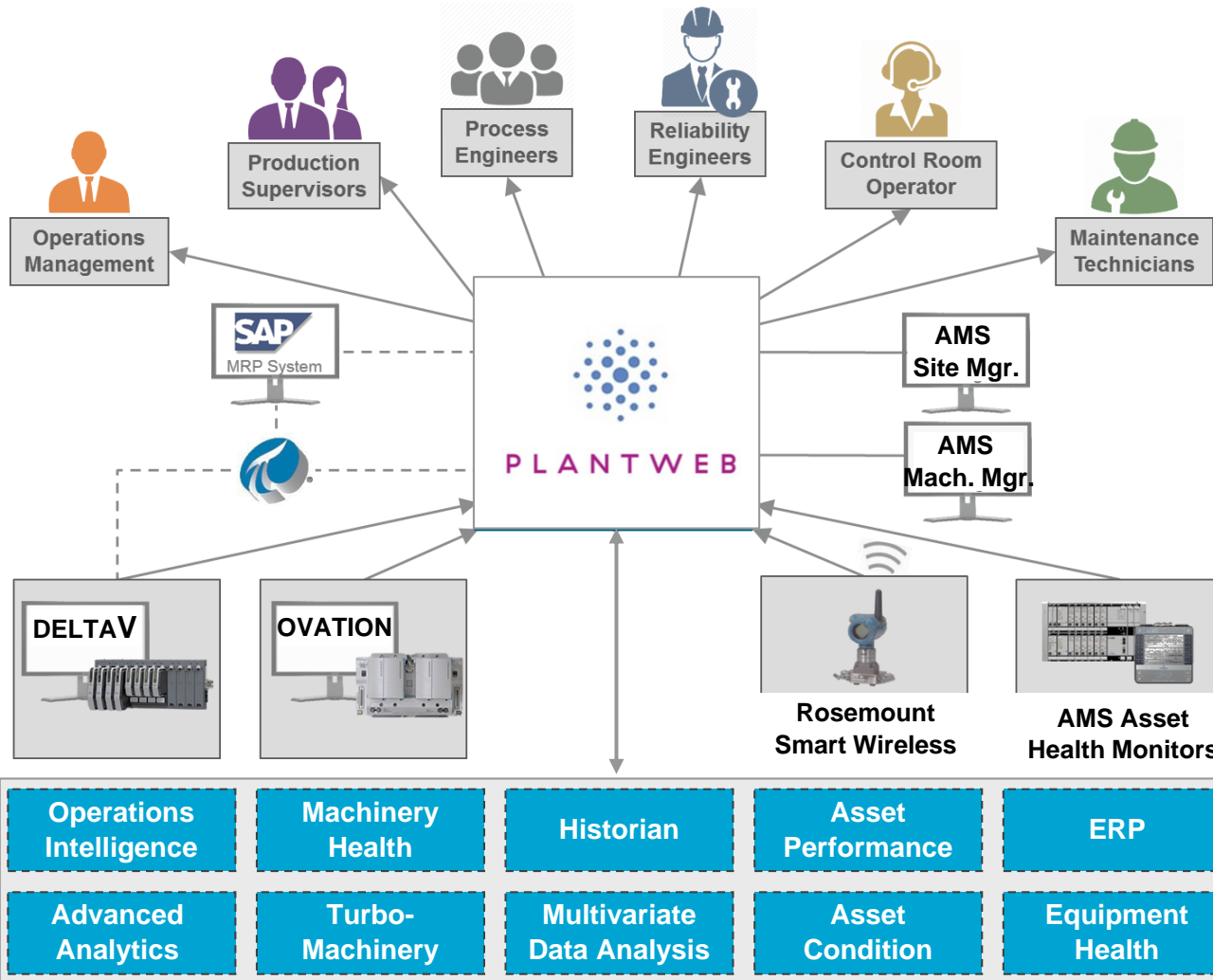
The challenge has been that point solutions lead to disconnected, underperforming silos...

...and bringing them all together has been a major challenge



Bringing Engineering Expertise and Technology Together, Emerson Has Solved This Challenge

# Plantweb Digital Ecosystem Is Designed With a Deep Understanding of Our Customers' Operations



Emerson works with customers to,

- **Understand** their operations and technology investments
- **Design** an architecture that leverages Emerson and 3<sup>rd</sup> party technologies
- **Plan** and **Execute** an implementation to drive top quartile performance

By Partnering With Emerson, Our Customers Can Be Confident They Will Achieve Results

# Emerson Enables Customers to Make IoT a Reality Today, Whether Monitoring a Single Asset...

## Plantweb Insight



**Customer:** National Refining Company

**Pain:** Unknown vibration, cavitation, and seal fluid issues on rotating pumps were causing shutdowns

**Solution:** Pump health monitoring

**17%** savings in maintenance costs

## Plantweb Advisor



**Customer:** International Oil & Gas Company

**Pain:** Heat exchanger fouling and heat duty error were causing process interruptions and energy losses

**Solution:** Enterprise wide heat exchanger monitoring

**9-month** investment payback

## Connected Services



**Customer:** International Chemical Company

**Pain:** 25% of steam traps were in failed state, customer didn't have visibility

**Solution:** Emerson cloud based steam trap monitoring services

**7%** steam savings

# ... Or Creating a Completely Virtual Plant

## Solutions

- Integrated plant control & simulation
- Cybersecurity
- Decision support
- Plant wide optimization

- Automated intelligence
- Model-based control
- Expert systems
- Plantweb Advisor

- Digital asset twins
- Plantweb Insight

## Impact

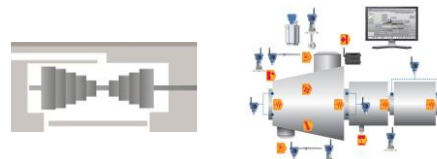
### Plant Virtualization



### Process Optimization



### Asset Availability



## Benefit

People  
Expertise  
Utilization  
Productivity

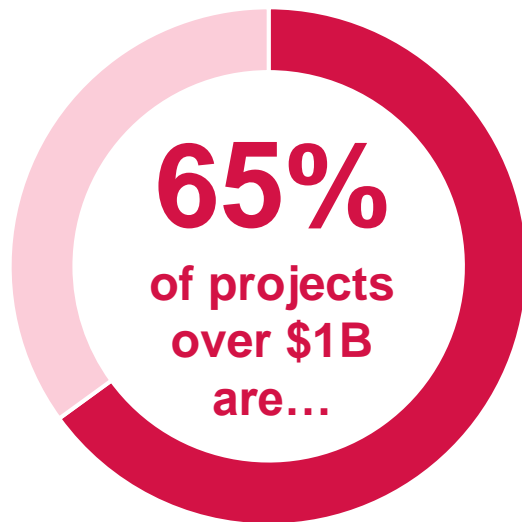
Plant  
Availability  
Flexibility  
Compliance

Process  
Efficiency  
Precision  
Self-learning

Asset  
Reliability  
Safety

# Top Quartile Projects Significantly Outperform Their Average Peers

## Capital Project Crisis

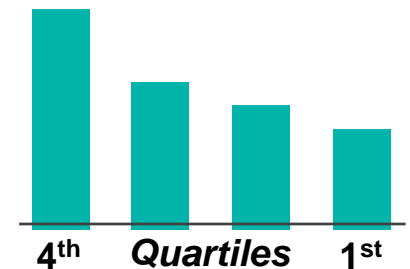


**>50% above budget**  
**>25% over schedule**

## Project Costs

**54%**

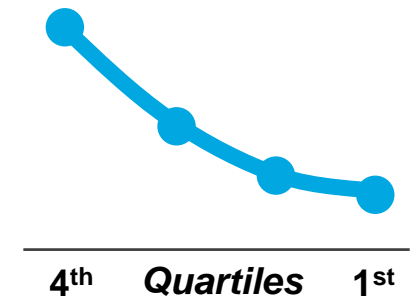
**Lower Cost**  
for top quartile  
projects



## Project Schedules

**49%**

**Shorter Schedules**  
for top quartile  
projects



Project Certainty Can Make Projects Viable That Are Currently On Hold

# Project Certainty Is Emerson's Approach to Helping Customers Achieve Top Quartile Project Execution

## Project Certainty is showing real world results

Where customers are adopting our technology and work process enablers, they are seeing game changing returns.

### Oil & Gas End User

Reduce Engineering

**30-40%**

Engineering Hours

Reduce Cabinets / Wiring

**60-70%**

w/ Smart Junction Boxes

Shorter I&C Project Schedule

**15-25%**

Schedule

Lower Total Installed Costs

**30-40%**

Installed Automation Costs

### Engineering & Procurement Contractor (EPC)

Reduce HW Design Steps

**50-60%**

Reduction (Target)

Eliminate HW / SW FAT Hours

**80%**

Elimination (Target)

Reduce System HW & Loop Drawings

**90%**

Elimination (Target)

Lower Total Installed Costs

**30-40%**

Installed Automation Costs

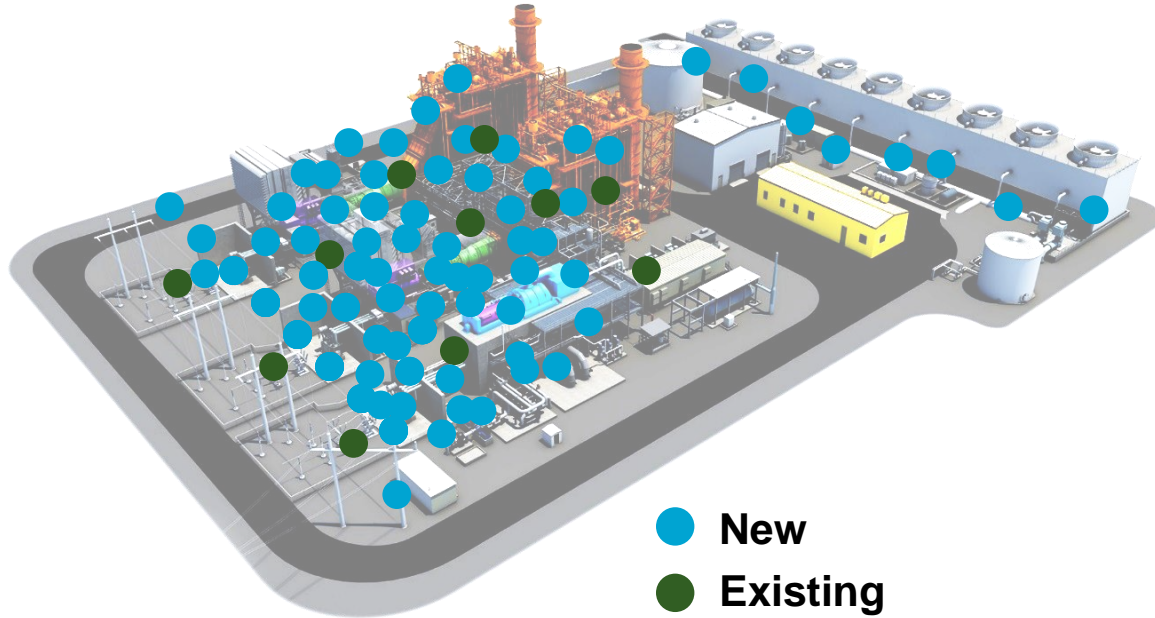
Figures Based on a Large LNG Project in the USA for Which Emerson Is the Main Automation Contractor

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This Slide Intentionally Omitted



# Valves & Controls Expands Emerson's Operational Certainty Capabilities



## One Global Manufacturer Servicing All Valves

- Long-term service agreements ensure on-time repair & upgrades to all valves
- Diagnostics on critical valves increases uptime and lowers onsite inventory

Valves in a typical plant



Control Valves



Pressure Management and Isolation Valves

# 2-3x

Expanded valve service revenue opportunity per site

# Valves & Controls Expands Project Certainty Capabilities With Transformational Approaches to Valve Projects

## Main Valve Partner

- ✓ Lower Procurement Costs
- ✓ Standardized Products
- ✓ Compatibility guaranteed
- ✓ Original Equipment Manufacturer Expertise at Front End Engineering & Design
- ✓ >1000 Certified Service Engineers for commissioning
- ✓ One call for all valve support



## Automated Isolation Valve Opportunity

### Traditional Approach

- Offers components
  - Instrument
  - Actuator
  - Isolation valve
- Ships separately
- Requires engineering, assembly, configuration, and testing on site



### Integrated Emerson Solution

- Industry first capability to deliver a fully engineered, integrated, configured and tested valve solution from a single supplier
- Reduce risk of incompatibility
- Minimize ordering and commissioning complexity
- Improve change order management



# Emerson Has Enabled Major Shifts in the Life Sciences Industry Through Innovative Technologies & Services

## Recent Industry Focus: Optimizing Manufacturing Capabilities



**Increasing  
Regulatory  
Compliance**



**Systems Validation  
Consulting**

Partnering with customers to reduce FDA validation period



**Electronic  
Records  
Management**



**Batch Recipe Software**

Ensuring right-first-time manufacturing for batch operations



**Accelerating  
Product Pipelines**



**DeltaV Discovery**

Control solution for R&D applications enabling improved technology transfer

# We Will Continue to Lead the Industry With Forward Thinking Innovations to Maximize Business Results

## Future Industry Focus: Maximizing Enterprise Performance



### Continuous Manufacturing

Connecting modular operations with real-time monitoring, advanced control



### PK Controller

Skid control solution for modular applications

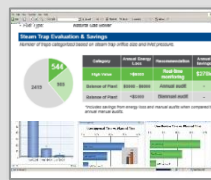


### Pharma 4.0

Improving technology transfer, data analytics, easy product changeover



## PLANTWEB



### Elevating Software Capabilities

Providing advanced Operations Management capabilities unique to Life Sciences industries



### Expanding Hygienic Instrumentation Portfolio

Improving data coverage of the entire operation for better control and optimization

# Emerson Has an Established Product Portfolio Serving Discrete Industries

## Pneumatics



Directional Valves



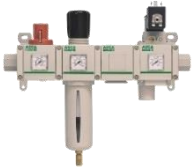
Proportional Valves



Cylinders & Actuators



Grippers



Air Preparation

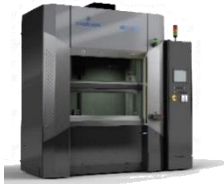
## Material Joining



Vibration Joining



Infrared Joining



Laser Joining



Ultrasonic Joining

## Electrical



Power Supplies



Lighting



Electrical Apparatus

## Sensors & Analyzers



Leak Detection



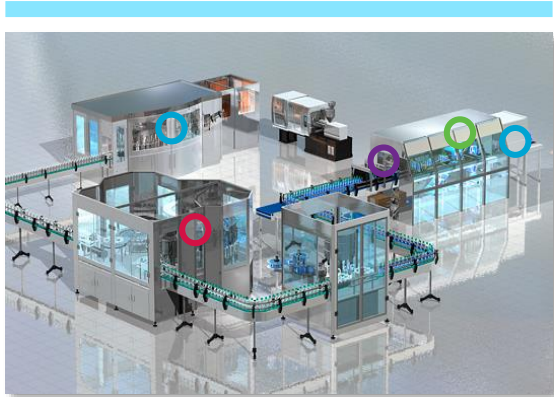
Flame Detection



Proximity

# Our Existing Capabilities Provide Unique and Differentiated Solutions

## Packaging



### Filling & Sealing

- Filling control
- Container sealing

### Material Handling

- Sorting
- Loading / unloading

### Inspection

- Leak detection

### Secondary Packing & End of Line

- Motion control
- Product grippers
- Compressed air

## Automotive



### Paint Shop

- Lighting and power
- Flow Control

### Press Room & Stamping

- Gripping and transfer
- Pressure control

### Plastic Joining

- Bumpers and taillights
- Engine covers
- Dashboard and consoles

### Tire & Ride Control

- Tire making
- Air ride systems

### Metal Joining

- Battery and wiring

### Precision Cleaning

## Aerospace



### Ground Support Equipment

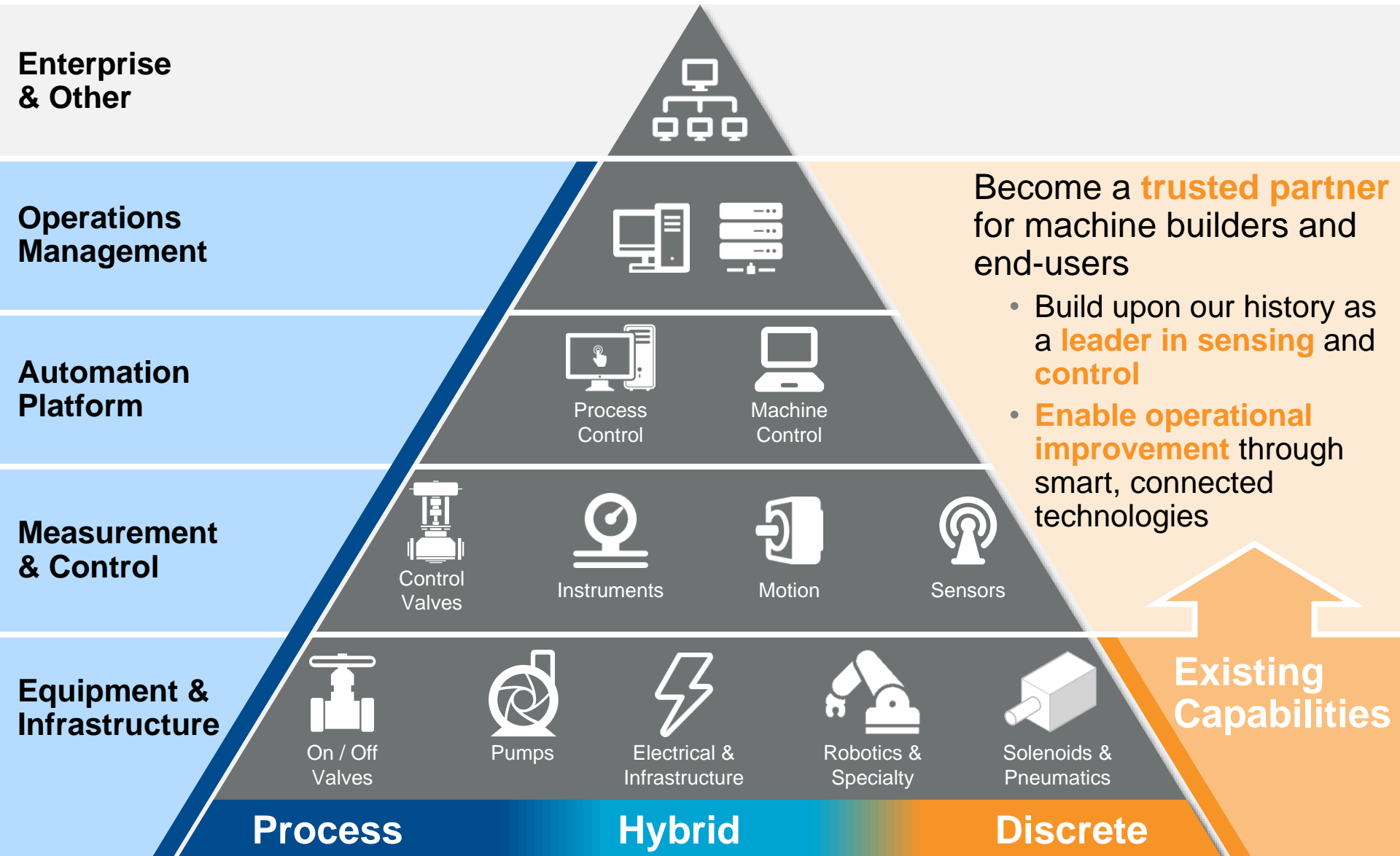
### Automated Testing Systems

### On & Off Valves

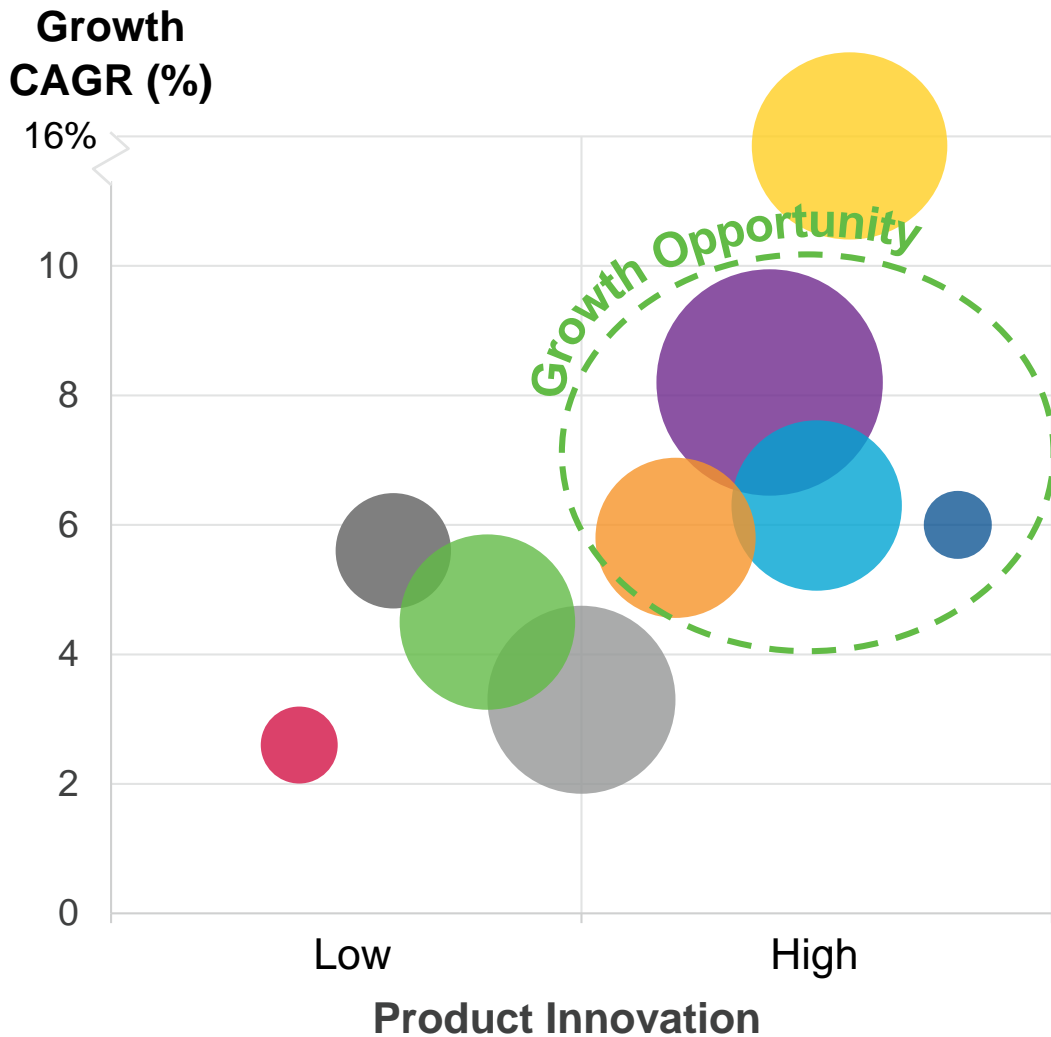
### Pressure Control

### Rocket Fueling Control

# Enhancing Our Position in the Smart Factory Will Complement Our Strong Process Market Leadership



# We Have Identified Target Markets With Strong Growth, Differentiated Technologies and Viable Entry Points



## Focus segments:

- High growth and high innovation
- High value to design of machines
- Industry 4.0 enablers
- Presence of available partners and acquisitions

Capitalize on Industry 4.0 and diversify served markets



# Automation Solutions Strategic Direction to Drive Growth Across the Entire Portfolio

## People Development

- Talent Management & Development
- High Performance Leadership & Work Culture

## Technology Leadership

- Plantweb Digital Ecosystem
- Breakthrough Innovation
- Additive Technologies

## Problem Solving



Customer

- Strategic Accounts & Critical Sites
- Digital Customer Experience
- Industry Solutions

## One Emerson Experience

- Project Certainty
- Safety & Quality
- Operational Performance

- Operational Certainty
- Shutdowns, Turnarounds & Outages
- Digitally Enabled Field Services

## Perfect Execution

## Lifecycle Management

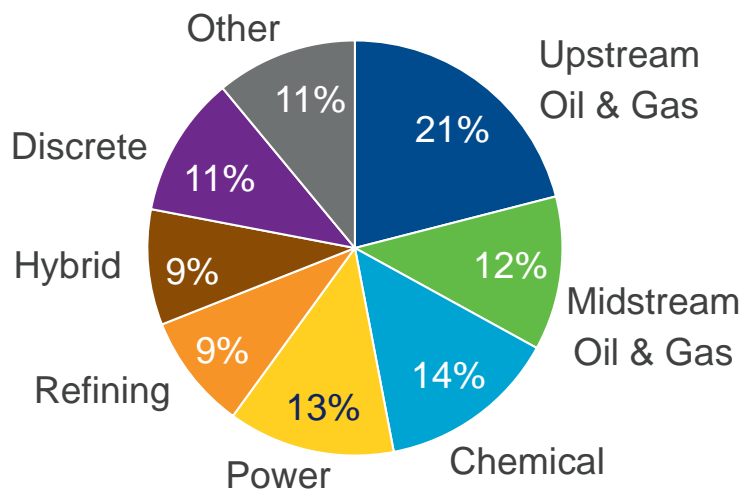
One Strategy Focused on Solving Customer Problems  
Across Process, Hybrid, and Discrete Markets

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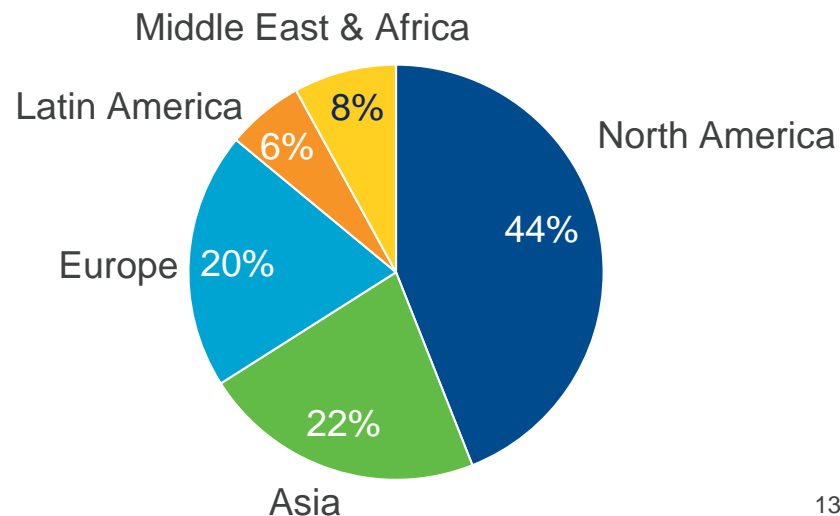
# Automation Solutions 2016 Summary & 2017 Guidance

	<u>2015</u>	<u>2016</u>	<u>2017E</u> <b>(5%) - (3%)</b> Underlying Growth*
Sales	\$10.2B	\$9.0B	
EBIT	\$1.8B	\$1.5B	
% of Sales	18.2%	16.2%	17% - 18%
ROTC	22%	17%	

2016 Major Markets Served



2016 Sales by Geography



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# Rising

to the New Challenge



# Rising

to the New Challenge

# **2017 Investor Conference Commercial & Residential Solutions Business Overview**

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Bob Sharp  
Executive President  
February 16, 2017

# **2017 Investor Conference Commercial & Residential Solutions Business Overview**

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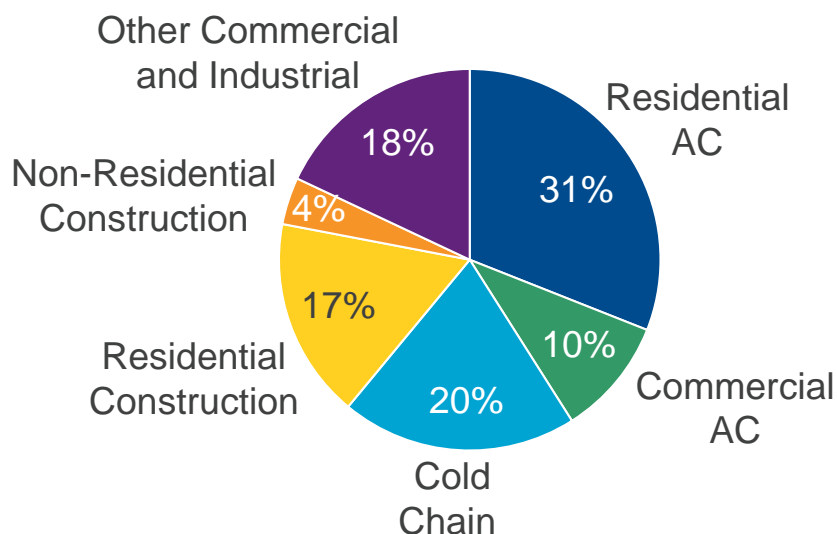
Bob Sharp  
Executive President  
February 16, 2017



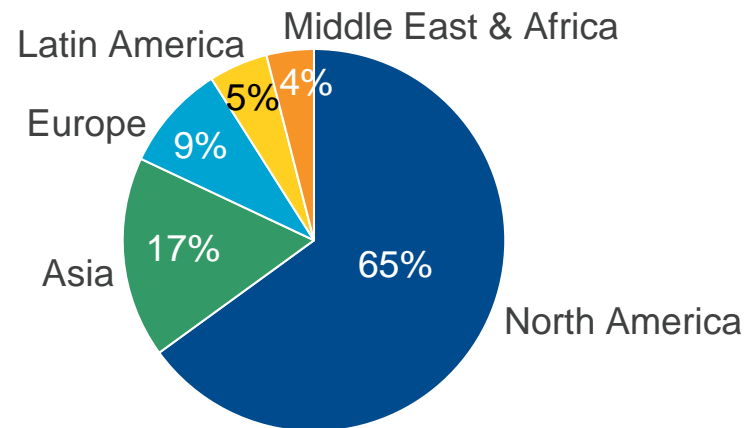
# Commercial & Residential Solutions 2016 Summary

	<u>2015</u>	<u>2016</u>	<u>2015 – 2016 Change</u>
Sales	\$5.6B	\$5.5B	(1%)
EBIT	\$1.2B	\$1.3B	7%
% of Sales	21.3%	23.2%	190 bps
ROTC	42%	45%	

### 2016 Sales by Market



### 2016 Sales by Geography



# Key Messages

---

- Commercial & Residential Solutions has a **long-term history of growth and profitability**, built upon **franchise businesses** and **industry stewardship**
- We have **favorable market dynamics**, and trends around efficiency, sustainability, comfort, and new refrigerants provide **catalysts for new growth**
- **Internet of Things technology is highly applicable** to our business; we are **investing in internal and external opportunities** to make this a platform for growth
- We are actively working to **leverage our global operational footprint** for cost and delivery improvements, and making **facility upgrades** to enhance the work environment and productivity
- We are **pursuing several acquisitions and early-stage investments** within the core market segments and new adjacent spaces – 5 closed in past 18 months
- **7% underlying\* growth** for first quarter provides strong start to 2017

Commercial & Residential Solutions Is Positioned for Growth Through Expanded Technologies, New Innovations and Adjacent Space Solutions

# Core Business Platforms

---

We concentrate on the most complex and important challenges facing the world in the process, industrial, commercial and residential markets



- Making the greatest use of the world's valuable resources
- Helping nations move their economies forward in a responsible way
- Enabling the performance and safety of industry when it matters most
- Advancing the industries that are the backbone of daily life



- Ensuring human comfort and health
- Protecting food quality and sustainability
- Advancing energy efficiency and environmental conservation
- Creating sustainable infrastructure
- Continuing momentum through our Helix Innovation Network

# Comprehensive Range of Technologies and Solutions



BRINGING COMFORT AND  
CONVENIENCE TO HOMES



ENABLING HIGH  
PERFORMANCE BUILDINGS












KEEPING FOOD FRESH THROUGH  
COLD CHAIN SOLUTIONS



Helping Customers, Contractors and End Users Navigate Change







# Increased Collaboration as Commercial & Residential Solutions Can Unleash Greater Value Creation

<b>COMMON END MARKETS</b>	 Residential Homeowners	 Commercial Building Managers	 Cold Chain Stakeholders			
<b>COMMON CUSTOMERS &amp; INFLUENCERS</b>	OEMs  Wholesalers / Distributors	Engineers/ Consultants  Utilities	Contractors  Builders  End Users			
<b>END MARKET CHALLENGES</b>	Ensuring human comfort and health		Advancing energy efficiency and environmental conservation			
	Protecting food quality and sustainability		Creating sustainable infrastructure			
<b>OPPORTUNITIES &amp; SYNERGIES</b>	 Branding / Digital Marketing	 Omni Channel Capabilities	 Big Data / Analytics	 Functional Support	 Research & Technology	 Global Reach

# Internal, Channel, and Customer Facing Synergy Programs Are Underway

		Tools & Home Products	Air Conditioning	Refrigeration	Sensors & Controls	Electronics & Solutions
Customers	Consumers / End Users	Active				Active
	Contractors / Facilities	Active	Active	Active	Active	Active
	Engineers		Active	Active	Active	Active
	Government / Utilities		Active	Active		Active
	OEMs		Active	Active	Active	
	Marquee Accounts	Active	Active	Active	Active	Active
	Food Retail / Service			Active		Active
Channels	eCommerce	Active				Active
	Industrial / Wholesale		Active	Active	Active	Active
	Home Centers / Retail	Active				Active
Capabilities	Analytics	Active			Active	Active
	Digital Engagement / Social	Active	Active		Active	
	Sales Force Automation	Active				Active
	Customer Intelligence	Active				Active
	Cloud Computing / Monitoring	Active				Active
	Mobile App Development	Active	Active			Active
	Software Development	Active	Active	Active		Active
	Electronics Design		Active	Active	Active	Active
	Human Centered Design	Active				Active
	Service	Active	Active	Active		Active
	Warehousing	Active	Active	Active		
Logistics	Active	Active	Active			
Core Functions	Human Resources	Active	Active	Active	Active	Active
	Marketing	Active	Active	Active	Active	Active
	Operations & Supply Chain	Active	Active	Active	Active	Active
	Research & Technology	Active	Active	Active	Active	Active
	Finance & Legal	Active	Active	Active	Active	Active
	Information Technology	Active	Active	Active	Active	Active

# Growth Summary by Key Market Space

Industry	Forward Market	Trends
Residential	 2%-5%	<ul style="list-style-type: none"> <li>• Energy efficiency / conservation</li> <li>• Home automation / wireless</li> <li>• Channel dynamics</li> </ul>
Commercial	 2%-5%	<ul style="list-style-type: none"> <li>• Emerging market &amp; population growth</li> <li>• Energy scarcity &amp; regulations</li> <li>• Building automation &amp; indoor air quality</li> </ul>
Food Retail / Services	 2%-3%	<ul style="list-style-type: none"> <li>• Rising energy costs and regulations</li> <li>• Food Safety Modernization Act (FSMA)</li> <li>• Organic waste disposal requirements</li> </ul>
Cold Chain		
Transport	 2%-4%	<ul style="list-style-type: none"> <li>• Perishable shipments by marine container</li> <li>• Emerging market public transportation</li> <li>• Emission standards in truck / trailer</li> </ul>

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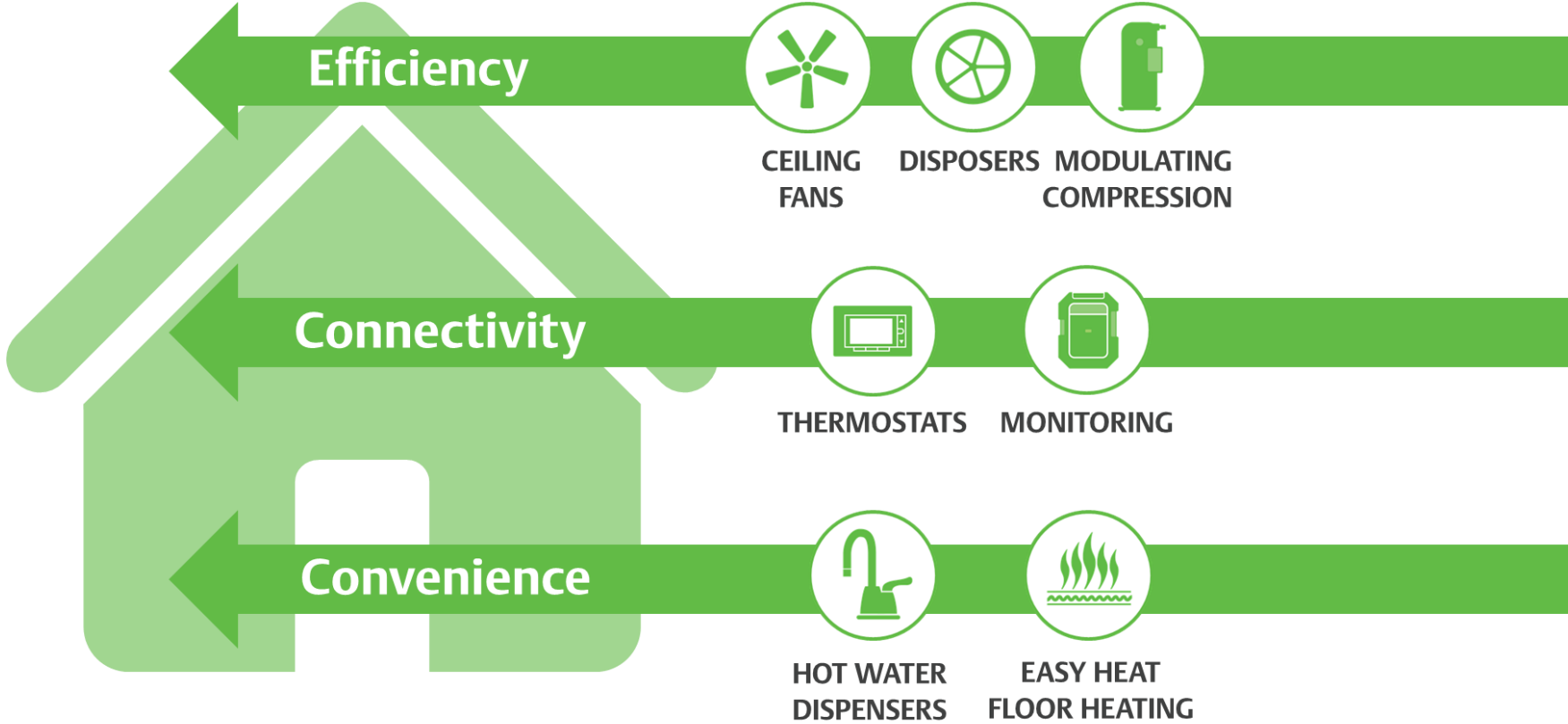


# Comprehensive Range of Technologies and Solutions



Helping Customers, Contractors and End Users Navigate Change

# Bringing Comfort and Convenience to Homes



134 MILLION U.S. HOUSING UNITS

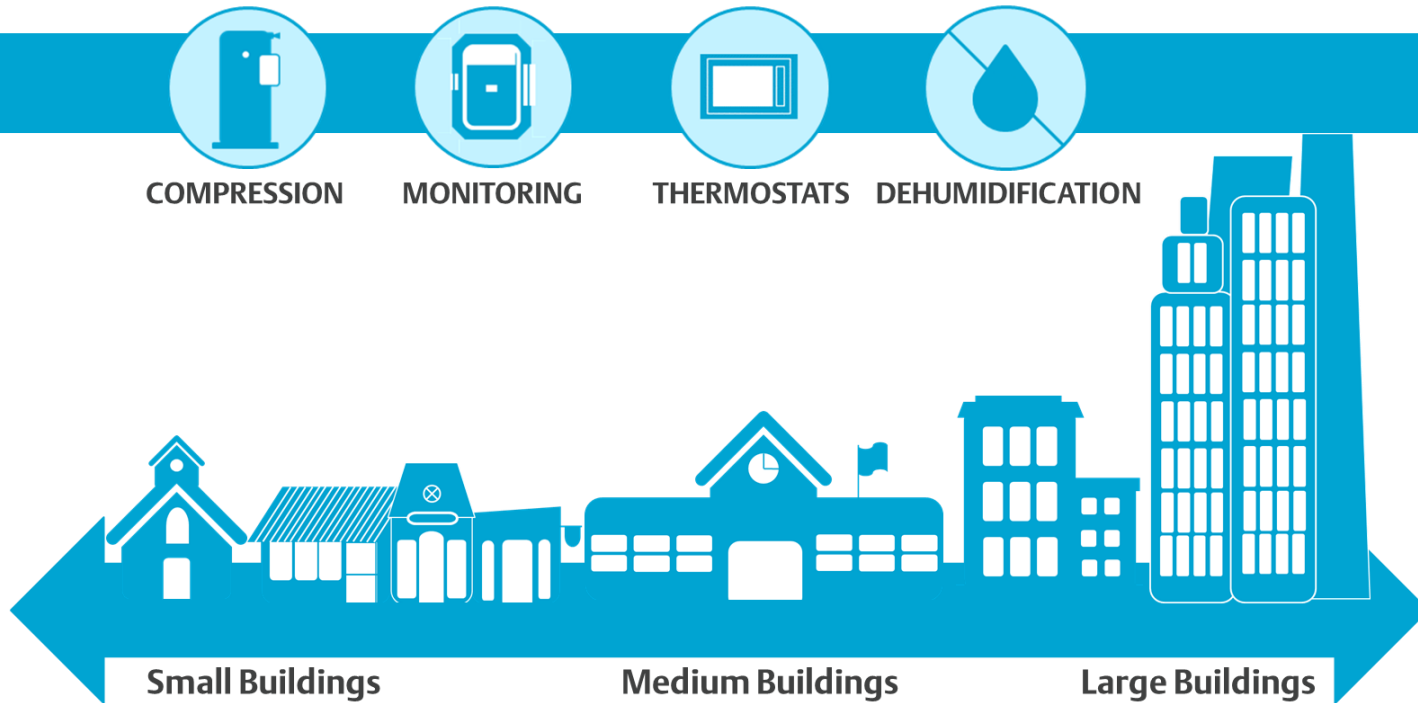
58% HOME ENERGY CONSUMED BY HVACR & WATER HEATER

\$21 BILLION HOME AUTOMATION MARKET BY 2020

CHINA CLEAN ENERGY HEATING INITIATIVES

# Enabling High Performance Buildings

Providing solutions to drive efficiency and control



**36%**  
ENERGY CONSUMPTION  
HVACR SYSTEMS &  
25% FROM LIGHTING

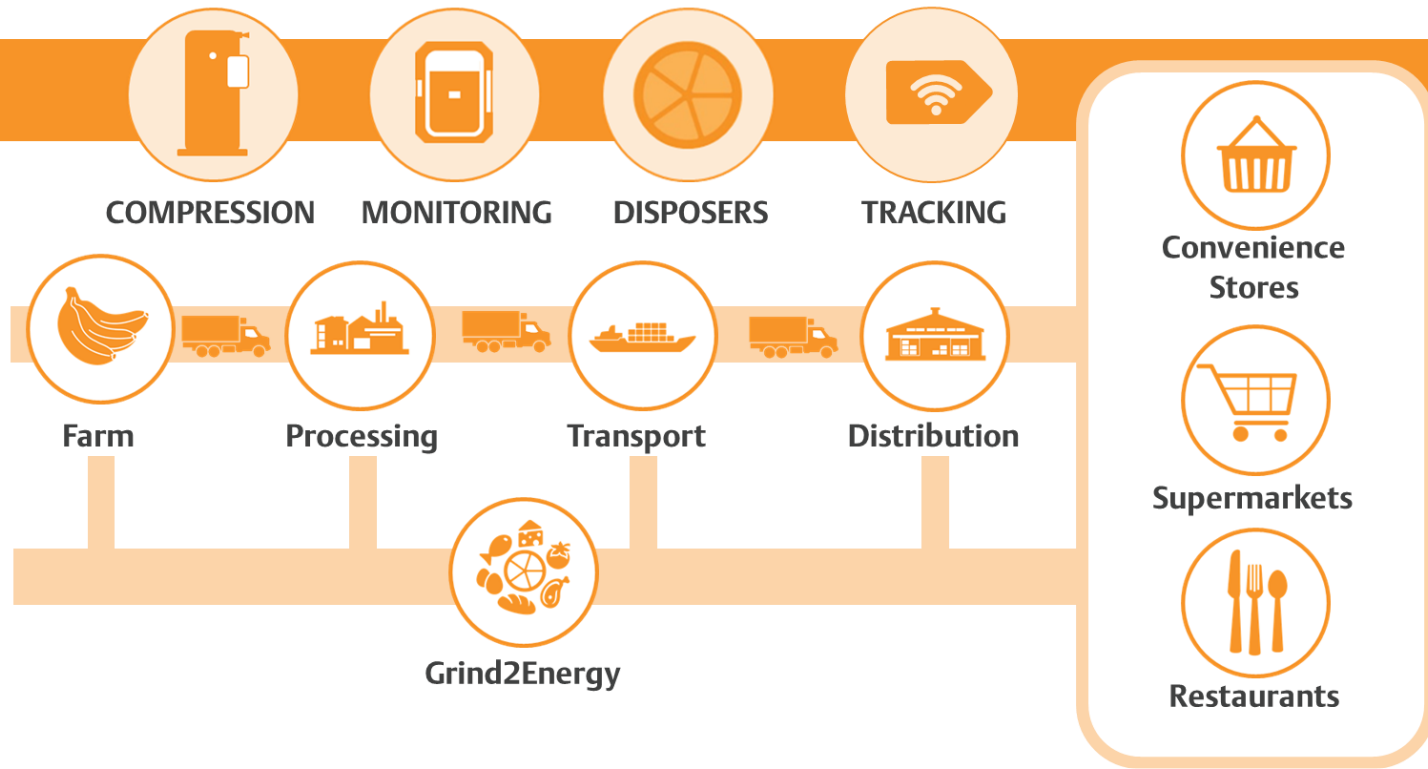
**CONSTRUCTION  
OF ZERO ENERGY BUILDINGS  
DOUBLED  
SINCE 2012**

**\$4 \$  
BILLION  
PRIVATE SECTOR  
INVESTMENT IN CLEAN  
ENERGY INNOVATION**

**3%**  
PRODUCTIVITY  
LOSS DUE TO  
POOR INDOOR  
AIR QUALITY

# Keeping Food Fresh Throughout the Cold Chain



## Food quality and safety solutions across the cold chain



**40%**   
**ENERGY TO 60%**  
**SUPERMARKET ENERGY**  
**DEVOTED TO HVACR**

**INDIA 2<sup>ND</sup>**  
**LARGEST**  
**DAIRY &**  
**PRODUCE**  
**MARKET** 

**30%**   
**FOOD WASTED**  
**DURING PROCESSING**  
**TRANSPORT & STORAGE**

  
**28**   
**MILLION**  
**REFRIGERATED**  
**TRUCK LOADS PER YEAR**

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# Growing Base of Sensi Comfort Monitoring Installations



- 7 sensors, with 50 algorithms providing real-time system checks
- New installation verification
- Smart service agreements with 24/7 monitoring service
- Early notification of developing problems before comfort is impacted

## Big Box Channel a Key Opportunity

- Sensi Comfort Monitoring and Smart Service
- Improves customer experience and ensures quality installation
- Provides ongoing relationship with customer

## Contractor Install & Maintenance Support

- Reliable new installs and service agreements
- Partnering with large national contractors
- Remote data access and improved productivity
- Targeting 15+M basic service agreements that exist today

Monitoring Delivers Quality Install and Service Support  
Provides Advanced Warning and Diagnostics for Any Issues

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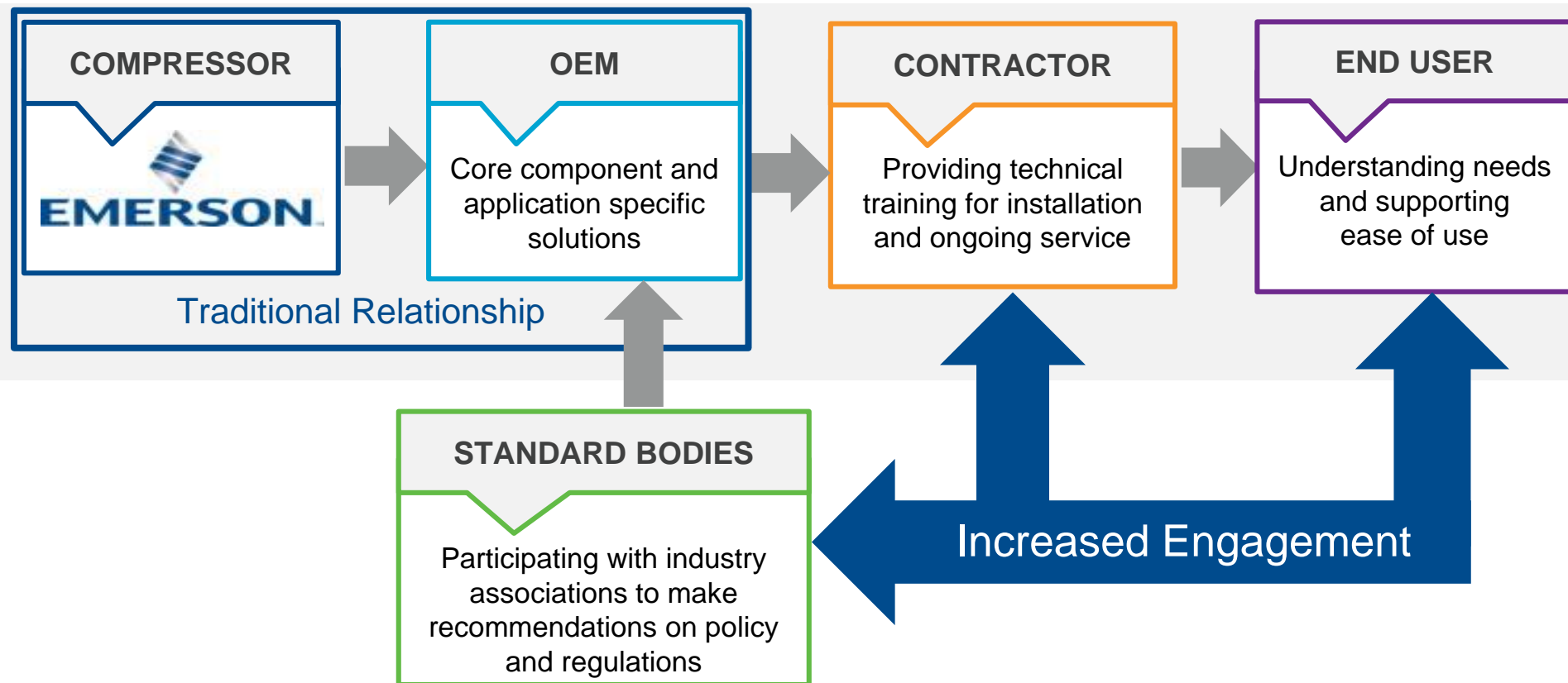
# Our Scroll Technology Supports China Clean Air Initiatives Including Home and District Heat Pumps

## China Heating Coverage



- Government actively working to address air quality issues
- Air source heat pump recognized as the best solution versus coal boiler heating systems
- Emerson scroll has technology advantage in low ambient environment
- Rapid growth today, with increasing number of local subsidy programs

# Leveraging Industry Stewardship Position to Engage With Entire Value Chain



We're Leveraging Expertise, Relationships, and Capabilities for Solutions, Even in the Most Competitive Global Markets

# Our Components and Solutions Are the Backbone of HVAC and Refrigeration Systems

Refrigeration

Commercial AC & Heating

Residential Heating

System Level



Cases, Racks, Units

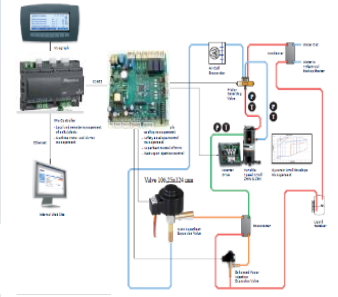
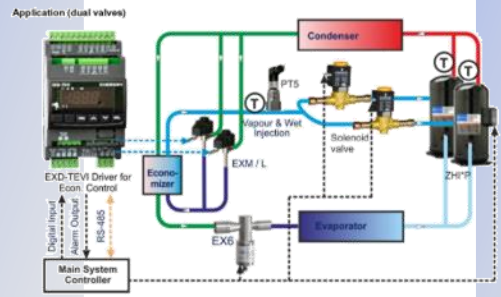
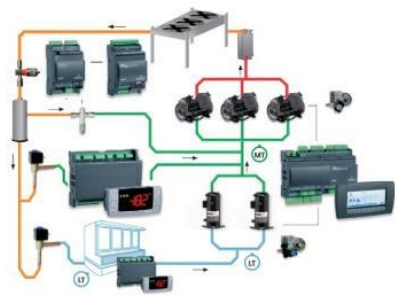


Chillers



Heat Pumps

Application Specific Solutions

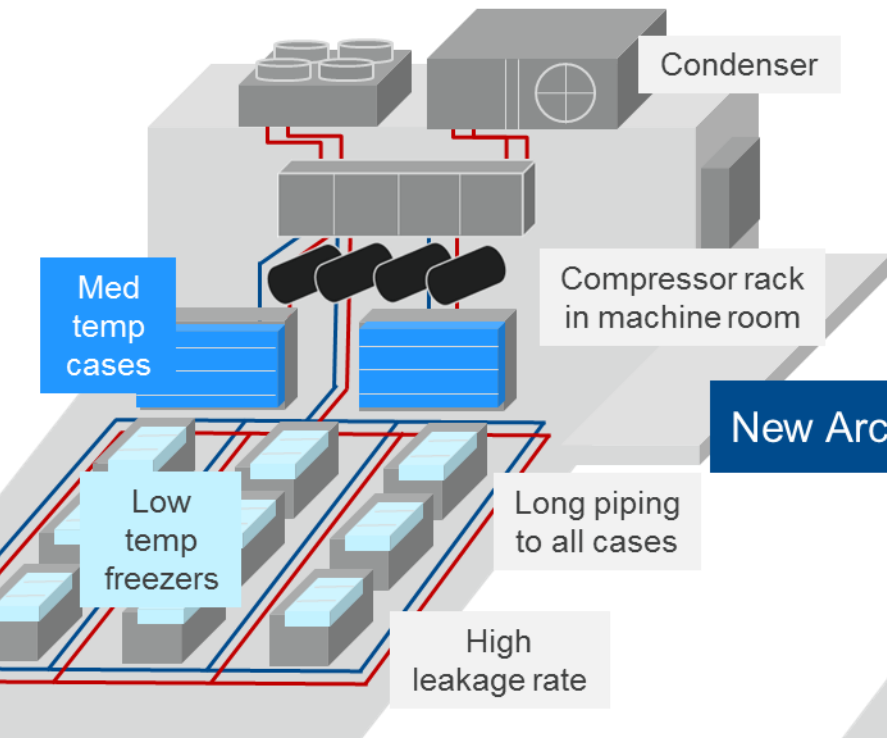


Core Components

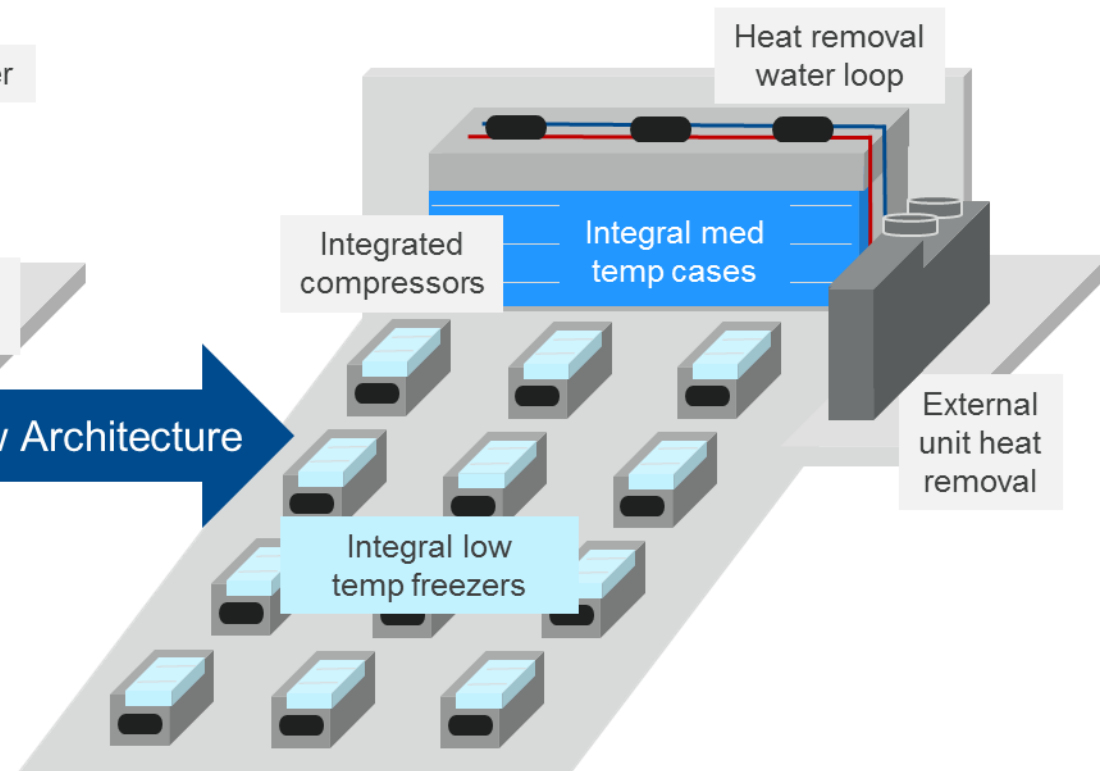


# Example of Solutions Partnership With European Refrigerated Display Case Producer

Central Plant Architecture Requires Mechanical Room and Extensive Piping



Integral Cases Provide Flexibility and More Selling Space



Integral Display Case Infrastructure Delivers 21% Savings to the Retailer  
Driven by Service and Maintenance Reductions

# Expanding Our Portfolio of Commercial AC Efficiency Solutions

Replace HVAC Equipment	<ul style="list-style-type: none"><li>- New HVAC equipment with higher efficiency</li><li>- High first cost competes with lower operating costs</li><li>- Capital outlay may be impediment</li></ul>
Upgrade Installed Equipment Base	<ul style="list-style-type: none"><li>- Retrofit existing equipment to improve efficiency</li><li>- Rebate incentives drive retrofit actions</li><li>- Upgrades improve building comfort</li></ul>
Building Management System (BMS)	<ul style="list-style-type: none"><li>- Visibility of system health and fault detection</li><li>- Virtual “building controls” via connectivity and cloud</li><li>- System complexity varies depending on building size</li></ul>
Variable Refrigerant Flow (VRF)	<ul style="list-style-type: none"><li>- High first cost, high refrigerant charge and technically complex</li><li>- Applicability to US market is still being determined</li><li>- Compressor and electronics are well-suited to Emerson offering</li></ul>

# Delivery of Commercial Building Solutions Through New Technologies and Helix Innovation



Copeland Scroll  
Two-Stage



Copeland Scroll  
Variable Speed



CoreSense  
Communications



Catalyst Lite  
Variable speed drive  
for rooftop units



Catalyst eIQ  
Variable speed drive  
plus sensors, controller  
and connectivity



eIQ Platform  
Cloud-based  
monitoring and  
diagnostics

ProAct



Site  
Supervisor



Copeland Scroll  
Variable Speed



Copeland Scroll  
Two-Stage

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# Refrigeration Industry Also Facing Many Complex Challenges

In 2017, the DoE is requiring



**35%** IMPROVEMENT  
in reach-in  
energy efficiency

**37%** IMPROVEMENT  
in walk-in  
energy efficiency



**14x** INCREASE  
in alternative refrigerant  
testing in the last **5 years**  
by major retailers

Dwindling workforce,  
resulting in



a shortage of  
**60,000**  
technicians  
in 2015



**2x** or more  
INCREASE for  
component electronics value  
in systems with  
**natural refrigerants**

# E360 Industry Program Helps Make Sense of the Most Pressing Issues in Refrigeration

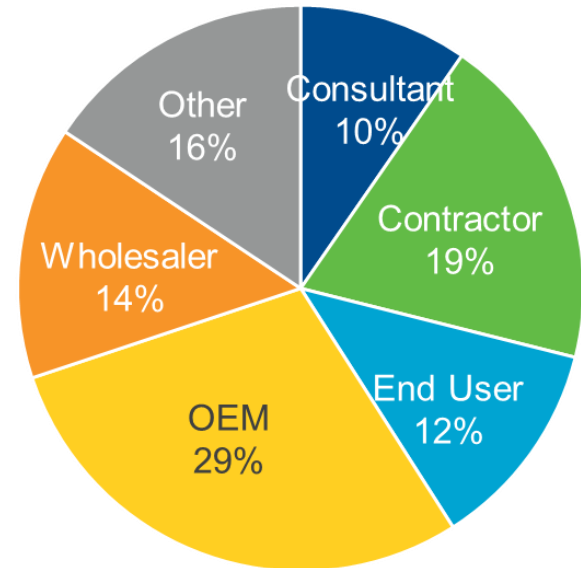


**E360**

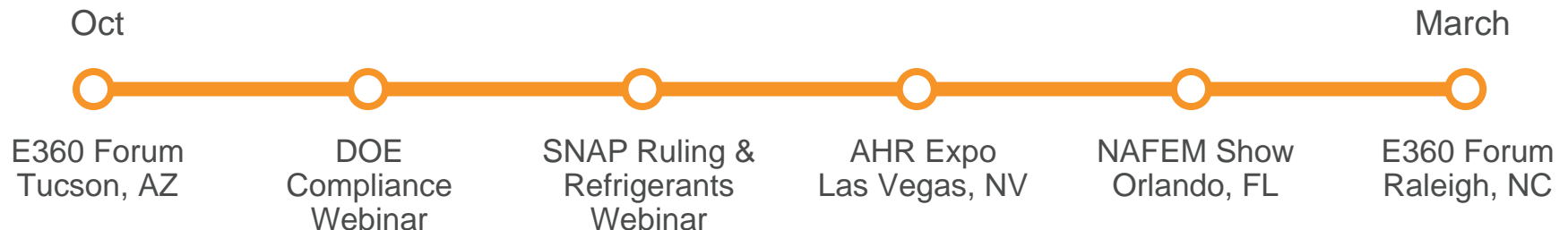
Participants recognize our domain expertise

- 97% rated content highly valuable
- 94% would recommend to a colleague

## 90K Industry Touchpoints



## 9K Live Event Participants



# The Importance of Serving Contractors Extends to Plumbing – RIDGID Is a Leader in the Space

## Contractor Education



- Extensive use of YouTube for contractor education
  - 200k hours of RIDGID video watched



- Hands-on tool demonstrations to contractors
  - 75k tools demonstrated



- Communicating with customers via social media
  - 800k followers



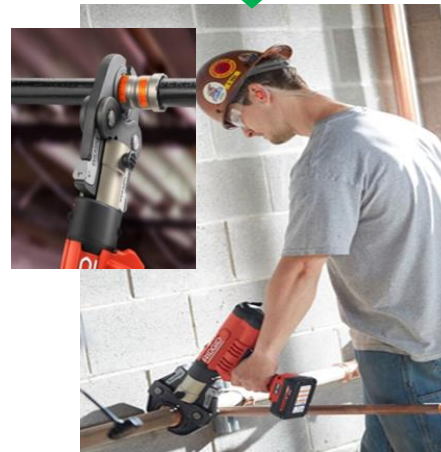
- RIDGID Net Promoter Score is 73
  - Customers highly satisfied and loyal to brand
  - Similar NPS as Apple, Amazon and Netflix

## Contractor Efficiency



### Solder Joining

- Drain line
- Prep tube
- Apply flux
- Heat with flame
- Melt solder
- Can be up to 40 mins / joint

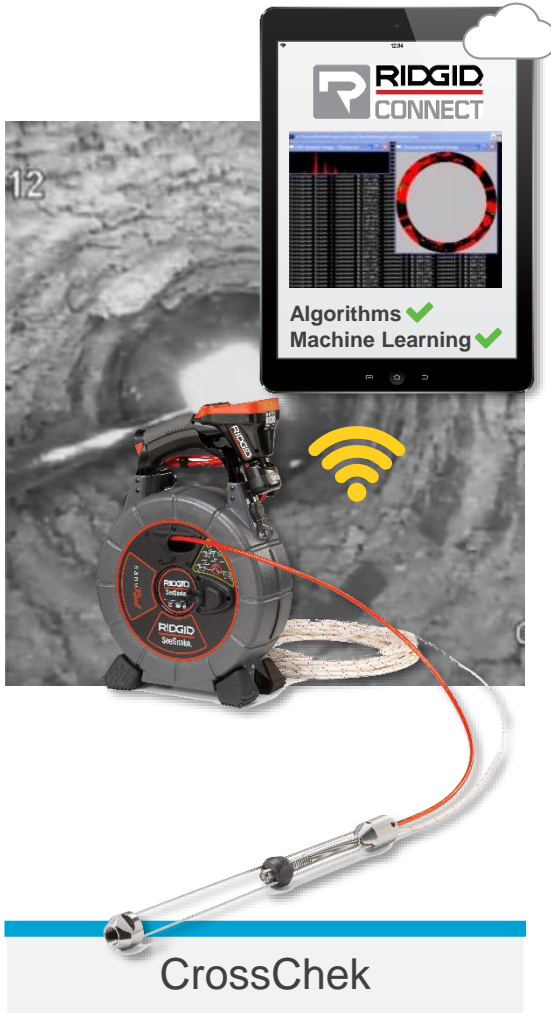


### Press Joining

- Fast and easy
- No flame or fire watch
- Use on wet systems
- 1/2" to 4" fitting in 5 secs

RIDGID Customer Experience Focused on Contractor Efficiency

# IoT Solutions Extend Throughout the Commercial & Residential Solutions Platform



A tablet displaying the RIDGID CONNECT app interface with a circular gauge and data tables. Below the tablet is a grey and red RIDGID CrossChek cable inspection camera unit with a long cable. A yellow Wi-Fi signal icon is positioned between the tablet and the device. The background shows a trench with a camera probe inserted.

**RIDGID CONNECT**

Algorithms ✓  
Machine Learning ✓

**CrossChek**

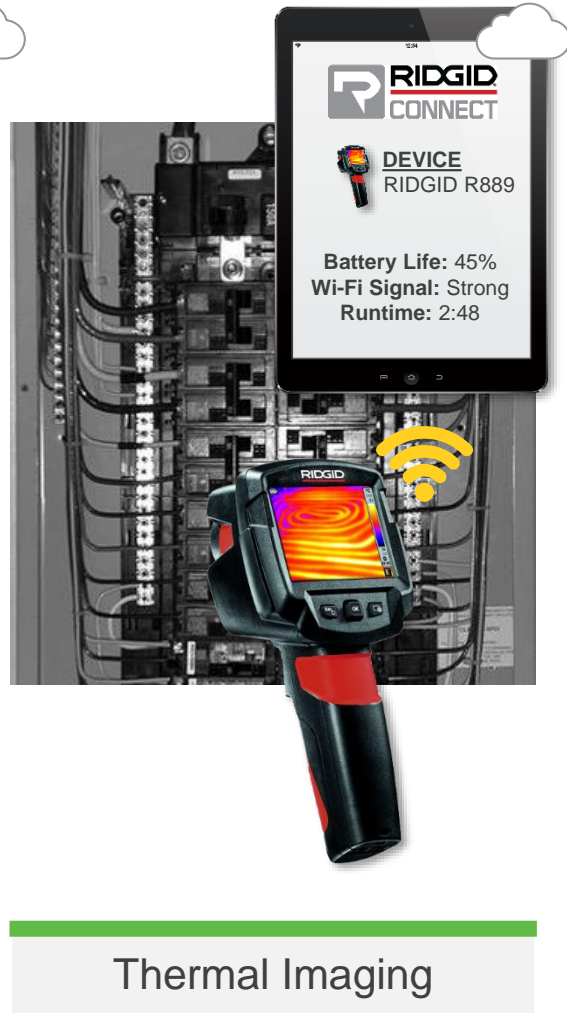


A tablet displaying the RIDGID CONNECT app interface with a map, a line graph, and text indicating 'Cable Distance: 40'' and 'Speed: 254 RPM'. Below the tablet is a red and grey RIDGID Kollmann drain cleaning machine. A yellow Wi-Fi signal icon is positioned between the tablet and the machine. The background shows a drain being cleaned.

**RIDGID CONNECT**

Cable Distance: 40'  
Speed: 254 RPM

**Smart Drain Cleaning**



A tablet displaying the RIDGID CONNECT app interface with a device icon and status information: 'Battery Life: 45%', 'Wi-Fi Signal: Strong', and 'Runtime: 2:48'. Below the tablet is a black and red RIDGID R889 thermal imager. A yellow Wi-Fi signal icon is positioned between the tablet and the imager. The background shows a server rack.

**RIDGID CONNECT**

DEVICE  
RIDGID R889

Battery Life: 45%  
Wi-Fi Signal: Strong  
Runtime: 2:48

**Thermal Imaging**

Connected Solutions Helping Contractors Navigate Changes

# Increased Attention to Cold Chain for Both Traceability and Loss Prevention

Big, high-stakes impact areas for participants and retailers

**\$990 BILLION**

Annual Global Food Loss/Waste



**\$32 BILLION**

Annual Energy Spend in Global Markets



**\$18 BILLION**

Annual Facility Maintenance Cost



Space constraints and local regulations are restricting food waste in landfills

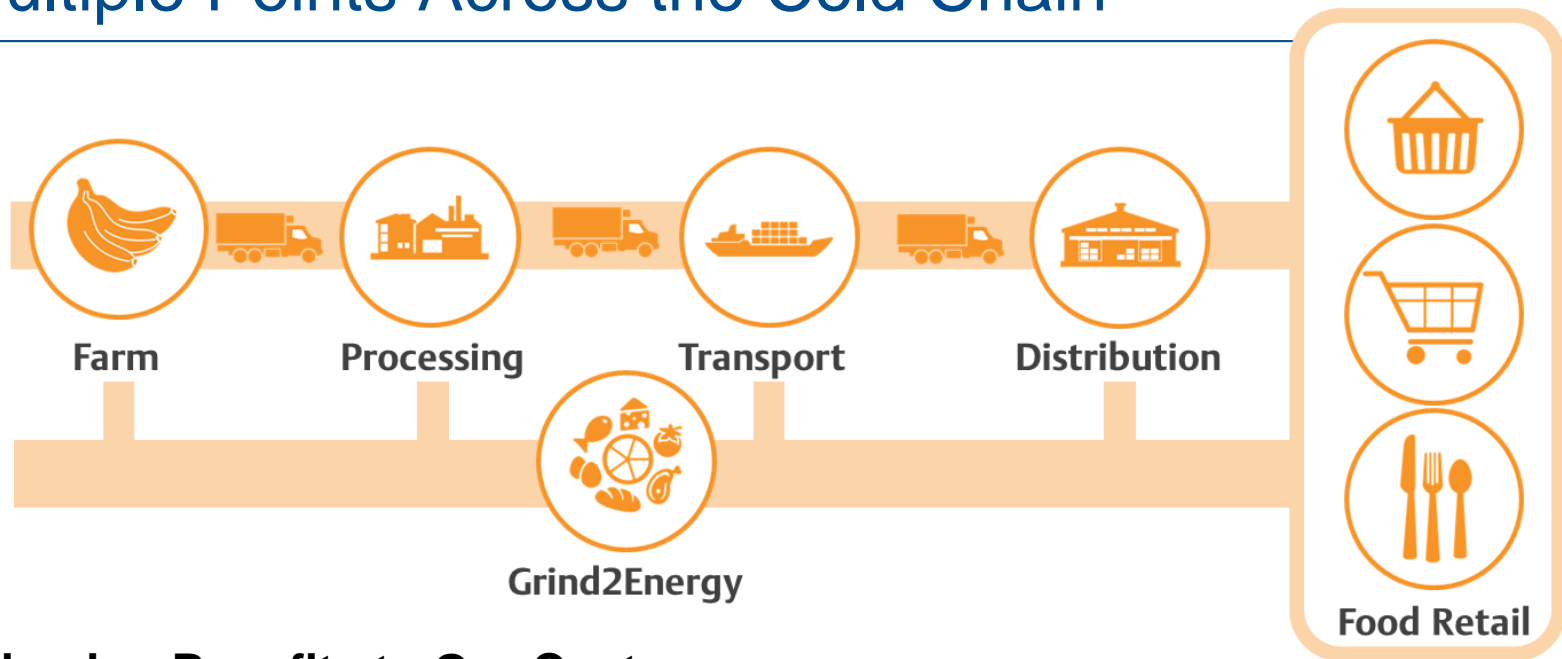


**IF FOOD WASTE WERE A COUNTRY, IT WOULD BE THE THIRD LARGEST PRODUCER OF GREENHOUSE GASSES IN THE WORLD.**

Source: World Resources Institute (2012)

Stakeholders Across the Cold Chain Need Energy Efficiency, Food Safety and Sustainable Waste Management Solutions

# Emerson Solutions Are Helping Stakeholders at Multiple Points Across the Cold Chain



## Delivering Benefits to Our Customers

### Connected Solutions

- End-to-end food quality
- Reduced food shrinkage
- Shelf life strategies
- Robust supply
- Regulation compliance
- Predictive equipment alerts

### Grind2Energy

Delivered major sustainability impact in 2016:

- Diverted 7K tons of food waste
- Scheduled 1,200 pump outs of disposed food waste
- Reduced greenhouse gas emissions equal to 12M car miles
- Slurry produced 2.5M kWh of power

# We Now Have an End to End Monitoring Presence Across the Cold Chain



Monitoring the cargo

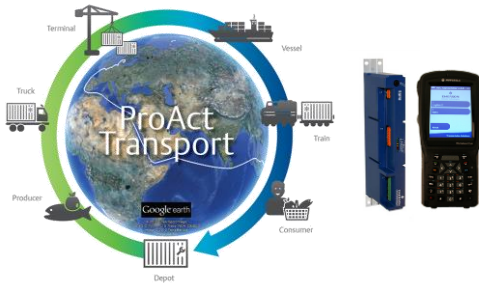
LocusTraxx PakSense

Focus from grower-forward Focus from retailer-back



- Food temperature sensors
- Remote food monitoring
- Compliance reporting

Monitoring the container



- Real-time monitoring, tracking & control of container
- Monitoring system for vessels at sea
- Container fleet asset management & maintenance

Monitoring the facility



- Alarms
- Food quality reports
- Smart dispatch
- Energy monitoring

# Grind2Energy Solving Food Waste Management Challenges for Retail and Commercial Kitchens

- No upfront costs. Monthly subscription service:
  - Installation
  - Maintenance
  - Monitoring
  - Pickups / delivery
- Emerson monitors tank levels in real-time via sensors
  - Partnering with AT&T on IoT connectivity
  - Data analytics to customers
- Pump-out scheduling and coordination
- Predictive maintenance and remote service visibility



**The New York Times**  
 Power in Numbers: Emerson Helps Large Venues Turn Food Waste into Energy  
 Published: September 20, 2016  
 CLEVELAND--(BUSINESS WIRE)--Excitement. Large-scale feature exists just behind the scenes.

**Whole Foods Market Recognizes Emerson's Grind2Energy with '2015 Green Supplier of the Year' Award in North Atlantic Region**  
 Published: September 13, 2016  
 Grind2Energy Helps Whole Foods Market Convert Food Waste into Energy  
 RACINE, Wis.--(BUSINESS WIRE)--Sep. 13, 2016-- When it comes to environmental responsibility, Whole Foods Market may be best-known for its efforts to provide high-quality food and lead with environmentally-conscious practices.



**Grind2Energy Solutions Have Diverted 7,400 Tons of Food Waste From Landfills, Equivalent to 12M Car Miles**



# Industry and Customer Response to the Helix Center Has Been Tremendous

## THE HELIX



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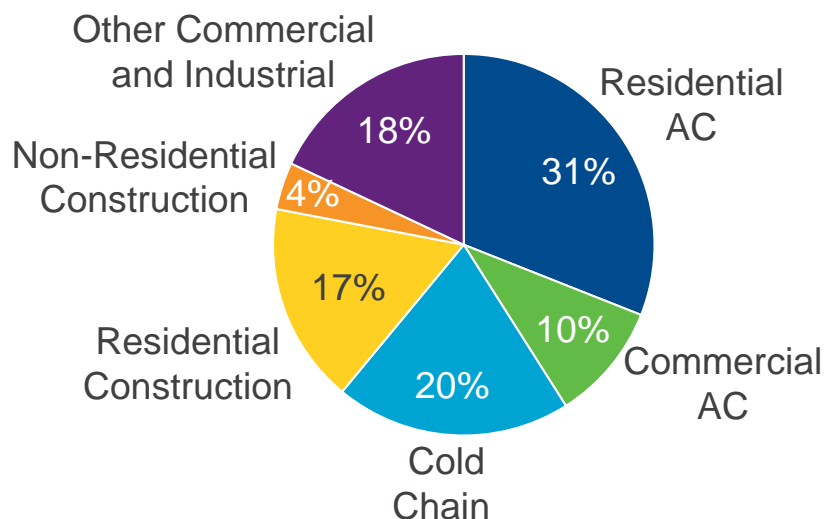
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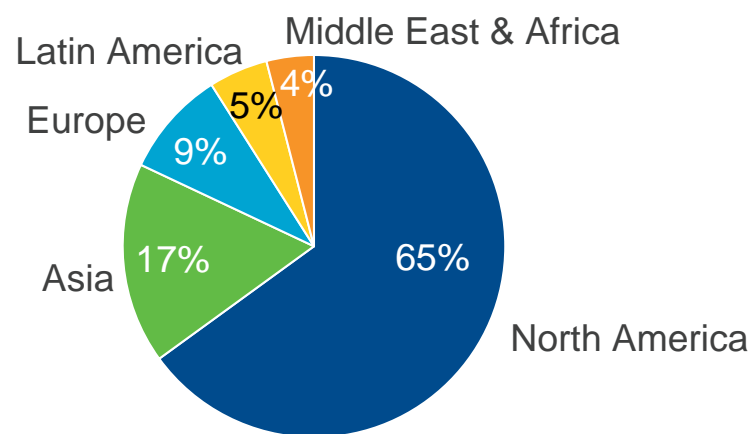
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ROTC	42%	45%	

2016 Sales by Market



2016 Sales by Geography



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Commercial & Residential Solutions Is Positioned for Growth Through Expanded Technologies, New Innovations and Adjacent Space Solutions



# Rising

to the New Challenge



# Rising

to the New Challenge





# Rising

to the New Challenge



# Rising

to the New Challenge

# Reconciliation of Non-GAAP Measures

In this presentation non-GAAP measures (denoted with an \*) are used when talking about the Company's performance, and a reconciliation of those measures to the most comparable GAAP measures is contained below.

## Sales % chg. vs. PY

Sales change (GAAP)

Acq/Div/FX

Underlying\*

2015				
Q1	Q2	Q3	Q4	FY
1%	(6%)	(11%)	(15%)	(8%)
7%	7%	8%	8%	7%
8%	1%	(3%)	(7%)	(1%)

## Sales % chg. vs. PY

Sales change (GAAP)

Acq/Div/FX

Underlying\*

2016				
Q1	Q2	Q3	Q4	FY
(17%)	(9%)	(10%)	(6%)	(11%)
7%	4%	2%	1%	4%
(10%)	(5%)	(8%)	(5%)	(7%)

## Sales % chg. vs. PY

Sales change (GAAP)

Acq/Div/FX

Underlying\*

2017	2017E			
Q1	Q2	Q3	Q4	FY
(4%)	(3) - (2%)	(1) - 0%	(1) - 1%	(3) - (1%)
1%	~1%	~1%	~1%	~1%
(3%)	(2) - (1%)	0 - 1%	0 - 2%	(2) - 0%

## Sales % chg. vs. PY

Sales change (GAAP)

Acq/Div/FX

Underlying\*

Comm & Res Sols		Auto Sols
2017	2017E	2017E
Q1	FY	FY
6%	3 - 5%	(7) - (5%)
1%	-	~2%
7%	3 - 5%	(5) - (3)%

# Reconciliation of Non-GAAP Measures

In this presentation non-GAAP measures (denoted with an \*) are used when talking about the Company's performance, and a reconciliation of those measures to the most comparable GAAP measures is contained below.

## **EBIT Margin**

	2015	2016	2017E	2021T	15 vs '16	16 vs '17E
Pretax margin (GAAP)	23.4%	16.0%	~16.7%	~18%	(740) bps	70 bps
Interest expense, net	1.1%	1.2%	~1.2%	~1%	10 bps	-
EBIT margin*	24.5%	17.2%	~17.9%	~19%	(730) bps	70 bps
Divestiture gains	(6.4%)	-	-	-	640 bps	-
EBIT margin adjusted*	18.1%	17.2%	~17.9%	~19%	(90) bps	70 bps

## **Earnings Per Share**

	2015	2016	Change
Diluted earnings per share (GAAP)	\$ 3.99	2.52	(37%)
Repositioning items and divestiture gains	(0.82)	0.46	
Adjusted basis diluted earnings per share*	3.17	2.98	(6%)
Discontinued operations	(0.36)	(0.53)	
Diluted earnings per share continuing ops. adjusted*	\$ 2.81	2.45	(13%)

## **Free Cash Flow**

	2016
Operating cash flow (GAAP)	\$ 2,881
Impact of repositioning items	179
Operating cash flow adjusted*	3,060
Capital expenditures including discontinued operations	(523)
Free cash flow*	2,537
Impact of discontinued operations	(485)
Free cash flow continuing operations*	\$ 2,052

## **Free Cash Flow**

	2012	2013	2014	2015	2016	2017E	2021T
Operating cash flow (GAAP)	\$ 3.1	3.6	3.7	2.5	2.9	~2.5	~3.3
Impact of taxes on divestiture gains and repositioning items	-	-	-	0.5	0.2	-	-
Operating cash flow adjusted*	3.1	3.6	3.7	3.0	3.1	~2.5	~3.3
Capital expenditures	(0.7)	(0.6)	(0.8)	(0.7)	(0.6)	~(0.5)	~(0.6)
Free cash flow*	\$ 2.4	3.0	2.9	2.3	2.5	~2.0	~2.7 <sup>80</sup>

# Reconciliation of Non-GAAP Measures

In this presentation non-GAAP measures (denoted with an \*) are used when talking about the Company's performance, and a reconciliation of those measures to the most comparable GAAP measures is contained below.

## **Free Cash Flow to Net Earnings Common Stockholders**

	2012	2013	2014	2015	2016	2017E
Operating cash flow to net earnings (GAAP)	155%	182%	172%	93%	176%	~153%
Capital expenditures & impact of divestiture gains (& taxes paid), repositioning items & impairments	(59%)	(66%)	(62%)	12%	(45%)	~31%
Free cash flow to net earnings adjusted*	96%	116%	110%	105%	131%	~122%

## **Dividend to Free Cash Flow Ratio**

	2011	2015	2016	2017E	2021T
Dividends to operating cash flow (GAAP)	32%	50%	43%	~49%	~38%
Capital expenditures & impact of taxes on divestiture gains & repositioning items	8%	6%	5%	~13%	~9%
Dividends to free cash flow*	40%	56%	48%	~62%	~47%

## **Operating Cash Flow % of Sales**

	2016
Operating cash flow continuing ops. % of sales (GAAP)	17.2%
Discontinued operations	(2.1%)
Operating cash flow % of adjusted basis sales*	15.1%

## **Debt / EBITDA**

	2017E
Debt / Net earnings (GAAP)	~2.7
Impact of depreciation and amortization, net interest expense and income taxes	~(1.3)
Debt / EBITDA*	~1.4