

POWERING THE FUTURE



Johnson Controls Power Solutions ANALYST DAY

June 13, 2016

LEGAL DISCLOSURES

NO OFFER OR SOLICITATION

This communication is not intended to and does not constitute an offer to sell or the solicitation of an offer to subscribe for or buy or an invitation to purchase or subscribe for any securities or the solicitation of any vote or approval in any jurisdiction, nor shall there be any sale, issuance or transfer of securities in any jurisdiction in contravention of applicable law.

ADDITIONAL INFORMATION AND WHERE TO FIND IT

In connection with the proposed transaction between Johnson Controls, Inc. (“Johnson Controls”) and Tyco International plc (“Tyco”), Tyco has filed with the U.S. Securities and Exchange Commission (the “SEC”) a registration statement on Form S-4 that includes a preliminary joint proxy statement of Johnson Controls and Tyco that also constitutes a preliminary prospectus of Tyco (the “Joint Proxy Statement/Prospectus”). These materials are not yet final and will be amended. Johnson Controls and Tyco plan to mail to their respective shareholders the definitive Joint Proxy Statement/Prospectus in connection with the transaction after the registration statement has become effective. INVESTORS AND SECURITY HOLDERS OF JOHNSON CONTROLS AND TYCO ARE URGED TO READ THE JOINT PROXY STATEMENT/PROSPECTUS AND OTHER RELEVANT DOCUMENTS FILED OR TO BE FILED WITH THE SEC CAREFULLY WHEN THEY BECOME AVAILABLE BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT JOHNSON CONTROLS, TYCO, THE TRANSACTION AND RELATED MATTERS. Investors and security holders will be able to obtain free copies of the Joint Proxy Statement/Prospectus and other documents filed with the SEC by Johnson Controls and Tyco through the website maintained by the SEC at www.sec.gov. In addition, investors and security holders will be able to obtain free copies of the documents filed with the SEC by Johnson Controls by contacting Johnson Controls Shareholder Services at Shareholder.Services@jci.com or by calling (800) 524-6220 and will be able to obtain free copies of the documents filed with the SEC by Tyco by contacting Tyco Investor Relations at Investorrelations@Tyco.com or by calling (609) 720-4333.

LEGAL DISCLOSURES / FORWARD LOOKING STATEMENTS

PARTICIPANTS IN THE SOLICITATION

Johnson Controls, Tyco and certain of their respective directors, executive officers and employees may be considered participants in the solicitation of proxies in connection with the proposed transaction. Information regarding the persons who may, under the rules of the SEC, be deemed participants in the solicitation of the respective shareholders of Johnson Controls and Tyco in connection with the proposed transactions, including a description of their direct or indirect interests, by security holdings or otherwise, is set forth in the Joint Proxy Statement/Prospectus. Information regarding Johnson Controls' directors and executive officers is contained in Johnson Controls' proxy statement for its 2016 annual meeting of shareholders, which was filed with the SEC on December 14, 2015. Information regarding Tyco's directors and executive officers is contained in Tyco's proxy statement for its 2016 annual meeting of shareholders, which was filed with the SEC on January 15, 2016.

Johnson Controls Cautionary Statement Regarding Forward-Looking Statements

There may be statements in this communication that are, or could be, "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 and, therefore, subject to risks and uncertainties, including, but not limited to, statements regarding Johnson Controls' or the combined company's future financial position, sales, costs, earnings, cash flows, other measures of results of operations, capital expenditures or debt levels are forward-looking statements. Words such as "may," "will," "expect," "intend," "estimate," "anticipate," "believe," "should," "forecast," "project" or "plan" or terms of similar meaning are also generally intended to identify forward-looking statements. Johnson Controls cautions that these statements are subject to numerous important risks, uncertainties, assumptions and other factors, some of which are beyond Johnson Controls' control, that could cause Johnson Controls

FORWARD LOOKING STATEMENTS / REQUIRED DISCLOSURES

Johnson Controls Cautionary Statement Regarding Forward-Looking Statements (cont.)

or the combined company's actual results to differ materially from those expressed or implied by such forward-looking statements, including, among others, risks related to: Johnson Controls' and/or Tyco's ability to obtain necessary regulatory approvals and shareholder approvals or to satisfy any of the other conditions to the transaction on a timely basis or at all, any delay or inability of the combined company to realize the expected benefits and synergies of the transaction, changes in tax laws, regulations, rates, policies or interpretations, the loss of key senior management, anticipated tax treatment of the combined company, the value of the Tyco shares to be issued in the transaction, significant transaction costs and/or unknown liabilities, potential litigation relating to the proposed transaction, the risk that disruptions from the proposed transaction will harm Johnson Controls' business, competitive responses to the proposed transaction and general economic and business conditions that affect the combined company following the transaction. A detailed discussion of risks related to Johnson Controls' business is included in the section entitled "Risk Factors" in Johnson Controls' Annual Report on Form 10-K for the fiscal year ended September 30, 2015 filed with the SEC on November 18, 2015 and Johnson Controls' quarterly reports on Form 10-Q filed with the SEC after such date, which are available at www.sec.gov and www.johnsoncontrols.com under the "Investors" tab. The forward-looking statements included in this document are only made as of the date of this document, unless otherwise specified, and Johnson Controls assumes no obligation, and disclaims any obligation, to update forward-looking statements to reflect events or circumstances occurring after the date of this document. In particular, information that is identified as information that Johnson Controls communicated at its December 2015 Analyst Day is made only as of December 1, 2015.

Statement Required by the Irish Takeover Rules

The directors of Johnson Controls accept responsibility for the information contained in this communication. To the best of the knowledge and belief of the directors of Johnson Controls (who have taken all reasonable care to ensure that such is the case), the information contained in this communication is in accordance with the facts and does not omit anything likely to affect the import of such information.

REQUIRED DISCLOSURES

Statement Required by the Irish Takeover Rules (cont.)

Centerview Partners LLC is a broker dealer registered with the United States Securities and Exchange Commission and is acting as financial advisor to Johnson Controls and no one else in connection with the proposed transaction. In connection with the proposed transaction, Centerview Partners LLC, its affiliates and related entities and its and their respective partners, directors, officers, employees and agents will not regard any other person as their client, nor will they be responsible to anyone other than Johnson Controls for providing the protections afforded to their clients or for giving advice in connection with the proposed transaction or any other matter referred to in this announcement.

Barclays Capital Inc. is a broker dealer registered with the United States Securities and Exchange Commission and is acting as financial advisor to Johnson Controls and no one else in connection with the proposed transaction. In connection with the proposed transaction, Barclays Capital Inc., its affiliates and related entities and its and their respective partners, directors, officers, employees and agents will not regard any other person as their client, nor will they be responsible to anyone other than Johnson Controls for providing the protections afforded to their clients or for giving advice in connection with the proposed transaction or any other matter referred to in this announcement.

NOT FOR RELEASE, PUBLICATION OR DISTRIBUTION, IN WHOLE OR IN PART, IN, INTO OR FROM ANY JURISDICTION WHERE TO DO SO WOULD CONSTITUTE A VIOLATION OF THE RELEVANT LAWS OR REGULATIONS OF SUCH JURISDICTION.

This communication is not intended to be and is not a prospectus for the purposes of Part 23 of the Companies Act 2014 of Ireland (the “2014 Act”), Prospectus (Directive 2003/71/EC) Regulations 2005 (S.I. No. 324 of 2005) of Ireland (as amended from time to time) or the Prospectus Rules issued by the Central Bank of Ireland pursuant to section 1363 of the 2014 Act, and the Central Bank of Ireland (“CBI”) has not approved this communication.

AGENDA

10:00 AM – 10:20 AM

POWERING THE FUTURE: JOHNSON CONTROLS

Alex Molinaroli
Chairman, President and CEO



10:50 AM – 11:15 AM

POWERING THE FUTURE: THE AFTERMARKET

Ray Shemanski
VP & GM Aftermarket, Power Solutions



11:45 AM – 12:00 PM

BUFFET LUNCH

12:45 PM – 1:45 PM

POWERING THE FUTURE: EXPERIENCE STATIONS

Market Drivers
Product Portfolio
Distributed Energy Storage
Sustainable Circular Supply Chain
Customer Partnerships

2:00 PM – 4:00 PM

OPTIONAL: START-STOP RIDE-and-DRIVE

RETAIL CUSTOMER IMMERSION EXPERIENCE



10:20 AM – 10:50 AM

POWERING THE FUTURE: GROWTH 2020

Joe Walicki
President Power Solutions

11:15 AM – 11:45 AM

Q&A WITH MOLINAROLI, WALICKI, SHEMANSKI, STIEF



12:00 PM – 12:45 PM

POWERING THE FUTURE: TECHNOLOGY

MaryAnn Wright
Group VP Technology & Industry Relations,
Power Solutions

1:45 PM – 2:00 PM

CONCLUSION

Alex Molinaroli
Chairman, President and CEO

POWERING THE FUTURE



POWER SOLUTIONS ANALYST DAY

Alex Molinaroli

Chairman, President and CEO

June 13, 2016

POWER SOLUTIONS TODAY VS. YOUR LAST VISIT

2011 TO 2015

	FY2011	FY2015	
Revenue*	\$5.9B	\$6.6B	+3% CAGR
			+8% CAGR <small>excluding FX and lead</small>
Segment Income	\$0.8B*	\$1.2B	+10% CAGR
			+12% CAGR <small>excluding FX</small>
Segment Margin	13.2%	17.5%	+430 bps
			+200 bps <small>excluding FX and lead</small>
ROA**	22.3%	24.4%	+220 bps

*Segment Income has been adjusted for discontinued operations and other accounting changes requiring retrospective application.

**Return on Average Net Operating Assets.

MEGA TRENDS INFORM STRATEGIES AND INVESTMENTS



Buildings & Urban Environments

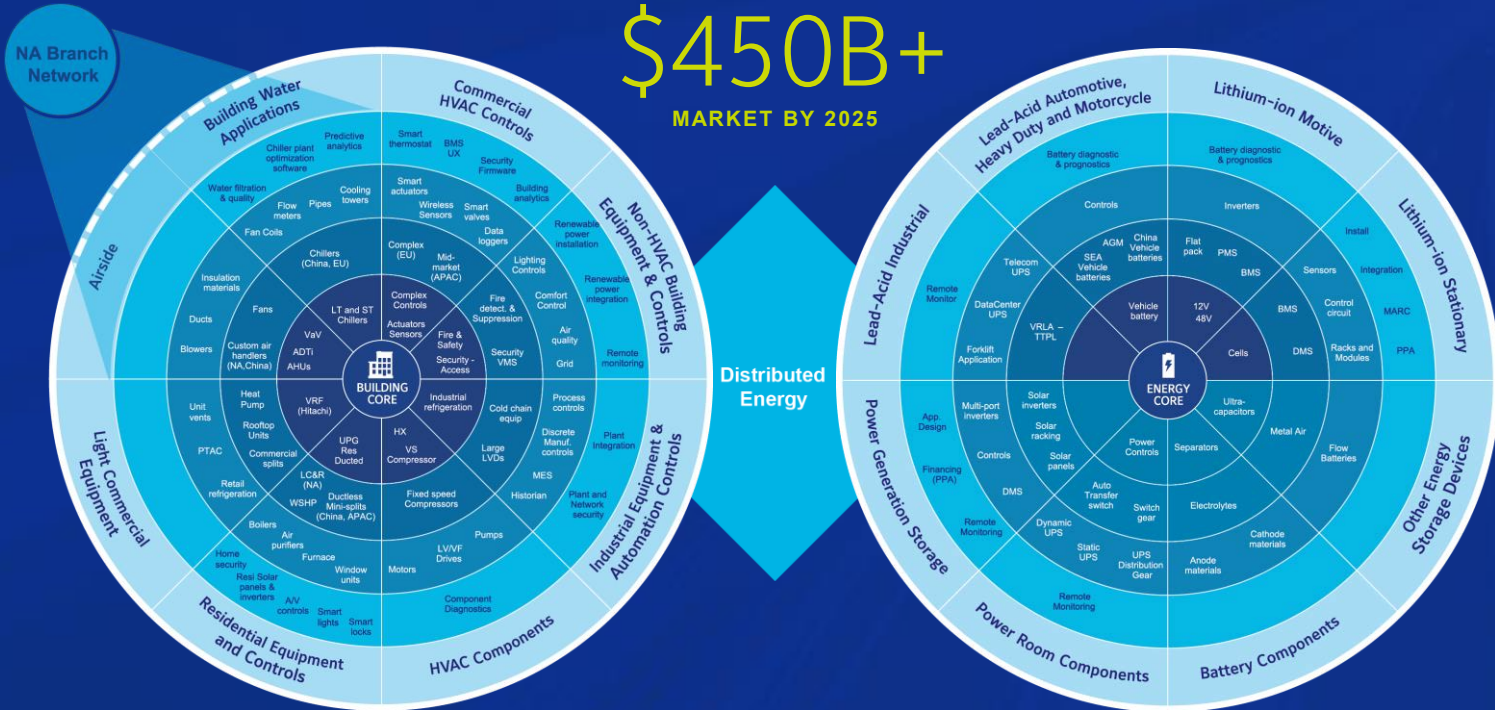
- + Asia as global growth engine
- + China demand in urban clusters and districts
- + Increase in value of lifecycle cost
- + Convergence driving demand shift to smart building solutions
- + Evolving business models

Energy Storage & Distribution

- + Asia as global growth engine
- + Renewables driving significant growth in stationary
- + Regulation driving technology shift in automotive
- + Evolving business models

STRATEGIC GROWTH PLATFORMS

\$450B+
MARKET BY 2025



ENERGY

\$200B

MARKET BY 2025

Mega trends of urbanization, energy, and technology convergence shaping demand for alternative energy, energy storage and smart grids.

Distributed Energy

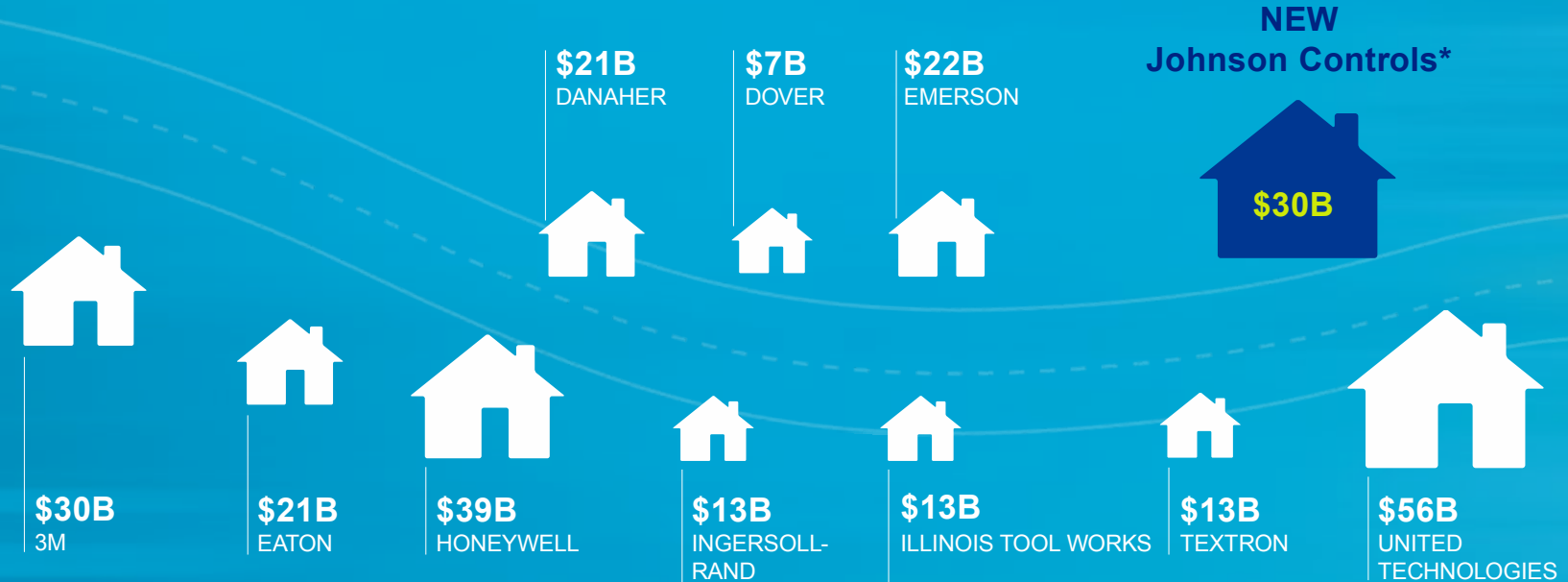


JOHNSON CONTROLS

DISTRIBUTED ENERGY STORAGE

NEW JOHNSON CONTROLS NEIGHBORHOOD

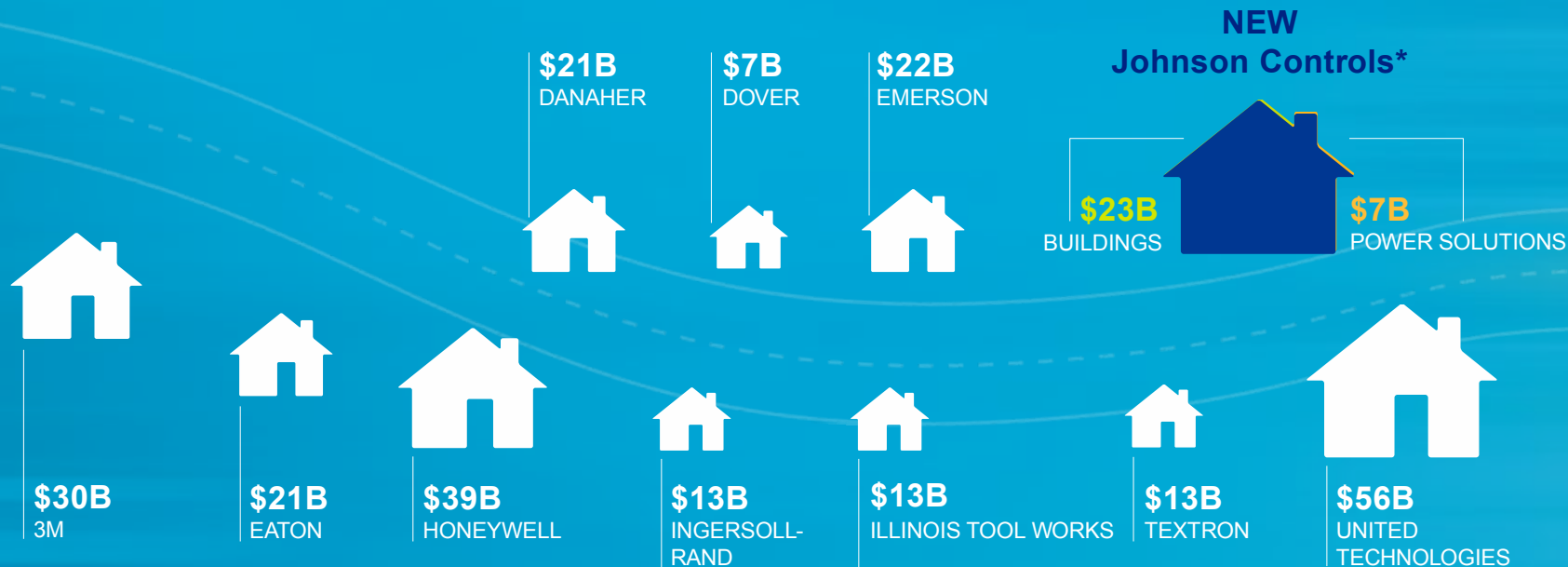
FY16 PROFORMA FINANCIALS



*Proforma FY16 excluding Adient and including Tyco merger

NEW JOHNSON CONTROLS NEIGHBORHOOD

FY16 PROFORMA FINANCIALS



*Proforma FY16 excluding Adient and including Tyco merger

POWER SOLUTIONS IS A STRONG ASSET IN OUR MULTI-INDUSTRIAL PORTFOLIO

	POWER SOLUTIONS	MULTI- INDUSTRIAL PEERS	
Revenue growth	7 - 8%*	3%+	✓
Segment Margins	18.5 - 19%*	14 - 15%+	✓
Market share	36% (#1)		
Americas	#1	#1 or #2	✓
Europe	#1		
China	#3 to #2 by 2020		
FCF Conversion	80 - 85% by 2020	90%+	
ROA**	25 to 26%	20%+	✓

*Mid-term outlook thru FY20 from December Analyst Day.

**Return on Average Net Operating Assets.

KEY MESSAGES

**Our Continued Goal
is to Lead the Industry
– and the Future.**

- + Thriving business in a fast-growing sector**
- + 36% global marketshare with unique global footprint**
- + Significant opportunity in China**
- + Leading across the product technology continuum**
- + Large and resilient aftermarket business**
- + Uniquely advantaged business model**
- + Strong and expanding margins**
- + Consistent performance and growth throughout the cycle**

POWERING THE FUTURE



GROWTH 2020

Joe Walicki

President, Power Solutions

June 13, 2016

POWER SOLUTIONS TODAY VS. 2020

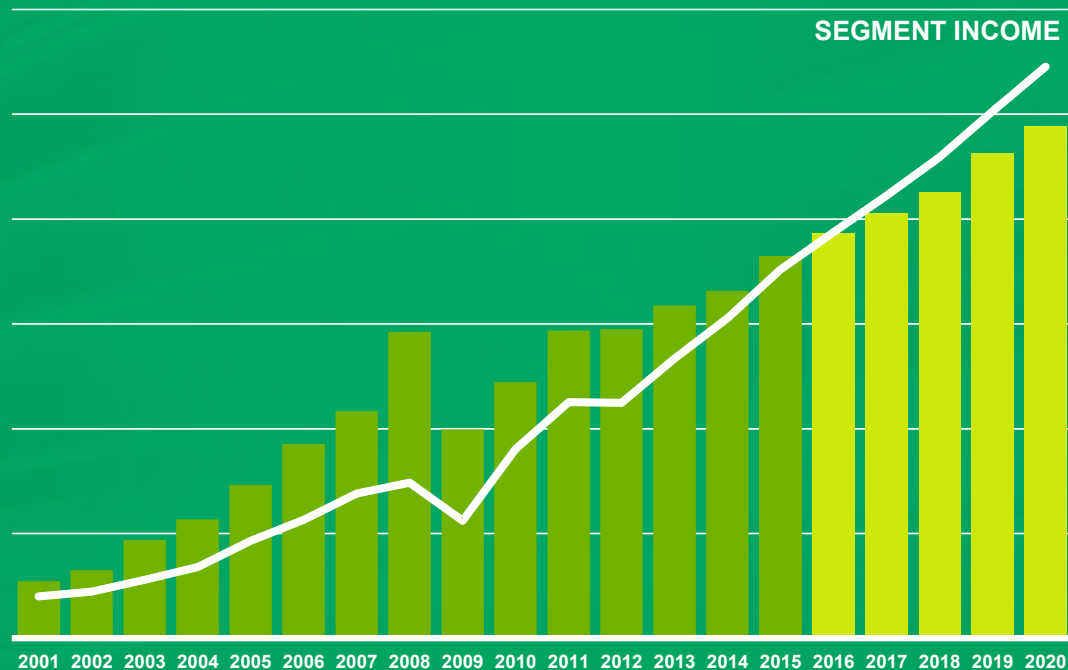
FY2015 TO FY2020

	FY2015	FY2020	
Revenue*	\$6.6B	\$9.3 – \$9.6B	7 – 8% CAGR
Segment Margin*	17.5%	18.5 – 19%	+100 – 150 bps
ROA**	24.4%	25 – 26%	+60 – 160 bps

* Mid-term outlook through FY20 from December Analyst Day

** Return on Average Net Operating Assets

POWER SOLUTIONS HAS A LOT OF EXPERIENCE GROWING ITS BUSINESS



REVENUE



* Excluding impact of FX

History of Profitable Growth*

2005 TO 2015

9%
10-YEAR
REVENUE CAGR

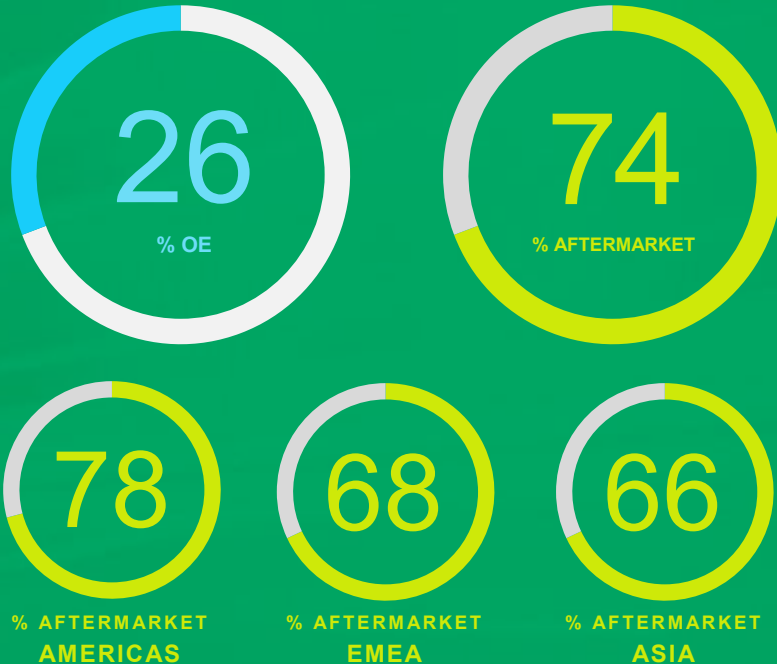
14%
10-YEAR
SEGMENT INCOME CAGR

Strategic Plan for Future Growth

2016 TO 2020

POWER SOLUTIONS: LARGELY AN AFTERMARKET BUSINESS

SALES BY MARKET



LEADING GLOBAL CUSTOMERS



POWER SOLUTIONS STRATEGY

OPERATIONALLY EXCELLENT



**JOHNSON CONTROLS
OPERATING SYSTEM**



FUNCTIONAL EXCELLENCE



OUR STRATEGIES



Product & Technology



Mature Markets



Emerging Markets



**Components
& Supply Chain**



Adjacent Markets

GROWTH COMPANY



**DELIVERING
RESULTS 2020**

Revenue Growth*
7-8% CAGR

Segment Income*
18.5% – 19%

Return on Assets**
25 – 26%

*Mid-term outlook through FY20 from December Analyst Day
**Return on Average Net Operating Assets

ENGAGED EMPLOYEES

POWER SOLUTIONS STRATEGY



PLAYING TO OUR STRENGTHS

Deliberate and explicit
choices that align with
where we excel



Scale – Cost Leader

- + Vertical integration and recycling
- + Global footprint and capacity



Product and Technology

- + World class manufacturing
- + Complete product portfolio
- + Superior design



Commercial

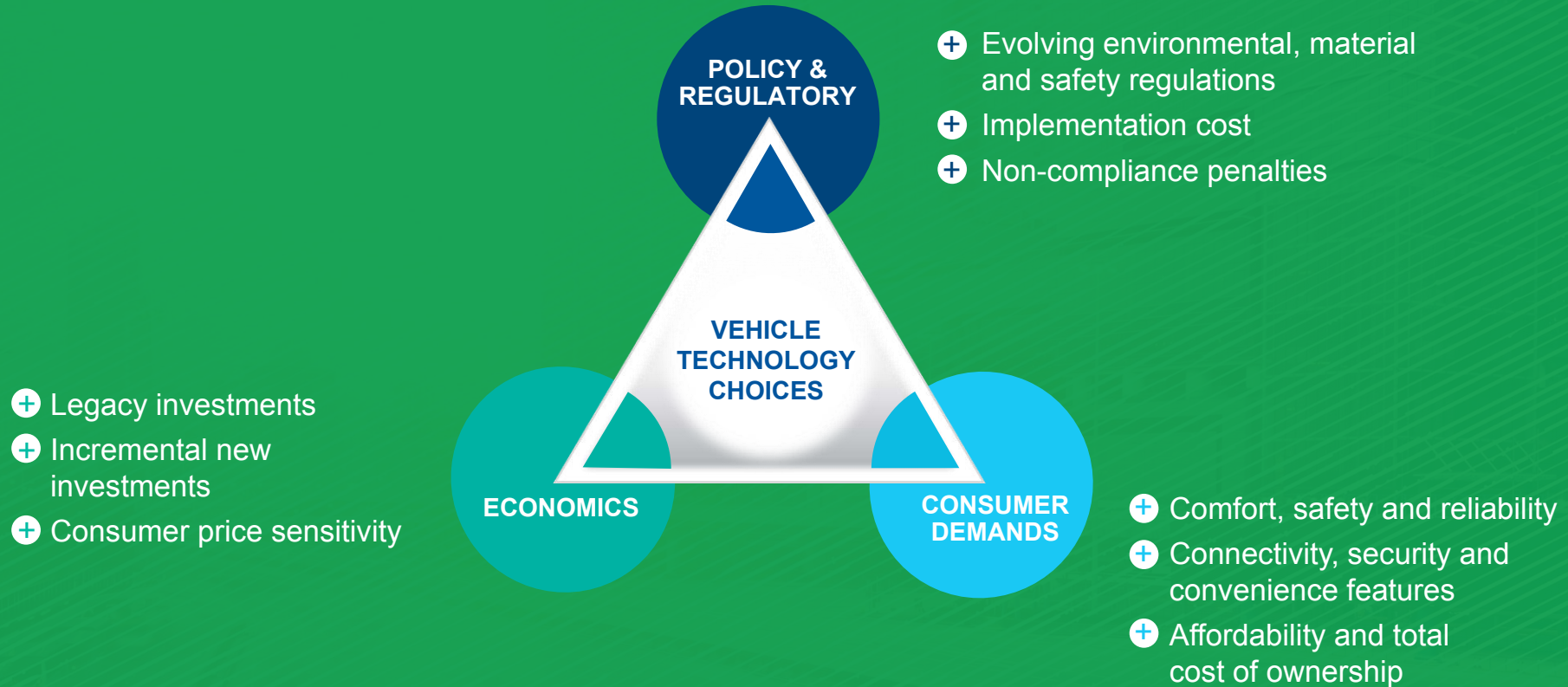
- + Strong recognized brands
- + Strategic customer relationships
- + Global channel best practices



Partnership

- + OEMs, retailers, distributors
- + Joint ventures
- + Technology partners




MARKET AND TECHNOLOGY TRENDS



REGULATORY TARGETS DRIVE TECHNOLOGY CHOICES FOR OEs

Regulatory Targets

CO₂ STATUS & FUTURE TARGETS

	PREVIOUS	2015	2021	2025
		CONFIRMED		PROPOSED
	123 ₂₀₁₄	130	95	68 – 78
	170 ₂₀₁₄	163	124	101
	169 ₂₀₁₃	161	117 ₂₀₂₀	NOT DEFINED

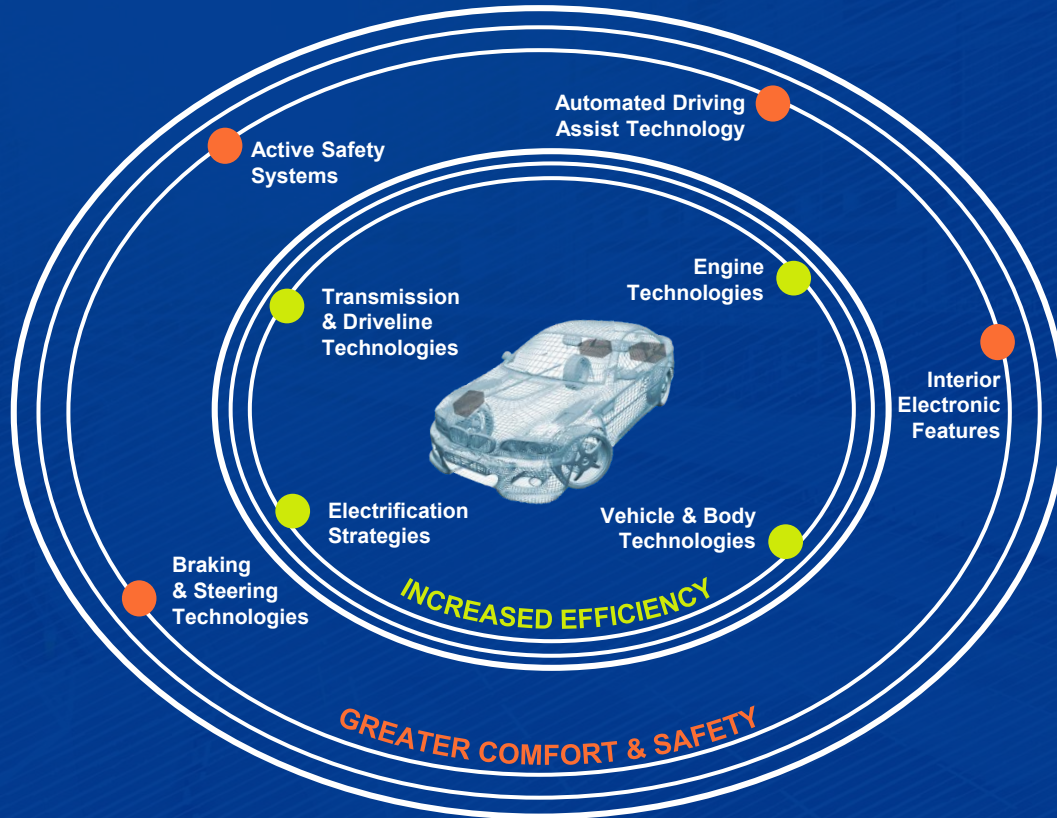
GRAMS CO₂ / KILOMETER

Vehicle Technology Choices

- + Engine improvements (e.g. turbo boosting)
- + Component and accessory electrification
- + Weight
- + Low rolling resistance tires
- + Start-stop battery system
- + 12-volt lithium-ion
- + 48-volt lithium-ion
- + Hybrid / Electric

INCREASED NEED FOR VEHICLE ELECTRIFICATION FOR NEW FEATURES & FUNCTIONS

TECHNOLOGY AND CONSUMER TRENDS



New comfort, safety
and efficiency features

+

Autonomous driving
content increase

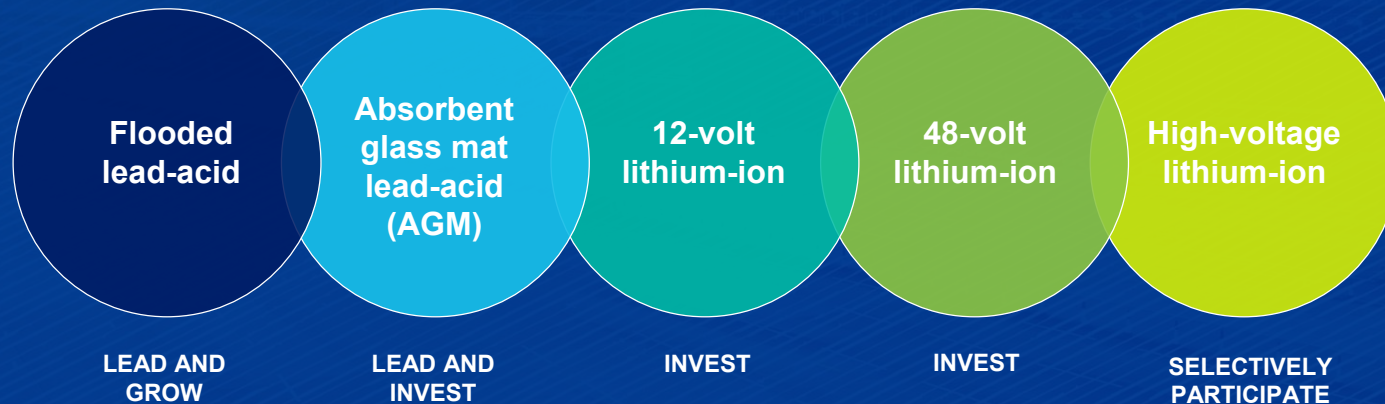
=

Battery becomes
integral to powertrain and
other vehicle systems

Critical need for redundancy
i.e. BMW 7 model with up to
3 automotive batteries

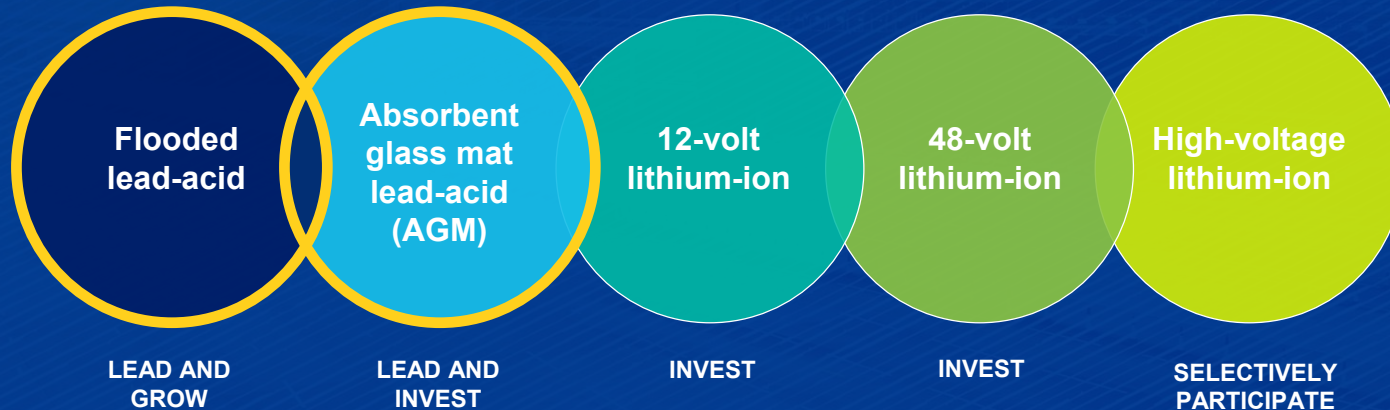
PRODUCT PORTFOLIO – FULL RANGE OF BATTERY TECHNOLOGIES

Johnson Controls offers a complete portfolio of battery products and technologies that support the full continuum of vehicle electrification



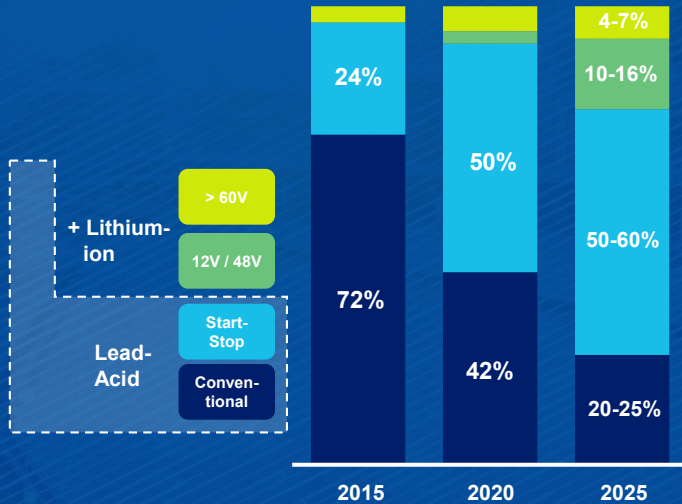
PRODUCT PORTFOLIO – FULL RANGE OF BATTERY TECHNOLOGIES

Johnson Controls offers a complete portfolio of battery products and technologies that support the full continuum of vehicle electrification



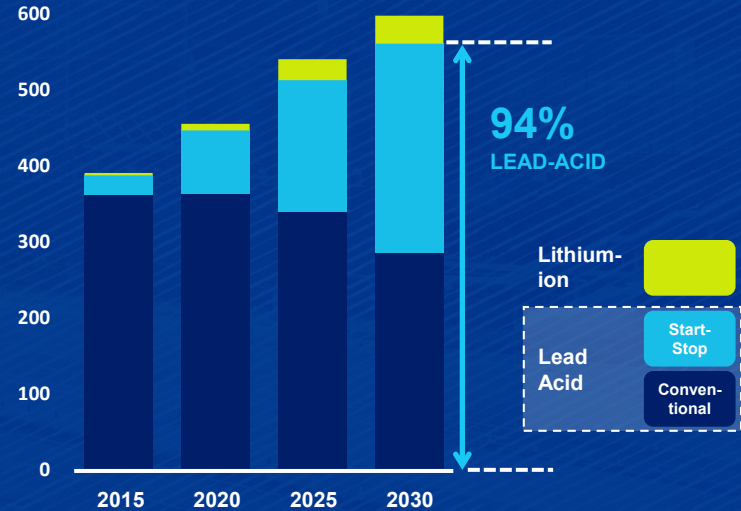
PROJECTED POWERTRAIN DEMAND IN NEW VEHICLES

GLOBAL POWERTRAIN MIX (New OE Vehicles)



OE Production Units (M)	88	105	122
Lead-Acid Revenue (\$B)	\$4.7B	\$6.4B	\$8.3B

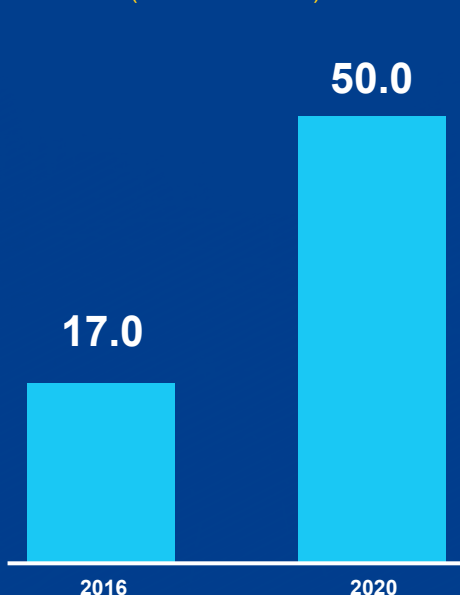
PROJECTED BATTERY UNITS (OE + Aftermarket, in million units)



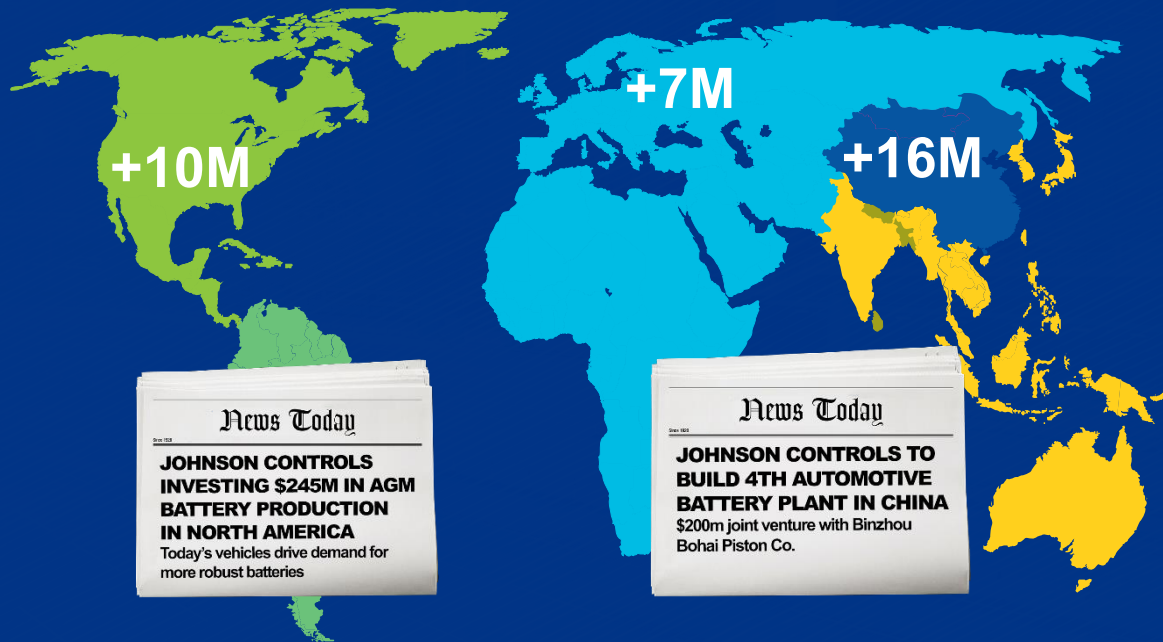
Lead-acid batteries remain the dominant technology for decades to come

INCREASING CAPACITY TO SUPPORT GLOBAL GROWTH AND CAPTURE START-STOP DEMAND

INVESTING IN CAPACITY
(MILLION UNITS)



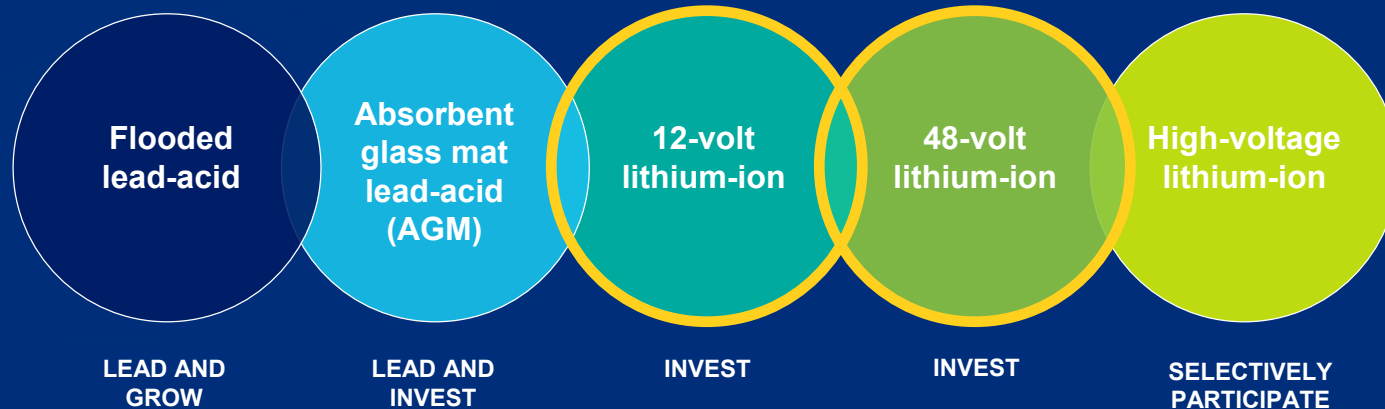
2016 vs 2020 CAPACITY



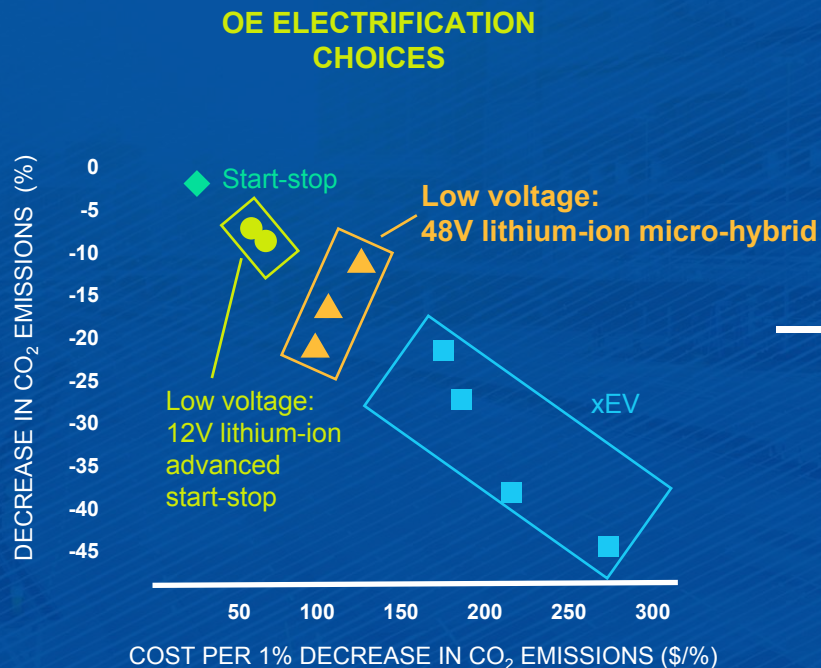


PRODUCT PORTFOLIO – FULL RANGE OF BATTERY TECHNOLOGIES

Johnson Controls offers a complete portfolio of battery products and technologies that support the full continuum of vehicle electrification



LOW VOLTAGE 12V AND 48V SYSTEMS



48V lithium-ion micro-hybrid

- + Below high-voltage threshold, unlike xEVs that require expensive safety components, systems and service procedures
- + Co-development efforts with OE customers
- + Investing for category leadership

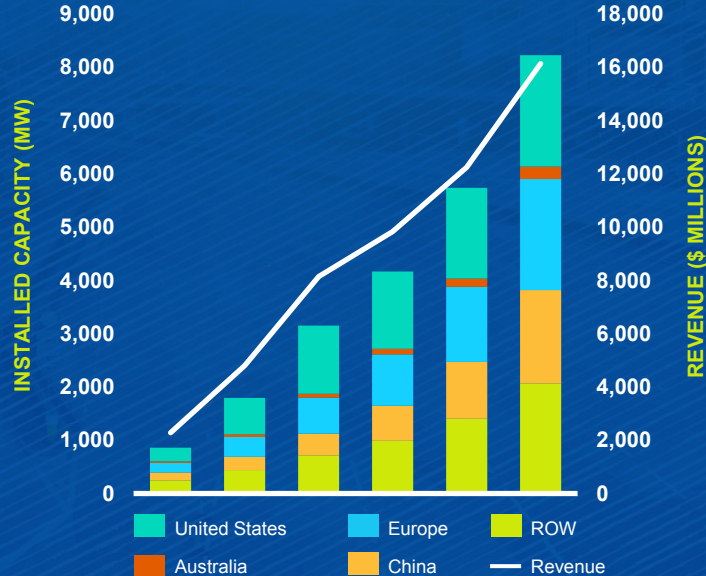
12V lithium-ion advanced start-stop

- + Collaborating with OE customers on advanced 12V solutions development
- + Commitment to long-term leadership

LEVERAGING OUR STRENGTHS TO ESTABLISH FOUNDATION IN DISTRIBUTED ENERGY STORAGE BUSINESS

DEMAND FOR ENERGY STORAGE

TOP MARKETS
FOR STORAGE BY COUNTRY
(MW INSTALLED; 2016 - 2021)



OUR STRENGTHS

Deep knowledge
of battery
technology

Building
Efficiency
channel

Building
Automation
System expertise

World class
manufacturing /
supply chain
capability

History / Brand /
Trust

OUR DES BUSINESS MODEL



Channel



Low Risk



Manufacturing



Service

VIDEO: LI-ION HOLLAND, MI

FIRST TO PRODUCE
**complete
lithium-ion
battery**

cells and systems in the U.S.



<https://youtu.be/XIC6wZaX7Tw>

POWERING THE FUTURE



THE AFTERMARKET

Ray Shemanski

VP & GM Aftermarket, Power Solutions

June 13, 2016

GROWING POWER SOLUTIONS THROUGH THE AFTERMARKET

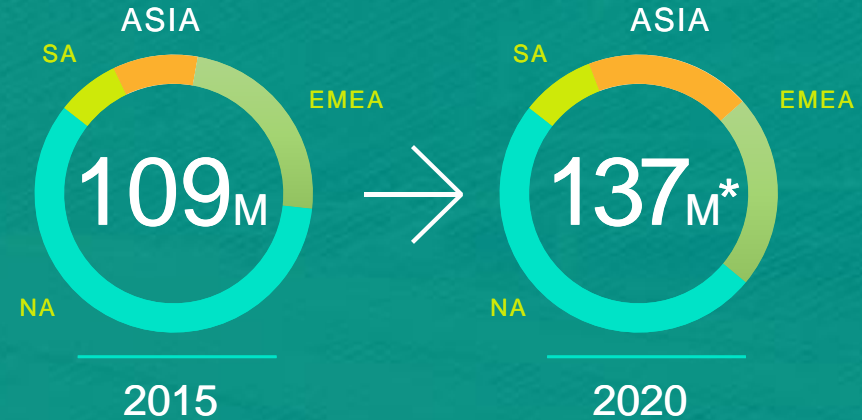
SALES BY CHANNEL
(UNITS M)



SALES
BY MARKET



AFTERMARKET SALES
BY REGION (UNITS M)



*Mid-point of mid-term revenue outlook through FY20 per December analyst day

MATURE MARKET SUCCESS – EXTEND TO EMERGING MARKETS



PLAYING TO OUR STRENGTHS

Deliberate and explicit choices that align with where we excel



Partnerships

- + Strategic account management
- + Globally most recognized brands
- + Leading global partnerships: OEM, distributors, retailers, joint ventures

Delkor



Distribution

- + Best practice for channel design & development
- + World-class tools & processes
- + Leading service & delivery



Power
Solutions



Wholesale
Distributors



Battery
Specialist/
Retailer



Consumers



Product & Technology

- + Cost advantage
- + Differentiated products: Good, Better, Best
- + Proven PowerFrame® technology
- + Start-Stop: AGM leadership



Advantaged global network

- + Manufacturing & distribution footprint
- + Logistically advantaged to deliver best cost and service
- + Vertical integration / recycling

DIFFERENTIATION THROUGH CLOSED-LOOP RECYCLING

RECYCLING PROCESS



Differentiation

99%
BATTERIES ARE DESIGNED FOR 99% RECYCLABILITY

Advantages

- + Resilient supply of materials protected for market shocks and / or disruptions
- + Optimized logistics networks with distribution of new and used batteries
- + Commercial advantages through closed-loop recycling

VIDEO: Garcia Recycling

The background of the video thumbnail is a blurred industrial scene, likely a recycling plant, with various pipes, metal structures, and equipment. The text is overlaid in a bright yellow color. The text reads: "GARCIA PLAYS a key role in our GLOBAL RECYCLING NETWORK".

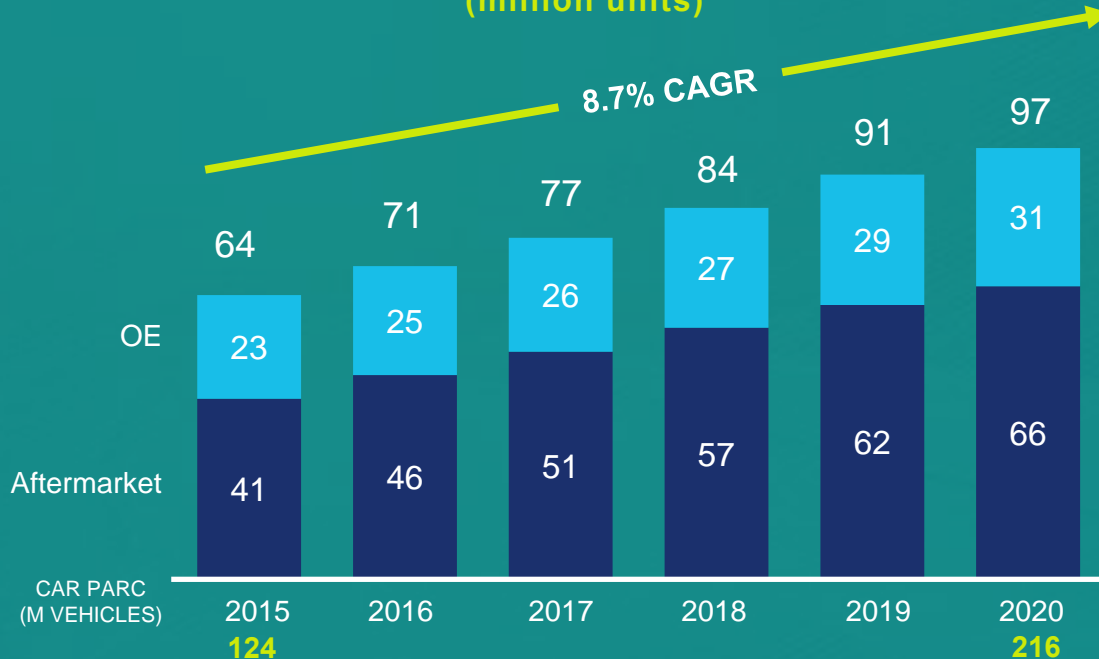
GARCIA PLAYS
a key role in our
**GLOBAL
RECYCLING
NETWORK**



<https://youtu.be/PAn8UYY4Ff0>

GROWTH IN CHINA REMAINS ATTRACTIVE

Automotive Battery Market Forecast
(million units)



THE LARGEST AUTOMOTIVE BATTERY MARKET IN THE WORLD BY 2020

+10%
AFTERMARKET
CAGR TO 2020

+90M
CAR PARC OVER
SAME PERIOD

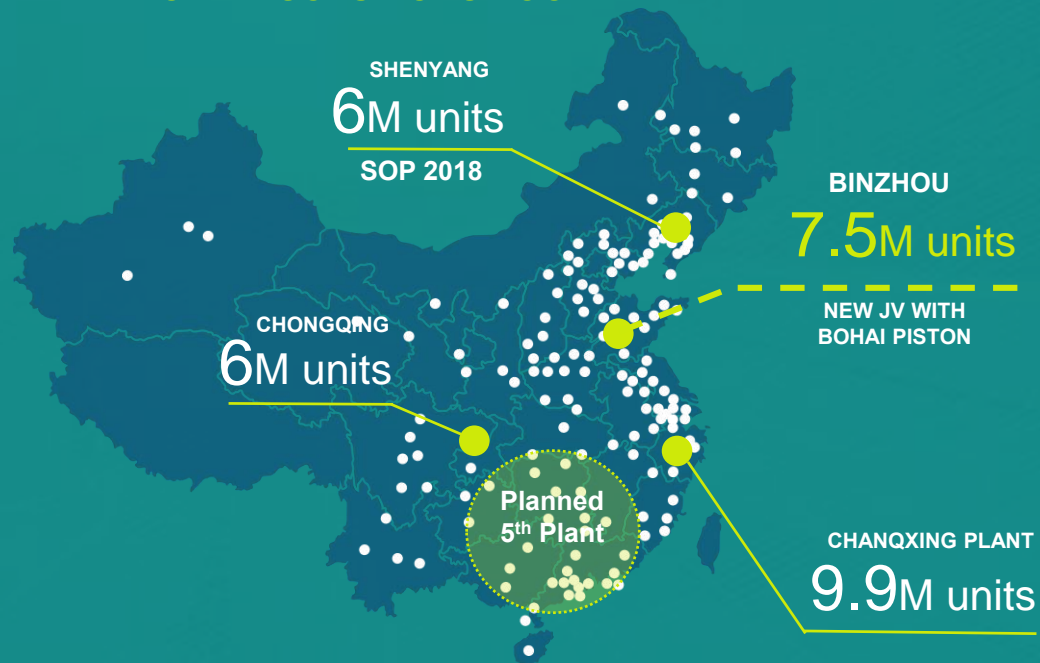
Vehicles continue to age
(66% vehicles over 3 years in
2015 vs. 77% in 2020)

INVESTING IN CHINA FOR LEADERSHIP



Advantaged Global Network

POWER SOLUTIONS FOOTPRINT



Distribution

325 WHOLESALE DISTRIBUTORS

189 CITIES

89% OF CHINA CAR PARC

VIDEO: Changxing, China



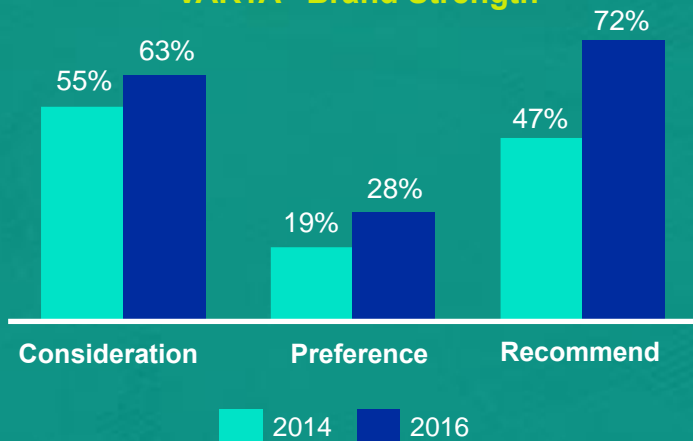
INVESTING IN CHINA FOR LEADERSHIP



Partnerships



VARTA® Brand Strength



Product & Technology

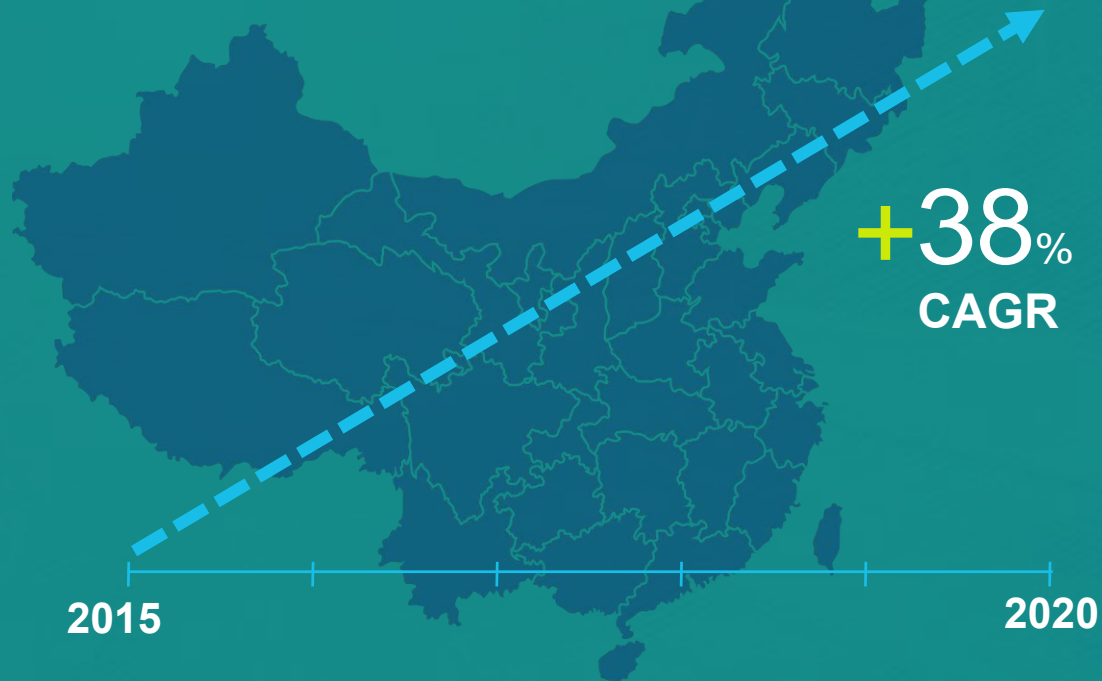


- + Product mix improvement via VARTA brand differentiation
- + PowerFrame® technology and AGM leadership
- + Introduce



ACCELERATED GROWTH AND LEADERSHIP IN CHINA

Johnson Controls
China Aftermarket (Units M)



Sustain leadership
through key differentiators

3 → 2 MARKET
POSITION
BY 2020

3x SALES UP MORE
THAN MARKET
THRU 2020

65%
VOLUME TARGET
ACHIEVED YTD

POWERING THE FUTURE: THE AFTERMARKET



Partnerships



Distribution



**Advantaged
Global Network**



**Product &
Technology**



MATURE MARKETS



EMERGING MARKETS

POWERING THE FUTURE



TECHNOLOGY

MaryAnn Wright

Group VP Technology & Industry Relations

June 13, 2016

VEHICLE (R)EVOLUTION

1976



1996



2016



POWER
(HP) 190

260

404

FUEL EFFICIENCY
(MPG) 11.2

10.7

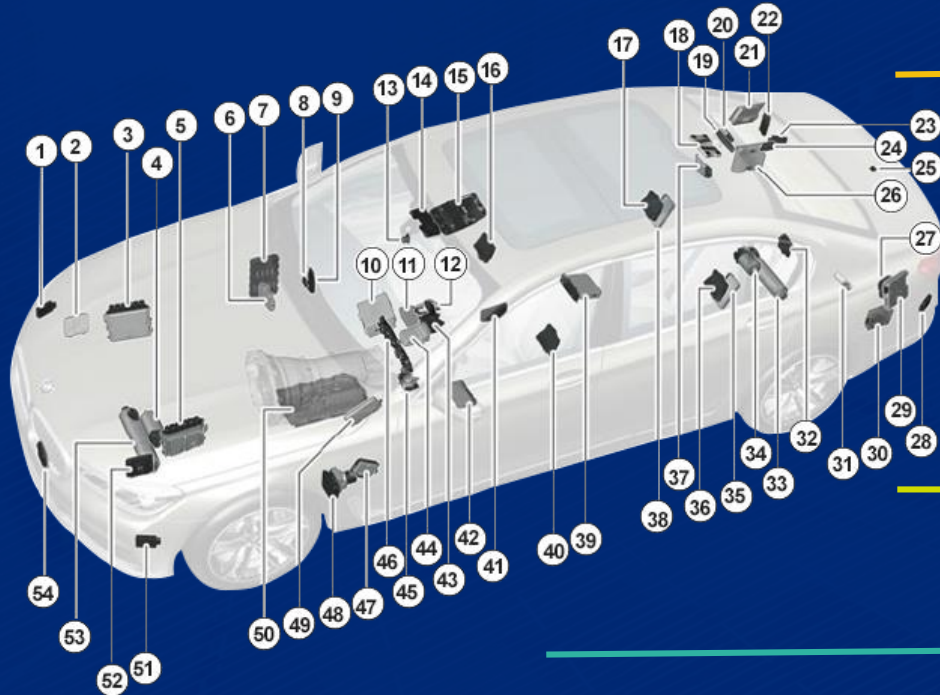
16.3

WEIGHT
(LBS) 5302

4462

4085

INCREASING VEHICLE COMPLEXITY



>150

DIFFERENT ELECTRICAL
DEVICES

>1.5

MILES OF ELECTRICAL
WIRING

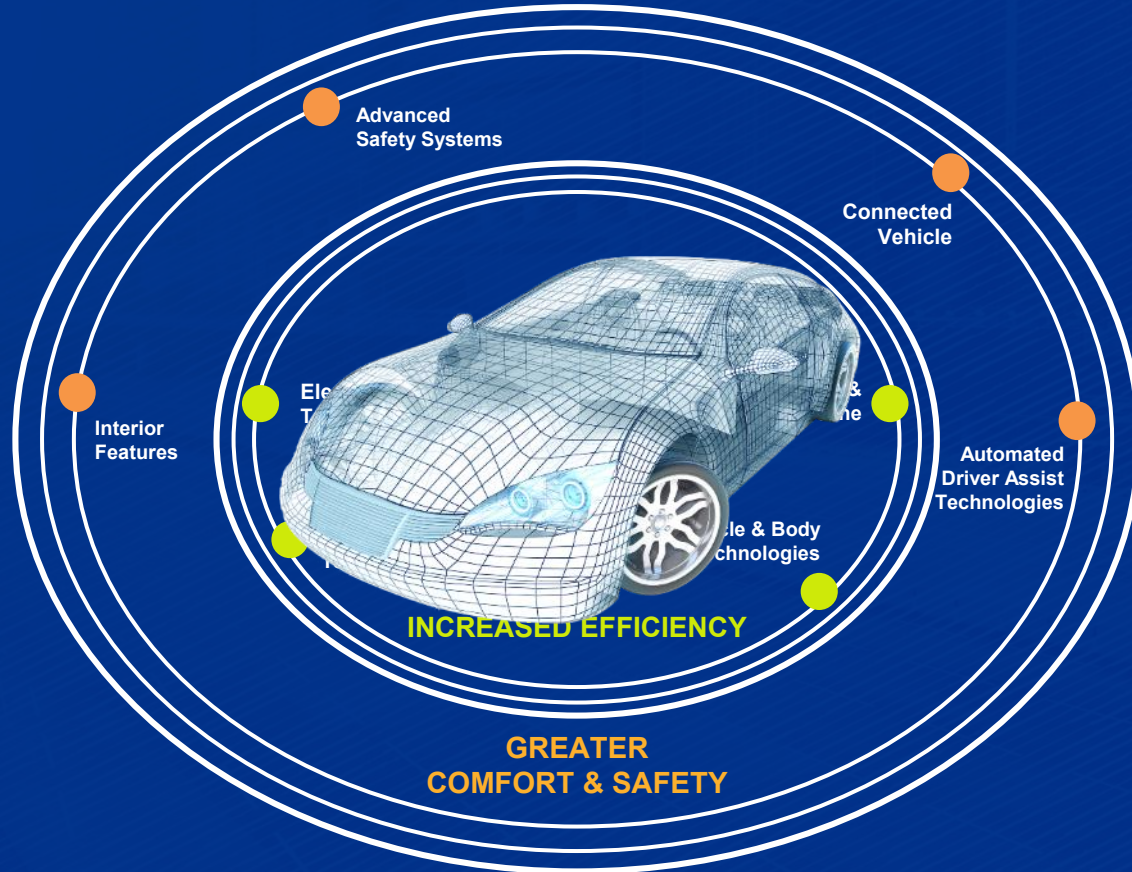
>50

COMPUTER MODULES

>100

MILLION LINES OF
SOFTWARE CODING

BATTERY IS MORE CRITICAL THAN EVER



TECHNOLOGY ADOPTION IS ACCELERATING

- + Safety functionality
- + Global CO₂ / Fuel economy regulations
- + Connected vehicles
- + Autonomous vehicles



1900's

2015

ELECTRIC VEHICLE ADOPTION

HYPE

vs

REALITY



“Best Month Ever
for EV Sales”

DEC 2015 —
HUFFINGTON POST



China Electric Car Sales
Increased 223% In 2015

MARCH 2016 —
CLEAN TECHNICS



European Union
Sees Surge in Electric
Vehicle Sales

FEB 2016 — WSJ

0.7%

Of new vehicle sales

0.9%

Of new vehicle sales

1.2%

Of new vehicle sales

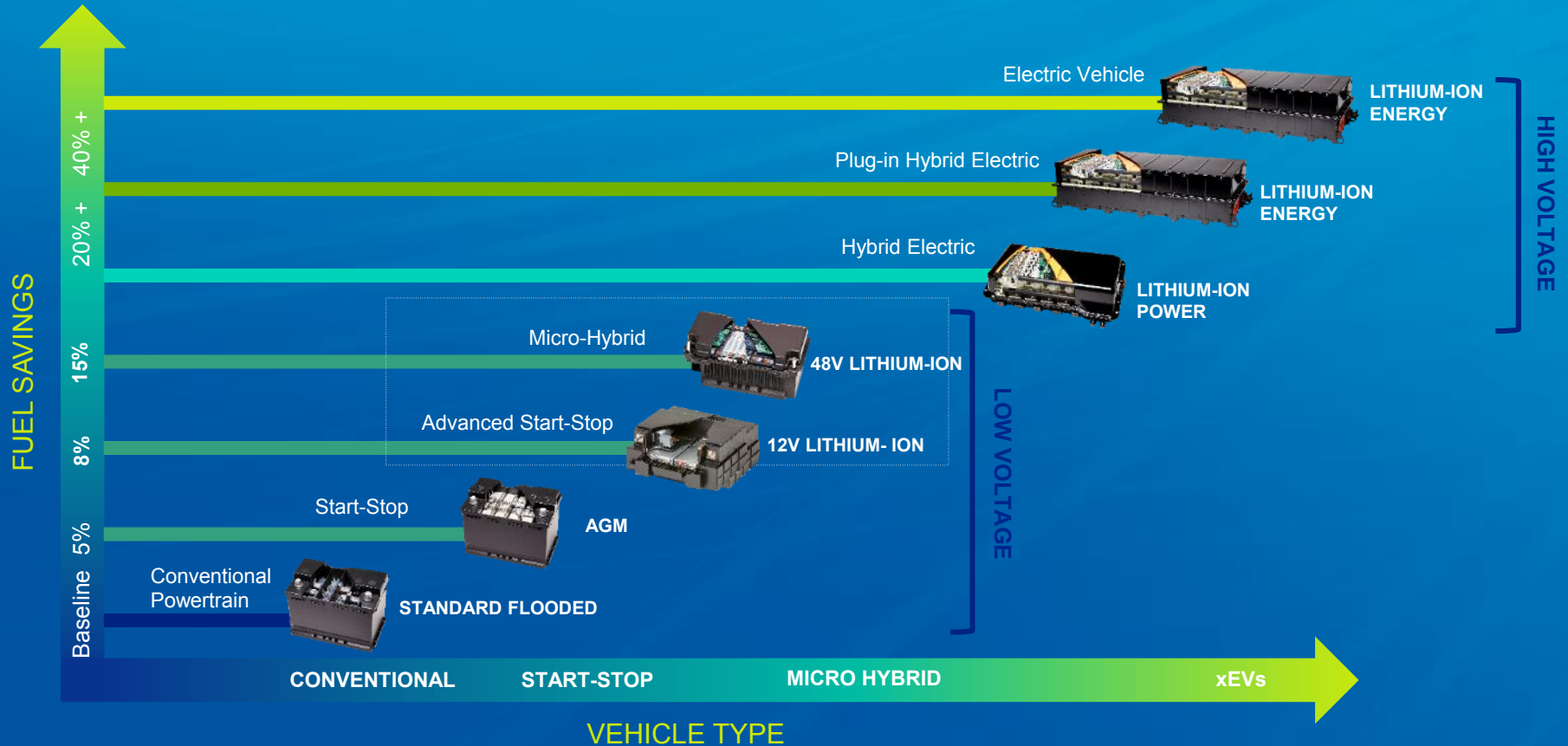
VEHICLE POWERTRAIN CONTINUUM



VEHICLE POWERTRAIN CONTINUUM



BATTERY PRODUCT CONTINUUM



INDEPENDENT THIRD PARTY VALIDATION

Sales of vehicles with 48V systems are expected to increase from less than 1,000 in 2015 to just over 7 million in 2024, representing a compound annual growth rate (CAGR) of 180%.

NAVIGANT RESEARCH

IDTECHEX FORECASTS
> 300M 48V
MILD HYBRIDS
WORLDWIDE THROUGH 2031

GREEN CAR CONGRESS

OEMs cannot hold off getting 48V into production much longer because it will be needed on mainstream vehicles to meet EU regulations in the 2020 / 2021 timeframe.

NAVIGANT RESEARCH

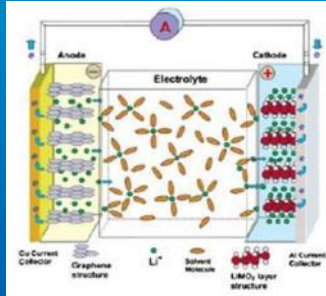
EU TO PROMOTE
12V START-STOP AND **48V**
SYSTEMS

REPORTLINKER

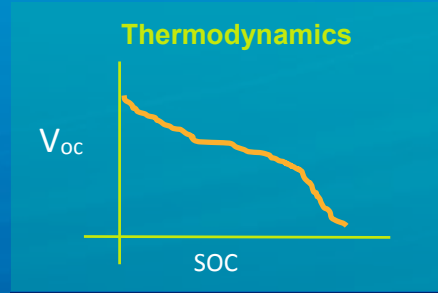
12V DUAL ENERGY STORAGE
ALLOWS START-STOP COASTING
FOR EVEN MORE **CO2** BENEFIT

ROBERT BOSCH CORP

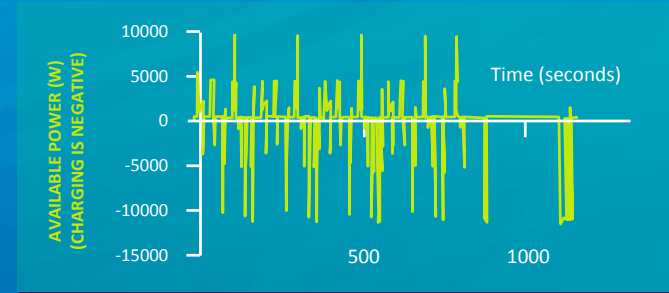
MODELING ACCELERATES TECHNOLOGY DEVELOPMENT



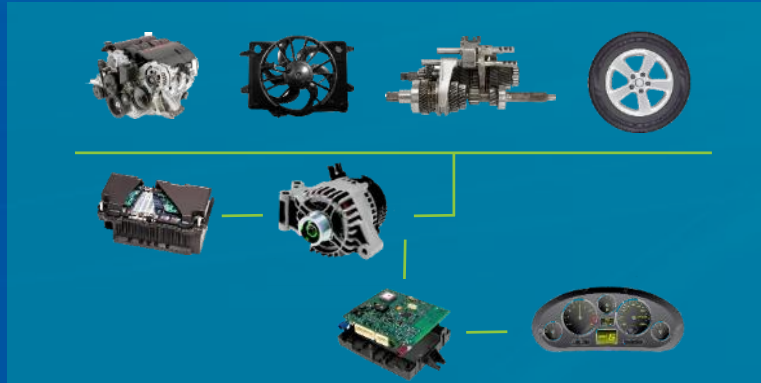
MATERIAL MODELS



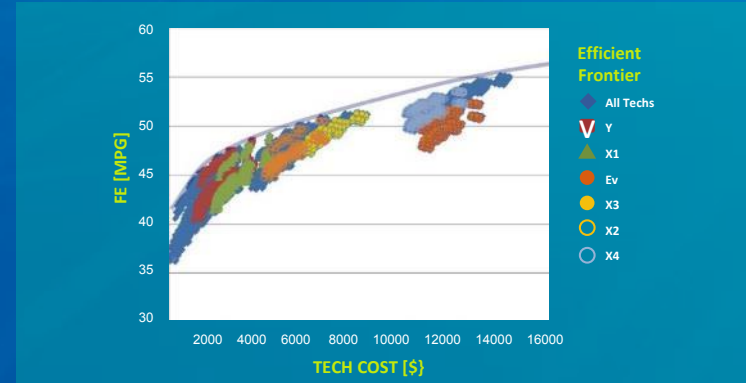
CELL SIMULATIONS



PACK MODELS



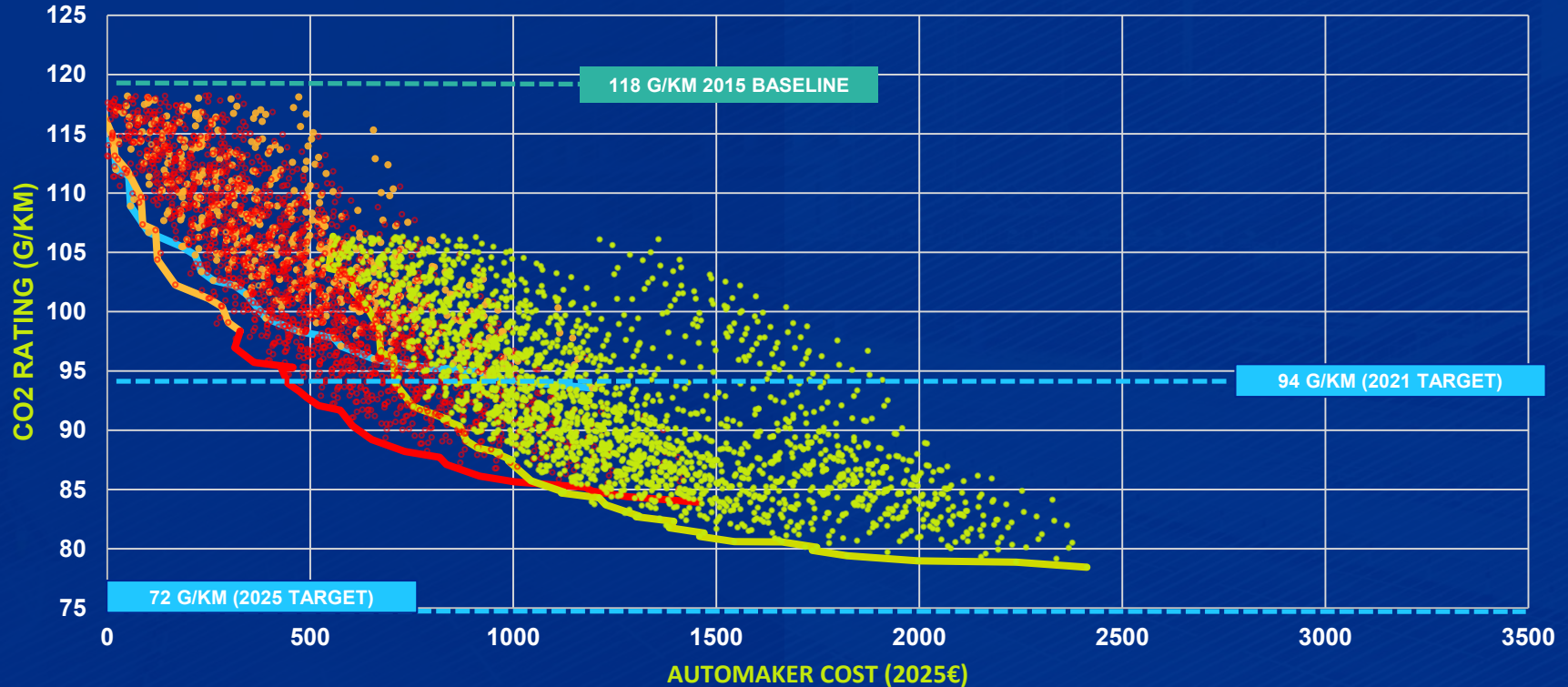
VEHICLE / SYSTEM MODELS



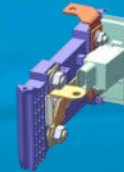
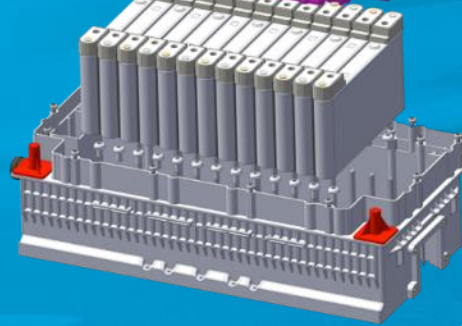
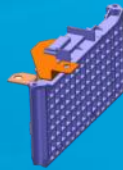
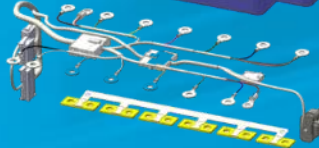
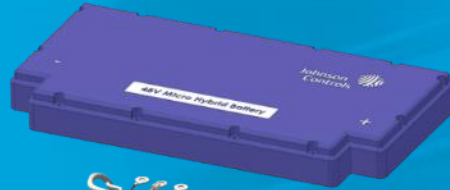
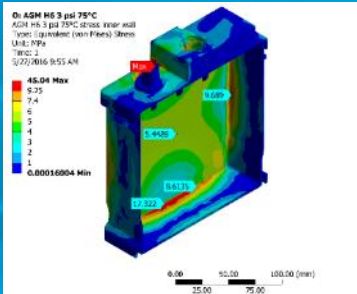
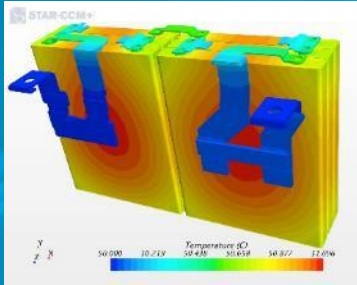
ECONOMIC / REGULATORY / MODELING

ANALYZING VEHICLE TECHNOLOGY OPTIONS

EUROPEAN MID-SIZE PETROL CAR



VIRTUAL PROTOTYPE



LEVERAGING POWERTRAIN EXPERTISE TO OPTIMIZE 48V PRODUCTS



48V LITHIUM-ION



AGM



Development vehicle



1st Generation 48V battery



Optimized 48V battery

LEVERAGING POWERTRAIN EXPERTISE TO OPTIMIZE ADVANCED 12V PRODUCTS



12V LITHIUM-ION



AGM



Development vehicle



1st Generation 12V advanced battery

BUILDING ON THE CAPABILITIES WE DEVELOPED
FROM THE VEHICLE PROGRAMS

GLOBAL DEVELOPMENT CAPABILITIES



<https://youtu.be/PLCWIQIUPO8>

OUR GLOBAL PRESENCE

15K
>50

WORLDWIDE
EMPLOYEES

MANUFACTURING,
RECYCLING AND
DISTRIBUTION
CENTERS

OUR GLOBAL PRESENCE

R&D NETWORK

STRONG R&D PARTNERSHIPS

UNIVERSITIES



Fachhochschule Bielefeld
University of Applied Sciences



JOINT CENTER FOR
ENERGY STORAGE RESEARCH



Massachusetts
Institute of
Technology



Berkeley
UNIVERSITY OF CALIFORNIA



UNIVERSITY OF
MICHIGAN

NATIONAL LABS

scheufenster
elektromobilität
Line-Institut der Bundesagentur für Wirtschaftsprüfung



Jet Propulsion Laboratory
California Institute of Technology

POWER SOLUTIONS FULL PRODUCT CONTINUUM

