



# “Powering the **Future** **Everywhere** for **Everyone**.”

May 2020

At EnerSys, we pursue perfection to  
deliver Power to innovate and inspire.

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Power delivered simply, safely  
and sustainably.

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Power that creates superior  
value for our customers and  
shareholders.

We are proud to be **EnerSys**.



# Forward-Looking Information

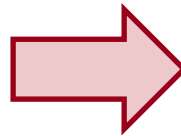
This presentation includes forward-looking statements and/or information, which are based on the Company's current expectations and assumptions, and are subject to a number of risks and uncertainties that could cause actual results to materially differ from those anticipated. Such risks include, among others, risks associated with competitive actions, technology development and implementation, intellectual property infringement, failure to execute acquisition strategy, penetration of existing markets, expansion into new markets, hiring and retaining high quality management and key employees and general economic conditions including the risks described in the Company's most recent annual report on Form 10-K dated and filed with the SEC on May 29, 2019 along with other unforeseen risks. The statements in this presentation and accompanying commentary are made as of the date of this presentation, even if subsequently made available by the Company on its website or otherwise. The Company does not undertake any obligation to update or revise these statements to reflect events or circumstances occurring after the date of this presentation.

# Energy Systems

- EnerSys is the global leader in energy storage for Industrial applications
- Decades of manufacturing focus with over (30) factory locations worldwide
- Extensive breadth including geography, application, channel, and products
- EnerSys now using R&D and acquisitions to develop modern energy systems
- Alpha acquisition expands markets and adds strength in electronics and software
- NorthStar acquisition increases capacity for best in class **Thin Plate Pure Lead**



Industrial batteries



Modern energy systems





# System Portfolio Management

## Technology Focus



**TPPL Batteries**



**Li-Ion Cells**

**Chemistry agnostic  
complete energy  
solutions**

## Manufacturing Approach

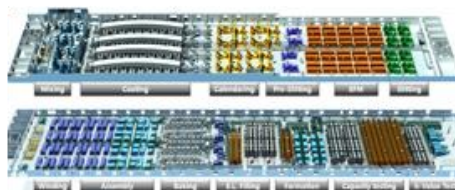
Value Added Light Assembly



Highly Automated and  
Digitized Manufacturing



Partnering with Largest High  
Quality Lithium Cell Manufacturers



## Markets Served



# A world leader in complete energy solutions for industrial applications

## Who we are:

- ✓ **Markets: Reserve Power, Motive Power, Aerospace & Defense**
- ✓ **Sales: \$2.8 billion in fiscal year 2019 (Alpha & NorthStar adds >\$600M)**
- ✓ **Global leader: 22% market share in CY 2018 (With NorthStar Proforma)**
- ✓ **Customers: Over 10,000 in more than 100 countries**
- ✓ **Global manufacturing facilities**
- ✓ **Employees: >11,000 worldwide**
- ✓ **Sustainability: 99% recycle rate on Lead-Acid batteries**

## Why Invest?

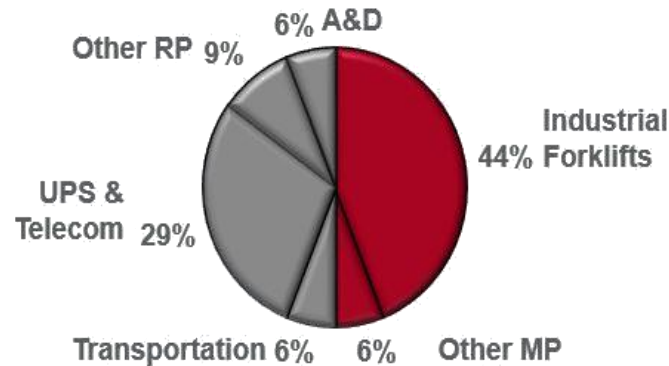
- ✓ **Significant progress on Industrial Technology**
- ✓ **Innovative, differentiated and integrated products and solutions**
- ✓ **Diversified markets and regions will benefit from megatrends, e.g. 5G and data usage**
- ✓ **Growing Free Cash Flow to invest in business, return to shareholders**
- ✓ **Exciting growth prospects**
- ✓ **Acquisition monetize pent-up demand for TPPL**

Source: BCI, Eurobat industry reports and management estimates based on the markets where EnerSys participates. Market size and share are for batteries and chargers only. It excludes power solution and services to broadband, telecom and other markets, and the aerospace & defense and cabinet enclosures markets (each estimated at \$1 to \$2 billion).

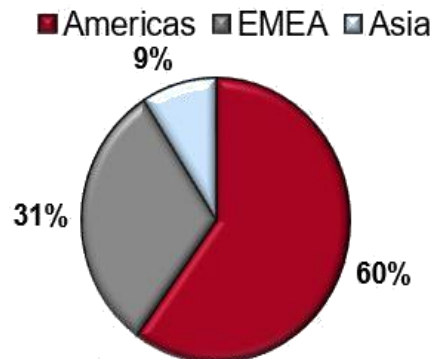
# Diversified business model

**Today (FY19) \$2.8B**

*Reserve Power* 50% **END MARKETS DIVERSIFICATION** *Motive Power* 50%

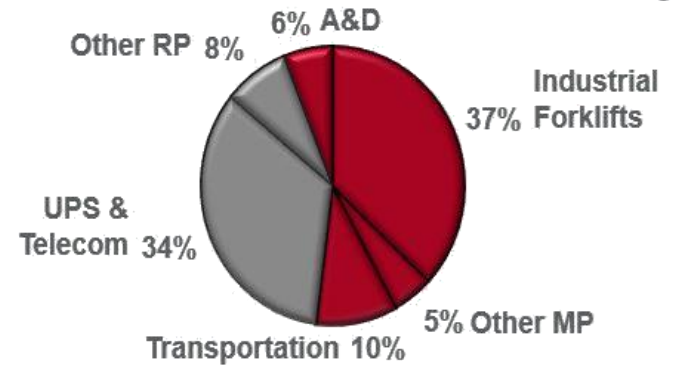


**GEOGRAPHIC DIVERSIFICATION**

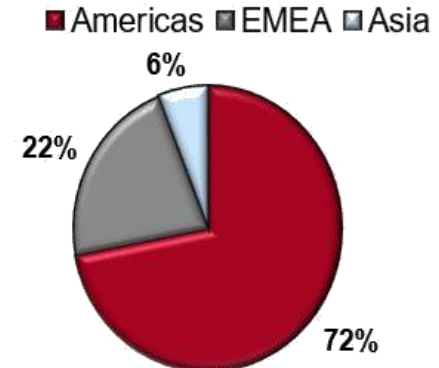


**Five Years (FY24) \$4+B**

*Energy Systems* 42% **END MARKETS DIVERSIFICATION** *Motive Power* 58%



**GEOGRAPHIC DIVERSIFICATION**



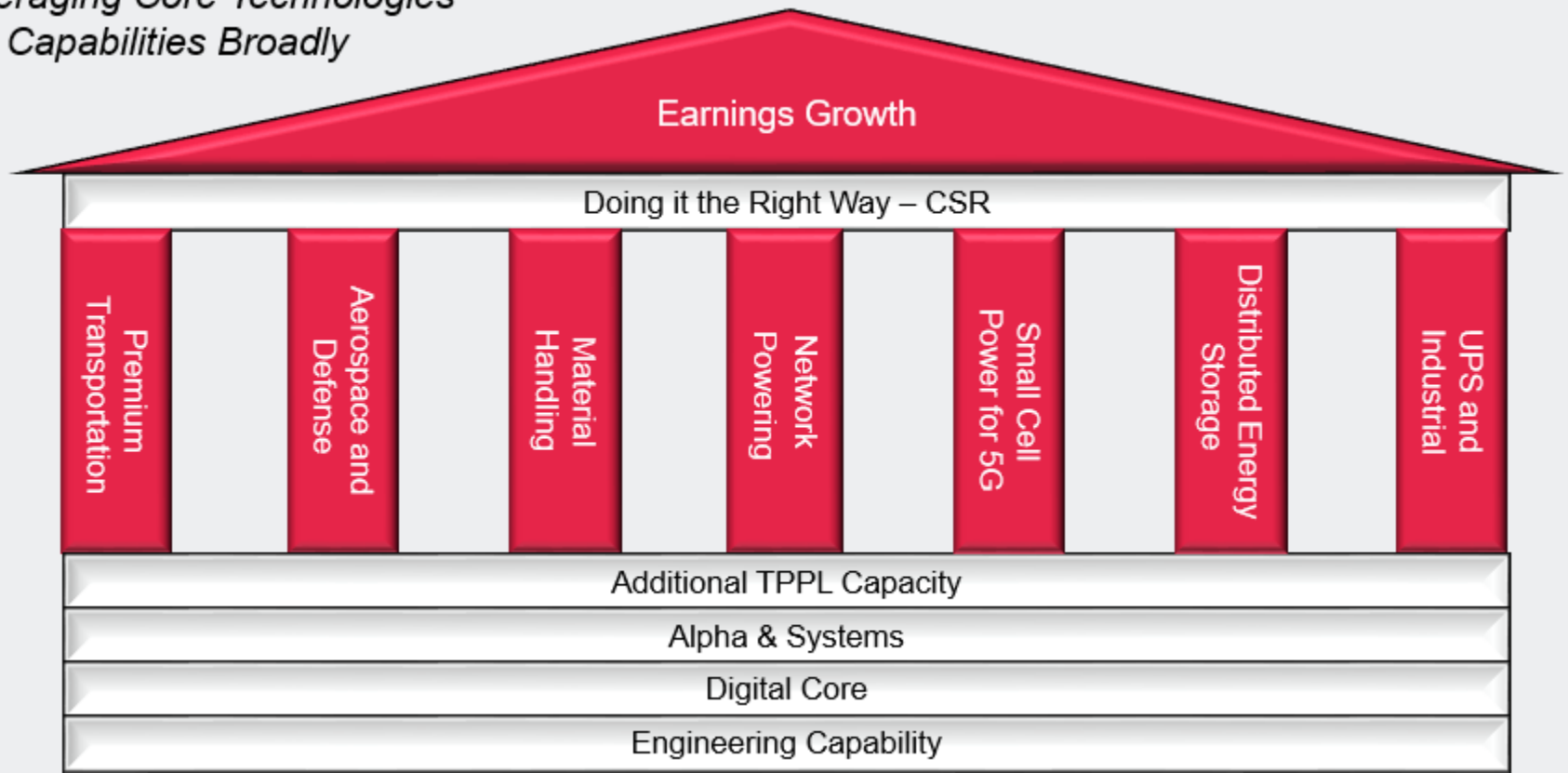
Line of business segmentation not finalized

# EnerSys Profit Enhancement Opportunities

- NorthStar acquisition doubles TPPL capacity by F'22
  - Demand outstrips current supply
  - Premium transportation market is \$1.5B opportunity
- 5G Implementation estimated in calendar 2020 or 2021
  - Market opportunity \$2B+
- Positioned for strong growth in Aerospace and Defense
- New Lithium systems in motive and reserve power
  - Launching Best-in-Class lithium modular systems
- Lean Initiatives will continue to drive excellence
  - Deliver gross savings of \$25M per year
- Opportunities drive increased profitability
  - EPS of \$10.00 - \$15.00 by FY'24 depending on share buybacks

# Going Forward – Diversified Market Earnings Growth

*Leveraging Core Technologies  
and Capabilities Broadly*





# Key Earnings Growth Drivers

	Premium Transportation	A&D	Material Handling	Network Power	Distributed Energy Storage	UPS / Industrial
Gross Margin Expansion	Lower costs w/ Increased scale		TPPL Mix			Higher mix of high performance TPPL UPS batteries
Market Share Growth	Heavy truck TCO & Start-Stop AGM	Increased scale & differentiated products	Maintenance Free TPPL & Li	Modular DC power systems		
High Growth Markets				DOCSIS 3.1, 5G	Smart grids; distributed storage	

# EnerSys Acquires NorthStar Battery

- ▶ With \$78 million cash consideration and the assumption of \$104.5 million in debt this acquisition combines world-class complementary products and expedites \$500 million of Thin Plate Pure Lead (TPPL) production capacity when combined with the new high-speed TPPL production line and supporting equipment

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- ▶ Synergy savings greater than \$40 million per annum achieved primarily by minimizing transoceanic freight by manufacturing locally and longer, more efficient, production runs

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- ▶ Increases our manufacturing capacity for the world class NexSys® motive power batteries systems and SBS® battery products for the Telecom and Uninterruptable Power Supply industry

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- ▶ Facilitates the growth of our ODYSSEY® battery brand into the high performance sectors of transportation markets, including Class 8 over the road trucking

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- ▶ Available floor space at existing NorthStar facility will accommodate our new high-speed TPPL production line, preserving over \$100 million of existing TPPL production capacity

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- ▶ Upon closing, adds over \$150 million in annualized revenue

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- ▶ An excellent opportunity to increase EnerSys premium product Thin Plate Pure Lead (TPPL) production capacity where demand outstrips supply

# \$1.5B Premium Transportation Market Opportunity

Market	Heavy Duty / Commercial	Automotive & Light Vehicle
North America & Western Europe Units *	26M	250M
Targeted Premium Share	20%	2%
Current ENS / NorthStar Share	~3%	~0.2%
Odyssey Market Growth Opportunity	\$900M+	\$600M+

\* Management estimate

2018 Global SLI Market ~ \$23B (Avicenne)

# Strategic Mega Trends Targeted for Energy Systems



High Speed  
Data Services/  
DOCSIS 3.1



Broadband  
Wireless/5G



Data Center/  
Cloud-based  
IoT



Electric  
Utility  
Grid 2.0



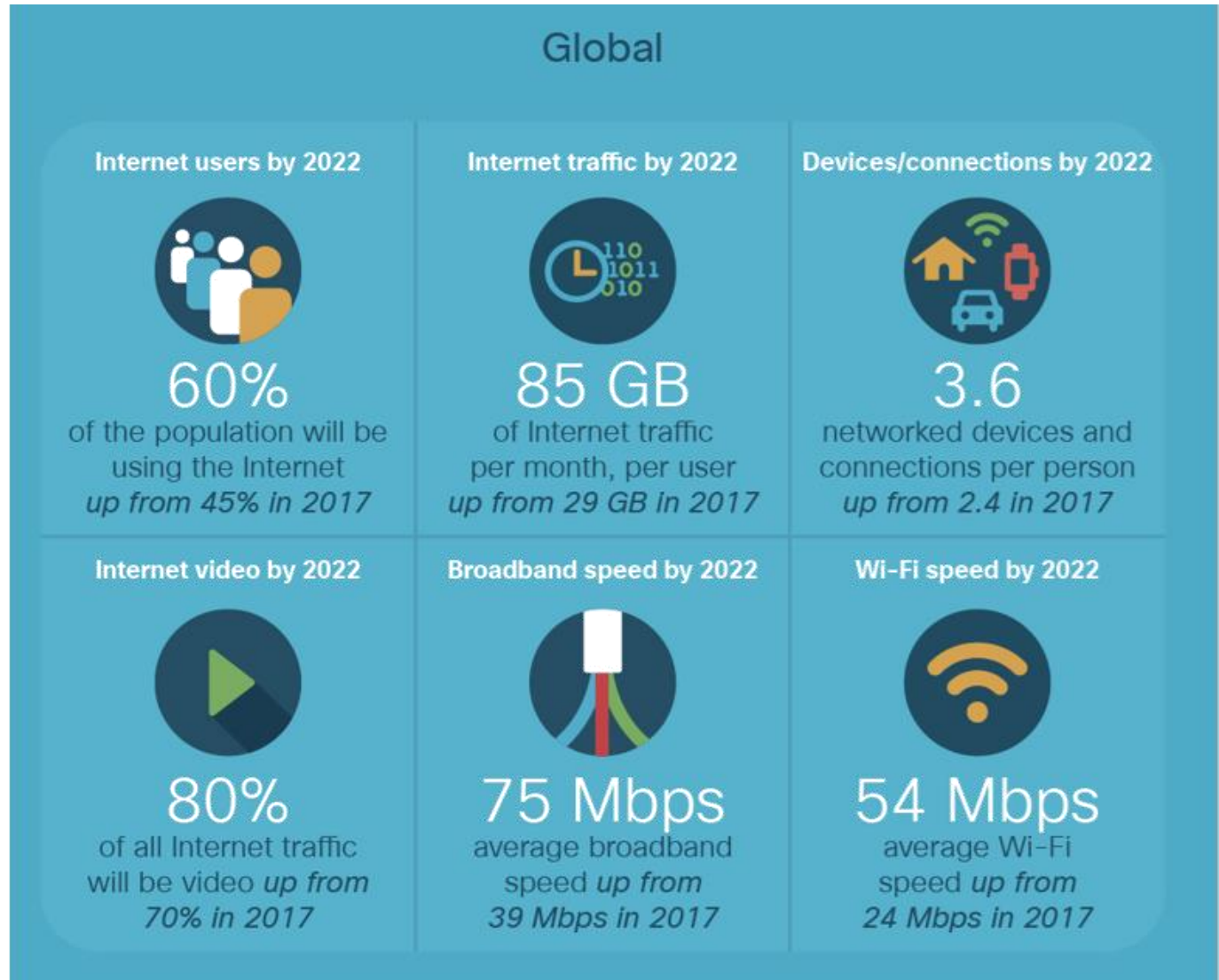
Strategic  
outsourcing from  
key customer  
segments

**EnerSys Well Positioned with System Solutions for ALL markets**

# Data Traffic and Network Power

- Our lives continue to be more digitized and mobile
- Higher bandwidth and data storage require additional Network Power
- The Alpha acquisition significantly expands the reach and breadth of EnerSys in Network Powering Solutions

2018. Cisco Visual Networking Index. *By the Numbers, Projecting the future of digital transformation (2017-2022)*





# Multiple System Operator (MSO) Opportunities

- MSOs continue to dominate High Speed Data Services
- Hybrid Fiber Coax (HFC) architecture and assets proven as strategic platform for broadband delivery
- HFC networks provide excellent opportunity for Wireless Small Cell powering and data backhaul



## Key Opportunities:

- More Bandwidth = More Network Power
- Age of existing assets
- Importance of back-up power increases



DOCSIS 3.0

**More Bandwidth = More Power**  
→  
**Increase in power 30% to 70%**



DOCSIS 3.1

# Alpha Gateway Products Enable New Revenue for the MSOs

- Small Cell antennas/Quad Play; WiFi hot spots; IoT; Smart Cities
- Key know-how on HFC powering and outdoor DOCSIS 3.1 connectivity
- Direct to MSO and key OEM channels



## Key Opportunities:

- 1.4M Aerial HFC Plant miles; small cell placement every 2k feet = 3M + potential sites
- Increased Power Load will also drive more power supplies and battery demand

# Wireless Network Power Systems

## Wireless Providers Served

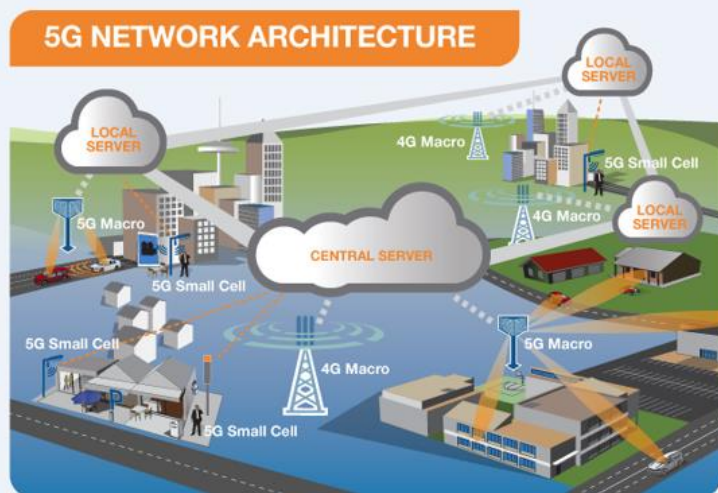
- Mobile Network Operators
- Tower / Neutral Hosts
- Cable MSOs

## Power Solutions Provided

- Indoor Power Systems for critical facilities
- Outdoor Power Systems
- Remote Radio Heads/Radio Access Network (RAN) Sites
- Distributed Line Powering
- HFC/Coax Gateway

## Network Applications Supported

- Macro Cell Sites
- Small Cell Sites
- Mobile Switching Office



LTE/4G densification driving small cell deployments today and will transition into 5G ramp up

### Key Broadband Wireless Services Enablers

- New Spectrum
- Towers/Small Cell Antenna Sites
- Fiber/Backhaul bandwidth facilities
- Power

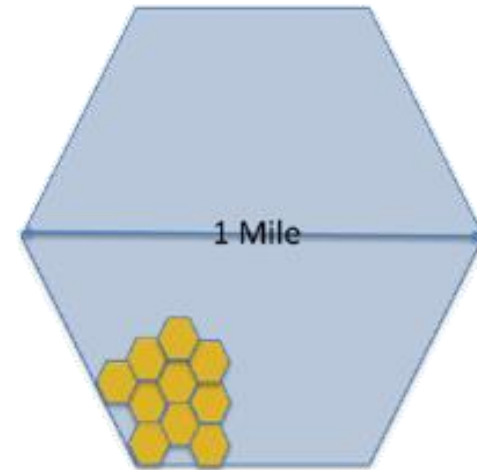
**EnerSys is a Complete System Solution Provider**

# 5G/Small Cell PAC Conundrum

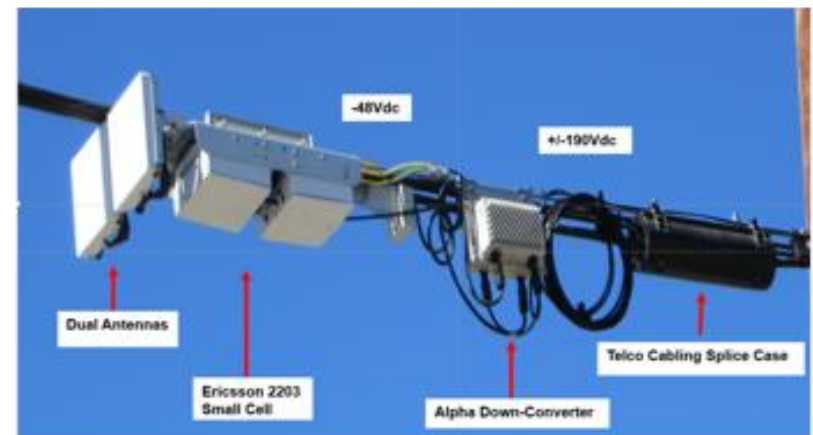
- **Power Availability**

**Attachment location**

**Connectivity or backhaul**



- Today – ~300,000 Macro Cell sites in US
- 5G – 5,000,000 or more small cells needed in US alone to match today's macro coverage for full 5G delivery
- 25%+ sites will likely require distributed/remote line powering



# Small Cell Line Powering

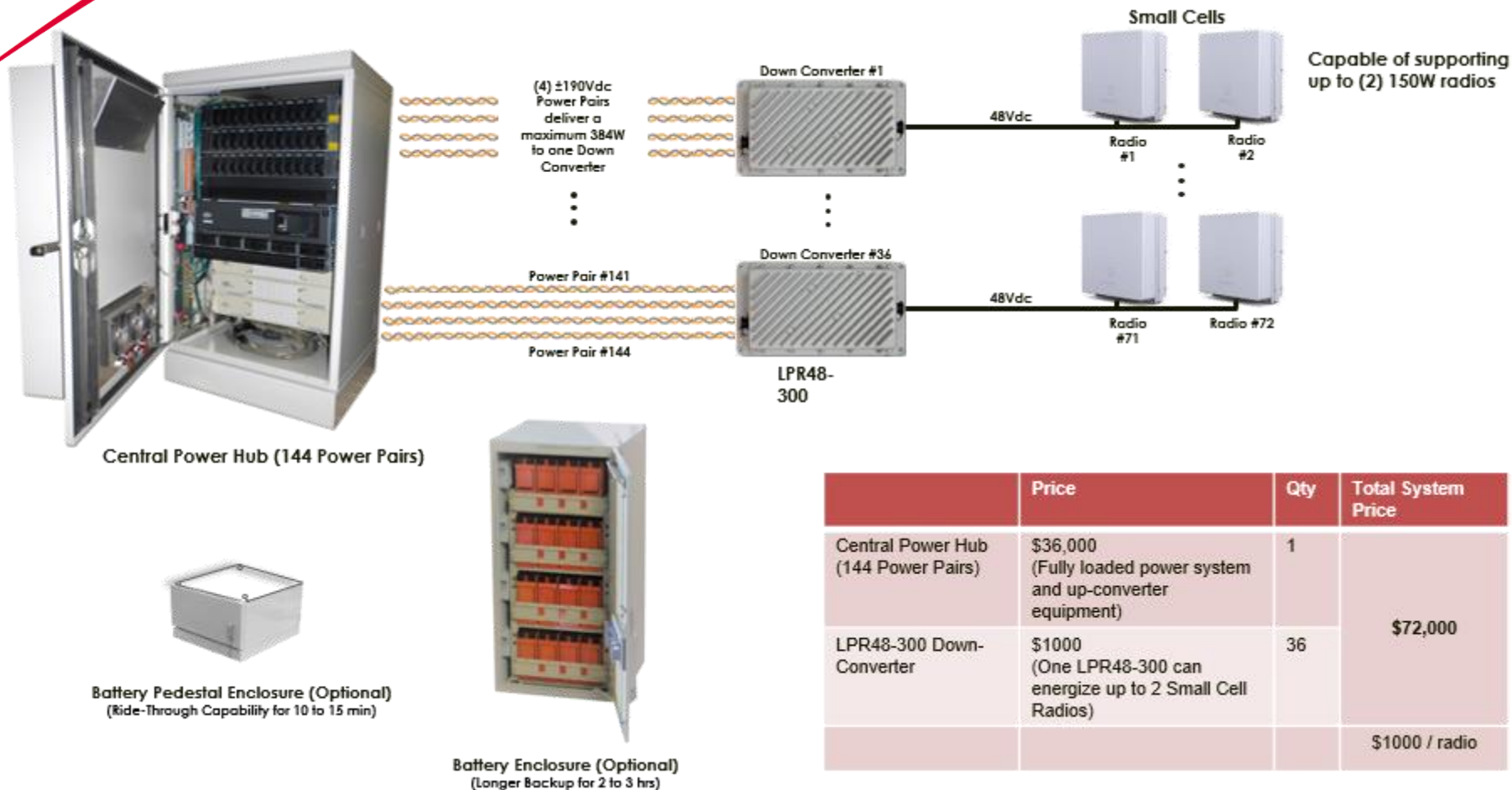
- Electric AC utility drops – up to \$20K and six months
- Alpha Line Powering and Gateway solutions can be installed for a fraction of cost and time
- Alpha complete small cell powering suite provides provisioning and planning flexibility for network operators and OEMs
- EnerSys now small cell powering leader
- Strong carrier, neutral host, and radio OEM collaborations
- > 20K ENS/Alpha line power small cells deployed - primarily Crown & Extenet
- Also > 20K ENS/Alpha HFC gateway radios powered on MSO networks
- Complementary services opportunities
- Very early stages of deployment

**Cost Effective and Easy to Install**  
**Total Addressable Market >\$2 billion**



# Financial Benefits of Deploying Remote Line Power

- DC Solutions



	Price	Qty	Total System Price
Central Power Hub (144 Power Pairs)	\$36,000 (Fully loaded power system and up-converter equipment)	1	\$72,000
LPR48-300 Down-Converter	\$1000 (One LPR48-300 can energize up to 2 Small Cell Radios)	36	
			\$1000 / radio

# Additional Industrial Technology

## Key Markets



### *Data Center/ Cloud-Based Services*

- Strong global OEM relationships
- Strategic position with major data center operators
- New TPPL XE/battery range optimized with NorthStar addition
- Energy Systems capability opening new growth opportunities



### *Electric Utility Grid 2.0*

- Leading share in legacy markets
- Alpha/Outback Power solutions positions EnerSys for evolving distributed grid energy systems including renewables and smart grids
- Lithium Energy Storage Systems growth opportunity



### *Strategic outsourcing from key customer segments and network operators*

- Key end users are downsizing and rely more on strategic supply partners
- Combined, EnerSys and Alpha provide highly valued Engineering, Furnish and Install (EF&I) and maintenance services

# EnerSys Integrated Energy Solutions

EnerSys is the only company to provide truly integrated, application specific engineered critical powering system solutions....

Unique Value Delivered...

- Technical compatibility for all aspects of total and sub-system performance & interoperability
- System Intelligence for optimal reliability, efficiency and control
- Single source technical support/services to customers for critical power applications
- Single source order processing and fulfillment for streamlined supply to key customers



Best Total Cost of Ownership/Top in Class Customer Experience



an EnerSys company



**Products and Services Combined = Single Solution Provider  
for All Network Powering Challenges**

# EAS Acquisitions and Growth Milestones

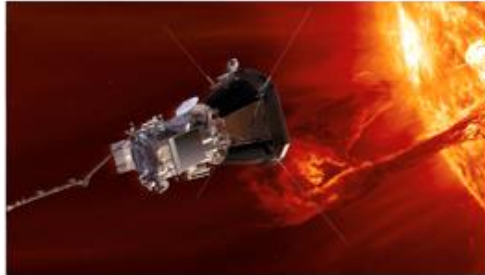


# Systems We Enable

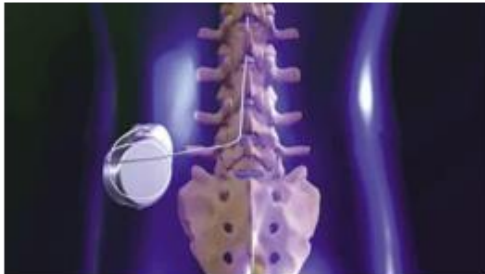
## DEFENSE ➤



## SPACE ➤



## MEDICAL ➤

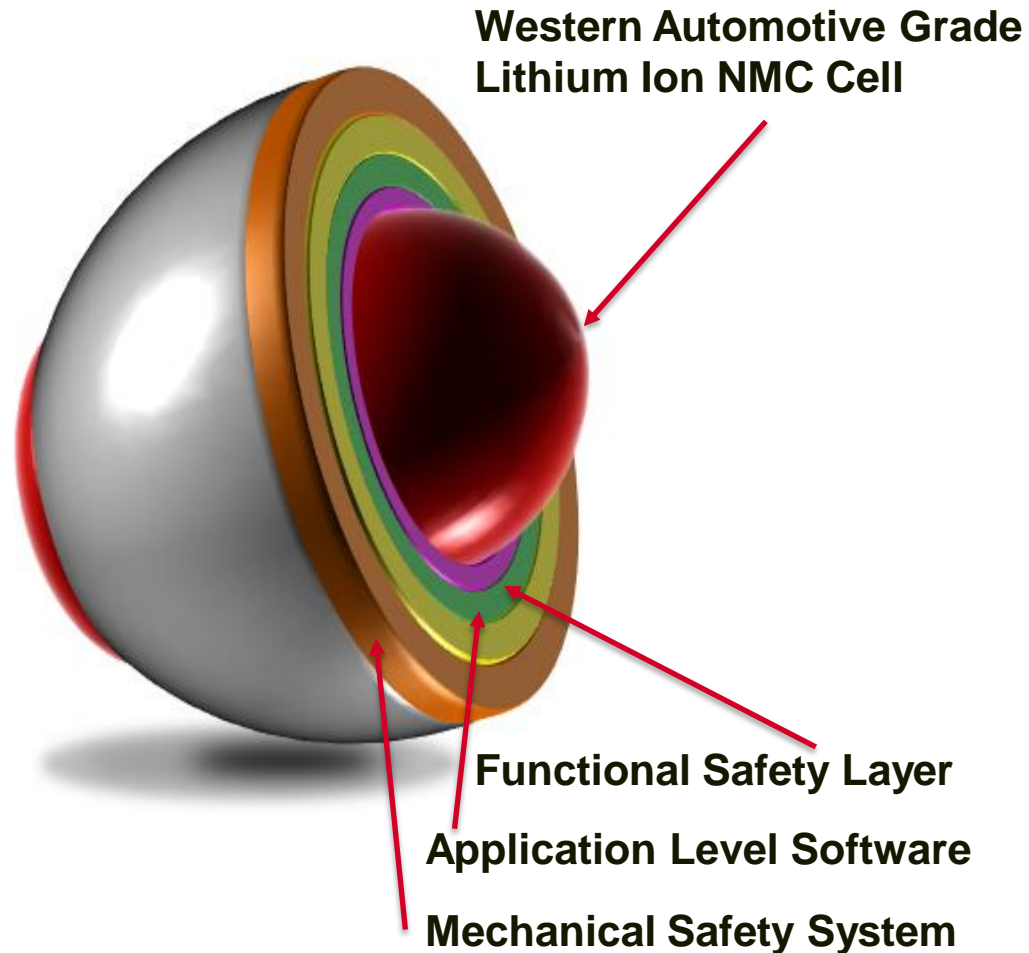




# Li Safe Design Through Layers



- Low Risk
- High Reliability
- Low Maintenance
- High Productivity
- Low Total Cost of ownership



**Western Automotive Grade  
Lithium Ion NMC Cell**

**Functional Safety Layer**

**Application Level Software**

**Mechanical Safety System**

**Leading the way - ISO26262 applied to industrial storage**

# Lithium in Motive Power

## NexSys ION



# The Same Modular Architecture in Reserve Power Applications



**Telecom System**



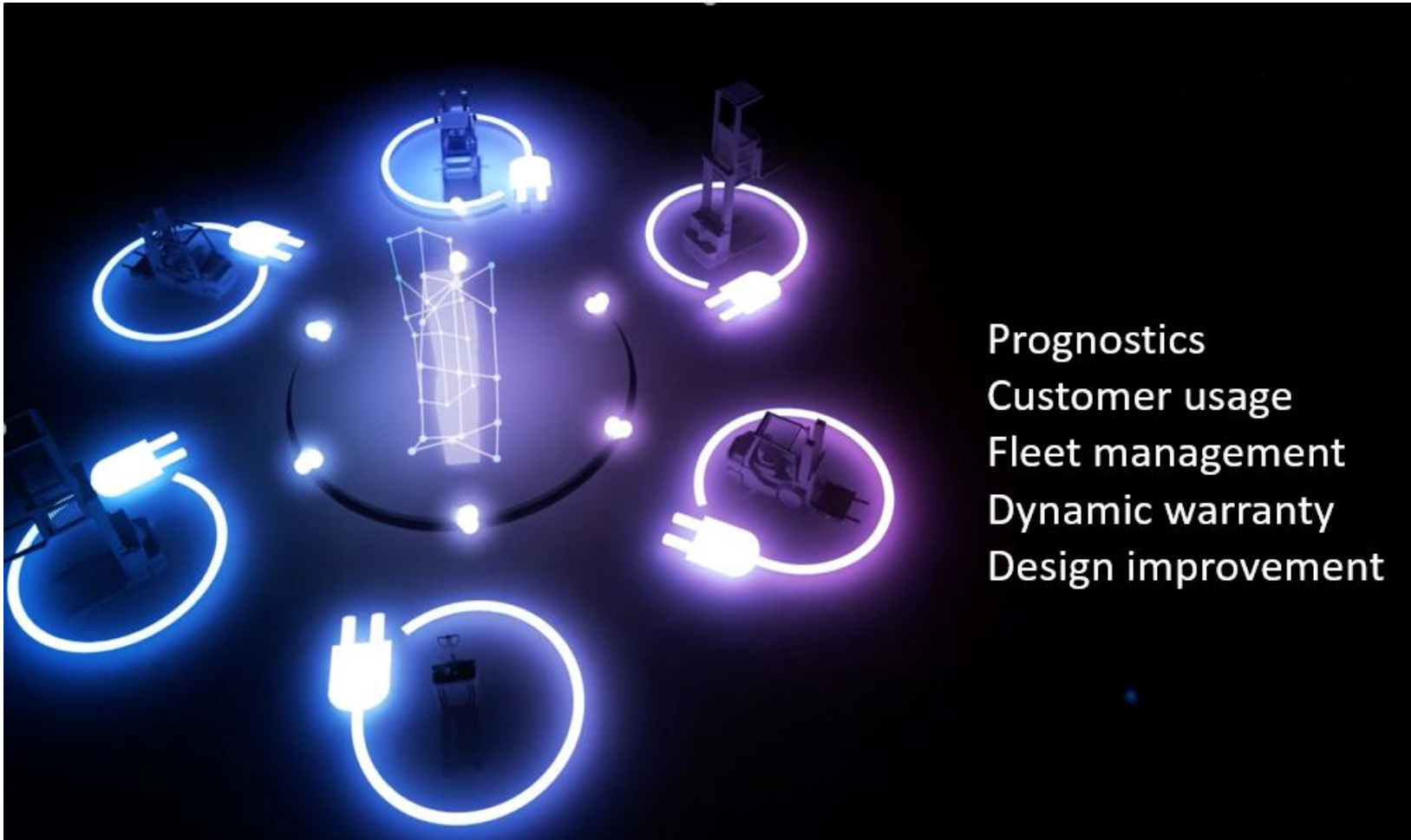
**UPS Backup**



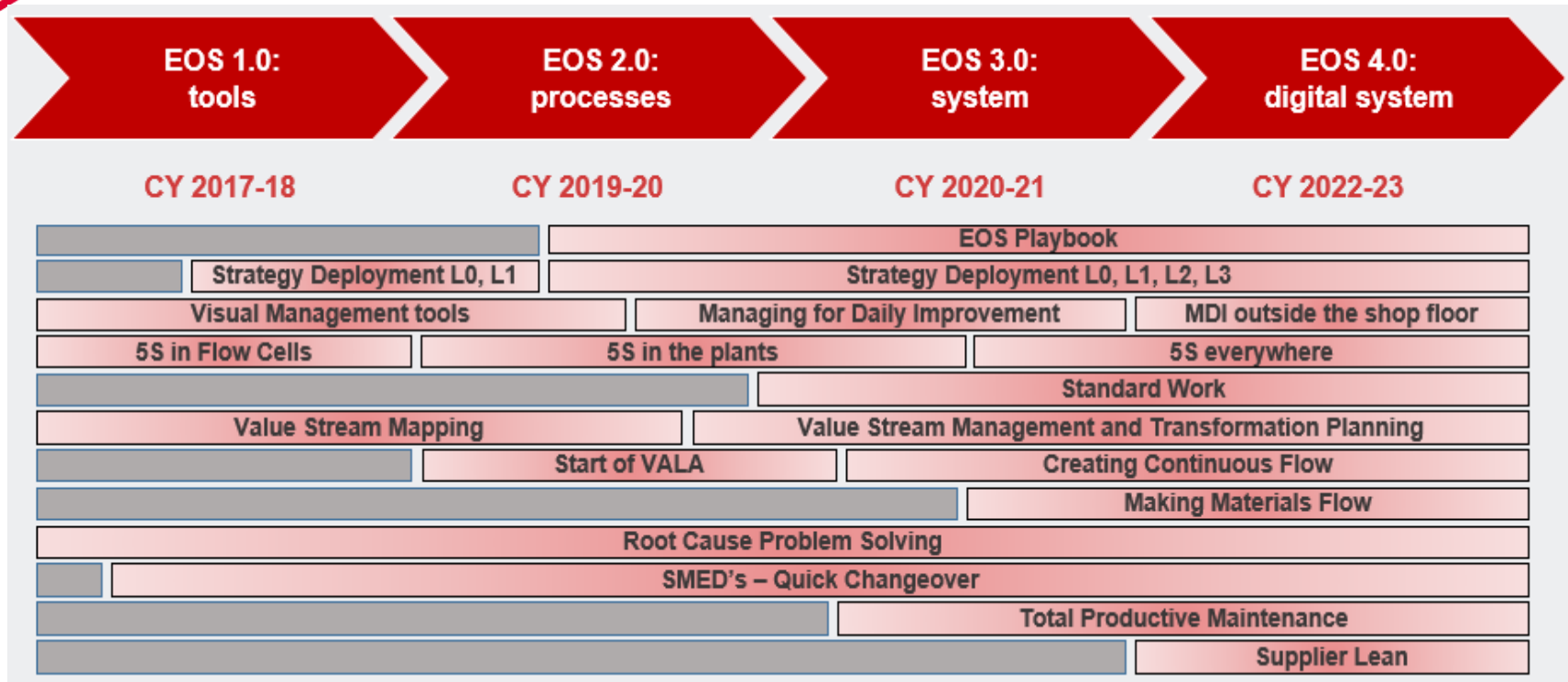
**Energy Storage  
(Behind the Meter)**

**Complete system solutions from EnerSys**

# System Structure Facilitates Advanced Analytics



# EnerSys Operating System (EOS)



- Relentless elimination of waste
- Enterprise transformation
- Harmonize factories worldwide
- Software Enhancements

## Operational Excellence Roadmap



# Five Year Model Assumptions

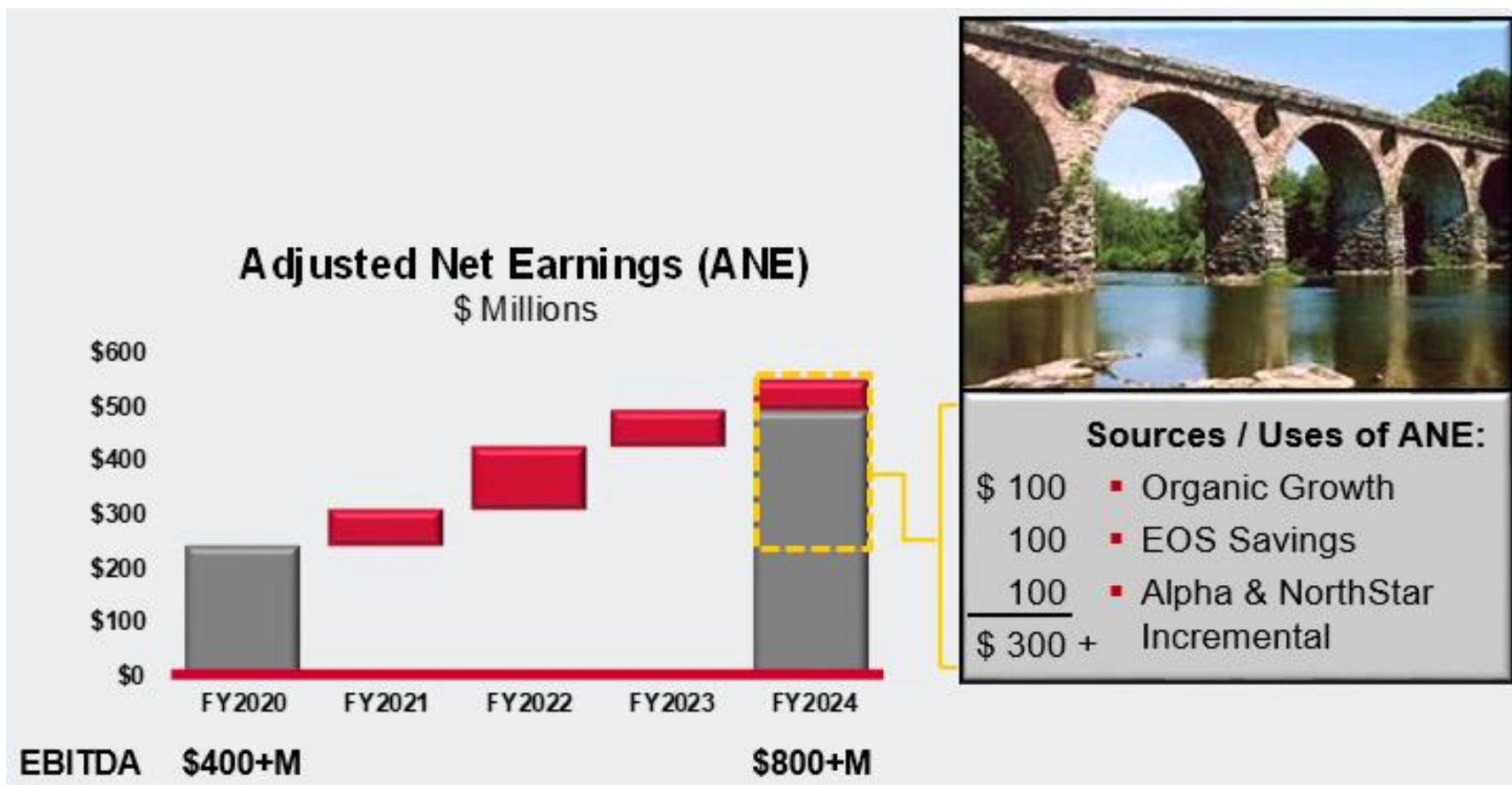
## Revenue

- ENS top line CAGR up 8% from 2019 to 2024
- Global Motive Power growth 4.5% with market share capture from maintenance-free offerings
- Flooded lead-acid declines 2% annually
- Reserve Power CAGR up 3.5% with weaker ROW
- Aerospace & Defense CAGR of 8.5%
- NorthStar legacy business growth rate at 7%
- Transportation legacy business growth rate at 11%

## Other Considerations

- Commodity and currency rates remain constant
- No further significant M&A
- Leverage below 2.5X
- No recession
- Cash flow allows 10+M of share buybacks
- EPS of \$10.00 to \$15.00+ depending on shares repurchased

# Bridge to FY24



# M&A Update

- Targeted niche and tuck in deals will likely continue
- Leverage should allow \$250M-\$500M in next four years while remaining 2.5X or below
- Larger deals, if deemed strategic, would be financed in lieu of share buybacks
- In near term operation execution and integration will be our focus

