

**BALLARD**

# Investor Presentation

March 2021

Nasdaq & TSX: BLDP





# Forward-Looking Statements

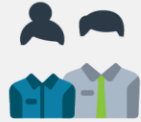
*This presentation contains forward-looking statements, including: estimated revenue; gross margin; cash operating costs; adjusted EBITDA; product cost reductions; liquidity; market size and growth projections; customer value propositions; and expected sales and product shipments. These forward-looking statements reflect Ballard's current expectations as contemplated under section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Any such forward-looking statements are based on Ballard's assumptions relating to our financial forecasts and expectations regarding our product development efforts, manufacturing capacity, and market demand.*

*These forward-looking statements involve risks and uncertainties that may cause our actual results to be materially different, including, general economic and regulatory changes, detrimental reliance on third parties, successfully achieving our business plans and achieving and sustaining profitability. For a detailed discussion of these and other risk factors that could affect Ballard's future performance, please refer to our most recent Annual Information Form. Readers should not place undue reliance on Ballard's forward-looking statements and Ballard assumes no obligation to update or release any revisions to these forward-looking statements, other than as required under applicable legislation.*

*All amounts are consolidated to include Ballard Power Systems Europe A/S, Ballard Unmanned Systems Inc., Guangzhou Ballard Power Systems Co., Ltd., and Ballard Fuel Cell Systems Inc. Results are in U.S. dollars, unless otherwise noted.*

# Ballard by the Numbers

**42**  
YEARS



**900**  
employees



**1,400**  
patents & applications

26 years

28 years

publicly listed Company

**WEICHAI**

AngloAmerican

**NISSHINBO**

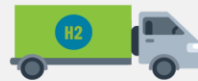
大洋电机  
BROAD-OCEAN

**4**

strategic shareholders



**1,000+**  
transit buses



**2,200+**  
trucks



**5 TRAIN**  
projects on track



**6 SHIPS**  
in development



**HIGH-POWER DENSITY**  
stack development program



**850 MW**  
fuel cell products  
delivered



**>6.5million** MEAs  
produced



**>75million**  
kilometers in operation



**>35,000hours**  
operation of fuel cell  
stack in London buses



**2030**  
commitment to  
carbon neutrality



## Sustainable Competitive Advantages

- ✓ Deep fuel cell expertise and talent pool
- ✓ Leading PEM technology and IP
- ✓ Comprehensive product portfolio
- ✓ Vertical integration
- ✓ Unparalleled field experience
- ✓ Customers and industrial partnerships
- ✓ Powerful brand
- ✓ Balance sheet strength



**BALLARD**

**Global momentum to  
address climate crisis**



**49 countries**

with CO<sub>2</sub> pricing initiatives

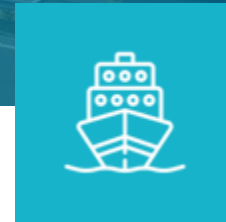
**75 countries**

with net zero targets

**32 countries**

with hydrogen strategies





## Hydrogen is most competitive in heavy duty motive applications

Our focus is on applications where hydrogen fuel cells have a clear advantage

**BALLARD**

## Why medium- and heavy-duty motive applications?



Strong  
value proposition

Centralized  
depot refueling

Disproportionate  
emissions from  
hard-to-abate mobility

## Electrification without impact to operation or profitability

- Fuel cell trucks can haul a similar payload to a diesel truck
  - Future fuel cell truck weight reductions through lower weight storage tanks and improved integration
- Fuel cell trucks are refueled quickly to maximize revenue
  - Battery recharging downtime prevents full utilization of the truck

## Fuel Cell Trucks: The Best Zero-Emission Alternative to Diesel



longest range



minimal payload impact | long range



significant payload impact | shorter range



# Heavy-Duty Mobility market represents a very large opportunity for Ballard

Estimated Total Addressable Market over **\$130b** (engine)

with market share estimates of **55GW** for FC engines by 2030



**\$14 billion**

450,000 buses & coaches

100kW/bus



**\$100 billion**

4 million MHD trucks

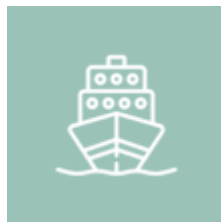
200kW/truck



**\$4 billion**

8,500 electric hybrid trains

600kW/train



**\$13 billion**

8,000 propulsion systems

2 MW/vessel


# Comprehensive Range of Fuel Cell Products to Address Multiple Applications

|  |     | Product Line   | Applications  | Products   |
|--|-----|--|---|--|
| Level of integration<br>↓<br>↓<br>↓<br>↓<br>High | Low | <b>Fuel cell components</b><br>MEAs and bipolar plates                       | <br>All applications  |  |
|  |     | <b>Fuel cell stacks</b><br>Air and liquid cooled stacks from 400 W to 120 kW | <br>Motive (buses, trucks, forklifts, cars) and critical infrastructure backup power      | <b>FCvelocity® - 9SSL</b><br><b>FCgen® - 1020ACS</b><br><b>FCgen® - HPS</b><br><b>FCgen® - LCS</b><br> |
|  |     | <b>Fuel cell modules</b><br>Heavy duty power modules from 30 kW to 200 kW    | <br>Heavy duty motive (buses, trucks, trains and ships)                                   | <b>FCmove™</b><br><b>FCvelocity®</b><br><b>FCwave™</b><br>   |
|  |     | <b>Fuel cell stationary systems</b><br>Stationary systems from kW to MW's    | <br>Critical infrastructure backup power<br>Distributed scalable power generation systems | <b>FCgen® - H2PM</b><br><b>CLEARGen™</b><br>   |



# Product Innovations Achieve Significant Performance & Lifecycle Cost Improvements

## Current generation FCmove™ product improvements



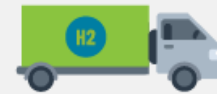
The image shows a Ballard FCmove fuel cell stack, a rectangular black unit with various connectors and a white component on the side. It is surrounded by icons and text describing its performance improvements.

- TCO** (Total Cost of Ownership) icon with a downward arrow and dollar sign: **35%** reduction in total life cycle cost
- LIFETIME DURABILITY** icon with a padlock: **>30,000 hr** operating lifetime
- Recycling** icon: fuel cell stack is recyclable
- Component Reduction** icon with a downward arrow and dollar sign: **50%** reduction in number of components
- Freeze Start** icon with a thermometer and snowflake: **-25°C** freeze start capability
- Weight Reduction** icon with a scale and 'KG': **35%** reduction in product weight
- Volume Reduction** icon with four arrows pointing inward: **40%** reduction in product volume

We are powering  
**thousands of heavy-duty vehicles**  
globally.



**1,000+**  
transit buses



**2,200+**  
trucks



**4 TRAIN**  
projects on track



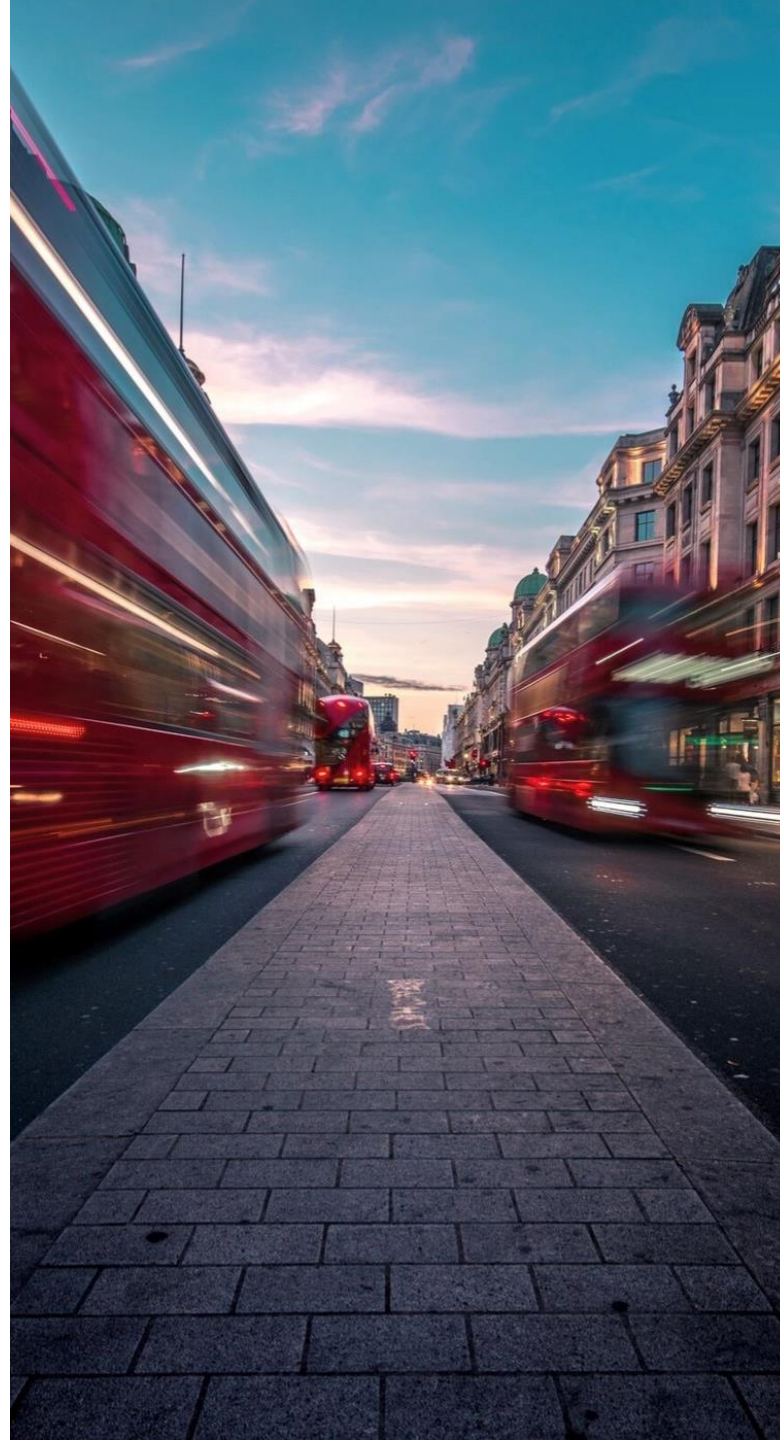
**5 SHIPS**  
in development





**BALLARD**

**Proven field performance in various duty cycles, operating conditions and weather conditions**



**75+ million km**

cumulative kms driven

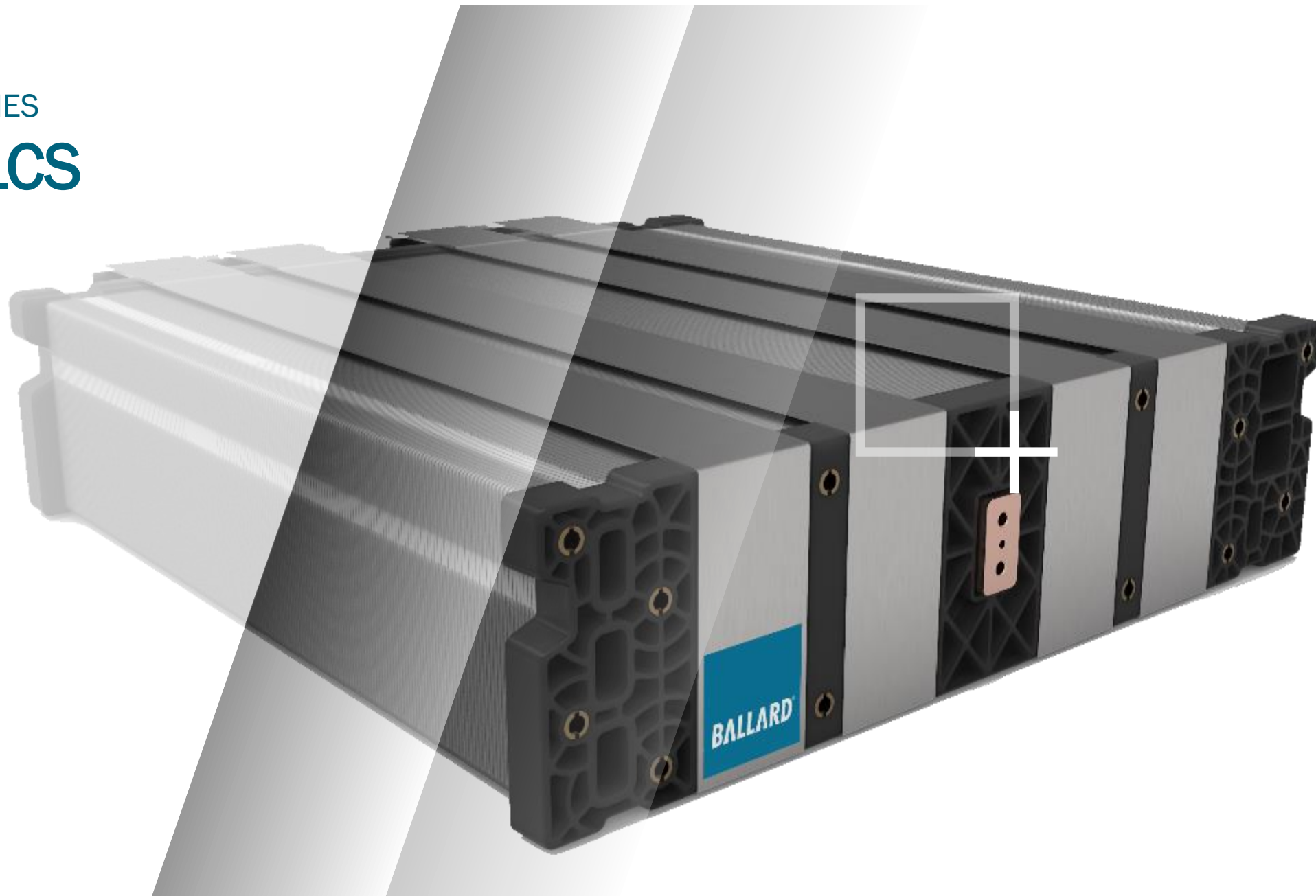
**35,000+ hours**

proven field durability

**97% uptime**

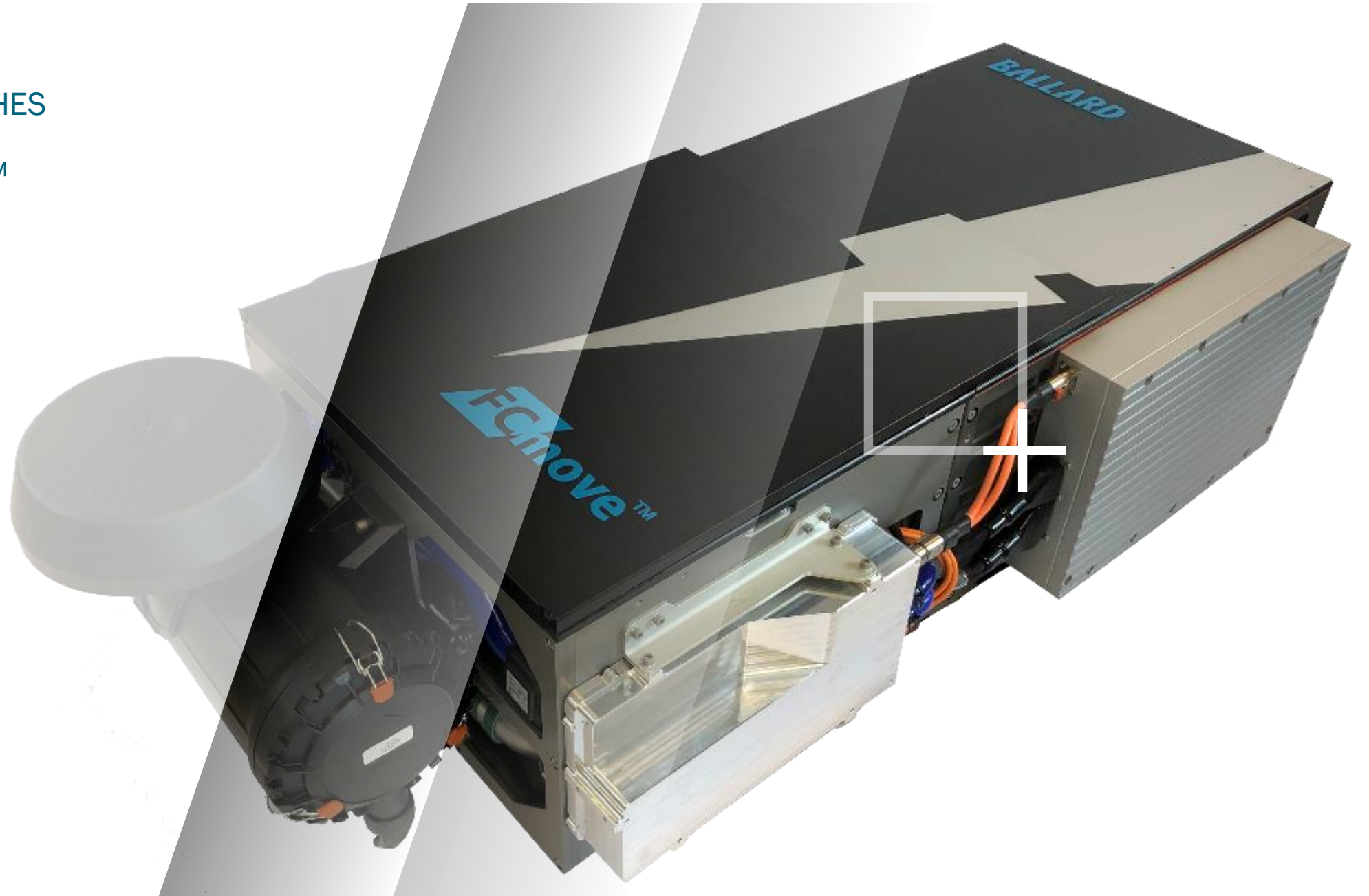
high availability rate in 2020

BALLARD LAUNCHES  
**FCgen<sup>®</sup>-LCS**





BALLARD LAUNCHES  
**FCmove™**





BALLARD PARTNERS WITH  
**NEW FLYER**





BALLARD PARTNERS WITH  
**WRIGHTBUS**





BALLARD PARTNERS WITH  
**VAN HOOL**





BALLARD PARTNERS WITH  
**SOLARIS**





BALLARD PROJECT WITH  
**KENWORTH**





BALLARD PROJECT WITH  
**DONGFENG**





BALLARD POWERS

# UPS TRUCKS





BALLARD POWERS

# AZETEC PROJECT





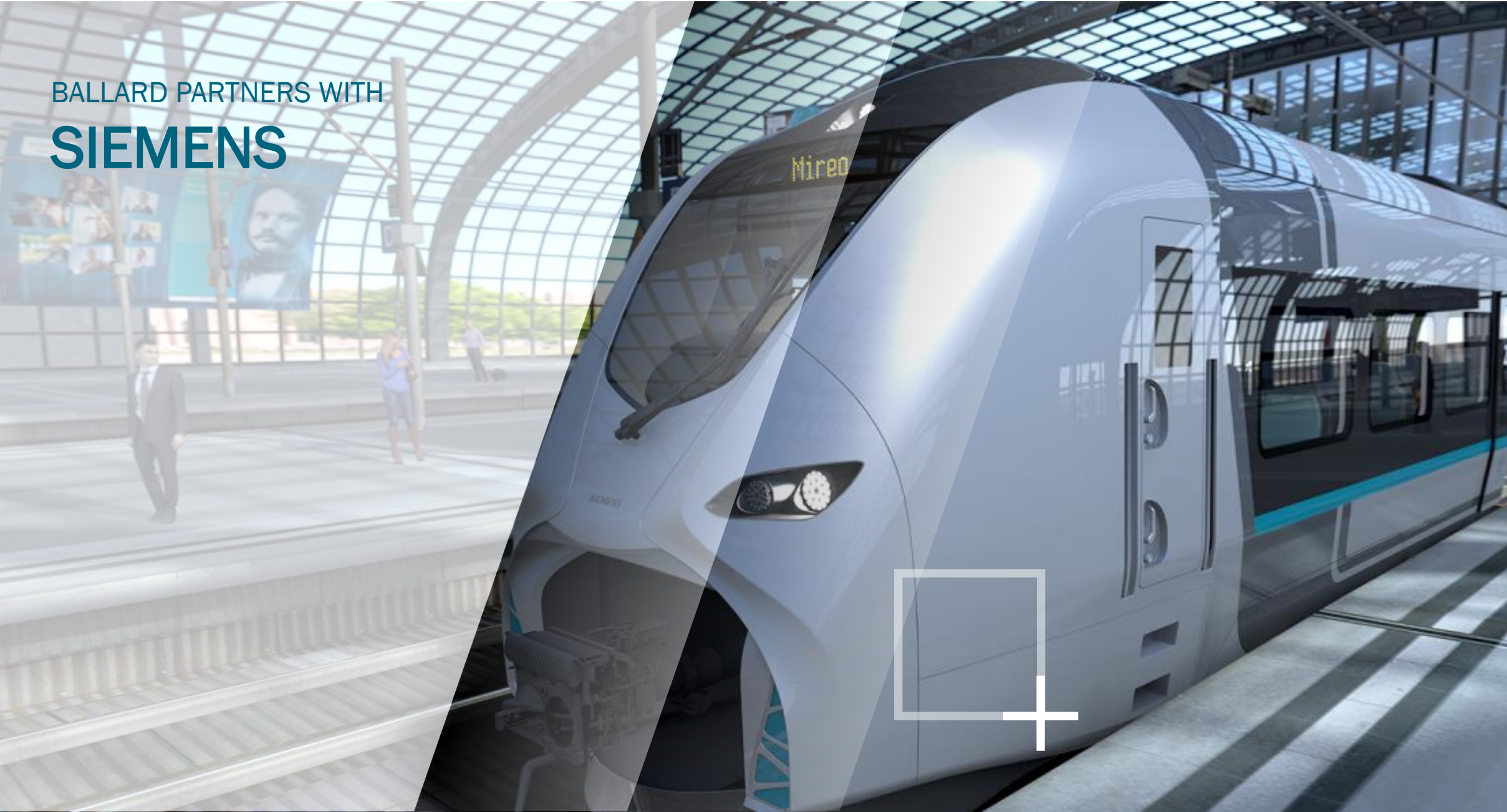
BALLARD POWERS

# FIRST COMMERCIAL TRAM LINE





BALLARD PARTNERS WITH  
**SIEMENS**



BALLARD POWERS

# HYDROFLEX TRAIN





# HYDROGEN LOCOMOTIVE PROJECT

CP will employ Ballard fuel cells in its  
Hydrogen Locomotive Project

[LEARN MORE](#)





**Zero-emission requirements are coming to the marine industry**



IMO phasing-out GHG

**↓50% by 2050**

Norway protecting heritage fjords

**100% zero-emission  
by 2026**

Europe EMSA to cut CO<sub>2</sub>

**50% by 2050**



## Ballard is Investing in the Emerging Marine Market

- FCwave™ 200kW – expected to be first fuel cell module that is Type Approved
- Marine Center of Excellence established in Denmark
- Estimated 2,000 MW opportunity by 2030



## Gaining marine experience & building partnerships

- Development of MW scale systems for cruise ships with ABB
- HySeas III, the world's first sea-going renewables-powered ferry
- H2PORTS project to facilitate hydrogen power at Europe's ports
- FLAGSHIPS project to power:
  - Norled ferry in Norway
  - River barge in France (ABB)
- Norled Hjelmeland liquid hydrogen ferry
- ELEKTRA fuel cell river barges in Germany





# Weichai Ballard Hy-Energy Technologies Co. Ltd. (WBJV)

- Located at Weifang, China
- GIGA SHANDONG ONE
  - Floor space: 225,000 sq ft.
  - Certification: IATF16949; LC720161
  - Capacity: 34,000 stacks (2GW equivalent)
    - 20,000 modules
- Exclusive licensed manufacturer of LCS fuel cell stacks and LCS-based modules in China
- 180 employees as of August 2020



**BALLARD**

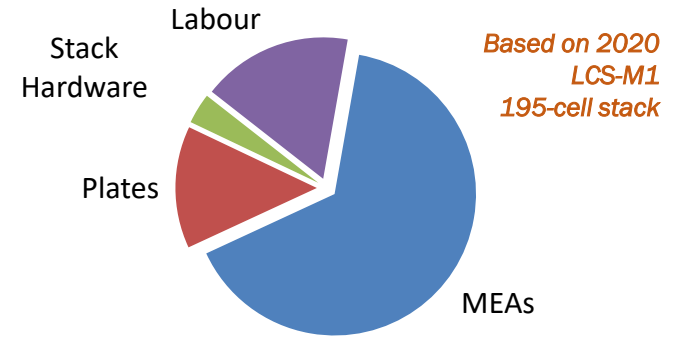
**MAHLE**

## Development in Europe

- Collaboration agreement with MAHLE International signed October 1<sup>st</sup> 2020, to focus on \$100B annual truck engine market, initially in Europe
  - MAHLE is a major Tier 1 supplier with €12B in sales
  - Components in 50% of all vehicles
  - 10+ years experience in fuel cell component supply
- Ballard is responsible for fuel cell system and stack sub-system ... MAHLE's scope of work includes BoP, thermal mgmt., power electronics, system assembly



# Ballard '3x3' Cost Reduction Plan



## '3x3' fuel cell STACK cost reduction project targeting >70% reduction



**Engineering Design** delivering MEA and Plate, performance and lifetime improvements with lower cost materials



**Supply Chain** developing suppliers and agreements for volume supply



**Advanced Manufacturing** minimising waste (materials and labour) and developing high volume automated manufacturing solutions providing high yield

*Contribution to Cost Reduction*

|     |
|-----|
| 41% |
| 24% |
| 35% |

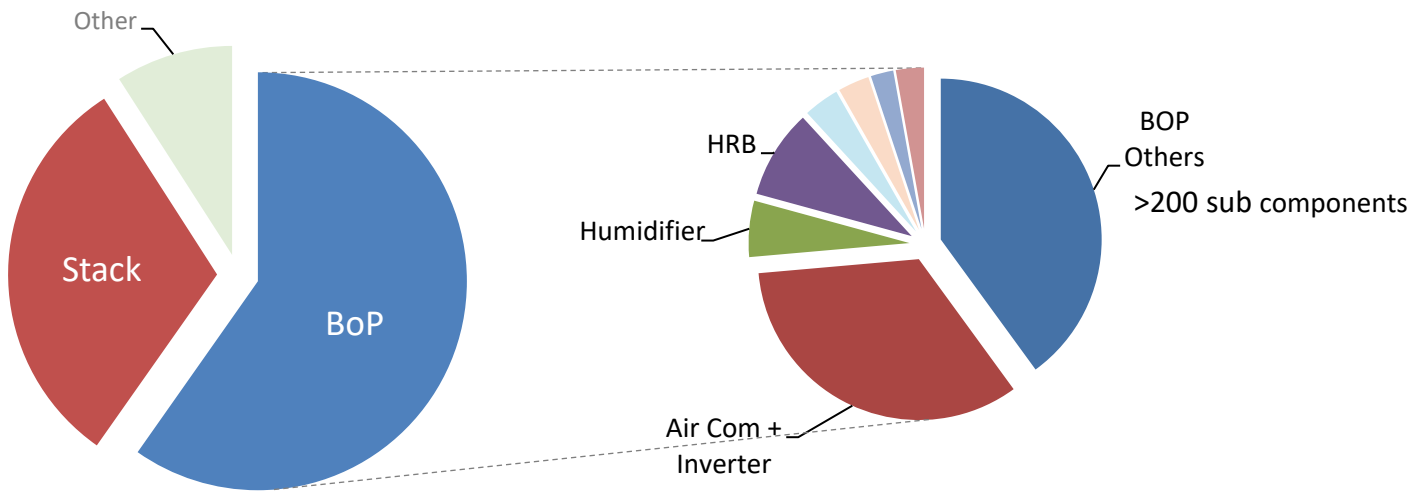
'3 x 3' plan expected to deliver 70%+ cost reduction by 2024 for the stack in 3 key functional areas

# System Cost Reduction

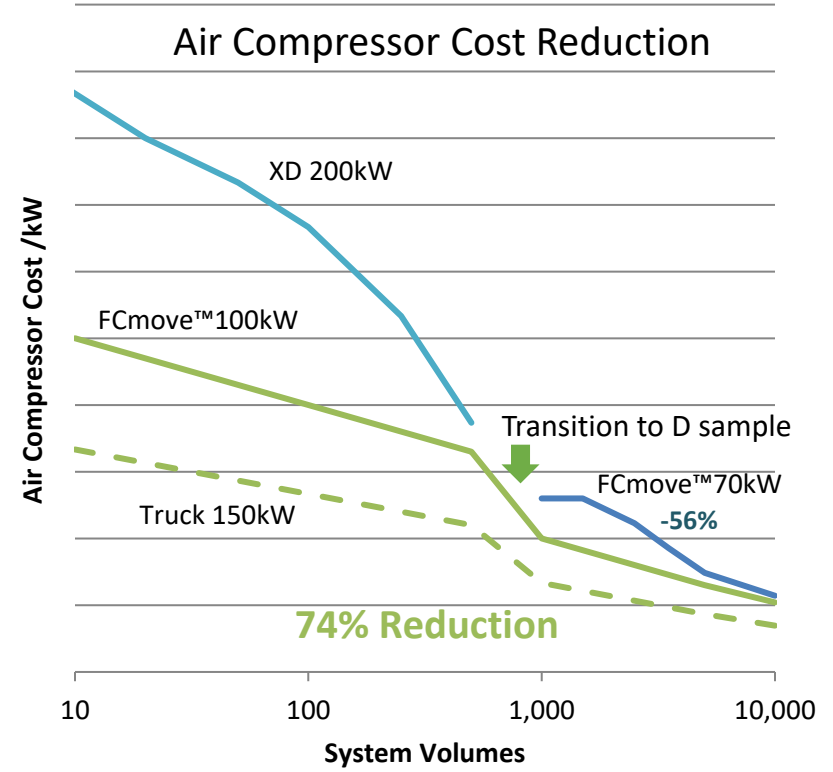
*Expected impact of BoP cost reduction*



Major BoP component (Air compressor, HRB, Humidifier, Coolant Pump) cost reduction based on **partnerships** with Tier 1 suppliers, leveraging bus and passenger car volumes



System cost breakdown based on 2020 FCmove 70 kW, low volume, including warranty.  
Other includes DL for assembly, VOH, Delivery



Major BoP component costs expected to reduce by >70% as Tier 1's transition to 'series' production



# Global Manufacturing Capacity

| Vancouver Capacity         | 2019      | 2020†      | ~2025‡     |
|----------------------------|-----------|------------|------------|
| MEAs                       | 1.0m      | 6.0m       | 10.2m      |
| Gigawatt Equivalent        | 0.24      | 1.66       | 2.90       |
| <b>Vehicle Equivalent*</b> | <b>2k</b> | <b>12k</b> | <b>20k</b> |
| Stack Assembly             | 2.6k      | 27k        | 27k        |
| Gigawatt Equivalent        | 0.24      | 1.66       | 1.66       |
| HD Module Assembly         | 0.2k      | 5k         | 10k        |

| Hobro HD Capacity       | 2019 | 2020 | 2023‡ |
|-------------------------|------|------|-------|
| FCmove™ Module Assembly | -    | 50   | 100   |

Ballard  
Power  
Systems

Ballard  
Europe

Weichai Ballard Hy-Energy JV (WBHE)

| WBHE Capacity              | 2019 | 2020†      | ~2025‡     |
|----------------------------|------|------------|------------|
| Stack Assembly             | -    | 34k        | 67k        |
| Gigawatt Equivalent        | -    | 2.02       | 4.21       |
| <b>Vehicle Equivalent*</b> |      | <b>17k</b> | <b>34k</b> |
| HD Module Assembly         | 0.5k | 20k        | 67k        |

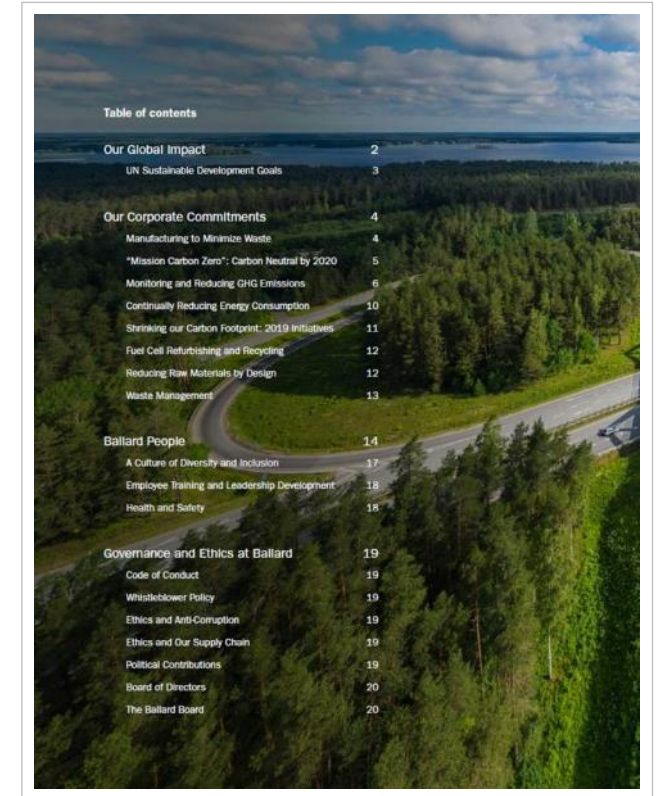
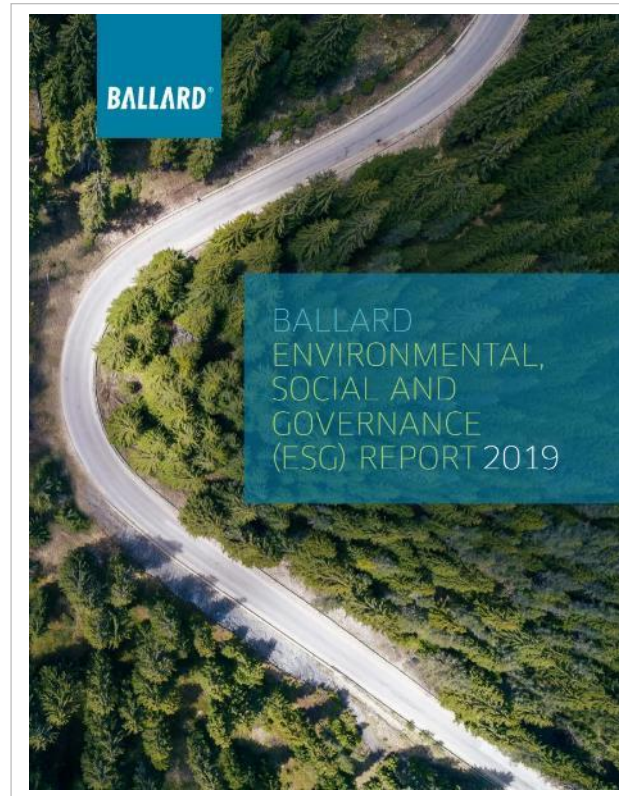
- MEA Manufacturing
- Stack Assembly
- Module Assembly

† Installed capacity expected at end of 2020, based on 24hr x 7 days/week operation, 350 days/year  
 ‡ Building infrastructure designed to accommodate additional capacity expansion within 1 year  
 \* Vehicle equivalent based on 70kW FCmove, 500 cells

Published inaugural ESG Report in April 2020

Carbon neutral by 2030

Committed to continued enhancement of ESG reporting



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# Investment Thesis

- 1. Strong Policy Complex is Developing, Underpinned by MegaTrends**

  - Decarbonization; air quality improvement; electrification of vehicles
- 2. Large Attractive Addressable Markets**

  - Business model leverage & diversification with TAMs totaling >\$130b
- 3. Global Leadership Position in PEM Fuel Cells for M/HD Motive**

  - 40 years of investment; highest market share; >75m km in the field
- 4. Sustainable Competitive Advantages**

  - Talent; IP; technology; product portfolio & roadmap; customers and partners
- 5. High Growth Trajectory**

  - Revenue scaffolding with potential for multi-billion-dollar top line by 2030
- 6. Strong Financial Position**

  - Solid balance sheet; revenue ramp; GM expansion; costs leverage; capacity in-place
- 7. Embedded Optionality**

  - Long-term exposure in automotive, material handling, aerospace, off-road and stationary



## Q4 & Full Year 2020 Results

| <i>(Millions of U.S. dollars)</i>             | Q4 2020  | Q4 2019  | % Change | FY 2020  | FY 2019  | % Change |
|---|----------|----------|----------|----------|----------|----------|
| <b>REVENUE</b>                                |          |          |          |          |          |          |
| Fuel Cell Products & Services Revenue:        |          |          |          |          |          |          |
| Heavy Duty Motive                             | \$11.9   | \$21.4   | -44%     | \$47.7   | \$35.4   | 35%      |
| Material Handling                             | \$0.9    | \$1.9    | -51%     | \$5.3    | \$10.8   | -51%     |
| Backup Power                                  | \$2.1    | \$2.0    | 5%       | \$5.6    | \$3.0    | 88%      |
| Sub-Total                                     | \$15.0   | \$25.4   | -41%     | \$58.6   | \$49.1   | 19%      |
| Technology Solutions                          | \$13.6   | \$16.4   | -17%     | \$45.3   | \$56.6   | -20%     |
| Total Fuel Cell Products & Services Revenue   | \$28.6   | \$41.8   | -32%     | \$103.9  | \$105.7  | -2%      |
| <b>PROFITABILITY</b>                          |          |          |          |          |          |          |
| Gross Margin \$                               | \$5.6    | \$8.6    | -34%     | \$21.0   | \$22.3   | -6%      |
| Gross Margin %                                | 20%      | 21%      | -1-point | 20%      | 21%      | -1-point |
| Operating Expenses                            | \$19.6   | \$15.6   | 26%      | \$60.7   | \$47.8   | 27%      |
| Cash Operating Costs                          | \$16.4   | \$13.1   | 25%      | \$50.0   | \$38.8   | 29%      |
| Equity Gain (Loss) in JV & Associates         | (\$4.3)  | (\$3.0)  | -43%     | (\$12.6) | (\$11.1) | -14%     |
| Adjusted EBITDA                               | (\$14.5) | (\$7.0)  | -105%    | (\$38.9) | (\$26.6) | -46%     |
| Net Loss                                      | (\$14.4) | (\$9.8)  | -47%     | (\$49.5) | (\$35.3) | -40%     |
| Earnings Per Share                            | (\$0.05) | (\$0.04) | -28%     | (\$0.20) | (\$0.15) | -31%     |
| <b>CASH</b>                                   |          |          |          |          |          |          |
| Cash Provided (Used) by Operating Activities: |          |          |          |          |          |          |
| Cash Operating Income (Loss)                  | (\$6.7)  | (\$3.9)  | -72%     | (\$25.8) | (\$14.1) | -83%     |
| Working Capital Changes                       | \$0      | \$8.0    | -100%    | (\$17.1) | (\$0.1)  | -17,000% |
| Cash Used By Operating Activities             | (\$6.7)  | \$4.1    | -262%    | (\$42.9) | (\$14.2) | -202%    |
| Cash Reserves                                 | \$763.4  | \$147.8  | 417%     |          |          |          |