

A close-up, low-angle shot of the rear of a white hydrogen fuel cell vehicle. The license plate area is illuminated and displays the word "HYDROGEN" in large, black, sans-serif capital letters. The background is a blurred industrial or parking lot setting with a blue and green color gradient overlay.

# BALLARD™

*Here for life™*

BALLARD POWER SYSTEMS INC.  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
THIRD QUARTER AND YEAR TO DATE 2022

Fuel Cell Power  
for a Sustainable Planet

[ballard.com](http://ballard.com)

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## CAUTION REGARDING FORWARD-LOOKING STATEMENTS

This document contains forward-looking statements about expected events and the financial and operating performance of Ballard Power Systems Inc. ("Ballard", "the Company", "we", "us" or "our"). Forward-looking statements include any statements that do not refer to historical facts. Forward-looking statements are based on the beliefs of management and reflect our current expectations as contemplated under the safe harbor provisions of Section 21E of the United States Securities Exchange Act of 1934, as amended. Such statements include, but are not limited to, statements related to the expected or potential impact of the novel coronavirus ("COVID-19") pandemic, and the related responses of the government, our customers and partners, joint venture operations and suppliers, on our business, financial condition and results of operations; and statements with respect to our objectives, goals, liquidity, sources of capital and our outlook including our estimated revenue and gross margins, cash flow from operations, Cash Operating Costs, EBITDA and Adjusted EBITDA (see Non-GAAP Measures), order backlog, order book of expected deliveries over the subsequent 12-months, future product costs and selling prices, future product sales and production volumes, expenses / costs, contributions and cash requirements to and from joint venture operations, our strategy, the markets for our products, and research and development activities, as well as statements with respect to our beliefs, plans, objectives, expectations, anticipations, estimates and intentions. Words such as "estimate", "project", "believe", "anticipate", "intend", "expect", "plan", "predict", "may", "should", "will", the negatives of these words or other variations thereof and comparable terminology are intended to identify forward-looking statements. These statements are not guarantees of future performance and involve assumptions, risks and uncertainties that are difficult to predict. In particular, these forward-looking statements are based on certain factors and assumptions relating to our expectations with respect to new and existing customer and partner relationships, the generation of new sales, producing, delivering, and selling the expected product and service volumes at the expected prices and controlling our costs. They are also based on a variety of general factors and assumptions including, but not limited to, our expectations regarding technology and product development efforts, manufacturing capacity and cost, product and service pricing, market demand, and the availability and prices of raw materials, labour, and supplies. These assumptions have been derived from information available to the Company including information obtained by the Company from third parties. These assumptions may prove to be incorrect in whole or in part. In addition, actual results may differ materially from those expressed, implied, or forecasted in such forward-looking statements. Factors that could cause our actual results or outcomes to differ materially from the results expressed, implied or forecasted in such forward-looking statements include, but are not limited to: the severity, magnitude and duration of the COVID-19 pandemic, including impacts of the pandemic and of businesses' and governments' responses to the pandemic on our operations, personnel and joint venture operations, and on commercial activity and demand across our and our customers', partners' and joint venture businesses, and on global supply chains; global economic trends and geopolitical risks, including changes in the rates of investment, inflation or economic growth in our key markets, or an escalation of trade tensions such as those between the U.S. and China; market developments or customer actions (including developments and actions arising from the COVID-19 pandemic) that may affect levels of demand and/or the financial performance of the major industries and customers we serve, such as secular, cyclical and competitive pressures in the bus, truck, rail and marine sectors; the rate of mass adoption of our products or related ecosystem, including the availability of cost-effective hydrogen; changes in product or service pricing or cost; changes in our customers' requirements, the competitive environment and/or related market conditions; the relative strength of the value proposition that we offer our customers with our products or services; changes in competitive technologies, including battery and fuel cell technologies; product safety, liability or warranty issues; challenges or delays in our technology and product development activities; changes in the availability or price of raw materials, labour, supplies and shipping; our ability to attract and retain business partners, suppliers, employees and customers; changing government or environmental regulations, including subsidies or incentives associated with the adoption of clean energy products, including hydrogen and fuel cells; our access to funding and our ability to provide the capital required for product development, operations and marketing efforts, working capital requirements, and joint venture capital contributions; our ability to protect our intellectual property; our ability to extract value from joint venture operations; currency fluctuations, including the magnitude of the rate of change of the Canadian dollar versus the U.S. dollar; potential merger and acquisition activities, including risks related to integration, loss of key personnel, disruptions to operations, costs of integration, and the integration failing to achieve the expected benefits of the transaction; the general assumption that none of the risks identified in the Risks and Uncertainties section of this document or in our most recent Annual Information Form will materialize. Readers should not place undue reliance on Ballard's forward-looking statements. The forward-looking statements contained in this document speak only as of the date of this Management Discussion and Analysis ("MD&A"). Except as required by applicable legislation, Ballard does not undertake any obligation to release publicly any updates or revisions to these forward-looking statements to reflect events or circumstances after the date of this MD&A including the occurrence of unanticipated events.

## MANAGEMENT'S DISCUSSION AND ANALYSIS

November 4, 2022

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## **1. INTRODUCTION**

### **1.1 Preparation of the MD&A**

This discussion and analysis of financial condition and results of operations of Ballard Power Systems Inc. (“Ballard”, “the Company”, “we”, “us” or “our”) is prepared as of November 4, 2022 and should be read in conjunction with our unaudited condensed consolidated interim financial statements and accompanying notes for the three and nine months ended September 30, 2022 and with our audited consolidated financial statements for the year ended December 31, 2021. The results reported herein are presented in U.S. dollars unless otherwise stated and have been prepared in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board. Additional information relating to the Company, including our Annual Information Form, is filed with Canadian ([www.sedar.com](http://www.sedar.com)) and U.S. securities regulatory authorities ([www.sec.gov](http://www.sec.gov)) and is also available on our website at [www.ballard.com](http://www.ballard.com).

### **1.2 Disclosure Controls and Procedures and Internal Controls over Financial Reporting**

Our disclosure controls and procedures are designed to provide reasonable assurance that relevant information is gathered and reported to senior management, including the Chief Executive Officer and the Chief Financial Officer, on a timely basis so that appropriate decisions can be made regarding public disclosures. We have also designed internal controls over financial reporting to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS. On November 11, 2021, we completed the acquisition of Arcola Energy Limited (“Arcola”), a UK-based systems engineering company (subsequently renamed Ballard Motive Solutions Ltd. (“Ballard Motive Solutions”)) specializing in hydrogen fuel cell powertrain and vehicle systems integration. Through the first three quarters of 2022, we aligned our internal controls over financial reporting to include the operating activities of Ballard Motive Solutions. During the three and nine months ended September 30, 2022, there were no other changes in internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, the Company’s internal control over financial reporting. Our design of disclosure controls and procedures and internal controls over financial reporting includes controls, policies and procedures covering our subsidiaries including Ballard Power Systems Europe A/S, Ballard Fuel Cell Systems Inc., Ballard Motive Solutions Ltd., and Guangzhou Ballard Power Systems Co., Ltd.

### **1.3 Risks and Uncertainties**

An investment in our common shares involves risk. Investors should carefully consider the risks and uncertainties described below and in our Annual Information Form. The risks and uncertainties described in our Annual Information Form are not the only ones that we face. Additional risks and uncertainties, including those that we do not know about now or that we currently deem immaterial, may also adversely affect our business. For a more complete discussion of the risks and uncertainties which apply to our business and our operating results, please see our Annual Information Form and other filings with Canadian ([www.sedar.com](http://www.sedar.com)) and U.S. ([www.sec.gov](http://www.sec.gov)) securities regulatory authorities.

## **2. CORE BUSINESS AND STRATEGY**

### **2.1 Core Business**

At Ballard, our vision is to deliver fuel cell power for a sustainable planet. We are recognized as a world leader in proton exchange membrane (“PEM”) fuel cell power system development and commercialization.

Our principal business is the design, development, manufacture, sale and service of PEM fuel cell products for a variety of applications, focusing on our power product markets of Heavy-Duty Motive (consisting of bus, truck, rail and marine applications), Material Handling and Stationary Power Generation, as well as the delivery of Technology Solutions, including engineering services, technology transfer, and the license and sale of our extensive intellectual property portfolio and fundamental knowledge for a variety of PEM fuel cell applications. With the acquisition of Arcola (now Ballard Motive Solutions) in November 2021, we also offer hydrogen fuel cell powertrain and vehicle systems integration solutions.

A fuel cell is an environmentally clean electrochemical device that combines hydrogen fuel with oxygen (from the air) to produce electricity. The hydrogen fuel can be obtained from natural gas, kerosene, methanol, or other hydrocarbon fuels, or from water through electrolysis. Ballard’s PEM fuel cell products typically feature high fuel efficiency, relatively low operating temperature, high durability, low noise and vibration, compact size, quick response to changes in electrical demand, and modular design. Embedded in each Ballard fuel cell product lies a stack of unit cells designed with our proprietary PEM fuel cell technology, which include membrane electrode assemblies, catalysts, plates, and other key components, and draw on intellectual property from our patent portfolio, together with our extensive experience and know-how, in key areas of PEM fuel cell stack design, operation, production processes and systems integration.

We are based in Canada, with head office, research, technology and product development, engineering services, testing, manufacturing and after-sale service facilities in Burnaby, British Columbia. We also have sales, assembly, research and development, certain engineering services and after-sale service facilities in Hobro, Denmark, London, England, and Glasgow, Scotland, and have a sales, quality, supply chain, and after-sales service office in Guangzhou, Guangdong Province, China.

We also have a non-controlling, 49% interest, in Weichai Ballard Hy-Energy Technologies Co., Ltd. (“Weichai Ballard JV”), located in Weifang, Shandong Province, China. Weichai Ballard JV’s business is to manufacture fuel cell products utilizing Ballard’s LCS fuel cell stack and LCS-based power modules for bus, commercial truck, and forklift applications with certain exclusive rights in China.

In addition, we have a non-controlling 10% interest in Guangdong Synergy Ballard Hydrogen Power Co., Ltd. (“Synergy Ballard JVCo”), located in Yunfu, Guangdong Province, China. Synergy Ballard JVCo’s business is to manufacture fuel cell products utilizing our FCveloCity®-9SSL fuel cell stack technology for use primarily in fuel cell engines assembled in China to provide propulsion power for zero-emission fuel cell electric buses and commercial vehicles with certain exclusive rights in China.

Furthermore, in the second quarter of 2022, we acquired a non-controlling 7% interest in Wisdom Group Holdings Ltd., a Cayman Island holding company with operating subsidiaries



whose business is to design and manufacture zero emission commercial vehicles primarily for Hong Kong. In 2021, we also acquired a non-controlling 9.77% equity interest in Forsee Power SA ("Forsee Power"), a French company specializing in the design, development, manufacture, commercialization and financing of smart battery systems for sustainable electric transport. We have also invested in two hydrogen infrastructure and growth equity funds: (i) a 12% interest in the HyCap Fund I SCSP ("HyCap"), a special limited partnership registered in Luxembourg; and (ii) a 1% interest in Clean H2 Infra Fund ("Clean H2"), a special limited partnership registered in France.

## 2.2 Strategic Imperatives

We strive to build value for our shareholders by developing, manufacturing, selling, and servicing zero-emission, industry-leading PEM fuel cell technology products and services to meet the needs of our customers in select target markets.

Our strategy is built on 5 key themes:

- Double down in the fuel cell stack & module: invest in leading technology and products to provide leading customer value proposition to our customers;
- Selectively expand across value chain: extend across the value chain to capture control points, reduce technology adoption barriers and accelerate fuel cell deployments;
- Develop new routes to market: creatively explore partnerships to accelerate market adoption and grow volume for product sales;
- Win in key regions: build a competitive platform in North America, Europe and China; and
- Here for Life: deliver a compelling ESG proposition for all stakeholders.

Our strategy supports long-term commercialization, revenue and profitability, while also enabling future value based on longer-term market opportunities for our technology, products and intellectual property.

Our two-pronged approach is to build value through the sale and service of power products and the delivery of technology solutions. In power product sales, our focus is on meeting the power needs of our customers by delivering high value, high reliability, high quality, and innovative PEM fuel cell products with competitive life cycle cost. Through technology solutions, our focus is on enabling our customers to address new business opportunities and accelerate the adoption of fuel cell technology by delivering specialized engineering services, including powertrain integration, and integrated energy systems.

As part of our strategy, we have been working to develop a local fuel cell supply chain and related ecosystem to address new-energy bus and commercial vehicle markets in China. We believe this strategy aligns with current and expected local content requirements for government subsidies supporting the adoption of fuel cell electric vehicles ("FCEVs"). Key elements of our strategy include adopting a business model in which we seek to mitigate market adoption risk and capital investment by engaging in partnerships with local companies that are well positioned in their respective market.

We have strengthened our financial position, thereby providing additional flexibility to fund our growth strategy, including through activities such as product innovation, investments in production capacity expansion and localization, future acquisitions and strategic partnerships

and investments. This includes significant investment in next generation products and technology, including our proprietary membrane electrode assemblies (“MEAs”), bipolar plates, stacks, modules, and systems integration; advanced manufacturing processes, technologies, and equipment; and technology and product cost reduction.

### **3. 2022 BUSINESS OUTLOOK**

#### **3.1 2022 Business Outlook**

Consistent with the Company’s past practice, and in view of the early stage of hydrogen fuel cell market development and adoption, we are not providing specific revenue or net income (loss) guidance for 2022. In 2022, we continue our plan to increase investments in the business ahead of the hydrogen growth curve, including expanding product offering and capabilities across the value chain. Our 2022 outlook includes:

- Total Operating Expenses: \$130 million to \$150 million – We continue to expect total Operating Expenses for fiscal 2022 to be between \$130 million and \$150 million but now at the higher end of that range (including \$108.8 million incurred in the first three quarters of 2022; compared to \$102.1 million in fiscal 2021) as we continue to invest in research and product development ahead of the hydrogen growth curve by advancing new technology, product cost reduction, product innovation, and development across bus, truck, rail, and marine markets, including next-generation MEAs, plates, stacks, and modules, and increasing sales and marketing expenditures.
- Capital Expenditures: \$30 million to \$50 million – We continue to expect total Capital Expenditures (being additions to property, plant and equipment and investment in other intangible assets) for fiscal 2022 to be between \$30 million and \$50 million but now at the lower end of that range (including \$19.7 million incurred in the first three quarters of 2022; compared to \$14.7 million in fiscal 2021) as we continue to invest in testing, advanced manufacturing and production. Capital allocation in 2022 includes increasing testing and prototyping capabilities, including new advanced test station equipment and refurbishments of existing testing equipment in Canada, advanced manufacturing equipment in Canada for next-generation bipolar plates, increased manufacturing capacity in certain international locations including initial amounts incurred in the fourth quarter of 2022 on our recently announced plan to invest \$130 million over 3-years in a new MEA manufacturing facility and R&D center in Shanghai, China, and testing and assembly equipment at Ballard Motive Solutions in the U.K. to support powertrain and vehicle integration and assembly operations.
- Introduce plan to expand global footprint - We continue to believe in the value of investing ahead of the hydrogen growth curve and positioning our manufacturing capabilities to support anticipated scale in key markets. We also continue to look at opportunities to expand our presence in growing markets including our recently announced plan to invest \$130 million over 3-years in a new MEA manufacturing facility and R&D center in Shanghai, China.
- Develop roadmap to achieve corporate “Mission Carbon Zero” goal by 2030 - We continue to focus on decarbonizing difficult to abate emissions across medium- and heavy-duty applications of bus, commercial truck, rail, marine, and certain stationary and backup

power applications. We expect to continue our plan to complete our roadmap on achieving our corporate “Mission Carbon Zero” goal by 2030 in 2022.

Our outlook expectations for 2022 are in part supported by our 12-month Order Book of approximately \$51.0 million which is derived from our Order Backlog of approximately \$101.7 million as of September 30, 2022. Our Order Backlog represents the estimated aggregate value of orders at a given time for which customers have made contractual commitments and our 12-month Order Book represents the aggregate expected value of that portion of the Order Backlog that the Company expects to deliver in the subsequent 12-month period.

Our outlook expectations are based on our internal forecast which reflects an assessment of overall business conditions and takes into account actual sales, operating expenses, capital expenditures, and financial results in the first ten months of 2022; sales orders received for units and services expected to be delivered in the remainder of 2022; purchase and cost commitments currently in existence for fiscal 2022; an estimate with respect to the generation of new sales and the timing of deliveries in each of our markets for the balance of 2022; an estimate of purchase and cost commitments to be generated in each of our locations for the balance of 2022; and assumes an average U.S. dollar exchange rate in the mid \$0.70’s in relation to the Canadian dollar for the remainder of 2022.

The primary risk factors to our business outlook expectations for 2022 are customer, production, or program delays or cancellations in delivering against existing power products and technology solutions orders and delays from forecast in terms of closing and delivering expected sales primarily in our Heavy-Duty Motive market; adverse macro-economic and political conditions including trade, public health (including the ongoing impact of the COVID-19 pandemic), and other geopolitical risks; changes in government subsidy and incentive programs; inadequate investment in hydrogen infrastructure and / or excessive hydrogen fuel costs, all of which could negatively impact our customers’ access to capital and the success of their program plans which could adversely impact our business including potential changes, delays or accelerations in our expected operating and capital equipment requirements; disruptions in our Heavy-Duty market due to delays of supply of key materials and components from third party suppliers; disruptions in our Technology Solutions market as a result of our significant reliance on a limited number of customers including Weichai Ballard JV and Audi, which are reliant on their internal commercialization plans and budget requirements; disruptions in our Technology Solutions market as a result of delays in achieving program milestones; disruptions in the Material Handling market as a result of our reliance on a single customer in this market and that customer’s internal stack development and commercialization plans; and fluctuations in the Canadian dollar relative to the U.S. dollar, as a significant portion of our operating expense commitments, capital expenditure commitments, and Technology Solutions revenues (including the technology development and engineering services agreement with Audi) are priced in Canadian dollars.

Our Order Backlog and our 12-month Order Book are currently comprised of a relatively limited number of contracts and a relatively limited number of customers. Given the relative immaturity of our industry and customer deployment programs, our Order Backlog and 12-month Order Book are potentially vulnerable to risk of cancellation, deferral or non-performance by our customers for a variety of reasons, including: risks related to continued customer commitment to a fuel cell program; risks related to customer liquidity; credit risks;



risks related to changes, reductions or eliminations in government policies, subsidies and incentives; risks related to macro-economic and political conditions including trade, public health (including the ongoing impact of the COVID-19 pandemic), and other geopolitical risks; risks related to slower market adoption; risks related to vehicle integration challenges; risks related to the development of effective hydrogen refueling infrastructure; risks related to the ability of our products to meet evolving market requirements; and supplier-related risks.

Furthermore, potential fluctuations in our financial results make financial forecasting difficult. In addition, due to the early stage of development of the market for hydrogen fuel cell products, it is difficult to accurately predict future revenues, operating expenses, cash flows, or results of operations on a quarterly basis. The Company's revenues, operating expenses, cash flows, and other operating results can vary significantly from quarter to quarter. As a result, quarter-to-quarter comparisons of revenues, operating expenses, cash flows, and other operating results may not be meaningful; instead, we believe our operating performance should be assessed over a number of quarters and years. It is likely that in one or more future quarters, financial results will fall below the expectations of securities analysts and investors and the trading price of the Company's shares may be materially and adversely affected as a result.

#### **4. RECENT DEVELOPMENTS (Including Contractual Updates)**

##### **4.1 Corporate**

###### Ballard deepens strategic partnership with Quantron AG and receives order for 140 fuel cell engines

On September 19, 2022, we announced a minority equity investment in Quantron AG ("Quantron"), a global electric vehicle integrator and an emerging specialty OEM, to accelerate fuel cell truck adoption. As part of Quantron's financing round of up to 50 million euros, Ballard's investment proceeds (5 million euros expected to be contributed in the fourth quarter of 2022) are to be used by Quantron to develop their truck fuel cell vehicle platforms, under the terms of a Joint Development Agreement. Ballard is to be the exclusive fuel cell supplier to Quantron for these platforms.

As part of the strategic partnership, Quantron committed to purchase 140 FCmove™ modules totaling approximately 17MW, with an option to purchase an additional 50 units. The fuel cell modules are expected to be delivered in 2023 and 2024. The zero-emission fuel cell electric vehicle platforms developed by Quantron are to integrate Ballard fuel cell products for various truck applications in Europe and the US.

##### **4.2 China**

###### Ballard announces global manufacturing strategy, including plan to invest \$130 million in MEA manufacturing facility and R&D center in Shanghai, China

On September 30, 2022, we announced our strategy 'local for local' where we plan to deepen our global manufacturing footprint in Europe, the United States, and China to support expected global market demand growth through 2030. As part of this strategy, we have entered into an investment agreement with the Government of Anting in Shanghai's Jiading District to establish our new China headquarters, MEA manufacturing facility, and an R&D center, at a site strategically located at the Jiading Hydrogen Port, located in one of China's

leading automotive industry clusters.

We plan to invest approximately \$130 million over the next three years, which is expected to enable annual production capacity at the new MEA production facility of approximately 13 million MEAs, which is expected to supply approximately 20,000 engines. We expect to be able to achieve significant capacity expansion of this facility in future phases with much lower capital requirements. The facility is also expected to include space to assemble approximately 600 engines annually to support the production and sale of Ballard engines in the rail, marine, off-road, and stationary markets in China, as well as for certain export markets.

During 2021, we completed our MEA manufacturing expansion in Canada, which is critical as the MEA is the core technology and limiting factor for Ballard's global fuel cell engine production capabilities. With the new MEA capacity coming online in China, we now expect our global MEA capacity to support total demand requirements through the second half of the decade.

This investment is expected to reduce MEA manufacturing costs, align with China's fuel cell value chain localization policy, and position Ballard more strongly in the hydrogen fuel cell demonstration cluster regions and for the post-subsidy market.

The facility is planned to be in operation in 2025 to meet expected market demand in China, including expected demand from Weichai Ballard JV for the bus, truck and forklift markets, as well as other opportunities for Ballard outside of the Weichai Ballard JV scope.

We also expect to set up an R&D and innovation center at the same site. The center is to be focused on MEA research to achieve key corporate technical advancements, support cost reduction initiatives, and engage the emerging China local supply chain for fuel cell materials and components.

We also announced the signing of a non-binding memorandum of understanding with Weichai Power Co., Ltd. ("Weichai") whereby Weichai plans to make an equity investment for 2% of Ballard's new MEA manufacturing company.

#### Weichai Power Co., Ltd. and Weichai Ballard Hy-Energy Technologies Co., Ltd.

On November 13, 2018, we announced the closing of a strategic collaboration transaction with Weichai. Ballard's strategic collaboration with Weichai included:

- Equity Investment – an equity investment in Ballard made by Weichai representing a 19.9% interest in the Company at that time. Weichai currently holds an approximate 15.5% interest in Ballard.

Ballard entered into an investor rights agreement with Weichai under which: (a) so long as Weichai directly or indirectly holds at least 10% of Ballard's outstanding shares, it has an anti-dilution right entitling it to maintain its percentage ownership in Ballard by subscribing for Common Shares from treasury at the same price as Ballard distributes Common Shares to other investors (to date, Weichai's anti-dilution rights with respect to all previous offerings of the Company have expired unexercised); (b) for so long as Weichai directly or indirectly holds at least 15% of Ballard's outstanding Common Shares, it has the right to nominate two directors to Ballard's board of directors; and (c) if there is a third-party offer to buy Ballard, Weichai has the right to make a superior proposal or

otherwise it must vote its Common Shares in accordance with the recommendation of Ballard's board of directors.

- China Joint Venture and Technology Transfer Agreement – Weichai and Ballard have established a joint venture company in Shandong Province to support China's Fuel Cell Electric Vehicle market, with Weichai holding a controlling ownership interest of 51% and Ballard holding a 49% ownership position. The Weichai Ballard JV, Weichai Ballard Hy-Energy Technologies Co., Ltd., was established in the fourth quarter of 2018. During fiscal 2018 through fiscal 2021, Weichai made its planned first through eleventh capital contributions totaling RMB 496.0 million, and Ballard made its planned first through eleventh capital contributions totaling \$70.1 million (RMB 476.5 million equivalent). During the first three quarters of 2022, Weichai made its planned twelfth, thirteenth, and fourteenth and final contracted capital contributions totaling RMB 65.0 million, and Ballard made its planned twelfth, thirteenth, and fourteenth and final contracted capital contributions of \$9.3 million (RMB 62.5 million equivalent). Weichai holds three of five Weichai Ballard JV board seats and Ballard holds two, with Ballard having certain shareholder protection provisions.

The Weichai Ballard JV manufactures Ballard's next-generation LCS fuel cell stack and FCgen®-LCS-based power modules for bus, commercial truck, and forklift applications with exclusive rights in China and is to pay Ballard a total of \$90 million under a program to develop and transfer technology to the Weichai Ballard JV in order to enable these manufacturing activities. Revenue earned from the \$90 million Weichai Ballard JV technology transfer agreement (\$0.7 million in the third quarter of 2022; \$5.1 million in the first three quarters of 2022; \$5.1 million in the third quarter of 2021; \$14.0 million in the first three quarters of 2021; \$18.2 million in fiscal 2021; \$21.2 million in fiscal 2020; \$22.5 million in fiscal 2019; \$1.2 million in fiscal 2018) is recorded as Technology Solutions revenues. During the fourth quarter of 2018, we received an initial 10% or \$9.0 million prepayment from Weichai Ballard JV for this program with additional amounts paid to us as program milestones are successfully completed. We retain an exclusive right to the developed technologies outside China, subject to certain restrictions on sublicensing outside China. The Weichai Ballard JV will also purchase MEAs for FCgen®-LCS fuel cell stacks exclusively from Ballard under a long-term supply agreement.

- Fuel Cell Sales – On December 16, 2019, we announced the receipt of a purchase order from Weichai Ballard JV for the delivery of MEAs valued at approximately \$19 million under a long-term MEA supply agreement. Revenue earned from this agreement (\$0.2 million in the third quarter of 2022; \$0.8 million in the first three quarters of 2022; nil million in the third quarter of 2021; \$1.0 million in the first three quarters of 2021; \$2.1 million in fiscal 2021; \$8.8 million in fiscal 2020) is recorded as Heavy-Duty Motive revenues. As of September 30, 2022, an additional \$7.5 million of revenue associated with shipments on this order to Weichai Ballard JV remain unrecognized until these products are ultimately sold by Weichai Ballard JV.

The Weichai Ballard JV operation, located in Weifang, Shandong Province, China, has commenced production activities and assembly of next-generation LCS fuel cell stacks and LCS-based modules to power FCEVs for the China market. After recent production automation projects, the Weichai Ballard JV is now expected to have annual production capacity of 40,000 fuel cell stacks, or approximately 20,000 engines.

#### Guangdong Synergy Ballard Hydrogen Power Co., Ltd.

During 2017, the FCveloCity®-9SSL fuel cell stack joint venture operation in the city of Yunfu in China's Guangdong Province commenced operations. Ballard has a non-controlling 10% interest in the joint venture, Synergy Ballard JVCo, together with our partner Guangdong Nation Synergy Hydrogen Power Technology Co., Ltd. (a member of the "Synergy Group") who has a 90% interest. The fuel cell stacks manufactured by Synergy Ballard JVCo are expected to be used primarily in fuel cell engines assembled in China to provide propulsion power for zero-emission fuel cell electric buses and commercial vehicles in China.

Synergy Ballard JVCo retains an exclusive right to manufacture and sell FCveloCity®-9SSL stacks in China until September 30, 2026. Exclusivity is subject to Synergy Ballard JVCo maintaining certain performance criteria and compliance with: a code of ethics; Ballard's quality policies and branding practices; payment terms; certain intellectual property covenants; achievement of certain minimum annual MEA volume commitments through 2026; and certain financing conditions.

Revenue earned from MEA sales and other agreements with Synergy Ballard JVCo (nil million in the first three quarters of 2022; \$1.5 million in the third quarter of 2021; \$1.9 million in the first three quarters of 2021; \$3.4 million in fiscal 2021; \$8.2 million in fiscal 2020) is primarily recorded as Heavy-Duty Motive revenues.

Ballard has the exclusive right to purchase FCveloCity®-9SSL fuel cell stacks and sub-components from Synergy Ballard JVCo for sale outside China. Ballard contributed \$1.0 million for our 10% interest in Synergy Ballard JVCo in 2017, currently recognized at nil value. We have no obligation to provide future funding to Synergy Ballard JVCo.

### **4.3 Europe**

#### Ballard receives order from Siemens Mobility to power 7 trains and signs LOI for up to an additional 200 modules over the next six years

On September 22, 2022, we announced an order for 14 x 200 kW fuel cell modules from Siemens Mobility GmbH ("Siemens"), a leading supplier in the development of alternative drives, to power a fleet of seven Mireo Plus H passenger trains. Delivery of the 14 fuel cell modules is expected to start in 2023 with the fleet planned to be in service in Berlin-Brandenburg region in late 2024.

In addition to the initial order of 14 fuel cell modules, Siemens also signed a letter of intent for the supply of 200 fuel cell modules totaling 40 MW over the next six years, including a firm commitment on 100 of the fuel cell modules totaling 20MW. The modules will be used for Siemens' Mireo Plus H trains.

#### Audi AG

On June 11, 2018, we announced the signing of a 3.5-year extension to our technology solutions contract with Audi AG ("Audi"), part of the Volkswagen Group. This program with Audi is expected to be substantially complete by December 31, 2022. The program, through a series of technical milestone awards, encompasses automotive fuel cell stack development as well as system design support activities for the benefit of Audi. Ballard engineers are leading critical areas of fuel cell product design – including the MEA, plate and stack components – along with certain testing and integration work.

Revenue earned from this and other agreements with Audi (\$1.4 million in the third quarter of 2022; \$4.6 million in the first three quarters of 2022; \$2.4 million in the third quarter of 2021; \$7.2 million in the first three quarters of 2021; \$9.8 million in fiscal 2021; \$16.0 million in fiscal 2020) is recorded as Technology Solutions revenues.

#### **4.4 North America and Other**

##### Ballard signs contract with Stadler to supply fuel cell engines to power first hydrogen train in United States

On September 26, 2022, we announced an order from Stadler Rail AG (“Stadler”), a leading manufacturer of rolling stock, for the supply of six 100 kW FCmove™-HD+ fuel cell engines to power the first hydrogen train in the United States.

The contract to provide the hydrogen-powered train was awarded to Stadler by San Bernardino County Transportation Authority (SBCTA), with the option of additional trains in the future. The train is expected to be in service in San Bernardino, California in 2024 and is expected to seat over 100 passengers.

##### Ballard to power India’s first hydrogen trains

On September 6, 2022, we announced a fuel cell module order from Medha Servo Drives (“Medha”), a leading rail system integrator, who has been contracted by Indian Railways to develop India’s first hydrogen powered trains.

The two retrofitted diesel-electric commuter trains will integrate 8 units of 100 kW FCmove™-HD+, Ballard’s latest fuel cell technology, which offers improved efficiency and power density than previous module generations.

The contract to provide the hydrogen-powered trains was awarded to Medha as a first step in Indian Railways’ path to achieve their net zero ambitions. The fuel cell modules are expected to be shipped in 2023, with trains expected to go into service in 2024, with potential for additional retrofits following the initial deployment.

## **5. RESULTS OF OPERATIONS**

### **5.1 Operating Segments**

We report our results in the single operating segment of Fuel Cell Products and Services. Our Fuel Cell Products and Services segment consists of the sale and service of PEM fuel cell products for our power product markets of Heavy-Duty Motive (consisting of bus, truck, rail, and marine applications), Material Handling and Stationary Power Generation, as well as the delivery of Technology Solutions, including engineering services, technology transfer and the license and sale of our extensive intellectual property portfolio and fundamental knowledge for a variety of fuel cell applications.

The results from Ballard Motive Solutions (formerly Arcola) are included in our Technology Solutions and Heavy-Duty Motive markets.



## 5.2 Summary of Key Financial Metrics – Three Months Ended September 30, 2022

### Revenue and Gross Margin

<i>(Expressed in thousands of U.S. dollars)</i>		Three months ended September 30,			
	<b>2022</b>	2021	\$ Change	% Change	
<b>Heavy-Duty Motive</b>	<b>\$ 12,103</b>	<b>\$ 11,224</b>	<b>\$ 879</b>	<b>8%</b>	
China	274	4,504	(4,230)	(94%)	
Europe	4,048	2,835	1,213	43%	
North America	7,371	3,846	3,525	92%	
Other	410	39	371	951%	
<b>Material Handling</b>	<b>1,700</b>	<b>3,133</b>	<b>(1,433)</b>	<b>(46%)</b>	
North America	1,660	3,133	(1,473)	(47%)	
Other	40	-	40	100%	
<b>Stationary Power Generation</b>	<b>2,072</b>	<b>1,904</b>	<b>168</b>	<b>9%</b>	
Europe	1,568	1,894	(326)	(17%)	
North America	438	-	438	100%	
Other	66	10	56	560%	
<b>Technology Solutions</b>	<b>5,468</b>	<b>8,959</b>	<b>(3,491)</b>	<b>(39%)</b>	
China	790	5,178	(4,388)	(85%)	
Europe	3,829	3,182	647	20%	
North America	755	408	347	85%	
Other	94	190	(96)	(51%)	
<b>Revenues</b>	<b>21,343</b>	25,220	(3,877)	(15%)	
Cost of goods sold	<b>26,108</b>	22,387	3,721	17%	
<b>Gross Margin</b>	<b>\$ (4,765)</b>	\$ 2,833	\$ (7,598)	(268%)	
Gross Margin %	<b>(22%)</b>	11%	n/a	(33 pts)	

Fuel Cell Products and Services Revenues of \$21.3 million for the third quarter of 2022 decreased (15%), or (\$3.9) million, compared to the third quarter of 2021. The (15%) decrease was driven by lower Technology Solutions and Material Handling revenues, which more than offset increases in Heavy-Duty Motive and Stationary Power Generation revenues.

Heavy-Duty Motive revenues of \$12.1 million increased \$0.9 million, or 8%, as higher shipments of fuel cell products to a variety of customers in North America, Europe and Other areas were partially offset by lower sales in China. Heavy-Duty Motive revenues on a quarter-to-quarter basis is impacted by product mix due to varying customer requirements and various fuel cell products, including numerous power configurations required by our customers (and the resulting impact on selling price) of our fuel cell modules, fuel cell stacks, MEAs, and related component and parts kits. Heavy-Duty Motive revenues of \$12.1 million in the third quarter of 2022 includes \$0.3 million to Weichai Ballard JV for the supply of a mix of certain fuel cell products and components that will be used in the assembly of modules to power zero-emission FCEVs in China; and \$11.8 million to a variety of customers in North America, Europe, and Other areas including New Flyer, Solaris, Van Hool, and others, primarily for shipments of FCveloCity®-HD7 and FCveloCity®-HDv8 fuel cell modules and related components for their respective bus and train programs. Heavy-Duty Motive revenues of \$11.2 million in the third quarter of 2021 include \$3.1 million of shipments to Weichai Ballard JV; \$1.5 million for shipments of MEAs to Synergy Ballard JVCo; and \$6.6 million to a variety of customers primarily in North America and Europe including New Flyer, Solaris, Wrightbus, and others.

Technology Solutions revenues of \$5.5 million decreased (\$3.5) million, or (39%), due

primarily to decreased amounts earned on the Weichai Ballard JV and Audi programs. Revenues of \$5.5 million in the third quarter of 2022 were from a variety of customer programs including revenue from the Audi program of \$1.4 million; the Weichai Ballard JV technology transfer program of \$0.7 million; and \$3.4 million from a variety of other customer programs including HDF Energy and Siemens AG ("Siemens"). Revenues of \$9.0 million in the third quarter of 2021 were from a variety of customer programs including revenue from the Weichai Ballard JV technology transfer program of \$5.1 million; the Audi program of \$2.4 million; and \$1.5 million from a variety of other customer programs including Siemens and HDF Energy.

Stationary Power Generation revenues of \$2.1 million increased \$0.2 million, or 9%, as increased sales of stationary power generation fuel cell modules, stacks, product and service revenues in North America were only partially offset by lower sales in Europe.

Material Handling revenues of \$1.7 million decreased (\$1.4) million, or (46%), primarily as a result of lower shipments to Plug Power.

Fuel Cell Products and Services gross margins were (\$4.8) million, or (22%) of revenues, for the third quarter of 2022, compared to \$2.8 million, or 11% of revenues, for the third quarter of 2021. The decrease in gross margin of (\$7.6) million, or (268%), was driven primarily by a shift to lower overall product margin and service revenue mix including the impacts of pricing strategy, higher fixed overhead costs, increases in supply costs, higher negative inventory adjustments, and higher warranty provisions and adjustments, resulting in an (33) percentage point decrease in gross margin as a percent of revenues.

Gross margin in the third quarter of 2022 was negatively impacted by net inventory adjustments of (\$2.3) million related primarily to excess and impaired inventory; and by net warranty adjustments of (\$0.5) million related primarily to increased service costs. Gross margin in the third quarter of 2021 was negatively impacted by net warranty adjustments of (\$0.5) million and by net inventory adjustments of (\$0.3) million.

### **Operating Expenses and Cash Operating Costs**

<i>(Expressed in thousands of U.S. dollars)</i>		Three months ended September 30,			
	<b>2022</b>	2021	\$ Change	% Change	
Research and Product Development	<b>\$ 25,263</b>	\$ 16,566	\$ 8,697		52%
General and Administrative	<b>8,727</b>	6,768	1,959		29%
Sales and Marketing	<b>3,486</b>	3,570	(84)		(2%)
<b>Operating Expenses</b>	<b>\$ 37,476</b>	\$ 26,904	\$ 10,572		39%
Research and Product Development (cash operating cost)	<b>\$ 21,201</b>	\$ 14,174	\$ 7,027		50%
General and Administrative (cash operating cost)	<b>5,679</b>	5,349	330		6%
Sales and Marketing (cash operating cost)	<b>3,115</b>	3,211	(96)		(3%)
<b>Cash Operating Costs</b>	<b>\$ 29,995</b>	\$ 22,734	\$ 7,261		32%

Cash Operating Costs and its components of Research and Product Development (cash operating cost), General and Administrative (cash operating cost), and Sales and Marketing (cash operating cost) are non-GAAP measures. We use certain Non-GAAP measures to assist in assessing our financial performance. Non-GAAP measures do not have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies. See the reconciliation of Cash Operating Costs to GAAP in the Supplemental Non-GAAP Measures and Reconciliations section and the reconciliation of Research and Product Development (cash operating cost), General and Administrative (cash operating cost), and Sales and Marketing (cash operating cost) to GAAP in the Operating Expense section. Cash Operating Costs adjusts operating expenses for stock-based compensation expense, depreciation and amortization, impairment losses on trade receivables, restructuring charges, the impact of unrealized gains or losses on foreign exchange contracts, acquisition related costs, and financing charges.

Total Operating Expenses (excluding Other operating expenses) for the third quarter of 2022 were \$37.5 million, an increase of \$10.6 million, or 39%, compared to the third quarter of 2021. The increase was driven by higher research and product development expenses of \$8.7 million and higher general and administrative expenses of \$2.0 million.

Cash Operating Costs (see Supplemental Non-GAAP Measures and Reconciliations) for the third quarter of 2022 was \$30.0 million, an increase of \$7.3 million, or 32%, compared to the third quarter of 2021. The \$7.3 million, or 32%, increase was driven by higher research and product development cash operating costs of \$7.0 million and higher general and administrative cash operating costs of \$0.3 million.

The increase in operating expenses and cash operating costs in the third quarter of 2022 was driven primarily by increased expenditure on technology and product development activities in Canada, Denmark and the U.K., including the design and development of next generation fuel cell stacks and engines for bus, truck, rail and marine applications, and increased continuation engineering investment in our existing fuel cell products, including activities related to product cost reduction. Increased program investment includes expenditures related to our FCmove™-HD+, a fuel cell module designed for buses and medium and heavy-duty trucks, our FCgen®-HPS High-Power Density Fuel Cell Stack for light-medium-and heavy-duty vehicles, our FCwave™ Fuel Cell Module for marine applications, and on the ongoing improvement of all of our fuel cell products including our high performance fuel cell module, the FCmove™-HD, and our high performance liquid-cooled fuel cell stack, the FCgen®-LCS.

Operating expenses, including research and product development expense and general and administrative expense, have also increased due to the acquisition of Ballard Motive Solutions in the fourth quarter of 2021. Operating expenses also include the impact of significant increases in functional staffing levels and the impact of inflationary wage pressures. In addition, general and administrative costs increased due to higher insurance, contracting, recruiting, corporate development, and professional fees. These operating expense increases were partially offset by relatively lower labour costs in Canada in the third quarter of 2022 on our Canadian operating cost base as the Canadian dollar, relative to the U.S. dollar, was approximately (4%) lower in the third quarter of 2022 compared to the third quarter of 2021.

### **Adjusted EBITDA**

	Three months ended September 30,			
	2022	2021	\$ Change	% Change
<b>Adjusted EBITDA</b>	\$ (35,102)	\$ (23,079)	\$ (12,023)	(52%)

*(Expressed in thousands of U.S. dollars)*

EBITDA and Adjusted EBITDA are non-GAAP measures. We use certain Non-GAAP measures to assist in assessing our financial performance. Non-GAAP measures do not have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies. See reconciliation of Adjusted EBITDA to GAAP in the Supplemental Non-GAAP Measures and Reconciliations section. Adjusted EBITDA adjusts EBITDA for stock-based compensation expense, transactional gains and losses, asset impairment charges, unrealized gains or losses on foreign exchange contracts, finance and other income, and acquisition related costs.

Adjusted EBITDA (see Supplemental Non-GAAP Measures and Reconciliations) for the third quarter of 2022 was (\$35.1) million, compared to (\$23.1) million for the third quarter of 2021. The (\$12.0) million increase in Adjusted EBITDA loss was driven primarily by the decrease in gross margin of (\$7.6) and the increase in Cash Operating Costs of (\$7.3) million, partially offset by lower equity in loss of investment in joint venture and associates of \$3.1 million primarily attributed to the ongoing establishment of operations of Weichai Ballard JV.

## Net Loss from Continuing Operations

		Three months ended September 30,			
		2022	2021	\$ Change	% Change
<b>Net loss from continuing operations</b>		\$ (42,881)	\$ (30,844)	\$ (12,037)	(39%)

Net loss from continuing operations for the third quarter of 2022 was (\$42.9) million, or (\$0.14) per share, compared to a net loss from continuing operations of (\$30.8) million, or (\$0.10) per share, in the third quarter of 2021. The (\$12.0) million increase in net loss in the third quarter of 2022 was driven primarily by the increase in Adjusted EBITDA loss of (\$12.0) million.

In addition, operating margins, and costs in the third quarter of 2022 were also impacted by the positive impact of a weaker Canadian dollar, relative to the U.S. dollar, as compared to the third quarter of 2021. As a significant amount of our net operating costs (primarily labour) are denominated in Canadian dollars, gross margin, operating expenses, Adjusted EBITDA, and net loss from continuing operations are impacted by changes in the Canadian dollar relative to the U.S. dollar. As the Canadian dollar relative to the U.S. dollar was approximately (4%), or (300) basis points, lower in the third quarter of 2022 as compared to the third quarter of 2021, positive foreign exchange impacts on our Canadian operating margins and cost base were approximately \$0.9 million. A \$0.01 decrease in the Canadian dollar, relative to the U.S. dollar, positively impacts annual operating margins and costs by approximately \$1.2 million.

## 5.3 Summary of Key Financial Metrics – Nine Months Ended September 30, 2022 Revenue and Gross Margin

		Nine months ended September 30,			
		2022	2021	\$ Change	% Change
<b>Heavy-Duty Motive</b>	<b>\$ 29,719</b>	<b>\$ 29,126</b>	<b>\$ 593</b>	<b>2%</b>	
China	1,783	7,953	(6,170)	(78%)	
Europe	13,545	14,047	(502)	(4%)	
North America	13,259	6,769	6,490	96%	
Other	1,132	357	775	217%	
<b>Material Handling</b>	<b>4,763</b>	<b>6,851</b>	<b>(2,088)</b>	<b>(30%)</b>	
North America	4,723	6,851	(2,128)	(31%)	
Other	40	-	40	100%	
<b>Stationary Power Generation</b>	<b>8,224</b>	<b>5,478</b>	<b>2,746</b>	<b>50%</b>	
Europe	4,347	4,616	(269)	(6%)	
North America	756	-	756	100%	
Other	3,121	862	2,259	262%	
<b>Technology Solutions</b>	<b>20,616</b>	<b>26,345</b>	<b>(5,729)</b>	<b>(22%)</b>	
China	5,335	14,480	(9,145)	(63%)	
Europe	13,117	9,828	3,289	33%	
North America	1,666	1,238	428	35%	
Other	498	799	(301)	(38%)	
<b>Revenues</b>	<b>63,322</b>	67,800	(4,478)	(7%)	
Cost of goods sold	<b>70,498</b>	58,558	11,940	20%	
<b>Gross Margin</b>	<b>\$ (7,176)</b>	\$ 9,242	\$ (16,418)	(178%)	
Gross Margin %	<b>(11%)</b>	14%	n/a	(25 pts)	

Fuel Cell Products and Services Revenues of \$63.3 million for the first three quarters of 2022

decreased (7%), or (\$4.5) million, compared to the first three quarters of 2021. The (7%) decrease was driven primarily by lower Technology Solutions and Material Handling revenues, which more than offset increases in Stationary Power Generation and Heavy-Duty Motive revenues.

Heavy-Duty Motive revenues of \$29.7 million increased \$0.6 million, or 2%, as higher shipments of fuel cell products to a variety of customers in North America and Other areas were only partially offset by lower sales in China and Europe. Heavy-Duty Motive revenues on a quarter-to-quarter basis are impacted by product mix due to varying customer requirements and various fuel cell products, including numerous power configurations required by our customers (and the resulting impact on selling price) of our fuel cell modules, fuel cell stacks, MEAs, and related component and parts kits. Heavy-Duty Motive revenues of \$29.7 million in the first three quarters of 2022 includes \$1.9 million to Weichai Ballard JV for the supply of a mix of certain fuel cell products and components that will be used in the assembly of modules to power zero-emission FCEVs in China; and \$27.8 million to a variety of customers in Europe, North America and Other areas including New Flyer, Van Hool, Solaris, Wrightbus, and others, primarily for shipments of FCveloCity®-HD7 and FCveloCity®-HDv8 fuel cell modules and related components for their respective bus and train programs. Heavy-Duty Motive revenues of \$29.1 million in the first three quarters of 2021 include \$6.4 million of shipments to Weichai Ballard JV; \$1.9 million for shipments of MEAs to Synergy Ballard JVCo; and \$20.8 million to a variety of customers primarily in Europe and North America including Solaris, New Flyer, Wrightbus, Van Hool, and others.

Technology Solutions revenues of \$20.6 million decreased (\$5.7) million, or (22%), due primarily to decreased amounts earned on the Weichai Ballard JV and Audi programs. Revenues of \$20.6 million in the first three quarters of 2022 were from a variety of customer programs including revenue from the Weichai Ballard JV technology transfer program of \$5.1 million; the Audi program of \$4.6 million; and \$10.9 million from a variety of other customer programs including HDF Energy and Siemens. Revenues of \$26.3 million in the first three quarters of 2021 were from a variety of customer programs including revenue from the Weichai Ballard JV technology transfer program of \$14.0 million; the Audi program of \$7.2 million; and \$5.1 million from a variety of other customer programs including Siemens and HDF Energy. Audi program revenues were nominally impacted in 2022, as compared to 2021, due to the approximate (2%) lower average Canadian dollar, relative to the U.S. dollar, as the Audi Agreement is priced in Canadian dollars. The underlying costs to satisfy the Audi Agreement are primarily denominated in Canadian dollars.

Stationary Power Generation revenues of \$8.2 million increased \$2.7 million, or 50%, due primarily to an increase in sales of stationary power generation fuel cell modules, stacks, products and services in Australia, as increased sales in North America were primarily offset by lower sales in Europe.

Material Handling revenues of \$4.8 million decreased (\$2.1) million, or (30%), primarily as a result of lower shipments to Plug Power.

Fuel Cell Products and Services gross margins were (\$7.2) million, or (11%) of revenues, for the first three quarters of 2022, compared to \$9.2 million, or 14% of revenues, for the first three quarters of 2021. The decrease in gross margin of (\$16.4) million, or (178%), was driven primarily by a shift to lower overall product margin and service revenue mix including



the impacts of pricing strategy, higher fixed overhead costs, increases in supply costs, higher negative inventory adjustments, and higher warranty provisions and adjustments, resulting in an (25) percentage point decrease in gross margin as a percent of revenues.

Gross margin in the first three quarters of 2022 was negatively impacted by net inventory adjustments of (\$3.3) million related primarily to excess and impaired inventory; and by net warranty adjustments of (\$0.9) million related primarily to increased service costs. Gross margin in the first three quarters of 2021 was negatively impacted by net inventory adjustments of (\$0.9) million and by net warranty adjustments of (\$0.4) million.

### **Operating Expenses and Cash Operating Costs**

<i>(Expressed in thousands of U.S. dollars)</i>		Nine months ended September 30,			
	<b>2022</b>	2021	\$ Change	% Change	
Research and Product Development	<b>\$ 73,008</b>	\$ 42,292	\$ 30,716		73%
General and Administrative	<b>23,193</b>	17,304	5,889		34%
Sales and Marketing	<b>9,470</b>	9,487	(17)		(0%)
<b>Operating Expenses</b>	<b>\$ 105,671</b>	\$ 69,083	\$ 36,588		53%
Research and Product Development (cash operating cost)	<b>\$ 62,522</b>	\$ 35,386	\$ 27,136		77%
General and Administrative (cash operating cost)	<b>17,216</b>	13,345	3,871		29%
Sales and Marketing (cash operating cost)	<b>8,419</b>	8,446	(27)		(0%)
<b>Cash Operating Costs</b>	<b>\$ 88,157</b>	\$ 57,177	\$ 30,980		54%

Cash Operating Costs and its components of Research and Product Development (cash operating cost), General and Administrative (cash operating cost), and Sales and Marketing (cash operating cost) are non-GAAP measures. We use certain Non-GAAP measures to assist in assessing our financial performance. Non-GAAP measures do not have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies. See the reconciliation of Cash Operating Costs to GAAP in the Supplemental Non-GAAP Measures and Reconciliations section and the reconciliation of Research and Product Development (cash operating cost), General and Administrative (cash operating cost), and Sales and Marketing (cash operating cost) to GAAP in the Operating Expense section. Cash Operating Costs adjusts operating expenses for stock-based compensation expense, depreciation and amortization, impairment losses on trade receivables, restructuring charges, the impact of unrealized gains or losses on foreign exchange contracts, acquisition related costs, and financing charges.

Total Operating Expenses (excluding Other operating expenses) for the first three quarters of 2022 was \$105.7 million, an increase of \$36.6 million, or 53%, compared to the first three quarters of 2021. The increase was driven by higher research and product development expenses of \$30.7 million and higher general and administrative expenses of \$5.9 million.

Cash Operating Costs (see Supplemental Non-GAAP Measures and Reconciliations) for the first three quarters of 2022 was \$88.2 million, an increase of \$31.0 million, or 54%, compared to the first three quarters of 2021. The \$31.0 million, or 54%, increase was driven by higher research and product development cash operating costs of \$27.1 million and higher general and administrative cash operating costs of \$3.9 million.

The increase in operating expenses and cash operating costs in the first three quarters of 2022 was driven primarily by increased expenditure on technology and product development activities in Canada, Denmark and the U.K., including the design and development of next generation fuel cell stacks and engines for bus, truck, rail and marine applications, and increased continuation engineering investment in our existing fuel cell products, including activities related to product cost reduction. Increased program investment includes expenditures related to our FCmove™-HD+, a fuel cell module designed for buses and medium and heavy-duty trucks, our FCgen®-HPS High-Power Density Fuel Cell Stack for light-medium-and heavy-duty vehicles, our FCwave™ Fuel Cell Module for marine applications, and on the ongoing improvement of all of our fuel cell products including our

high performance fuel cell module, the FCmove™-HD, and our high performance liquid-cooled fuel cell stack, the FCgen®-LCS.

Operating expenses, including research and product development expense and general and administrative expense, have also increased due to the acquisition of Ballard Motive Solutions in the fourth quarter of 2021. Operating expenses also include the impact of significant increases in functional staffing levels and the impact of inflationary wage pressures. These cost increases were also impacted by lower government funding recoveries primarily in Canada in 2022 due to the expiry of certain COVID-19 grants in the first half of 2021. Government funding recoveries are reflected primarily as a cost offset against gross research and product development expenses. In addition, general and administrative costs increased due to higher insurance, contracting, recruiting, corporate development, and professional fees. These operating expense increases were partially offset by relatively lower labour costs in Canada in 2022 on our Canadian operating cost base as the Canadian dollar, relative to the U.S. dollar, was approximately (2%) lower in the first three quarters of 2022 compared to the first three quarters of 2021.

### **Adjusted EBITDA**

		Nine months ended September 30,			
		2022	2021	\$ Change	% Change
<i>(Expressed in thousands of U.S. dollars)</i>					
<b>Adjusted EBITDA</b>	\$	<b>(97,651)</b>	\$ (56,705)	\$ (40,946)	(72%)

EBITDA and Adjusted EBITDA are non-GAAP measures. We use certain Non-GAAP measures to assist in assessing our financial performance. Non-GAAP measures do not have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies. See reconciliation of Adjusted EBITDA to GAAP in the Supplemental Non-GAAP Measures and Reconciliations section. Adjusted EBITDA adjusts EBITDA for stock-based compensation expense, transactional gains and losses, asset impairment charges, unrealized gains or losses on foreign exchange contracts, finance and other income, and acquisition related costs.

Adjusted EBITDA (see Supplemental Non-GAAP Measures and Reconciliations) for the first three quarters of 2022 was (\$97.7) million, compared to (\$56.7) million for the first three quarters of 2021. The (\$40.9) million increase in Adjusted EBITDA loss was driven primarily by the decrease in gross margin of (\$16.4) and the increase in Cash Operating Costs of (\$31.0) million, partially offset by lower equity in loss of investment in joint venture and associates of \$6.4 million primarily attributed to the ongoing establishment of operations of Weichai Ballard JV.

### **Net Loss from Continuing Operations**

		Nine months ended September 30,			
		2022	2021	\$ Change	% Change
<i>(Expressed in thousands of U.S. dollars)</i>					
<b>Net loss from continuing operations</b>	\$	<b>(139,067)</b>	\$ (70,560)	\$ (68,507)	(97%)

Net loss from continuing operations for the first three quarters of 2022 was (\$139.1) million, or (\$0.47) per share, compared to a net loss from continuing operations of (\$70.6) million, or (\$0.24) per share, in the first three quarters of 2021. The (\$68.5) million increase in net loss in the first three quarters of 2022 was driven primarily by the increase in Adjusted EBITDA loss of (\$40.9) million, by higher depreciation and amortization expense of (\$4.0) million, higher acquisition related costs of (\$2.2) million, and by lower finance and other income of (\$20.4) million which includes mark to market and foreign exchange losses of (\$21.0) million in the first three quarters of 2022 on our long-term investments in Forsee Power and certain hydrogen infrastructure and growth equity funds.

In addition, operating margins, and costs in the first three quarters of 2022 were impacted

by the positive impact of a weaker Canadian dollar, relative to the U.S. dollar, as compared to the first three quarters of 2021. As a significant amount of our net operating costs (primarily labour) are denominated in Canadian dollars, gross margin, operating expenses, Adjusted EBITDA, and net loss from continuing operations are impacted by changes in the Canadian dollar relative to the U.S. dollar. As the Canadian dollar relative to the U.S. dollar was approximately (2%), or (200) basis points, lower in the first three quarters of 2022 as compared to the first three quarters of 2021, positive foreign exchange impacts on our Canadian operating margins and cost base were approximately \$1.8 million. A \$0.01 decrease in the Canadian dollar, relative to the U.S. dollar, positively impacts annual operating margins and costs by approximately \$1.2 million.

### **Net Loss from Discontinued Operations**

<i>(Expressed in thousands of U.S. dollars)</i>		Nine months ended September 30,			
	<b>2022</b>	2021	\$ Change	% Change	
Revenues	\$ -	\$ -	\$ -		-
Cost of goods sold	-	-	-		-
Gross margin	-	-	-		-
Operating (expenses) recovery	-	159	(159)		(100%)
Gain on sale of assets	-	-	-		-
<b>Net income (loss) from discontinued operations</b>	<b>\$ -</b>	<b>\$ 159</b>	<b>\$ (159)</b>		<b>(100%)</b>

Net income from discontinued operations for the first three quarters of 2021 was \$0.2 million, or \$0.00 per share, and consist of the results of our former UAV business located in Southborough, Massachusetts that was sold in the fourth quarter of 2020.

## **5.4 Operating Expenses and Other Items – Three and Nine Months ended September 30, 2022**

### **Research and product development expenses**

<i>(Expressed in thousands of U.S. dollars)</i>		Three months ended September 30,			
<b>Research and product development</b>	<b>2022</b>	2021	\$ Change	% Change	
Research and product development expense	<b>\$ 25,263</b>	\$ 16,566	\$ 8,697		52%
Less: Depreciation and amortization expense	<b>\$ (2,555)</b>	\$ (923)	\$ (1,632)		(177%)
Less: Stock-based compensation expense	<b>\$ (1,507)</b>	\$ (1,469)	\$ (38)		(3%)
Research and Product Development (cash operating cost)	<b>\$ 21,201</b>	\$ 14,174	\$ 7,027		50%

<i>(Expressed in thousands of U.S. dollars)</i>		Nine months ended September 30,			
<b>Research and product development</b>	<b>2022</b>	2021	\$ Change	% Change	
Research and product development expense	<b>\$ 73,008</b>	\$ 42,292	\$ 30,716		73%
Less: Depreciation and amortization expense	<b>\$ (6,190)</b>	\$ (2,643)	\$ (3,547)		(134%)
Less: Stock-based compensation expense	<b>\$ (4,296)</b>	\$ (4,263)	\$ (33)		(1%)
Research and Product Development (cash operating cost)	<b>\$ 62,522</b>	\$ 35,386	\$ 27,136		77%

Research and Product Development (cash operating cost) is a non-GAAP measure. We use certain Non-GAAP measures to assist in assessing our financial performance. Non-GAAP measures do not have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies. Research and Product Development (cash operating cost) adjusts Research and product development expense for depreciation and amortization expense and stock-based compensation expense. See the reconciliation of the adjustments to Research and product development expense in the table above.

**Research and product development expenses for the three months ended September 30, 2022**, were \$25.3 million, an increase of \$8.7 million, or 52%, compared to the corresponding period of 2021. Excluding depreciation and amortization expense and

stock-based compensation expense, research and product development cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) were \$21.2 million in the third quarter of 2022, an increase of \$7.0 million, or 50%, compared to the third quarter of 2021.

**Research and product development expenses for the nine months ended September 30, 2022**, were \$73.0 million, an increase of \$30.7 million, or 73%, compared to the corresponding period of 2021. Excluding depreciation and amortization expense and stock-based compensation expense, research and product development cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) were \$62.5 million in the first three quarters of 2022, an increase of \$27.1 million, or 77%, compared to the first three quarters of 2021.

The respective \$7.0 million, or 50%, and \$27.1 million, or 77%, increases in research and development cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) in the third quarter and first three quarters of 2022, as compared to the third quarter and first three quarters of 2021, was driven primarily by increased expenditure on technology and product development activities in Canada, Denmark and the U.K., including the design and development of next generation fuel cell stacks and engines for bus, truck, rail and marine applications, and increased continuation engineering investment in our existing fuel cell products, including activities related to product cost reduction. Increased program investment includes expenditures related to our FCmove™-HD+, a fuel cell module designed for buses and medium and heavy-duty trucks, our FCgen®-HPS High-Power Density Fuel Cell Stack for light-medium-and heavy-duty vehicles, our FCwave™ Fuel Cell Module for marine applications, and on the ongoing improvement of all of our fuel cell products including our high performance fuel cell module, the FCmove™-HD, and our high performance liquid-cooled fuel cell stack, the FCgen®-LCS.

Research and product development expenses have also increased due to the acquisition of Ballard Motive Solutions in the fourth quarter of 2021. Research and product development expenses also include the impact of significant increases in functional staffing levels and the impact of inflationary wage pressures. These cost increases were also impacted by lower government funding recoveries primarily in Canada in 2022 due to the expiry of certain COVID-19 grants in the first half of 2021. Government funding recoveries are reflected primarily as a cost offset against gross research and product development expenses. These operating expense increases were partially offset by relatively lower labour costs in Canada in 2022 on our Canadian operating cost base as the Canadian dollar, relative to the U.S. dollar, was approximately (2%) lower in the first three quarters of 2022 compared to the first three quarters of 2021.

Depreciation and amortization expense included in research and product development expense for the three and nine months ended September 30, 2022, was \$2.6 million and \$6.2 million, respectively, compared to \$0.9 million and \$2.6 million, respectively, for the corresponding periods of 2021. Depreciation and amortization expense relate primarily to amortization expense on our intangible assets and depreciation expense on our research and product development facilities and equipment. The increase in 2022 is primarily as a result of increased investment in core equipment and includes amortization on acquired Ballard Motive Solutions intangible assets.

Stock-based compensation expense included in research and product development expense for the three and nine months ended September 30, 2022, was \$1.5 million and \$4.3 million, respectively, relatively consistent with the corresponding periods of 2021.

### **General and administrative expenses**

<i>(Expressed in thousands of U.S. dollars)</i>		Three months ended September 30,		
<b>General and administrative</b>	<b>2022</b>	2021	\$ Change	% Change
General and administrative expense	\$ <b>8,727</b>	\$ 6,768	\$ 1,959	29%
Less: Depreciation and amortization expense	\$ <b>(509)</b>	\$ (318)	\$ (191)	(60%)
Less: Stock-based compensation expense	\$ <b>(951)</b>	\$ (661)	\$ (290)	(44%)
Add: Impact of unrealized gains (losses) on foreign exchange contracts	\$ <b>(1,588)</b>	\$ (440)	\$ (1,148)	(261%)
General and Administrative (cash operating cost)	\$ <b>5,679</b>	\$ 5,349	\$ 330	6%

<i>(Expressed in thousands of U.S. dollars)</i>		Nine months ended September 30,		
<b>General and administrative</b>	<b>2022</b>	2021	\$ Change	% Change
General and administrative expense	\$ <b>23,193</b>	\$ 17,304	\$ 5,889	34%
Less: Depreciation and amortization expense	\$ <b>(1,466)</b>	\$ (1,095)	\$ (371)	(34%)
Less: Stock-based compensation expense	\$ <b>(2,592)</b>	\$ (2,082)	\$ (510)	(24%)
Add: Impact of unrealized gains (losses) on foreign exchange contracts	\$ <b>(1,919)</b>	\$ (782)	\$ (1,137)	(145%)
General and Administrative (cash operating cost)	\$ <b>17,216</b>	\$ 13,345	\$ 3,871	29%

General and Administrative (cash operating cost) is a non-GAAP measure. We use certain Non-GAAP measures to assist in assessing our financial performance. Non-GAAP measures do not have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies. General and Administrative (cash operating cost) adjusts General and administrative expense for depreciation and amortization expense, stock-based compensation expense and the impact of unrealized gains or losses on foreign exchange contracts. See the reconciliation of the adjustments to General and administrative expense in the table above.

**General and administrative expenses for the three months ended September 30, 2022**, were \$8.7 million, an increase of \$2.0 million, or 29%, compared to the corresponding period of 2021. Excluding depreciation and amortization expense, stock-based compensation expense, and the impact of unrealized gains (losses) on foreign exchange contracts, general and administrative cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) were \$5.7 million in the third quarter of 2022, an increase of \$0.3 million, or 6%, compared to the third quarter of 2021.

**General and administrative expenses for the nine months ended September 30, 2022**, were \$23.2 million, an increase of \$5.9 million, or 34%, compared to the corresponding period of 2021. Excluding depreciation and amortization expense, stock-based compensation expense, and the impact of unrealized gains (losses) on foreign exchange contracts, general and administrative cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) were \$17.2 million in the first three quarters of 2022, an increase of \$3.9 million, or 29%, compared to the first three quarters of 2021.

The respective \$0.3 million, or 6%, and \$3.9 million, or 29%, increases in general and administrative cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) in the third quarter and first three quarters of 2022, as compared to the third quarter and first three quarters of 2021, was due primarily to the acquisition of Ballard Motive Solutions in the fourth quarter of 2021 combined with the impact of increases in functional staffing levels and the impact of inflationary wage pressures. In addition, general and



administrative costs increased due to higher insurance, contracting, recruiting, corporate development, and professional fees.

Depreciation and amortization expense included in general and administrative expense for the three and nine months ended September 30, 2022, was \$0.5 million and \$1.5 million, respectively, compared to \$0.3 million and \$1.1 million, respectively for the corresponding periods of 2021. Depreciation and amortization expense relate primarily to our office and information technology intangible assets including our ongoing investment in our ERP system.

Stock-based compensation expense included in general and administrative expense for the three and nine months ended September 30, 2022, was \$1.0 million and \$2.6 million, respectively, compared to \$0.7 million and \$2.1 million, respectively, for the corresponding periods of 2021.

The impact of unrealized gains (losses) on foreign exchange contracts included in general and administrative expense for the three and nine months ended September 30, 2022, was (\$1.6) million and (\$1.9) million, respectively, compared to (\$0.4) million and (\$0.8) million, respectively, for the corresponding periods of 2021. We use forward foreign exchange contracts to help manage our exposure to currency rate fluctuations. We record these contracts at their fair value as of the balance sheet date as either assets or liabilities with any changes in fair value in the period recorded in profit or loss (general and administrative expense) as these contracts are not designated or qualified under hedge accounting criteria.

### **Sales and marketing expenses**

<i>(Expressed in thousands of U.S. dollars)</i>		Three months ended September 30,			
<b>Sales and marketing</b>	<b>2022</b>	2021	\$ Change	% Change	
Sales and marketing expense	\$ 3,486	\$ 3,570	\$ (84)	(2%)	
Less: Depreciation and amortization expense	\$ (1)	\$ (12)	\$ 11	92%	
Less: Stock-based compensation expense	\$ (370)	\$ (347)	\$ (23)	(7%)	
<b>Sales and Marketing (cash operating cost)</b>	<b>\$ 3,115</b>	<b>\$ 3,211</b>	<b>\$ (96)</b>	<b>(3%)</b>	

<i>(Expressed in thousands of U.S. dollars)</i>		Nine months ended September 30,			
<b>Sales and marketing</b>	<b>2022</b>	2021	\$ Change	% Change	
Sales and marketing expense	\$ 9,470	\$ 9,487	\$ (17)	(0%)	
Less: Depreciation and amortization expense	\$ (2)	\$ (36)	\$ 34	94%	
Less: Stock-based compensation expense	\$ (1,049)	\$ (1,005)	\$ (44)	(4%)	
<b>Sales and Marketing (cash operating cost)</b>	<b>\$ 8,419</b>	<b>\$ 8,446</b>	<b>\$ (27)</b>	<b>(0%)</b>	

Sales and Marketing (cash operating cost) is a non-GAAP measure. We use certain Non-GAAP measures to assist in assessing our financial performance. Non-GAAP measures do not have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies. Sales and Marketing (cash operating cost) adjusts Sales and marketing expense for depreciation and amortization expense and stock-based compensation expense. See the reconciliation of the adjustments to Sales and marketing expense in the table above.

**Sales and marketing expenses for the three months ended September 30, 2022**, were \$3.5 million, relatively consistent with the corresponding period of 2021. Excluding stock-based compensation expense, sales and marketing cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) was \$3.1 million in the third quarter of 2022, relatively consistent with the third quarter of 2021.

**Sales and marketing expenses for the nine months ended September 30, 2022**, were \$9.5 million, relatively consistent with the corresponding period of 2021. Excluding stock-based compensation expense, sales and marketing cash operating costs (see Supplemental

Non-GAAP Measures and Reconciliations) was \$8.4 million in the first three quarters of 2022, relatively consistent with the first three quarters of 2021.

Stock-based compensation expense included in sales and marketing expense for the three and nine months ended September 30, 2022, was \$0.4 million and \$1.0 million, respectively, relatively consistent with the corresponding periods of 2021.

**Other expense for the three and nine months ended September 30, 2022**, was \$2.5 million and \$3.1 million, respectively, compared to \$0.5 million and \$0.7 million, respectively, for the corresponding periods of 2021. The following table provides a breakdown of other expense for the reported periods:

<i>(Expressed in thousands of U.S. dollars)</i>		Three months ended September 30,			
	2022	2021	\$ Change	% Change	
Impairment loss (recovery) on trade receivables	\$ -	\$ (6)	\$ (6)	(100%)	
Restructuring expense (recovery)	258	9	249	2,767%	
Acquisition related charges	2,261	535	1,726	323%	
<b>Other expenses (recovery)</b>	<b>\$ 2,519</b>	<b>\$ 538</b>	<b>\$ 1,981</b>	<b>368%</b>	

<i>(Expressed in thousands of U.S. dollars)</i>		Nine months ended September 30,			
	2022	2021	\$ Change	% Change	
Impairment loss (recovery) on trade receivables	\$ -	\$ 43	\$ (43)	(100%)	
Restructuring expense (recovery)	345	147	198	135%	
Acquisition related costs	2,751	535	2,216	414%	
<b>Other expenses (recovery)</b>	<b>\$ 3,096</b>	<b>\$ 725</b>	<b>\$ 2,371</b>	<b>327%</b>	

Acquisition related costs for the three and nine months ended September 30, 2022, were \$2.3 million and \$2.8 million, respectively, and consist primarily of legal, advisory, and transaction related costs incurred due to certain corporate development activities.

Net impairment loss (recovery) on trade receivables for the nine months ended September 30, 2022, and 2021 were nominal. If we recover on an impaired trade receivable through legal or other means, the recovered amount is recognized in the period of recovery as a reversal of the impairment loss.

**Finance income (loss) and other for the three and nine months ended September 30, 2022**, was \$2.8 million and (\$17.8) million, respectively, compared to (\$1.5) million and \$2.6 million for the corresponding periods of 2021. The following table provides a breakdown of finance and other income (loss) for the reported periods:

<i>(Expressed in thousands of U.S. dollars)</i>		Three months ended September 30,			
	2022	2021	\$ Change	% Change	
Employee future benefit plan expense	\$ (28)	\$ (139)	\$ 111	80%	
Investment and other income (loss)	6,010	1,063	4,947	465%	
Mark to Market gain (loss) on financial assets	1,705	(580)	2,285	394%	
Foreign exchange gain (loss)	(4,906)	(1,689)	(3,217)	(191%)	
Government levies	-	(200)	200	100%	
<b>Finance income (loss) and other</b>	<b>\$ 2,781</b>	<b>\$ (1,545)</b>	<b>\$ 4,326</b>	<b>280%</b>	

<i>(Expressed in thousands of U.S. dollars)</i>		Nine months ended September 30,			
	<b>2022</b>	2021	\$ Change	% Change	
Employee future benefit plan expense	<b>\$ (167)</b>	\$ (217)	\$ 50	23%	
Investment and other income (loss)	<b>9,817</b>	2,711	7,106	262%	
Mark to Market gain (loss) on financial assets	<b>(19,777)</b>	1,264	(21,041)	(1,665%)	
Foreign exchange gain (loss)	<b>(7,606)</b>	(405)	(7,201)	(1,778%)	
Government levies	<b>(100)</b>	(800)	700	88%	
<b>Finance income (loss) and other</b>	<b>\$ (17,833)</b>	\$ 2,553	\$ (20,386)	(799%)	

Employee future benefit plan expense for the nine months ended September 30, 2022, was (\$0.1) million, relatively consistent with the corresponding period, and consists primarily of interest cost on plan obligations over the expected return on plan assets on a curtailed defined benefit pension plan for certain former United States employees.

Investment and other income for the three and nine months ended September 30, 2022, was \$6.0 million and \$9.8 million, respectively, compared to \$1.1 million and \$2.7 million, respectively, for the corresponding periods of 2021. Amounts were earned on our cash, cash equivalents and short-term investments and have changed relatively proportionately with the increase in overall market interest rates and the change in our overall average monthly cash balances.

Mark to market gain (loss) on financial assets for the three and nine months ended September 30, 2022, was \$1.7 million and (\$19.8) million, respectively, compared to (\$0.6) million and \$1.3 million, respectively, for the corresponding periods of 2021. Mark to market gain (loss) in 2022 consist primarily of changes in the fair value of our long-term financial investments including Forsee Power and certain hydrogen infrastructure and growth equity funds. Mark to market gains and losses are also impacted by the conversion of these long-term financial assets from their respective European Euro or Great British pound denominated investment to the U.S. dollar.

Foreign exchange gains (losses) for the three and nine months ended September 30, 2022, were (\$4.9) million and (\$7.6) million, respectively, compared to (\$1.7) million and (\$0.4) million, respectively, for the corresponding periods of 2021. Foreign exchange gains and losses are attributable primarily to the effect of the changes in the value of the Canadian dollar, relative to the U.S. dollar, on our Canadian dollar-denominated net monetary position. Foreign exchange gains and losses are also impacted by the conversion of Ballard Power Systems Europe A/S' assets and liabilities from the Danish Kroner to the U.S. dollar at exchange rates in effect at each reporting date are recorded in other comprehensive income (loss).

Government levies for the three and nine months ended September 30, 2022, was nil and (\$0.1) million, respectively, compared to (\$0.2) million and (\$0.8) million, respectively, for the corresponding periods of 2021. Government levies relate primarily to withholding taxes deducted from proceeds earned on certain commercial contracts.

**Finance expense for the three and nine months ended September 30, 2022**, was (\$0.3) million and (\$1.0) million, respectively, relatively consistent with the corresponding periods of 2021. Finance expense represents the interest expense incurred on our right-of-

use assets with a lease term of greater than 12-months, including our head office building, manufacturing facility, and related storage facilities in Burnaby, British Columbia, as well as similar right-of-use assets in all of our subsidiaries.

**Equity in income (loss) of investment in joint venture and associates for the three and nine months ended September 30, 2022**, was (\$1.0) million and (\$4.8) million, respectively, compared to (\$4.1) million and (\$11.3) million, respectively, for the corresponding periods of 2021. Equity in loss of investment in joint venture and associates relates to the pickup of 49% of the net income (loss) of Weichai Ballard JV as a result of our 49% ownership position, and 10% of the net income (loss) of Synergy Ballard JVCo as a result of our 10% ownership position. Both investments in China are accounted for using the equity method of accounting.

The loss of investment in joint venture and associates in 2022 and 2021 is primarily as a result of research and product development expenses in the periods consisting primarily of amounts expended on the ongoing \$90 million technology transfer agreement with Ballard as Weichai Ballard JV continue to establish operations. Weichai Ballard JV manufactures Ballard's next-generation LCS fuel cell stack and LCS-based power modules for bus, commercial truck, and forklift applications with exclusive rights in China.

#### 5.4 Summary of Quarterly Results

The following table provides summary financial data for our last eight quarters:

	Quarter ended,			
	Sep 30, 2022	Jun 30, 2022	Mar 31, 2022	Dec 31, 2021
<i>(Expressed in thousands of U.S. dollars, except per share amounts and weighted average shares outstanding which are expressed in thousands)</i>				
Revenues	\$ 21,343	\$ 20,932	\$ 21,047	\$ 36,705
Net loss from continuing operations	\$ (42,881)	\$ (55,791)	\$ (40,395)	\$ (43,836)
Net loss from continuing operations per share, basic and diluted	\$ (0.14)	\$ (0.19)	\$ (0.14)	\$ (0.15)
Weighted average common shares outstanding	298,181	298,155	297,825	297,655
	Sep 30, 2021	Jun 30, 2021	Mar 31, 2021	Dec 31, 2020
Revenues	\$ 25,220	\$ 24,961	\$ 17,619	\$ 28,589
Net loss from continuing operations	\$ (30,844)	\$ (21,913)	\$ (17,802)	\$ (14,408)
Net loss from continuing operations per share, basic and diluted	\$ (0.10)	\$ (0.07)	\$ (0.06)	\$ (0.05)
Weighted average common shares outstanding	297,612	297,569	288,209	268,735

**Summary of Quarterly Results:** There were no significant seasonal variations in our quarterly results. Variations in our net loss for the above periods were affected primarily by the following factors:

- **Revenues:** Variations in fuel cell product and service revenues reflect the demand and timing of our customers' fuel cell vehicle, bus, and fuel cell product deployments as well as the demand and timing of their engineering services projects. Variations in fuel cell product and service revenues also reflect the timing of work performed and the achievements of milestones under long-term fixed price contracts.
- **Operating expenses:** Operating expenses were negatively impacted as of the fourth

quarter of 2021 by the acquisition and integration of Arcola. Operating expenses also include the impact of changes in the value of the Canadian dollar, versus the U.S. dollar, on our Canadian dollar denominated expenditures.

- **Net loss:** Net loss as of the fourth quarter of 2021 was impacted by the above noted impact on Revenues and Operating expenditures. Net loss in the third quarter of 2022, the second quarter of 2022, the first quarter of 2022, and the fourth quarter of 2021 was also negatively impacted by mark to market gains (losses) on financial assets of \$1.7 million, (\$12.9) million, (\$8.6) million, and (\$10.3) million, respectively, related primarily to our investment in Forsee Power and certain hydrogen infrastructure and growth equity funds.

## 6. CASH FLOWS, LIQUIDITY AND CAPITAL RESOURCES

### 6.1 Summary of Cash Flows

Cash and cash equivalents were \$955.4 million as of September 30, 2022, compared to \$1,123.9 million as of December 31, 2021. The (\$168.5) million decrease in cash and cash equivalents in 2022 was driven by net cash operating losses (excluding non-cash items) of (\$94.7) million, net working capital outflows of (\$16.3) million, equity investments in Weichai Ballard JV of (\$9.3) million, purchases of property, plant and equipment and intangible assets of (\$19.7) million, subsequent Milestone cash acquisition investment payments for Ballard Motive Solutions of (\$14.9) million, long-term financial investments of (\$12.6) million consisting of an investment in Wisdom of (\$10.0) million and investments in certain hydrogen infrastructure and growth equity funds of (\$2.6) million, and by finance lease repayments of (\$2.4) million.

### 6.2 Cash Provided by (Used by) Operating Activities

<i>(Expressed in thousands of U.S. dollars)</i>	Three months ended September 30,		
	2022	2021	\$ Change
Cash Operating Loss	\$ (35,693)	\$ (20,846)	\$ (14,847)
Change in Working Capital:			
Trade and other receivables	(391)	11,622	(12,013)
Inventory	335	(11,648)	11,983
Prepaid expenses and other current assets	2,103	1,151	952
Trade and other payables	2,565	4,230	(1,665)
Deferred revenue	(954)	936	(1,891)
Warranty provision	1,717	116	1,601
	<b>5,375</b>	6,407	(1,032)
<b>Cash Used by Operating Activities</b>	<b>\$ (30,318)</b>	<b>\$ (14,439)</b>	<b>\$ (15,879)</b>

For the three months ended September 30, 2022, cash used by operating activities was (\$30.3) million compared to (\$14.4) million for the three months ended September 30, 2021. The (\$15.9) million increase in cash used by operating activities in the third quarter of 2022, as compared to the third quarter of 2021, was driven by the relative increase in cash operating losses of (\$14.8) million and by the relative increase in working capital requirements of (\$1.0) million.

The relative (\$14.8) million increase in cash operating losses in the third quarter of 2022 was

driven primarily by the increase in Adjusted EBITDA loss of (\$12.0) million. This net (loss) increase in the third quarter of 2022 was also impacted by several items included in cash operating losses but excluded from Adjusted EBITDA loss or vice-versa including: higher finance and other income (excluding mark to market fair value changes on investments) of \$2.0 million, higher acquisition related costs of (\$1.7) million, and lower equity investment losses in joint venture and associates of (\$3.1) million.

The total change in working capital of \$5.3 million in the third quarter of 2022 was driven by higher accounts payable and accrued liabilities of \$2.6 million primarily due to the timing of supplier payments and annual compensation awards, by lower prepaid expenses of \$2.1 million primarily due to the timing of annual insurance renewals, and by higher warranty provisions of \$1.7 million, and by lower prepaid expenses of \$1.4 million primarily due to the timing of annual insurance renewals. These third quarter of 2022 inflows were partially offset by lower deferred revenue of (\$1.0) million as pre-payments on certain Heavy-Duty Motive and Technology Solutions contracts were recognized, and by higher accounts and contract receivables of (\$0.4) million primarily due to the timing of revenues and the related customer collections.

The total change in working capital of \$6.4 million in the third quarter of 2021 was driven by lower accounts and contract receivables of \$11.6 million primarily due to the timing of revenues and the related customer collections, and by higher accounts payable and accrued liabilities of \$4.2 million primarily due to the timing of supplier payments and annual compensation awards. These third quarter of 2021 cash inflows were partially offset by higher inventory of (\$11.6) million primarily to support expected Heavy-Duty Motive shipments in the last quarter of 2021 and into 2022 and to help mitigate ongoing supply chain disruptions.

<i>(Expressed in thousands of U.S. dollars)</i>	Nine months ended September 30,		
	<b>2022</b>	2021	\$ Change
Cash Operating Loss	<b>\$ (94,658)</b>	\$ (45,337)	\$ (49,321)
Change in Working Capital:			
Trade and other receivables	<b>(3,599)</b>	12,658	(16,257)
Inventory	<b>(7,117)</b>	(21,944)	14,827
Prepaid expenses and other current assets	<b>(1,526)</b>	526	(2,052)
Trade and other payables	<b>(5,599)</b>	1,915	(7,514)
Deferred revenue	<b>(1,402)</b>	3,145	(4,547)
Warranty provision	<b>2,914</b>	(764)	3,678
	<b>(16,329)</b>	(4,464)	(11,865)
<b>Cash Used by Operating Activities</b>	<b>\$ (110,987)</b>	\$ (49,801)	\$ (61,186)

For the nine months ended September 30, 2022, cash used by operating activities was (\$111.0) million compared to (\$49.8) million for the nine months ended September 30, 2021. The (\$61.2) million increase in cash used by operating activities in the first three quarters of 2022, as compared to the first three quarters of 2021, was driven by the relative increase in cash operating losses of (\$49.3) million, and by the relative increase in working capital requirements of (\$11.9) million.

The relative (\$49.3) million increase in cash operating losses in the first three quarters of 2022 was driven primarily by the increase in Adjusted EBITDA loss of (\$40.9) million. This



net (loss) increase in the first three quarters of 2022 was also impacted by several items included in cash operating losses but excluded from Adjusted EBITDA loss or vice-versa including: higher finance and other income (excluding mark to market fair value changes on investments) of \$0.6 million, higher acquisition related costs of (\$2.2) million, and lower equity investment losses in joint venture and associates of (\$6.4) million.

The total change in working capital of (\$16.3) million in the first three quarters of 2022 was driven by higher inventory of (\$7.1) million primarily to support expected Heavy-Duty Motive shipments in the last quarter of 2022 and into 2023 and to help mitigate ongoing supply chain disruptions, lower accounts payable and accrued liabilities of (\$5.6) million primarily as a result of the timing of supplier payments and annual compensation awards, higher accounts and contract receivables of (\$3.6) million primarily as a result of the timing of revenues and the related customer collections, and by higher prepaid expenses of (\$1.5) million primarily due to the timing of annual insurance renewals. These first three quarters of 2022 outflows were partially offset by higher warranty provisions of \$2.9 million.

The total change in working capital of (\$4.5) million in the first three quarters of 2021 was driven by higher inventory of (\$21.9) million primarily to support expected Heavy-Duty Motive shipments in the last quarter of 2021 and into 2022 and to help mitigate ongoing supply chain disruptions. These working capital outflows in 2021 were partially offset by lower accounts and contract receivables of \$12.7 million primarily as a result of the timing of revenues and the related customer collections, by higher deferred revenue of \$3.1 million as we received pre-payments on certain Heavy-Duty Motive and Technology Solutions contracts, and by higher accounts payable and accrued liabilities of \$1.9 million as a result of the timing of payments for inventory purchases and annual compensation awards.

### **6.3 Cash Provided by (Used by) Investing Activities**

Investing activities resulted in net cash outflows of (\$15.5) million and (\$55.5) million, respectively, for the three and nine months ended September 30, 2022, compared to net cash outflows of (\$5.6) million and (\$18.2), respectively, for the corresponding periods of 2021.

Investing activities in the third quarter of 2022 of (\$15.5) million consist of additional long-term investments in certain hydrogen infrastructure and growth equity funds of (\$0.3) million, subsequent Milestone cash acquisition investment payments for Ballard Motive Solutions of (\$5.6) million, investments in associated companies of (\$2.9) million for the fourteenth and final contracted equity contribution in our 49% investment in Weichai Ballard JV, and by capital expenditures of (\$6.7) million incurred primarily for production and test equipment and certain intangible assets. Investing activities in the third quarter of 2021 of (\$5.6) million consist of investments in associated companies of (\$3.0) million paid as planned for the tenth equity contribution in our 49% investment in Weichai Ballard JV, and by capital expenditures of (\$2.5) million incurred primarily for production and test equipment and certain intangible assets.

Investing activities in the first three quarters of 2022 of (\$55.5) million consist of additional long-term investments in Wisdom and in certain hydrogen infrastructure and growth equity funds of (\$12.6) million, subsequent Milestone cash acquisition investment payments for Ballard Motive Solutions of (\$14.9) million, investments in associated companies of (\$9.3) million for the twelfth, thirteenth and fourteenth and final contracted equity contributions in

our 49% investment in Weichai Ballard JV, and by capital expenditures of (\$19.7) million incurred primarily for production and test equipment and certain intangible assets, partially offset by proceeds received on the sale of short-term investments of \$1.0 million. Investing activities in the first three quarters of 2021 of (\$18.2) million consist of investments in associated companies of (\$9.1) million paid as planned for the eighth, ninth and tenth equity contributions in our 49% investment in Weichai Ballard JV, and by capital expenditures of (\$9.1) million incurred primarily for production and test equipment and certain intangible assets.

#### **6.4 Cash Provided by (Used by) Financing Activities**

Financing activities resulted in net cash inflows (outflows) of (\$0.7) million and (\$1.6) million, respectively, for the three and nine months ended September 30, 2022, compared to net cash inflows (outflows) of (\$0.6) million and \$527.4 million, respectively, for the corresponding periods of 2021.

Financing activities in the third quarter of 2022 of (\$0.7) million consist of finance lease payments of (\$0.8) million, partially offset by proceeds from the exercise of share purchase options of \$0.1 million. Financing activities in the third quarter of 2021 of (\$0.6) million consist of nominal proceeds from the exercise of share purchase options which were more than offset by finance lease payments of (\$0.6) million.

Financing activities in the first three quarters of 2022 of (\$1.6) million consist of finance lease payments of (\$2.4) million, partially offset by proceeds from the exercise of share purchase options of \$0.8 million. Financing activities in the first three quarters of 2021 of \$527.4 million consist of net proceeds from the sale of Common Shares of \$527.3 million from the \$550 million Offering, proceeds from the exercise of share purchase options of \$2.1 million, partially offset by finance lease payments of (\$2.1) million.

#### **6.5 Liquidity and Capital Resources**

As of September 30, 2022, we had total liquidity of \$957.4 million. We measure liquidity as our net cash and short-term investment position, consisting of the sum of our cash, cash equivalents and short-term investments of \$957.4 million, as we have no debt.

We have a Letter of Guarantee Facility (the "LG Facility") enabling our bank to issue letters of guarantees, standby letters of credit, performance bonds, counter guarantees, counter standby letter of credit or similar credits on our behalf to from time to time up to a maximum of \$2.0 million. As of September 30, 2022, there was nil outstanding on the LG Facility. We also have a \$25 million Foreign Exchange Facility (the "FX Facility") enabling us to enter into foreign exchange currency contracts secured by a guarantee from Export Development Canada. As of September 30, 2022, we had outstanding foreign exchange currency contracts to purchase a total of Canadian \$40.5 million under the FX Facility.

Our liquidity objective is to maintain cash balances sufficient to fund at least six quarters of forecasted cash used by operating activities and contractual commitments. Our strategy to attain this objective is to continue our drive to attain profitable operations that are sustainable by executing a business plan that continues to focus on Fuel Cell Products and Services revenue growth, improving overall gross margins, maintaining discipline over Cash Operating Costs, managing working capital and capital expenditure requirements, and securing

additional financing to fund our operations as needed until we do achieve profitable operations that are sustainable. We believe that we have adequate liquidity in cash and working capital to achieve our liquidity objective.

Failure to achieve or maintain this liquidity objective could have a material adverse effect on our financial condition and results of operations including our ability to continue as a going concern. There are also various risks and uncertainties affecting our ability to achieve this liquidity objective including, but not limited to, the market acceptance and rate of commercialization of our products, the ability to successfully execute our business plan, and general global economic conditions, certain of which are beyond our control. While we continue to make significant investments in product development and market development activities necessary to commercialize our products, make increased investments in working capital and capital expenditures as we grow our business, and make ongoing capital contributions in support of our investment in certain hydrogen infrastructure and growth equity funds, our actual liquidity requirements will also vary and will be impacted by future acquisitions and strategic partnerships and investments, our relationships with our lead customers and strategic partners including their ability to successfully finance and fund their operations and programs and agreements with us, our success in developing new channels to market and relationships with customers, our success in generating revenue growth from near-term product, service and licensing opportunities, our success in managing our operating expense and working capital requirements, foreign exchange fluctuations, and the progress and results of our research, development and demonstration programs.

We may also choose to pursue additional liquidity through the issuance of debt or equity in private or public market financings. To enable the timely issuance of equity securities in the public market, we renewed our Base Shelf Prospectus on file with the securities regulators in Canada in March 2021. The Base Shelf Prospectus, which is effective for 25-months ending in April 2023, was filed in each of the provinces and territories of Canada, and a corresponding shelf registration statement on Form F-10 was also filed with the United States Securities and Exchange Commission. These filings will enable offerings of securities up to an aggregate initial offering price of \$1.5 billion at any time during the 25-month period that the Base Shelf Prospectus remains effective.

No assurance can be given that any such additional liquidity will be available or that, if available, it can be obtained on terms favorable to the Company. If any securities are offered under the Base Shelf Prospectus, the terms of any such securities and the intended use of the net proceeds resulting from such offering would be established at the time of any offering and would be described in a supplement to the Base Shelf Prospectus filed with applicable Canadian securities regulators and/or the SEC, respectively, at the time of such an offering.

## **7. OTHER FINANCIAL MATTERS**

### **7.1 Off-Balance Sheet Arrangements and Contractual Obligations**

Periodically, we use forward foreign exchange contracts to manage our exposure to currency rate fluctuations. We record these contracts at their fair value as either assets or liabilities on our statement of financial position. Any changes in fair value are either (i) recorded in other comprehensive income if formally designated and qualified under hedge accounting criteria; or (ii) recorded in profit or loss (general and administrative expense) if either not designated,

or not qualified, under hedge accounting criteria. As of September 30, 2022, we had outstanding foreign exchange currency contracts to purchase a total of Canadian \$40.5 million at an average rate of 1.2845 Canadian per U.S. dollar, resulting in an unrealized loss of Canadian (\$2.7) million as of September 30, 2022. The outstanding foreign exchange currency contracts have not been designated under hedge accounting.

As of September 30, 2022, we did not have any other material obligations under guarantee contracts, retained or contingent interests in transferred assets, outstanding derivative instruments, or non-consolidated variable interests.

As of September 30, 2022, we had the following contractual obligations and commercial commitments (including capital contribution commitments to Weichai Ballard JV) calculated on a non-discounted basis (with the exception of Finance leases):

<i>(Expressed in thousands of U.S. dollars)</i>		Payments due by period,			
<b>Contractual Obligations</b>	<b>Total</b>	Less than one year	1-3 years	4-5 years	After 5 years
Finance leases	\$ 18,280	\$ 4,542	\$ 7,912	\$ 4,802	\$ 1,024
Asset retirement obligations	1,872	-	1,872	-	-
Long-term investment (HyCap)	20,121	20,121	-	-	-
Long-term investment (Clean H2)	27,906	4,511	17,546	5,849	-
Capital contributions to Weichai Ballard JV	-	-	-	-	-
Total contractual obligations	\$ 68,179	\$ 29,174	\$ 27,330	\$ 10,651	\$ 1,024

Long-term investments include an investment committing us to be a limited partner in HyCap, a newly created hydrogen infrastructure and growth equity fund. HyCap is to invest in a combination of hydrogen infrastructure projects and investments in companies along the hydrogen value chain. We have committed to investing £25.0 million (including £6.8 million invested as of September 30, 2022) into HyCap.

Long-term investments also include an investment committing us to be a limited partner in Clean H2, another newly created hydrogen infrastructure and growth equity fund. Clean H2 is to invest in a combination of hydrogen infrastructure projects and investments in companies along the hydrogen value chain. We have committed to investing €30.0 million (including €1.4 million invested as of September 30, 2022) into Clean H2.

In addition, we have outstanding commitments of \$38.5 million as of September 30, 2022, related primarily to purchases of property, plant, and equipment. Capital expenditures and expenditures on other intangible assets pertain to our regular operations and are expected to be funded through cash on hand.

In connection with the acquisition of intellectual property from UTC in 2014, we have a royalty obligation in certain circumstances to pay UTC a portion of any future intellectual property sale and licensing income generated from certain of our intellectual property portfolio for a period of 15-years expiring in April 2029. No royalties were paid to UTC in the nine months ended September 30, 2022, and for the years ended December 31, 2021, 2020, 2019 and 2018.

As of September 30, 2022, we retain a previous funding obligation to pay royalties of 2% of

revenues (to a maximum of Canadian \$5.4 million) on sales of certain fuel cell products for commercial distributed utility applications. No royalties have been incurred to date as a result of this agreement.

We also retain a previous funding obligation to pay royalties of 2% of revenues (to a maximum of Canadian \$2.2 million) on sales of certain fuel cell products for commercial transit applications. No royalties have been incurred to date as a result of this agreement.

In the ordinary course of business or as required by certain acquisition or disposition agreements, we are periodically required to provide certain indemnities to other parties. As of September 30, 2022, we have not accrued any significant amount owing, or receivable, due to any indemnity agreements undertaken in the ordinary course of business.

## 7.2 Related Party Transactions

Related parties include our 49% owned equity accounted investee, Weichai Ballard JV, and our 10% owned equity accounted investee, Synergy Ballard JVCo. Transactions between us and our subsidiaries are eliminated on consolidation. For the three and nine months ended September 30, 2022, and 2021, related party transactions and balances with Weichai Ballard JV and Synergy Ballard JVCo total as follows:

<i>(Expressed in thousands of U.S. dollars)</i>	Three Months Ended September 30,	
<b>Transactions with related parties</b>	<b>2022</b>	2021
Revenues	\$ <b>1,064</b>	\$ 9,670
Cost of goods sold and operating expense	\$ <b>873</b>	\$ -

  

<i>(Expressed in thousands of U.S. dollars)</i>	Nine Months Ended September 30,	
<b>Transactions with related parties</b>	<b>2022</b>	2021
Revenues	\$ <b>6,991</b>	\$ 22,300
Cost of goods sold and operating expense	\$ <b>1,972</b>	\$ -

  

<i>(Expressed in thousands of U.S. dollars)</i>	As at Sep 30,	As at Dec 31,
<b>Balances with related parties</b>	<b>2022</b>	2021
Accounts receivable	\$ <b>12,916</b>	\$ 10,893
Investments	\$ <b>29,867</b>	\$ 28,982
Deferred revenue	\$ <b>(2,185)</b>	\$ (2,746)

We also provide key management personnel, being board directors and executive officers, certain benefits, in addition to their salaries. Key management personnel also participate in the Company's share-based compensation plans. Key management personnel compensation is summarized in note 28 to our annual consolidated financial statements for the year ended December 31, 2021.

### 7.3 Outstanding Share and Equity Information

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**As of November 4, 2022**

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Common share outstanding	298,319,842
Options outstanding	4,799,553
DSUs outstanding	682,760
RSUs / PSUs outstanding (subject to vesting and performance criteria)	949,958

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## 8. USE OF PROCEEDS

### 8.1 Reconciliation of Use of Proceeds from Previous Financings

During 2021 and 2020, we completed the following offerings of our common shares ("Common Shares"):

- On February 23, 2021, we closed a bought deal offering of 14.87 million Common Shares at a price of \$37.00 per Common Share for gross proceeds of \$550.2 million and net proceeds of \$527.3 million (the "2021 Offering").
- On November 27, 2020, we closed a bought deal offering of 20.9 million Common Shares at a price of \$19.25 per Common Share for gross proceeds of \$402.5 million and net proceeds of \$385.8 million (the "2020 Offering").
- On September 1, 2020, we announced an at-the-market equity program to issue a total of 16.45 million Common Shares from treasury (the "\$250 million ATM Program"). The 16.45 million Common Shares issued under the \$250 million ATM Program were sold in the third and fourth quarters of 2020 at prevailing market prices at the time of sale for total gross proceeds of \$250 million and total net proceeds of \$244.1 million.
- On March 10, 2020, we announced an at-the-market equity program to allow the issuance of up to \$75 million of Common Shares from treasury (the "\$75 million ATM Program" and together with the \$250 million ATM Program, the "2020 ATM Programs"). The 8.2 million Common Shares issued under the \$75 million ATM Program were sold in the first half of 2020 at prevailing market prices at the time of sale for total gross proceeds of \$66.7 million and total net proceeds of \$64.7 million.

The net proceeds from the 2021 Offering and the 2020 Offering of \$527.3 million and \$385.8 million, respectively, were intended to be used to further strengthen the Company's financial position, thereby providing additional flexibility to fund growth strategies, including through activities such as product innovation, investments in production capacity expansion and localization, future acquisitions and strategic partnerships and investments. The net proceeds from the 2020 ATM Programs of \$308.8 million were intended to be used for general corporate purposes. Pending their use, we disclosed our intention to invest the net proceeds from the 2021 Offering and the 2020 Offering in short-term, investment grade, interest bearing instruments or to hold them as cash and cash equivalents.

The following tables sets out a comparison of the Company's disclosed expected use of net proceeds from the 2020 Offering and the 2020 ATM Programs to the actual use of such net proceeds to September 30, 2022. As of September 30, 2022, the net proceeds of \$527.3 million from the 2021 Offering and residual unused amounts from the 2020 Offering and the



2020 ATM Programs were held in interest bearing cash accounts.

<b>2020 Offering Net Proceeds \$385.8M</b>			
<b>Intended Use of Net Proceeds:</b> Further strengthen the Company's balance sheet, thereby providing additional flexibility to fund growth strategies, including through activities such as product innovation, investments in production capacity expansion and localization, future acquisitions and strategic partnerships and investments.			
<b>Actual Use of Net Proceeds</b> (expressed in thousands of U.S. dollars)		<b>Variance – (Over)/Under Expenditures</b>	<b>Explanation of Variance</b>
Research and Product Development (cash Operating cost) expenditures including product development of next generation fuel cell stacks and modules	<b>\$79,675</b>	N/A	N/A
Investments in property, plant and equipment and other intangible assets including production capacity expansion and localization	<b>\$34,434</b>	N/A	N/A
Ballard Motive Solutions acquisition (initial and subsequent cash costs) and acquisition related expenses	<b>\$24,662</b>	N/A	N/A
Strategic partnerships and investments including Wisdom, Forsee Power, H2Cap, Clean H2, Weichai Ballard JVCo, and acquisition related expenses	<b>\$80,790</b>	N/A	N/A
	<b>\$219,561</b>		

<b>2020 ATM Programs Net Proceeds \$308.8M</b>			
<b>Intended Use of Net Proceeds:</b> General Corporate Purposes			
<b>Actual Use of Net Proceeds</b> (expressed in thousands of U.S. dollars)		<b>Variance – (Over)/Under Expenditures</b>	<b>Explanation of Variance</b>
General and Administration (cash Operating cost) expenditures	<b>\$23,624</b>	N/A	N/A
Sales and Marketing (cash Operating cost) expenditures	<b>\$11,462</b>	N/A	N/A
Working capital requirements	<b>\$23,467</b>	N/A	N/A
Lease liability principal repayments	<b>\$3,101</b>	N/A	N/A
	<b>\$61,654</b>		

## 9. ACCOUNTING MATTERS

### 9.1 Overview

Our consolidated financial statements are prepared in accordance with IFRS, which require us to make estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income, and expenses. Actual results may differ from those estimates. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

### 9.2 Critical Judgments in Applying Accounting Policies

Critical judgments that we have made in the process of applying our accounting policies and that have the most significant effect on the amounts recognized in the consolidated financial statements is limited to our assessment of our ability to continue as a going concern (See Note 2 (e) to our consolidated financial statements).

Our significant accounting policies are detailed in note 4 to our annual consolidated financial statements for the year ended December 31, 2021, except as described below. Effective

January 1, 2022, we have initially adopted *Onerous Contracts – Cost of Fulfilling a Contract (Amendments to IAS 37)*. The effect of initially applying the *Amendments to IAS 37* had an impact on our financial statements which is detailed in Section 9.4 *Recently Adopted Accounting Policy Changes*. A number of other new standards and interpretations are also effective from January 1, 2022, but they did not have a material impact on our financial statements. Changes to significant accounting policies are also detailed in note 4 to our condensed consolidated interim financial statements.

### **9.3 Key Sources of Estimation Uncertainty**

The following are key assumptions concerning the future and other key sources of estimation uncertainty that have a significant risk of resulting in a material adjustment to the reported amount of assets, liabilities, income, and expenses within the next financial year.

#### **REVENUE RECOGNITION**

Revenues are generated primarily from product sales, the license and sale of intellectual property and fundamental knowledge, and the provision of engineering services and technology transfer services. Product revenues are derived primarily from standard product sales contracts and from long-term fixed price contracts. Intellectual property and fundamental knowledge license revenues are derived primarily from standard licensing and technology transfer agreements. Engineering service and technology transfer service revenues are derived primarily from cost-plus reimbursable contracts and from long-term fixed price contracts.

Revenue is recognized when a customer obtains control of the goods or services. Determining the timing of the transfer of control, at a point in time or over time, requires judgment.

On standard product sales contracts, revenues are recognized when customers obtain control of the product, that is when transfer of title and risks and rewards of ownership of goods have passed, and when obligation to pay is considered certain. Invoices are generated and revenue is recognized at that point in time. Provisions for warranties are made at the time of sale. Revenue recognition for standard product sales contracts does not usually involve significant estimates.

On standard licensing and technology transfer agreements, revenues are recognized on the transfer of rights to a licensee, when it is determined to be distinct from other performance obligations, and if the customer can direct the use of, and obtain substantially all of the remaining benefits from the license as it exists at the time of transfer. In other cases, the proceeds are considered to relate to the right to use the asset over the license period and the revenue is recognized over that period. If it is determined that the license is not distinct from other performance obligations, revenue is recognized over time as the customer simultaneously receives and consumes the benefit. Revenue recognition for standard license and sale agreements does not usually involve significant estimates.

On cost-plus reimbursable contracts, revenues are recognized as costs are incurred, and include applicable fees earned as services are provided. Revenue recognition for cost-plus reimbursable contracts does not usually involve significant estimates.

On long-term fixed price contracts, the customer controls all of the work in progress as the services are being provided. This is because under these contracts, the deliverables are made to a customer's specification, and if a contract is terminated by the customer, then the

Company is entitled to reimbursement of the costs incurred to date plus the applicable gross margin. Therefore, revenue from these contracts and the associated costs are recognized as the costs are incurred over time. On long-term fixed price contracts, revenues are recognized over time using cumulative costs incurred to date relative to total estimated costs at completion to measure progress towards satisfying performance obligations. Generally, revenue is recognized by multiplying the expected consideration by the ratio of cumulative costs incurred to date to the sum of incurred and estimated costs for completing the performance obligation. The cumulative effect of changes to estimated revenues and estimated costs for completing a contract are recognized in the period in which the revisions are identified. If the estimated costs for completing the contract exceed the expected revenues on a contract, such loss is recognized in its entirety in the period it becomes known. Deferred revenue (i.e., contract liabilities) represents cash received from customers in excess of revenue recognized on uncompleted contracts.

- The determination of expected costs for completing a contract is based on estimates that can be affected by a variety of factors such as variances in the timeline to completion, the cost of materials, the availability and cost of labour, as well as productivity.
- The determination of potential revenues includes the contractually agreed amount and may be adjusted based on the estimate of our attainment on achieving certain defined contractual milestones. Management's estimation is required in determining the amount of consideration for which the Company expects to be entitled and in determining when a performance obligation has been met.

Estimates used to determine revenues and costs of long-term fixed price contracts involve uncertainties that ultimately depend on the outcome of future events and are periodically revised as projects progress. There is a risk that a customer may ultimately disagree with management's assessment of the progress achieved against milestones, or that our estimates of the work required to complete a contract may change.

During the three and nine months ended September 30, 2022, and 2021, there were no significant adjustments to revenues relating to revenue recognized in a prior period.

#### ASSET IMPAIRMENT

The carrying amounts of our non-financial assets other than inventories are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. For goodwill and intangible assets that have indefinite useful lives, the recoverable amount is estimated at least annually.

The recoverable amount of an asset or cash-generating unit is the greater of its value in use and its fair value less costs to sell. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. In assessing fair value less costs to sell, the price that would be received on the sale of an asset in an orderly transaction between market participants at the measurement date is estimated. For the purposes of impairment testing, assets that cannot be tested individually are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows of other groups of assets. The allocation of

goodwill to cash-generating units reflects the lowest level at which goodwill is monitored for internal reporting purposes. Many of the factors used in assessing fair value are outside the control of management and it is reasonably likely that assumptions and estimates will change from period to period. These changes may result in future impairments. For example, our revenue growth rate could be lower than projected due to economic, industry or competitive factors, or the discount rate used in our value in use model could increase due to a change in market interest rates. In addition, future goodwill impairment charges may be necessary if our market capitalization decreased due to a decline in the trading price of our common stock, which could negatively impact the fair value of our business.

An impairment loss is recognized if the carrying amount of an asset or its cash-generating unit exceeds its estimated recoverable amount. Impairment losses are recognized in net loss. Impairment losses recognized in respect of the cash-generating units are allocated first to reduce the carrying amount of any goodwill allocated to the units, and then to reduce the carrying amounts of the other assets in the unit on a pro-rata basis.

An impairment loss in respect of goodwill is not reversed. In respect of other assets, impairment losses recognized in prior periods are assessed at each reporting date for any indications that the cumulative loss has decreased or no longer exists. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized.

We perform the annual review of goodwill as at December 31 of each year, more often if events or changes in circumstances indicate that it might be impaired. Based on the impairment test performed as at December 31, 2021, and our assessment of current events and circumstances, we have concluded that no goodwill impairment test was required for the three and nine months ending September 30, 2022.

In addition to the above goodwill impairment test, we perform a quarterly assessment of the carrying amounts of our non-financial assets (other than inventories) to determine whether there is any indication of impairment. During the three and nine months ended September 30, 2022, and 2021, there were no significant impairment charges of our non-financial assets (other than inventories).

#### WARRANTY PROVISION

A provision for warranty costs is recorded on product sales at the time of shipment. In establishing the accrued warranty liabilities, we estimate the likelihood that products sold will experience warranty claims and the cost to resolve claims received.

In making such determinations, we use estimates based on the nature of the contract and past and projected experience with the products. Should these estimates prove to be incorrect, we may incur costs different from those provided for in our warranty provisions. During the three and nine months ended September 30, 2022, we recorded provisions to accrued warranty liabilities of \$1.6 million and \$3.7 million, respectively, for new product sales, compared to \$0.6 million and \$1.6 million, respectively, for the three and nine months ended September 30, 2021.

We review our warranty assumptions and make adjustments to accrued warranty liabilities

quarterly based on the latest information available and to reflect the expiry of contractual obligations. Adjustments to accrued warranty liabilities are recorded in cost of product and service revenues. As a result of these reviews and the resulting adjustments, our warranty provision and cost of revenues for the three and nine months ended September 30, 2022, were adjusted downwards (upwards) by (\$0.5) million and (\$0.9) million, respectively, compared to adjustments upwards of (\$0.5) million and (\$0.4) million, respectively, for the three and nine months ended September 30, 2021.

#### INVENTORY PROVISION

In determining the lower of cost and net realizable value of our inventory and establishing the appropriate provision for inventory obsolescence, we estimate the likelihood that inventory carrying values will be affected by changes in market pricing or demand for our products and by changes in technology or design which could make inventory on hand obsolete or recoverable at less than cost. We perform regular reviews to assess the impact of changes in technology and design, sales trends, and other changes on the carrying value of inventory. Where we determine that such changes have occurred and will have a negative impact on the value of inventory on hand, appropriate provisions are made. If there is a subsequent increase in the value of inventory on hand, reversals of previous write-downs to net realizable value are made. Unforeseen changes in these factors could result in additional inventory provisions, or reversals of previous provisions, being required. During the three and nine months ended September 30, 2022, net negative inventory adjustments of (\$2.3) million and (\$3.3) million, respectively, were recorded as a recovery (charge) to cost of product and service revenues, compared to net negative inventory adjustments of (\$0.3) million and (\$0.9) million, respectively, in the three and nine months ended September 30, 2021.

#### FINANCIAL ASSETS INCLUDING IMPAIRMENT OF TRADE RECEIVABLES

A financial asset is classified as measured at: amortized cost; fair value through other comprehensive income ("FVOCI"); or fair value through profit or loss ("FVTPL"). The classification of financial assets is generally based on the business model in which a financial asset is managed and its contractual cash flow characteristics. Derivatives embedded in contracts where the host is a financial asset in the scope of the standard are never separated. Instead, the hybrid financial instrument as a whole is assessed for classification. Our financial assets which consist primarily of cash, cash equivalents and short-term investments, trade and other receivables, and contract assets, are classified at amortized cost.

An ECL model applies to financial assets measured at amortized cost and debt investments at FVOCI, but not to investments in equity instruments. The Company's financial assets measured at amortized cost and subject to the ECL model consist primarily of trade receivables and contract assets.

In applying the ECL model, loss allowances are measured on either of the following bases:

- 12-month ECLs: these are ECLs that result from possible default events within the 12 months after the reporting date; and
- Lifetime ECLs: these are ECLs that result from all possible default events over the expected life of a financial instrument.

We have elected to measure loss allowances for trade receivables and contract assets at an amount equal to lifetime ECLs.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECLs, we consider reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis, based on our historical experience and informed credit assessment and including forward-looking information.

ECLs are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls (i.e., the difference between the cash flows due to the entity in accordance with the contract and the cash flows that we expect to receive). ECLs are discounted at the effective interest rate of the financial asset. At each reporting date, we assess whether financial assets carried at amortized cost are credit impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred. Loss allowances for financial assets measured at amortized cost are deducted from the gross carrying amount of the assets. Impairment (losses) recoveries related to trade receivables and contract assets are presented separately in the statement of profit or loss. During the three and nine months ended September 30, 2022, nominal net impairment (charges) on trade receivables and contract assets were recorded in other operating expenses, consistent with the three and nine months ended September 30, 2021.

#### EMPLOYEE FUTURE BENEFITS

The present value of our defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that have terms to maturity approximating the terms of the related pension liability. Determination of benefit expense requires assumptions such as the discount rate to measure obligations, expected plan investment performance, expected healthcare cost trend rate, and retirement ages of employees. Actual results will differ from the recorded amounts based on these estimates and assumptions.

### **9.4 Recently Adopted Accounting Policy Changes**

Effective January 1, 2022, we have initially adopted *Onerous Contracts – Cost of Fulfilling a Contract (Amendments to IAS 37)*. The effect of initially applying the *Amendments to IAS 37* had an impact on our financial statements which is described below. A number of other new standards and interpretations are also effective from January 1, 2022, but they did not have a material impact on our financial statements.

#### Onerous Contracts – Cost of Fulfilling a Contract (Amendments to IAS 37)

*IAS 37* does not specify which costs are included as a cost of fulfilling a contract when determining whether a contract is onerous. The IASB's amendments address this issue by clarifying that the 'costs of fulfilling a contract' comprise both:

- the incremental costs – e.g., direct labour and materials; and
- an allocation of other direct costs – e.g., an allocation of the depreciation charge for an item of PPE used in fulfilling the contract.

The amendments are effective for annual periods beginning on or after January 1, 2022 and apply to contracts existing at the date when the amendments are first applied. At the date of initial application of the amendments to *IAS 37*, the cumulative effect of applying the



amendments is recognized as an opening balance adjustment to retained earnings or other component of equity, as appropriate. The comparatives are not restated.

On completion of a review of the Corporation's 'open' contracts as of December 31, 2021, it was determined that on adoption of the amendments to IAS 37 on January 1, 2022, additional onerous contract costs of (\$1.2) million were recognized as an opening balance adjustment to accumulated deficit in our first quarter of 2022 financial statements. As of September 30, 2022, total onerous contract cost provisions of (\$1.6) million have been accrued in provisions and other current liabilities.

## **9.5 Future Accounting Policy Changes**

The following is an overview of accounting standard changes that we will be required to adopt in future years. We do not expect to adopt any of these standards before their effective dates and we continue to evaluate the impact of these standards on our consolidated financial statements.

### Classification of Liabilities as Current or Non-Current (Amendments to IAS 1)

On January 23, 2020, the IASB issued amendments to *IAS 1 Presentation of Financial Statements*, to clarify the classification of liabilities as current or non-current.

For the purposes of non-current classification, the amendments removed the requirement for a right to defer settlement or roll over of a liability for at least twelve months to be unconditional. Instead, such a right must have substance and exist at the end of the reporting period. The amendments also clarify how a company classifies a liability that includes a counterparty conversion option. The amendments state that:

- settlement of a liability includes transferring a company's own equity instruments to the counterparty, and
- when classifying liabilities as current or non-current a company can ignore only those conversion options that are recognized as equity.

The amendments are effective for annual periods beginning on or after January 1, 2023. Early adoption is permitted. The amendments are subject to further developments. Certain application issues resulting from the amendments have been raised with the IFRS Interpretations Committee, which referred them to the IASB. In November 2021, the IASB published the exposure draft *Non-current Liabilities with Covenants* (proposed amendments to IAS 1). The exposure draft aims to improve the information an entity provides when its right to defer settlement of a liability for at least twelve months is subject to compliance with conditions, in addition to addressing concerns about the classification of such a liability as current or non-current. The IASB proposed to defer the effective date of the 2020 amendments to no earlier than January 1, 2024. The extent of the impact of adoption of the amendments to *IAS 1* has not yet been determined.

### Definition of Accounting Estimates (Amendments to IAS 8)

On February 12, 2021, the IASB issued *Definition of Accounting Estimates (Amendments to IAS 8)*.

The amendments introduce a new definition for accounting estimates, clarifying that they are monetary amounts in the financial statements that are subject to measurement uncertainty.

The amendments also clarify the relationship between accounting policies and accounting estimates by specifying that a company develops an accounting estimate to achieve the objective set out by an accounting policy.

The amendments are effective for annual periods beginning on or after January 1, 2023. Early adoption is permitted. The extent of the impact of adoption of the amendments to *IAS 8* has not yet been determined.

#### Disclosure Initiative – Accounting Policies (Amendments to IAS 1 and IFRS Practice Statement 2)

On February 12, 2021, the IASB issued *Disclosure Initiative – Accounting Policies (Amendments to IAS 1 and IFRS Practice Statement 2 Making Materiality Judgements)*.

The amendments help companies provide useful accounting policy disclosures. The key amendments include:

- requiring companies to disclose their material accounting policies rather than their significant accounting policies;
- clarifying that accounting policies related to immaterial transactions, other events or conditions are themselves immaterial and as such need not be disclosed; and
- clarifying that not all accounting policies that relate to material transactions, other events or conditions are themselves material to a company's financial statements.

The amendments are effective for annual periods beginning on or after January 1, 2023. Early adoption is permitted. The extent of the impact of adoption of the amendments to *IAS 1 and IFRS Practice Statement 2* has not yet been determined.

## **10. SUPPLEMENTAL NON-GAAP MEASURES AND RECONCILIATIONS**

### **10.1 Overview**

In addition to providing measures prepared in accordance with GAAP, we present certain supplemental non-GAAP measures. These measures are Cash Operating Costs (including its components of research and product development (operating cost), general and administrative (operating cost) and sales and marketing (operating cost)), EBITDA and Adjusted EBITDA, and Adjusted Net Loss. These non-GAAP measures do not have any standardized meaning prescribed by GAAP and therefore are unlikely to be comparable to similar measures presented by other companies. We believe these measures are useful in evaluating the operating performance of the Company's ongoing business. These measures should be considered in addition to, and not as a substitute for, operating expenses, net income, cash flows and other measures of financial performance and liquidity reported in accordance with GAAP. The calculation of these non-GAAP measures has been made on a consistent basis for all periods presented.

### **10.2 Cash Operating Costs**

This supplemental non-GAAP measure is provided to assist readers in determining our operating costs on an ongoing cash basis. We believe this measure is useful in assessing performance and highlighting trends on an overall basis.

We also believe Cash Operating Costs is frequently used by securities analysts and investors when comparing our results with those of other companies. Cash Operating Costs differs from the most comparable GAAP measure, operating expenses, primarily because it does not

include stock-based compensation expense, depreciation and amortization, impairment losses or recoveries on trade receivables, restructuring charges, acquisition related costs, the impact of unrealized gains and losses on foreign exchange contracts, and financing charges. The following tables show a reconciliation of operating expenses to Cash Operating Costs for the three and nine months ended September 30, 2022, and 2021:

<i>(Expressed in thousands of U.S. dollars)</i>		Three months ended September 30,		
<b>Cash Operating Costs</b>	<b>2022</b>	2021	<b>\$ Change</b>	
Total Operating Expenses	\$ <b>39,995</b>	\$ 27,442	\$ 12,553	
Stock-based compensation expense	<b>(2,828)</b>	(2,477)	(351)	
Impairment recovery (losses) on trade receivables	-	6	(6)	
Acquisition related costs	<b>(2,261)</b>	(535)	(1,726)	
Restructuring (charges) recovery	<b>(258)</b>	(9)	(249)	
Impact of unrealized gains (losses) on foreign exchange contracts	<b>(1,588)</b>	(440)	(1,148)	
Depreciation and amortization	<b>(3,065)</b>	(1,253)	(1,812)	
<b>Cash Operating Costs</b>	<b>\$ 29,995</b>	\$ 22,734	\$ 7,261	

<i>(Expressed in thousands of U.S. dollars)</i>		Nine months ended September 30,		
<b>Cash Operating Costs</b>	<b>2022</b>	2021	<b>\$ Change</b>	
Total Operating Expenses	\$ <b>108,767</b>	\$ 69,808	\$ 38,959	
Stock-based compensation expense	<b>(7,937)</b>	(7,350)	(587)	
Impairment recovery (losses) on trade receivables	-	(43)	43	
Acquisition related costs	<b>(2,751)</b>	(535)	(2,216)	
Restructuring (charges) recovery	<b>(345)</b>	(147)	(198)	
Impact of unrealized gains (losses) on foreign exchange contracts	<b>(1,919)</b>	(782)	(1,137)	
Depreciation and amortization	<b>(7,658)</b>	(3,774)	(3,884)	
<b>Cash Operating Costs</b>	<b>\$ 88,157</b>	\$ 57,177	\$ 30,980	

The components of Cash Operating Costs of research and product development (cash operating cost), general and administrative (cash operating cost), and sales and marketing (cash operating cost) differ from their respective most comparable GAAP measure of research and product development expense, general and administrative expense, and sales and marketing expense, primarily because they do not include stock-based compensation expense, depreciation and amortization expense, and acquisition related costs. A reconciliation of these respective operating expenses to the respective components of Cash Operating Costs for the three and nine months ended September 30, 2022, and 2021 is included in Section 5.4 Operating Expenses and Other Items.

A breakdown of total stock-based compensation expense for the three and nine months ended September 30, 2022, and 2021 are as follows:

<i>(Expressed in thousands of U.S. dollars)</i>		Three months ended September 30,		
<b>Stock-based compensation expense</b>	<b>2022</b>	2021	<b>\$ Change</b>	
Total stock-based compensation expense recorded as follows:				
Cost of goods sold	\$ -	\$ -	\$ -	
Research and product development expense	<b>1,507</b>	1,469	38	
General and administrative expense	<b>951</b>	661	290	
Sales and marketing expense (recovery)	<b>370</b>	347	23	

<b>Stock-based compensation expense</b>	<b>\$ 2,828</b>	<b>\$ 2,477</b>	<b>\$ 351</b>
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(Expressed in thousands of U.S. dollars)

<b>Stock-based compensation expense</b>	<b>2022</b>	Nine months ended September 30,	
		<b>2021</b>	<b>\$ Change</b>
Total stock-based compensation expense recorded as follows:			
Cost of goods sold	\$ -	\$ -	\$ -
Research and product development expense	<b>4,296</b>	4,263	33
General and administrative expense	<b>2,592</b>	2,082	510
Sales and marketing expense (recovery)	<b>1,049</b>	1,005	44
<b>Stock-based compensation expense</b>	<b>\$ 7,937</b>	<b>\$ 7,350</b>	<b>\$ 587</b>

A breakdown of total depreciation and amortization expense for the three and nine months ended September 30, 2022, and 2021 are as follows:

(Expressed in thousands of U.S. dollars)

<b>Depreciation and amortization expense</b>	<b>2022</b>	Three months ended September 30,	
		<b>2021</b>	<b>\$ Change</b>
Total depreciation and amortization expense recorded as follows:			
Cost of goods sold	\$ <b>914</b>	\$ 914	\$ -
Research and product development expense	<b>2,555</b>	923	1,632
General and administrative expense	<b>509</b>	318	191
Sales and marketing expense	<b>1</b>	12	(11)
<b>Depreciation and amortization expense</b>	<b>\$ 3,979</b>	<b>\$ 2,167</b>	<b>\$ 1,812</b>

(Expressed in thousands of U.S. dollars)

<b>Depreciation and amortization expense</b>	<b>2022</b>	Nine months ended September 30,	
		<b>2021</b>	<b>\$ Change</b>
Total depreciation and amortization expense recorded as follows:			
Cost of goods sold	\$ <b>2,871</b>	\$ 2,706	\$ 165
Research and product development expense	<b>6,190</b>	2,643	3,547
General and administrative expense	<b>1,466</b>	1,095	371
Sales and marketing expense	<b>2</b>	36	(34)
<b>Depreciation and amortization expense</b>	<b>\$ 10,529</b>	<b>\$ 6,480</b>	<b>\$ 4,049</b>

### 10.3 EBITDA and Adjusted EBITDA

These supplemental non-GAAP measures are provided to assist readers in determining our operating performance. We believe this measure is useful in assessing performance and highlighting trends on an overall basis. We also believe EBITDA and Adjusted EBITDA are frequently used by securities analysts and investors when comparing our results with those of other companies. EBITDA differs from the most comparable GAAP measure, net loss from continuing operations, primarily because it does not include finance expense, income taxes, depreciation of property, plant and equipment, and amortization of intangible assets. Adjusted EBITDA adjusts EBITDA for stock-based compensation expense, transactional gains and losses, asset impairment charges, finance and other income, the impact of unrealized gains and losses on foreign exchange contracts, and acquisition related costs. The following tables show a reconciliation of net loss to EBITDA and Adjusted EBITDA for the three and nine months ended September 30, 2022, and 2021:

<i>(Expressed in thousands of U.S. dollars)</i>		Three months ended September 30,		
<b>EBITDA and Adjusted EBITDA</b>	<b>2022</b>	2021	\$ Change	
Net loss from continuing operations	\$ (42,881)	\$ (30,844)	\$ (12,037)	
Depreciation and amortization	3,979	2,167	1,812	
Finance expense	324	335	(11)	
Income taxes (recovery)	(420)	3	(423)	
<b>EBITDA</b>	<b>\$ (38,998)</b>	<b>\$ (28,339)</b>	<b>\$ (10,659)</b>	
Stock-based compensation expense	2,828	2,477	351	
Acquisition related costs	2,261	535	1,726	
Finance and other (income) loss	(2,781)	1,545	(4,326)	
Impairment loss on assets	-	263	(263)	
Impact of unrealized (gains) losses on foreign exchange contracts	1,588	440	1,148	
<b>Adjusted EBITDA</b>	<b>\$ (35,102)</b>	<b>\$ (23,079)</b>	<b>\$ (12,023)</b>	

<i>(Expressed in thousands of U.S. dollars)</i>		Nine months ended September 30,		
<b>EBITDA and Adjusted EBITDA</b>	<b>2022</b>	2021	\$ Change	
Net loss from continuing operations	\$ (139,067)	\$ (70,560)	\$ (68,507)	
Depreciation and amortization	10,529	6,480	4,049	
Finance expense	979	981	(2)	
Income taxes (recovery)	(532)	17	(549)	
<b>EBITDA</b>	<b>\$ (128,091)</b>	<b>\$ (63,082)</b>	<b>\$ (65,009)</b>	
Stock-based compensation expense	7,937	7,350	587	
Acquisition related costs	2,751	535	2,216	
Finance and other (income) loss	17,833	(2,553)	20,386	
Impairment loss on assets	-	263	(263)	
Impact of unrealized (gains) losses on foreign exchange contracts	1,919	\$ 782	1,137	
<b>Adjusted EBITDA</b>	<b>\$ (97,651)</b>	<b>\$ (56,705)</b>	<b>\$ (40,946)</b>	

#### 10.4 Adjusted Net Loss

This supplemental non-GAAP measure is provided to assist readers in determining our financial performance. We believe this measure is useful in assessing our actual performance by adjusting our results from continuing operations for transactional gains and losses and impairment losses. Adjusted Net Loss differs from the most comparable GAAP measure, net loss from continuing operations, primarily because it does not include transactional gains and losses and asset impairment charges. There were no significant Adjusted Net Loss adjustments to net income for the three and nine months ended September 30, 2022 and 2021.