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BALLARD POWER SYSTEMS INC.
MANAGEMENT'S DISCUSSION AND ANALYSIS
FOURTH QUARTER AND FISCAL YEAR 2022

**Fuel Cell Power
for a Sustainable Planet**

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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. 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. Such statements include, but are not limited to, statements with respect to our objectives, goals, liquidity, sources and uses of capital, outlook including our estimated revenue and gross margins, cash flow from operations, Cash Operating Costs, EBITDA and Adjusted EBITDA (see Non-GAAP measures), strategy, order backlog, order book of expected deliveries, future product roadmap costs and selling prices, future product sales, future production capacities and volumes, the markets for our products, expenses / costs, contributions and cash requirements to and from joint venture operations and research and development activities, as well as statements with respect to our beliefs, plans, objectives, expectations, anticipations, estimates and intentions. 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: challenges or delays in our technology and product development activities; our ability to extract value from joint venture operations; changes in the availability or price of raw materials, labour, supplies and shipping; costs of integration, and the integration failing to achieve the expected benefits of the transaction; our ability to attract and retain business partners, suppliers, employees and customers; global economic trends and geopolitical risks (such as the conflict between Russia and Ukraine), 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; 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; changes in our customers' requirements, the competitive environment and/or related market conditions; potential merger and acquisition activities, including risks related to integration, loss of key personnel, disruptions to operations; warranty claims, product performance guarantees, or indemnification claims; changes in product or service pricing or cost; market developments or customer actions (including developments and actions arising from epidemics and 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; cybersecurity threat; our ability to protect our intellectual property; 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; climate risk; changing government or environmental regulations, including subsidies or incentives associated with the adoption of clean energy products, including hydrogen and fuel cells; currency fluctuations, including the magnitude of the rate of change of the Canadian dollar versus the U.S. dollar; 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; 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

March 16, 2023

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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 March 16, 2023 and should be read in conjunction with our audited condensed consolidated financial statements and accompanying notes for the year ended December 31, 2022. 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) and U.S. securities regulatory authorities (www.sec.gov) and is also available on our website at www.ballard.com.

1.2 Management’s Report on Disclosure Controls and Procedures and Internal Controls over Financial Reporting

Disclosure controls and procedures

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 (“CEO”) and the Chief Financial Officer (“CFO”), on a timely basis so that appropriate decisions can be made regarding public disclosures.

As of the end of the period covered by this report, we evaluated, under the supervision and with the participation of management, including the CEO and the CFO, the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934 (“Exchange Act”). The CEO and CFO have concluded that as of December 31, 2022, our disclosure controls and procedures were effective to ensure that information required to be disclosed in reports we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified therein, and accumulated and reported to management to allow timely discussions regarding required disclosure.

Internal control over financial reporting

The CEO and CFO, together with other members of management, are responsible for establishing and maintaining adequate internal control over the Company’s financial reporting. Internal control over financial reporting is designed under our supervision, and overseen by the Company’s board of directors, management, and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS.

There are inherent limitations in the effectiveness of internal control over financial reporting, including the possibility that misstatements may not be prevented or detected. Accordingly, even effective internal controls over financial reporting can provide only reasonable assurance with respect to financial statement preparation. Furthermore, the effectiveness of internal controls can change with circumstances.

Management, including the CEO and CFO, have evaluated the effectiveness of internal control over financial reporting, as defined in Rules 13a-15(f) of the Exchange Act, in relation to criteria described in *Internal Control-Integrated Framework (2013)* issued by the Committee

of Sponsoring Organizations of the Treadway Commission (“COSO”). Based on this evaluation, management has determined that internal control over financial reporting was effective as of December 31, 2022.

KPMG LLP, our independent registered public accounting firm, has audited our consolidated financial statements and expressed an unqualified opinion thereon. KPMG LLP has also expressed an unqualified opinion on the effectiveness of our internal control over financial reporting as of December 31, 2022.

Changes in internal control over financial reporting

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 fuel cell vehicle systems integration. Through 2022, we aligned our internal controls over financial reporting to include the operating activities of Ballard Motive Solutions. During the year ended December 31, 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) and U.S. (www.sec.gov) securities regulatory authorities.

A summary of our identified risks and uncertainties are as follows:

- We may not be able to successfully execute our business plan.
- In China, a significant amount of operations are conducted by joint ventures that we cannot operate solely for our benefit.
- We are dependent on third party suppliers for the supply of key materials and components for our products and services.
- We are dependent upon Original Equipment Manufacturers and Systems Integrators to purchase certain of our products.
- In our Heavy-Duty Motive market, we depend on a limited number of customers for a majority of our revenues and are subject to risks associated with early stage market activities related to fuel cell bus, truck, rail and marine applications.
- We depend on Chinese customers for a significant portion of our revenues in our Heavy-Duty Motive market, and we are subject to risks associated with economic conditions and government policies and practices in China.

- We have limited experience manufacturing fuel cell products on a commercial basis and our experience has been limited to relatively low production volumes.
- We are subject to risks inherent in international operations, including restrictions on the conversion of currencies and restrictions on repatriation of funds, including out of China.
- Certain of our customer supply agreements are subject to certain conditions or risks, including achievement of certain product performance milestones, completion of product development programs, or customer cancellation provisions.
- Global macro-economic and political conditions are beyond our control and may have an adverse impact on our business, our joint ventures, our key suppliers, and/or customers.
- We currently face and will continue to face significant competition, and many current and future competitors may have significantly more resources.
- We could be adversely affected by risks associated with capital investments and new business processes.
- We could be adversely affected by risks associated with mergers and acquisitions.
- We could lose or fail to attract the personnel necessary to operate our business.
- Warranty claims, product performance guarantees, or indemnification claims could negatively impact our gross margins and financial performance.
- Our technology and products may not meet the market requirements, including requirements relating to performance, integration and / or cost.
- We may not be able to sell our products on a commercially viable basis on the timetable we anticipate, or at all.
- A mass market for our products may never develop or may take longer to develop than we anticipate.
- We may experience cybersecurity threats to our information technology infrastructure and systems, and unauthorized attempts to gain access to our proprietary or confidential information, as may our customers, suppliers and/or partners.
- We depend on our intellectual property, and our failure to protect that intellectual property could adversely affect our expected future growth and success.
- Emerging diseases, like COVID-19, may adversely affect our operations (including our joint ventures in China), our suppliers, our customers and/or partners.
- In our Technology Solutions market, we depend on a limited number of customers for a majority of our revenues and are subject to risks related to the continued commitment of these customers to their fuel cell programs.
- In our Material Handling market, we depend on a single customer for the majority of our revenues and are subject to risks from that customer's internal fuel cell stack development and commercialization plans.
- Climate change risks may adversely affect our operations, or the operations of our suppliers, customers and/or partners.
- Public policy and regulatory changes could hurt the market for our products and services.
- Regulatory agencies could require us to modify or terminate existing investments, acquisitions or joint ventures and could delay or prevent future opportunities.
- Exchange rate fluctuations are beyond our control and may have a material adverse effect

on our business, operating results, financial condition and profitability.

- Commodity price fluctuations are beyond our control and may have a material adverse effect on our business, operating results, financial condition and profitability.
- We expect our cash reserves will be reduced due to future operating losses, working capital requirements, capital expenditures and potential acquisitions and other investments by our business, including in certain hydrogen infrastructure and growth equity funds, and we cannot provide certainty as to how long our cash reserves will last or that we will be able to access additional capital when necessary.
- Potential fluctuations in our financial and business results make forecasting difficult and may restrict our access to funding for our commercialization plan.
- Our products use flammable fuels and some generate high voltages, which could subject our business to product safety, product liability or other claims.
- We could be liable for environmental damages resulting from our research, development or manufacturing operations.

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 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 and London, U.K.,

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 certain 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 and sold in China.

Furthermore, in the fourth quarter of 2022, we invested 5.0 million euros and acquired a non-controlling 2% interest in Quantron AG, a global electric vehicle integrator and an emerging specialty OEM, to accelerate fuel cell truck adoption. 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 includes the design and manufacture of vehicles, including zero emission fuel cell electric buses, trucks, and battery-electric vehicles. In 2021, we acquired a non-controlling 9.7% 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 11% 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 target markets. More specifically, our business plan is to leverage our core competencies of PEM fuel cell stack technology and engine development and manufacturing, our investments in advanced manufacturing and production capacity, and our product portfolio by marketing our products and services across select large and attractive addressable market applications and select geographic regions.

We typically select our target market applications based on use cases where the comparative user value proposition for PEM fuel cells powered by hydrogen are strongest – such as where operators value low emission vehicles that require high utilization, long driving range, heavy payload, fast refueling, and similar user experiences to legacy diesel vehicles – and where the barriers to entry for hydrogen refueling infrastructure are lowest – such as use cases where fuel cell vehicles typically return to a depot or hydrogen hub for centralized refueling and don't require a distributed hydrogen refueling network. Our current target markets include certain medium- and heavy-duty mobility applications of bus, truck, rail, and marine, along with certain off-road mobility and stationary power applications.

We select our target geographic markets based on a variety of factors, including addressable market sizes of the target market applications in the geographic markets, historic

deployments and expected market adoption rates for hydrogen and fuel cells, supportive government policies, existing and potential partner, customer, and end user relationships, and competitive dynamics. Our current target markets are the geographic regions of China, Europe, and North America.

While we recognize addressing multiple market applications and geographic markets in parallel increases our near-term cost structure and investments, we believe offering the same core PEM fuel cell technologies and substantially similar derivative PEM fuel cell products across multiple mobility and power market applications and select geographic regions will significantly expand and strengthen our long-term business prospects by increasing volume scaling in our operations, enabling lower product and production costs for the benefit of all markets, improving our competitive positioning and market share, enabling richly diversified revenue streams and profit pools, and improving our return on investment in our technology and product development programs and our investments in manufacturing.

Our strategy is built on 5 key themes:

- Double down in the fuel cell stack & module: invest in leading PEM fuel cell technology and products to provide leading value to our customers and end users based on a total cost of ownership basis;
- Selectively expand across value chain: extend across the value chain to capture control points, reduce technology adoption barriers, simplify, and optimize our customer offering, and accelerate fuel cell deployments;
- Develop new routes to market: creatively explore partnerships and demonstration programs to accelerate hydrogen and fuel cell market adoption and grow volumes for product sales;
- Win in key regions: invest in a competitive platform in each of North America, Europe, and China; and
- Here for Life: deliver a compelling environmental, social and governance (“ESG”) proposition for our stakeholders.

In 2020 and 2021, we materially strengthened our financial position through equity financings, thereby providing additional flexibility to fund our growth strategy. Following these financings, given strong indicators of long-term market adoption of hydrogen and zero-emission mobility, given growing customer interest in our fuel cell products, given a growing opportunity set, and given an increasingly competitive environment, we strategically decided to significantly increase and accelerate our investments ahead of the adoption curve, including investments in our 5 key themes. As a result, we have increased and accelerated our investments in technology and product innovation, production capacity expansion and localization, strategic pricing for select customer demonstration programs, customer experience, and corporate development investments. Our increased investments include significant investment in next generation products and technology, including our proprietary membrane electrode assemblies (“MEAs”), bipolar plates, stacks, modules, and powertrain systems integration including our acquisition of Ballard Motive Solutions; advanced manufacturing processes, technologies, equipment, and production localization activities in China, Europe, and the United States; and technology and product cost reduction.

3. SELECT ANNUAL FINANCIAL INFORMATION AND 2023 BUSINESS OUTLOOK

3.1 Select Annual Financial Information

Results of Operations (Expressed in thousands of U.S. dollars, except per share amounts and gross margin %)	Year ended,		
	2022	2021	2020
Revenues	\$ 83,786	\$ 104,505	\$ 103,877
Gross margin (loss)	\$ (13,095)	\$ 14,013	\$ 20,984
Gross margin %	(16%)	13%	20%
Total Operating Expenses	\$ 145,804	\$ 102,116	\$ 60,745
Cash Operating Costs ⁽¹⁾	\$ 118,767	\$ 83,782	\$ 50,029
Adjusted EBITDA ⁽¹⁾	\$ (144,032)	\$ (82,188)	\$ (38,944)
Net loss from continuing operations	\$ (181,793)	\$ (114,397)	\$ (49,469)
Net loss from continuing operations per share	\$ (0.58)	\$ (0.39)	\$ (0.20)
Financial Position (expressed in thousands of U.S. dollars)	At December 31,		
	2022	2021	2020
Total assets	\$ 1,246,277	\$ 1,440,943	\$ 975,599
Total non-current liabilities	\$ 14,998	\$ 29,567	\$ 22,621
Cash, cash equivalents and short-term investments	\$ 915,741	\$ 1,126,899	\$ 765,430

¹ Cash Operating Costs 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 to GAAP in the Supplemental Non-GAAP Measures section.

3.2 2022 Performance compared to 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 did not provide specific revenue or net income (loss) guidance for 2022. We did however provide certain quantitative and qualitative outlook expectations for 2022 as we continued with our plan to increase investments in the business ahead of the hydrogen growth curve, including expanding product offering and capabilities across the value chain. In particular:

- Total Operating Expenses: \$130 million to \$150 million – As planned, total Operating Expenses in fiscal 2022 of \$145.8 million (compared to \$102.1 million in fiscal 2021) were at the higher end of our outlook range as we increased our investment in research and product development ahead of the hydrogen growth curve by advancing new technology, product cost reduction, and 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 – As planned, total Capital Expenditures (being additions to property, plant and equipment and investment in other intangible assets) in fiscal 2022 of \$34.5 million (compared to \$14.7 million in fiscal 2021) were at the lower end of our outlook range as we invested in testing, advanced manufacturing, and production equipment and capacity. 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, testing and assembly equipment in the U.K., and 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.

- 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 regional markets. As such, we reviewed opportunities to expand our presence in growing regional markets and locations 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 – As planned, we completed our roadmap and implementation plan to achieve carbon neutrality by 2030, including reduction targets for scope 1, scope 2 and partial scope 3 emissions. Further details will be disclosed in our annual ESG Report and the issuance of our first climate report later in 2023.

3.3 2023 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 2023. In 2023, 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, and investments in manufacturing. Our 2023 outlook includes:

- Total Operating Expenses: \$135 million to \$155 million – We expect total Operating Expenses for fiscal 2023 to be between \$135 million and \$155 million (compared to \$145.8 million in fiscal 2022) 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, marine, and stationary power markets, including next-generation MEAs, plates, stacks, and modules.
- Capital Expenditures: \$40 million to \$60 million – We expect total Capital Expenditures (being additions to property, plant and equipment and investment in other intangible assets) for fiscal 2023 to be between \$40 million and \$60 million (compared to \$34.5 million in fiscal 2022) as we continue to invest in testing, advanced manufacturing and production. Capital allocation in 2023 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, and 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.

Our outlook expectations for 2023 are in part supported by our 12-month Order Book of approximately \$57.3 million which is derived from our Order Backlog of approximately \$133.4 million as of December 31, 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 two months of 2023; sales orders received for units and services expected to be delivered in the remainder of 2023; purchase and cost commitments currently in existence for fiscal 2023; an estimate with respect to the generation of new sales and the timing of deliveries in each of our markets for the balance of 2023; an estimate of purchase and cost commitments to be generated in each of our locations for the balance of 2023; 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 2023.

The primary risk factors to our business outlook expectations for 2023 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, 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, 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 and capital expenditure commitments 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, 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. Certain of our customer supply agreements are also subject to certain conditions or risks, including achievement of certain product performance milestones, completion of product development programs, or customer cancellation provisions, and it is likely that some future supply agreements will also be subject to similar conditions and risks. There can be no assurance that we will achieve or satisfy the conditions

or that customers will not cancel their orders. In addition, our supply agreements may include various pricing structures or reduced pricing tiers based on various factors, including volumes and timing. In setting these reduced pricing tiers, we may assume certain future product cost reductions which are subject to execution risk, including future commodity costs, supply chain costs, and production costs, and we may not be successful in achieving the planned cost reductions. In such circumstances, these agreements may become future onerous contracts if our gross margins become negative and the value of carried inventory to support product delivery under such contracts may also be adversely impacted.

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 China

Global manufacturing strategy update 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 (\$2.1 million invested in fiscal 2022), 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 will 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. Weichai Ballard JV was established in the fourth quarter of 2018. During fiscal 2018 through fiscal 2022, Weichai has made all of its committed capital contributions totaling RMB 561.0 million and Ballard has made all of its committed capital contributions totaling RMB 539.0 million (equivalent to \$79.4 million). 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 develops and manufactures fuel cell modules and components including Ballard's LCS bi-polar plates, fuel cell stacks and FCgen®-LCS-based power modules for bus, commercial truck, and forklift applications with exclusive rights (subject to certain conditions) in China and is to pay Ballard a total of \$90 million under a program

to develop and transfer technology to Weichai Ballard JV in order to enable these manufacturing activities. Revenue earned from the \$90 million Weichai Ballard JV technology transfer agreement (\$0.9 million in the fourth quarter of 2022; \$4.2 million in the fourth quarter of 2021; \$6.0 million in fiscal 2022; \$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 fourth quarter of 2022; \$1.1 million in the fourth quarter of 2021; \$1.0 million in fiscal 2022; \$2.1 million in fiscal 2021; \$8.8 million in fiscal 2020) is recorded as Heavy-Duty Motive revenues. As of December 31, 2022, an additional \$7.3 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 of LCS bi-polar plates, LCS fuel cell stacks and LCS-based modules to power bus and truck FCEVs for the China market. After recent production automation projects, the Weichai Ballard JV is expected to have annual production capacity of 40,000 fuel cell stacks which equates to approximately 20,000 engines.

Guangdong Synergy Ballard Hydrogen Power Co., Ltd.

During 2017, Synergy Ballard JVCo commenced operations utilizing Ballard's FCveloCity®-9SSL fuel cell stack technology in the city of Yunfu in China's Guangdong Province. Ballard has a non-controlling 10% interest in the joint venture, Synergy Ballard JVCo, together with 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 has an exclusive license 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 (\$0.1 million in the fourth quarter of 2022 and in fiscal 2022; \$1.5 million in the fourth quarter of 2021; \$3.4 million in fiscal 2021; \$8.2 million in fiscal 2020) is primarily recorded as Heavy-Duty Motive revenues.

Ballard contributed \$1.0 million for its 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. We have recently entered into a tentative agreement to sell our 10% interest in Synergy Ballard JVCo to the Synergy Group for nominal consideration. The transaction is expected to close in the first half of 2023.

4.2 Europe

Order from CrossWind to supply fuel cell system for 1 MW stationary power project

On January 23, 2023, we announced an order to supply a fuel cell system to CrossWind, a joint-venture between Shell and Eneco. The Ballard fuel cell system is to be integrated in the Hollandse Kust Noord offshore wind project. The Hollandse Kust Noord offshore wind project, located off the coast of the Netherlands, is expected to have a capacity of 759 MW to generate at least 3.3 TWh of energy per year.

CrossWind intends to use various new technologies to manage the intermittent wind power generation, including the use of water electrolysis to convert wind power into green hydrogen for energy storage. Ballard's hydrogen fuel cells will utilize the green hydrogen as fuel to regenerate stable and dispatchable power.

Ballard is to supply a containerized fuel cell power solution with a peak power capacity of 1 MW, with delivery expected in 2024.

Order from Solaris for 25 hydrogen fuel cell engines to power buses in Poland

On November 17, 2022, we announced a purchase order from repeat customer Solaris Bus & Coach sp. z o.o. ("Solaris"), a leading European bus manufacturer, for 25 hydrogen fuel cell engines. The 70kW fuel cells are to be installed in Solaris' Urbino 12 hydrogen buses for deployment to Polish public transport operator MPK Poznań and are expected to be delivered in the second half of 2023.

Commissioning of Fusion Fuel H2Évora Green Hydrogen Plant

On November 10, 2022, we announced the completion of the interconnection of Fusion Fuel's H2Évora plant to the Portuguese electric grid and successful commissioning of the facility. The demonstration project, comprised of 15 HEVO-Solar units and associated balance of plant equipment, is expected to produce 15 tons of green hydrogen per year and avoid the emission of 135 tons of CO₂ annually. The facility includes a Ballard supplied 200-kilowatt FCwave™ fuel cell module which is to be used to convert green hydrogen into electricity, enabling Fusion Fuel to sell power into the electric grid during periods of peak demand. The integration of Fusion Fuel's solar-to-hydrogen HEVO solution and Ballard's fuel cell technology is a proof of concept for the use of hydrogen as a flexible energy storage vector and off-grid power supply.

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. The program with Audi is expected to be substantially complete by March 31, 2023. 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.

Revenue earned from this and other agreements with Audi (\$1.0 million in the fourth quarter of 2022; \$2.6 million in the fourth quarter of 2021; \$5.6 million in fiscal 2022; \$9.8 million fiscal 2021; \$16.0 million in fiscal 2020) is recorded as Technology Solutions revenues.

4.3 North America and Other

Order from First Mode for 30 additional hydrogen fuel cells for diesel-free mining trucks

On March 1, 2023, we announced a purchase order to supply First Mode with 30 hydrogen fuel cell modules – totaling 3 megawatts – to power several hybrid hydrogen and battery ultra-class mining haul trucks. This is the equivalent of approximately 4,000 horsepower.

The 30 Ballard hydrogen fuel cell modules are to be integrated into clean energy powerplants built in Seattle, Washington and installed into ultra-class haul trucks to be operated at First Mode’s Proving Grounds in Centralia, Washington. These trucks are estimated to save 2,600 tons of diesel fuel each year.

Project with Adani to develop a hydrogen fuel cell truck for mining & transportation

On January 17, 2023, we announced the signing of an agreement to launch a pilot project to develop a hydrogen fuel cell electric truck (“FCET”) for mining logistics and transportation with Adani Enterprises Limited (“AEL”), part of the diversified Adani portfolio of companies, and Ashok Leyland.

The demonstration project will be led by AEL, a company focused on both mining operations and developing green hydrogen projects for sourcing, transporting, and building out hydrogen refueling infrastructure. Ballard will supply the FCmove™ fuel cell engine for the hydrogen truck and Ashok Leyland, one of the largest manufacturers of buses in the world, will provide the vehicle platform and technical support.

The FCET is scheduled to be launched in India in 2023. The hydrogen powered mining truck utilizing Ballard’s 120 kW PEM fuel cell technology is expected to weigh 55 tons, have three hydrogen tanks, and a 200-km working range.

Contract with Amogy to integrate maritime fuel cell engines in zero-emission ammonia-to-power platform

On December 8, 2022, we announced with Amogy Inc. (“Amogy”), a pioneer of emission-free, energy-dense ammonia power solutions, the signing of a contract for Amogy to purchase fuel cell engines from Ballard for ammonia-to-power maritime applications.

Under this contract, Amogy agrees to purchase an initial order of three 200kW FCwave™ engines and Ballard will support integration of the fuel cell engines with Amogy’s proprietary ammonia reforming system. Ballard is expected to deliver the initial FCwave engines to Amogy in 2023 for maritime deployment. A follow-on order for an additional seven FCwave™ engines is expected upon successful completion of the initial projects.

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. Revenue from Ballard Motive Solutions (formerly Arcola) is included in our Technology Solutions and Heavy-Duty Motive markets.

For 2023, we anticipate presenting revenue details of our Fuel Cell Products and Services operating segment by certain power product market applications and the delivery of services.

5.2 Summary of Key Financial Metrics – Three Months Ended December 31, 2022 Revenue and Gross Margin

<i>(Expressed in thousands of U.S. dollars)</i>		Three months ended December 31,			
	2022	2021	\$ Change	% Change	
Heavy-Duty Motive	\$ 9,195	\$ 22,537	\$ (13,342)	(59%)	
China	331	12,210	(11,879)	(97%)	
Europe	3,504	6,655	(3,151)	(47%)	
North America	4,774	3,408	1,366	40%	
Other	586	264	322	122%	
Material Handling	1,590	1,289	301	23%	
North America	1,588	1,268	320	25%	
Other	2	21	(19)	(90%)	
Stationary Power Generation	2,692	2,735	(43)	(2%)	
China	560	-	560	100%	
Europe	1,840	2,690	(850)	(32%)	
Other	292	45	247	549%	
Technology Solutions	6,987	10,144	(3,157)	(31%)	
China	1,122	4,175	(3,053)	(73%)	
Europe	4,015	4,731	(716)	(15%)	
North America	1,806	1,065	741	70%	
Other	44	173	(129)	(75%)	
Revenues	20,464	36,705	(16,241)	(44%)	
Cost of goods sold	26,383	31,934	(5,551)	(17%)	
Gross Margin	\$ (5,919)	\$ 4,771	\$ (10,690)	(224%)	
Gross Margin %	(29%)	13%	n/a	(42 pts)	

Fuel Cell Products and Services Revenues of \$20.5 million for the fourth quarter of 2022 decreased (44%), or (\$16.2) million, compared to the fourth quarter of 2021. The (44%) decrease was driven primarily by lower Heavy-Duty Motive and Technology Solutions revenues.

Heavy-Duty Motive revenues of \$9.2 million decreased (\$13.3) million, or (59%), as lower shipments of fuel cell products in China and Europe were only partially offset by higher sales in North America and Other areas. Excluding product sales to Weichai Ballard JV and Synergy Ballard JVCo in each of the respective periods, Heavy-Duty Motive revenues earned from other customers decreased by (\$1.4) million in the fourth quarter of 2022 compared to the fourth quarter of 2021. 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 \$9.2 million in the fourth 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 \$8.9 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 rail programs. Heavy-Duty Motive revenues of \$22.5 million in the fourth quarter of 2021 includes \$10.7 million of shipments to Weichai Ballard JV; \$1.5 million for shipments of MEAs to Synergy Ballard JVCo; and \$10.3 million to a variety of customers in North America and Europe including CP Rail, Solaris, Wrightbus, New Flyer, and others, primarily for shipments of FCveloCity®-HD7 and FCveloCity®-HDv8 fuel cell modules and related components.

Technology Solutions revenues of \$7.0 million decreased (\$3.2) million, or (31%), due primarily to decreased amounts earned on the Weichai Ballard JV and Audi programs. Revenues of \$7.0 million in the fourth quarter of 2022 were from a variety of customer programs including revenue from the Audi program of \$1.0 million; the Weichai Ballard JV technology transfer program of \$0.9 million; and \$5.1 million from a variety of other customer programs including HDF Energy and Siemens AG ("Siemens"). Revenues of \$10.1 million in the fourth quarter of 2021 were from a variety of customer programs including revenue from the Weichai Ballard JV technology transfer program of \$4.2 million; the Audi program of \$2.6 million; and \$3.3 million from a variety of other customer programs including Siemens and HDF Energy.

Stationary Power Generation revenues of \$2.7 million decreased nominally, or (2%), as increased sales of stationary power generation fuel cell modules, stacks, product and service revenues in China were more than offset by lower sales in Europe.

Material Handling revenues of \$1.6 million increased \$0.3 million, or 23%, primarily due to higher fuel cell stack shipments to Plug Power.

Fuel Cell Products and Services gross margins were (\$5.9) million, or (29%) of revenues, for the fourth quarter of 2022, compared to \$4.8 million, or 13% of revenues, for the fourth quarter of 2021. The decrease in gross margin of (\$10.7) million, or (224%), 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 due primarily to the expansion of manufacturing capacity, increased onerous contract provision charges, and higher negative inventory adjustments, resulting in an (42) percentage point decrease in gross margin as a percent of revenues.

Gross margin in the fourth quarter of 2022 was negatively impacted by net increases in onerous contract provisions of (\$2.8) million due primarily to pricing strategy, negatively impacted by net inventory adjustments of (\$1.3) million related primarily to excess and impaired service inventory; and positively impacted by net warranty adjustments of \$0.5 million related primarily to contractual expirations. Gross margin in the fourth quarter of 2021 was negatively impacted by net inventory adjustments of (\$0.2) million and positively impacted by net warranty adjustments of \$0.2 million.

Operating Expenses and Cash Operating Costs

<i>(Expressed in thousands of U.S. dollars)</i>		Three months ended December 31,			
	2022	2021	\$ Change	% Change	
Research and Product Development	\$ 22,944	\$ 19,870	\$ 3,074		15%
General and Administrative	5,561	7,420	(1,859)		(25%)
Sales and Marketing	3,381	3,417	(36)		(1%)
Operating Expenses	\$ 31,886	\$ 30,707	\$ 1,179		4%
Research and Product Development (cash operating cost)	\$ 21,526	\$ 17,153	\$ 4,373		25%
General and Administrative (cash operating cost)	5,921	6,408	(487)		(8%)
Sales and Marketing (cash operating cost)	3,163	3,043	120		4%
Cash Operating Costs	\$ 30,610	\$ 26,604	\$ 4,006		15%

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 fourth quarter of 2022 were \$31.9 million, an increase of \$1.2 million, or 4%, compared to the fourth quarter of 2021. The increase was driven by higher research and product development expenses of \$3.1 million, partially offset by lower general and administrative expenses of (\$1.9) million.

Cash Operating Costs (see Supplemental Non-GAAP Measures and Reconciliations) for the fourth quarter of 2022 were \$30.6 million, an increase of \$4.0 million, or 15%, compared to the fourth quarter of 2021. The increase was driven by higher research and product development cash operating costs of \$4.4 million, partially offset by lower general and administrative cash operating costs of (\$0.5) million.

The increase in operating expenses and cash operating costs in the fourth 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, marine and stationary applications, investment in hydrogen powertrain systems (A-Drive) with battery-FC hybrid architecture, 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 also include the impact of increases in functional staffing levels and the impact of inflationary wage pressures.

These operating expense increases were partially offset by lower general and administrative costs due primarily to lower consulting and recruiting expenses and by relatively lower labour costs in Canada in the fourth quarter of 2022 on our Canadian operating cost base as the

Canadian dollar, relative to the U.S. dollar, was approximately (8%) lower in the fourth quarter of 2022 compared to the fourth quarter of 2021.

Adjusted EBITDA

	Three months ended December 31,			
	2022	2021	\$ Change	% Change
Adjusted EBITDA	\$ (46,381)	\$ (25,482)	\$ (20,899)	(82%)

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, acquisition related costs, finance and other income, recovery on settlement of contingent consideration, asset impairment charges, and the impact of unrealized gains and losses on foreign exchange contracts.

Adjusted EBITDA (see Supplemental Non-GAAP Measures and Reconciliations) for the fourth quarter of 2022 was (\$46.4) million, compared to (\$25.5) million for the fourth quarter of 2021. The (\$20.9) million increase in Adjusted EBITDA loss was driven primarily by the decrease in gross margin of (\$10.7), the increase in Cash Operating Costs of (\$4.0) million, the increase in restructuring related costs of (\$5.0) million primarily as a result of the post-acquisition restructuring of operations at Ballard Motive Solutions in the U.K., and by higher equity in loss of investment in joint venture and associates of (\$1.9) million primarily attributed to the operations of Weichai Ballard JV.

Net Loss from Continuing Operations

	Three months ended December 31,			
	2022	2021	\$ Change	% Change
Net loss from continuing operations	\$ (34,427)	\$ (43,836)	\$ 9,409	21%

Net loss from continuing operations for the fourth quarter of 2022 was (\$34.4) million, or (\$0.12) per share, compared to a net loss from continuing operations of (\$43.8) million, or (\$0.15) per share, in the fourth quarter of 2021. The \$9.4 million decrease in net loss in the fourth quarter of 2022 was driven by higher finance and other income of \$27.1 million due to increased investment income of \$8.8 million and improved mark to market and foreign exchange impacts of \$13.2 million on our long-term investments including Forsee Power and certain hydrogen infrastructure and growth equity funds, by recovery on settlement of contingent consideration related to the post-acquisition restructuring of operations at Ballard Motive Solutions of \$9.9 million, by higher income tax recoveries of \$2.8 million, by lower acquisition related costs of \$1.5 million, and by lower stock-based compensation expense of \$0.8 million. These net loss improvements were partially offset by the increase in Adjusted EBITDA loss of (\$20.9) million, and by higher intangible asset impairment charges of (\$13.0) million due to the post-acquisition restructuring of operations at Ballard Motive Solutions and resulting asset write-downs.

In addition, operating margins, and costs in the fourth 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 fourth 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 (7%), or (600) basis points, lower in the fourth quarter of 2022 as compared to the fourth quarter 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.

5.3 Summary of Key Financial Metrics – Year Ended December 31, 2022

Revenue and Gross Margin

<i>(Expressed in thousands of U.S. dollars)</i>		Year ended December 31,			
	2022	2021	\$ Change	% Change	
Heavy-Duty Motive	\$ 38,914	\$ 51,663	\$ (12,749)	(25%)	
China	2,114	20,163	(18,049)	(90%)	
Europe	17,049	20,702	(3,653)	(18%)	
North America	18,033	10,177	7,856	77%	
Other	1,718	621	1,097	177%	
Material Handling	6,353	8,140	(1,787)	(22%)	
North America	6,311	8,119	(1,808)	(22%)	
Other	42	21	21	100%	
Stationary Power Generation	10,917	8,214	2,703	33%	
China	560	-	560	100%	
Europe	6,187	7,306	(1,119)	(15%)	
North America	756	-	756	100%	
Other	3,414	908	2,506	276%	
Technology Solutions	27,602	36,488	(8,886)	(24%)	
China	6,457	18,655	(12,198)	(65%)	
Europe	17,132	14,559	2,573	18%	
North America	3,472	2,303	1,169	51%	
Other	541	971	(430)	(44%)	
Revenues	83,786	104,505	(20,719)	(20%)	
Cost of goods sold	96,881	90,492	6,389	7%	
Gross Margin	\$ (13,095)	\$ 14,013	\$ (27,108)	(193%)	
Gross Margin %	(16%)	13%	n/a	(29 pts)	

Fuel Cell Products and Services Revenues of \$83.8 million for 2022 decreased (20%), or (\$20.7) million, compared to 2021. The (20%) decrease was driven by lower Heavy-Duty Motive, Technology Solutions and Material Handling revenues, partially offset by increases in Stationary Power Generation revenues.

Heavy-Duty Motive revenues of \$38.9 million decreased (\$12.7) million, or (25%), as lower shipments of fuel cell products in China and Europe were only partially offset by higher sales in North America and Other areas. Excluding product sales to Weichai Ballard JV and Synergy Ballard JVCo in each of the respective periods, Heavy-Duty Motive revenues earned from other customers increased by \$1.6 million in 2022 compared to 2021. 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 \$38.9 million in 2022 includes \$2.1 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; \$0.1 million to Synergy Ballard JVCo; and \$36.7 million to a variety of customers in North America, Europe, and Other areas including New Flyer, CP Rail, Solaris, Van Hool, Wrightbus, and others, primarily for shipments of FCveloCity®-HD7

and FCveloCity®-HDv8 fuel cell modules and related components for their respective bus and rail programs. Heavy-Duty Motive revenues of \$51.7 million in 2021 include \$17.1 million of shipments to Weichai Ballard JV; \$3.1 million for shipments of MEAs to Synergy Ballard JVCo; and \$31.5 million to a variety of customers primarily in Europe and North America including Solaris, New Flyer, Wrightbus, CP Rail, Van Hool, and others.

Technology Solutions revenues of \$27.6 million decreased (\$8.9) million, or (24%), due primarily to decreased amounts earned on the Weichai Ballard JV and Audi programs. Revenues of \$27.6 million in 2022 were from a variety of customer programs including revenue from the Weichai Ballard JV technology transfer program of \$6.0 million; the Audi program of \$5.6 million; and \$16.0 million from a variety of other customer programs including HDF Energy and Siemens. Revenues of \$36.5 million in 2021 were from a variety of customer programs including revenue from the Weichai Ballard JV technology transfer program of \$18.2 million; the Audi program of \$9.8 million; and \$8.5 million from a variety of other customer programs including Siemens and HDF Energy.

Stationary Power Generation revenues of \$10.9 million increased \$2.7 million, or 33%, 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 and China were primarily offset by lower sales in Europe.

Material Handling revenues of \$6.4 million decreased (\$1.8) million, or (22%), primarily due to lower fuel cell stack shipments to Plug Power.

Fuel Cell Products and Services gross margins were (\$13.1) million, or (16%) of revenues, for 2022, compared to \$14.0 million, or 13% of revenues, for 2021. The decrease in gross margin of (\$27.1) million, or (193%), 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 due primarily to the expansion of manufacturing capacity, increases in supply costs, higher negative inventory adjustments, increased onerous contract provisions, and higher warranty provisions and adjustments, resulting in an (29) percentage point decrease in gross margin as a percent of revenues.

Gross margin in 2022 was negatively impacted by net inventory adjustments of (\$4.6) million related primarily to excess and impaired HD-Motive, service and technology solutions program inventory; by net increases in onerous contract provisions of (\$2.9) million due primarily to pricing strategy; and by net warranty adjustments of (\$0.4) million related primarily to increased service costs. Gross margin in 2021 was negatively impacted by net inventory adjustments of (\$1.1) million and by net warranty adjustments of (\$0.3) million.

Operating Expenses and Cash Operating Costs

(Expressed in thousands of U.S. dollars)

	Year ended December 31,			
	2022	2021	\$ Change	% Change
Research and Product Development	\$ 95,952	\$ 62,162	\$ 33,790	54%
General and Administrative	28,754	24,725	4,029	16%
Sales and Marketing	12,851	12,904	(53)	(0%)
Operating Expenses	\$ 137,557	\$ 99,791	\$ 37,766	38%
Research and Product Development (cash operating cost)	\$ 84,048	\$ 52,539	\$ 31,509	60%
General and Administrative (cash operating cost)	23,137	19,754	3,383	17%
Sales and Marketing (cash operating cost)	11,582	11,489	93	1%
Cash Operating Costs	\$ 118,767	\$ 83,782	\$ 34,985	42%

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 2022 was \$137.6 million, an increase of \$37.8 million, or 38%, compared to 2021. The increase was driven by higher research and product development expenses of \$33.8 million and higher general and administrative expenses of \$4.0 million.

Cash Operating Costs (see Supplemental Non-GAAP Measures and Reconciliations) for 2022 was \$118.8 million, an increase of \$35.0 million, or 42%, compared to 2021. The increase was driven by higher research and product development cash operating costs of \$31.5 million and higher general and administrative cash operating costs of \$3.4 million.

The increase in operating expenses and cash operating costs in 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, marine and stationary applications, investment in hydrogen powertrain systems (A-Drive) with battery-FC hybrid architecture, 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. In addition, general and administrative costs increased in 2022 due to the acquisition of Ballard Motive Solutions in the fourth quarter of 2021 and by higher contracting, recruiting and insurance expenses.

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. 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 (4%) lower in 2022 compared to 2021.

Adjusted EBITDA

	Year ended December 31,			
	2022	2021	\$ Change	% Change
Adjusted EBITDA	\$ (144,032)	\$ (82,188)	\$ (61,844)	(75%)

(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, acquisition related costs, finance and other income, recovery on settlement of contingent consideration, asset impairment charges, and the impact of unrealized gains and losses on foreign exchange contracts.

Adjusted EBITDA (see Supplemental Non-GAAP Measures and Reconciliations) for 2022 was (\$144.0) million, compared to (\$82.2) million for 2021. The (\$61.8) million increase in Adjusted EBITDA loss was driven primarily by the decrease in gross margin of (\$27.1), the increase in Cash Operating Costs of (\$35.0) million, the increase in restructuring related costs of (\$5.2) million primarily as a result of the post-acquisition restructuring of operations at Ballard Motive Solutions in the U.K., partially offset by lower equity in loss of investment in joint venture and associates of \$4.5 million primarily attributed to the operations of Weichai Ballard JV.

Net Loss from Continuing Operations

	Year ended December 31,			
	2022	2021	\$ Change	% Change
Net loss from continuing operations	\$ (173,494)	\$ (114,397)	\$ (59,097)	(52%)

(Expressed in thousands of U.S. dollars)

Net loss from continuing operations for 2022 was (\$173.5) million, or (\$0.58) per share, compared to a net loss from continuing operations of (\$114.4) million, or (\$0.39) per share, in 2021. The (\$59.1) million increase in net loss in 2022 was driven primarily by the increase in Adjusted EBITDA loss of (\$61.8) million, higher intangible asset impairment charges of (\$13.0) million due to the post-acquisition restructuring of operations at Ballard Motive Solutions and resulting asset write-downs, higher depreciation and amortization expense of (\$4.4) million, and higher acquisition related costs of (\$0.7) million. These net loss increases were partially offset by recovery on settlement of contingent consideration related to the post-acquisition restructuring of operations at Ballard Motive Solutions of \$9.9 million, by higher income tax recoveries of \$3.3 million, and by higher finance and other income of \$6.7 million as higher investment income of \$15.9 million was partially offset by increased mark to market and foreign exchange losses of (\$7.9) million in 2022 on our long-term investments including Forsee Power and certain hydrogen infrastructure and growth equity funds.

In addition, operating margins, and costs in 2022 were impacted by the positive impact of a weaker Canadian dollar, relative to the U.S. dollar, as compared to 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 2022 as compared to 2021, positive foreign exchange impacts on our Canadian operating margins

and cost base were approximately \$3.6 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>		Year ended December 31,			
	2022	2021	\$ Change	% Change	
Revenues	\$ -	\$ -	\$ -		-
Cost of goods sold	-	-	-		-
Gross margin	-	-	-		-
Operating (expenses) recovery	-	164	(164)		(100%)
Gain on sale of assets	-	-	-		-
Net income (loss) from discontinued operations	\$ -	\$ 164	\$ (164)		(100%)

Net income from discontinued operations for 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 Months and Year ended December 31, 2022

Research and product development expenses

<i>(Expressed in thousands of U.S. dollars)</i>		Three months ended December 31,			
Research and product development	2022	2021	\$ Change	% Change	
Research and product development expense	\$ 22,944	\$ 19,870	\$ 3,074		15%
Less: Depreciation and amortization expense	\$ (409)	\$ (1,458)	\$ 1,049		72%
Less: Stock-based compensation expense	\$ (1,009)	\$ (1,259)	\$ 250		20%
Research and Product Development (cash operating cost)	\$ 21,526	\$ 17,153	\$ 4,373		25%

<i>(Expressed in thousands of U.S. dollars)</i>		Year ended December 31,			
Research and product development	2022	2021	\$ Change	% Change	
Research and product development expense	\$ 95,952	\$ 62,162	\$ 33,790		54%
Less: Depreciation and amortization expense	\$ (6,599)	\$ (4,101)	\$ (2,498)		(61%)
Less: Stock-based compensation expense	\$ (5,305)	\$ (5,522)	\$ 217		4%
Research and Product Development (cash operating cost)	\$ 84,048	\$ 52,539	\$ 31,509		60%

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 December 31, 2022, were \$22.9 million, an increase of \$3.1 million, or 15%, 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 \$21.5 million in the fourth quarter of 2022, an increase of \$4.4 million, or 25%, compared to the fourth quarter of 2021.

Research and product development expenses for the year ended December 31, 2022, were \$96.0 million, an increase of \$33.8 million, or 54%, 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 \$84.0 million in 2022, an increase of \$31.5 million, or 60%, compared to 2021.

The respective \$4.4 million, or 25%, and \$31.5 million, or 60%, increases in research and development cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) in the fourth quarter and fiscal year 2022, as compared to the fourth quarter and fiscal year 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, marine and stationary applications, investment in hydrogen powertrain systems (A-Drive) with battery-FC hybrid architecture, 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 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 (8%) lower in the fourth quarter of 2022, compared to the fourth quarter of 2021, and (4%) lower in 2022, compared to 2021.

Depreciation and amortization expense included in research and product development expense for the three months and year ended December 31, 2022, was \$0.4 million and \$6.6 million, respectively, compared to \$1.5 million and \$4.1 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 due to 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 months and year ended December 31, 2022, was \$1.0 million and \$5.3 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 December 31,		
General and administrative	2022	2021	\$ Change	% Change
General and administrative expense	\$ 5,561	\$ 7,420	\$ (1,859)	(25%)
Less: Depreciation and amortization expense	\$ (449)	\$ (577)	\$ 128	22%
Less: Stock-based compensation expense	\$ (248)	\$ (698)	\$ 450	64%
Add: Impact of unrealized gains (losses) on foreign exchange contracts	\$ 1,057	\$ 263	\$ 794	302%
General and Administrative (cash operating cost)	\$ 5,921	\$ 6,408	\$ (487)	(8%)

<i>(Expressed in thousands of U.S. dollars)</i>		Year ended December 31,		
General and administrative	2022	2021	\$ Change	% Change
General and administrative expense	\$ 28,754	\$ 24,725	\$ 4,029	16%
Less: Depreciation and amortization expense	\$ (1,915)	\$ (1,672)	\$ (243)	(15%)
Less: Stock-based compensation expense	\$ (2,840)	\$ (2,780)	\$ (60)	(2%)
Add: Impact of unrealized gains (losses) on foreign exchange contracts	\$ (862)	\$ (519)	\$ (343)	(66%)
General and Administrative (cash operating cost)	\$ 23,137	\$ 19,754	\$ 3,383	17%

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 December 31, 2022, were \$5.6 million, a decrease of (\$1.9) million, or (25%), 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 \$5.9 million in the fourth quarter of 2022, a decrease of (\$0.5) million, or (8%), compared to the fourth quarter of 2021.

The (\$0.5) million, or (8%), decrease in general and administrative cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) in the fourth quarter of 2022, as compared to the fourth quarter of 2021, was due primarily to lower consulting expenses.

General and administrative expenses for the year ended December 31, 2022, were \$28.8 million, an increase of \$4.0 million, or 16%, 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 \$23.1 million in 2022, an increase of \$3.4 million, or 17%, compared to 2021.

The \$3.4 million, or 17%, increase in general and administrative cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) in 2022, as compared to 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 contracting, recruiting and insurance expenses.

These operating expense impacts were also impacted 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 (8%) lower in the fourth quarter of 2022, compared to the fourth quarter of 2021, and (4%) lower in 2022, compared to 2021.

Depreciation and amortization expense included in general and administrative expense for the three months and year ended December 31, 2022, was \$0.4 million and \$1.9 million, respectively, relatively consistent with 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 months and year ended December 31, 2022, was \$0.2 million and \$2.8 million, respectively, relatively consistent with the corresponding periods of 2021.

The impact of unrealized gains (losses) on foreign exchange contracts included in general and administrative expense for the three months and year ended December 31, 2022, was (\$1.1) million and (\$0.9) million, respectively, compared to \$0.3 million and (\$0.5) 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 December 31,			
Sales and marketing	2022	2021	\$ Change	% Change	
Sales and marketing expense	\$ 3,381	\$ 3,417	\$ (36)	(1%)	
Less: Depreciation and amortization expense	\$ (4)	\$ (12)	\$ 8	67%	
Less: Stock-based compensation expense	\$ (214)	\$ (362)	\$ 148	41%	
Sales and Marketing (cash operating cost)	\$ 3,163	\$ 3,043	\$ 120	4%	

<i>(Expressed in thousands of U.S. dollars)</i>		Year ended December 31,			
Sales and marketing	2022	2021	\$ Change	% Change	
Sales and marketing expense	\$ 12,851	\$ 12,904	\$ (53)	(0%)	
Less: Depreciation and amortization expense	\$ (6)	\$ (48)	\$ 42	88%	
Less: Stock-based compensation expense	\$ (1,263)	\$ (1,367)	\$ 104	8%	
Sales and Marketing (cash operating cost)	\$ 11,582	\$ 11,489	\$ 93	1%	

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 December 31, 2022, were \$3.4 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 \$3.2 million in the fourth quarter of 2022, relatively consistent with the fourth quarter of 2021.

Sales and marketing expenses for the year ended December 31, 2022, were \$12.9 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 \$11.6 million in 2022, relatively consistent with 2021.

Stock-based compensation expense included in sales and marketing expense for the three months and year ended December 31, 2022, were \$0.2 million and \$1.3 million, respectively, relatively consistent with the corresponding periods of 2021.

Other operating expenses for the three months and year ended December 31, 2022, were \$5.2 million and \$8.2 million, respectively, compared to \$1.6 million and \$2.3 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>			
	2022	Three months ended December 31,		
		2021	\$ Change	% Change
Impairment loss on trade receivables	\$ 73	\$ 11	\$ 62	564%
Restructuring and related costs	4,972	9	4,963	55,144%
Acquisition related costs	106	1,580	(1,474)	(93%)
Other operating expenses	\$ 5,151	\$ 1,600	\$ 3,551	222%

	<i>(Expressed in thousands of U.S. dollars)</i>			
	2022	Year ended December 31,		
		2021	\$ Change	% Change
Impairment loss on trade receivables	\$ 73	\$ 54	\$ 19	35%
Restructuring and related costs	5,317	156	5,161	3,308%
Acquisition related costs	2,857	2,115	742	35%
Other operating expenses	\$ 8,247	\$ 2,325	\$ 5,922	255%

Restructuring and related costs for the three months and year ended December 31, 2022, were \$5.0 million and \$5.3 million, respectively, compared to nominal amounts in 2021, and in 2022 consist primarily of expenses as a result of the post-acquisition restructuring of operations at Ballard Motive Solutions in the U.K. including contract exit and modification costs, grant adjustment charges, personnel change costs, and legal and advisory costs, net of expected recoveries.

Acquisition related costs for the three months and year ended December 31, 2022, were \$0.1 million and \$2.9 million, respectively, compared to \$1.6 million and \$2.1 million, respectively, for the corresponding of 2021, 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 three months and year ended December 31, 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 months and year ended December 31, 2022, was \$15.7 million and (\$2.1) million, respectively, compared to (\$11.4) million and (\$8.8) 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 December 31,			
	2022	2021	\$ Change	% Change	
Employee future benefit plan expense	\$ (22)	\$ (34)	\$ 12	35%	
Investment and other income (loss)	9,793	1,032	8,761	849%	
Mark to Market gain (loss) on financial assets	2,900	(10,288)	13,188	128%	
Foreign exchange gain (loss)	3,060	(931)	3,991	429%	
Government levies	-	(1,145)	1,145	100%	
Finance income (loss) and other	\$ 15,731	\$ (11,366)	\$ 27,097	238%	

<i>(Expressed in thousands of U.S. dollars)</i>		Year ended December 31,			
	2022	2021	\$ Change	% Change	
Employee future benefit plan expense	\$ (189)	\$ (251)	\$ 62	25%	
Investment and other income (loss)	19,610	3,743	15,867	424%	
Mark to Market gain (loss) on financial assets	(16,877)	(9,024)	(7,853)	(87%)	
Foreign exchange gain (loss)	(4,546)	(1,336)	(3,210)	(240%)	
Government levies	(100)	(1,945)	1,845	95%	
Finance income (loss) and other	\$ (2,102)	\$ (8,813)	\$ 6,711	76%	

Employee future benefit plan expense for the year ended December 31, 2022, was (\$0.2) 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 months and ended year ended December 31, 2022, was \$9.8 million and \$19.6 million, respectively, compared to \$1.0 million and \$3.7 million, respectively, for the corresponding periods of 2021. Amounts were earned on our cash, cash equivalents and short-term investments and have changed proportionately with the overall increase in market interest rates during 2022 and the relative change in our overall average monthly cash balances.

Mark to market gain (loss) on financial assets for the three months and year ended December 31, 2022, was \$2.9 million and (\$16.9) million, respectively, compared to (\$10.3) million and (\$9.0) 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 months and year ended December 31, 2022, were \$3.1 million and (\$4.5) million, respectively, compared to (\$0.9) million and (\$1.3) 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 months and year ended December 31, 2022, was nil and (\$0.1) million, respectively, compared to (\$1.1) million and (\$1.9) 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 months and year ended December 31, 2022, was (\$0.3) million and (\$1.3) 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 our subsidiaries.

Equity in income (loss) of investment in joint venture and associates for the three months and year ended December 31, 2022, was (\$6.8) million and (\$11.6) million, respectively, compared to (\$4.9) million and (\$16.1) 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 due to our 49% ownership position, and 10% of the net income (loss) of Synergy Ballard JVCo due to 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 attributed to the operations of Weichai Ballard JV and includes 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 continues to establish operations. Weichai Ballard JV manufactures Ballard's next-generation LCS bi-polar plates, fuel cell stacks and LCS-based power modules for bus, commercial truck, and forklift applications with certain exclusive rights in China.

Recovery on settlement of contingent consideration for the three months and year ended December 31, 2022 was \$9.9 million in each of the periods and consists of a recovery on the cancellation of certain contingent and outstanding cash milestones no longer payable from the acquisition of Ballard Motive Solutions which was acquired in November 2021. The contingent cash milestones were terminated concurrent with the post-acquisition restructuring of operations at Ballard Motive Solutions in the U.K. in the fourth quarter of 2022.

Impairment charges on intangible assets for the three months and year ended December 31, 2022 was (\$13.0) million in each of the periods and consists of a write-down of acquired technology, customer contract, and non-compete intangible assets to their estimated fair value of \$2.5 million as a result of the post-acquisition restructuring of operations at Ballard Motive Solutions in the U.K. in the fourth quarter of 2022.

Income tax recovery (expense) for the three months and year ended December 31, 2022 was \$3.0 million and \$3.5 million, respectively, compared to \$0.2 million for the corresponding periods of 2021. Income tax recovery relates primarily to a recovery of estimated future income taxes owing from the acquisition of Arcola as a result to the post-

acquisition restructuring of operations and resulting impairment of intangible assets in the fourth quarter of 2022 at Ballard Motive Solutions in the U.K.

5.5 Summary of Quarterly Results

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

	Quarter ended,			
	Dec 31, 2022	Sep 30, 2022	Jun 30, 2022	Mar 31, 2022
<i>(Expressed in thousands of U.S. dollars, except per share amounts and weighted average shares outstanding which are expressed in thousands)</i>				
Revenues	\$ 20,464	\$ 21,343	\$ 20,932	\$ 21,047
Net loss from continuing operations	\$ (34,427)	\$ (42,881)	\$ (55,791)	\$ (40,395)
Net loss from continuing operations per share, basic and diluted	\$ (0.12)	\$ (0.14)	\$ (0.19)	\$ (0.14)
Weighted average common shares outstanding	298,324	298,181	298,155	297,825
	Dec 31, 2021	Sep 30, 2021	Jun 30, 2021	Mar 31, 2021
Revenues	\$ 36,705	\$ 25,220	\$ 24,961	\$ 17,619
Net loss from continuing operations	\$ (43,836)	\$ (30,844)	\$ (21,913)	\$ (17,802)
Net loss from continuing operations per share, basic and diluted	\$ (0.15)	\$ (0.10)	\$ (0.07)	\$ (0.06)
Weighted average common shares outstanding	297,655	297,612	297,569	288,209

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 in the fourth quarter of 2022 by restructuring related costs of (\$5.0) million due to the post-acquisition restructuring of operations at Ballard Motive Solutions in the U.K, and negatively impacted as of the fourth quarter of 2021 by the acquisition and integration of Ballard Motive Solutions (formerly 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 is impacted by the above noted impacts on Revenues and Operating expenditures. Net loss in the fourth quarter of 2022 was negatively impacted by intangible asset impairment charges of (\$13.0) million and positively impacted by the recovery on settlement of contingent consideration of \$9.9 million, both items arising from the post-acquisition restructuring of operations at Ballard Motive Solutions in the U.K. Net loss in the fourth quarter of 2022, the third quarter of 2022, the second quarter of 2022, the first quarter of 2022, and the fourth quarter of 2021 was also impacted by mark to market gains (losses) on financial assets of \$2.9 million, \$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 \$913.7 million as of December 31, 2022, compared to \$1,123.9 million as of December 31, 2021. The (\$210.2) million decrease in cash and cash equivalents in 2022 was driven by net cash operating losses (excluding non-cash items) of (\$121.7) million, net working capital outflows of (\$10.4) million, equity investments in Weichai Ballard JV of (\$9.3) million, purchases of property, plant and equipment and intangible assets of (\$34.5) million, subsequent Milestone cash acquisition investment payments for Ballard Motive Solutions of (\$14.9) million, long-term financial investments of (\$17.9) million consisting of an investment in Quantron of (\$5.2) million, Wisdom of (\$10.0) million, and investments in certain hydrogen infrastructure and growth equity funds of (\$2.7) million, and by finance lease repayments of (\$3.3) million.

6.2 Cash Provided by (Used by) Operating Activities

<i>(Expressed in thousands of U.S. dollars)</i>	Three months ended December 31,		
	2022	2021	\$ Change
Cash Operating Loss	\$ (27,085)	\$ (23,539)	\$ (3,546)
Change in Working Capital:			
Trade and other receivables	654	(3,019)	3,673
Inventory	585	(1,052)	1,637
Prepaid expenses and other current assets	(142)	(1,336)	1,194
Trade and other payables	7,782	(507)	8,288
Deferred revenue	(2,677)	(924)	(1,753)
Warranty provision	(300)	(299)	(1)
	5,902	(7,137)	13,038
Cash Used by Operating Activities	\$ (21,183)	\$ (30,676)	\$ 9,493

For the three months ended December 31, 2022, cash used by operating activities was (\$21.2) million compared to (\$30.7) million for the three months ended December 31, 2021. The \$9.5 million decrease in cash used by operating activities in the fourth quarter of 2022, as compared to the fourth quarter of 2021, was driven by the decrease in working capital requirements of \$13.0 million, partially offset by the increase in cash operating losses of (\$3.5) million.

The (\$3.5) million increase in cash operating losses in the fourth quarter of 2022 was driven by the increase in Adjusted EBITDA loss of (\$20.9) million offset by the impact of 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 \$12.8 million, higher restructuring related costs of (\$5.0) million, lower acquisition related costs of \$1.5 million, higher equity investment losses in joint venture and associates of \$1.9 million, and higher income tax recoveries of \$2.8 million.

The total change in working capital of \$5.9 million in the fourth quarter of 2022 was driven by higher accounts payable and accrued liabilities of \$7.8 million primarily due to the timing of supplier payments, by lower accounts and contract receivables of \$0.7 million primarily

due to the timing of revenues and the related customer collections, and by lower inventory of \$0.6 million. These fourth quarter of 2022 inflows were partially offset by lower deferred revenue of (\$2.7) million as pre-payments on certain Heavy-Duty Motive and Technology Solutions contracts were recognized.

The total change in working capital of (\$7.1) million in the fourth quarter of 2021 was driven by higher accounts and contract receivables of (\$3.0) million primarily due to the timing of revenues and the related customer collections, by higher inventory of (\$1.1) million primarily to support expected Heavy-Duty Motive shipments in 2022 and to help mitigate ongoing COVID-19 supply chain disruptions, and by higher prepaid expenses of (\$1.3) million.

	Year ended December 31,		
	2022	2021	\$ Change
Cash Operating Loss	\$ (121,743)	\$ (68,876)	\$ (52,867)
Change in Working Capital:			
Trade and other receivables	(2,945)	9,640	(12,585)
Inventory	(6,532)	(22,996)	16,464
Prepaid expenses and other current assets	(1,668)	(810)	(858)
Trade and other payables	2,182	1,408	774
Deferred revenue	(4,079)	2,221	(6,300)
Warranty provision	2,614	(1,063)	3,677
	(10,428)	(11,600)	1,172
Cash Used by Operating Activities	\$ (132,171)	\$ (80,476)	\$ (51,695)

For the year ended December 31, 2022, cash used by operating activities was (\$132.2) million compared to (\$80.5) million for 2021. The (\$51.7) million increase in cash used by operating activities in 2022, as compared to 2021, was driven by the increase in cash operating losses of (\$52.9) million, partially offset by the decrease in working capital requirements of \$1.2 million.

The (\$52.9) million increase in cash operating losses in 2022 was driven primarily by the increase in Adjusted EBITDA loss of (\$61.8) million. This net (loss) increase in 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 \$12.7 million, higher restructuring related costs of (\$5.2) million, higher acquisition related costs of (\$0.7) million, and lower equity investment losses in joint venture and associates of (\$4.5) million.

The total change in working capital of (\$10.4) million in 2022 was driven by higher inventory of (\$6.5) million primarily to support expected Heavy-Duty Motive shipments in 2023 and to help mitigate ongoing supply chain disruptions, by lower deferred revenue of (\$4.1) million as pre-payments on certain Heavy-Duty Motive and Technology Solutions contracts were recognized, by higher accounts and contract receivables of (\$2.9) million primarily as a result of the timing of revenues and the related customer collections, and by higher prepaid expenses of (\$1.7) million primarily due to the timing of annual insurance renewals. These 2022 outflows were partially offset by higher warranty provisions of \$2.6 million and by higher accounts payable and accrued liabilities of \$2.2 million primarily due to the timing of supplier payments.

The total change in working capital of (\$11.6) million in 2021 was driven by higher inventory of (\$23.0) million primarily to support expected Heavy-Duty Motive shipments in 2022 and to help mitigate ongoing COVID-19 supply chain disruptions. These working capital outflows in 2021 were partially offset by lower accounts and contract receivables of \$9.6 million primarily as a result of the timing of revenues and the related customer collections, by higher deferred revenue of \$2.2 million as we received pre-payments on certain Heavy-Duty Motive and Technology Solutions contracts, and by higher accounts payable and accrued liabilities of \$1.4 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 (\$20.1) million and (\$75.6) million, respectively, for the three months and year ended December 31, 2022, compared to net cash outflows of (\$67.4) million and (\$85.6) million, respectively, for the corresponding periods of 2021.

Investing activities in the fourth quarter of 2022 of (\$20.1) million consist of additional long-term investments in Quantron of (\$5.2) million and in certain hydrogen infrastructure and growth equity funds of (\$0.1) million, and by capital expenditures of (\$14.8) million incurred primarily for production and test equipment and certain intangible assets.

Investing activities in the fourth quarter of 2021 of (\$67.4) million consist primarily of a long-term investment in Forsee Power of (\$43.8) million, long-term investment in certain hydrogen infrastructure and growth equity funds of (\$8.0) million, initial cash acquisition investment in Arcola of (\$7.2) million, investments in associated companies of (\$3.3) million for the eleventh equity contribution in our 49% investment in Weichai Ballard JV, and by capital expenditures of (\$5.6) 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 \$0.3 million.

Investing activities in 2022 of (\$75.6) million consist of additional long-term investments in Quantron, Wisdom, and in certain hydrogen infrastructure and growth equity funds of (\$17.9) 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 (\$34.5) 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 2021 of (\$85.6) million consist primarily of our long-term investment in Forsee Power of (\$43.8) million, long-term investment in certain hydrogen infrastructure and growth equity funds of (\$8.0) million, initial cash acquisition investment in Arcola of (\$7.2) million, investments in associated companies of (\$12.4) million for the eighth, ninth, tenth, and eleventh equity contributions in our 49% investment in Weichai Ballard JV, by capital expenditures of (\$14.7) 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 \$0.3 million.

6.4 Cash Provided by (Used by) Financing Activities

Financing activities resulted in net cash inflows (outflows) of (\$0.8) million and (\$2.4) million, respectively, for the three months and year ended December 31, 2022, compared to net cash inflows (outflows) of (\$0.5) million and \$526.9 million, respectively, for the corresponding periods of 2021.

Financing activities in the fourth quarter of 2022 of (\$0.8) million consist of finance lease payments of (\$1.0) million, partially offset by proceeds from the exercise of share purchase options of \$0.1 million. Financing activities in the fourth quarter of 2021 of (\$0.5) million consist of proceeds from the exercise of share purchase options of \$0.3 million, which were more than offset by finance lease payments of (\$0.8) million.

Financing activities in 2022 of (\$2.4) million consist of finance lease payments of (\$3.3) million, partially offset by proceeds from the exercise of share purchase options of \$0.9 million. Financing activities in 2021 of \$526.9 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 \$2.4 million, partially offset by finance lease payments of (\$2.8) million.

6.5 Liquidity and Capital Resources

As of December 31, 2022, we had total liquidity of \$915.7 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 \$915.7 million, as we have no bank 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 December 31, 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 (at face value amounts in excess of the FX Facility) secured by a guarantee from Export Development Canada. As of December 31, 2022, we had outstanding foreign exchange currency contracts to purchase a total of Canadian \$38.0 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 offerings of securities under this Base Shelf Prospectus have been issued to date.

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 December 31, 2022, we had outstanding foreign exchange currency contracts to purchase a total of Canadian \$38.0 million at an average rate of 1.3101 Canadian per U.S. dollar, resulting in an unrealized loss of Canadian (\$1.2) million as of December 31, 2022. The outstanding foreign exchange currency contracts have not been designated under hedge accounting.

As of December 31, 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 December 31, 2022, we had the following contractual obligations and commercial commitments 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,			
Contractual Obligations	Total	Less than one year	1-3 years	4-5 years	After 5 years
Finance leases	\$ 18,196	\$ 4,854	\$ 7,891	\$ 4,903	\$ 548
Asset retirement obligations	1,901	-	1,901	-	-
Long-term investment (HyCap)	21,388	21,388	-	-	-
Long-term investment (Clean H2)	30,935	5,337	25,598	-	-
Capital contributions to Weichai Ballard JV	-	-	-	-	-
Total contractual obligations	\$ 72,420	\$ 31,579	\$ 35,390	\$ 4,903	\$ 548

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 £7.2 million invested as of December 31, 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 €1.0 million invested as of December 31, 2022) into Clean H2.

In addition, we have outstanding commitments of \$42.6 million as of December 31, 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 for the years ended December 31, 2022 and 2021.

As of December 31, 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 due to 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 December 31, 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 year ended December 31, 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 December 31,	
Transactions with related parties	2022	2021
Revenues	\$ 1,232	\$ 16,380
Cost of goods sold and operating expense	\$ 1,253	\$ -

<i>(Expressed in thousands of U.S. dollars)</i>	Year Ended December 31,	
Transactions with related parties	2022	2021
Revenues	\$ 8,169	\$ 38,680
Cost of goods sold and operating expense	\$ 3,225	\$ -

<i>(Expressed in thousands of U.S. dollars)</i>	As at Dec 31,	As at Dec 31,
Balances with related parties	2022	2021
Accounts receivable	\$ 13,419	\$ 10,893
Investments	\$ 24,026	\$ 28,982
Deferred revenue	\$ (2,095)	\$ (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, 2022.

7.3 Outstanding Share and Equity Information

As of March 16, 2023	
Common share outstanding	298,443,438
Options outstanding	4,719,912
DSUs outstanding	707,270
RSUs / PSUs outstanding (subject to vesting and performance criteria)	956,657

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 December 31, 2022. As of December 31, 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.

2020 Offering Net Proceeds \$385.8M			
Intended Use of Net Proceeds: 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.			
Actual Use of Net Proceeds (expressed in thousands of U.S. dollars)		Variance – (Over)/Under Expenditures	Explanation of Variance
Research and Product Development (cash Operating cost) expenditures including product development of next generation fuel cell stacks and modules	\$101,201	N/A	N/A
Investments in property, plant and equipment and other intangible assets including production capacity expansion and localization	\$49,184	N/A	N/A
Ballard Motive Solutions acquisition (initial and subsequent cash costs) and acquisition related expenses	\$24,768	N/A	N/A

Strategic partnerships and investments including Quantron, Wisdom, Forsee Power, H2Cap, Clean H2, Weichai Ballard JVCo, and acquisition related expenses	\$86,103	N/A	N/A
	\$261,256		

2020 ATM Programs Net Proceeds \$308.8M			
Intended Use of Net Proceeds: General Corporate Purposes			
Actual Use of Net Proceeds (expressed in thousands of U.S. dollars)		Variance – (Over)/Under Expenditures	Explanation of Variance
General and Administration (cash Operating cost) expenditures	\$29,545	N/A	N/A
Sales and Marketing (cash Operating cost) expenditures	\$14,625	N/A	N/A
Restructuring related expenditures	\$5,317	N/A	N/A
Working capital requirements	\$17,569	N/A	N/A
Lease liability principal repayments	\$4,055	N/A	N/A
	\$71,110		

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, 2022, 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.

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 months and year ended December 31, 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 declined due to a decrease 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.

As of December 31, 2021, our consolidated goodwill balance of \$64.3 million relates solely to our Fuel Cell Products and Services segment. 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. Under IFRS, the annual review of goodwill requires a comparison of the carrying value of the asset to the higher of (i) value in use; and (ii) fair value less costs to sell. Value in use is defined as the present value of future cash flows expected to be derived from the asset in its current state. Our fair value less costs to sell test is in effect a modified market capitalization assessment, whereby we calculate the fair value of the Fuel Cell Products and Services segment by first calculating the value of the Company at December 31, 2022 based on the average closing share price in the month of December, add a reasonable estimated control premium to determine the Company's enterprise value on a controlling basis after adjusting for excess cash balances, deducting the fair value of long-term financial investments, and then deducting the estimated costs to sell from this enterprise value to arrive at the fair value of the Fuel Cell Products and Services segment. As a result of this assessment, we have determined that the fair value of the Fuel Cell Products and Services segment exceeds its carrying value as of December 31, 2022, indicating that no goodwill impairment charge is required for 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 months and year ended December 31, 2022, impairment charges of (\$13.0) million were recognized on our non-financial assets (other than inventories) related to impaired intangible assets primarily as a result of the post-acquisition restructuring of operations at Ballard Motive Solutions.

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 months and year ended December 31, 2022, we recorded provisions to accrued warranty liabilities of \$0.9 million and \$4.6 million, respectively, for new product sales, compared to \$1.1 million and \$2.7 million, respectively, for the three months and year ended December 31, 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 months and year ended December 31, 2022, were adjusted downwards (upwards) by \$0.5 million and (\$0.4) million, respectively, compared to adjustments downwards (upwards) by \$0.2 million and (\$0.3) million, respectively, for the three months and year ended December 31, 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 months ended December 31, 2022, net negative inventory adjustments of (\$1.3) million and (\$4.6) million, respectively, were recorded as a recovery (charge) to cost of product and service revenues, compared to net negative inventory adjustments of (\$0.2) million and (\$1.1) million, respectively, in the three months and year ended December 31, 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 December 31, 2022, total onerous contract cost provisions of (\$4.4) 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* (the "2020 Amendments"), to clarify the classification of liabilities as current or non-current. On October 31, 2022, the IASB issued *Non-current Liabilities with Covenants (Amendments to IAS 1)* (the "2022 Amendments"), to improve the information a company provides about long-term debt with covenants.

For the purposes of non-current classification, the 2020 Amendments and the 2022 Amendments (collectively "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 exist at the end of the reporting period and have substance.

The Amendments reconfirmed that only covenants with which a company must comply on or before the reporting date affect the classification of a liability as current or non-current. Covenants with which a company must comply after the reporting date do not affect a liability's classification at that date. 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, 2024. Early adoption is permitted. A company that applies the 2020 amendments early is required to also apply the 2022 amendments. 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 adoption of the amendments to *IAS 8* is not expected to have a material impact on the Company's financial statements.

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 adoption of the amendments to *IAS 1 and IFRS Practice Statement 2* is not expected to have a material impact on the Company's financial statements.

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. 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 and related costs, 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 months and year ended December 31, 2022, and 2021:

<i>(Expressed in thousands of U.S. dollars)</i>		Three months ended December 31,		
Cash Operating Costs	2022	2021	\$ Change	
Total Operating Expenses	\$ 37,037	\$ 32,307	\$ 4,730	
Stock-based compensation expense	(1,471)	(2,319)	848	
Impairment recovery (losses) on trade receivables	(73)	(11)	(62)	
Acquisition related costs	(106)	(1,580)	1,474	
Restructuring and related costs	(4,972)	(9)	(4,963)	
Impact of unrealized gains (losses) on foreign exchange contracts	1,057	263	794	
Depreciation and amortization	(862)	(2,047)	1,185	
Cash Operating Costs	\$ 30,610	\$ 26,604	\$ 4,006	

<i>(Expressed in thousands of U.S. dollars)</i>		Year ended December 31,		
Cash Operating Costs	2022	2021	\$ Change	
Total Operating Expenses	\$ 145,804	\$ 102,116	\$ 43,688	
Stock-based compensation expense	(9,408)	(9,669)	261	
Impairment recovery (losses) on trade receivables	(73)	(54)	(19)	
Acquisition related costs	(2,857)	(2,115)	(742)	
Restructuring and related costs	(5,317)	(156)	(5,161)	
Impact of unrealized gains (losses) on foreign exchange contracts	(862)	(519)	(343)	
Depreciation and amortization	(8,520)	(5,821)	(2,699)	
Cash Operating Costs	\$ 118,767	\$ 83,782	\$ 34,985	

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 months and year ended December 31, 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 months and year ended December 31, 2022, and 2021 are as follows:

<i>(Expressed in thousands of U.S. dollars)</i>		Three months ended December 31,		
Stock-based compensation expense	2022	2021	\$ Change	
Total stock-based compensation expense recorded as follows:				
Cost of goods sold	\$ -	\$ -	\$ -	
Research and product development expense	1,009	1,259	(250)	
General and administrative expense	248	698	(450)	
Sales and marketing expense (recovery)	214	362	(148)	
Stock-based compensation expense	\$ 1,471	\$ 2,319	\$ (848)	

<i>(Expressed in thousands of U.S. dollars)</i>		Year ended December 31,	
Stock-based compensation expense	2022	2021	\$ Change
Total stock-based compensation expense recorded as follows:			
Cost of goods sold	\$ -	\$ -	\$ -
Research and product development expense	5,305	5,522	(217)
General and administrative expense	2,840	2,780	60
Sales and marketing expense (recovery)	1,263	1,367	(104)
Stock-based compensation expense	\$ 9,408	\$ 9,669	\$ (261)

A breakdown of total depreciation and amortization expense for the three months and year ended December 31, 2022, and 2021 are as follows:

<i>(Expressed in thousands of U.S. dollars)</i>		Three months ended December 31,	
Depreciation and amortization expense	2022	2021	\$ Change
Total depreciation and amortization expense recorded as follows:			
Cost of goods sold	\$ 1,966	\$ 1,225	\$ 741
Research and product development expense	409	1,458	(1,049)
General and administrative expense	449	577	(128)
Sales and marketing expense	4	12	(8)
Depreciation and amortization expense	\$ 2,828	\$ 3,272	\$ (444)

<i>(Expressed in thousands of U.S. dollars)</i>		Year ended December 31,	
Depreciation and amortization expense	2022	2021	\$ Change
Total depreciation and amortization expense recorded as follows:			
Cost of goods sold	\$ 4,837	\$ 3,931	\$ 906
Research and product development expense	6,599	4,101	2,498
General and administrative expense	1,915	1,672	243
Sales and marketing expense	6	48	(42)
Depreciation and amortization expense	\$ 13,357	\$ 9,752	\$ 3,605

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, acquisition related costs, finance and other income, recovery on settlement of contingent consideration, asset impairment charges, and the impact of unrealized gains and losses on foreign exchange contracts. The following tables show a reconciliation of net loss to EBITDA and Adjusted EBITDA for the three months and year ended December 31, 2022, and 2021:

<i>(Expressed in thousands of U.S. dollars)</i>			
EBITDA and Adjusted EBITDA	2022	Three months ended December 31,	
		2021	\$ Change
Net loss from continuing operations	\$ (34,427)	\$ (43,836)	\$ 9,409
Depreciation and amortization	2,828	3,272	(444)
Finance expense	300	313	(13)
Income taxes (recovery)	(3,004)	(233)	(2,771)
EBITDA	\$ (34,303)	\$ (40,484)	\$ 6,181
Stock-based compensation expense	1,471	2,319	(848)
Acquisition related costs	106	1,580	(1,474)
Finance and other (income) loss	(15,731)	11,366	(27,097)
Recovery on settlement of contingent consideration	(9,891)	-	(9,891)
Impairment loss on intangible assets	13,024	-	13,024
Impact of unrealized (gains) losses on foreign exchange contracts	(1,057)	(263)	(794)
Adjusted EBITDA	\$ (46,381)	\$ (25,482)	\$ (12,899)

<i>(Expressed in thousands of U.S. dollars)</i>			
EBITDA and Adjusted EBITDA	2022	Year ended December 31,	
		2021	\$ Change
Net loss from continuing operations	\$ (173,494)	\$ (114,397)	\$ (59,097)
Depreciation and amortization	13,357	9,752	3,605
Finance expense	1,279	1,294	(15)
Income taxes (recovery)	(3,536)	(216)	(3,320)
EBITDA	\$ (162,394)	\$ (103,567)	\$ (58,827)
Stock-based compensation expense	9,408	9,669	(261)
Acquisition related costs	2,857	2,115	742
Finance and other (income) loss	2,102	8,813	(6,711)
Recovery on settlement of contingent consideration	(9,891)	-	(9,891)
Impairment loss on intangible assets	13,024	263	12,761
Impact of unrealized (gains) losses on foreign exchange contracts	862	519	343
Adjusted EBITDA	\$ (144,032)	\$ (82,188)	\$ (61,844)