

## MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

*The following discussion and analysis of Electrovaya Inc.'s ("Electrovaya"; the "Company") financial condition and results of operations for the Quarters ended December 31, 2002 and 2001 should be read in conjunction with the Company's financial statements and related notes. Electrovaya's financial statements are presented in thousands of US dollars. Electrovaya prepares its financial statements in accordance with Canadian generally accepted accounting principles.*

*This Quarterly Report may contain forward-looking statements that involve a number of risks and uncertainties, including statements regarding the outlook for the Company's business and results of operations. By nature, these risks and uncertainties could cause actual results to differ materially from those indicated. Such factors include, without limitation, the various factors set forth in the Risks and Uncertainties section of Management's Discussion and Analysis provided below, and discussed in public disclosure documents filed with Canadian regulatory authorities.*

*Electrovaya disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.*

### **Business of the Company**

Electrovaya has developed a proprietary advanced alternative power technology, which has a broad spectrum of potential applications. This technology is called "SuperPolymer™" and it enables production of portable rechargeable batteries that have significantly longer run-times for their size and weight than any rechargeable batteries currently in commercial production.

Electrovaya was founded in September 1996 by Dr. Sankar Das Gupta and Dr. James K. Jacobs. They incorporated The Electrofuel Manufacturing Company Ltd. ("Electrofuel Manufacturing") to undertake a variety of technology development projects, including a lithium ion battery development project. Recognizing the potential commercial applications of lithium ion polymer battery technology, Dr. Das Gupta and Dr. Jacobs decided to form a new company, Electrovaya Inc., to engage exclusively in the development and commercialization of that technology. In October 1996, Electrovaya acquired patents and patent applications with respect to the rechargeable lithium ion polymer battery technology from Dr. Das Gupta and Dr. Jacobs. In January 1997, it acquired all assets relating to the lithium ion polymer battery technology from Electrofuel Manufacturing.

In January 1997, Electrovaya completed a private placement in Canada and used the net proceeds of \$6.5 million from the offering to continue the development of its lithium ion battery technology, develop products that utilize this battery technology, improve its research and development, establish a low-volume production facility and fund

operations. In June 1999, the Company introduced its first commercial product, the PowerPad 160, a rechargeable lithium ion polymer battery designed for external use with portable computers.

In January 2000, Electrovaya raised net proceeds of \$28.4 million through the private placement of special warrants in Canada, the United States and abroad. These proceeds were used, in part, to acquire and equip its manufacturing facility in Mississauga, Ontario, which became operational in the third fiscal quarter of 2001.

In February 2000, the Company acquired machinery and equipment from an industrial machine-building company in the Toronto area for \$1.1 million to provide it with the internal capability to manufacture the proprietary equipment it requires to make its products. In April 2000, Electrovaya acquired a site for \$2.6 million and built the equipment for its Mississauga manufacturing facility.

In November 2000, Electrovaya completed a public offering of 6,250,000 common shares providing net proceeds of \$28.2 million. Some of the proceeds were applied to an expansion of the Mississauga facility to enable a monthly production capacity of approximately 10 million Watt hours, which is equivalent to approximately 60,000 PowerPad 160 units. The balance of the proceeds will be used to establish a second manufacturing facility, fund working capital needs and finance operations.

During the fiscal year ended September 30, 2001, the Company added engineering and production staff and filled key senior management positions. It introduced the PowerPad 120, a product with a run time of up to 12 hours that serves as a complement to the PowerPad 160 for those users requiring shorter run times. Its employee base increased significantly during this period to 175 staff from 74 at September 30, 2000. In fiscal 2002, the necessity to control costs and attempt to reach cash flow break-even operations required a decrease in the Company's employee base to 173 staff at September 30, 2002. The major reduction occurred in the machine manufacturing facility as the production equipment activity was completed.

## **Results of Operations**

### ***Quarters ended December 31, 2002 and December 31, 2001***

#### *Revenue*

Revenue increased to \$883 thousand for the quarter ended December 31, 2002 from \$515 thousand for the quarter ended December 31, 2001. Revenues were derived from the sale of PowerPad 80, 120 and 160 products to corporate customers, distributors, and individuals. Electrovaya recognizes revenue on the sale of commercial products at the time the units are shipped to customers net of a provision for returned units.

## *Expenses*

*Cost of Goods Sold.* All of the material and labor costs and related manufacturing overhead associated with the production of commercial products have been charged to cost of goods sold. These costs amounted to \$921 thousand in Q1 fiscal 2003 and \$659 thousand in Q1 fiscal 2002.

*Research and Development.* Research and development expenses consist primarily of compensation and related costs for research and development personnel, including independent contractors and consultants, direct materials and allocated overhead.

Research and development expenses, net of investment tax credits, were \$793 thousand for the quarter ended December 31, 2002 and \$264 thousand in the prior year. The increase is due to the development of the company's Tablet PC "The Scribbler". The research and development expenses reflect the Company's continuing efforts to improve production methodology, improve technology and enhance and develop new products.

*Sales and Marketing.* Sales and marketing expenses increased to \$969 thousand for Q1 fiscal 2003 from \$469 thousand for Q1 fiscal 2002. In 2003, the Company increased its activity in co-marketing, trade shows, advertising and other costs associated with sales of the PowerPad product line and the launch of the Scribbler. Electrovaya also increased the overall awareness of its products and technology.

*General and Administrative.* General and administrative expenses include salaries and benefits for corporate personnel, professional fees and facilities expenses. The Company's corporate administrative staff includes its executive officers and employees engaged in business development, financial planning and control, legal affairs, human resources and information technology.

General and administrative expenses increased to \$614 thousand for the quarter ended December 31, 2002 from \$352 thousand for the previous year. This increase comes from modernization of computer software as well as an allocation of rent and utilities from overhead to administration.

## *Interest Income*

Interest income decreased to \$186 thousand for the quarter ended December 31, 2002 from \$213 thousand for the quarter ended December 31, 2001. The Company derived interest in both periods from cash and short-term investments. The decrease in interest income resulted from the lower interest rates earned on its Canadian and U.S. dollar-denominated investments as well as the lower level of investments held in the current quarter.

### *Foreign Exchange Gain*

The foreign exchange gain decreased to a \$44 thousand loss in Q1 fiscal 2003 from \$38 thousand gain in fiscal 2001. The exchange rate on December 31, 2002 was \$1.5776 and on December 31, 2001 was \$1.5925.

### **Liquidity and Capital Resources**

Since inception, Electrovaya has financed its operations primarily through private and public placements of its securities. As of September 30, 2002, it had raised aggregate net proceeds of \$63.3 million. As of December 31, 2002, it had \$17.9 million in cash, cash equivalents and short-term investments.

Cash used in operating activities was \$2.9 million for the quarter ended December 31, 2002 and \$2.7 million for the quarter ended December 31, 2001. Net cash used in operating activities for Q1 fiscal 2003 reflects the operating loss of \$2.9 million offset by amortization of \$629 thousand and an increase in non-cash operating working capital of \$615 thousand. The increase in non-cash working capital of \$613 thousand was principally attributable to an increase in accounts receivable and a decrease in accounts payable and accrued liabilities

Cash provided by investing activities was \$13.9 million for the quarter ended December 31, 2002. Cash provided by investing activities resulted from the reduction in short-term investments of \$13.9 million in Q1 fiscal 2003 and \$9.9 million in Q1 fiscal 2002.

Electrovaya has recorded a net loss in every year since its inception. As it continues to make investments in product development and marketing activities, it expects to incur a net loss at least through the fiscal year ending September 30, 2003. In the current and future quarters, the Company expects increases in expenses in all categories. It expects research and development expenses to increase as it continues to develop its *Scribbler* tablet PC and mobile computer battery product lines and explore other potential applications for its technology. Electrovaya also expects its sales and marketing expenses to increase as it rolls out a marketing programme with an extensive advertising component for the tablet PC. General and administrative expenses are anticipated to increase moderately as the Company increases its corporate infrastructure to support the growth of its business in anticipation of high-volume production. It currently plans to fund these expenses with cash on hand.

Electrovaya has not yet received significant revenue from the sale of its batteries. Since April 2000, it has sold increasing quantities of the PowerPad 120 & 160. The Company expects to continue to ramp up sales of its PowerPad battery products, with the PowerPad 80 launched in November 2002. In addition, sales of its recently launched tablet PC are expected to generate greater revenues for the Company. The Company expects that its sales will be concentrated among a limited number of distributors, value-added resellers and catalogue houses. Eventually, it may enter into agreements with original equipment manufacturers ("OEMs"). Such agreements would involve joint marketing and bundling of its products with those of the OEM.

Electrovaya expects that it will continue to experience negative cash flow from operations in the foreseeable future. It expects that its capital expenditures will decrease significantly in the future as it has substantially completed the expansion of its Mississauga manufacturing facility.

Future liquidity and capital requirements will depend principally on the rate of growth and the means by which the Company achieves its growth. The Company believes that the cash on hand will be sufficient to meet its requirements until at least September 2003. It believes that it may be able to adjust the timing and extent of capital investment if additional capital is not available to it. Its capital needs in future periods will depend principally on its ability to generate sales of its products, the extent and timing of future increases in manufacturing capacity and the extent to which it engages in acquisitions and joint ventures.

### **Recent Accounting Pronouncements**

Effective October 1, 2002, the Company adopted the new CICA Handbook Section 3870, which requires that a fair value based method of accounting be applied to all stock-based payments to non-employees and to direct awards of stock to employees. However, the new standard permits the Company to continue its existing policy of recording no compensation cost on the grant of stock options to employees with the addition of proforma information. The Company has not granted any awards during the period from October 1, 2002 to December 31, 2002 and therefore there is no proforma effect on net earnings and earnings per share information.

### **Qualitative and Quantitative Disclosures about Risks and Uncertainties**

#### *Interest Rate Risk*

As of December 31, 2002, the Company had cash and cash equivalents totaling \$17.9 million. As a result of short-term maturities, the Company does not believe these investments are subject to significant interest rate risk.

#### *Foreign Currency Exchange Rate Risk*

In the quarter ended December 31, 2002, over 95% of the Company's revenue was derived from U.S. customers in U.S. dollars. The Company expects that the majority of its sales will, in the future, be made in U.S. dollars and that in the short term, the majority of its expenses will be denominated in Canadian dollars. As of December 31, 2002, \$3.1 million of cash and cash equivalents were denominated in U.S. dollars. Fluctuations in the exchange rate between the Canadian dollar and the U.S. dollar may therefore have a material effect on results of operations. The Company does not currently engage in currency hedging activities.

### *Credit Risk*

The Company manages its credit risk with respect to accounts receivable by establishing and implementing credit limits and approval policies, as well as dealing primarily with large creditworthy customers. It has insured its accounts receivable.

### *Other Risks and Uncertainties*

Electrovaya is an early-stage commercial company facing corresponding risks, expenses and difficulties that may affect its outlook and eventual results of its business and commercialization plan.

*Electrovaya may not be able to establish anticipated levels of high-volume production on a timely, cost-effective basis or at all. It has never manufactured batteries in substantially large quantities and it may not be able to maintain future commercial production at planned levels. Additionally, if it is unable to maintain an adequate supply of raw materials or components, its costs could increase or its production could be limited.*

Electrovaya has taken a number of steps to offset these risks:

- Its manufacturing process is modular and flexible.
- Its high-volume facility utilizes machinery and equipment that is similar to the machinery and equipment that it has already designed, built and used in its pilot production plant. Since the introduction of its PowerPad in 1999 it has successfully produced finished products in its pilot and commercial plants, resulting in increasing levels of sales.
- It has formalized supply arrangements with suppliers to ensure that raw materials required for high-volume production are available at a reasonable cost and on a timely basis.
- It has more than one supplier for critical raw materials and components.

*Until the establishment of multiple plants, Electrovaya is dependent upon the operation of a single manufacturing facility and accidents or other operational problems at this facility could affect its ability to deliver product to its customers and therefore its ability to generate revenues. In addition, it may be subject to environmental liabilities at its facilities, which could result in material expense and adversely affect its ability to sell or finance its facilities.*

Electrovaya has addressed these risks by designing and building its high-volume facility with worker safety in mind. In addition, it has adopted a formal environmental policy that requires compliance with environmental legislation and an ongoing program of monitoring its environmental compliance.

*Electrovaya relies on a single overseas manufacturer for its Scribbler Tablet PC. This manufacturer may not be able to meet anticipated levels of high-volume production on a*

*timely, cost-effective basis. The supplier also may not be able to maintain future commercial production at planned levels. Additionally, it may choose to place other customers' needs ahead of Electrovaya's.*

The supplier is a large manufacturer of computers and computer peripherals with worldwide sales exceeding five billion dollars. Electrovaya has formalized supply arrangements with its supplier to ensure that products required for high-volume production are available at a reasonable cost and on a timely basis.

*Electrovaya does not have a collaborative partner to assist it in the development of its batteries, which may limit its ability to develop and commercialize its products on a timely basis. Furthermore, it will continue to incur significant costs and invest considerable resources designing and testing batteries for use with, or incorporation into, specific products. Significant revenue from these investments may not be achieved for a number of years, if at all. Moreover, these batteries may never be profitable and even if they are profitable, operating margins may be low.*

*The development by the Company of new applications for its rechargeable batteries is a complex and time-consuming process. New battery designs and enhancements to existing battery models can require long development and testing periods. Significant delays in new product releases or significant problems in creating new products could negatively impact the Company's revenues.*

Electrovaya believes that the formation of strategic partnerships will be critical for the Company to meet its business objectives. It will continue to seek arrangements with potential partners to mitigate development and commercialization risks going forward, balanced by its objective to maximize market share and penetration by not entering into exclusivity arrangements with a single partner. In addition, it is reviewing options to work with multiple partners on OEM programs for internally designed applications, sales and distribution arrangements, outsourcing parts of its manufacturing process, and for development of specialized applications in industry segments other than portable computers and mobile phones.

*Electrovaya may not be able to compete effectively with other manufacturers of compact rechargeable batteries. There is also the possibility its competitors may develop portable power technologies that match or outperform the SuperPolymer™ technology, which may diminish the demand for the Company's products. In addition, innovations in the design of portable computers, mobile telephones and other wireless devices may reduce the need for its batteries.*

The market for rechargeable batteries is competitive and fragmented. Electrovaya believes it is well positioned to compete in the market for compact rechargeable batteries, which is already very large and growing rapidly. There are currently five to seven principal competitors, primarily well capitalized companies based in Japan, which have in aggregate a dominant market position in the lithium ion and lithium ion polymer battery sector. By continuing to leverage the Company's technological advantage, move

quickly to penetrate the market, target the underserved aftermarket, and emphasize its higher energy density to create brand differentiation, Electrovaya expects to increase revenue in the near term. Additionally, the Company believes that design innovations in the wireless sector will either not materially extend the run time of existing battery technologies or will be more than offset by the addition of new, enhanced, “power-hungry” features, which will increase the energy requirements of these wireless devices. Finally, miniature fuel cells present potential future competition to batteries in the portable and mobile power applications. However, they are expensive and still have technical hurdles to overcome, thus mitigating the threat to Electrovaya’s products in the electronics markets that it targets.

While SuperPolymer™ energy density is currently superior to that of the Company’s competitors in commercial production, Electrovaya will continue to invest in research and development to utilize latest generation advanced materials and improve the process and design of its batteries to maintain or widen the technological gap between its technology and that of its closest competitors. However, the Company has limited knowledge of its competitors’ activities in this area.

*Electrovaya is exposed to certain risks as a result of being in an industry that manufactures devices or products containing energy. All lithium ion polymer batteries can become hazardous under some circumstances. In the event of a short circuit or other physical, electrical or thermal damage to these batteries, chemical reactions may occur that release excess heat or gases, which could create dangerous situations, including fire, explosions and releases of toxic fumes. The Company’s batteries may emit smoke, catch fire or emit gas, any of which may expose Electrovaya to product liability litigation. In addition, these batteries incorporate potentially hazardous materials, which may require special handling, and safety problems may develop in the future. Product failure or improper use of lithium ion polymer battery products, such as the improper management of the charging/discharging system, may also result in dangerous situations. The raising of any health or safety issues could affect the Company’s reputation and sales. Moreover, changes in environmental or other regulations affecting the manufacture, transportation or sale of Electrovaya’s products could adversely affect the Company’s ability to manufacture or sell its products or result in increased costs or liability. Finally, Electrovaya may be required to devote significant financial and management resources to processing and remedying warranty claims. If product liability issues arise, the Company could incur significant expenses and suffer damage to its reputation and the market acceptance of its products.*

To mitigate these risks of product liability, Electrovaya undertakes extensive internal and external product and safety testing. Unlike certain competing technologies, its products do not contain cadmium or lithium metal, which are considered hazardous materials for purposes of disposal or transportation. The Company believes that there are currently no regulations in North America that would prevent it from the manufacture or sale of its batteries, and Electrovaya is fully committed to ensuring its products are environmentally friendly. In certain situations or applications, battery power may be a more attractive

environmental solution than other energy sources utilizing fossil fuels or creating emissions.

*Electrovaya may not be able to successfully market its battery technology and products, and because its SuperPolymer™ technology is new, these batteries may not perform as well as anticipated. The Company expects to continue to sell its products directly to corporate customers and through value-added resellers and distributors. But if these parties do not purchase these products or purchase them in lower quantities or over longer time periods than expected, Electrovaya's revenue profile and cash flows may be severely affected. The Company continues to rely upon a limited number of customers for a significant portion of its sales and the loss of any customer could have a material adverse effect on its sales and operating results and make it more difficult to attract and retain other customers.*

*If overall market demand for laptop computers, mobile telephones and other portable electronic devices declines significantly, and consumer and corporate spending for such products declines, Electrovaya's revenue growth will be adversely affected. Additionally, the Company's revenues would be unfavorably impacted if customers reduce their purchases of new products or upgrades to the Company's existing product lineup if such new offerings are not perceived to add significant new functionality or other value to prospective purchasers.*

The PowerPad 80, 120 and 160 products have undergone extensive user testing and have now been sold commercially to well-established corporate users, distributors and value added resellers with positive early results. Electrovaya has an aggressive marketing program in place, including trade show participation and advertising campaigns. The Company has a dedicated sales team to aggressively market and sell its products in the United States and Canada. Electrovaya has adopted a multi-channel distribution strategy to reduce its reliance on a single customer or distributor. The Company is targeting different types of users, applications and industries to mitigate the risk if its products do not achieve acceptance in a single market and to ensure it minimizes reliance on one customer.

*The Company has begun manufacturing the Scribbler, a Tablet PC. The Tablet PC is a new market area for portable computers and the Company has no experience making and selling computers. Furthermore, this market is controlled by global billion-dollar computer companies and the Company may fail in the endeavor. There may also be unknown liabilities associated with this business in which the Company has no expertise or experience.*

Electrovaya's superior battery technology gives the Scribbler a strong competitive advantage. The Tablet PC is a mobility product and the Scribbler can run all day. It has the highest run-time of all Tablet PCs. Electrovaya is teamed up with Microsoft Corporation and has a development agreement for engineering, marketing and sales. Electrovaya has also teamed up with a multi-billion dollar computer ODM based in Taiwan. These teams should help in the commercialization of the Scribbler.

*Computer hardware has an extremely short shelf life and it is possible that Electrovaya will be left with obsolete and unsaleable inventory.*

Electrovaya works closely with its ODM partner and monitors market conditions continuously. Electrovaya also buys inventory on a “Just-In-Time” basis and keeps minimum inventory.

*If the Company fails to manage growth successfully, it could experience delays, cost overruns or other problems. Similarly, if it is unable to hire or retain qualified, key personnel, its business may be jeopardized.*

Electrovaya will continue to monitor its staffing requirements for its manufacturing facility and its needs at the senior management levels and for specialized personnel in various disciplines or areas of expertise, to help ensure that the Company continues to effectively manage its anticipated growth as it ultimately moves to a multi-plant operation. The Company is reengineering itself to implement a faster break-even strategy. As part of that reorganization, two senior officers have left the Company, as well as other employees. The Company is now more focused on revenues and lowering expenditures.

*If Electrovaya fails to protect its proprietary technology, it may lose any competitive advantage it provides. Others may claim that the Company’s products infringe on their intellectual property rights, which could result in significant expenses for litigation, developing new technology or licensing existing technologies from third parties. If Electrovaya is unable to maintain registration of its trademarks, or if its trademarks or trade name are found to violate the rights of others, the Company may have to change its trademarks or name and lose the goodwill created in them.*

Electrovaya will continue to register patents resulting from ongoing research and development activity, acquire or license patents from third parties if appropriate and further develop the trade secrets related to its manufacturing process and the design and operation of the equipment used to manufacture its products.

## **Outlook**

Electrovaya is well positioned to meet the growing demand for mobility and productivity from portable computer users. The Company has a cluster of unique products to meet this demand. The Company’s primary objective is to achieve profitability through a combination of increasing revenue and controlling costs. It will further support sales through the appointment of additional major distribution channels in North America and by partnering with OEMs. Agreements with the largest global wholesale provider of technology products and supply chain management services and with the largest Canadian franchisor of computer retailers and resellers have provided Electrovaya with access to new distribution channels for its products, which have propelled sales higher and are expected to continue to do so in future. The next focus is to establish a targeted

direct sales force. The Company has also focused its attention on cost control, restructuring its staff to reduce costs significantly from the prior year. Concurrently, it is focusing its research and development on expanding its markets through the development of new products.

The combination of increasing revenues and controlling expenses should lead to the primary goal of achieving profitability.

Overall information technology spending is expected to remain sluggish in 2003 but to increase with the end of the economic slowdown. In the laptop market Electrovaya is seeing an increasing demand for batteries with maximum runtime as corporations are meeting the needs of a mobile workforce and extending the life of older laptops. In the tablet PC market, Electrovaya's long-life batteries should make its *Scribbler* Tablet PC a successful competitor. While the Company will benefit most from a strong economy, its high-energy-density battery applications are also well suited for today's environment.