novra
TECHNOLOGIES INC.

MANAGEMENT'S DISCUSSION & ANALYSIS

Periods ended December 31, 2023 and 2022
(Expressed in Canadian dollars)

The following Management's Discussion and Analysis ("MD&A") of Novra Technologies Inc.("Novra") should be read in conjunction with the Consolidated Financial Statements for the periods ended December 31, 2023 and 2022, and related notes included therein (the "Consolidated Financial Statements"). These Consolidated Financial Statements have been prepared in accordance with International Financial Reporting Standards ("IFRS"). All information in this MD&A is presented in Canadian dollars, unless otherwise indicated. Tabular dollars are in thousands, except per share amounts. **Amounts in tables may not reconcile due to rounding differences.**

Throughout this MD&A, "we", "us", "our", "Novra", and "Company" refer to Novra Technologies Inc. and its subsidiaries.

This MD&A is dated as of April 27, 2024 and is current to this date. The MD&A and the Consolidated Financial Statements were approved and authorized for issuance by the Board of Directorson April 27, 2024.

Financial statements, MD&A and other information relating to Novra are available on SEDAR+ at www.sedarplus.ca.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This MD&A contains "forward-looking statements" within the meaning of applicable Canadian securities laws, concerning but not limited to: our outlook, the expected cost savings from integrating Wegener operations with the Novra Group, proposed acquisition of remaining 48.4% of Wegener, anticipated developments in our operations in future periods, the adequacy of Novra's financial resources and other events and conditions that may occur in the future. Forward-looking statements are generally identifiable by words such as "expect", "anticipates", "believes", "intends", "estimates", "predicts", "potential", "promising", "targeted", "plans" "possible", "position for", "prepare for" and similar expressions, or statements that events, conditions or results "will", "may", "could" or "should" occur or be achieved. As such, forward-looking statements are not historical facts but reflect our current assumptions and expectations regarding future events. These are subject to a number of risks and uncertainties that could cause actual results or events to differ materially from current expectations and assumptions. Some of these risks and uncertainties are described herein under the "Risks and Uncertainties" section of this MD&A.

For the above reasons, readers are cautioned not to place undue reliance on forward-looking statements.

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BUSINESS OVERVIEW

Novra Technologies Inc. (headquartered in Winnipeg, Canada) is a public company on the TSX Venture Exchange ("TSX-V"), which trades under the stock symbol NVI. Novra is also listed in the United States on the OTCQB Venture Exchange, under the symbol NVRVF. Novra owns International Datacasting Corporation ("IDC") based in Ottawa, Canada, as well as controlling interest in Wegener Corporation ("Wegener"), based in Atlanta GA. Both are long-time leaders in multimedia broadband distribution infrastructure. Together they make up the Novra group of companies ("Novra Group"). For more background see the website at www.novragroup.com.

Novra is a global business with customers on every continent. We provide technology for distribution of broadband data via satellite and IP networks with a specialization in broadcast media. The Novra Group companies offer a comprehensive portfolio of products, systems, and services. Products include hardware and software tailored for advanced applications in key vertical markets: video, radio, and data distribution, digital cinema and digital signage. Areas of expertise and added value include: encryption, next-generation hybrid networks (satellite/terrestrial/cloud), and efficient bandwidth utilization.

About our business

The media distribution landscape is going through major upheaval driven by a combination of market and technology factors. Important changes include:

- **Content is changing.** With the explosion of streaming media—video and audio—long form content, limited series, live vs on-demand, the demand for media is growing and evolving.

- **Revenue models are changing.** Advertising can be much more precisely targeted. New subscription models are emerging. Licensing and underwriting practices are changing. Content is being accessed in more granular models (e.g., through specific apps vs bouquets of live channels).

- **Expense model preferences are changing**. Businesses are embracing the trend away from one-time infrastructure CAPEX and toward OPEX, paying over time for products and services as they use them. They are often looking to minimize the up-front expense of large infrastructure investments and instead move toward pay-as-you-go operating expenses.

- **Distribution platforms and architectures are changing.** The legacy model of distribution of channel-based media as a broadcast via satellite - "point to multipoint"- is evolving into a bandwidth intensive hybrid satellite/internet model.

These changes are happening fast and networks are looking for infrastructure that can support these changes - solutions that are adaptable and upgradeable and that can be provided as products and/or services. In many cases this means a move away from purpose-built hardware to software- and service-centric solutions that are scalable, flexible, and cost-effective. We are focused on providing the technology and expertise to advance this paradigm shift.

Embracing and enabling change: designing for today and tomorrow

While addressing the current needs of our customers and key markets, our business strategy is always driving to meet emerging needs through innovation. We're:

- **Targeting the applications and geographical markets where satellite technology still thrives** including government applications (communications, weather, defense) in North America and around the world, international markets where geographical population distribution is wide and availability of terrestrial broadband is low (such as Latin America and Australia), as well as longtime customers with legacy networks that continue to evolve and grow.

- **Diversifying into hybrid and IP distribution where we have competitive advantages and see opportunity.** Our products support both satellite and IP distribution and are designed for maximum interoperability.

- **Broadening the available solution architectures**. Our software-based products are available on purpose-built appliances, can be run on off-the-shelf hardware or can be provided as cloud-based services. This provides our clients with the option to use the combination of architectures that best meets their needs.

- **Addressing our customers' need for migration strategies**—We have the expertise and solutions to be a valuable partner to networks as they plan their approach to evolving business needs, new technologies and changing market conditions. We partner with our customers to help them decide whether, when, and how to migrate their systems.

Smart products:

We are taking innovative initiatives to improve functionality, reduce costs, and open new markets for our products:

- We have been pioneers in cloud delivery for broadcasters. Our **MISTiQ** managed cloud solution for broadcasters is now in its third generation. It's a mature, proven platform that allows broadcasters (radio and/or video) to use the internet for backup/redundancy, to expand their reach beyond the satellite footprint, even to migrate completely to internet delivery.

  The internet is an inhospitable environment for broadcasting which requires low-latency and reliable timing. MISTiQ uses aggressive strategies for mitigating the challenges of this environment and provides extremely low-latency and high availability. MISTiQ 3 has been upgraded to a containerized microservices architecture for increased scalability and features with expanded monitoring tools—to give customers more visibility and control over their data.

  We also are integrating and consolidating various product lines and models into our **MAP** series. MAP stands for Modular Architecture Platform—the design philosophy is to make a resilient, reliable hardware platform and customize/adapt it to particular vertical markets. For example, MAP Pro Audio has professional balance audio outputs, MAP Pro Cinema has expanded on-board storage for very large files, and MAP Pro Video has specialized video outputs. By using common elements, we reduce both the time to market and inventory requirements.
- We are expanding the list of our products that can be virtualized, offered as software on off-the-shelf servers or in the cloud. This offers our customer new flexibility and versatility to simplify their network design and potentially reduce costs. Virtualization is becoming more common in headends, now we are beginning to expand the practice to our receiver offerings.

- We continue to lead the market in IP Encapsulation and encryption solutions, as well as lifecycle support for mission-critical networks.

Our business focus:

We are leaders in an important market niche—**mission-critical professional networks that require rapid, ultra-reliable content delivery**, whether for a live on-air broadcast, urgent secure defence data, the latest Hollywood blockbuster, or encrypted block chain data. Our core product lines are applicable across a range of vertical markets. This provides a diversified business base. Our target vertical markets are:

- *Video distribution:* products and systems for providing end-to-end solutions for traditional and non-traditional video networks. This is a key focus area for our innovation activities, including ongoing projects in augmented reality, remote collaboration, and emerging technologies. Our video products target the following key market niches:
  - Broadcast video networks of all sizes
  - Digital program insertion (for targeted advertising, regionalization, and blackout management)
  - Delivery of live and file-based video content distribution
  - Digital signage
  - IPTV
  - Professional-quality streaming video

- *Broadcast Radio:* We are a leading global provider of turnkey infrastructure solutions for broadcast radio networks small, medium, and large. We have a reputation for reliable, cost-effective delivery of high-quality audio via satellite, terrestrial, or hybrid networks. The radio product line includes uplink and receive-site equipment as well as network management, encryption, and targeted regionalization/ad insertion options. We have long-established and respected product lines as well as innovative new products recently released for this market and disruptive leading-edge new products in development.

- *Data distribution:* Our broadband multimedia distribution technology is ideally suited for fast, ultra-reliable, secure delivery of data via satellite or private IP network. In addition to providing hardware infrastructure (transmit and receive), we offer an advanced content distribution network (CDN) software solution, Datacast XD, with sophisticated file broadcasting capabilities.

- *Digital Cinema:* We provide leading digital cinema networks with their core distribution infrastructure (uplink equipment, content management, and network management) and high-end appliances for cinemas as well as decoders for live events and alternative content (entertainment and sports) in 2D and 3D. Additionally, we offer a digital cinema distribution software solution for integration onto commercially available servers and third-party equipment. This product line enables our solutions to provide secure file delivery speeds that are unparalleled in the market.

- *Satellite and terrestrial broadband receivers:* We offer a line of cost-effective, reliable DVB and ATSC compliant receivers for the expanding broadband communications network market. These receivers provide standalone communication gateways to local networks or have been integrated into a wide range of purpose-built appliances.

In addition to addressing these broad market requirements, we are focused on being valued partners to our customers, addressing their particular challenges and opportunities. We are continuing to invest in understanding our customers' businesses and providing the products, services and expertise to support their success. At the same time, we are drawing on the specific domain knowledge and operational expertise of selected customer-partners in driving the direction of our future offerings, including virtualized products and SAAS services.

Our competitive advantage is our people and their 30 years of knowledge and experience in developing innovative products along with the deep relationships that we have established with our international network of reseller partners and, of course, our clients. These close customer relationships give us important market insights that, combined with our extensive engineering experience, form the foundation for our continuing development of advanced products and flexible solutions.

OVERALL PERFORMANCE

Novra's financial performance improved significantly after a slow start to the yearand returned to net income profitability for the full year. Although our annual revenue was down by $157 thousand, ournet income was $136 thousand, a $610 thousand improvement over the $474 thousand loss in 2022. This improvement is largely a result ofstrategically reducing operating expenses compared to last year, while maintaining the ability to deliver leading products and outstanding service.

Many of the transportation and component lead-time challenges of the previous few years, resulting from global geo-political and public health situations, eased somewhat in 2023. Our targeted steps to mitigate these challengeshave led to our current healthy product inventory levels, which are allowing us to ship many of our new orders from stock and allowed us to deliver onthe significant order backlog we brought into 2023.

We continue to see pent up demand in our markets. Infrastructure replacements will be necessarydue to technology obsolescence, aging equipment, and new business requirements. However, this is countered by the economic uncertainty, higher interest rates and contracting availability of capital that are leading businesses to delay investments in their infrastructures. While we are confident that opportunities exist and we are taking the right steps to be ready when customers decide to buy, we cannot know when the pent-up demand will turn into orders. We are therefore continuing to aggressively manage expenses and will continue to take any necessary steps to adjust expenditures to address this uncertainty.

In adapting to these evolving market dynamics, management has, and will continue to, take targeted actions – both in the form of strategic investments and in cost controls. The changes we are seeing are bringing both opportunities and challenges. We continue to invest in innovation initiatives to help our customers succeed in their changing markets, and in building customer relationships to understand and address current customer needs and position Novra for future growth.

Novra's cash position at the end of the period was strong, with bank depositsof over $2.4millionand a bank credit facility of $1.2millionproviding a large pool of liquid funds.

Thefinancial highlights for Q4and the twelve-month period shown below are derived from our Consolidated Financial Statements and include consolidation of Novra's subsidiaries; International Datacasting Corporation and Wegener Corporation (51.6% controlling interest).

Q4 2023 vs. Q4 2022:

- Revenue was $2.9 million in Q4 2023, compared to $2.2 million in Q4 2022, an increase of $732 thousand. The increase is primarily the result of completing shipments against a significant backlogged order that was brought into 2023.
- In Q4 2023, gross profit was $1.6million, representing 54.2% of total revenue, compared to $1.6 million, which was 73.7%. The unusually high gross profit percentage in Q4 2022 was due to the specific product service mix and timing of certain expenses.
- Operating expenses were $891 thousand in Q4 2023, compared to $1.2 million in Q4 2022, a decrease of 28% despite significant inflationary pressures.
- Net Income was $509 thousand, compared to $363 thousand in Q4 2022. This higher net income was driven by lower operating expenses.
- Adjusted EBITDA* was $832 thousand, compared to Adjusted EBITDA* of $653 thousand in Q4 2022.

2023 vs.2022:

- Revenue was $7.4 million in 2023, compared to $7.6 million in 2022, a decrease of $157 thousand. Service revenue increased to $3.2 million, compared to $1.8 million in 2022.
- Gross profit remained stable year over year. In 2023, gross profit was $4.1 million, representing 54.8% of total revenue, compared to $4.1 million in 2022, which was 54.4%.
- Operating expenses were $3.7 million in 2023, compared to $4.6 million in 2022, a decrease of $805 thousand. This was significantly influenced by reductions in facility occupancy costs and certain compensation costs and the completion of amortization expenses for acquisition-related intangible assets in 2022.
- Net Income was $136 thousand, compared to loss of $474 thousand in 2022. This improvement was driven primarily by reductions in operating expenses.
- Adjusted EBITDA* was $845 thousand in 2023, compared to Adjusted EBITDA*of $884thousand in 2022. In 2023 Adjusted EBITDA was less effected by amortization, because as of December 31, 2022 acquisition-related intangible assets were fully amortized.

*Adjusted EBITDA is a non-IFRS financial measure. Adjusted EBITDA provides an important financial measure of Novra's operating performance, allowing comparison of core operating results from period to period. Refer to the "EBITDA and Adjusted EBITDA" section and the table under the "DISCUSSION OF OPERATIONS" section for details regarding calculation of this non-IFRS measure.

Our ongoing drive to realize synergies and efficiencies across the group continued to result in reductions in on-going consolidated operating expenses which will impact 2024 and beyond. We will continue to actively control and adjust operating expenses in response to company performance and current volatile market conditions.

Results and Outlook

The effects of economic uncertainty and armed conflicts continue to generate global geopolitical turmoil. While the negative effect on supply chains has abated in recent quarters, price increases are continuing and global transit delays are impacting lead-times for certain components. In addition, higher interest rates and the threat of a potential recession are causing companies to delay large purchase commitments. All of these continue to put downward pressure on revenue and gross profit. Novra's adaptive strategy to deal with supply-side challenges focuses on strategic inventory purchases, including advance purchasing of certain key components, and nurturing additional procurement channels, to ensure we are positioned well to respond to customer needs when they make the decision to purchase. Our inventories and builds in progress remain at healthy levels.

Our clients continue to navigate and adapt through these challenging circumstances to ensure operational reliability of their networks. We play a major part in helping them to achieve their goals by providing expert support services and powerful new products, which enhance their networks and enable more reliable service to their customers. Their continued confidence in choosing our products and services is reflected in our positive results in 2023. These demonstrate the importance our customers, even in times of global uncertainty, place on investment in the critical infrastructure products and services that Novra provides. We continue to pride ourselves on being a partner to our customers, there to support through all business cycles.

Our targeted sales efforts and our client-centric R&D activities have resulted in releases of new products which have been very well received and are generating orders from new and continuing customers. In addition, we are investing in development of new technologies for use in future products, as demonstrated by our recently-granted US patent related to image processing for remote collaboration.

We continue to be flexible in our product development, with an eye on technological trends and new communications standards, to ensure our products remain relevant throughout their life cycle and provide a valued investment to our clients.

An important component of our R&D strategy is increased emphasis on software and services. One example has been the on-going development and enhancement of the MISTiQ platform for cloud-based distribution of content. We are also virtualizing certain products – breaking their dependence on specific hardware, so they are available as software run on purpose-built appliances, on off-the-shelf hardware, or provided as cloud-based services. This approach is increasingly popular with customers who want the option to source their own hardware or move to a service-based solution. Transitioning to more recurring revenue from software licenses and services also supports our strategic goal to generate a more consistent and predictable revenue base. In a project-based business like Novra's this offers the advantage of smoothing out inconsistent revenues. The work we've done and our substantial R&D investment over the past several years is paying off as we book more and more service business, including the recent selection by two major Canadian broadcasters of MISTiQ for their cloud-based content distribution, and these service contracts continue to renew.

Highlights of 2023 and early 2024

In the last year we've seen many ongoing customers taking small steps to refresh and/or expand their networks, although at a cautious pace influenced by their challenging market conditions. Many are looking for new features in our products, which informs our technology enhancements going forward. This includes shifting to IP and hybrid satellite networks.

- In general, we are seeing our markets continuing to recoverbut at a much slower rate than anticipated. We are expanding marketing and sales activities to close pending opportunities and generate new ones.
- We have received multiple orders related to our support for US government projects. The strong interest in this area continues and we are stepping up work on a new generation of satellite receivers with advanced encryption integrated.
- Our weather data distribution business continues to be quite active, as government-operated weather data programs launch next-generation satellites with new requirements. Our specialization in this application puts us in an advantageous position.
- We continue to receive orders for lifecycle support—customer care program renewals as well as products—to support long-time radio broadcast customers around the world.
- We have expanded the active number of demos of our MISTiQ cloud distribution platform for broadcasters.
- Our customer support contract renewals continue to be strong as networks maintain existing infrastructure longer.
- We have seen a number of new interesting project opportunities and are partnering with service providers in some cases to chase these.
- As part of theuptick in our government business, we are expanding the number of partners we work with to support various government and defence-related initiatives.

- ❖ We've had brisk repeat orders from existing government and commercial customers, including religious broadcasters – a robust and growing market segment.

- ❖ New patent: we were awarded a US patent for new technology that harnesses our experience in image processing to tackle the challenge of remote collaboration. We are in the process of refining the design for manufacture and exploring applications for this new technology.

- ❖ We upgraded the existing network of an international religious network based in Europe and Latin America. We were also pleased that our customer Am-BOS, the US-based distribution platform for Christian radio, successfully passed testing of next generation receivers based on IDC's MAP hardware platform. The Am-BOS team developed their own customized software for this innovative, customer-specific solution.

- ❖ We received a sizeable order to upgrade encryption technology for major US government broadcast service. We are the ongoing provider for this long-term program supplying decryption integrated into our satellite receivers as well as desktop client licenses. We are in the process of releasing a next-generation satellite receiver for this program in order to support ongoing lifecycle refresh requirements. This program also drives multiple business opportunities for software, receiver hardware appliances, IP Encapsulators, and ongoing support.

- ❖ We received a substantial order for S300 satellite receivers customized for US government applications from a long-time contractor customer.

- ❖ We received an order from an Eastern European national radio broadcast network for an additional uplink to mitigate risk to their redundant uplinks caused by the current war in Ukraine.

- ❖ We received a follow-on order from a major television network in Mexico, to expand its encryption infrastructure to support broadcast of Major League Baseball.

- ❖ We received a follow-on order from a digital signage/enterprise video network in the health care sector that is adding new channels based on our next-generation Signcaster Pro.

- ❖ Orders for support contract renewals and equipment to maintain and grow existing networks—across all vertical markets and sectors including government and commercial clients—are strong as we support our customers in maintaining long-term sustainable networks.

We continue to invest in our product and service offerings and work with our customers to meet their evolving and emerging needs. We believe repeat customers like these reflect the quality of the solutions we've provided to them in the past, the value of the on-going customer support that we deliver, and an endorsement of the technical advancements we've made in newer-generation products.

We continue to integrate and improve our product lines—adding new features and new capabilities—to address increasing opportunities to grow market share in key vertical markets. We also continue to push forward on our corporate vision to bring together great companies with complementary technologies to capitalize on both existing and new market opportunities. Our new products have integrated features and a consistent "look and feel", communicating to the market (including long-time customers) that we are a strong, unified company. Our engineering team is integrated across companies and is focused on efforts to provide world-class leading-edge products and services to our clients.

Novra is a strong, scalable, global company oriented to the growing multimedia broadband content distribution business. We are focused on meeting the needs of our clients, who are looking for flexible, cost-effective solutions. Our product development is centred on listening and responding to identified client requirements as well as anticipating next-generation innovations. More and more, our hardware is becoming a platform for increasingly powerful and sophisticated software—bringing agility, forward compatibility, and longevity to the lifespan of our products.

DISCUSSION OF OPERATIONS

The following table shows selected information from our Consolidated Financial Statements, including a reconciliation of IFRS to non-IFRS measures, for the period indicated:

(In thousands)	Three Months Ended December 31,			Year ended December 31,		
	2023	2022	% Chg	**2023**	2022	% Chg
Revenue by type:						
Products	**$ 2,129**	$ 1,586	34%	**$ 4,269**	$ 5,853	-27%
Services	**798**	609	31%	**3,177**	1,750	82%
Total revenue	**2,927**	2,195	33%	**7,446**	7,603	-2%
Gross profit	**1,587**	1,618	-2%	**4,082**	4,135	-1%
Gross margin	***54.2%***	*73.7%*		***54.8%***	*54.4%*	
Operating expenses	**891**	1,234	-28%	**3,749**	4,554	-18%
Operating income (loss)	**696**	384	81%	**333**	(419)	NM
Other income (expenses)	**(187)**	(21)	790%	**(197)**	(55)	258%
Net income (loss) as reported under IFF	**$ 509**	$ 363	40%	**$ 136**	$ (474)	NM
Adjustments:						
Finance costs	**46**	(1)	NM	**201**	166	21%
Depreciation and amortization	**119**	309	-61%	**455**	1,290	-65%
EBITDA - non-IFRS measure	**674**	670	1%	**792**	982	-19%
Loss (gain) on foreign exchange	**158**	(18)	NM	**53**	(98)	NM
Share-based compensation	**-**	-	NM	**-**	-	NM
Adjusted EBITDA - non-IFRS measure	**$ 832**	$ 653	27%	**$ 845**	$ 884	-4%

NM – Not meaningful

*EBITDA and Adjusted EBITDA are non-IFRS financial measures. EBITDA and Adjusted EBITDA provide important financial measures of Novra's operating performance, allowing comparison of core operating results from period to period. Refer to the "EBITDA and Adjusted EBITDA" section for details regarding calculation of this non-IFRS measure.

Revenue and Gross Margin

Total 2023 revenue and gross margin were fairly consistent with 2022. Revenue was $7.4 million, 2% lower than 2022's $7.6 million. Gross margin was 54.8%, 0.4% higher than in 2022 (54.4%).

For the year ended December 31, 2023, our top 10 customers accounted for 64.2% of total revenue with the largest accounting for 23%or $1.7 million. No other customer accounted for more than 10% of total revenue. For the same period last year Novra's Top 10 customers accounted for 56.2% of total revenue, with the largest accounting for 45%or $3.4 million. No other customer accounted for more than 10% of total revenue. The Company continually monitors its revenue concentration risk and seeks to diversify its customer base.

While our revenue may be concentrated with a few customers quarterly, with approximately 2,000 customers in over 100 countries, including over 200,000 installations since inception, we have a well-established customer base to provide diversification in our revenue base. The following table summarizes the geographic distribution of our revenues for the period.

(In thousands)		
Geographic Market	**2023**	2022
Americas (excluding Canada)	**$ 6,237**	$ 6,352
Canada	**209**	490
EMEA	**508**	321
APAC	**492**	440
	$ 7,446	$ 7,603

Operating Expenses

(In thousands)	**Three Months Ended December 31,**			**Year Ended December 31,**		
	2023	2022	% Chg	**2023**	2022	% Chg
General and administrative ("G&A")	**395**	585	-32%	**1,460**	1,347	8%
Sales and marketing ("S&M")	**173**	212	-18%	**832**	947	-12%
Research and development ("R&D")	**323**	437	-26%	**1,457**	2,260	-36%
Total operating expenses	**891**	1,234	-28%	**3,749**	4,554	-18%

Total OPEX was lower both during the quarter (28% lower) and during the year of 2023 (18% lower) compared to the same periods in 2022. For financial reporting purposes, we allocate facility-related costs to OPEX (G&S, S&M, R&D) and cost of revenue.

General and administrative ("G&A") expenses consist primarily of compensation paid to the corporate, IT, and finance staff as well as professional fees and public company related costs, along with certain general facilities-related costs. These expense lines increased for the full year of2023. This was affected by a change in accounting for certain credits associated with intercompany transactions to more appropriately categorize them to other cost lines beginning in Q2 of 2023. G&A expenses were reduced in Q4 of 2023 as a result of the partial forgiveness by Novra's CEO of his compensation earned in 2023. While he routinely allows Novra to accrue the majority of these expenses rather than paying them out, in Q4 of this year he forgave the majority of his 2023 compensation and as a result the company removed this from its accrued liabilities. This had the effect of reducing G&A expenses for the quarter and the year. On-going overall operating cost reductions were somewhat offset this period by the higher G&A.

Our Sales and Marketing ("S&M") costs consist ofcompensationpaid to our sales team, as well as tradeshow, promotion, and travel &entertainment costs. We reducedour marketing expense by 12% compared 2022. The decrease was driven by areduction in contract sales services costs and overall compensation expense.

Research and Development ("R&D") costs will continue to be a significant component of our total operating expenses as we continue to develop innovative products and solutions to remain competitive in our industry. R&D costs include primarily compensation paid to engineering personnel and prototype costs. Notably, expenses related to amortization of intangible assets from acquisition of controlling interest in Wegener were also included in R&D costs in 2022. As of December 31, 2022, the acquisition-related intangible assets were fully amortized. This change is a significant contributor to the decrease in R&D expenses reported in 2023.

Beginning in 2022, certain new product development costs havebeen capitalizedto more appropriately present our technology assets and R&D expenses. At the same time, amortization of these development assets over their useful lives is included incurrent expenses. Novra will continue to invest strategically in product development to position the company for future success.

Foreign Exchange Gain (Loss)

Although we generate a significant portion of our revenue outside of Canada, denominated in USD and Euro currencies, we have determined Novra's functional currency to be Canadian dollars. Additionally, many sales in Canada are also denominated in USD currency. Further, the procurement for most of our raw materials is denominated in USD currency. However, our domestic operating costs are denominated in CAD currency. Accordingly, Novra's financial position and operating results are significantly exposed to foreign currency movements. We actively manage our foreign currency risk and may also enter speculative currency positions based on management's best judgement.

Additional earnings volatility arises from the translation of monetary assets and liabilities denominated in foreign currencies at the rate of exchange on each date of the Consolidated Financial Position; the impact of which is reported as a foreign exchange gain or loss.

For 2023 Novra had a foreign exchange loss of $53 thousand, compared to a gain of $98 thousand in2022.

At December 31, 2023, the foreign currency denominated assets and liabilities, subject to remeasurement, are as follows:

(In thousands)	**USD**	**Euro**
Assets	2,190	9
Liabilities	(613)	-
Net assets before hedging	1,577	9
Currency derivative contracts	-	-
Net assets - unhedged	1,577	9
Impact on Novra's earnings if 5% change in foreign exchange rates	79	-

If on December 31, 2023 the Canadian dollar had weakened or strengthened by 5% against the U.S. dollar and Euro, with all other variables held constant, Novra's consolidated net income would have been impacted by $79 thousand. Please note that this calculation excludes Wegener's assets and liabilities, which are denominated in USD.

Other Income and Finance Costs

In 2023 the Company recorded $67 thousand to finance income for interest on GICs, compared to $nil in 2022.

Finance costs were $201 thousand for 2023, an increase from last year (2022 – $166 thousand). There were no bank borrowings on our RBC credit facilities in 2022 or 2023.

Depreciation and Amortization

Depreciation and amortization costs decreased to $455 thousand for the year ended December 31, 2023 (2022 - $1.3million). This includes intangible asset amortization of $247 thousand (2022 - $735 thousand) and $196 thousand in amortization of right-of-use assets (2022 - $548 thousand), as well as minimal capital asset amortization.

Tax Expense

Due to the significant non-capital loss carry forwards and available investment tax credits (see Note 14 of the audited Consolidated Financial Statements), there was no current tax provision to recognize despite positive net operating income.

Despite the significant non-capital loss carry forwards and available investment tax credits (see Note 14 of the audited Consolidated Financial Statements) to shelter future taxable income from income taxes, we have not recognized deferred tax assets at either December 31, 2023 or 2022 because management concluded it was not probable to realize this benefit in the foreseeable future. In making this determination, management considered the uncertainties in projecting future taxable income, the uncertainties related to the technology industry and competitive environment in which we operate, and the lack of available income tax planning strategies.

EBITDA and Adjusted EBITDA

EBITDA and Adjusted EBITDA are non-IFRS measures. EBITDA is defined as earnings before income tax expense, financing costs(interest), depreciation and amortization. Adjusted EBITDA is defined as EBITDA adjusted for foreign exchange gain or loss, any acquisition-related costs, share-based compensation, any restructuring charges, any material write-down of inventories, and any other material impairment charges.

Management believes that EBITDA and Adjusted EBITDA provide important financial measures of Novra's operating performance because they allow management, investors, and other stakeholders to evaluate and compare Novra's core operating results from period to period by removing the impact of its capital structure (interest expense), asset base (depreciation and amortization), and tax consequences. Because EBITDA and Adjusted EBITDA do not have any standardized meanings prescribed by IFRS, other companies may calculate these non-IFRS measures differently, and therefore our EBITDA and Adjusted EBITDA may not be comparable to similar titled measures of other companies. *Accordingly, readers are cautioned to not place undue reliance on these financial measures and encouraged to read all IFRS accounting disclosures presented in the audited Consolidated Financial Statements.*

Adjusted EBITDA was $845 thousand for year ended December 31, 2023 compared to $884 thousand for the same period in 2022.

SELECTED QUARTERLY FINANCIAL INFORMATION

(dollars in thousands, except per share data)

The following table sets out selected financial information for our current and eight most recently completed prior quarters.

(In thousands of dollars, except with respect to earnings (loss) per share	**Dec 31, 2023**	Sep 30, 2023	June 30, 2023	Mar 31, 2023	**Dec 31, 2022**	Sep 30, 2022	Jun 30, 2022	Mar 31, 2022	**Dec 31, 2021**
Revenue	**$ 2,927**	$ 1,241	$ 2,192	$ 1,087	**$ 2,195**	$ 2,141	$ 2,338	$ 929	**$ 1,509**
Gross profit	**1,587**	913	887	696	**1,618**	999	1,170	348	**569**
Operating expenses	**891**	802	1,005	1,051	**1,234**	1,008	1,228	1,082	**279**
Foreign exchange gain (loss)	**(158)**	34	(14)	85	**18**	29	8	43	**(52)**
Net income (loss) attributable to Novra	**(78)**	354	(52)	(324)	**200**	(234)	(230)	(643)	**264**
Adjusted EBITDA Income (loss)	**832**	253	85	(70)	**653**	362	274	(405)	**594**
Earnings (loss) per share - diluted	**$ (0.002)**	$ 0.011	$ (0.002)	$ (0.010)	**$ 0.006**	$ (0.007)	$ (0.007)	$ (0.019)	**$ 0.008**
Weighted average shares outstanding	**33,420**	33,420	33,420	33,420	**33,420**	33,420	33,420	33,420	**33,420**

We occasionally receive large orders from customers and partners that can provide revenue visibility for future quarters. However, a large portion of Novra's quarterly revenues are generated from orders received during the quarter rather than from order backlog going into the quarter. As a result, Novra's revenue, profitability and cash flows are difficult to predict and may fluctuate significantly from quarter to quarter.

At December 31, 2023 both Novra's deferred revenue and order backlog were significantly lower compared to a year earlier because deferred revenue has been recognised, and orders have shipped in 2023, in excess of what was booked during the year. We continue to expect significant volatility in revenue from quarter to quarter due to particular timing of orders from existing customers, continued economic and supply chain instability and significant unpredictability in the length of sales cycles with new and existing customers in the sales pipeline. The result of limited order visibility is that revenue and, accordingly, profitability and cash flows, will be difficult to predict and will fluctuate. We also expect on-going global geopolitical disruptions, higher interest rates and economic challengestocontinue to impact markets and economies and therefore our customers and our business (refer to the Risks and Uncertainties section below).

LIQUIDITY

Quick Ratio

Our principal liquidity requirements are for working capital, capital expenditures and for pending acquisitions as previously announced. Management measures liquidity based on Novra's unrestricted cash, certain cashable guaranteed investment certificates (GICs) and accounts receivable. The following table shows our total liquid assets at the following reporting dates.

(In thousands)	**December 31, 2023**	December 31, 2022
Cash	**$ 2,448**	$ 1,966
Guaranteed investment certificates	**-**	1,354
Accounts receivable	**756**	698
Total liquid assets	**$ 3,204**	$ 4,018
Quick ratio (1)	**1.51:1**	1.21:1

(1) total liquid assets over total current liabilities, excluding amounts due to related parties and deferred revenue

Guaranteed investment certificates have been included in liquid assets in 2022 due to their ability to be cashed in if necessary; although an interest penalty would be incurred if this was done.

The quick ratio as defined above is a non-IFRS financial measure. We believe this is an important financial metric to investors and other stakeholders to assess Novra's ability to meet its third-party short-term obligations with its most liquid assets. The related parties have expressed no intent to call on their debt in the near term until such time that Novra is in a stronger capital position. We also excludeddeferred revenue in the quick ratio calculation as it does not represent a contractual financial obligation (i.e. it is a liability that will reverse once revenue recognition has been met).

At December 31, 2023, Novra's quick ratio was 1.51:1 or $1.51 of liquid assets available to cover each $1.00 of third-party current liabilities, an increase from 1.21:1 at December 31, 2022. This improvement resulted from a significant decrease in current liabilities.

The following is a summary of cash flows by activities for 2023 vs. 2022. Overall, cash increased by $483 thousand during the year ended December 31, 2023, to $2.4 million.

Operating activities

We had positive cash flows of $110 thousand from operating activities during the year ended December 31, 2023, compared to positive cash flows from operating activities of $1.3 million for the same period in 2022.

Investing activities

Cash flows from investing activities resulted in $739 thousand increase in cash (2022 - $1.9 million reduction). The primary uses of this cash were costs of development assets, offset by a redemption of GIC investments.

Financing activities

We had negative $498 thousand net cash flow from financing activities during the year ended December 31, 2023, compared to negative net cash from financing activities of $702 thousand in the comparable prior period. In the current year we made repayments on our WEDC, Chymiak, and disaster assistance loans and made lease payments of $353 thousand toward our lease liabilities (2022 - $594 thousand).

As of the date of this MD&A we continue to have access to the RBC Credit Facilities. There are no amounts outstanding.

Working Capital Ratio

Novra's working capital ratio was as follows:

(In thousands)		**December 31, 2023**		December 31, 2022
Working Capital:				
Current assets	**$**	**4,638**	$	6,202
Current liabilities		**4,741**		5,697
Working Capital:	**$**	**(103)**	$	505
Working capital, excluding related party and deferred revenue balances	**$**	**2,518**	$	2,891
Working capital ratio[(1)]		**2.19:1**		1.87:1

"Working capital, excluding related party and deferred revenue balances" and "Working capital ratio" as defined above are both non-IFRS financial measures. Management believes these are useful, relevant financial measures to investors and other stakeholders in order to assess the available working capital to fund Novra's day-to-day operations.

Working capital decreasedby $608 thousand compared to December 31, 2022. This was largely as the result of a reduction in cash on hand. Novra's working capital excluding related party and deferred revenue balances, which we believe is an important financial metric to assess Novra's ability to meet its third-party short-term obligations, was $2.5 million, compared to $2.9 million at the previous year end. Our working capital ratio (as defined above) was 2.19:1 or $2.19 of current assets per $1.00 of current liabilities, excluding amounts due to related parties and deferred revenue at December 31, 2023, an improvement from December 31, 2022.

Contractual obligations and commitments

At December 31, 2023, Novra's contractual obligations and commitments were as follows:

(In thousands) **Payment due:**		**Total**		**Within 1 year**		**1 to 5 years**		**5 to 10 years**		**10+ years**
Borrowings (Note 11)	**$**	**2,439**	$	170	$	21	$	2,085		163
Operating leases (Note 18)		**1,718**		270		1,229		219		-
Trade payables and other payables		**1,618**		1,618		-		-		-
Total third party contractual obligations		**5,775**		2,058		1,250		2,304		163
Promissory notes from related party (Note 16)		**1,272**		-		1,272		-		-
Advances from related parties (Note 16)		**1,673**		1,673		-		-		-
Total contractual obligations	**$**	**8,720**	**$**	**3,731**	**$**	**2,522**	**$**	**2,304**	**$**	**163**

Refer to the notes to the Consolidated Financial Statements for further details.

Based on the December 31, 2023 liquid assets (as defined above) and working capital, we have sufficient liquid resources to fund all third-party contractual obligations coming due within one year.

CAPITAL RESOURCES

Our key objectives and policies for managing capital are to maintain a strong capital base in order to:

- maintain investor, creditor and market confidence;
- advance Novra's corporate strategies to generate attractive risk-adjusted return over the long-term for our shareholders;
- sustain Novra's operations and growth through all cycles; and
- ensure compliance with the covenants of any applicable credit facility and other financing facilities.

AtDecember 31, 2023 the Company had cash and cash equivalents of $2.4 millionand access to undrawn revolving facilities of $1.195 million (the RBC Credit Facilities as described in Note 11 of the Consolidated Financial Statements), subject to the terms and conditions of the credit facilities. At the date of this MD&A we continue to have access to these facilities and no amounts are outstanding.

At December 31, 2023, Novra's total outstanding voting common shares were 33,420,293 excluding the 2,000,000 common shares held by our subsidiary, Wegener (December 31, 2022 - 33,420,293). Our debt and equity positionswere as follows:

(In thousands)		**December 31, 2023**		December 31, 2022
Borrowings (drawn)	**$**	**2,439**	$	2,615
Promissory notes from related party		**1,272**		1,200
Shareholders' equity		**(2,826)**		(2,814)
Total capital resources	**$**	**885**	$	1,001

The change in capital resources was primarily due to repayments on borrowings and foreign exchange effects on borrowings denominated in US dollars.

Management believes the Company's current cash, access to the undrawn portion of debt facilities and its access to additional financing in the form of debt or equity will be sufficient to meet its working capital and capital expenditure requirements for the foreseeable future, including its contractual obligations and the commitments noted above.

OFF BALANCE SHEET ARRANGEMENTS

AtDecember 31, 2023, we had no off-balance sheet arrangements.

TRANSACTIONS WITH RELATED PARTIES

In addition to key management personnel compensation, we have a material unsecured promissory note with IMT (IMT is a shareholder and our President & CEO has a controlling interest in IMT) as disclosed in the "Liquidity" and "Capital Resources" sections of this MD&A. Refer to Note 16of the Consolidated Financial Statements for a complete disclosure of all related party transactions, including amounts due on demand.

ACCOUNTING MATTERS

Critical Accounting Estimates

The auditedConsolidated Financial Statements include certain amounts that are inherently uncertain and judgmental in nature. As a result, management is required to make assumptions and best estimates in order to determine the reported values. We consider an accounting estimate to be critical if: (1) it requires that significant assumptions be made in order to deal with uncertainties; and (2) changes in the estimate could have a material impact on our results of operations, financial condition or liquidity.

We believe that the material items requiring such subjective and complex estimates are as follows:

- Revenue recognition
- Inventory obsolescence
- Business combinations
- Impairment of non-financial assets

Refer to Note 3 of the audited Consolidated Financial Statements for the years ended December 31, 2023 and 2022 for further details.

We believe that the amounts included in these financial statements reflect management's best judgment. However, factors including, without limitation, those noted under "Risks and Uncertainties" below could cause actual events or results to differ materially from our underlying assumptions and estimates. Accordingly, this could lead to a material adverse impact on our results of operations, financial condition and/or liquidity.

FINANCIAL INSTRUMENTS AND OTHER INSTRUMENTS

There were no significant changes to the types of financial instruments held during the year endedDecember 31, 2023. For further details refer to Note 8 of the audited Consolidated Financial Statements for the years ended December 31, 2023 and 2022, with additional information on Borrowings in Note 11.

RISKS AND UNCERTAINTIES

The risks and uncertainties below are not the only ones facing Novra. Additional risk and uncertainties not presently known to us or that we currently consider immaterial may also impair Novra's business operations and cause the price of Novra's common shares to decline. If any of the following risks occur, Novra's business may be harmed and its financial condition and results of operations may suffer significantly. In that event, the trading price of Novra's common shares could decline, and an investor may lose all or part of his, her or its investment. Accordingly, potential investors are strongly recommended to consult an independent financial advisor before deciding to invest in Novra.

- We rely on a small number of customers for a large percentage of our revenue. Accordingly, our quarterly revenue and operating results can be difficult to predict and can fluctuate materially, which may negatively impact Novra's results of operations.
- We may not timely identify emerging technology and market trends, enhance our existing technologies or develop new technologies to effectively compete in the multimedia broadband content distribution business.
- We face significant competition from several competitors and if we do not compete effectively with these competitors, our revenue may not grow and could decline.
- Our RBC credit facilities agreement is subject to annual review. There is no assurance RBC will renew the existing credit facilities in 2024.
- Historically, we have relied significantly on a related party (IMT) for new capital. There is no assurance that IMT will participate in future capital funding activities.
- We may engage in future acquisitions that could disrupt our business, cause dilution to our shareholders and/or negatively impact Novra's financial condition and operating results.
- Failure to manage Novra's growth successfully, including integration of acquired companies, may adversely impact Novra's operating results.

- The industry in which we operate is subject to rapid technological changes, and our continued success will depend upon our ability to react to such changes and having the financial resources to continue developing innovative products. Additionally, rapid technological changes may lead to material inventory obsolescence if we fail to manage effectively our inventory holdings.
- We have limited intellectual property protection for our product solutions.
- Discontinued third party components and defects in components or design of Novra's product solutions could result in significant costs to Novra and could impair our ability to sell existing product solutions.
- Escalating lead-time and availability issues across the globe for electronic and other components that that are used in Novra's products could significantly delay our ability to build products and/or increase costs.
- We rely on a limited number of contract manufacturers, including off-shore manufacturers, for our product solutions. This could result in increases to costs or lead-times outside of our control.
- Our ability to recruit and retain key personnel is crucial to our ability to develop, market, sell and support our products and services. Loss of the expertise, experience and corporate knowledge of current key personnel could negatively affect Novra's operations.
- A substantial portion of Novra's revenues and expenses is denominated in U.S. dollar and Euro currencies and therefore we are exposed to significant currency risk. Failing to actively manage currency risk may negatively impact Novra's operating results.
- We are exposed to significant customer credit risk, particularly as the majority of our business is with foreign customers, which could lead to significant impairment charges.
- We may have unintentionally infringed on the intellectual property rights of others without appropriate licensing arrangement in place, which could lead to litigation and significant costs to Novra.
- We rely on resellers and distributors to complement our small sales team to drive future sales growth.
- On-going or new public health crises may affect economies and cause economic downturns. They may also cause staff shortages, reduced customer demand, a rise in customer delinquency, delayed or inadequate performance by supply chains, and increased government regulations or interventions, all of which may negatively affect the business, financial condition or results of operations of the company.
- With international customers and suppliers, global economic and geopolitical uncertainty may negatively affect our ability to make sales and to build our products.
- Because our products and solutions are often purchased as part of large corporate infrastructure projects, the reduced availability and higher cost of credit to our customers could reduce their ability to purchase our products and services.
- Cybersecurity risks are increasing and evolving globally. Unauthorized parties continue to, with increasing sophistication, attempt to gain access to systems and information through unauthorized access, fraud or other means of deception. Novra's business operations depend on how well it (as well as its counterparties) protect against, or limit, damage to networks, equipment, information technology systems, software, and data from these threats. Risk and exposure to these matters cannot be fully mitigated due to, among other things, the inherent vulnerabilities of digital systems and the evolving nature of these threats.
- Depending on Wegener's financial performance, we may further delay or abandon the acquisition of the remaining 48.4% of Wegener. Also, there can be no guarantee that Wegener shareholders will approve eventual acquisition of the remaining 48.4%.