novra
TECHNOLOGIES INC.

MANAGEMENT’S DISCUSSION & ANALYSIS

Year ended December 31, 2021 and 2020
(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 years ended December 31, 2021 and 2020, 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 May 2, 2022 and is current to this date. The MD&A and the Consolidated Financial Statements were approved and authorized for issuance by the Board of Directors on May 2, 2022.

Financial statements, MD&A and other information relating to Novra are available on SEDAR at www.sedar.com.

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" and is a Class 1 reporting issuer. Novra is also listed in the United States on the OTCQB Venture Exchange, under the symbol NVRVF. We have been in the satellite data distribution business since 2000. In 2016, we significantly expanded our product portfolio and global presence with the acquisition of International Datacasting Corporation ("IDC"), a long-time leader in the same sector (based in Ottawa, Canada). Novra also owns 51.6% controlling interest of Wegener Corporation ("Wegener"), based in Atlanta GA, which has expanded our footprint in digital media management and distribution technologies for applications including digital signage, radio and television. The companies joined together to form the Novra group of companies ("Novra Group"). For more background see our group website at www.novragroup.com.

Today, the Novra Group is a global business with customers on every continent. We provide technology for distribution of broadband data via satellite and IP networks. 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.

In these times of accelerating change and global uncertainty, our business agility and drive for innovation are more important than ever. Changes in our market are creating important opportunities we are addressing with product evolution as well as targeted marketing focus. Important trends include:

- **Increasing migration to IP delivery**—via internet or private IP networks—as connectivity options expand. Our products are IP enabled and we offer both future-proof technology and expertise to help customers leverage the right distribution platform for their networks.

- **Ongoing consolidation**—customers, partners, and competitors in some of our traditional vertical markets are increasingly merging and combining. This creates opportunity to capture market share in areas where we provide a proven reliable alternative.

- **Stability and continuity**—satellite continues to be strong in government applications around the world. Global weather services, defense and information services continue to rely on satellite and we see continuity and progress.

- **Growth:** Video, faith-based broadcasting, blockchain data, cybersecurity are all market niches where we are enjoying success and see growth and opportunity.

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.

Of particular importance over the last year, given current global supply chain challenges impacting all types of businesses around the world, is the experience and dedication of our procurement and production teams, which has been a critical competitive advantage. They continue to work constructively with our networks of vendors and partners to procure the necessary components and assemblies to facilitate product deliveries to our customers.

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 allows us to focus on maintaining 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.

- *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. Recent advances in this product line have enabled 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.

OVERALL PERFORMANCE

Novra's 2021 financial results improved significantly over the previous year. The company returned to profitability, with a Net Income of $180 thousand for the year. We previously had a $2.4 million Net Loss in 2020, largely affected by the global economic impact of the onset of the COVID-19 pandemic. This is a year-over-year improvement of approximately $2.6 million. This improvement resulted from a combination of significantly reduced operating costs and a 45% increase in revenue, to $7.2 million in 2021.

Our revenue would have been much higher, but supply chain issues prevented us from delivering on a couple of large orders that we had received in Q2 of 2021. These orders are expected to ship in the first half of 2022. At year end, our backlog and deferred revenue was over $6.19 million. This amount provides some visibility into future revenue for 2022 and beyond.

In response to the evolving market dynamics, management took targeted actions, including implementing additional cost saving measures, in 2021. At the same time, we have continued to invest in focused innovation initiatives and building customer relationships to address current customer needs and position Novra for future growth.

The Q4 financial highlights 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).

Note that Novra consistently receives a certain number of orders and service contracts that provide a baseline of revenue from quarter to quarter. We also receive large orders that are less regular in their timing, which lead to significant irregularity in Novra's revenue, profitability and cash flows and can result in lack of comparability on a quarterly basis. Given the nature of our business, annual comparisons can be more telling than quarterly.

In Q4 2021 three notable accounting changes significantly reduced operating expenses by concentrating the impact in the one quarter. While full year 2021 financial statements accurately reflect these costs, the quarterly number is artificially low, particularly when compared to Q4 2020. These three events were: capitalization of certain development costs, removal of some accrued commission that was paid out in prior periods and the change from recording all audit expenses in the fourth quarter to spreading these over the entire year.

Q4 2021 vs. Q4 2020:

- Revenue was $1.5 million, compared to $1.7 million in Q4 2020, a decrease of $165 thousand or 10%.
- Gross profit at $569 thousand was 37.6% of total revenue, compared to $631 thousand or 37.7% in Q4 2021.
- Operating expenses were $279 thousand, compared to $1.201 million in Q4 2020, a reduction $922 thousand or 77%.*
- Net Income was $264 thousand, compared to a loss of $749 thousand in Q4 2020. Reducing net income, is approximately $143 thousand of amortization expenses for intangible assets associated with the prior purchase of 51.6% of Wegener.*
- Adjusted EBITDA*** increased to a gain of $594 thousand, compared to Adjusted EBITDA*** loss of $116 thousand in Q4 2020.*

* Quarterly comparisons of these items are significantly affected by the accounting changes identified above. Please refer to the annual information immediately below for a more meaningful comparison.

Full Year 2021 vs. 2020:

- Total revenue was $7.2 million, compared to $5.0 million, an increase of $2.2 million or 45%.
- Gross profit at $3.3 million was 46.2% of total revenue, compared to $2.4 million or 48.2%.
- Operating expenses were $4.0 million, compared to $5.1 million, a reduction of $1.1 million or 22%.**
- Cash balance at December 31, 2021, was $3.0 million versus $3.9 million at December 31, 2020.
- Consolidated net income was $180 thousand, compared to a loss of $2.5 million in 2020. Reducing net income in 2021 is approximately $574 thousand (2020: $614 thousand) of amortization expenses for intangible assets associated with the prior purchase of 51.6% of Wegener.
- Adjusted EBITDA*** gain of $1.49 million, compared to Adjusted EBITDA*** loss of $921 thousand in 2020.
- Novra recorded $367 thousand in Other Income in the year ended December 31, 2021 related to funding under the Canada Emergency Wage Subsidy (2020: $438 thousand);
- During 2021, Wegener recognized $664 thousand of financing under the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) as Other Income. Refer to Note 11(e) and Note 20 in the Consolidated Financial Statements.

** Operating expenses in 2021 were affected by the move to capitalizing certain development costs, which is further discussed under the Operating Expenses section.

***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 below for details regarding calculation of this non-IFRS measure.

Our ongoing drive to realize synergies and efficiencies across the group resulted in consolidated operating expenses continuing to trend down in 2021 compared to 2020. The additional permanent and temporary cost saving measures that have been implemented resulted in considerable reductions in these expenses. We will continue to actively control and adjust operating expenses in response to company performance and current volatile market conditions.

2021 Results and Outlook

The headwinds created by COVID-19 continued throughout 2021 and into 2022. The global uncertainty continues as we see COVID-19's major impact on our clients, our component suppliers and our contract manufacturers. Although unpredictability remains, we saw our orders rebound in 2021 and signs are promising that business is slowly coming back as we look at our sales opportunities for 2022 and 2023.

Our clients continue to navigate and adapt through these challenging circumstances to ensure operational reliability of their networks. We help them to achieve their goals by providing expert support services and our newly developed products, which enhance their networks and enable a more reliable service to their customers. Their continued confidence in choosing our products and services is reflected in our 2021 bookings and sales opportunities which continue into 2022. This demonstrates the importance our customers, even in times of global uncertainty, place on investment in critical infrastructure components that Novra provides. We continue to pride ourselves on being a partner to our customers, there to support them in trying times as well as in times of exciting growth.

Increasingly in 2021 and into 2022, supply chain challenges have continued to intensify around the world, with distributor inventories dropping, price increases and lead-times on certain electronic components stretching to many months. In addition, global transport times and manufacturing costs have also increased. Novra's adaptive strategy to deal with these challenges is through strategic inventory purchases, including advance purchasing of certain key components, and nurturing additional procurement channels.

Although Novra has maintained sufficient inventory to continue to fulfil most orders, some larger or customized orders in our current backlog have seen increased lead-times, which caused a slippage of 4 to 6 months in our ability to deliver these orders. We are very carefully monitoring our supply chains and transport channels, while taking measured actions to mitigate these effects where practical.

We are preparing for continued stronger future performance with our on-going sales efforts and with our client centric R&D activities. These have resulted in several new products which have now been selected for new project rollouts, and we are starting to receive more of those orders. 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 over the last three years has been the continued development of the MISTiQ platform for cloud-based distribution of content. We are also expanding our software products—including the Datacast XD content management and distribution—into the Software as a Service (SaaS) model. This more modern recurring-revenue model is increasingly popular with customers who don't have to invest upfront in software, and it's part of our ongoing strategic goal of generating a more consistent revenue base. In a project-based business 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.

Highlights of 2021

- **OTCQB listing**: In 2021 Novra became listed on the OTCQB Venture Exchange in the US, under the symbol NVRVF. This will enable US investors to more easily purchase Novra shares.

- **Building on MAP:** We expanded the successful rollout of our MAP platform of products. MAP (Modular Architecture Platform) is a family of products based on common core hardware, customized for specific applications/vertical markets. Moving more features to software means this line of products is more flexible, versatile, upgradeable, and competitively priced.

    - We launched initially with the MAP Pro Audio for professional radio networks. In 2021 MAP surpassed our other audio products, being adopted by new radio network customers as well as several of our long-time large radio customers. MAP receivers can be used interchangeably in a mixed network with the previous generation of IDC audio receivers, making migration to this new technology easy and very attractive. This is part of our philosophy of "no customer left behind".
    - We launched and delivered the MAP Pro Cinema for a new digital cinema network in Australia. Working with major telecom provider Optus, we are providing delivery infrastructure for a customer to deliver digital cinema files to cinemas across Australia and New Zealand. This model of MAP has the expanded onboard storage, processing power and high speeds necessary for this intensive application at an extremely competitive price.

The units are also software upgradeable to support distribution of live events, an important advantage for the customer and end-user.

  - We launched the MAP Pro Video, to support flexible secure distribution of live videos and files. The MAP Pro Video is now undergoing technical trials/evaluation by several important customers.

- **MISTiQ rollout:** We released a new version of our cloud distribution platform, MISTiQ and booked our first several long-term service contracts. MISTiQ replicates the reliability and functionality of satellite in the IP environment. The internet is an inherently unreliable environment for broadcast quality content distribution. MISTiQ is designed to mitigate the inherent challenges of IP distribution using SRT and advanced SMPTE protocols. We are pleased to be part of the SRT Alliance, working with industry leaders to improve streaming media technology.

  MISTiQ clients are integrated into our next-generation hardware products, making it easy for customers to adopt the platform. We are providing service directly, with third-party partners, and also enabling our customers to operate their own service. We are also exploring opportunities to "white label" OEM our technology to other providers.

- **Sampling of Orders**: Novra received orders from new and returning customers and in all of our vertical markets. The list below describes a sampling of these to show the range of project sizes, geographic regions, vertical markets, and applications where customers turned to the Novra Group for solutions:

  - A $3.2 million follow-on order was received from a major radio network for our high-end Audiocaster Pro satellite receivers. This order comes on the heels of a successful initial rollout last year with the same customer and represents an endorsement of the ongoing work our team has done to develop this sophisticated product and support this important network.
  - An initial order for more than $700K was placed by a US-based paging service provider. This is a specialized project to modify and customize an existing data receiver to retrofit a legacy paging network. Our engineers worked closely with the client's team in extended testing in order to meet their stringent reliability requirements. The initial deployment is expected to be followed up with additional rollouts over time.
  - Based on our next-generation MAP Pro Cinema platform, the first phase of a new digital cinema network that launched in 2021. It has rolled out and is delivering films, pre-show advertising and digital signage.
  - A major Canadian radio broadcaster placed follow-on orders to support on-going operation of their network.
  - Working with a long-time service provider partner, we won a major competitive tender to receive an order for a new digital signage network for a large financial services customer in Latin America.
  - A new order for implementation of a disaster recovery system for a US military television and radio network was received. This will provide redundant back-up for a network we provided previously.
  - Strong follow-on orders continued for ongoing US government projects.
  - Steady orders were received for Novra's S400 Pro for use in weather applications.

- Multiple small and medium radio networks around the world purchased MAP, STAR and SFX radio receivers and other equipment to power new networks or to retrofit or expand existing networks.
- Two long-time satellite-based radio networks adopted MISTiQ to launch hybrid satellite/internet distribution to improve network uptime and reach locations not accessible by satellite.

While not part of the year in review, it is worth mentioning sales in 2022 are off to a promising start, with some important strategic wins:

- We received our largest order to date from Blockstream, for secure distribution of blockchain data via satellite. We are the exclusive providers of receivers used in their "Satellite Pro Kit" professional solution.
- We received a major follow-on order for a digital signage customer in the health and wellness space that will be significantly expanding their network over the next few quarters.
- We booked another major banking network in Latin America with a long-time digital signage customer/partner.

We 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. We have successfully consolidated, integrated, and refocused our engineering efforts to provide world-class leading-edge products and services to our clients.

Through this process Novra has evolved significantly into 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 a 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 audited 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,		
	2021	2020	% Chg	**2021**	2020	% Chg
Revenue by type:						
Products	**$ 1,025**	$ 1,116	-8%	**$ 5,606**	$ 2,690	108%
Services	**484**	558	-13%	**1,600**	2,289	-30%
Total revenue	**1,509**	1,674	-10%	**7,206**	4,979	45%
Gross profit	**569**	631	-10%	**3,329**	2,398	39%
Gross margin	***37.7%***	*37.7%*		***46.2%***	48.2%	
Operating expenses	**279**	1,201	-77%	**3,999**	5,147	-22%
Operating income (loss)	**290**	(570)	NM	**(670)**	(2,749)	-76%
Other income (expenses)	**(62)**	(179)	-65%	**850**	323	163%
Net income loss as reported under IFRS	**227**	$ (749)	NM	**180**	$ (2,426)	NM
Adjustments:						
Finance costs	**32**	64	-49%	**177**	210	-16%
Depreciation and amortization	**283**	307	-8%	**1,132**	1,238	-9%
EBITDA - non-IFRS measure	**542**	(378)	NM	**1,489**	(978)	NM
Loss (gain) on foreign exchange	**52**	260	-80%	**5**	51	-90%
Share-based compensation	**0**	2	-100%	**0**	6	-100%
Adjusted EBITDA - non-IFRS measure	**594**	$ (116)	NM	**1,494**	$ (921)	NM

*EBITDA and Adjusted EBITDA are non-IFRS financial measures. EBITDA and Adjusted EBITDA provide 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 below for details regarding calculation of this non-IFRS measure.

In Q4 2021 three notable accounting changes significantly reduced operating expenses by concentrating the impact in the one quarter. While full year 2021 financial statements accurately reflect these costs, the quarterly number is artificially low, particularly when compared to Q4 2020. These three events were: capitalization of certain development costs, removal of some accrued commission that was paid out in prior periods and a change from recording all audit expenses in the fourth quarter to spreading these over the entire year.

Revenue and Gross Margin

Total revenue for the year increased to $7.2 million (2020 - $5.0 million). Gross margin was 46.2% for the year, 2.0% lower than for 2020. The decrease in gross margin was driven by a change in product/service mix and increased costs incurred as a result of current supply chain and transportation challenges.

For 2021, our top 10 customers accounted for 66.3% of total revenue, with the largest accounting for 31% or $2.2M in aggregate. In 2020, our top 10 customers accounted 44.0% of total revenue with the first and second largest accounting for 10% and 9% respectively or $972 thousand in aggregate. No other customer accounted for more than 10% of total revenue.

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.

	Three Months Ended December 31,		Year Ended December 31,	
Geographic Market	**2021**	2020	**2021**	2020
Americas ex-Canada	**$ 1,267**	$ 890	**$ 5,416**	$ 3,068
Canada	**82**	100	**434**	431
EMEA	**96**	337	**462**	713
APAC	**63**	347	**893**	767
	$ 1,508	$ 1,674	**$ 7,205**	$ 4,979

Operating Expenses

(In thousands)	Three Months Ended December 31,			Year Ended December 31,		
	2021	2020	% Chg	**2021**	2020	% Chg
General and administrative ("G&A")	**137**	342	-60%	**1,119**	1,263	-11%
Sales and marketing ("S&M")	**82**	209	-61%	**789**	908	-13%
Research and development ("R&D")	**60**	650	-91%	**2,091**	2,976	-30%
Total operating expenses	**279**	1,201	-77%	**3,999**	5,147	-22%

Total OPEX in 2021 has decreased by 22% from 2020. For financial reporting purposes, we allocate facility 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. Our G&A costs decreased by 11% to $1.1 million (2020 - $1.3 million), a decrease of $144 thousand. This decrease is primarily attributable to a reduction in compensation expenses.

Our Sales and Marketing ("S&M") costs consist of compensation, including sales commissions, paid to our sales team, as well as tradeshow, promotion and travel and entertainment costs. Our sales and marketing expense decreased by $119 thousand or 13% to $789 thousand (2020 - $908 thousand). The decrease was primarily attributable to the removal of some accrued commissions that had been paid in prior periods.

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 are also included in R&D costs. This amortization of $443 thousand in 2021 ($476 thousand in 2020) distorts our R&D expenditures as a percentage of revenue and it has an impact on our net operating results.

In prior periods, R&D product development costs were expensed as incurred; we did not capitalize development costs. Because of this, no capital asset related to our internal investments in developing products and technologies was previously included in our consolidated statement of financial position. With continued significant development being invested in products and technologies that have extended useful lives, Novra made the decision in Q4 of 2021 to begin capitalizing certain development costs to more appropriately present our technology assets and R&D expenses. This change was made retroactively to all development costs starting January 1, 2021. This change increases the Intangible Assets reported on the Consolidated Statement of Financial Position and decreases the Operating Expenses reported on the Consolidated Statement of Operations and Comprehensive Income. In future periods, amortization of these development assets over their useful lives will be added to Operating 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, most 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 2021 had a foreign exchange loss of $5 thousand, compared to a loss of $51 thousand in 2020.

At December 31, 2021, the foreign currency denominated assets and liabilities, subject to remeasurement, are as follows:

(in thousands)	**USD**	**Euro**
Assets	3,070	15
Liabilities	(2,140)	(4)
Net assets before hedging	930	11
Currency derivative contracts	-	-
Net assets - unhedged	930	11
Impact on Novra's earnings if 5% change in foreign exchange rate:	47	1

At December 31, 2021, if the Canadian dollar had weakened/strengthened by 5% against the U.S. dollar and Euro with all other variables held constant, the resulting change to Novra's consolidated net income (loss) would have been $47 thousand. The above excludes Wegener's assets and liabilities which are denominated in USD.

Other Income and Finance Costs

The Company qualified for the Canada Emergency Wage Subsidy (CEWS) in 2021 and recorded $367 thousand in Other Income (2020 - $584 thousand). The Company also recorded $2 thousand related to the Canada Recovery Hiring Program in 2021 (2020: $NIL). These are federal government programs created to provide financial support to businesses affected by COVID-19.

Wegner previously qualified for funding from their bank through the Coronavirus Aid, Relief, and Economic Security Act (CARES Act). This was initially recorded as borrowing. Management expected all or a substantial portion of the loan balances to be forgiven. However, the interpretation of legislated forgiveness rules continued to evolve and the amounts were only recognized as revenue when Management was able to confidently predict the amount of forgiveness that would be granted. In 2021 a total of $664 thousand was forgiven and recognised as finance income. All amounts received under this program have now been fully forgiven.

Finance costs were $177 thousand for the current year, a slight decrease compared to last year (2020 – $210 thousand). There were no bank borrowings on our RBC credit facilities in 2021.

Depreciation and Amortization

Depreciation and amortization costs decreased to $1.1 million for 2021 (2020 - $1.2 million), which includes intangible asset amortization of $574 thousand (2020 - $614 thousand) and $528 thousand in amortization of right-of-use assets (2020 - $528 thousand).

Tax Expense

The company had net income for the year; however income tax expenses were not recorded due to the availability of tax losses from previous years being used to offset taxable income of the current year.

Despite the significant non-capital loss carry forwards and available investment tax credits (see Note 14 of the Consolidated Financial Statements for 2021 and 2020) to shelter future taxable income from income taxes, we have not recognized deferred tax assets in either 2021 nor 2020 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 a gain of $594 thousand for the quarter ended December 31, 2021 compared to a loss of $116 thousand for the same period in 2020. Adjusted EBITDA for the year ended December 31, 2021 was a gain of $1.49 million, while adjusted EBITDA for 2020 was a loss of $921 thousand. The increase in EBITDA and Adjusted EBITDA was driven by an increase in revenue and gross profit, along with a reduction in operating expenses.

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, 2021**	Sep 30, 2021	Jun 30, 2021	Mar 31, 2021	**Dec 31, 2020**	Sep 30, 2020	Jun 30, 2020	Mar 31, 2020	**Dec 31, 2019**
Revenue	**$ 1,510**	$ 891	$ 1,078	$ 3,728	**$ 1,675**	$ 1,092	$ 1,186	$ 1,026	**$ 1,817**
Gross profit	**569**	193	404	2164	**631**	517	761	488	**747**
Operating expenses	**279**	1,185	1345	1190	**1201**	1229	1271	1446	**1439**
Foreign exchange gain (loss)	**52**	17	(90)	120	**260**	(36)	(187)	(433)	**(133)**
Net income (loss) attributable to Novra	**264**	(710)	(432)	759	**(749)**	(550)	(266)	(262)	**(787)**
Adjusted EBITDA Income (loss)	**594**	(380)	(57)	1,338	**(116)**	(325)	103	(580)	**(358)**
Earnings (loss) per share - diluted	**$ 0.008**	$ (0.021)	$ (0.013)	$ 0.023	**$ (0.022)**	$ (0.016)	$ (0.008)	$ (0.008)	**$ (0.024)**
Weighted average shares outstanding	**33,396**	33,396	33,396	33,396	**33,396**	33,396	33,396	33,393	**33,372**

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 in 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. Novra had considerable deferred revenue at year end and currently has a backlog of orders received, but not yet shipped.

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 COVID-19 to continue to impact markets and economies and therefore 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 and accounts receivable. The following table shows our total liquid assets at the following reporting dates.

	December 31, 2021	December 31, 2020
Cash	**$ 2,965**	$ 3,859
Accounts receivable	**1,124**	883
Total liquid assets	**$ 4,089**	$ 4,742
Quick ratio (1)	**0.97:1**	0.99:1

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

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 excluded deferred 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, 2021, Novra's quick ratio was 0.97:1 or $0.97 of liquid assets available to cover each $1.00 of third-party current liabilities, a decrease from 0.99:1 at December 31, 2020. Note that a significant portion of current liabilities included in the calculation of the quick ratio are customer deposits. This is a liability that reverses once customers have been invoiced for the related orders.

The following is a summary of cash flows by activities for the years ended December 31, 2021 and 2020. Overall, cash decreased by $894 thousand during the year ended December 31, 2021.

Operating activities

We had positive cash flows of $252 thousand from operating activities in 2021, compared to positive cash flows from operating activities of $735 thousand for 2020. This was mostly due to the net change in non-cash working capital.

Investing activities

We had no cash flows driven by investing activities during 2021 or 2020.

Financing activities

We have negative $1.1 million net cash flow from financing activities in 2021, compared to positive net cash from financing activities of $17 thousand in 2020. In the current year we made repayments on our WEDC loan and made lease payments of $620 thousand toward our lease liabilities. We also recognized forgiveness of $664 thousand of government disaster assistance program debt financing related to COVID-19.

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:

	December 31, 2021	December 31, 2020
Working Capital:		
Current assets	**$ 6,509**	$ 7,108
Current liabilities	**7,001**	7,687
Working Capital	**$ (492)**	$ (579)
Working capital, excluding related party and deferred revenue balances	**$ 2,276**	$ 2,320
Working capital ratio(1)	**1.54:1**	1.48:1

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

"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 improved to negative $492 thousand at December 31, 2021 from negative $579 thousand at December 31, 2020. Excluding related party and deferred revenue balances, Novra's working capital decreased slightly to $2.28 million at December 31, 2021 from $2.32 million at December 31, 2020. Our working capital ratio (as defined above) remained healthy at 1.54:1 or $1.54 of current assets per $1.00 of current liabilities, excluding amounts due to related parties and deferred revenue at December 31, 2021.

Contractual obligations and commitments

At December 31, 2021, Novra's contractual obligations and commitments were as follows:

Payment due:	Total	Within 1 year	1 to 5 years	5 to 10 years	10+ years
Borrowings (Note 11)	$ **2,510**	$ 54	$ 160	$ 2,152	$ 144
Operating leases (Note 18)	**1,978**	529	1,003	446	
Trade payables and other payables	**1,109**	1,109	-	-	-
Total third party contractual obligations	**5,597**	1,692	1,163	2,598	144
Promissory notes from related party (Note 16)	**864**	831	33	-	-
Advances from related parties (Note 16)	**1,336**	1,336	-	-	-
Total contractual obligations	**$ 7,797**	**$ 3,859**	**$ 1,196**	**$ 2,598**	**$ 144**

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

Based on the December 31, 2021 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.

As at December, 2021, the Company had cash and cash equivalents of $3.0 million and access to an undrawn revolving facility (the RBC Credit Facilities as described in Note 11 of the audited 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, 2021, 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, 2020 - 33,396,293). Our debt and equity positions were as follows:

	December 31, 2021	December 31, 2020
Borrowings (drawn)	**$ 2,510**	$ 2,956
Promissory notes from related party	**864**	906
Shareholders' equity	**(1,727)**	(1,622)
Total capital resources	**$ 1,647**	$ 2,240

The change in capital resources was primarily due to net income for the year and reduced borrowings.

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

At December 31, 2021, we had no off-balance sheet arrangements.

TRANSACTIONS WITH RELATED PARTIES

In addition to key management personnel compensation, we have material unsecured promissory notes 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 16 of the audited Consolidated Financial Statements for a complete disclosure of all related party transactions, including amounts due on demand.

ACCOUNTING MATTERS

Critical Accounting Estimates

The audited Consolidated 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, 2021 and 2020 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 ended December 31, 2021. Details regarding financial instruments are contained in Note 8 of the audited Consolidated Financial Statements, 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 2022.
- 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.
- 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.
- With international customers and suppliers, global economic and geopolitical uncertainty may negatively affect our ability to make sales and to build our products.
- 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%.

COVID-19 Advisory: The outbreak of the novel strain of coronavirus, specifically identified as "COVID-19", has resulted in a widespread health crisis that has affected economies and financial markets around the world resulting in an economic downturn. This outbreak 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 impact the business, financial condition or results of operations of the Company. The duration and impact of the COVID-19 outbreak is unknown at this time and it is not possible to reliably estimate the length and severity of these developments.