MANAGEMENT'S DISCUSSION & ANALYSIS

Nine months ended September 30, 2022 and 2021

(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 September 30, 2022 and 2021, 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 November 29, 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 November 29, 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 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, and 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 several quarters, 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. 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.

OVERALL PERFORMANCE

Novra entered 2022 with backlog and deferred revenue totalling more than $6.1 million. However, transportation delays for incoming components and electronic assemblies, resulting from the global geo-political and public health situations that continue to effect global supply chains, caused extended delivery times for some custom and high-volume orders, resulting in lower than usual shipments in the first quarter of this year. Shipments against our order backlog ramped up in Q2 and continued strong in Q3. This is reflected in significantly improved financial results for the most recent quarters compared to Q1.

Since the close of Q3, additional significant shipments have been made against this backlog, which are not reflected in our Q3 revenue or income.

When comparing our 2022 vs 2021 financial results, the reader must keep in mind that for the first 9 months of 2021 we received over $1.0 million from the US and Canadian governments in Covid supports while in 2022 we received only $9 thousand. Net Income for the quarter was $15 thousand, compared to a loss of $694 thousand for the same quarter in 2021. This is a continued improvement from the small Net Income loss last quarter and resulted in a Net Income loss of $836 thousand for the nine-month reporting period.

On September 30, 2022, Novra's deferred revenue and bookings backlog totalled more than $4.2 million. That significant backlog and deferred revenue, which did not yet include the additional bookings that have and will be made in the final quarter of 2022, provide some visibility into future revenue. We've added to our inventory to help us fill customer orders quickly and we continue to ship many orders of standard products from stock, with very short lead-times. We are very carefully monitoring our supply chains and transport channels, while taking measured actions to mitigate these effects where practical.

In adapting to evolving market dynamics, management has taken targeted actions, including implementing additional cost saving measures. Operating cost improvements continued through the current quarter, coming in 15% lower than the same quarter in 2021. These efforts will continue in 2023 and we expect to achieve another 10% to 15% reduction in our operating costs, largely as a result of right-sizing our facilities' footprints and thus reducing our occupancy costs. Our investments in technology and other operational efficiencies have enabled us to work more productively in less space. At the same time, we continue to invest in focused innovation initiatives and building customer relationships to address current customer needs and position Novra for future growth.

The financial highlights for Q3 and the nine-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).

Q3 2022 vs. Q3 2021:

- Revenue was $2.1 million, compared to $891 thousand in Q3 2021, an increase of $1.2 million. This large delta is an example of the lumpiness in Novra's revenue, which resulted in unusually low revenue in Q3 of 2021.
- Gross profit at $999 thousand was 46.7% of total revenue, compared to $193 thousand or 21.6%. The Q3 2021 gross profit percentage was unusually low, due to certain fixed expenses being offset against much lower revenue.
- Operating expenses were $1.0 million, compared to $1.2 million in 2021, a reduction of 15%*.
- Net Income was $15 thousand, compared to a loss of $694 thousand in Q3 2021. Reducing net income, is approximately $151 thousand of amortization expenses for intangible assets associated with the prior purchase of 51% of Wegener ($146 thousand in 2021).
- Adjusted EBITDA** increased to $318 thousand, compared to Adjusted EBITDA** of negative $380 thousand.

First 9 months of 2022 vs. 2021:

- Total revenue was $5.4 million, compared to $5.7 million, a decrease of $289 thousand.
- Gross profit at $2.5 million was 46.5% of total revenue, compared to $2.8 million or 48.5%, a decrease of 25, which is partially attributed to higher component and shipping costs.

- Operating expenses were $3.3 million, compared to $3.7 million, a reduction of 11%*. Amortization expenses of $451 thousand for intangible assets associated with the prior purchase of 51.6% of Wegener are included in 2022 operating expenses ($443 thousand in 2021).
- Our consolidated Net Income loss was $836 thousand, compared to a loss of $47 thousand in 2021. The significant majority of the 2022 loss was incurred in Q1. This measure improved significantly for Q2 and returned to positive income for the most recent quarter. In 2021, Net Income was significantly impacted by government support programs related to COVID-19. These were largely phased out by 2022.
- Adjusted EBITDA** of $187 thousand, compared to Adjusted EBITDA** of $900 thousand.

* Operating expenses in 2022 were affected by the move to begin capitalizing certain development costs at the end of 2021. Refer to the Operating Expenses section for further discussion of this change.

**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 the first nine months of 2022 compared to the same period in 2021. The additional permanent and temporary cost saving measures that have been implemented resulted in considerable reductions in these expenses, despite the upward cost pressures of recent high inflation rates. We will continue to actively control and adjust operating expenses in response to company performance and current volatile market conditions.

Operating cost reductions this period in other areas were partially offset by an increase in Sales and Marketing expenses. This was the result of a return to strategic spending on sales and business development travel. The return of industry events and in-person customer meetings is enabling us to effectively nurture existing customer relationships and initiate new ones.

Results and Outlook

Continued COVID-19 lockdowns in China and Russia's on-going invasion of Ukraine continue to generate global geopolitical turmoil. This continues to negatively affect supply chains, 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. All of these put downward pressure on revenue and Gross Profit. 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.

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 our R&D investment to develop new 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 and year-to-date 2022 bookings and our identified sales opportunities for 2022 and 2023. These demonstrate 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.

Although the impacts higher interest rates, coupled with on-going global economic uncertainty, will have on our markets remain to be seen, we are cautiously optimistic and are preparing for continued stronger future performance with our targeted sales efforts and with our client centric R&D activities. These have resulted in recent releases of 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 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 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.

Highlights of 2022 so far

Despite the challenges of on-going global supply chain disruptions, inflation, higher interest rat and overall economic uncertainty, we have seen positive indicators across our various market verticals:

- We are pleased to see that service contract renewals for both government and commercial projects are strong as customers continue to rely on us to support the full lifecycle of their networks. This is a both a significant contributor to our professional services business and an indication of our strong long-term relationships with customers.
- We received a new order for an on-going rollout of product for a major US faith-based broadcaster/content distributor. For this customer we provide the robust MAP Pro Audio hardware and partner with them to integrate the software they've developed in-house, tailored to their own particular delivery model. This is the kind of collaboration in which we excel.
- We are seeing a great deal of interest in our MISTiQ hybrid IP/satellite delivery technology, as networks around the world continue to seek alternatives to reduce costs, improve reliability, and expand their reach. This includes expansion of existing MISTiQ customer deployments, and three more new networks adopting MISTiQ for service distribution.
- A major digital cinema customer placed a sizable order, expanding their existing network. This is a positive indication of confidence in our products/solution, as well a good sign of growth as cinema chains bounce back.
- We continue to enjoy robust follow-on orders as well as new opportunities from long-time government customers as they grow and/or upgrade existing networks. These include:
    - New orders for a long-time COTS video distribution service.
    - Ongoing orders for Novra weather data receivers. There is strong interest in our next generation data receiver—the S401—designed to support next-generation weather satellites from NOAA and Eumetsat and their advanced requirements including dual tuners, increased speeds, and new protocols
- We received a major follow-on order for a customized health and well-being channel distributed via private healthcare networks. This order is significant due to its larger than usual size and represents a committed strategy by the client to upgrade their current technology and to expand their network using our solution. We expect this will be a multiyear project with orders over the next 2 to 3 years.

- We booked a significant large digital signage order for another major banking network in Latin America through a long-time service provider customer/partner. The project will include Wegener's Signcaster 864 product, with the enhanced secure connectivity features required for banking environments. We expect to begin shipments for this order in Q4 and to complete it in the first half of 2023.
- Radio business continues strong:
  - In Australia two long-time customers placed orders to refresh their networks, adopting the latest MAP Pro Audio
  - We are seeing a lot of activity with faith-based broadcasters in the US including MAP Pro Audio orders from a new customer migrating from an obsolete competitive product, and another long-time customer refreshing their network to the latest and greatest receiver platform.
  - We are pleased to be working with Link-up Communications to help their user community migrate from Comstream/ABR and other obsolete technologies/companies. We make this process easy, providing one-stop shopping and turnkey network services.
  - We continue to see orders from existing customers in Latin America and Europe. We received a sizable order for a long-time customer in Europe that is expanding their network.
  - We got another major order from a large broadcast customer in Canada that is adding 16 channels to their network and ordering next-generation MAP receivers as they migrate to the latest technology.
  - Radio network customers, from South Sudan to Papua New Guinea and New Zealand, continue to adopt MAP receivers as their new platform of choice.
  - We are seeing an increased demand in the US market for products with our premium Audiocaster Pro feature set, including program-based, user-friendly radio distribution management tools. We are responding by moving quickly to launch a new version of the Audiocaster Pro tailored to meet the needs of a much broader user base.
- 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.

Our 2022 sales and bookings are below our targets partly because supply issues delayed delivery of some of our major clients' 2021 orders until well into 2022, which has in turn pushed out their next orders. We are now seeing business pick up in terms of new opportunities and projects restarting. These opportunities are with both new and returning customers. For example, we are currently in negotiations to enter into a significant 3-year purchase contract with a major radio network and we have recently entered discussions regarding an opportunity to refresh a highly secure data-delivery network for a government customer. Both of these opportunities are with existing customers who are looking to us to continue supporting them as they refresh their long-standing networks. We believe repeat customers reflect the quality of the solutions we've provided to them in the past, the value of the on-going customer support that we provide, 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 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 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 September 30,			Period ended September 30,		
	2022	2021	% Chg	**2022**	2021	% Chg
Revenue by type:						
Products	**$ 1,809**	$ 535	238%	**$ 4,267**	$ 4,581	-7%
Services	**332**	356	-7%	**1,141**	1,116	2%
Total revenue	**2,141**	891	140%	**5,408**	5,697	-5%
Gross profit	**999**	193	419%	**2,517**	2,760	-9%
Gross margin	***46.7%***	*21.6%*		***46.5%***	*48.5%*	
Operating expenses	**1,008**	1,185	-15%	**3,319**	3,720	-11%
Operating income (loss)	**(9)**	(992)	-99%	**(802)**	(960)	-16%
Other income (expenses)	**23**	298	-92%	**(34)**	912	NM
Net income (loss) as reported under IFRS	**$ 14**	$ (694)	NM	**$ (836)**	$ (47)	1669%
Adjustments:						
Finance costs	**5**	50	-90%	**123**	145	-15%
Depreciation and amortization	**329**	280	17%	**981**	849	16%
EBITDA - non-IFRS measure	**347**	(364)	NM	**267**	946	-72%
Loss (gain) on foreign exchange	**(29)**	(17)	77%	**(80)**	(47)	72%
Share-based compensation	**-**	-	NM	**-**	-	NM
Adjusted EBITDA - non-IFRS measure	**$ 318**	$ (380)	NM	**$ 187**	$ 900	-79%

NM – Not meaningful

*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.

Revenue and Gross Margin

Total revenue for the 9-month reporting period decreased to $5.4 million (2021 - $5.7 million). Gross margin was 46.5% for the reporting period, 2% lower than for the comparable period in 2021. The decrease in gross margin was a result of differences in product/service mix and higher costs incurred as a result of general inflation and current supply chain and transportation challenges.

For the first nine months of 2022, our top 10 customers accounted 74.0% of total revenue with the largest accounting for 43% or $2.3 million. For the same period last year Novra's Top 10 customers accounted for 74.0% of total revenue with the two largest accounting for 36% and 10% respectively or $2.6 million 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 September 30,		Nine Months Ended September 30,	
Geographic Market	**2022**	2021	**2022**	2021
Americas ex-Canada	**$ 1,720**	$ 504	**$ 4,409**	$ 4,149
Canada	**111**	37	**426**	352
EMEA	**34**	191	**254**	366
APAC	**276**	159	**319**	830
	$ 2,140	$ 891	**$ 5,408**	$ 5,697

Operating Expenses

(In thousands)	Three Months Ended September 30,			Period Ended September 30,		
	2022	2021	% Chg	**2022**	2021	% Chg
General and administrative ("G&A")	**202**	257	-21%	**762**	982	-22%
Sales and marketing ("S&M")	**260**	258	1%	**734**	707	4%
Research and development ("R&D")	**547**	670	-18%	**1,823**	2,031	-10%
Total operating expenses	**1,009**	1,185	-15%	**3,319**	3,720	-11%

Total OPEX during the first nine months of 2022 has decreased by 11% from the comparable period in 2021. 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 22% to $762 thousand (2021 - $982 thousand), a decrease of $220 thousand. This decrease is primarily attributable to a reduction in compensation expenses in 2022 and the extra costs for an AGM held in Q1 of 2021.

Our Sales and Marketing ("S&M") costs consist of compensation paid to our sales team, as well as tradeshow, promotion and travel and entertainment costs. We increased our marketing expense by 4% to $734 thousand (2021 - $707 thousand). The increase was primarily driven by increased compensation and travel-related costs.

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 $440 thousand in 2022 ($443 thousand in 2021) distorts our R&D expenditures as a percentage of revenue and it has an impact on our net operating results.

In prior periods before the year ended December 31, 2021, 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 applicable development costs starting January 1, 2021. This change increased the Intangible Assets reported on the Consolidated Statement of Financial Position. Beginning in 2022, certain new development costs will continue to be capitalized. At the same time, 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, 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 the first nine months of 2022 Novra had a foreign exchange gain of $80 thousand, compared to a gain of $47 thousand in 2021.

At September 30, 2022, the foreign currency denominated assets and liabilities, subject to remeasurement, are as follows:

(in thousands)	**USD**	**Euro**
Assets	2,994	22
Liabilities	(943)	-
Net assets before hedging	2,051	22
Currency derivative contracts	-	-
Net assets - unhedged	2,051	22
Impact on Novra's earnings if 5% change in foreign exchange rate	103	1

At September 30, 2022, 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 loss would have been $103 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 Recovery Hiring Program (CRHP) during the nine months ended September 30, 2022 and recorded $9 thousand to finance income. This is a federal government program created to provide financial support to businesses affected by COVID-19.

Finance costs were $123 thousand for the current period, a slight decrease from the same period last year (2021 – $147 thousand). There were no bank borrowings on our RBC credit facilities in Q3 2022.

Depreciation and Amortization

Depreciation and amortization costs increased to $981 thousand for the first nine months of 2022 (2021 - $849 thousand). This includes intangible asset amortization of $545 thousand (2021 - $443 thousand) and $431 thousand in amortization of right-of-use assets (2021 - $393 thousand). The intangible asset amortization in 2022 includes $94 thousand in amortization of capitalized development costs. Specific development costs were first capitalized at the end of 2021 and therefore periods in 2022 are the first where amortization expenses related to these have been recorded.

Tax Expense

Due to the net operating loss in the reporting period, there was no current tax provision to recognize.

Despite the significant non-capital loss carry forwards and available investment tax credits (see Note 14 of the audited Consolidated Financial Statements for the years ended December 31, 2021 and 2020) to shelter future taxable income from income taxes, we have not recognized deferred tax assets at either September 30, 2022 or 2021 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.*

EBITDA was a gain of $347 thousand for the quarter ended September 30, 2022 compared to a loss of $364 thousand in 2021. For the nine-month reporting period EBITDA was a gain of $267 thousand in 2022 and a gain of $946 thousand in 2021, Adjusted EBITDA for the current reporting period was positive $187 thousand, while adjusted EBITDA for the same period in 2021 was a positive $900 thousand. The decrease in nine-month EBITDA and Adjusted EBITDA was primarily driven by reduced finance income, as a result of the government assistance provided in 2021 in response to the COVID-19 pandemic being largely phased out 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	**Sep 30, 2022**	Jun 30, 2022	Mar 31, 2022	Dec 31, 2021	**Sep 30, 2021**	Jun 30, 2021	Mar 31, 2021	Dec 31, 2020	**Sep 30, 2020**
Revenue	**$ 2,141**	$ 2,338	$ 929	$ 1,509	**$ 891**	$ 1,078	$ 3,728	$ 1,675	**$ 1,092**
Gross profit	**999**	1170	348	568.581	**192.608**	404	2164	631	**517**
Operating expenses	**1,008**	1,228	1082	279.023	**1184.695**	1345	1190	1201	**1229**
Foreign exchange gain (loss)	**29**	8	43	(52)	**17**	(90)	120	260	**(36)**
Net income (loss) attributable to Novra	**(234)**	(230)	(643)	264	**(710)**	(432)	759	(749)	**(550)**
Adjusted EBITDA Income (loss)	**318**	274	(405)	594	**(380)**	(57)	1,338	(116)	**(325)**
Earnings (loss) per share - diluted	**$ (0.007)**	$ (0.007)	$ (0.019)	$ 0.008	**$ (0.021)**	$ (0.013)	$ 0.023	$ (0.022)	**$ (0.016)**
Weighted average shares outstanding	**33,420**	33,420	33,420	33,396	**33,396**	33,396	33,396	33,396	**33,396**

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 and a backlog of orders received, but not yet shipped, at September 30, 2022.

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 and on-going global geopolitical disruptions 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.

	September 30, 2022	December 31, 2021
Cash	**$ 2,136**	$ 2,965
Accounts receivable	**1,089**	1,124
Total liquid assets	**$ 3,225**	$ 4,089
Quick ratio (1)	**1.06:1**	0.97:1
(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 September 30, 2022, Novra's quick ratio was 1.06:1 or $1.06 of liquid assets available to cover each $1.00 of third-party current liabilities, an increase from 0.97:1 at December 31, 2021. Note that a significant portion (September 30, 2022 - $1.2 million, December 31, 2021 - $2.1 million) 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 first nine months of 2022 vs. the same period in 2021. Overall, cash decreased by $829 thousand during the nine months ended September 30, 2022. However, the current quarter contributed positive cash flow of $235 thousand.

Operating activities

We had negative cash flows of $363 thousand from operating activities in the first nine months of 2022, compared to positive cash flows from operating activities of $606 thousand for the same period in 2021. This was mostly a result of the Net Income loss in 2022.

Investing activities

We had no cash flows driven by investing activities during the third quarter of 2022 or 2021.

Financing activities

We had negative $299 thousand net cash flow from financing activities in the first nine months of 2022, compared to negative net cash from financing activities of $896 thousand in the comparable prior period. In the current period we made repayments on our WEDC loan and made lease payments of $507 thousand toward our lease liabilities (2021 - $501 thousand). There were no repayments on our IMT promissory notes

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:

	September 30, 2022	December 31, 2021
Working Capital:		
Current assets	**$ 5,463**	$ 6,509
Current liabilities	**6,449**	7,001
Working Capital:	**$ (986)**	$ (492)
Working capital, excluding related party and deferred revenue balances	**$ 2,436**	$ 2,276
Working capital ratio[1]	**1.80:1**	1.54:1
(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 fell to negative $986 thousand at September 30, 2022 from negative $492 thousand at December 31, 2021. Excluding related party and deferred revenue balances, Novra's working capital increased to $2.4 million at September 30, 2022 from $2.3 million at December 31, 2021, and remains substantial. Our working capital ratio (as defined above) remained healthy at 1.80:1 or $1.80 of current assets per $1.00 of current liabilities, excluding amounts due to related parties and deferred revenue at September 30, 2022.

Contractual obligations and commitments

At September 30, 2022, 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 6)	**$ 2,660**	$ 55	$ 123	$ 2,327	$ 155
Operating leases (Note 11)	**1,591**	272	1,058	261	
Purchase commitments (Note 11)	**-**	-	-	-	-
Trade payables and other payables	**633**	633	-	-	-
Total third party contractual obligations	**4,884**	960	1,181	2,588	155
Promissory notes from related party (Note 5)	**1,174**	1,123	51	-	-
Advances from related parties (Note 5)	**1,549**	1,549	-	-	-
Total contractual obligations	**$ 7,607**	**$ 3,632**	**$ 1,232**	**$ 2,588**	**$ 155**

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

Based on the September 30, 2022 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.

At September 30, 2022, the Company had cash and cash equivalents of $2.1 million and access to an undrawn revolving facility (the RBC Credit Facilities as described in Note 6 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 September 30, 2022, 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, 2021 - 33,420,293). Our debt and equity positions were as follows:

	September 30, 2022	December 31, 2021
Borrowings (drawn)	**$ 2,660**	$ 2,510
Promissory notes from related party	**1,123**	864
Shareholders' equity	**(3,042)**	(1,727)
Total capital resources	**$ 741**	$ 1,647

The change in capital resources was primarily due to Net Income loss for the period.

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 September 30, 2022, 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 5 of the Consolidated Financial Statements for a complete disclosure of all related party transactions, including amounts due on demand.

ACCOUNTING MATTERS

Critical Accounting Estimates

The condensed 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 nine months ended September 30, 2022. For further details refer to Note 8 of the audited Consolidated Financial Statements for the years ended December 31, 2021 and 2020, with additional information on Borrowings in Note 11.

RISKS AND UNCERTAINTIES

Refer to our December 31, 2021 MD&A for a list of risks and uncertainties facing Novra. We are currently not aware of any new material risks and uncertainties.

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.