



MANAGEMENT'S DISCUSSION & ANALYSIS

Nine Months Ended September 30, 2019
(Expressed in Canadian dollars)

Novra Technologies Inc.

Management's Discussion & Analysis

Nine months ended September 30, 2019

The following Management's Discussion and Analysis ("MD&A") of Novra Technologies Inc. ("Novra") should be read in conjunction with the unaudited Condensed Consolidated Financial Statements for the nine months ended September 30, 2019, and related notes included therein. These unaudited interim Condensed Consolidated Financial Statements have been prepared in accordance with International Accounting Standards ("IAS") 34, *Interim Financial Reporting*. They do not include all of the information required in annual financial statements in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB"), and therefore these should be read in conjunction with Novra's annual 2018 Audited Financial Statements.

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, 2019 and is current to this date. The MD&A and the unaudited interim Condensed Consolidated Financial Statements were approved and authorized for issuance by the Board of Directors on November 29, 2019.

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 and our 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 "expects", "anticipates", "believes", "intends", "estimates", "predicts", "potential", "targeted", "plans", "possible", 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") and trades under the stock symbol "NVI" and is a Class 1 reporting issuer. We have been in the satellite data distribution business since 2000. In 2016, we significantly expanded our product portfolio and global footprint with the acquisition of International Datacasting Corporation ("IDC"), a long-time leader in the same sector (based in Ottawa, Canada). In 2017, Novra acquired a 51.6% controlling interest of Wegener Corporation ("Wegener") to further expand its 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") – see our group website at www.novragroup.com.

The three companies have a lot in common and enough differences to be very complementary. Although the historic markets for these companies are mostly adjacent and complementary, they also have a couple of overlaps. By bringing these three companies together, our goal is to consolidate the overlaps, expand the adjacencies and use our strong engineering skills to develop new innovating products for our existing clients and to also enter new emerging vertical markets.

Our competitive advantage is our people and their 30 years of knowledge and experience in developing innovating products along with the deep relationships that we have established with our clients for the past 30 years. These historic relationships with our customers, our extensive engineering experience and our business agility, are invaluable components in our drive for innovation as we develop new advanced products.

Today, the Novra Group is a global business with customers on every continent. We are a technology provider and we offer a comprehensive product portfolio including hardware, software, and services. In addition, our areas of expertise and added value include: encryption and cybersecurity, next-generation hybrid networks (satellite/terrestrial/cloud), and efficient bandwidth utilization.

Our core product lines are:

- *Video distribution:* products and systems for providing end-to-end solutions for traditional and non-traditional video networks. 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)
 - Live and file-based video content distribution
 - Digital signage
- *Broadcast Radio:* we are a leading provider of end-to-end infrastructure solutions to 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.
- *Data distribution:* our broadband multimedia distribution technology is ideally suited for networks requiring fast, ultra-reliable, secure delivery of data via satellite. In addition to providing the hardware infrastructure (transmit and receive), we offer an advanced content distribution network (CDN) software solution (Datacast XD) for ultra-reliable and secure file broadcasting.
- *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.
- *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.

OUTLOOK

Our first half of 2019 started on a strong note as our sales, bookings and our sales funnel were healthier compared to the same period of 2018, as we saw new opportunities in every one of our priority vertical markets. We saw strong sales from North America, Latin America, Europe and Asia showing a geographical diversity of our clients. We also had anticipated a strong second half of 2019, but we saw, starting in the 3rd quarter, several major opportunities that we were anticipating closing in Q3/Q4 delayed into 2020. We noticed this sudden delay of projects across all geographical areas and we believe it's indicative of the current global economic slowdown in most of the G20 economies. Management is monitoring the situation and will take appropriate steps to respond to the current and evolving global market dynamics.

Although our sales for the first 9 months of 2019 are higher compared to same period of 2018, based on our current bookings we are anticipating that our Q4 will be weaker than Q4 2018. However, we believe our 2020 results will show a marked improvement because of the focused work we are doing on reaching new customers, expanding the networks of current customers, cutting costs and providing products needed in our current and new market spaces.

We are continuing to execute on our stated corporate vision to bring great companies with complementary technologies together to capitalize on market opportunities by consolidating and refocusing engineering to provide world-class leading-edge products and services to our clients.

Novra has significantly evolved into a strong, scalable global company in the growing multimedia broadband content distribution business. Our goal is to move from being an engineering-centric to client-centric company—our product development will be driven by identifying client requirements and real market trends. Our clients are looking for cost effective solutions with built-in flexibility to enable them to deliver their services with the lowest operational costs, not only today but over the lifespan of our products. Only offering hardware and software is not adequate in this technologically dynamic environment. We want to offer to our clients complete solutions and would like for them to consider Novra as their technology partner that they can depend on to help them solve their engineering challenges.

We take these challenges very seriously and all of us at the Novra Group of companies are committed and determined in achieving the following very important goals for our clients and our shareholders.

Our high priority goals for 2019 are:

- Continue to drive costs efficiencies as we bring Wegener into the Novra group of companies. In Q3 we began to realize significant reductions in operating expenses for administration and for research and development, as a result of actions taken so far this year. Some additional efficiencies are expected to be implemented in late Q4 and will take effect in Q1 2020. We expect a 10% reduction of expenditures in 2020 compared to 2019 as we finalize our integration of the three companies.
- Increase our revenues by improving our bookings and backlog levels throughout the Group. This will help to smooth out our quarterly revenues and will make our financial results more predictable.
- In the past year we have achieved operational efficiencies by merging our various divisions across the three companies and we expect this effort to be mostly completed within the next 5 months.
- Continue to develop new and innovative products by taking the best features from our existing product lines to create flexible, modular and cost-effective solutions that will meet market demand and increase our market share. New products using this approach have already been announced and more are expected over the next few months.
- Through our new modular upgradeable products, provide our clients with protection of their investment even if in the future their requirements change to meet new operational needs. This will give us a competitive advantage and, in many cases, shorten the technology selection process that clients currently go through.
- Manage, refocus and energize our global re-seller network to enable them to offer a wider range of products and solutions to their clients.
- Position Novra for additional acquisitions with complementary technologies that will increase our sales and profitability.

DEVELOPMENTS FOR THE NINE-MONTH REPORTING PERIOD

The following highlights illustrate the scope of our recent product development, engineering and sales activities:

New products, new technologies:

The next-generation MAP audio receivers were successfully tested by a customer to prove backwards compatibility with IDC's STAR audio receivers. This is important for our existing clients as it shows our commitment to supporting their network lifecycle with new technology.

We are finalizing the new Audiocaster Pro, next generation of the Wegener 8640 radio receiver, preparing for launch at NAB in April 2020.

In April, we released four new Novra Group products at the NAB 2019 show. We submitted two of our products and both were nominated for the prestigious NAB Product of the Year award. One of these products—the iPump 762 Pro, targeting the digital signage and enterprise video markets, won the prestigious award for Hardware Infrastructure. In this reporting period we have shipped about 200 units of this product family (ipump564 and ipump762 Pro) for Digital Signage projects in Latin America.

We expanded our suite of products for video applications including broadcast, OTT and IPTV networks. We integrated Broadpeak's nano CDN technology into the S400 Pro data receiver to enable OTT delivery to multiscreen environments.

Requests for our new S400 Pro satellite receiver for evaluation/pilot projects far exceeded expectations—from both existing and new customers as they are preparing to roll-out new satellite services in 2020.

We joined the SRT Alliance and are integrating the SRT (Secure Reliable Transport) technology for improved broadcast quality over internet into our products.

In the radio market, we also launched a next-generation audio receiver platform, MAP Pro Audio, as well as a high-performance audio encoder in partnership with Digigram.

In this reporting period, we also delivered evaluation units of our new radio receiver to a major US-based radio network and potential new client.

Sales activity, new and returning customers:

Supplied IDC's IPE 4000A IP Encapsulator for an ATSC 3.0 proof of concept (POC) with a major television service provider. ATSC 3.0 is the next-generation television broadcast standard that will support enhanced features such as data transmission. This is an important area that we are committing to have a presence in.

Provided upgrade to longtime radio network customer MediaWorks in New Zealand—in conjunction with reseller partner AVW—for its new, state-of-the-art uplink.

Provided equipment for several international radio networks—from Canada, Morocco, Nepal, Bangladesh, Liberia, and Australia—to expand their coverage/footprint.

Steady ongoing orders—hardware and software—from the US government are helping to balance instability and uncertainty we are seeing in some geographical markets.

New orders have come from all our vertical markets and geographical regions and include significant orders from new customers, which bodes well for future business.

We released our first joint IDC/Wegener product: The Edgecaster Pro for digital program insertion, combining the sophisticated SCTE-35 targeting and blocking capabilities of IDC's Laser with video decoding and graphics overlay features of Wegener's respected iPump line. We received our first order from MVS TV, a prestigious broadcaster in Mexico. Other broadcasters are evaluating this innovative new product and we expect additional orders in 2020.

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We received strong follow on orders from existing customers for our Digital Signage products including new follow-on orders from the Wellness Network and accelerating orders from an expanding paramedical clinics network throughout the US, with excellent potential for additional orders.

We experienced steady follow-on orders for ongoing government projects including significant orders for IP encapsulators, in addition to receivers and Cyphercast decryption clients.

We received a follow-on order for an existing US hotel hospitality video network.

We received follow-on orders for receivers used for residential IPTV network in Japan.

Through international resellers we received new orders to refresh and expand radio networks in New Zealand and Guatemala.

We won and delivered a competitive tender with Radiotelevisión Española (RTVE) through our partner Aicox to deliver approximately 350 receivers across the Americas.

We received initial orders in 2018 for new Digital Cinema network that is expected to expand significantly in 2020 with a significant order expected in Q1. We were successful for this opportunity because we were able to demonstrate an innovative method for highspeed satellite file transfer by combining IDC and Novra technologies. This new service is for the Asian Pacific region.

Service business:

An important part of our revenue is from ongoing support contracts as we provide full life-cycle care for customer networks. This includes software licenses and support for hardware and turnkey networks. These contracts are renewed on an annual basis. Support contract renewals for this reporting period were higher compared to 2018.

In the US we are seeing a generalized slowdown as the satellite market faces challenges around regulation, emerging technologies and wrangling over spectrum repacking for 5G implementation. This is creating a short-term uncertainty as well as opportunities/demand for our forward-looking MISTiQ cloud distribution platform and related services.

One of our US radio network customers—a religious broadcaster—began using IDC's MISTiQ cloud delivery service to connect recently acquired new radio stations. They were able to get the stations on air quickly, without having to install satellite receive infrastructure. These stations are now seamlessly integrated into the pre-existing satellite-based network for hybrid operation. Following this successful rollout, we are expanding field trials of MISTiQ to a current national broadcast network, as well as another technology vendor for inclusion as an OEM feature.

MISTiQ was developed for precisely this kind of Software as a Service (SaaS) implementation—to allow broadcasters expanded flexibility operating Hybrid networks and extending their networks using broadband and eventually 5G connectivity. MISTiQ is offered as a software licence (where the client operates their own network) or as a service where Novra will offer a cloud-based fee for service.

Other:

In other news, International Datacasting effected a smooth transition to a new headquarters in the high-tech dense Kanata North area of Ottawa, Canada. The new headquarters offers improved demo lab facilities, improved factory loading dock and shipping facilities, as well as more space for team collaboration.

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DISCUSSION OF OPERATIONS

The following table summarizes 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,			Nine Months Ended September 30,		
	2019	2018	% Chg	2019	2018	% Chg
Revenue by type:						
Products	2,306	\$ 2,908	-21%	5,973	\$ 5,494	9%
Services	710	650	9%	1,966	1,730	14%
Total revenue	3,016	3,558	-15%	7,939	7,224	10%
Gross profit	1,849	2,087	-11%	4,077	3,725	9%
Gross margin	61.3%	58.7%		51.4%	51.6%	
Operating expenses	1,374	1,527	-10%	4,617	4,808	-4%
Operating income (loss)	475	560	-15%	(540)	(1,083)	-50%
Other income (expenses)	18	(93)	NM	(302)	(5)	NM
Net income (loss) as reported under IFRS	493	\$ 467	5%	(842)	\$ (1,088)	-23%
<i>Adjustments:</i>						
Finance income	-	(8)	NM	-	(10)	NM
Finance costs	60	64	-7%	185	176	5%
Depreciation and amortization	309	264	17%	1,093	729	50%
Tax expense (recovery)	-	-	NM	-	-	NM
EBITDA - non-IFRS measure	862	787	9%	437	(193)	NM
Loss (gain) on foreign exchange	(68)	75	NM	126	(135)	NM
Share-based compensation	3	-		9	-	
Adjusted EBITDA - non-IFRS measure	796	\$ 862	-8%	572	\$ (328)	NM

Revenue and Gross Margin

Total revenue for the nine-month reporting period increased 10% to \$7.9 million (2018 – \$7.2 million). Gross margin was 51.4% for the nine months ended September 30 (2018 – 51.6%).

For the first nine months of 2019, our top 10 customers accounted 52.0% of total revenue with the first and second largest accounting for 25% and 10% respectively or \$2.7 million in aggregate. For the same period last year Novra's Top 10 customers accounted for 64.0% of total revenue with the top two accounting for 16% and 11% respectively or \$1.9 million in aggregate. No other customer accounted for more than 10% of total revenue.

While our revenue may be concentrated on 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 year.

Geographic Market	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Americas ex-Canada	\$ 2,478	\$ 3,314	\$ 5,680	\$ 5,564
Canada	121	116	554	474
EMEA	88	43	1,133	502
APAC	330	85	572	684
	\$ 3,016	\$ 3,558	\$ 7,939	\$ 7,224

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Operating Expenses

<i>(in thousands)</i>	Three Months Ended September 30,			Nine Months Ended September 30,		
	2019	2018	% Chg	2019	2018	% Chg
General and administrative ("G&A")	245	\$ 321	-24%	980	\$ 1,227	-20%
Sales and marketing ("S&M")	331	328	1%	1,043	914	14%
Research and development, net ("R&D")	798	878	-9%	2,595	2,667	-3%
Total operating expenses	1,374	\$ 1,527	-10%	\$ 4,617	\$ 4,808	-4%

Total OPEX during the first nine months of 2019 has been reduced by 4% from the same period in 2018, and shows a 10% reduction over the previous year for the most recent 3-month period. 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 20% to \$980 thousand (2018 - \$1,227 thousand), a reduction of \$247 thousand.

Our Sales and Marketing ("S&M") costs include compensation, including sales commissions, paid to our sales team, as well as tradeshow, promotion and travel and entertainment costs. We increased our marketing expense to \$1,043 thousand (2018 - \$914 thousand) as we expand marketing efforts to promote The Novra Group of companies and for the introduction and promotion of our new products.

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 acquisitions of IDC and Wegener are also included in R&D costs. This amortization of \$600 thousand for the nine-month reporting period distorts our R&D expenditures as a percentage of revenue and it has an impact on our net operating results. R&D product development costs are expensed as incurred; we do not capitalize development costs.

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.

In nine months ended, we realized a foreign exchange loss of \$126 thousand, compared to a gain of \$135 thousand in the comparable period in 2018.

At September 30, 2019, the foreign currency denominated assets and liabilities, subject to remeasurement, are as follows:

<i>(in thousands)</i>	USD	Euro
Assets	\$ 2,624	€ 45
Liabilities	(575)	(17)
Net assets before hedging	\$ 2,050	€ 28
Currency derivative contracts	-	-
Net assets -unhedged	\$ 2,050	€ 28
Impact on Novra's earnings if 5% change in foreign exchange rates	\$ 102	€ 1

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At September 30, 2019, 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 \$135 thousand. The above excludes Wegener's assets and liabilities which are denominated in USD.

Finance Costs

Finance costs were \$185 thousand for the current period, a 5% increase over the same period last year (2018 – \$176 thousand). The increase is a result of the allocation of interest expense from operating leases do to the adoption of IFRS 16. We also made payments to reduce balances on the Western Economic Diversification Canada (WEDC) repayable contribution and the \$US floating rate IMT promissory note. There were no bank borrowings on our RBC credit facilities in 2019.

Depreciation and Amortization

The increase in depreciation and amortization costs to \$1,093 thousand for the year 2019 (2018 - \$729 thousand) was due to the adoption of the new accounting standard – IFRS 16. Operating leases are now being depreciated over their respective lease term, which resulted in a depreciation charge of \$407 thousand. The amortization of intangible assets related to the acquisitions of IDC and Wegener was \$600 thousand for the nine month reporting period.

EBITDA and Adjusted EBITDA

EBITDA and Adjusted EBITDA are non-IFRS measures. EBITDA is defined as earnings before income tax expense, net financing costs, depreciation and amortization. Adjusted EBITDA is defined as EBITDA adjusted for foreign exchange gain or loss, acquisition-related costs, gain or loss on Wegener options, share-based compensation, restructuring charges, 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 increased to \$572 thousand for the nine months ended September 30, 2019 compared to <\$328> thousand for the same period in 2018. A portion of the increase was driven by the adoption of IFRS 16 which resulted in the reclassification of certain operating lease expenses to finance costs and depreciation which are excluded from the calculation of Adjusted EBITDA. Excluding the impact of IFRS 16, Adjusted EBITDA would have been \$28 thousand compared to <\$328> thousand for the same period in 2018.

OVERALL PERFORMANCE

Q3 2019 vs. Q3 2018:

- Total revenue of \$3.0 million, decreased by 15%
- Net income was \$493 thousand, compared to a net income of \$467 thousand in Q3 2018
- Operating income \$475 thousand, compared to an operating income of \$560 thousand in Q3 2018
- Gross profit at \$1.8 million was 61.3% of total revenue, compared to \$2.0 million or 58.7%
- Operating expenses were \$1.3 million, compared to \$1.5 million in Q3 2018.
- Adjusted EBITDA of \$796 thousand, compared to Adjusted EBITDA of \$862 thousand
- Included in the Q3 results, and reducing net income, is approximately \$151 thousand (2018 - \$228 thousand) of amortization expenses for intangibles assets associated with the purchases of IDC and 51% of Wegener.

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First 9 months of 2019 vs. 2018:

- Total revenue of \$7.9 million, increased by 10%
- Net loss was \$842 thousand, compared to a loss of \$1.1 million in 2018
- Operating loss was \$540 thousand, compared to a loss of \$1.1 million in 2018
- Gross profit at \$4.1 million was 51.4% of total revenue, compared to \$3.7 million or 51.6%
- Operating expenses were \$4.6 million compared to \$4.8 million in 2018
- Adjusted EBITDA of \$572 thousand, compared to Adjusted EBITDA loss of \$328 thousand
- Included in the results, and reducing net income, is approximately \$600 thousand (2018 – \$677 thousand) of amortization expenses for intangibles assets associated with the purchases of IDC and 51% of Wegener.

Our consolidated operating expenses trended down for this reporting period and we saw an improvement in our Operating Income and Adjusted EBITDA. For the 9-month period, our Adjusted EBITDA went from a loss of \$328 thousand to a gain of \$572 thousand, an improvement of \$900 thousand. Part of this increase was due to the adoption of IFRS 16 as mentioned above.

As indicated in our Outlook section, we will continue to control and reduce operating expenses as we capitalize additional efficiencies from the acquisition of Wegener.

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 quarters.

	Sep 30 2019	Jun 30 2019	Mar 31 2019	Dec 31 2018	Sep 30 2018	Jun 30 2018	Mar 31 2018	Dec 31 2017	Sep 30 2017
Revenue	\$ 3,016	\$ 2,423	\$ 2,500	\$ 3,406	\$ 3,558	\$ 1,594	\$ 2,072	\$ 1,801	\$ 2,048
Gross profit	1,849	1,319	909	1,854	2,087	758	880	918	946
Operating expenses	1,374	1,639	1,604	1,603	1,527	1,582	1,699	1,010	815
Foreign exchange gain (loss)	68	(108)	(86)	188	(37)	90	109	10	(20)
Net income (loss) as reported under IFRS	493	(491)	(844)	535	467	(791)	(763)	(145)	43
Adjusted EBITDA income (loss)	796	75	(299)	647	862	(592)	(598)	41	244
Earnings (loss) per share - diluted	\$ 0.015	\$ (0.015)	\$ (0.025)	\$ 0.016	\$ 0.012	\$ (0.024)	\$ (0.023)	\$ (0.004)	\$ 0.001
Weighted average shares outstanding	33,372	33,372	33,360	33,467	33,348	33,348	33,336	33,308	33,285

We occasionally receive large orders from customers and partners which 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.

We expect continued significant volatility in revenue from quarter to quarter due to the particular timing of orders from existing customers, continued economic instability in certain geographic regions 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.

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, 2019	December 31, 2018
Cash	\$ 1,421	\$ 4,138
Accounts receivable	3,165	1,215
Total liquid assets	\$ 4,586	\$ 5,353
Quick ratio ⁽¹⁾	1.67:1	1.80:1

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

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The quick ratio as defined above is a non-IFRS financial measure. We believe this 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 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, 2019, Novra's quick ratio was 1.67:1 or \$1.67 of liquid assets available to cover each \$1.00 of third-party current liabilities, a decrease from 1.80:1 at December 31, 2018.

The following is a summary of cash flows by activities for the first nine months of 2019 vs. the same period in 2018.

Operating activities

We had negative cash flows of \$2.0 million from operating activities for the current period in 2019, compared to negative cash flows from operating activities of \$350 thousand for the same period in 2018. This was mostly due to the increase in accounts receivable, as a result of significant shipments late in the quarter and the increase in inventories in preparation for Q4 shipments.

Investing activities

We had no cash flows driven by investing activities during the first nine months 2019 and 2018.

Financing activities

We have negative \$667 thousand net cash from financing activities in the current period, compared to negative net cash from financing activities of \$26 thousand in the comparable prior period. In the first nine months of 2019, we made repayments on our IMT promissory notes, Crocus loan and included payments of \$481 thousand on lease liabilities, with the adoption of the new accounting standard.

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, 2019	December 31, 2018
Working Capital:		
Current assets	\$ 7,277	\$ 8,110
Current liabilities	5,867	5,691
Working capital	\$ 1,410	\$ 2,419
Working capital, excluding related party and deferred revenue balances	\$ 4,530	\$ 5,143
Working capital ratio⁽¹⁾	2.65:1	2.73:1

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

Working capital decreased to \$1.4 million at September 30, 2019, from \$2.4 million at December 31, 2018.

"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.

Excluding related party and deferred revenue balances, Novra's working capital decreased to \$4.5 million at September 30, 2019, from \$5.1 million at December 31, 2018. Our working capital ratio (as defined above) remained healthy at 2.65:1 or \$2.65 per \$1.00 of current liabilities at September 30, 2019.

Novra Technologies Inc.

Management's Discussion & Analysis

Nine months ended September 30, 2019

Contractual obligations and commitments

At September 30, 2019, Novra's contractual obligations and commitments were as follows:

Payment due:	Total	Within 1 year	1 to 3 years	3 to 5 years
Borrowings (Note 5)	\$ 2,501	\$ 101	\$ 153	\$ 2,247
Operating leases (Note 3,11)	2,600	799	1,206	595
Purchase commitments	73	73	-	-
Trade payables and other payables	620	620	-	-
Total third party contractual obligations	5,794	1,593	1,359	2,842
Promissory notes from related party (Note 4)	935	492	443	-
Advances from related parties (Note 4)	927	927	-	-
Total contractual obligations	\$ 7,656	\$ 3,012	\$ 1,802	\$ 2,842

See Consolidated Financial Statements notes for further details.

Based on the September 30, 2019 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, 2019, our total outstanding voting common shares were 33,372,307, excluding the 2,000,000 common shares held by our subsidiary, Wegener (December 31, 2018 - 33,372,312).

Our capital resources were as follows:

	September 30, 2019	December 31, 2018
Borrowings (drawn)	\$ 2,501	\$ 2,709
Promissory notes from related party	935	977
Shareholders' equity ⁽¹⁾	732	1,520
Total capital resources	\$ 4,168	\$ 5,206

The change in capital resources was primarily due to net losses for the period.

Based on Novra's current liquidity, as discussed above, management believes Novra has sufficient capital resources to fund Novra's operations for the foreseeable future, including the contractual obligations and commitments as noted above.

OFF BALANCE SHEET ARRANGEMENTS

At September 30, 2019, 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 4 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 unaudited interim 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
- Impairment of non-financial assets

Refer to Note 3 of the 2018 Consolidated Financial Statements 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.

New Accounting Standards

On January 1, 2019, we have adopted the following new accounting standard:

- IFRS 16 – Leases

The adoption of this new accounting standard did not impact operating performance or internal accounting processes and procedures. Refer to Note 3 of the unaudited interim Condensed Consolidated Financial Statements for further details on these new accounting standards.

FINANCIAL INSTRUMENTS AND OTHER INSTRUMENTS

There were no new financial instruments. Refer to Note 5 of the 2018 Consolidated Financial Statements for disclosure relating to Novra's financial instruments and financial risk management objectives and policies.

RISKS AND UNCERTAINTIES

Refer to our 2018 MD&A for a list of risks and uncertainties facing Novra. We are currently not aware of any new material risks and uncertainties.