novra TECHNOLOGIES INC.

MANAGEMENT’S DISCUSSION & ANALYSIS

Six Months Ended June 30, 2019

(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 unaudited Condensed Consolidated Financial Statements for the three and six months ended June 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 August 27, 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 August 27, 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, proposed acquisition of Westport Research & Associates, 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.

Table of Contents

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

We are starting 2019 on a strong note as our sales, bookings and our sales funnel are healthy with new opportunities in every one of our priority vertical markets. In this reporting period we saw strong sales for radio networks from both existing and new clients. These orders came from North America, Latin America, Europe and Asia which shows strong geographical diversity.

With the acquisition of 51.6% controlling interest of Wegener Communications in December 2017, we are executing on our 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.

As a result of these acquisitions, 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 life-span of our products. Only offering hardware and software is not adequate in this technological 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 these 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. Some additional efficiencies are expected to take effect during the second half of 2019.

- 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 Marketing, Finance and Engineering divisions across the three companies, In 2019 we shift our integration focus to merging our manufacturing and customer support divisions and implementing a common financial system across the three companies.

- 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 throughout 2019.

- 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, over the next 18-24 months, of companies with complementary technologies that will increase our sales and profitability.

DEVELOPMENTS FOR THE SIX-MONTH REPORTING PERIOD

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

New products, new technologies:

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.

In Q2, 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.

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 Q2, we also delivered for evaluation first units of our new radio receiver (MAP Pro Audio, scheduled for general release later in 2019) to a major US-based radio network and potential new client.

Sales activity: new and returning customers

Our year-to-date bookings are healthy—building momentum for the rest of the year. New orders have come from all of 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 before the end of the year.

We received strong follow on orders from existing customers for our Digital Signage products including a new order 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 a follow-on order for receivers used 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 a competitive tender with Radiotelevisión Española (RTVE) through our partner Aicox to deliver approximately 350 receivers across the Americas. This project was completed and all IRDs were shipped in this reporting period.

We received initial orders in 2018 for new Digital Cinema network that is expected to expand significantly in second half of 2019 with a significant order expected in Q3. 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.

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.

MISTiQ was developed for precisely this kind of Software as a Service (SaaS) implementation—to allow broadcasters expanded flexibility operating and extending their network.

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.

DISCUSSION OF OPERATIONS

The following table sets 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 June 30,				Six Months Ended June 30,			
	2019		2018	% Chg	**2019**		2018	% Chg
Revenue by type:								
Products	**1,744**	$	1,081	61%	**3,667**	$	2,593	41%
Services	**679**		513	32%	**1,256**		1,073	17%
Total revenue	**2,423**		1,594	52%	**4,923**		3,666	34%
Gross profit	**1,319**		758	74%	**2,228**		1,638	36%
Gross margin	***54.4%***		*47.6%*		***45.3%***		*44.7%*	
Operating expenses	**1,639**		1,582	4%	**3,243**		3,281	-1%
Operating income (loss)	**(320)**		(824)	NM	**(1,015)**		(1,643)	NM
Other income (expenses)	**(170)**		32	NM	**(319)**		89	NM
Net income (loss) as reported under IFRS	**(491)**	$	(792)	NM	**(1,335)**	$	(1,554)	NM
Adjustments:								
Finance income	**-**		(2)	NM	**-**		(2)	NM
Finance costs	**62**		59	5%	**126**		112	12%
Depreciation and amortization	**391**		233	68%	**784**		465	69%
Tax expense (recovery)	**-**		-	NM	**-**		-	NM
EBITDA - non-IFRS measure	**(38)**		(502)	NM	**(425)**		(979)	NM
Loss (gain) on foreign exchange	**108**		(90)	NM	**194**		(199)	
Share-based compensation	**3**		-		**6**		-	
Adjusted EBITDA - non-IFRS measure	**73**	$	(592)	NM	**(225)**	$	(1,178)	NM

NM - Not meaningful

Revenue and Operating Income

Total revenue for the six month reporting period increased 34% to $4.9 million (2018 – $3.6 million) because of higher sales for all products including services, with gross margin of 45.3% (2018 – 44.7%).

Operating Income for the six month reporting period was a loss of $1.015 million (2018 – loss of $1.643 million), an improvement of over $600,000 driven primarily by higher revenue. Our six month results also include approximately $448 thousand of amortization expenses of intangible assets associated with the purchase of IDC and 51% of Wegener.

For the first six months of 2019, our top 10 customers accounted 51.4% of total revenue with the first and second largest accounting for 16% and 10% respectively or $1.2 million in aggregate. For the same period last year Novra's Top 10 customers accounted for 70.1% of total revenue with 21% and 7% respectively or $1.1 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.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	**2019**	2018
Americas ex-Canada (1)	**$ 1,751**	$ 836	**$ 3,204**	$ 2,250
Canada	**269**	107	**433**	358
EMEA (2)	**258**	365	**1,045**	460
APAC (3)	**145**	286	**241**	598
	$ 2,423	$ 1,594	**$ 4,923**	$ 3,666

Operating Expenses

(in thousands)	Three Months Ended June 30,			Six Months Ended June 30,		
	2019	2018	% Chg	**2019**	2018	% Chg
General and administrative ("G&A")	**372**	$ 425	-12%	**735**	$ 905	-19%
Sales and marketing ("S&M")	**371**	273	36%	**711**	586	21%
Research and development, net ("R&D")	**896**	884	1%	**1,797**	1,790	0%
Total operating expenses	**1,639**	$ 1,582	4%	**$ 3,243**	$ 3,281	-1%

Total OPEX during the first six months of 2019 has been fairly consistent to the same period in 2018. 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 General & Administrative costs went down to $734,999 (2018 - $905,474), a reduction of $170.475 or 19%. .

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 costs to $711.292 (2018 - $585,890) as we have expanded our 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 about $225 thousand per quarter ($900 thousand for the year) 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.

Along with growing revenue, we are focused on controlling operating costs while continuing to invest specifically in the development and marketing of innovative, flexible products and solutions. We have made changes so far in 2019 to reduce operating costs going forward that are expected to result in additional operating cost savings of approximately $400,000 annually starting to take effect in Q3 and Q4.

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 Consolidate Financial Position; the impact of which is reported as a foreign exchange gain or loss.

In six months ended, we realized a foreign exchange loss of $194 thousand, compared to a gain of $199 thousand in the comparable period in 2018.

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

(in thousands)	**USD**	**Euro**
Assets	$ 2,957	€ 34
Liabilities	(705)	(2)
Net assets before hedging	$ 2,253	€ 32
Currency derivative contracts	-	-
Net assets -unhedged	$ 2,253	€ 32
Impact on Novra's earnings if 5% change in foreign exchange rates	**$ 113**	**€ 2**

At June 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 $151 thousand. The above excludes Wegener's assets and liabilities which are denominated in USD.

Finance Costs

Finance costs were $126 thousand for the current period, a 12% increase over the same period last year (2018 – $112 thousand). The increase is a result of the allocation of interest expense from operating leases due 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 for the year 2019 was due to the adoption of the new accounting standard – IFRS 16. Operating leases are now being depreciated over their respective lease term, which results in an additional $271 thousand being included in depreciation and amortization cost.

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 for the current period was $(225) thousand, compared to an Adjusted EBITDA of $(1.2) million for the same period in 2018. The significant improvement in Adjusted EBITDA is a reflection of our increased revenue, our success in controlling operating costs, the negative effect the swing in foreign exchange rates this period had on Net Income and the significant increase in depreciation and amortization expense attributable to the new treatment of operating leases under IFRS.

OVERALL PERFORMANCE

Q2 2019 vs. Q2 2018:

- Total revenue of $2.4 million, an increase 52%
- Net loss was $491 thousand, compared to a loss of $792 thousand in Q2 2018
- Operating loss $320 thousand, compared to a loss of $824 thousand in Q2 2018
- Gross profit at $1.3 million was 54.4% of total revenue, compared to $758 thousand or 47.6%
- Operating expenses were $1.6 million in Q2 2019 and Q2 2018.
- Adjusted EBITDA of $73 thousand, compared to Adjusted EBITDA of $(592) thousand
- Included in the Q2 results, and reducing net income, is approximately $218 thousand of amortization expenses for intangible assets associated with the purchases of IDC and 51% of Wegener. In addition, $136 thousand of depreciation expense is included for operating leases due to the adoption of IFRS 16.

First 6 months of 2019 vs. 2018:

- Total revenue of $4.9 million, an increase 34%
- Net loss was $1.3 million, compared to a loss of $1.5 million in 2018
- Operating loss $1.0 million, compared to a loss of $1.6 million in 2018
- Gross profit at $2.2 million was 45.3% of total revenue, compared to $1.6 million or 44.7%
- Operating expenses was $3.2 million compared to $3.3 million in 2018
- Adjusted EBITDA of $(225) thousand, compared to Adjusted EBITDA of $(1,178) thousand
- Included in the results, and reducing net income, is approximately $448 thousand of amortization expenses for intangible assets associated with the purchases of IDC and 51% of Wegener. In addition, $271 thousand of depreciation expense is included for operating leases due to the adoption of IFRS 16.

Our consolidated operating expenses were consistent for this reporting period and we saw an improvement in our Operating Income and Adjusted EBITDA.

We believe, based on our current sales and expected sales/bookings, that the second half of 2019 will continue to show improving financial results because of the focused work we are doing on reaching new customers, expanding the networks of current customers, cutting costs, shipping customer orders already in our backlogs, and providing products needed in our market spaces.

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.

	June 30 2019	Mar 31 2019	Dec 31 2018	Sep 30 2018	Jun 30 2018	Mar 31 2018	Dec 31 2017	Sep 30 2017	Jun 30 2017
Revenue	$ 2,423	$ 2,500	$ 3,406	$ 3,558	$ 1,594	$ 2,072	$ 1,801	$ 2,048	$ 3,261
Gross profit	1,319	909	1,854	2,087	758	880	918	946	1,810
Operating expenses	1,639	1,604	1,603	1,527	1,582	1,699	1,010	815	1,074
Foreign exchange gain (loss)	(108)	(86)	188	(37)	90	109	10	(20)	(32)
Net income (loss) as reported under IFRS	(491)	(844)	535	467	(791)	(763)	(145)	43	639
Adjusted EBITDA income (loss)	73	(299)	647	862	(490)	(570)	41	244	860
Earnings (loss) per share - diluted	$ (0.015)	$ (0.025)	$ 0.016	$ 0.012	$ (0.024)	$ (0.023)	$ (0.004)	$ 0.001	$ 0.021
Weighted average shares outstanding	33,372	33,360	33,467	33,348	33,348	33,336	33,308	33,285	30,369

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 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.

	June 30, 2019	December 31, 2018
Cash	**$ 2,009**	$ 4,138
Accounts receivable	**2,311**	1,215
Total liquid assets	**$ 4,320**	$ 5,353
Quick ratio (1)	**1.40:1**	1.80:1

(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 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 June 30, 2019, Novra's quick ratio was 1.40:1 or $1.40 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 six months of 2019 vs. the same period in 2018.

Operating activities

We had negative cash flows of $1.8 million from operating activities for the current period in 2019, compared to positive cash flows from operating activities of $20 thousand for the same period in 2018. This was mostly due to the net change in non-cash working capital. Due to the timing of revenue in the quarter, trade and other receivables increased by more than $1 million during the period. These receivables are expected to be collected under normal payment terms and to result in cash inflows during Q3.

Investing activities

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

Financing activities

We have negative $340 thousand net cash from financing activities in the current period, compared to positive net cash from financing activities of $124 thousand in the comparable prior period. In the first six months of 2019, we made repayments on our IMT promissory notes and included payments of $320 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:

	June 30, 2019		December 31, 2018	
Working Capital:				
Current assets	**$**	**6,801**	$	8,110
Current liabilities		**5,954**		5,691
Working capital	**$**	**847**	$	2,419
Working capital, excluding related party and deferred revenue balances	**$**	**3,726**	$	5,143
Working capital ratio[1]		**2.21:1**		2.73:1

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

Working capital decreased to $847 thousand at June 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 $3.7 million at June 30, 2019, from $5.1 million at December 31, 2018. Our working capital ratio (as defined above) remained healthy at 2.21:1 or $2.21 per $1.00 of current liabilities at June 30, 2019.

Contractual obligations and commitments

At June 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)	**$ 2,605**	$ 167	$ 204	$ 2,234
Operating leases (Note 3)	**2,724**	807	1,308	609
Purchase commitments (Note 13)	**72**	72	-	-
Trade payables and other payables	**309**	309	-	-
Total third party contractual obligations	**5,710**	1,355	1,512	2,843
Promissory notes from related party (Note 5)	**968**	487	481	-
Advances from related parties (Note 5)	**859**	859	-	-
Total contractual obligations	**$ 7,537**	**$ 2,701**	**$ 1,993**	**$ 2,843**

See Consolidated Financial Statements notes for further details.

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

Our capital resources were as follows:

	June 30, 2019	December 31, 2018
Borrowings (drawn)	**$ 2,605**	$ 2,709
Promissory notes from related party	**968**	977
Shareholders' equity[(1)]	**261**	1,520
Total capital resources	**$ 3,834**	$ 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 June 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.