

Lightwave Logic, Inc.  
Form 10-Q  
August 09, 2018

**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**  
**Washington, D.C. 20549**

---

**FORM 10-Q**

---

(Mark One)

**QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 30, 2018

**OR**

**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission File Number 0-52567

**Lightwave Logic, Inc.**

Edgar Filing: Lightwave Logic, Inc. - Form 10-Q

(Exact name of registrant as specified in its charter)

**Nevada**

(State or other jurisdiction of  
Incorporation or Organization)

**82-049-7368**

(I.R.S. Employer Identification No.)

**369 Inverness Parkway, Suite 350**

**Englewood, CO**

(Address of principal executive offices)

**80112**

(Zip Code)

**(720) 340-4949**

(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act:

Large accelerated filer

Non-accelerated filer

(Do not check if a smaller reporting company)

Accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by checkmark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act.) Yes  No

The number of shares of the registrant's Common Stock outstanding as of August 9, 2018 was 77,015,142.

---

**TABLE OF CONTENTS**

		<b>Page</b>
Part I	Financial Information	
	<u>Item 1</u>	<u>Financial Statements</u> 1
	<u>Item 2</u>	<u>Management's Discussion and Analysis of Financial Condition and Results of Operations</u> 14
	<u>Item 3</u>	<u>Quantitative and Qualitative Disclosures About Market Risk</u> 26
	<u>Item 4</u>	<u>Controls and Procedures</u> 26
Part II	Other Information	
	<u>Item 1A</u>	<u>Risk Factors</u> 27
	<u>Item 2</u>	<u>Unregistered Sales of Equity Securities and Use of Proceeds</u> 27
	<u>Item 6</u>	<u>Exhibits</u> 27
		<u>Signatures</u> 28

### **Forward-Looking Statements**

This report on Form 10-Q contains, and our officers and representatives may from time to time make, "forward-looking statements" within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements can be identified by words such as: "anticipate," "intend," "plan," "goal," "seek," "believe," "project," "estimate," "expect," continuing, ongoing, "strategy," "future," "likely," "may," "should," could, "will" and similar references to future periods. Examples of forward-looking statements include, among others, statements we make regarding expected operating results, such as anticipated revenue; anticipated levels of capital expenditures for our current fiscal year; our belief that we have sufficient liquidity to fund our business operations during the next 12 months; strategy for gaining customers, growth, product development, market position, financial results and reserves.

Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based only on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and trends, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict and many of which are outside of our control. Our actual results and financial condition may differ materially from those indicated in the forward-looking statements. Therefore, you should not rely on any of these forward-looking statements. Important factors that could cause our actual results and financial condition to differ materially from those indicated in the forward-looking statements include, among others, the following: lack of available funding; general economic and business conditions; competition from third parties; intellectual property rights of third parties; regulatory constraints; changes in technology and methods of marketing; delays in completing various engineering and manufacturing programs; changes in customer order patterns; changes in product mix; success in technological advances and delivering technological innovations; shortages in components; production delays due to performance quality issues with outsourced components; and other factors beyond the Company's control.

The ultimate correctness of these forward-looking statements depends upon a number of known and unknown risks and events. We discuss our known material risks under Item 1.A Risk Factors contained in the Company's Annual Report on Form 10-K for the year ended December 31, 2017 and under Part II- Item 1.A Risk Factors contained in this report on Form 10-Q. Many factors could cause our actual results to differ materially from the forward-looking statements. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

The forward-looking statements speak only as of the date on which they are made, and, except as required by law, we undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which the statement is made or to reflect the occurrence of unanticipated events.



**PART I FINANCIAL INFORMATION**

**Item 1**

**Financial Statements**

**LIGHTWAVE LOGIC, INC.**

**FINANCIAL STATEMENTS**

**June 30, 2018**

**(UNAUDITED)**

	<b>Page</b>
Balance Sheets	2
Statements of Operations	3
Statement of Stockholders' Equity	4
Statements of Cash Flows	5
Notes to Financial Statements	6





**LIGHTWAVE LOGIC, INC.****BALANCE SHEETS**

	<b>June 30, 2018 (Unaudited)</b>	<b>December 31, 2017 (Audited)</b>
<b>ASSETS</b>		
<b>CURRENT ASSETS</b>		
Cash and cash equivalents	\$ 2,002,967	\$ 3,482,327
Prepaid expenses and other current assets	393,304	584,919
	2,396,271	4,067,246
<b>PROPERTY AND EQUIPMENT - NET</b>	<b>1,892,179</b>	<b>1,176,749</b>
<b>OTHER ASSETS</b>		
Intangible assets - net	946,683	605,775
<b>TOTAL ASSETS</b>	<b>\$ 5,235,133</b>	<b>\$ 5,849,770</b>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
<b>CURRENT LIABILITIES</b>		
Accounts payable including current portion of equipment purchase	\$ 501,362	\$ 547,805
Accounts payable and accrued expenses - related parties	55,816	8,770
Accrued expenses	103,200	92,186
	660,378	648,761
<b>LONG TERM EQUIPMENT PURCHASE PAYABLE - NET OF CURRENT PORTION</b>		<b>184,294</b>
<b>TOTAL LIABILITIES</b>	<b>660,378</b>	<b>\$ 833,055</b>
<b>STOCKHOLDERS' EQUITY</b>		
Preferred stock, \$0.001 par value, 1,000,000 authorized, No shares issued or outstanding		
Common stock \$0.001 par value, 250,000,000 authorized, 76,137,706 and 74,068,259 issued and outstanding at June 30, 2018 and December 31, 2017	76,138	74,068
Additional paid-in-capital	59,266,099	56,698,658
Accumulated deficit	(54,767,482)	(51,756,011)
<b>TOTAL STOCKHOLDERS' EQUITY</b>	<b>4,574,755</b>	<b>5,016,715</b>
<b>TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY</b>	<b>\$ 5,235,133</b>	<b>\$ 5,849,770</b>

See accompanying notes to these financial statements.

**LIGHTWAVE LOGIC, INC.****STATEMENTS OF OPERATIONS****FOR THE THREE MONTHS AND SIX MONTHS ENDING JUNE 30, 2018 AND 2017****(UNAUDITED)**

	<b>For the Three Months Ending June 30,</b>		<b>For the Six Months Ending June 30,</b>	
	<b>2018</b>	<b>2017</b>	<b>2018</b>	<b>2017</b>
NET SALES	\$	\$	\$	\$
COST AND EXPENSE				
Research and development	944,353	839,014	1,846,025	1,567,528
General and administrative	509,872	798,449	1,084,467	1,258,862
	1,454,225	1,637,463	2,930,492	2,826,390
LOSS FROM OPERATIONS	(1,454,225)	(1,637,463)	(2,930,492)	(2,826,390)
OTHER INCOME (EXPENSE)				
Interest income	62	62	124	124
Commitment fee	(43,909)	(29,168)	(81,103)	(53,921)
NET LOSS	\$ (1,498,072)	\$ (1,666,569)	\$ (3,011,471)	\$ (2,880,187)
Basic and Diluted Loss per Share	\$ (0.02)	\$ (0.02)	\$ (0.04)	\$ (0.04)
Basic and Diluted Weighted Average Number of Shares	75,528,629	69,874,539	75,038,984	69,490,753

See accompanying notes to these financial statements.



**LIGHTWAVE LOGIC, INC.**  
**STATEMENT OF STOCKHOLDERS EQUITY**  
**JUNE 30, 2018**

	<b>Number of Shares</b>		<b>Common Stock</b>		<b>Additional Paid-in Capital</b>		<b>Accumulated Deficit</b>		<b>Total</b>
BALANCE AT DECEMBER 31, 2017 (AUDITED)	74,068,259	\$	74,068	\$	56,698,658	\$	(51,756,011)	\$	5,016,715
Common stock issued to institutional investor	1,900,000		1,900		2,134,800				2,136,700
Common stock issued for additional commitment shares	69,447		70		81,033				81,103
Exercise of warrants	100,000		100		61,400				61,500
Options issued for services					243,136				243,136
Warrants issued for services					47,072				47,072
Net loss for the six months ending June 30, 2018							(3,011,471)		(3,011,471)
BALANCE AT JUNE 30, 2018 (UNAUDITED)	76,137,706	\$	76,138	\$	59,266,099	\$	(54,767,482)	\$	4,574,755

See accompanying notes to these financial statements.



**LIGHTWAVE LOGIC, INC.****STATEMENTS OF CASH FLOW****FOR THE SIX MONTHS ENDING JUNE 30, 2018 AND 2017****(UNAUDITED)**

	<b>For the Six Months Ending June 30,</b>	
	<b>2018</b>	<b>2017</b>
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Net loss	\$ (3,011,471)	\$ (2,880,187)
Adjustment to reconcile net loss to net cash used in operating activities		
Warrants issued for services	47,072	146,814
Stock options issued for services	243,136	565,603
Common stock issued for services and fees	81,103	61,921
Depreciation and amortization and noncash patent expenses	181,580	152,813
Gain on disposal of property and equipment	(2,500)	
Loss on disposition of property and equipment	12,584	
Decrease (increase) in assets		
Prepaid expenses and other current assets	191,615	(97,515)
Increase (decrease) in liabilities		
Accounts payable	(46,443)	44,125
Accounts payable and accrued expenses- related parties	47,046	44,025
Accrued expenses	11,014	70,568
Net cash used in operating activities	(2,245,264)	(1,891,833)
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Cost of intangibles	(365,805)	(22,070)
Purchase of property and equipment	(884,697)	(55,829)
Sale of property and equipment	2,500	
Net cash used in investing activities	(1,248,002)	(77,899)
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Exercise of warrants	61,500	502,500
Issuance of common stock, institutional investor	2,136,700	1,656,760
Repayment of equipment purchase payable	(184,294)	(5,946)
Net cash provided by financing activities	2,013,906	2,153,314
<b>NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS</b>	<b>(1,479,360)</b>	<b>183,582</b>

Edgar Filing: Lightwave Logic, Inc. - Form 10-Q

CASH AND CASH EQUIVALENTS - BEGINNING OF PERIOD	3,482,327	1,956,844
CASH AND CASH EQUIVALENTS - END OF PERIOD	\$ 2,002,967	\$ 2,140,426
<b><u>Supplemental Disclosure of Non-cash investing and financing activity:</u></b>		
Equipment acquisition funded by liability	\$	\$ 107,033

See accompanying notes to these financial statements.



**LIGHTWAVE LOGIC, INC.**

**NOTES TO FINANCIAL STATEMENTS**

**JUNE 30, 2018 AND 2017**

**NOTE 1 NATURE OF BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**Financial Statements**

The accompanying unaudited financial statements have been prepared by Lightwave Logic, Inc. (the Company). These statements include all adjustments (consisting only of its normal recurring adjustments) which management believes necessary for a fair presentation of the statements and have been prepared on a consistent basis using the accounting policies described in the Summary of Accounting Policies included in the 2017 Annual Report. Certain financial information and footnote disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States have been condensed or omitted pursuant to the rules and regulations of the Securities and Exchange Commission, although the Company firmly believes that the accompanying disclosures are adequate to make the information presented not misleading. The financial statements should be read in conjunction with the financial statements and notes thereto included in the Company's Annual Report on Form 10-K for the year ended December 31, 2017, as filed with the Securities and Exchange Commission. The interim operating results for the three and six months ending June 30, 2018 may not be indicative of operating results expected for the full year.

**Nature of Business**

Lightwave Logic, Inc. is a technology company focused on the development of next generation photonic devices and non-linear optical polymer materials systems for applications in high speed fiber-optic data communications. Currently the Company is in various stages of photonic device and materials development and evaluation with potential customers and strategic partners. The Company expects to obtain a revenue stream from datacom and telecom devices, sales of non-linear optical polymers, and product development agreements prior to moving into full-scale production.

The Company's current development activities are subject to significant risks and uncertainties, including failing to secure additional funding to operationalize the Company's technology now under development.

## Stock-based Payments

The Company accounts for stock-based compensation under the provisions of Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) 718, "Compensation - Stock Compensation", which requires the measurement and recognition of compensation expense for all stock-based awards made to employees and directors based on estimated fair values on the grant date. The Company estimates the fair value of stock-based awards on the date of grant using the Black-Scholes model. The value of the portion of the award that is ultimately expected to vest is recognized as expense over the shorter of the vesting period or the requisite service periods using the straight-line method. The Company accounts for stock-based compensation awards to nonemployees in accordance with FASB ASC 505-50, "Equity-Based Payments to Non-Employees ( ASC 505-50 )". Under ASC 505-50, the Company determines the fair value of the warrants or stock-based compensation awards granted as either the fair value of the consideration received or the fair value of the equity instruments issued, whichever is more reliably measurable. All issuances of stock options or other equity instruments to non-employees as consideration for goods or services received by the Company are accounted for based on the fair value of the equity instruments issued. Any stock options issued to non-employees are recorded as an expense and additional paid in capital in stockholders' equity over the applicable service periods. Non-employee equity based payments are recorded as an expense over the service period, as if the Company had paid cash for the services. At the end of each financial reporting period, prior to vesting or prior to the completion of the services, the fair value of the equity based payments will be re-measured and the non-cash expense recognized during the period will be adjusted accordingly. Since the fair value of equity based payments granted to non-employees is subject to change in the future, the amount of the future expense will include fair value re-measurements until the equity based payments are fully vested or the service completed. As of June 30, 2018 the Company changed its accounting policy for non-employee equity based payments by adopting FASB ASU 2018-07.

**LIGHTWAVE LOGIC, INC.**

**NOTES TO FINANCIAL STATEMENTS**

**JUNE 30, 2018 AND 2017**

**NOTE 1 NATURE OF BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES  
(CONTINUED)**

**Loss per Share**

The Company follows FASB ASC 260, Earnings per Share, resulting in the presentation of basic and diluted earnings per share. Because the Company reported a net loss in 2018 and 2017, common stock equivalents, including stock options and warrants were anti-dilutive; therefore, the amounts reported for basic and dilutive loss per share were the same.

**Comprehensive Income**

The Company follows FASB ASC 220.10, Reporting Comprehensive Income. Comprehensive income is a more inclusive financial reporting methodology that includes disclosure of certain financial information that historically has not been recognized in the calculation of net income (loss). Since the Company has no items of other comprehensive income, comprehensive income (loss) is equal to net loss.

**Recently Adopted Accounting Pronouncements**

In June 2018, the FASB issued ASU No. 2018-07, Compensation - Stock Compensation (Topic 718), Improvements to Nonemployee Share-Based Payment Accounting. The amendments in this Update expand the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from nonemployees. Prior to this Update, Topic 718 applied only to share-based transactions to employees. Consistent with the accounting requirement for employee share-based payment awards, nonemployee share-based payment awards within the scope of Topic 718 are measured at grant-date fair value of the equity instruments that an entity is obligated to issue when the good has been delivered or the service has been rendered and any other conditions necessary to earn the right to benefit from the instruments have been satisfied. The amendments in this Update are effective for public business entities for fiscal years beginning after December 15, 2018, including interim periods within that fiscal year. Early adoption is permitted, but no earlier than an entity's adoption date of Topic 606. The adoption of this pronouncement on June 30,

2018 had no material impact on the company's financial statements.

### **Recently Issued Accounting Pronouncements Not Yet Adopted**

As of June 30, 2018, there are no recently issued accounting standards not yet adopted which would have a material effect on the Company's financial statements through 2018.

### **NOTE 2 MANAGEMENT'S PLANS**

As a technology company focusing on the development of the next generation photonic devices and non-linear optical polymer materials systems, substantial net losses have been incurred since inception. The Company has satisfied capital requirements since inception primarily through the issuance and sale of its common stock. As of August 9, 2018, the Company has a cash position of approximately \$2,440,000. Based upon the current cash position and expenditures of approximately \$476,000 per month and no debt service, management believes the Company has sufficient funds to finance its operations through December 2018. In January 2016, the Company signed a purchase agreement ( Purchase Agreement ) with an institutional investor to sell up to \$20,000,000 of common stock. Under the Purchase Agreement and at Company's sole discretion, the institutional investor has committed to invest up to \$20,000,000 in common stock over a 36-month period with the remaining available amount of \$9,743,850. The Company has raised \$9,411,950 as of June 30, 2018. Since July 1, 2018, the Company has raised an additional \$844,200. During July 2018, an option to purchase 100,000 shares of common stock at a purchase price of \$1.00 per share was exercised for proceeds of \$100,000.

**LIGHTWAVE LOGIC, INC.****NOTES TO FINANCIAL STATEMENTS****JUNE 30, 2018 AND 2017****NOTE 3 PREPAID EXPENSES AND OTHER CURRENT ASSETS**

Prepaid expenses and other current assets consist of the following:

	<b>June 30, 2018</b>	<b>December 31, 2017</b>
Rent	\$ 134,897	\$ 254,978
Deposits		199,338
Insurance	156,784	79,403
Stock award	18,125	30,208
Other	83,498	20,992
	<b>\$ 393,304</b>	<b>\$ 584,919</b>

**NOTE 4 PROPERTY AND EQUIPMENT**

Property and equipment consists of the following:

	<b>June 30, 2018</b>	<b>December 31, 2017</b>
Office equipment	\$ 76,620	\$ 82,453
Lab equipment	2,369,082	1,695,604
Furniture	33,128	32,693
Leasehold Improvements	215,344	231,859
	2,694,174	2,042,609
Less: Accumulated depreciation	801,995	865,860
	<b>\$ 1,892,179</b>	<b>\$ 1,176,749</b>

Depreciation expense for the six months ending June 30, 2018 and 2017 was \$156,683 and \$89,912. Depreciation expense for the three months ending June 30, 2018 and 2017 was \$110,053 and \$45,034. During the six months ending June 30, 2018, the Company sold equipment for proceeds of \$2,500 and a gain of \$2,500. During the six months ending June 30, 2018, the Company retired property and equipment and recorded a loss on the retirement of \$12,584. During the three months ending June 30, 2018, the Company did not sell or retire property and equipment. During the three and six months ending June 30, 2017, the Company did not retire property and equipment.

**NOTE 5 INTANGIBLE ASSETS**

This represents patents acquired and legal fees and patent fees associated with the prosecution of patent applications. The Company has recorded amortization expense on patents granted, which are amortized over the remaining legal life. Maintenance patent fees are paid to a government patent authority to maintain a granted patent in force. Some countries require the payment of maintenance fees for pending patent applications. Maintenance fees paid after a patent is granted are expensed, as these are considered ongoing costs to maintain a patent. Maintenance fees paid prior to a patent grant date are capitalized to patent costs, as these are considered patent application costs. No amortization expense has been recorded on the remaining patent applications since patents have yet to be granted.

On June 11, 2018, the Company purchased patents for \$315,000.

**LIGHTWAVE LOGIC, INC.****NOTES TO FINANCIAL STATEMENTS****JUNE 30, 2018 AND 2017****NOTE 5 INTANGIBLE ASSETS (CONTINUED)**

Patents consist of the following:

	<b>June 30, 2018</b>	<b>December 31, 2017</b>
Patents	\$ 1,153,208	\$ 787,403
Less: Accumulated amortization	206,525	181,628
	<b>\$ 946,683</b>	<b>\$ 605,775</b>

Amortization expense for the six months ending June 30, 2018 and 2017 was \$24,897 and \$62,901. Amortization expense for the three months ending June 30, 2018 and 2017 was \$13,153 and \$58,928. There were no patent costs written off for the three and six months ending June 30, 2018 and 2017.

**NOTE 6 LONG TERM EQUIPMENT PURCHASE PAYABLE**

Outstanding long term equipment purchase payable is comprised of the following:

<b>Final Year of Maturity</b>	<b>Interest Rate</b>	<b>June 30, 2018</b>	<b>December 31, 2017</b>
2019	0.00%	\$	\$ 184,294

**NOTE 7 COMMITMENTS**

On October 30, 2017, the Company entered into a new lease to lease approximately 13,420 square feet of office, laboratory and research and development space located in Colorado for the Company's new principal executive offices and research and development facility. The term of the lease is sixty- one (61) months, beginning on November 1, 2017 and ending on November 30, 2022. The term shall be extended for an additional twenty-four (24) months, subject to certain conditions, waivable solely by Landlord in its sole and absolute discretion. Base rent for the first year of the lease term is approximately \$168,824, with an increase in annual base rent of approximately 3% in each subsequent year of the lease term. As specified in the lease, the Company paid the landlord (i) all base rent for the period November 1, 2017 and ending on October 31, 2019, in the sum of \$347,045.68; and (ii) the estimated amount of tenant's proportionate share of operating expenses for the same period in the sum of \$186,293.04.

Commencing on November 1, 2019, monthly installments of base rent and one-twelfth of landlord's estimate of tenant's proportionate share of annual operating expenses shall be due on the first day of each calendar month. The lease also provides that (i) on November 1, 2019 landlord shall pay the Company for the cost of the cosmetic improvements in the amount of \$3.00 per rentable square foot of the premises, and (ii) on or prior to November 1, 2019, the Company shall deposit with Landlord the sum of \$36,524.76 as a security deposit which shall be held by landlord to secure the Company's obligations under the lease. On October 30, 2017, the Company entered into an agreement with the tenant leasing the premise from the landlord ( Original Lessee ) whereby the Original Lessee agreed to pay the Company the sum of \$260,000 in consideration of the Company entering into the lease and landlord agreeing to the early termination of the Original Lessee's lease agreement with landlord. The consideration of \$260,000 was received on November 1, 2017.



**LIGHTWAVE LOGIC, INC.**

**NOTES TO FINANCIAL STATEMENTS**

**JUNE 30, 2018 AND 2017**

**NOTE 7 COMMITMENTS (CONTINUED)**

The Company is obligated under an operating lease for office and laboratory space. The aggregate minimum future lease payments under the operating leases are as follows:

<b>YEARS ENDING DECEMBER 31,</b>	<b>AMOUNT</b>
2018	\$
2019	32,432
2020	195,574
2021	201,501
2022	189,837
<b>TOTAL</b>	<b>\$ 619,344</b>

In June 2018, the lease for the facility located in Longmont Colorado was terminated.

Rent expense amounting to \$96,527 and \$34,256 is included in research and development and general and administrative expenses for the six months ended June 30, 2018. Rent expense amounting to \$36,462 and \$15,541 is included in research and development and general and administrative expenses for the six months ended June 30, 2017. Rent expense amounting to \$51,313 and \$9,704 is included in research and development and general and administrative expenses for the three months ended June 30, 2018. Rent expense amounting to \$25,811 and \$4,852 is included in research and development and general and administrative expenses for the three months ended June 30, 2017.

**NOTE 8 INCOME TAXES**

There is no income tax benefit for the losses for the three and six months ended June 30, 2018 and 2017 since management has determined that the realization of the net deferred tax asset is not assured and has created a valuation

allowance for the entire amount of such benefits.

The Company's policy is to record interest and penalties associated with unrecognized tax benefits as additional income taxes in the statement of operations. As of January 1, 2018, the Company had no unrecognized tax benefits, or any tax related interest or penalties. There were no changes in the Company's unrecognized tax benefits during the period ended June 30, 2018. The Company did not recognize any interest or penalties during 2017 related to unrecognized tax benefits. With few exceptions, the U.S. and state income tax returns filed for the tax years ending on December 31, 2014 and thereafter are subject to examination by the relevant taxing authorities.

## **NOTE 9 STOCKHOLDERS EQUITY**

### **Preferred Stock**

Pursuant to the Company's Articles of Incorporation, the Company's board of directors is empowered, without stockholder approval, to issue series of preferred stock with any designations, rights and preferences as they may from time to time determine. The rights and preferences of this preferred stock may be superior to the rights and preferences of the Company's common stock; consequently, preferred stock, if issued could have dividend, liquidation, conversion, voting or other rights that could adversely affect the voting power or other rights of the common stock. Additionally, preferred stock, if issued, could be utilized, under special circumstances, as a method of discouraging, delaying or preventing a change in control of the Company's business or a takeover from a third party.

**LIGHTWAVE LOGIC, INC.**

**NOTES TO FINANCIAL STATEMENTS**

**JUNE 30, 2018 AND 2017**

**NOTE 9 STOCKHOLDERS EQUITY (CONTINUED)**

**Common Stock Options and Warrants (Continued)**

In January 2016, the Company signed a Purchase Agreement with an institutional investor to sell up to \$20,000,000 of common stock. The Company also entered into a registration rights agreement with the institutional investor whereby the Company agreed to file a registration statement related to the transaction with the U.S. Securities and Exchange Commission registering 5,000,000 shares of the Company's common stock. The registration statement was filed on March 25, 2016. The registration statement became effective April 7, 2016. The Company registered an additional 5,000,000 shares pursuant to a registration statement filed on April 19, 2017 which became effective June 15, 2017. The Company registered an additional 5,000,000 shares pursuant to a registration statement filed on May 2, 2018 which became effective May 11, 2018. Under the Purchase Agreement and at Company's sole discretion, the institutional investor has committed to invest up to \$20,000,000 in common stock over a 36-month period. The Company issued 350,000 shares of restricted common stock to the institutional investor as an initial commitment fee valued at \$237,965, fair value, and 650,000 shares of common stock are reserved for additional commitment fees to the institutional investor in accordance with the terms of the Purchase Agreement. During the period August 2016 through June 30, 2018, the institutional investor purchased 9,600,000 shares of common stock for proceeds of \$9,411,950 and the Company issued 305,902 shares of common stock as additional commitment fee, valued at \$341,116, fair value, leaving 344,098 in reserve for additional commitment fees. During the six month period ending June 30, 2018, the institutional investor purchased 1,900,000 shares of common stock for proceeds of \$2,136,700 and the Company issued 69,447 shares of common stock as additional commitment fee, valued at \$81,103, fair value. During the three month period ending June 30, 2018, the institutional investor purchased 1,000,000 shares of common stock for proceeds of \$1,143,000 and the Company issued 37,149 shares of common stock as additional commitment fee, valued at \$43,909, fair value. During July and August, the institutional investor purchased 750,000 shares of common stock for proceeds of \$844,200 and the Company issued 27,436 shares of common stock as additional commitment fee, valued at \$31,929, fair value, leaving 316,662 in reserve for additional commitment fees.

**NOTE 10 STOCK BASED COMPENSATION**

During 2007, the Board of Directors of the Company adopted the 2007 Employee Stock Plan ( 2007 Plan ) that was approved by the shareholders. Under the Plan, the Company is authorized to grant options to purchase up to 10,000,000 shares of common stock to directors, officers, employees and consultants who provide services to the Company. The Plan is intended to permit stock options granted to employees under the 2007 Plan to qualify as

incentive stock options under Section 422 of the Internal Revenue Code of 1986, as amended ( Incentive Stock Options ). All options granted under the 2007 Plan, which are not intended to qualify as Incentive Stock Options are deemed to be non-qualified options ( Non-Statutory Stock Options ). Effective June 24, 2016, the 2007 Plan was terminated. As of June 30, 2018, options to purchase 4,620,000 shares of common stock have been issued and are outstanding.

During 2016, the Board of Directors of the Company adopted the 2016 Equity Incentive Plan ( 2016 Plan ) that was approved by the shareholders at the 2016 annual meeting of shareholders on May 20, 2016. Under the 2016 Plan, the Company is authorized to grant awards of incentive and non-qualified stock options and restricted stock to purchase up to 3,000,000 shares of common stock to employees, directors and consultants. As of June 30, 2018, options to purchase 1,950,000 shares of common stock have been issued and are outstanding and 1,050,000 shares of common stock remain available for grants under the 2016 Plan.

Both plans are administered by the Board of Directors or its compensation committee which determines the persons to whom awards will be granted, the number of awards to be granted, and the specific terms of each grant. Subject to the provisions regarding Ten Percent Shareholders, the exercise price per share of each option cannot be less than 100% of the fair market value of a share of common stock on the date of grant. Options granted under the 2016 Plan are generally exercisable for a period of 10 years from the date of grant and may vest on the grant date, another specified date or over a period of time.

**LIGHTWAVE LOGIC, INC.****NOTES TO FINANCIAL STATEMENTS****JUNE 30, 2018 AND 2017****NOTE 10 STOCK BASED COMPENSATION (CONTINUED)**

The Company uses the Black-Scholes option pricing model to calculate the grant-date fair value of an award, with the following assumptions for 2018: no dividend yield in all years, expected volatility, based on the Company's historical volatility, 60% to 90%, risk-free interest rate between 1.89% to 3.06% and expected option life of 5.0 to 10 years. Prior to May 2018, the expected life is based on the estimated average of the life of options using the simplified method, as prescribed in FASB ASC 718, due to insufficient historical exercise activity during recent years. Starting in May 2018, the expected life is based on the legal contractual life of options.

As of June 30, 2018, there was \$146,300 of unrecognized compensation expense related to non-vested market-based share awards that is expected to be recognized through June 30, 2020.

Share-based compensation was recognized as follows:

	<b>For the Six Months Ending</b>	
	<b>June 30,</b>	
	<b>2018</b>	<b>2017</b>
2007 Employee Stock Option Plan	\$ 11,532	\$ 22
2016 Equity Incentive Plan	231,604	565,581
Warrants	47,072	146,814
Total share-based compensation	\$ 290,208	\$ 712,417

The following tables summarize all stock option and warrant activity of the Company during the six months ended June 30, 2018:

**Non-Qualified Stock Options and Warrants  
Outstanding and Exercisable**

**Weighted**

Edgar Filing: Lightwave Logic, Inc. - Form 10-Q

	<b>Number of Shares</b>	<b>Exercise Price</b>	<b>Average Exercise Price</b>
Outstanding, December 31, 2017	18,629,867	\$ 0.57 - \$1.69	\$ 0.90
Granted	325,000	\$ 1.07 - \$1.27	\$ 1.22
Expired			
Forfeited	(75,000)	\$ 0.92 - \$0.92	\$ 0.92
Exercised	(100,000)	0.615 - \$0.615	\$ 0.61
Outstanding, June 30, 2018	18,779,867	\$ 0.57 - \$1.69	\$ 0.90
Exercisable, June 30, 2018	18,426,742	\$ 0.57 - \$1.69	\$ 0.90

The aggregate intrinsic value of options and warrants outstanding and exercisable as of June 30, 2018 was \$4,601,863. The aggregate intrinsic value is calculated as the difference between the exercise price of the underlying options and warrants and the closing stock price of \$1.12 for the Company's common stock on June 30, 2018. During the six and three month period ending June 30, 2018, 100,000 warrants were exercised for proceeds of \$61,500.

<b>Range of Exercise Prices</b>	<b>Non-Qualified Stock Options and Warrants Outstanding</b>		
	<b>Number Outstanding Currently Exercisable at June 30, 2018</b>	<b>Weighted Average Remaining Contractual Life</b>	<b>Weighted Average Exercise Price of Options and Warrants Currently Exercisable</b>
\$0.57 - \$1.69	18,426,742	3.90 Years	\$0.90

**LIGHTWAVE LOGIC, INC.**

**NOTES TO FINANCIAL STATEMENTS**

**JUNE 30, 2018 AND 2017**

**NOTE 11 RELATED PARTY**

At June 30, 2018 the Company had a legal accrual to related party of \$53,675, expense reimbursement to a related party of \$839 and travel and office expense accruals of officers in the amount of \$1,302. At December 31, 2017 the Company had a legal, accounting and computer service accrual to related party of \$4,725 and travel and office expense accruals of officers in the amount of \$4,045.

During July 2017, the Company issued a warrant to purchase 150,000 shares of common stock at a purchase price of \$1.48 per share for professional services to be rendered over a twelve month period commencing July 1, 2017. The warrant was valued at \$124,788, fair value upon issuance, using the Black-Scholes Option Pricing Formula. The warrant was re-valued at \$93,069, fair value at June 30, 2018. The expense is being recognized based on service terms of the agreement over a twelve month period. For the six month period ending June 30, 2018, the Company recognized \$47,072 of expense.

**NOTE 12 RETIREMENT PLAN**

The Company established a 401(k) retirement plan covering all eligible employees beginning November 15, 2013. For the six months ending June 30, 2018 and 2017, a contribution of \$9,763 and \$9,799 was charged to expense for all eligible non-executive participants. For the three months ending June 30, 2018 and 2017, a contribution of \$4,156 and \$4,157 was charged to expense for all eligible non-executive participants.

**NOTE 13 SUBSEQUENT EVENTS**

During July 2018, the Company issued a warrant to purchase 100,000 shares of common stock at a purchase price of \$1.15 per share for accounting services to be rendered over a twelve month period commencing July 1, 2018. The warrant was valued at \$62,637, fair value, using the Black-Scholes Option Pricing Formula, vesting over the next twelve months with 8,333 vesting immediately, 8,333 vesting per month on the first day of the next ten months and 8,337 vesting on the first day of the twelfth month of the corresponding service agreement. The warrant expires in five years. The expense is being recognized based on service terms of the agreement over a twelve month period.

During July 2018, an option to purchase 100,000 shares of common stock at a purchase price of \$1.00 per share was exercised for proceeds of \$100,000.



## Item 2

### Management's Discussion and Analysis of Financial Condition and Results of Operations

*The following discussion and analysis should be read in conjunction with our financial statements, included herewith. This discussion should not be construed to imply that the results discussed herein will necessarily continue into the future, or that any conclusion reached herein will necessarily be indicative of actual operating results in the future. Such discussion represents only the best present assessment of our management. This information should also be read in conjunction with our audited historical financial statements which are included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, filed with the Securities and Exchange Commission on March 16, 2018.*

#### Overview

Lightwave Logic, Inc. is a development stage company whose P<sup>2</sup>IC™ technology addresses advanced telecommunication, data communications, and data center markets utilizing its advanced organic electro-optic polymer systems. The Company currently has two business segments to support its development activities, its materials development segment, and its photonic device design and development segment.

General information about us can be found on our website at [www.lightwavelogic.com](http://www.lightwavelogic.com). The information on our website is for informational purposes only and should not be relied on for investment purposes. The information on our website is not incorporated by reference into this report on Form 10-Q and should not be considered part of this or any other report that we file with the Securities and Exchange Commission.

#### Materials Development

The Company designs and synthesizes organic chromophores for use in its own proprietary electro-optic *polymer systems* and photonic device designs. A polymer system is not solely a material, but also encompasses various technical enhancements necessary for its implementation. These include host polymers, poling methodologies, and molecular spacer systems that are customized to achieve specific optical properties. Our organic electro-optic polymer systems compounds are mixed into solution form that allows for thin film application. Our proprietary electro-optic polymers are designed at the molecular level for potentially superior performance, stability and cost-efficiency. We believe they have the potential to replace more expensive, lower-performance materials and devices used in fiber-optic ground, wireless and satellite communication networks.

Our patented and patent pending molecular architectures are based on a well-understood chemical and quantum mechanical occurrence known as *aromaticity*. Aromaticity provides a high degree of molecular stability that enables our core molecular structures to maintain stability under a broad range of polymerization conditions that otherwise appear to affect other current polymer molecular designs.

We expect our patented and patent-pending optical materials along with trade secrets and licensed materials, to be the core of and the enabling technology for future generations of optical devices, modules, sub-systems and systems that we will develop or potentially out-license to electro-optic device manufacturers. The Company contemplates future applications that may address the needs of semiconductor companies, aerospace companies and government agencies.

## **Prototype Device Design and Development**

### *Electro-optic Modulators*

The Company designs its own proprietary electro-optical modulation devices. Electro-optical modulators convert data from electric signals (binary data) into optical signals that can then be transmitted over high-speed fiber-optic cables. These devices are key components that have historically limited the ability of telecommunications, data communications, data centers networks to keep up with the seemingly endless flow of data in the form of voice calls, text messages, pictures, video streaming that are being transmitted to a growing array of devices.

### *Polymer Photonic Integrated Circuits (P<sup>2</sup>IC<sup>TM</sup>)*

The Company also designs its own proprietary Polymer Photonic Integrated Circuits. A Polymer Photonic Integrated Circuit is a photonic device that integrates several photonic functions on a single chip. We believe that our technology can enable the ultra-miniaturization needed to increase the number of photonic functions residing on a semiconductor chip to create a progression like what was seen in the computer integrated circuits, commonly referred to as Moore's Law.

Current photonic technology is based on inorganic crystalline materials, which due to physical limitations have not been able to address devices such as slot waveguides that require highly miniaturized geometries. Slot modulators have the potential to scale in integration for increased functionality and would be highly beneficial to data center infrastructure. Organic electro-optic polymers have greater potential because they can be applied as a thin film coating. Our polymers are unique in that they can withstand extremely high semiconductor process temperatures to seamlessly integrate into existing CMOS, Indium Phosphide (InP), Gallium Arsenide (GaAs), and other semiconductor manufacturing lines. Our devices, enabled by our organic electro-optic polymer material systems, work by affecting the optical properties of light in the presence of an electric field at extremely high frequencies (wide bandwidths) and possess inherent advantages over current crystalline electro-optic material contained in most modulator devices such as lithium niobate, indium phosphide and gallium arsenide.

## **Business Strategy**

Our business strategy anticipates that our revenue stream will be derived from one or some combination of the following: (i) technology licensing for specific product application; (ii) joint venture relationships with significant industry leaders; or (iii) the production and direct sale of our own electro-optic device components. Our objective is to be a leading provider of proprietary technology and know-how in the electro-optic device market. In order to meet this objective, we intend to:

- Further the development of proprietary organic electro-optic polymer material systems
- Develop photonic devices based on our P<sup>2</sup>IC<sup>TM</sup> technology
- Continue to develop proprietary intellectual property
- Continue to add device development capabilities
- Continue to add to material development capabilities
- Maintain/develop strategic relationships with major telecommunications and data communications companies to further the awareness and commercialization of our technology
- Continue to add high-level science and technology personnel in key areas of our materials and device development programs.

### *Create Organic Polymer-Enabled Electro-Optic Modulators*

We intend to utilize our proprietary optical polymer technology to create an initial portfolio of commercially feasible electro-optic polymer product devices and applications for various markets, including telecommunications, data communications and data centers. These produce devices will be based on our proprietary photonics integrated circuit (PIC) technology platform (P<sup>2</sup>IC ).

We expect our initial products will be based with optical polymer technology on our P2IC platform operating at data rates up to 50Gbps with standard data encoding of NRZ. Our P2IC platform will have the flexibility to allow multiples channels, where 4 modulated channels are expected to operate at 50Gbps per channel. The optical signal output would then operate at 200Gbps with NRZ standard data encoding, or 400Gbps with PAM-4 advance data encoding. This will allow the company to participate in both the 100Gbps (4 channel at 25Gbps) as well as the 400Gbps modulator markets.

*Continue to Expand Our Intellectual Property Portfolio and Reliance on Trade Secrets*

We plan to continuously advance the development of unique organic electro-optic polymer materials along with proprietary designs and device configurations. We intend to protect our technology by filing patent applications where appropriate or by obtaining exclusive technology rights where available. However, in some cases, we will refrain from protecting certain proprietary with patents in favor of trade secrets.

*Continue to Recruit Technical Expertise*

In December 2011, we retained Dr. Frederick Leonberger, PhD as our Senior Advisor. Dr. Leonberger is the former Chief Technology Officer of JDS Uniphase, Inc. We previously retained EOvation Advisors LLC, a technology and business advisory firm founded by Dr. Frederick Leonberger, as a consultant to the Company. Dr. Leonberger is presently assisting our Company with strategic planning and the design of optical modulators that we intend to develop. In May 2017, Dr. Leonberger was elected to our Board of Directors and serves as a member of the operations committee and assists with the technical direction and strategy of the Company.

In July 2018 we retained Dr. Karen Liu, a well-known industry analyst and marketing executive in datacom and telecom fiber optic communications, as our Vice President of Sales and Marketing to advance our customer-facing position in the datacom and telecom markets and to assist with our release 400Gbps and 800Gbps products based on our polymer PIC platform.

**Our Proprietary Products in Development**

As part of a two-pronged marketing strategy, our Company is developing several optical devices, which are in various stages of development and that utilize our organic nonlinear optical materials. They include:

*Ridge Waveguide Modulator*

Our ridge electro-optic waveguide modulator was designed and fabricated in our Longmont, Colorado laboratory. The fabrication of our first in-house device is significant to our entire device program and is an important starting point for modulators that are being developed for target markets. We have multiple generations of new materials that we will soon be optimizing for this specific design. In September 2017 we announced that our initial alpha prototype ridge waveguide modulator, enabled by our P<sup>2</sup>IC polymer system, demonstrated bandwidth performance levels that will enable 50Gbps modulation in fiber-optic communications. This device demonstrated true amplitude (intensity) modulation in a Mach-Zehnder modulator structure incorporating our polymer waveguides. This important achievement will allow users to utilize arrays of 4 x 50Gbps polymer modulators using PAM-4 encoding to access 400Gbps data rate systems. Pulse-Amplitude Modulation (PAM-4) is an encoding scheme that can double the amount of data that can be transmitted. These ridge waveguide modulators are currently being packaged with our partner and will be available for evaluation by potential customers in 2018. In parallel, we are simulating and modeling the modulators for scalability to higher data rates above 50Gbps and lower cost structures that will be competitive with incumbent technology. This provides our technology platform with higher levels of scalability and will provide potential customers with technological solutions that they are currently looking for.

The ridge waveguide modulator represents our first commercially viable device, and targets metro networks (< 10Km) within large scale telecommunications and data communications networks and represents at least a \$300M per year market opportunity for us.

*Slot Waveguide Modulator*

Our functional polymer photonics slot waveguide modulator utilizes an existing modulator structure with one of our proprietary electro-optic polymer material systems as the enabling material layer, and is functional as an operating prototype device.

Preliminary testing and initial data on our polymer photonics slot waveguide modulators demonstrated several promising characteristics. The tested polymer photonic chip had a 1-millimeter square footprint, enabling the possibility of sophisticated integrated optical circuits on a single silicon substrate. In addition, the waveguide structure was approximately 1/20 the length of a typical inorganic-based silicon photonics modulator waveguide.

With the combination of our proprietary electro-optic polymer material and the extremely high optical field concentration in the slot waveguide modulator, the test modulators demonstrated less than 2.2 volts to operate. Initial speeds exceeded 30-35 GHz in the telecom, 1550 nanometer frequency band. This is equivalent to 4 x 10Gbps, inorganic, lithium niobate modulators that would require approximately 12-16 volts to move the same amount of information.

Our material operates in the 1550 nanometer frequency band, which is suitable for data communications applications. We continued with our collaborative development of our polymer photonic slot waveguide modulator in 2014 and continued our collaboration with an associated third-party research group in 2017 and expect to see initial results later in 2018.

*Our Long-Term Device Development Goal - Multichannel Polymer Photonic Integrated Circuit (P<sup>2</sup>IC )*

While our polymer-based ridge waveguide and slot modulators are currently under development to be commercially viable products, our long-term device development goal is to produce a platform for the 400Gbps transceiver market. This has been stated in our photonics product roadmap that is publicly available on our website. The roadmap shows a progression from: 10Gbps ridge waveguide modulators; to 25Gbps based ridge waveguide modulators; to 50Gbps based ridge waveguide modulators. These modulators are then arrayed to create a multichannel polymer-based P<sup>2</sup>IC platform for the 100Gbps market. As the performance of the modulator is capable of 50Gbps, the next major milestone on our roadmap will be to create a multichannel polymer-based P<sup>2</sup>IC platform for the 400Gbps market. Ideally, this will be composed of either 8 channels of 50Gbps using a NRZ modulation format, or 4 channels of 50Gbps using a PAM-4 modulation format.

Further out for our long-term device challenges, we are exploring to see if our polymer materials can be optimized to perform even faster at a serial single channel 100Gbps using a NRZ modulation format. If this is the case, then the opportunities to simplify the 400Gbps data rates, and potential to scale to even higher data rates such as 800Gbps might be possible for applications in data communications. Polymer modulators working at a serial single channel 100Gbps would allow the 400Gbps data rate to utilize 4 channels at 100Gbps using more simpler NRZ modulation format, and scale potentially to 800Gbps using the same 4 channels with the more complex PAM-4 modulation format.

Our P<sup>2</sup>IC platform for each of the 100Gbps and 400Gbps markets will be based on a semiconductor-based platform to which the polymer modulators will be positioned. Each modulator will be driven by a laser source which will be coupled optically to the modulator. The output of the modulator will then be coupled inside a transceiver to the fiber optic network. Our P<sup>2</sup>IC platform will contain a number of photonic devices that may include, over and above polymer-based modulators, photonic devices such as lasers, multiplexers, demultiplexers, detectors, fiber couplers, waveguides, etc.

**Our Target Markets**

*Cloud computing and data centers*

*Big data* is a general term used to describe the voluminous amount of unstructured and semi-structured data a Company creates -- data that would take too much time and cost too much money to load into a relational database for analysis. Companies are looking to cloud computing in their data centers to access all the data. Inherent speed and bandwidth limits of traditional solutions and the potential of organic polymer devices offer an opportunity to increase the bandwidth, reduce costs and improve speed of access.

The overall square footage in datacenters has been growing rapidly over the past 5 years and is expected to continue this trend over the next decade. Data centers are confronted with the problem of moving vast amounts of data not only around the data center itself, but also between data centers. The size of these data center links are often measured in kilometers and employ optical modulators to convert stored electrical/binary information to optical and back. Links that are shorter than 500 meters and operate at approximately 10Gbps can employ direct modulation, which accomplishes modulation by mechanically turning a laser on and off. However, for links greater than 500 meters and higher data rates such as 25Gbps, 40Gbps, and beyond, it is necessary to employ optical modulators. We intend to target optical devices that are aimed at the 500m to 10km distance segment of the market that operate at 25Gbps and higher data rates. These are single mode fiber links and require polymer optical devices that operate in single optical mode. While some data center customers are planning their architectures using single mode fiber links even below 500m, others are focusing on cost-performance to make their decisions for their particular architectures. Our technology is both single mode and scalable in both increased data rates and low cost, which means that it can be implemented in either data center application depending on how we achieve the customer metrics and specifications. We believe that our single mode modulator solutions will not only be competitive at 500m to 10km link distances at 25Gbps data rates and beyond, but also at distances below 500m at 25Gbps and beyond depending on the customer architecture designs.



*Telecommunications/Data Communications*

The telecommunications industry has evolved from transporting traditional analogue voice data over copper wire into the movement of digital voice and data. Telecommunication companies are faced with the enormous increasing challenges to keep up with the resulting tremendous explosion in demand for bandwidth. This has been further exacerbated by a recent trend for content providers to store large amounts of data closer to the end user. This results in enormous demands on telecommunication metro networks (less than 10 Kilometers in length) and their ability to facilitate the transportation of content.

We believe that our ridge waveguide modulator, when completed will have the potential to address several segments within telecommunications networks.

**Recent Significant Events and Milestones Achieved**

In December 2016, we achieved high-speed modulation in our first all-organic polymer ridge waveguide intensity modulator prototype, which constituted one of the most significant moments in the history of our Company. Our initial "alpha" prototype device, enabled by our P<sup>2</sup>IC polymer system, demonstrated bandwidth suitable for data rates up to about 10 Gbps. This performance exceeds the telecom OC-48 standard (2.5 Gbps). This device demonstrated true amplitude (intensity) modulation in a Mach-Zehnder modulator structure incorporating our polymer waveguides.

In April 2017 we achieved bandwidth suitable for 25Gbps data rates in an all-organic polymer ridge waveguide intensity modulator prototype, a significant improvement over our initial 10Gbps device modulator prototype. This breakthrough was significant because a 25Gbps data rate is important to the optical networking industry because this data rate is a major node to achieve 100 Gbps (using 4 channels of 25 Gbps). In July 2017 we advanced our high-speed modulation performance to satisfy 28Gbps data rates for QSFP28 standards and 100Gbps data center applications.

In September 2017 we achieved outstanding performance of our ridge waveguide Mach-Zehnder modulators ahead of schedule, with bandwidth performance levels that will enable 50Gbps modulation in fiber-optic communications. This important achievement will allow users to utilize arrays of 4 x 50Gbps polymer modulators using PAM-4 encoding to access 400Gbps data rate systems. Pulse-Amplitude Modulation (PAM-4) is an encoding scheme that can double the amount of data that can be transmitted.

During February and March 2018, we moved our Newark, Delaware synthetic laboratory and our Longmont, Colorado optical testing laboratory and corporate headquarters to our new office, laboratory and research and development space located at 369 Inverness Parkway, Suite 350, Englewood, Colorado. The new 13,420 square feet Englewood facility includes fully functional 1,000 square feet of class 1,000 cleanroom, 500 square feet of class 10,000 cleanroom, chemistry laboratories, and analytic laboratories. The new Englewood facility streamlines all of our Company's research and development workflow for greater operational efficiencies.

During March 2018, our Company, together with our packaging partner, successfully demonstrated packaged polymer modulators designed for 50Gbps, which we believe will allow us to scale our P<sup>2</sup>IC platform with our Mach-Zehnder ridge waveguide modulator design as well as other photonics devices competitively in the 100Gbps and 400Gbps datacom and telecommunications applications market. We are currently fine-tuning the performance parameters of these prototypes in preparation for customer evaluations. Polymer modulators that operate both at 25Gbps and 50Gbps are expected to be attractive to customers for characterization as the 25Gbps data rate is critical for the 100Gbps data communications and telecommunications market while the 50Gbps data rate allows the ability to address the 400Gbps and 800Gbps systems with a high-performance, cost-effective solution. The datacom and telecommunications application markets represent a market opportunity for our PIC-based technologies with fiber-based transceivers that in total is forecasted to grow to over \$25B by 2025.

During June 2018, our Company Acquired the Polymer Technology Intellectual Property Assets of BrPhotonics Productos Optoelectrónicos S.A., a Brazilian corporation, which significantly advanced our patent portfolio of electro-optic polymer technology with 15 polymer chemistry materials, devices, packaging and subsystems patent and further strengthened our design capabilities to solidify our market position as we prepare to enter the 400Gbps integrated photonics marketplace with a highly competitive, scalable alternative to installed legacy systems.

Also, during June 2018, our Company promoted polymer PICs and Solidified Polymer PICs as Part of the Photonics Roadmap at the World Technology Mapping Forum in Enschede, Netherlands, which includes our Company's technology of polymers and polymer PICs that have the potential to drive not only 400Gbps aggregate data rate solutions, but also 800Gbps and beyond.

As we move forward through 2018, we expect to continue building our world-class design team for both polymer materials and integrated photonics technology platform to further optimize our P<sup>2</sup>IC platform. With the now consolidated facility in Englewood, Colorado, we can keep key technologies and processes internal to the Company. We have completed our upgrade of our Englewood facility in areas of test, characterization, fabrication, and chemistry. We will package our modulators for customer evaluation and will continue to design our polymers for improved data rates and lower power operation. We will engage with customers to fine tune our technology to meet customer expectations, and we will scale our technology to provide cost effective technological solutions for the fiber communications market segments. We intend to partner with other companies as necessary, e.g. our packaging partner, to enable us to move quickly towards customer prototypes.

## **Capital Requirements**

As a development stage company, we do not generate revenues. We have incurred substantial net losses since inception. We have satisfied our capital requirements since inception primarily through the issuance and sale of our common stock.

## **Results of Operations**

### **Comparison of three months ended June 30, 2018 to three months ended June 30, 2017**

#### Revenues

As a development stage company, we had no revenues during the three months ended June 30, 2018 and June 30, 2017. The Company is in various stages of photonic device and material development and evaluation. We expect the next revenue stream to be in product development agreements, prototype devices and sale of nonlinear optical polymer materials prior to moving into production.

## Operating Expenses

Our operating expenses were \$1,454,225 and \$1,637,463 for the three months ended June 30, 2018 and 2017, respectively, for a decrease of \$183,238. This decrease in operating expenses was due primarily to decreases in non-cash stock option and warrant amortization, laboratory material testing expense and electro-optic device development, legal and patent amortization and patent related expenses offset by increases in research and development salaries and wages, depreciation, rent and utility expenses, laboratory materials and supplies and moving expenses.

Included in our operating expenses for the three months ended June 30, 2018 was \$944,353 for research and development expenses compared to \$839,014 for the three months ended June 30, 2017, for an increase of \$105,339. This is primarily due to increases in research and development salaries and wages, depreciation and laboratory materials and supplies, moving expenses and rent and utility expenses offset by decreases in research and development non-cash stock option and warrant amortization, laboratory material testing expense and electro-optic device development and patent amortization and patent related expenses.

Research and development expenses currently consist primarily of compensation for employees and consultants engaged in internal research, product development activities; laboratory operations, internal material and device fabrication testing and prototype electro-optic device design, development and prototype device processing; costs; and related operating expenses.

We expect to continue to incur substantial research and development expense to develop and commercialize our photonic devices PIC development and electro-optic materials platform. These expenses will increase as a result of accelerated development effort to support commercialization of our non-linear optical polymer materials technology; to build photonic device prototypes in our in-house laboratories; hiring additional technical and support personnel; engaging a senior technical advisor; pursuing other potential business opportunities and collaborations; customer testing and evaluation; and incurring related operating expenses.

Wages and salaries increased \$105,581 from \$310,775 for the three months ended June 30, 2017 to \$416,356 for the three months ended June 30, 2018. The reason for the variation was primarily due to an increase in full time technical personnel working on device development and change in research and development allocation

Depreciation increased by \$63,727 to \$107,583 for the three months ended June 30, 2018 from \$43,856 for the three months ended June 30, 2017. The primary reason for the increase was due to the addition of capital equipment.

Laboratory materials and supplies also increased \$56,101 to \$97,612 for the three months ended June 30, 2018 from \$41,511 for the three months ended June 30, 2017. The primary reason for the increase was fabrication of electro-optical polymer materials, and prototype wafers and devices.

Moving expenses increased by \$36,689 to \$37,369 for the three months ended June 30, 2018 from \$680 for the three months ended June 30, 2017. The primary reason for the increase was the relocation of employees to the new facility.

Rent and utilities increased by \$25,705 from \$30,709 for the three months ended June 30, 2017 to \$56,414 for the three months ended June 30, 2018. The primary reason for the increase was due to acquiring a larger facility in order to consolidate all the Company's operations into one facility.

Research and development non-cash stock option amortization decreased \$113,566 from \$159,179 for the three months ended June 30, 2017 to \$45,613 for the three months ended June 30, 2018. The reason for the variation in decreased amortization was the vesting schedules.

Product prototype development and material testing expense decreased \$51,041 from \$81,780 for the three months ended June 30, 2017 to \$30,739 for the three months ended June 30, 2018. The decrease was primarily due to the move to the new facility and transitioning of outside services in-house.

Patent amortization and patent related expenses decreased by \$37,446 to \$13,153 for the three months ended June 30, 2018 from \$50,599 for the three months ended June 30, 2017. The primary reason for the decrease was lower cost in patent application prosecution.

General and administrative expense consists primarily of compensation and support costs for management staff, and for other general and administrative costs, including executive, sales and marketing, investor relations, accounting and finance, legal, consulting and other operating expenses.

General and administrative expenses decreased \$288,577 to \$509,872 for the three months ended June 30, 2018 compared to \$798,449 for the three months ended June 30, 2017. The decrease is primarily due to decreases in general and administrative non-cash stock option and warrant amortization, legal, and general and administrative salary and wages offset by increases in rent and utility expenses.

General and administrative non-cash stock option and warrant amortization decreased \$274,565 to \$42,683 for the three months ending June 30, 2018 from \$317,248 for the three months ended June 30, 2017. The reason for the variation was due to stock options and warrants vesting schedules.

Salary and wages decreased \$18,458 to \$121,535 for the three months ended June 30, 2018 compared to \$139,993 for the three months ended June 30, 2017. The primary reason for the variance is a decrease in management salaries and change in general and administrative allocation.

Legal fees decreased \$43,510 to \$117,016 for the three months ended June 30, 2018 compared to \$160,526 for the three months ended June 30, 2017. The primary reason for the variance was an overall decrease in general legal work.

Rent and utilities increased \$16,952 to \$24,878 for the three months ending June 30, 2018 from \$7,926 for the three months ended ending June 30, 2017. The primary reason for the increase was due to acquiring a larger facility in order to move all the Company's operations building, and support of old operations facilities.

We expect general and administrative expense to increase in future periods as we increase the level of corporate and administrative activity, including increases associated with our operation as a public company; and significantly increase expenditures related to the future production and sales of our products.

#### Other Income (Expense)

Other expense increased \$14,741 to \$43,847 for the three months ended June 30, 2018 from \$29,106 for the three months ended June 30, 2017, relating to the commitment fee associated with the purchase of shares by an institutional investor for sale under a stock purchase agreement.

#### Net Loss

Net loss was \$1,498,072 and \$1,666,569 for the three months ended June 30, 2018 and 2017, respectively, for a decrease of \$168,497, due primarily to decreases in non-cash stock option and warrant amortization, laboratory material testing expense and electro-optic device development, legal and patent amortization and patent related expenses offset by increases in research and development salaries and wages, depreciation, rent and utility expenses, laboratory materials and supplies, moving expenses and commitment fee associated with the purchase of shares by an institutional investor for resale under a stock purchase agreement.

#### **Comparison of six months ended June 30, 2018 to six months ended June 30, 2017**

#### Revenues

As a development stage company, we had no revenues during the six months ended June 30, 2018 and June 30, 2017. The Company is in various stages of photonic device and material development and evaluation. We expect the next revenue stream to be in product development agreements, prototype devices and sale of nonlinear optical polymer materials prior to moving into production.

#### Operating Expenses

Our operating expenses were \$2,930,492 and \$2,826,390 for the six months ended June 30, 2018 and 2017, respectively, for an increase of \$104,102. This increase in operating expenses was due primarily to increases in research and development salaries and wages, rent and utility expenses, laboratory materials and supplies, depreciation, moving expenses, general and administrative office expenses, auditing fees, research and development travel expenses, accounting fees, director and officer insurance expenses, general and administrative consulting, other

tax expenses and repair offset by decreases in non-cash stock option and warrant amortization, laboratory material testing expense and electro-optic device development, general and administrative salary and wages, legal, patent amortization and patent related expenses and royalty fees.

Included in our operating expenses for the six months ended June 30, 2018 was \$1,846,025 for research and development expenses compared to \$1,567,528 for the six months ended June 30, 2017, for an increase of \$278,497. This is primarily due to increases in research and development salaries and wages, laboratory materials and supplies, rent and utility expenses, depreciation, research and development moving expenses, travel expenses and repair offset by decreases in non-cash stock option and warrant amortization, laboratory material testing expense and electro-optic device development, patent amortization and patent related expenses and royalty fees.

Research and development expenses currently consist primarily of compensation for employees and consultants engaged in internal research, product development activities; laboratory operations, internal material and device fabrication testing and prototype electro-optic device design, development and prototype device processing; costs; and related operating expenses.

We expect to continue to incur substantial research and development expense to develop and commercialize our photonic devices PIC development and electro-optic materials platform. These expenses will increase as a result of accelerated development effort to support commercialization of our non-linear optical polymer materials technology; to build photonic device prototypes in our in-house laboratories; hiring additional technical and support personnel; engaging a senior technical advisor; pursuing other potential business opportunities and collaborations; customer testing and evaluation; and incurring related operating expenses.

Wages and salaries which increased \$242,875 from \$595,924 for the six months ended June 30, 2017 to \$838,799 for the six months ended June 30, 2018. The reason for the variation was primarily due to an increase in full time technical personnel working on device development and change in research and development allocation.



Laboratory materials and supplies also increased \$82,225 to \$158,590 for the six months ended June 30, 2018 from \$76,365 for the six months ended June 30, 2017. The primary reason for the increase was fabrication of electro-optic polymer materials, and prototype wafers and devices.

Rent and utilities increased by \$78,115 to \$140,567 for the six months ended June 30, 2018 from \$62,452 for the six months ended June 30, 2017. The primary reason for the increase was due to acquiring a larger facility in order to consolidate all the Company's operations into one facility.

Depreciation increased by \$65,357 to \$152,555 for the six months ended June 30, 2018 from \$87,198 for the six months ended June 30, 2017. The primary reason for the increase was due to the addition of capital equipment.

Moving expenses increased by \$43,141 to \$44,100 for the six months ended June 30, 2018 from \$959 for the six months ended June 30, 2017. The primary reason for the increase was the relocation of employees to the new facility.

Research and development travel expenses increased by \$23,336 to \$54,439 for the six months ended June 30, 2018 from \$31,103 for the six months ended June 30, 2017. The increase was primarily due to employee travel for relocation planning.

Repair and maintenance expenses increased by \$10,174 to \$26,572 for the six months ended June 30, 2018 from \$16,398 for the six months ended June 30, 2017. The primary reason for the increase was due to repairs to the Delaware facility, general maintenance in the new Colorado facility.

Research and development non-cash stock option amortization decreased \$159,505 from \$311,569 for the six months ended June 30, 2017 to \$152,064 for the six months ended June 30, 2018. The reason for the variation in decreased amortization was the vesting schedules.

Product prototype development and material testing expense decreased \$72,579 from \$110,643 for the year ended June 30, 2017 to \$38,064 for the six months ended June 30, 2018. The decrease was primarily due to the move to the new facility and transitioning of outside services in-house.

Patent amortization and patent related expenses decreased by \$29,675 to \$24,897 for the six months ended June 30, 2018 from \$54,572 for the six months ended June 30, 2017. The primary reason for the decrease was lower cost in patent application prosecution.

Royalty expenses decreased by \$15,000 to \$0 for the six months ended June 30, 2018 from \$15,000 for the six months ended June 30, 2017. The primary reason for the decrease was the termination of a license agreement.

General and administrative expense consists primarily of compensation and support costs for management staff, and for other general and administrative costs, including executive, sales and marketing, investor relations, accounting and finance, legal, consulting and other operating expenses.

General and administrative expenses decreased \$174,395 to \$1,084,467 for the six months ended June 30, 2018 compared to \$1,258,862 for the six months ended June 30, 2017. The decrease is primarily due to decreases in general and administrative non-cash stock option and warrant amortization, general and administrative salary and wages and legal fees offset by increases in office expenses, rent and utility expenses, auditing fees, moving expenses, accounting fees, director and officer insurance expenses, general and administrative consulting and other tax expenses.

General and administrative non-cash stock option and warrant amortization decreased by \$262,704 to \$138,144 for the six months ended June 30, 2018 compared to \$400,848 for the six months ended June 30, 2017. The reason for the variation was due to stock options and warrants vesting schedules.

Salary and wages decreased \$68,037 to \$238,800 for the six months ended June 30, 2018 compared to \$306,837 for the six months ended June 30, 2017. The primary reason for the variance is a decrease in management salaries and change in general and administrative allocation.

Legal fees decreased \$35,623 to \$173,231 for the six months ended June 30, 2018 compared to \$208,854 for the six months ended June 30, 2017. The primary reason for the variance was an overall decrease in general legal work.

Office expenses increased \$54,956 to \$76,041 for the six months ending June 30, 2018 from \$21,085 for the six months ended June 30, 2017. The reason for the variation was due to relocating into a larger facility.

Rent and utilities increased \$40,753 to \$57,531 for the six months ending June 30, 2018 from \$16,778 for the six months ended ending June 30, 2017. The primary reason was due to support of the new and old operations facilities.

Auditing fees increased \$25,150 to \$63,600 for the six months ending June 30, 2018 from \$38,450 for the six months ending June 30, 2017. The primary reason for the increase was due to the Company's change in status to an accelerated filer under the Securities Exchange Act of 1934, which requires additional testing by the auditors.

Moving expenses increased \$20,606 to \$20,606 for the six months ending June 30, 2018 from \$0 for the six months ending June 30, 2017. The reason for the variation was due to moving to a new facility.

Accounting fees increased \$13,666 to \$67,750 for the six months ended June 30, 2018 compared to \$54,084 for the six months ended June 30, 2017. The primary reason for the increase was due to the additional work related to being an accelerated filer.

Director and officer insurance expenses increased \$13,355 to \$72,644 for the six months ended June 30, 2018 compared to \$59,289 for the six months ended June 30, 2017. The primary reason for the increase was an increase in insurance premiums.

General and administrative consulting expenses increased \$12,083 to \$12,083 for the six months ended June 30, 2018 compared to \$0 for the six months ended June 30, 2017. The primary reason for the increase was due to a consulting expense.

Other tax expenses increased \$11,275 to \$22,861 for the six months ended June 30, 2018 compared to \$11,586 for the six months ended June 30, 2017. The primary reason for the increase was due to sales and use tax on capital equipment.

We expect general and administrative expense to increase in future periods as we increase the level of corporate and administrative activity, including increases associated with our operation as a public company; and significantly

increase expenditures related to the future production and sales of our products.

#### Other Income (Expense)

Other expense increased \$27,182 to \$80,979 for the six months ended June 30, 2018 from \$53,797 for the six months ended June 30, 2017, relating to the commitment fee associated with the purchase of shares by an institutional investor for sale under a stock purchase agreement.

#### Net Loss

Net loss was \$3,011,471 and \$2,880,187 for the six months ended June 30, 2018 and 2017, respectively, for an increase of \$131,284, due primarily to increases in research and development salaries and wages, rent and utility expenses, laboratory materials and supplies, depreciation, moving expenses, general and administrative office expenses, commitment fee associated with the purchase of shares by an institutional investor for resale under a stock purchase agreement, auditing fees, research and development travel expenses, accounting fees, director and officer insurance expenses, general and administrative consulting, other tax expenses and repair offset by decreases in non-cash stock option and warrant amortization, laboratory material testing expense and electro-optic device development, general and administrative salary and wages, legal, patent amortization and patent related expenses and royalty fees.

#### **Significant Accounting Policies**

Our discussion and analysis of our financial condition and results of operations are based on our financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates based upon historical experience and various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Our actual results may differ materially from these estimates.



We believe our significant accounting policies affect our more significant estimates and judgments used in the preparation of our financial statements. Our Annual Report on Form 10-K for the year ended December 31, 2017 contains a discussion of these significant accounting policies.

**Recently Adopted Accounting Pronouncements.** In June 2018, the FASB issued ASU No. 2018-07, Compensation Stock Compensation (Topic 718), Improvements to Nonemployee Share-Based Payment Accounting. The amendments in this Update expand the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from nonemployees. Prior to this Update, Topic 718 applied only to share-based transactions to employees. Consistent with the accounting requirement for employee share-based payment awards, nonemployee share-based payment awards within the scope of Topic 718 are measured at grant-date fair value of the equity instruments that an entity is obligated to issue when the good has been delivered or the service has been rendered and any other conditions necessary to earn the right to benefit from the instruments have been satisfied. The amendments in this Update are effective for public business entities for fiscal years beginning after December 15, 2018, including interim periods within that fiscal year. Early adoption is permitted, but no earlier than an entity's adoption date of Topic 606. The adoption of this pronouncement on June 30, 2018 had no material impact on the company's financial statements.

See our Note 1 in our unaudited financial statements for the six months ended June 30, 2018 as set forth herein for a complete discussion of our Company's accounting policies.

## **Liquidity and Capital Resources**

During the six months ended June 30, 2018, net cash used in operating activities was \$2,245,264 and net cash used in investing activities was \$1,248,002, which was due primarily to the Company's research and development activities, general and administrative expenditures and capital expenditures. Net cash provided by financing activities for the six months ended June 30, 2018 was \$2,013,906. At June 30, 2018, our cash and cash equivalents totaled \$2,002,967, our assets totaled \$5,235,133, our liabilities totaled \$660,378, and we had stockholders' equity of \$4,574,755.

During the six months ended June 30, 2017, net cash used in operating activities was \$1,891,833 and net cash used in investing activities was \$77,899, which was due primarily to the Company's research and development activities and general and administrative expenditures. Net cash provided by financing activities for the six months ended June 30, 2017 was \$2,153,314. At June 30, 2017, our cash and cash equivalents totaled \$2,140,426, our assets totaled \$3,500,624, our liabilities totaled \$387,691, and we had stockholders' equity of \$3,112,933.

## **Sources and Uses of Cash**

Our future expenditures and capital requirements will depend on numerous factors, including: the progress of our research and development efforts; the rate at which we can, directly or through arrangements with original equipment manufacturers, introduce and sell products incorporating our polymer materials technology; the costs of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights; market acceptance of our products and competing technological developments; and our ability to establish cooperative development, joint venture and licensing arrangements. We expect that we will incur approximately \$476,000 of expenditures per month over the next 12 months. Based upon our current cash position and expenditures of approximately \$476,000 per month and no debt service, we believe our Company has sufficient funds to finance its operations through December 2018. Our cash requirements are expected to increase at a rate consistent with the Company's path to revenue growth as we expand our activities and operations with the objective of commercializing our electro-optic polymer technology during 2018.

On January 29, 2016, we signed a purchase agreement (the "Purchase Agreement") with Lincoln Park Capital Fund, LLC ("Lincoln Park") to sell up to \$20,000,000 of common stock whereby subject to certain conditions and at our sole discretion, Lincoln Park has committed to purchase up to \$20,000,000 of our common stock over a 36-month period. Our most recent registration statement relating to the Purchase Agreement became effective in May 2018, which registered, among other shares as described in the prospectus, an additional 5,000,000 shares of our common stock for resale by Lincoln Park under the Purchase Agreement. Pursuant to the Purchase Agreement, Lincoln Park is obligated to make purchases as the Company directs in accordance with the Purchase Agreement, which may be terminated by the Company at any time, without cost or penalty. Sales of shares will be made in specified amounts and at prices that are based upon the market prices of our common stock immediately preceding the sales to Lincoln Park. We expect this financing to provide us with sufficient funds to maintain our operations for the foreseeable future. With the additional capital, we expect to achieve a level of revenues attractive enough to fulfill our development activities and adequate enough to support our business model for the foreseeable future. We cannot assure you that we will meet the conditions of the Purchase Agreement with Lincoln Park in order to obligate Lincoln Park to purchase our shares of common stock. In the event we fail to do so, and other adequate funds are not available to satisfy long-term capital requirements, or if planned revenues are not generated, we may be required to substantially limit our operations. This limitation of operations may include reductions in capital expenditures and reductions in staff and discretionary costs.

There are no trading volume requirements or restrictions under the Purchase Agreement and we will control the timing and amount of any sales of our common stock to Lincoln Park. Lincoln Park has no right to require any sales by us, but is obligated to make purchases from us as we direct in accordance with the Purchase Agreement. We can also accelerate the amount of common stock to be purchased under certain circumstances. There are no limitations on use of proceeds, financial or business covenants, restrictions on future funding, rights of first refusal, participation rights, penalties or liquidated damages in the Purchase Agreement. Lincoln Park may not assign or transfer its rights and obligations under the purchase agreement.

We expect that our cash used in operations will continue to increase during 2018 and beyond as a result of the following planned activities:

.

The addition of management, sales, marketing, technical and other staff to our workforce;

.

Increased spending for the expansion of our research and development efforts, including purchases of additional laboratory and production equipment;

.

Increased spending in marketing as our products are introduced into the marketplace;

.

Developing and maintaining collaborative relationships with strategic partners;

.

Developing and improving our manufacturing processes and quality controls; and

.

Increases in our general and administrative activities related to our operations as a reporting public company and related corporate compliance requirements.

## **Analysis of Cash Flows**



## Edgar Filing: Lightwave Logic, Inc. - Form 10-Q

For the six months ended June 30, 2018

Net cash used in operating activities was \$2,245,264 for the six months ended June 30, 2018, primarily attributable to the net loss of \$3,011,471 adjusted by \$47,172 in warrants issued for services, \$243,136 in options issued for services, \$81,103 in common stock issued for services, \$181,580 in depreciation expenses and patent amortization expenses, (\$2,500) gain on the sale of equipment, \$12,584 loss on asset write off, \$191,615 in prepaid expenses and \$11,617 in accounts payable and accrued expenses. Net cash used in operating activities consisted of payments for research and development, legal, professional and consulting expenses, rent and other expenditures necessary to develop our business infrastructure.

Net cash used by investing activities was \$1,248,002 for the six months ended June 30, 2018, consisting of \$365,805 in cost for intangibles and \$884,697 in asset additions primarily for the new Colorado headquarter facility offset by proceeds of \$2,500 on the sale of equipment.

Net cash provided by financing activities was \$2,013,906 for the six months ended June 30, 2018 and consisted of \$2,136,700 in proceeds from resale of common stock to an institutional investor and \$61,500 in proceeds from exercise of warrants offset by \$184,294 repayment of equipment purchased.

For the six months ended June 30, 2017

Net cash used in operating activities was \$1,891,833 for the six months ended June 30, 2017, primarily attributable to the net loss of \$2,880,187 adjusted by \$146,814 in warrants issued for services, \$565,603 in options issued for services, \$61,921 in common stock issued for services, \$152,813 in depreciation expenses and patent amortization and noncash expenses, (\$97,515) in prepaid expenses and \$158,718 in accounts payable and accrued expenses. Net cash used in operating activities consisted of payments for research and development, legal, professional and consulting expenses, rent and other expenditures necessary to develop our business infrastructure.

Net cash used by investing activities was \$77,899 for the six months ended June 30, 2017, consisting of \$22,070 in cost for intangibles and \$55,829 in asset additions primarily for the Colorado lab facility.

Net cash provided by financing activities was \$2,153,314 for the six months ended June 30, 2017 and consisted of \$1,656,760 in proceeds from resale of common stock to an institutional investor and \$502,500 from the exercise of warrants offset by \$5,946 repayment of equipment purchased.

### **Inflation and Seasonality**

We do not believe that our operations are significantly impacted by inflation. Our business is not seasonal in nature.

### Item 3

#### Quantitative and Qualitative Disclosures About Market Risk

##### Interest Rate Risk

We are exposed to market risk related to changes in interest rates. As of June 30, 2018, and December 31, 2017, we had cash and cash equivalents of \$2,002,967 and \$3,482,327, respectively, held primarily in regular checking accounts. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates. If a 10% change in interest rates had occurred on June 30, 2018, this change would not have had a material effect on the fair value of our investment portfolio as of that date. Due to the short holding period of our investments and the nature of our investments, we have concluded that we do not have a material financial market risk exposure.

### Item 4

#### Controls and Procedures

*Evaluation of Disclosure Controls and Procedures.* The Company's management, with the participation of the Company's Principal Executive Officer and Principal Financial Officer, evaluated the effectiveness of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) as of June 30, 2018. Based on this evaluation, the Company's Principal Executive Officer and Principal Financial Officer concluded that, as of June 30, 2018 the Company's disclosure controls and procedures were effective, in that they provide reasonable assurance that information required to be disclosed by the Company in the reports that it files or submits under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms, and is accumulated and communicated to the Company's management, including the Company's Principal Executive Officer and Principal Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

*Changes in Internal Control Over Financial Reporting.* There were no changes in our internal control over financial reporting during the quarter ended June 30, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.



## PART II OTHER INFORMATION

### Item 1A

#### Risk Factors

**We may not be successful in effectively integrating the recently acquired assets and technology into our existing business and operations.**

On June 11, 2018, our Company entered into an Asset Purchase Agreement (the "APA") with BrPhotonics Produtos Optoeletrônicos S.A., a legal entity incorporated under the laws of the Federative Republic of Brazil ("BrPhotonics") and Fundação CPqD - Centro De Pesquisa e Desenvolvimento em Telecomunicações, a private non-profit association, based in the city of Campinas, São Paulo State, in the Federative Republic of Brazil as guarantor, pursuant to which our Company acquired all of the assets of BrPhotonics' polymer business, including 15 patents. We have limited experience in successfully acquiring and integrating assets and technologies and we may not be successful in effectively integrating the acquired assets and technology into our existing business and operations. Additionally, we may not achieve the synergies or other benefits we expect to achieve, and we may incur write-downs, impairment charges or unforeseen liabilities that could negatively affect our financial position or could otherwise harm our business. Such unforeseen problems could divert management and employee time and resources from other matters.

### Item 2

#### Unregistered Sales of Equity Securities and Use of Proceeds

<b>Date</b>	<b>Security/Value</b>
April 2018	Common Stock 100,000 shares of common stock at a purchase price of \$0.615 per share issued pursuant to a warrant exercise.

No underwriters were utilized and no commissions or fees were paid with respect to any of the above transactions. We relied on Section 4(a)(2) and/or Regulation D of the Securities Act of 1933, as amended, since the transactions did not involve any public offering.

### Item 6

**Exhibits**

The following exhibits are included herein:

<b>Exhibit No.</b>	<b>Description of Exhibit</b>	<b>Location</b>
10.1	<u>Asset Purchase Agreement dated June 11, 2018</u>	Incorporated by reference to our Form 8-K filed on June 15, 2018
31.1	<u>Certification pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended, executed by the Principal Executive Officer of the Company.</u>	Filed herewith
31.2	<u>Certification pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended, executed by the Principal Financial Officer of the Company.</u>	Filed herewith
32.1	<u>Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, executed by the Principal Executive Officer of the Company.</u>	Filed herewith
32.2	<u>Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, executed by the Principal Financial Officer of the Company.</u>	Filed herewith
101	XBRL	

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

**LIGHTWAVE LOGIC, INC.**

Registrant

By: /s/ Michael S. Lebbby  
Michael S. Lebbby,  
Chief Executive Officer  
(Principal Executive Officer)

Date: August 9, 2018

By: /s/ James S. Marcelli  
James S. Marcelli,  
President, Chief Operating Officer  
(Principal Financial Officer)

Date: August 9, 2018

