Lightwave Logic, Inc.
Form 10-Q
May 17, 2010

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2010

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.

(Exact name of registrant as specified in its charter)

Nevada	**82-049-7368**
(State or other jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)

121 Continental Drive	
Suite 110	19713
Newark, DE	(Zip Code)
(Address of principal executive offices)	

Registrant s telephone number, including area code: **(302) 356-2717**

Indicate by check mark whether the registrant (1) has filed all reports 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 ý No ¨

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, 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 ý No ¨

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

Large accelerated filer ¨ Accelerated filer ¨ Non-accelerated filer ¨ Smaller Reporting Company ý

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

The number of shares of the registrant s Common Stock outstanding as of May 14, 2010 was 42,104,042.

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PART I FINANCIAL INFORMATION

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

BALANCE SHEETS

		March 31, 2010 (Unaudited)		December 31, 2009 (Audited)
ASSETS				
CURRENT ASSETS				
Cash and cash equivalents	$	79,466	$	459,989
Prepaid expenses		59,204		53,373
		138,670		513,362
PROPERTY AND EQUIPMENT - NET		112,104		104,087
OTHER ASSETS				
Intangible assets		276,456		261,215
TOTAL ASSETS	$	527,230	$	878,664
LIABILITIES AND STOCKHOLDERS' EQUITY				
CURRENT LIABILITIES				
Accounts payable	$	79,220	$	70,730
Accounts payable - related party		7,541		12,121
Accrued expenses		51,452		48,825
CONTINGENCY				
TOTAL LIABILITIES		138,213		131,676
STOCKHOLDERS' EQUITY				
Preferred stock, $0.001 par value, 1,000,000 authorized				
No shares issued or outstanding		-		-
Common stock $0.001 par value, 100,000,000 authorized				
41,166,542 and 41,166,542 issued and outstanding at				
March 31, 2010 and December 31, 2009		41,167		41,167
Additional paid-in-capital		18,037,976		17,385,295
Accumulated deficit		(15,827)		(15,827)
Deficit accumulated during development stage		(17,674,299)		(16,663,647)
TOTAL STOCKHOLDERS' EQUITY		389,017		746,988
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$	527,230	$	878,664

See accompanying notes to these financial statements.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

STATEMENTS OF OPERATIONS FOR THE THREE MONTHS ENDING

MARCH 31, 2010 AND 2009 AND FOR THE PERIOD

JANUARY 1, 2004 (INCEPTION OF DEVELOPMENT STAGE) TO MARCH 31, 2010

(UNAUDITED)

	Cumulative Since Inception	For the Three Months Ending March 31, 2010	For the Three Months Ending March 31, 2009
NET SALES	$ -	$ -	$ -
COST AND EXPENSE			
Research and development	6,871,707	279,493	449,717
General and administrative	10,756,176	731,213	307,267
	17,627,883	1,010,706	756,984
LOSS FROM OPERATIONS	(17,627,883)	(1,010,706)	(756,984)
OTHER INCOME (EXPENSE)			
Interest income	30,047	120	-
Dividend income	1,551	-	-
Realized gain (loss) on investment	3,911	-	-
Realized gain on disposal of assets	637	-	-
Litigation settlement	(47,500)	-	-
Interest expense	(35,062)	(66)	(414)
NET LOSS	$ (17,674,299)	$ (1,010,652)	$ (757,398)
Basic and Diluted Loss per Share		$ (0.03)	$ (0.02)
Basic and Diluted Weighted Average Number of Shares		41,166,542	37,428,638

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See accompanying notes to these financial statements.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

STATEMENT OF STOCKHOLDERS EQUITY

FOR THE PERIOD JANUARY 1, 2004 (INCEPTION OF DEVELOPMENT STAGE) TO

MARCH 31, 2010

(UNAUDITED)

	Number of Shares	Common Stock	Paid-in Capital	Subscription Receivable	Deferred Charges	Unrealized Loss on Securities	Accumulated Deficit	Deficit Accumulated During Development Stage	Tota
DING LANCE AT CEMBER 2003	100	$ 1	$ -	$ -	$ -	$ -	$ (15,827)	$ -	$ (15,8
roactive apitalization n reverse uisition	706,973	706	(706)	-	-	-	-	-	
LANCE AT NUARY 1, 4	707,073	707	(706)	-	-	-	(15,827)	-	(15,8
mmon stock ued to nders	13,292,927	13,293	(13,293)	-	-	-	-	-	
mmon stock ued for ure services uly 2004 at 16/share	1,600,000	1,600	254,400	-	-	-	-	-	256,0
mmon stock ued at rger	2,000,000	2,000	(2,000)	-	-	-	-	-	
	637,500	638	74,362	-	-	-	-	-	75,0

mmon stock ued for ure services August 2004 0.12/share nversion of e payable in cember 2004 0.16/share	187,500	187	29,813	-	-	-	-	-	30,(
loss for the r ended cember 31, 04	-	-	-	-	-	-	-	(722,146)	(722,1
LANCE AT CEMBER 2004	18,425,000	18,425	342,576	-	-	-	(15,827)	(722,146)	(376,9
mmon stock ued in vate cement in ril 2005 at 25/share	4,000,000	4,000	996,000	-	-	-	-	-	1,000,(
nversion of es payable in y 2005 at 16/share	3,118,750	3,119	495,881	-	-	-	-	-	499,(
oscription eivable	-	-	-	(6,500)	-	-	-	-	(6,5
mmon stock ued for ure services August 2005, ued at 79/share	210,000	210	585,290	-	-	-	-	-	585,5
mmon stock ued for ure services August 2005, ued at 92/share	200,000	200	583,800	-	-	-	-	-	584,(
rrants issued services in y 2005, ted during 5, valued at 13/share	-	-	37,000	-	-	-	-	-	37,(
rrants issued services in tember	-	-	24,200	-	-	-	-	-	24,2

5, vested ing 2005, ued at 45/share									
rrants issued services in ober 2005, ted during 5, valued at 53/share	-	-	15,900	-	-	-	-	-	15,9
rrants issued future vices in cember 5, vested ing 2005, valued at 45/share	-	-	435,060	-	-	-	-	-	435,0
ferred rges for nmon stock ued for ure services August 2005, ued at 92/share	-	-	-	-	(584,000)	-	-	-	(584,0
ortization of erred rges	-	-	-	-	265,455	-	-	-	265,4
ercise of rants in cember 2005 0.25/share	300,000	300	74,700	-	-	-	-	-	75,0
loss for the r ended cember 31, 5	-	-	-	-	-	-	-	(1,721,765)	(1,721,7
LANCE AT CEMBER 2005	26,253,750	26,254	3,590,407	(6,500)	(318,545)	-	(15,827)	(2,443,911)	831,8
nmon stock ued in vate cement ing 2006 at 50/share	850,000	850	424,150	-	-	-	-	-	425,0
nmon stock ued for ure services	300,000	300	269,700	-	-	-	-	-	270,0

February 06, valued at 90/share									
mmon stock ued for ure services May 2006, ued at 55/share	400,000	400	619,600	-	-	-	-	-	620,0
mmon stock ued for ure services une 2006, ued at 45/share	25,000	25	36,225	-	-	-	-	-	36,2
mmon stock ued for ure services November 06, valued at 49/share	60,000	60	29,340	-	-	-	-	-	29,4
rrants issued services in tember 05, vested ing 2006, ued at 45/share	-	-	66,500	-	-	-	-	-	66,5
rrants issued future vices in June 06, vested ing 2006, ued at 55/share	-	-	465,996	-	-	-	-	-	465,9
ions issued services in ruary 2006, ted during 06, valued at 01/share	-	-	428,888	-	-	-	-	-	428,8
ntributed ital related ccrued rest	-	-	35,624	-	-	-	-	-	35,6
oscription eivable	-	-	-	6,500	-	-	-	-	6,5
ortization of erred rges	-	-	-	-	318,545	-	-	-	318,5
	-	-	-	-	-	(26,000)	-	-	(26,0

realzed gain s) on urities loss for the r ending cember 31, 6	-	-	-	-	-		-	(2,933,809)	(2,933,8
LANCE AT CEMBER 2006	27,888,750	$ 27,889	$5,966,430	$ -	$ -	$ (26,000)	$ (15,827)	$ (5,377,720)	$ 574,7

See accompanying notes to these financial statements.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

STATEMENT OF STOCKHOLDERS EQUITY

FOR THE PERIOD JANUARY 1, 2004 (INCEPTION OF DEVELOPMENT STAGE) TO

MARCH 31, 2010 (CONTINUED)

(UNAUDITED)

	Number of Shares	Common Stock	Paid-in Capital	Receivable for Issuance of Common Stock	Deferred Charges	Unrealized Loss on Securities	Accumulated Deficit	Deficit Accumulated During Development Stage	Total
ALANCE AT ECEMBER 1, 2006	27,888,750	$ 27,889	$5,966,430	$ -	$ -	$ (26,000)	$ (15,827)	$ (5,377,720)	$ 574,77
ommon stock sued in rivate lacement uring 2007 at 0.50/share	2,482,000	2,482	1,238,518	-	-	-	-	-	1,241,00
ommon stock sued in rivate lacement uring 2007 at 0.60/share	1,767,540	1,768	1,058,756	-	-	-	-	-	1,060,52
ommon stock ubscription escinded uring 2007 at 0.50/share	(400,000)	(400)	(199,600)	-	-	-	-	-	(200,00
ommon stock sued for uture services n February 007, valued at	151,785	152	106,098	-	-	-	-	-	106,25

0.70/share									
ommon stock ssued for uture services n March 2007, alued at 0.58/share	1,000,000	1,000	579,000	-	-	-	-	-	580,00
ommon stock ssued for ervices and ettlement for ccounts ayable in April 007, valued at 0.35/share	100,000	100	34,900	-	-	-	-	-	35,00
ommon stock ssued for ervices in ctober 2007, alued at 0.68/share	150,000	150	101,850	-	-	-	-	-	102,00
ommon stock ssued for ervices in ctober 2007, alued at 0.90/share	150,000	150	134,850	-	-	-	-	-	135,00
ommon stock ssued for ervices in ovember 007, valued at 0.72/share	400,000	400	287,600	-	-	-	-	-	288,00
Varrants ssued for ervices in eptember 005, vested uring 2007, alued at 1.45/share	-	-	36,370	-	-	-	-	-	36,37
Varrants ssued for ervices in arch 2007, ested during 007, valued at 0.63/share	-	-	52,180	-	-	-	-	-	52,18
Varrants ssued for ervices in	-	-	293,476	-	-	-	-	-	293,47

pril 2007, ested during 007, valued at 0.69/share									
Varrants ssued for ervices in pril 2007, ested during 007, valued at 0.63/share	-	-	140,490	-	-	-	-	-	140,490
Varrants ssued for ervices in May 007, vested uring 2007, alued at 0.56/share	-	-	52,946	-	-	-	-	-	52,946
Varrants ssued for ervices in October 2007, ested during 007, valued at 0.61/share	-	-	61,449	-	-	-	-	-	61,449
Varrants ssued for ervices in October 2007, ested during 007, valued at 0.78/share	-	-	52,292	-	-	-	-	-	52,292
Varrants ssued for ervices in December 007, vested uring 2007, alued at 0.55/share	-	-	1,159	-	-	-	-	-	1,159
Options issued or services in ebruary 2006, ested during 007, valued at 1.01/share	-	-	17,589	-	-	-	-	-	17,589
Options issued or services in ebruary 2006, ested during 007, valued at	-	-	43,757	-	-	-	-	-	43,757

1.09/share									
ptions issued or services in ovember 007, vested uring 2007, alued at 0.60/share	-	-	41,653	-	-	-	-	-	41,65
Varrants sued for uture services n April 2007, ested during 007, valued at 0.70/share	-	-	348,000	-	-	-	-	-	348,00
eferred harges for ommon stock sued for uture services n March 2007, alued at 0.58/share	-	-	-	-	(928,000)	-	-	-	(928,00
mortization f deferred harges	-	-	-	-	773,333	-	-	-	773,33
nrealzed gain oss) on ecurities	-	-	-	-	-	(32,610)	-	-	(32,61
et loss for the ear ending ecember 31, 007	-	-	-	-	-	-	-	(4,223,449)	(4,223,44
ALANCE AT ECEMBER 1, 2007	33,690,075	33,690	10,449,763	-	(154,667)	(58,610)	(15,827)	(9,601,169)	653,18
ommon stock sued in rivate lacement uring 2008 at 0.60/share	690,001	690	413,310	-	-	-	-	-	414,00
ommon stock sued for ervices in arch 2008, alued at 0.75/share	100,000	100	74,900	-	-	-	-	-	75,00
	200,000	200	359,800	-	-	-	-	-	360,00

ommon stock ssued for ervices in ugust 2008, alued at 1.80/share									
xercise of arrants at 0.25/share	320,000	320	79,680	-	-	-	-	-	80,00
xercise of arrants at 0.25/share, ursuant to ovember 008 adjusted tock offering	641,080	641	159,629						160,27
xercise of arrants at 0.50/share	270,000	270	134,730	-	-	-	-	-	135,00
Varrants ssued for ervices in eptember 005, vested uring 2008, alued at 1.45/share	-	-	27,014	-	-	-	-	-	27,01
Varrants ssued for ervices in Iarch 2007, ested during 008, valued at 0.63/share	-	-	10,885	-	-	-	-	-	10,88
Varrants ssued for ervices in pril 2007, ested during 008, valued at 0.69/share	-	-	121,713	-	-	-	-	-	121,71
Varrants ssued for ervices in pril 2007, ested during 008, valued at 0.63/share	-	-	48,738	-	-	-	-	-	48,73
Varrants ssued for ervices in May	-	-	31,444	-	-	-	-	-	31,44

007, vested uring 2008, alued at 0.56/share									
Varrants ssued for ervices in December 007, vested uring 2008, alued at 0.55/share	-	-	12,487	-	-	-	-	-	12,487
Options issued or services in November 007, vested uring 2008, alued at 0.60/share	-	-	286,803	-	-	-	-	-	286,803
Options issued or services in anuary 2008, ested during 008, valued at 0.60/share	-	-	30,750	-	-	-	-	-	30,750
Options issued or services in uly 2008, ested during 008, valued at 1.48/share	-	-	114,519	-	-	-	-	-	114,519
Options issued or services in ugust 2008, ested during 008, valued at 1.36/share	-	-	525,263	-	-	-	-	-	525,263
Options issued or services in November 008, vested uring 2008, alued at 0.50/share	-	-	6,439	-	-	-	-	-	6,439
Varrants ssued for uture services n March 2008, ested through eptember 008, valued at	-	-	332,000	-	(332,000)	-	-	-	

0.83/share									
Varrants ssued for ervices in May 008, vested rough eptember 008, valued at 1.63/share	-	-	976,193	-	-	-	-	-	976,19
mortization f deferred harges	-	-	-	-	431,337	-	-	-	431,33
eceivable for he issuance of ommon stock	-	-	-	(12,500)	-	-	-	-	(12,50
ealized loss eclassification	-	-	-	-	-	58,610	-	-	58,61
let loss for the ear ending December 31, 008	-	-	-	-	-	-	-	(4,340,607)	(4,340,60
ALANCE AT DECEMBER 1, 2008	35,911,156	$ 35,911	$ 14,196,060	$ (12,500)	$ (55,330)	$ -	$ (15,827)	$ (13,941,776)	$ 206,53

See accompanying notes to these financial statements.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

STATEMENT OF STOCKHOLDERS EQUITY

FOR THE PERIOD JANUARY 1, 2004 (INCEPTION OF DEVELOPMENT STAGE) TO

MARCH 31, 2010 (CONTINUED)

(UNAUDITED)

	Number of Shares	Common Stock	Paid-in Capital	Receivable for Issuance of Common Stock	Deferred Charges	Accumulated Deficit	Deficit Accumulated During Development Stage	Total
BALANCE AT DECEMBER 31, 2008	35,911,156	$ 35,911	$ 14,196,060	(12,500)	$ (55,330)	$ (15,827)	$ (13,941,776)	206,538
Rights to purchase shares issued in January 2009, vested during 2009, valued at $0.33/share	-	-	132,058	-	-	-	-	132,058
Common stock issued for services in January 2009, valued at $0.58/share	100,000	100	57,900	-	-	-	-	58,000
Common stock issued for services & settlement for accounts payable January 2009 valued at $0.25/share	100,000	100	24,900	-	-	-	-	25,000
Exercise of purchase right	180,550	181	44,957	-	-	-	-	45,138

agreement in January 2009 at $0.25/share								
Exercise of warrants at $0.25/share, pursuant to November 2008 adjusted stock offering	1,279,336	1,279	318,555					319,834
Exercise of warrants at $0.001/share	400,000	400	-	-	-	-	-	400
Exercise of warrants at $1.00/share	355,000	355	354,645					355,000
Options issued for services in November 2007, vested during 2009, valued at $0.60/share	-	-	199,234	-	-	-	-	199,234
Options issued for services in January 2008, vested during 2009, valued at $0.60/share	-	-	13,583	-	-	-	-	13,583
Options issued for services in July 2008, vested during 2009, valued at $1.48/share	-	-	67,838	-	-	-	-	67,838
Options issued for services in August 2008, vested during 2009, valued at $1.36/share	-	-	623,246	-	-	-	-	623,246
Options issued for services in November 2008, vested during 2009, valued at $0.50/share	-	-	61,346	-	-	-	-	61,346
Options issued for services in January 2009, vested during 2009, valued at	-	-	13,136	-	-	-	-	13,136

$0.53/share								
Options issued for services in February 2009, vested during 2009, valued at $0.38/share	-	-	9,583	-	-	-	-	9,583
Options issued for services in June 2009, vested during 2009, valued at $0.85/share	-	-	21,085	-	-	-	-	21,085
Warrants issued for services in June 2009, vested during 2009, valued at $0.85/share	-	-	177,881	-	-	-	-	177,881
Contribution of accrued payroll in February 2009	-	-	52,129	-	-	-	-	52,129
Amortization of deferred charges	-	-	-	-	55,330	-	-	55,330
Payment for the issuance of common stock	-	-	-	12,500	-	-	-	12,500
Common stock issued for services in June 2009, valued at $0.34/share	116,000	116	39,884	-	-	-	-	40,000
Common stock issued for services & settlement for accounts payable June 2009 valued at $0.34/share	145,000	145	49,855					50,000
Common stock issued in private placement during June 2009 at $0.34/share	2,479,500	2,480	852,520	-	-	-	-	855,000
Common stock issued for services in July 2009, valued at	100,000	100	74,900	-	-	-	-	75,000

$0.75/share								
Net loss for the year ending December 31, 2009	-	-	-	-	-	-	(2,721,871)	(2,721,871)
BALANCE AT December 31, 2009	41,166,542	41,167	17,385,295	-	-	(15,827)	(16,663,647)	746,988
Options issued for services in November 2007, vested during 2010, valued at $0.60/share	-	-	49,126	-	-	-	-	49,126
Options issued for services in January 2008, vested during 2010, valued at $0.60/share	-	-	3,667	-	-	-	-	3,667
Options issued for services in July 2008, vested during 2010, valued at $1.48/share	-	-	18,262	-	-	-	-	18,262
Options issued for services in August 2008, vested during 2010, valued at $1.36/share	-	-	158,747	-	-	-	-	158,747
Options issued for services in November 2008, vested during 2010, valued at $0.50/share	-	-	7,762	-	-	-	-	7,762
Warrants issued for services in June 2009, vested during 2010, valued at	-	-	53,365	-	-	-	-	53,365

$0.85/share								
Warrants issued for services in January 2010, vested during 2010, valued at $1.83/share			356,400					356,400
Warrants issued for services in March 2010, vested during 2010, valued at $1.86/share	-	-	5,352	-	-	-	-	5,352
Net loss for the three months ending March 31, 2010	-	-	-	-	-	-	(1,010,652)	(1,010,652)
BALANCE AT MARCH 31, 2010 (UNAUDITED)	41,166,542	$ 41,167	$ 18,037,976	$ -	$ -	$ (15,827)	$ (17,674,299)	$ 389,017

See accompanying notes to these financial statements.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

STATEMENTS OF CASH FLOW FOR THE THREE MONTHS ENDING

MARCH 31, 2010 AND 2009 AND

FOR THE PERIOD JANUARY 1, 2004 (INCEPTION OF DEVELOPMENT STAGE) TO

MARCH 31, 2010

(UNAUDITED)

	Cumulative Since Inception	For the Three Months Ending March 31, 2010	For the Three Months Ending March 31, 2009
CASH FLOWS FROM OPERATING ACTIVITIES			
Net loss	$ (17,674,299)	$ (1,010,652)	$ (757,398)
Adjustment to reconcile net loss to net cash used in operating activities			
Amortization of deferred charges	4,392,456	-	55,330
Amortization of prepaid expenses	56,250	18,750	-
Warrants issued for services	2,655,434	415,117	-
Stock options issued for services	3,075,776	237,564	262,071
Common stock issued for services	1,093,292	-	73,000
Purchase right agreement amortization	132,058	-	132,058
Depreciation	85,183	7,316	3,026
Realized gain on investments	(3,911)	-	-
Realized gain on disposal of assets	(637)	-	-
(Increase) decrease in assets			
Receivables	(30,461)	-	-
Prepaid expenses	(40,454)	(24,581)	1,524
Increase (decrease) in liabilities			
Accounts payable	212,136	8,490	(17,903)
Accounts payable - related party	7,541	(4,580)	(7,172)
Accrued expenses	38,066	2,627	(3,988)
Net cash used in operating activities	(6,001,570)	(349,949)	(259,452)
CASH FLOWS FROM INVESTING ACTIVITIES			
Cost of intangibles	(276,456)	(15,241)	(1,185)
Proceeds from sale of available for sale securities	203,911	-	-
Proceeds from receipt of note receivable	100,000	-	-

Purchase of available for sale securities	(200,000)	-	-
Purchase of equipment, furniture and leasehold improvements	(160,037)	(15,333)	-
Net cash used in investing activities	(332,582)	(30,574)	(1,185)
CASH FLOWS FROM FINANCING ACTIVITIES			
Issuance of common stock, private placement	4,995,524	-	-
Common stock rescinded, private placement	(200,000)	-	-
Issuance of common stock, exercise of warrants	1,038,004	-	320,234
Issuance of common stock, exercise of purchase right agreement	45,138	-	35,138
Repayment of notes payable	(14,970)	-	-
Proceeds from subscription receivable	19,000	-	12,500
Advances to stockholders	(4,933)	-	-
Proceeds from convertible notes	529,000	-	-
Advances from officers	1,498	-	-
Net cash provided by financing activities	6,408,261	-	367,872
NET (DECREASE) INCREASE IN CASH AND CASH EQUIVALENTS	74,108	(380,523)	107,235
CASH AND CASH EQUIVALENTS - BEGINNING OF PERIOD	5,358	459,989	88,225
CASH AND CASH EQUIVALENTS - END OF PERIOD	$ 79,466	$ 79,466	$ 195,460

See accompanying notes to these financial statements.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

STATEMENTS OF CASH FLOW FOR THE THREE MONTHS ENDING

MARCH 31, 2010 AND 2009 AND

FOR THE PERIOD JANUARY 1, 2004 (INCEPTION OF DEVELOPMENT STAGE) TO

MARCH 31, 2010

(UNAUDITED)

	Cumulative Since Inception	For the Three Months Ending March 31, 2010	For the Three Months Ending March 31, 2009
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION			
CASH PAID DURING THE PERIOD FOR:			
Interest	$ 22,453	$ 66	$ 414
SUPPLEMENTAL DISCLOSURE OF NON-CASH INVESTING AND FINANCING ACTIVITIES			
Common stock issued in exchange for deferred charges	$ 3,142,400	$ -	$ -
Warrants issued in exchange for deferred charges	$ 1,581,056	$ -	$ -
Common stock issued as settlement for accounts payable	$ 74,708	$ -	$ 10,000
Realized loss reclassification	$ -	$ -	$ -
Accrued interest contributed as capital	$ 35,624	$ -	$ -
Common stock issued in the conversion of notes payable	$ 529,000	$ -	$ -
	$ 24,643	$ -	$ -

Acquisition of automobile through loan payable						
Common stock issued upon exercise of a warrant in exchange for receivable	$	75,000	$	-	$	-
Insurance company pay off of note payable	$	9,673	$	-	$	-
Receivable for issuance of common stock	$	10,000	$	-	$	10,000
Contribution of officer accrued payroll	$	52,129	$	-	$	52,129
Common stock issued for prepaid expense	$	75,000	$	-	$	-

See accompanying notes to these financial statements.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

NOTES TO FINANCIAL STATEMENTS

MARCH 31, 2010 AND 2009

NOTE 1- FINANCIAL STATEMENTS

The accompanying unaudited financials 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 polices described in the Summary of Accounting Policies included in the 2009 Annual Report. Certain financial information and footnote disclosures normally indicated in financial statements prepared in accordance with accounting principals generally accepted in the United States have been condensed or omitted pursuant to those rules and regulations, 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, 2009, as filed with the Securities and Exchange Commission. The interim operating results for the three months ending March 31, 2010 may not be indicative of operating results expected for the full year.

Loss Per Share

The Company follows Financial Accounting Standards Board Accounting Standards Codification (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 2010 and 2009, 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.

Recently Issued Accounting Pronouncements Not Yet Adopted

In April 2010 the FASB issued Accounting Standards Update (ASU) No. 2010-13, Compensation Stock Compensation (ASC Topic 718), Effect of Denominating the Exercise Price of a Share-Based Payment Award in the Currency of the Market in Which the Underlying Equity Security Trades. This Update provides amendments to Accounting Standards Codification (ASC) Topic 718 to clarify that an employee share-based payment award with an exercise price denominated in the currency of a market in which a substantial portion of the entity s equity securities trades should not be considered to contain a condition that is not a market, performance, or service condition. Therefore, an entity would not classify such an award as a liability if it otherwise qualifies as equity. The amendments in this Update are effective for fiscal years, and interim periods within those fiscal years, beginning on or after December 15, 2010. The amendments in this Update should be applied by recording a cumulative-effect adjustment to the opening balance of retained earnings. The cumulative-effect adjustment should be calculated for all awards outstanding as of the beginning of the fiscal year in which the amendments are initially applied, as if the amendments had been applied consistently since the inception of the award. The cumulative-effect adjustment should be presented separately. Earlier application is permitted.

As of March 31, 2010, there are no recently issued accounting standards not yet adopted which would have a material effect on the Company s financial statements.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

NOTES TO FINANCIAL STATEMENTS

MARCH 31, 2010 AND 2009

NOTE 1- FINANCIAL STATEMENTS (CONTINUED)

Recently Adopted Accounting Pronouncements

In January 2010, FASB issued ASU No. 2010-06, Fair Value Measurements and Disclosures (ASC Topic 820), Improving Disclosures about Fair Value Measurements. This update provides amendments to ASC Topic 820 that will provide more robust disclosures about (1) the different classes of assets and liabilities measured at fair value, (2) the valuation techniques and inputs used, (3) the activity in Level 3 fair value measurements, and (4) the transfers between Levels 1, 2, and 3. This standard is effective for interim and annual reporting periods beginning after December 15, 2009, except for the disclosures about purchases, sales, issuances, and settlements in the roll forward of activity in Level 3 fair value measurements. Those disclosures are effective for fiscal years beginning after December 15, 2010, and for interim periods within those fiscal years.

This standard is not currently applicable to the Company.

In January 2010, FASB issued ASU No. 2010-05, Compensation Stock Compensation (ASC Topic 718), Escrowed Share Arrangements and the Presumption of Compensation. This update codifies Emerging Issues Task Force D-110. This standard is not currently applicable to the Company.

In January 2010, FASB issued ASU N0. 2010-01, Equity (ASC Topic 505), Accounting for Distributions to Shareholders with Components of Stock and Cash. The update clarifies that the stock portion of a distribution to shareholders that allows them to elect to receive cash or stock with a potential limitation on the total amount of cash that all shareholders can elect to receive in the aggregate is considered a share issuance that is reflected prospectively in earnings per share and is not considered a stock dividend for purposes of ASC Topic 505 and Topic 260, Earnings Per Share. This standard is effective for interim and annual periods ending on or after December 15, 2009, and should be applied on a retrospective basis.

This standard is not currently applicable to the Company.

NOTE 2 GOING CONCERN

The accompanying financial statements have been prepared assuming the Company will continue as a going concern. The Company has incurred significant losses and experienced negative cash flow during the development stage. These conditions raise substantial doubt about the Company s ability to continue as a going concern. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

The Company is in the development stage at March 31, 2010. With the $447,200 of proceeds from exercise of warrants and options that were exercised in April and May, 2010, there should be necessary funds to maintain its operations through the middle of September 2010. The Company has developed three prototype modulator concepts of which one is completed and the successful electrical and optical performance testing was announced in March 2010. The Company continues to develop and test its next generation Electro-Optic material platform (matrix) to support and cultivate potential customers and strategic partners. Management believes the Company s first revenue will be in Application, non-recurring engineering and prototype charges for specialty electro-optical devices using our patent pending application specific electro-optic materials. Management believes the Company s business model is attractive enough to investors to raise necessary capital. The successful completion of the Company s prototypes could lead to adequate financing to fulfill its development activities and achieve a level of revenue adequate to support the Company s business model for the foreseeable future. However, there can be no assurances that the Company will be able to secure the necessary financing and/or equity investment or achieve an adequate sales level.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

NOTES TO FINANCIAL STATEMENTS

MARCH 31, 2010 AND 2009

NOTE 3 EQUIPMENT

Equipment consists of the following:

	March 31, 2010	December 31, 2009
Office equipment	$ 11,632	$ 10,768
Lab equipment	144,004	138,397
Furniture	3,494	-
Leasehold Improvements	5,368	-
	164,498	149,165
Less: Accumulated depreciation	52,394	45,078
	$ 112,104	$ 104,087

Depreciation expense for the three months ending March 31, 2010 and 2009 was $7,316 and $3,026.

NOTE 4 INTANGIBLE ASSETS

This represents legal fees and patent fees associated with the registration of patents. The Company has not recorded any amortization expenses since the patents have yet to be declared effective. Once issued, the cost of the patents will be amortized over their legal lives, which is generally 20 years.

NOTE 5   INCOME TAXES

There is no income tax benefit for the losses for the three months ended March 31, 2010 and 2009 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, 2010, the Company had no unrecognized tax benefits, or any tax related interest of penalties. There were no changes in the Company s unrecognized tax benefits during the period ended March 31, 2010. The Company did not recognize any interest or penalties during 2010 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, 2006 and thereafter are subject to examination by the relevant taxing authorities.

NOTE 6   STOCKHOLDERS EQUITY

Preferred Stock

Pursuant to our Company s Articles of Incorporation, our 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 our 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 our business or a takeover from a third party.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

NOTES TO FINANCIAL STATEMENTS

MARCH 31, 2010 AND 2009

NOTE 6 STOCKHOLDERS EQUITY (CONTINUED)

Common Stock and Warrants

The stockholders deficit at January 1, 2004 has been retroactively restated for the equivalent number of shares received in the reverse acquisition at July 14, 2004 (Note 1) after giving effect to the difference in par value with the offset to additional paid-in-capital.

In July 2004, the Company issued to related parties 1,600,000 shares of its common stock for professional services valued at $256,000, fair value.

In August 2004, the Company issued 637,500 shares of its common stock for professional services to related parties valued at $75,000, fair value.

In December 2004, the Company converted a note payable of $30,000 into 187,500 shares of common stock at a conversion price of $0.16 per share.

In April 2005, the Company issued 4,000,000 shares of its common stock in a private placement for proceeds of $1,000,000.

On May 4, 2005, the Company converted the notes payable of $499,000 into 3,118,750 shares of common stock at a conversion price of $0.16 per share. An unpaid note payable in the amount of $6,500 has been reflected as a subscription receivable. During 2006, the Company deemed this $6,500 outstanding subscription receivable to be uncollectible.

During August 2005, the Company issued 210,000 shares of common stock for professional services rendered valued at $585,500, fair value. Consulting expense of $375,500 was recognized during 2005, and at December 31, 2005, the remaining balance of $210,000 is reflected as a deferred charge on the balance sheet. During 2006, consulting expense of $210,000 was recognized. This agreement ended in May 2006.

In August 2005, in conjunction with a management services contract with a related party, the Company issued 200,000 shares of common stock valued at $584,000. Management expense of $265,455 was recognized during 2005, and at December 31, 2005, the remaining balance of $318,545 is reflected as a deferred charge in a contra-equity account. During 2006, management expense of $318,545 was recognized. This agreement ended in June 2006.

During May 2005, the Company issued Stock Purchase Warrants to purchase 100,000 shares of common stock at an exercise price of $2.10 in exchange for consulting services. The warrants are exercisable until May 2008 and vest as follows: 50,000 shares during the first year of the agreement, 25,000 shares during the second year of the agreement, and 25,000 shares during the third year. In accordance with the fair value method, the Company used the Black-Scholes model to calculate the grant-date fair value, with the following assumptions: no dividend yield, expected volatility of 60%, risk-free interest rate of 3.8% and expected life of option of three years. The fair market value of the warrants was $113,250. In accordance with the fair value method as described in accounting requirements of FASB ASC 718 Stock Compensation, the Company recognized consulting expense of $37,000 in 2005. This warrant was cancelled during 2006.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

NOTES TO FINANCIAL STATEMENTS

MARCH 31, 2010 AND 2009

NOTE 6 STOCKHOLDERS EQUITY (CONTINUED)

Common Stock and Warrants (Continued)

During September 2005, the Company issued Stock Purchase Warrants to purchase 100,000 shares of common stock at an exercise price of $2.00 in exchange for consulting services. The warrants expire in September 2008 and vest as follows: 50,000 shares during the first year of the agreement, 25,000 shares during the second year of the agreement, and 25,000 shares during the third year of the agreement. In accordance with the fair value method, the Company used the Black-Scholes model to calculate the grant-date fair value, with the following assumptions: no dividend yield, expected volatility of 60%, risk-free interest rate of 3.8% and expected life of option of three years. The fair market value of the warrants was $145,100. The Company recognized consulting expense of $27,014, $36,370, $66,500 and $24,200 for the years ended December 31, 2008, 2007, 2006 and 2005 in conjunction with this agreement. These warrants expired in September 2008.

On October 15, 2005, the Company issued Stock Purchase Warrants to purchase 30,000 shares of common stock at an exercise price of $1.40 in exchange for consulting services. The warrants expire in October 2006 and are exercisable immediately. In accordance with the fair value method, the Company used the Black-Scholes model to calculate the grant-date fair value, with the following assumptions: no dividend yield, expected volatility of 60%, risk-free interest rate of 4.15% and expected life of option of one year. The fair market value of the warrants was $15,900. In accordance with the fair value method as described in accounting requirements of FASB ASC 718 Stock Compensation, the Company recognized consulting expense of $15,900 during 2005. These warrants expired in October 2006.

In December 2005, in conjunction with a consulting contract, the Company issued Stock Purchase Warrants to purchase 300,000 shares of common stock at an exercise price of $0.25 per share valued at $435,060, fair value. The warrants expire in December 2007 and were exercisable immediately. In accordance with the fair value method, the Company used the Black-Scholes model to calculate the grant-date fair value, with the following assumptions: no dividend yield, expected volatility of 60%, risk-free interest rate of 4.41% and expected life of option of two years. In accordance with the fair value method as described in accounting requirements of FASB ASC 718 Stock

Compensation, the Company recognized consulting expense of $199,435, and at December 31, 2005, the remaining balance in deferred charges amounted to $235,625. The 300,000 warrants were fully exercised on December 31, 2005 for $75,000. The Company recognized $18,128 and $217,497 in consulting expense in conjunction with this agreement for the years ended December 31, 2007 and 2006, which was cancelled during 2007.

During 2006, the Company issued 850,000 shares of common stock and warrants to purchase 425,000 shares of common stock for proceeds of $425,000 in accordance to a private placement memorandum amended December 18, 2006. Pursuant to the terms of the amended offering, up to 20 units were offered at the offering price of $50,000 per unit, with each unit comprise of 100,000 shares and a warrant to purchase 50,000 shares of common stock at $0.50 per share. In November 2007, 400,000 shares of common stock and warrants to purchase 200,000 shares of common stock were rescinded. As of December 31, 2008, warrants to purchase 210,000 shares of common stock were fully exercised for proceeds of $105,000, and warrants to purchase 15,000 shares expired.

During February 2006, the Company issued 300,000 shares of common stock for professional services rendered valued at $270,000, fair value. The Company recognized consulting expense of $16,875 and $118,125 and legal expense of $16,875 and $118,125 during 2007 and 2006. The contracts expired during 2007. The legal services were provided by a related party.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

NOTES TO FINANCIAL STATEMENTS

MARCH 31, 2010 AND 2009

NOTE 6 STOCKHOLDERS EQUITY (CONTINUED)

Common Stock and Warrants (Continued)

During May 2006, the Company issued 400,000 shares of common stock for professional services rendered valued at $620,000, fair value. The Company recognized consulting expense of $258,333 and $361,667 during 2007 and 2006, and at December 31, 2006. The contracts expired during 2007.

During June 2006, the Company issued 25,000 shares of common stock to a related party for professional services rendered valued at $36,250, fair value. The Company recognized legal expense of $16,615 and $19,635 during 2007 and 2006, and at December 31, 2006. The contracts expired during 2007.

During November 2006, the Company issued 60,000 shares of common stock for professional services valued at $29,400, fair value. The Company recognized investor relations expense of $25,480 and $3,920 during 2007 and 2006. The contract expired during 2007.

In June 2006, in conjunction with an addendum to an existing consulting contract effective December 2005, the Company issued Stock Purchase Warrants to purchase 300,000 shares of common stock at an exercise price of $0.25 per share. The warrants expire in June 2008 and were exercisable immediately. In accordance with the fair value method, the Company used the Black-Scholes model to calculate the grant-date fair value, with the following assumptions: no dividend yield, expected volatility of 186%, risk-free interest rate of 4.41% and expected life of option of two years. The fair market value of the warrants was $465,996. During 2007 and 2006, the Company recognized consulting expense of $330,948 and $135,048 in conjunction with this agreement. The contract was cancelled during 2007. The 300,000 warrants were fully exercised on March 12, 2008 for proceeds of $75,000.

During 2006, the Company cancelled a warrant issued during May 2005 to purchase 100,000 shares of the Company s common stock at an exercise price of $2.10, and issued an option to purchase 500,000 shares of the Company s common stock at an exercise price of $1 per share and the same option s expiration and vesting terms were modified during November 2006. This option expired in June 2007. The incremental cost of the modified option was $394,030 and will be expensed over the vesting terms. The Company recognized $17,589 and $406,215 as a consulting expense in 2007 and 2006, which includes $337,290 of the incremental cost of the modified option.

During February 2006, the Company awarded an employee with an option to purchase 200,000 shares of common stock at an exercise price of $1.00 per share under the 2005 Employee Stock Option Plan. These options were valued at $217,628 using the Black-Scholes Option Pricing Formula. The employee compensation expense recognized during 2007 and 2006 is $43,757 and $22,673. In June 2007, the employee was terminated and the vesting ceased. After September 2007, the vested options expired.

During 2006, the Company recognized contributed capital of $35,624 related to the conversion of accrued interest payable.

During 2006, the Company deemed a May 2005 outstanding subscription receivable of $6,500 to be uncollectible.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

NOTES TO FINANCIAL STATEMENTS

MARCH 31, 2010 AND 2009

NOTE 6 STOCKHOLDERS EQUITY (CONTINUED)

Common Stock and Warrants (Continued)

During 2007, the Company issued 2,482,000 shares of common stock and warrants to purchase 1,241,000 shares of common stock for proceeds of $1,241,000 in accordance to a private placement memorandum amended December 18, 2006. Pursuant to the terms of the amended offering, up to 20 units were offered at the offering price of $50,000 per unit, with each unit comprised of 100,000 shares and a warrant to purchase 50,000 shares of common stock at $0.50 per share. For the six month ending June 30, 2009, the remaining 600,000 outstanding warrants expired.

During 2007, the Company issued 1,767,540 shares of common stock and warrants to purchase 883,770 shares of common stock for proceeds of $1,060,524 in accordance to a private placement memorandum issued on October 3, 2007. Pursuant to the terms of the offering, up to 20 units were offered at the purchase price of $60,000 per unit, with each unit comprised of 100,000 shares and a warrant to purchase 50,000 shares of common stock at $1.00 per share. During 2009 and 2008, 416,000 and 82,770 warrants were exercised, respectively. For the year ending December 31, 2009, the remaining 385,000 outstanding warrants expired.

During 2007, as previously described, a shareholder that was issued 400,000 shares of the Company s common stock and a warrant to purchase 200,000 shares of common stock at $0.50 per share rescinded his shares and warrant.

During February 2007, the Company issued 151,785 shares of common stock for investor relations services valued at $106,250, fair value, which was recorded as a deferred charge and amortized over one year, the term of the services contract. During 2007, the Company recognized $97,396 in investor relations expense. During 2008, the Company recognized $8,854 in investor relations expense. This contract expired in February 2008.

During February 2007, the Company terminated its then CEO. The option to purchase 56,000 shares of common stock that was recorded as deferred charges of $42,730 were not vested and were forfeited. The option to purchase

444,000 shares of common stock that were vested expired during 2007.

During March 2007, the Company issued 1,000,000 shares of common stock to a related party for management consulting services valued at $580,000, fair value. During April 2007, the Company issued 500,000 warrants as an addendum to the original contract for management consulting services valued at $348,000, fair value. This contract was recorded as a contra-equity deferred charges account and is amortized over one year, the term of the contract. Management consulting expense recognized during 2008 and 2007 is $154,667 and $773,333. This contract was renewed in March, 2008. The warrant is still outstanding as of March 31, 2010.

During April 2007, the Company issued 100,000 shares of common stock for legal services to a related party valued at $35,000, fair value, to settle $29,708 of accounts payable and as payment for $5,292 of legal services incurred in April 2007.

During October 2007, the Company issued 150,000 shares of common stock for investor relations services valued at $102,000, fair value to a related party. During 2007 the Company recognized $102,000 in investor relation expense.

During October 2007, the Company issued 150,000 shares of common stock for investor relations services valued at $135,000, fair value. During 2007, the Company recognized $135,000 in investor relations expense.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

NOTES TO FINANCIAL STATEMENTS

MARCH 31, 2010 AND 2009

NOTE 6 STOCKHOLDERS EQUITY (CONTINUED)

Common Stock and Warrants (Continued)

During November 2007, the Company issued 400,000 shares of common stock under the 2007 Stock Option Plan to the acting Chief Executive Officer for services rendered valued at $288,000, fair value. The Company recognized $288,000 in consulting expense during 2007.

During March 2007, the Company issued a warrant to purchase 100,000 shares of common stock for consulting services at an exercise price of $0.25 per share. The warrant was valued at $63,065 using the Black-Scholes Option Pricing Formula and expensed over the life of the contract associated with the consulting services, which is one year. The consulting expense recognized during 2008 and 2007 is $10,885 and $52,180. The warrants to purchase 100,000 shares of common stock are still outstanding as of March 31, 2010.

During April 2007, the Company issued warrants to purchase 900,000 shares of common stock for consulting services at an exercise price of $0.25 per share. The warrants were valued at $604,416 using the Black-Scholes Option Pricing Formula and expensed over the life of the contracts associated with the consulting services, which is one year. The consulting expense recognized during 2008 and 2007 is $170,451 and $433,966. In July 2008, a warrant was partially exercised to purchase 20,000 shares of common stock for proceeds of $5,000. The warrants to purchase 880,000 shares of common stock are still outstanding as of March 31, 2010.

During May 2007, the Company issued a warrant to purchase 150,000 shares of common stock for consulting services at an exercise price of $0.25 per share. The warrant was valued at $84,390 using the Black-Scholes Option Pricing Formula and expensed over the life of the contract associated with the consulting services, which is one year. The consulting expense recognized during 2008 and 2007 is $31,444 and $52,946. The warrant is still outstanding as of March 31, 2010.

During October 2007, the Company issued a warrant to purchase 100,000 shares of common stock at a purchase price of $0.25 per share for accounting services rendered. The warrant was valued at $61,449 using the Black-Scholes Option Pricing Formula. The Company recognized $61,449 in accounting expense during 2007. The warrant is still outstanding as of March 31, 2010.

During October 2007, the Company issued a warrant to purchase 67,200 shares of common stock at a purchase price of $0.25 per share for consulting services rendered. The warrant was valued at $52,292 using the Black-Scholes Option Pricing Formula. During 2007, the Company recognized $52,292 in consulting expense. As of March 31, 2010, the warrant is still outstanding.

During December 2007, the Company issued a warrant to purchase 25,000 shares of common stock at a purchase price of $0.50 per share for accounting services rendered. The warrant was valued at $13,646 using the Black-Scholes Option Pricing Formula and expensed over the life of the contract, which is one year. The Company recognized $12,487 and $1,159 in consulting expense during 2008 and 2007. The warrant is still outstanding as of March 31, 2010.

During November 2007, under the 2007 Employee Stock Option Plan, the Company issued options to purchase 1,752,000 shares of common stock at a purchase price of $0.72 per share. The options were valued at $1,045,077 using the Black-Scholes Option Pricing Formula. During 2008, an option to purchase 750,000 shares of common stock, of which 125,000 shares were vested, forfeited. The consulting expense recognized during 2009, 2008 and 2007 is $199,233, $286,803 and $41,653. For the three month ending March 31, 2010 and 2009, the Company recognized $49,126 and $49,126 of expense. The options are still outstanding as of March 31, 2010.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

NOTES TO FINANCIAL STATEMENTS

MARCH 31, 2010 AND 2009

NOTE 6 STOCKHOLDERS EQUITY (CONTINUED)

Common Stock and Warrants (Continued)

In January 2008, under the 2007 Employee Stock Option Plan, the Company issued an option to purchase 100,000 shares of common stock at a purchase price of $0.72 per share. The option was valued at $59,490, fair value, using the Black-Scholes Option Pricing Formula and is being recognized based on vesting terms over a three year period. The expense recognized during 2009 and 2008 is $13,582 and $30,750. For the three month ending March 31, 2010 and 2009, the Company recognized $3,667 and $2,377 of expense. The options are still outstanding as of March 31, 2010.

During 2008, the Company issued 690,001 shares of common stock and warrants to purchase 345,001 shares of common stock for proceeds of $414,000 in accordance to a private placement memorandum issued on October 3, 2007. Pursuant to the terms of the offerings, up to 25 units were offered at the purchase price of $60,000 per unit, with each unit comprised of 100,000 shares and a warrant to purchase 50,000 shares of common stock at $1.00 per share. For the three month ending March 31, 2010, warrants to purchase 8,334 shares of common stock expired. As of March 31, 2010, warrants to purchase 290,833 shares of common stock are still outstanding.

During March 2008, the Company issued a warrant to purchase 400,000 shares of common stock as an addendum to the original contract for management consulting services provided by a related party, valued at $332,000, fair value using Black-Scholes Option Pricing Formula, vesting immediately. This contract was recorded as a contra-equity deferred charges account and is amortized over one year beginning February 28, 2008, the term of the contract. For the year ending December 31, 2009 and 2008, the Company recognized $55,330 and $276,670 of management consulting expense. For the three month ending March 31, 2010 and 2009, the Company recognized $0 and $55,330 of management consulting expense. In January 2009, the warrant was fully exercised to purchase 400,000 shares of common stock for proceeds of $400.

During March 2008, the company issued 100,000 shares of common stock for legal services to a related party valued at $75,000, fair value. The Company recognized $75,000 of legal expense for the year ending December 31, 2008.

During April 2008, the Company issued a warrant to purchase 600,000 shares of common stock at a purchase price of $0.73 per share for consulting services rendered. The warrant was valued at $976,193, fair value, using the Black-Scholes Option Pricing Formula, vesting immediately. For the year ended December 31, 2008, the Company recognized $976,193 in consulting expense. The warrant is still outstanding as of March 31, 2010.

In July 2008, the Company issued options to purchase 200,000 shares of common stock at a purchase price of $1.75 per share to members of the board of directors, under the 2007 Employee Stock Option Plan. Using the Black-Scholes Option Pricing Formula, the options were valued at $296,247, fair value, vesting 50,000 immediately and the remaining in annual equal installments of 50,000 over the next three years. The expense is being recognized based on vesting terms over a three year period. The expense recognized during 2009 and 2008 is $67,840 and $114,519. For the three month ending March 31, 2010 and 2009, the Company recognized $18,262 and $12,039 of expense. The options are still outstanding as of March 31, 2010.

LIGHTWAVE LOGIC, INC.

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NOTES TO FINANCIAL STATEMENTS

MARCH 31, 2010 AND 2009

NOTE 6 STOCKHOLDERS EQUITY (CONTINUED)

Common Stock and Warrants (Continued)

In August 2008, under the 2007 Employee Stock Option Plan, the Company issued options to purchase 550,000 and 1,050,000 shares of common stock at a purchase price of $1.42 and $1.75 per share to members of the board of directors and the Chief Executive Officer, vesting 212,500 immediately and the remaining in annual equal installments of 112,500 over the next three years and vesting in quarterly equal installments of 87,500 commencing November 1, 2008, respectively. The options were valued at $2,176,201, fair value, using the Black-Scholes Option Pricing Formula and are being recognized based on vesting terms over a three year period. The expense recognized during 2009 and 2008 is $623,246 and $525,263. For the three month ending March 31, 2010 and 2009, the Company recognized $158,748 and $138,180 of expense. The options are still outstanding as of March 31, 2010.

In August 2008, the Company issued 200,000 shares of common stock under the 2007 Stock Option Plan to its new Chief Executive Officer as part of the employment agreement valued at $360,000, fair value. The Company recognized $360,000 in consulting expense for the year ending December 31, 2008.

In 2008, January through August warrant holders exercised warrants to purchase 270,000 shares at $0.50 per share for proceeds of $135,000.

On October 28, 2008, the Company s board of directors authorized the Company to raise up to $600,000 of capital through an Adjusted Common Stock Offering to certain warrant holders. This offering provided eligible warrant holders with the opportunity to purchase four (4) shares of common stock for each dollar invested pursuant to their existing warrant agreement. As of December 31, 2008, warrants to purchase 641,080 shares of common stock were exercised with proceeds of $160,270. For the three month period ending March 31, 2009, warrants to purchase 1,279,336 shares of common stock were exercised with proceeds of $319,834. In January 2009, the term of the 2008 Adjusted Common Stock offering was extended until January 31, 2009.

In November 2008, the Company issued an option to purchase 250,000 shares of common stock under the 2007 Stock Option Plan at a purchase price of $.65 per share to a new member of its board of directors. Using the Black-Scholes Option Pricing Formula, the options were valued at $125,911, fair value, vesting 62,500 immediately and the remaining in annual equal installments of 62,500 over the next three years. The expense is being recognized based on vesting terms over a three year period. The expense recognized during 2009 and 2008 is $61,346 and $6,439. For the three month ending March 31, 2010 and 2009, the Company recognized $7,762 and $37,630 of expense. The options are still outstanding as of March 31, 2010.

In January 2009, an employee was granted with an option to purchase up to 25,000 shares of common stock. Using the Black-Scholes Option Pricing Formula, the options were valued at valued at $13,136, fair value. These options expire in 5 years and vest immediately. The Company recognized expense of $13,136 during 2009. For the three month ending March 31, 2010 and 2009, the Company recognized $0 and $13,136 of expense. The options are still outstanding as of March 31, 2010.

During January 2009, the Company issued 100,000 shares of common stock to an officer, under the 2007 Stock Option Plan, for services rendered valued at $58,000, fair value.

During January 2009, the Company issued 100,000 shares of common stock for legal services to a related party valued at $25,000, to settle accounts payable for $10,000 and $15,000 for legal services.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

NOTES TO FINANCIAL STATEMENTS

MARCH 31, 2010 AND 2009

NOTE 6 STOCKHOLDERS EQUITY (CONTINUED)

Common Stock and Warrants (Continued)

During January 2009, the officers, directors, and employees of the Company were each given the right to purchase from the Company s 2007 Employee Stock Plan up to 40,000 shares of common stock at a purchase price of $.25 per share, 400,000 shares in the aggregate, all of which were valued at $132,058, fair value using the Black-Scholes Option Pricing Formula. The rights to purchase vested immediately. A total of 180,550 shares were purchased pursuant to the rights to purchase with total proceeds of $35,138 and a common stock receivable of $10,000 which was paid in May, 2009. The rights to purchase the remaining 219,450 shares expired on January 31, 2009.

At December 31, 2008 the Company had accrued officer salaries and payroll taxes of $98,205. On February 19, 2009, two officers, who are also shareholders, agreed to waive their rights to unpaid wages and salary amounting to $52,129. Accordingly in the first quarter 2009, the accrued expense was adjusted from $98,205 to $42,088 with the $52,129 treated as contributed capital and $3,988 reversed from payroll taxes.

In February 2009, an employee was granted with an option to purchase up to 25,000 shares of common stock. Using the Black-Scholes Option Pricing Formula, the options were valued at valued at $9,583, fair value. These options expire in 5 years and vest immediately. The Company recognized expense of $9,583 during 2009. For the three month ending March 31, 2010 and 2009, the Company recognized $0 and $9,583 of expense. The options are still outstanding as of March 31, 2010.

During June 2009, in accordance to private placement memorandum, the Company issued 2,479,500 shares of common stock for proceeds of $855,000 dated June 10, 2009. Pursuant to the terms of the offering, up to 18 units were offered at the offering price of $50,000 per unit, with each unit comprised of 145,000 shares to purchase at $0.34 per share.

During June 2009, the Company issued a warrant to purchase 464,000 shares of common stock at a purchase price of $0.34 per share for accounting services rendered. The warrant was valued at $391,342 using the Black-Scholes Option Pricing Formula, vesting 46,400 immediately and the remaining on equal monthly installments of 23,200 over the next eighteen months. The expense is being recognized based on service terms of the agreement over a twenty two month period. The consulting expense recognized during 2009 is $177,883. For the three month ending March 31, 2010 and 2009, the Company recognized $53,365 and $0 of expense. The warrant is still outstanding as of March 31, 2010.

In June 2009, an employee was granted with an option to purchase up to 25,000 shares of common stock at a purchase price of $.34 per share. Using the Black-Scholes Option Pricing Formula, the options were valued at valued at $21,085, fair value. These options expire in 5 years and vest immediately. The Company recognized expense of $21,085 for the year ending December 31, 2009. For the three month ending March 31, 2010 and 2009, the Company recognized $0 and $0 of expense. The warrant is still outstanding as of March 31, 2010.

During June 2009, the Company issued 145,000 shares of common stock for legal services to a related party valued at $50,000, to settle accounts payable for $35,000 and $15,000 for legal services.

During June 2009, the Company issued 116,000 shares of common stock for accounting services valued at $40,000, fair value. The Company recognized $40,000 of accounting expense for the year ending December 31, 2009.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

NOTES TO FINANCIAL STATEMENTS

MARCH 31, 2010 AND 2009

NOTE 6 STOCKHOLDERS EQUITY (CONTINUED)

Common Stock and Warrants (Continued)

During July 2009, the Company issued 100,000 shares of common stock for investor relation services valued at \$75,000, fair value vesting 25,000 shares each quarter commencing July 1, 2009. The Company recognized \$37,500 of investor relation expense for the year ending December 31, 2009. For the three month ending March 31, 2010 and 2009, the Company recognized \$18,750 and \$0 of investor relation expense.

In January 2010, the Company issued a warrant to purchase 650,000 shares of common stock at a purchase price of \$1.51 per share to a new member of its board of directors serving as the Company s full-time non-executive chair of the board of directors. Using the Black-Scholes Option Pricing Formula, the warrants were valued at \$1,188,000, fair value, vesting 162,500 immediately and the remaining in annual equal installments of 162,500 over the next three years. For the three month ending March 31, 2010, the Company recognized \$356,400 of expense. The warrant is still outstanding as of March 31, 2010.

In March 2010, the Company issued a warrant to purchase 150,000 shares of common stock for consulting services at an exercise price of \$0.25 per share. Using the Black-Scholes Option Pricing Formula, the warrants were valued at \$279,045, fair value, vesting immediately. For the three month ending March 31, 2010, the Company recognized \$5,352 of expense. The warrant is still outstanding as of March 31, 2010.

NOTE 7 STOCK BASED COMPENSATION

The Company uses the Black-Scholes option pricing model to calculate the grant-date fair value of an award, with the following assumptions for 2010 and 2009: no dividend yield in both years, expected volatility between 130% and 134% in 2010 and between 127% and 129% in 2009, risk-free interest rate between 1.69% and 2.57% in 2010 and between 0.03% and 1.89% in 2009 and expected option life of three to five years in 2010 and one month to five years in 2009.

As of March 31, 2010, there was $2,417,554 of unrecognized compensation expense related to non-vested market-based share awards that is expected to be recognized through January 2013.

The following tables summarize all stock option and warrant activity of the Company since December 31, 2004:

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

NOTES TO FINANCIAL STATEMENTS

MARCH 31, 2010 AND 2009

Non-Qualified Stock Options and Warrants Outstanding and Exercisable

	Number of Shares	Exercise Price	Weighted Average Exercise Price
Outstanding, December 31, 2004	-	$ -	$ -
Granted	680,000	$0.25 - $2.10	$ 0.99
Exercised	(300,000)	$ 0.25	$ 0.25
Outstanding, December 31, 2005	380,000	$1.40 - $2.10	$ 0.68
Granted	1,425,000	$0.25 - $1.00	$ 0.70
Cancelled	(260,000)	$1.40 - $2.10	$ (0.48)
Expired	(70,000)	$1.40 - $2.00	$ (0.12)
Outstanding, December 31, 2006	1,475,000	$0.25 - $2.00	$ 0.83
Granted	5,768,971	$0.25 - $0.72	$ 0.48
Rescinded	(200,000)	$ 0.50	$ 0.50
Forfeited	(125,019)	$ 1.00	$ 1.00
Expired	(574,981)	$ 1.00	$ 1.00
Outstanding, December 31, 2007	6,343,971	$0.25 - $2.00	$ 0.48
Granted	3,495,001	$0.001 - $1.75	$ 1.16
Expired	(115,000)	$0.50 - $2.00	$ 0.07
Forfeited	(750,000)	$ 0.72	$ 0.72
Exercised	(807,770)	$0.25 - $0.50	$ 0.53
	8,166,202	$0.001 - $1.75	$ 0.79

Outstanding, December 31, 2008				
Granted	939,000	$0.25 - $0.45	$	0.30
Expired	(1,204,451)	$0.25 - $1.00	$	0.61
Forfeited	-			
Exercised	(1,488,384)	$0.001 - $1.00	$	0.20
Outstanding, December 31, 2009	6,412,367	$0.25 - $1.75	$	0.83
Granted	800,000	$0.25 - $1.51	$	1.27
Expired	(8,334)	$ 1.00	$	1.00
Forfeited	-	-		-
Exercised	-	-		-
Outstanding, March 31, 2010	7,204,033	$0.25 - $1.75	$	0.88
Exercisable, March 31, 2010	5,257,233	$0.25 - $1.75	$	0.73

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

NOTES TO FINANCIAL STATEMENTS

MARCH 31, 2010 AND 2009

NOTE 7 STOCK BASED COMPENSATION (CONTINUED)

	Non-Qualified Stock Options and Warrants Outstanding		
Range of Exercise Prices	Number Outstanding Currently Exercisable at March 31, 2010	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price of Options and Warrants Currently Exercisable
\$0.25 - \$1.75	5,257,233	2.62 Years	\$ 0.73

NOTE 8 CONTINGENCY

2005 Private Offering

During 2005, the Company raised \$1,000,000 through the sale of 4,000,000 shares of common stock in a limited offering to persons believed to be accredited investors. The Company received a legal opinion from third party outside counsel as to the availability of an exemption from registration with the U.S. Securities and Exchange Commission (SEC) with respect to the limited offering. In December 2005, the Company was informed by the SEC that it is investigating the circumstances surrounding the \$1,000,000 offering including the subsequent public resale of certain shares originally sold in the offering, along with related matters. The Company has further been informed that the original issuance of the stock and subsequent resale may have been done, in the opinion of the SEC, in violation of the registration provisions of the Securities Act of 1933, as amended. These matters could lead to enforcement action by the SEC.

In or around January 2007, the SEC issued an investigative subpoena to the Company directing it to produce specified documents and information. Thereafter, an SEC subpoena seeking testimony by the Company s president was issued. The Company and its president have complied with all of the SEC s requests for documents and testimony. The SEC has not indicated whether or not it intends to take any action against the Company or any of its officers, directors or employees. There has been no communications with the SEC regarding this matter since December 2007.

NOTE 9 RELATED PARTY

Under the management agreement dated August 1, 2005, the related party was issued 200,000 shares of common stock with a fair value of $584,000 which was amortized over the term of the agreement (one year), which expired in 2006. In February 2007, the Company entered into a contract with the related party and issued 1,000,000 shares of common stock with a fair value of $580,000. In addition, the Company issued a warrant to purchase 500,000 shares of its common stock with a fair value of $348,000. This contract was renewed in March 2008 and the Company issued a warrant to purchase 400,000 shares of its common stock in exchange for management services for one year, valued at $332,000, fair value. For the three month period ending March 31, 2010 and 2009, the Company recognized $0 and $55,330 in management expense. The Company decided not to renew its management contract. The contract was terminated on February 28, 2009.

At March 31, 2010 the Company has accrued officer salaries of $46,588.

LIGHTWAVE LOGIC, INC.

(A Development Stage Company)

NOTES TO FINANCIAL STATEMENTS

MARCH 31, 2010 AND 2009

NOTE 10 SUBSEQUENT EVENTS

Through May 17, 2010, warrants and options to purchase 937,500 shares of common stock were exercised with total proceeds of $447,200.

Item 2.

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

The following management's discussion and analysis of financial condition and results of operations provides information that management believes is relevant to an assessment and understanding of our plans and financial condition. The following selected financial information is derived from our historical financial statements and should be read in conjunction with such financial statements and notes thereto set forth elsewhere herein and the "Forward-Looking Statements" explanation included herein.

Overview

Lightwave Logic, Inc., formerly, Third-Order Nanotechnologies, Inc., formerly, PSI-TEC Holdings, Inc., formerly Eastern Idaho Internet Service, Inc. was organized under the laws of the State of Nevada in 1997, where we engaged in the business of marketing Internet services until June 30, 1998 when our operations were discontinued. We were then inactive until we acquired PSI-TEC Corporation as our wholly owned subsidiary on July 14, 2004, at which time our name was changed to PSI-TEC Holdings, Inc. On October 20, 2006, we completed a parent-subsidiary merger with PSI-TEC Corporation whereby we were the surviving corporation of the merger, and our name was changed to Third-Order Nanotechnologies, Inc. On March 10, 2008, we changed our name to Lightwave Logic, Inc. to better suit our strategic business plan and to facilitate stockholder recognition of our Company and its business.

We are a developmental stage company that has developed and continues to develop Application Specific Electro-Optic Polymers (ASEOP) which has high electro-optic activity and are thermally and photo-chemically stable, which we believe could have a broad range of applications in the electro-optic device market. We engineer our proprietary electro-optic plastics at the molecular level for superior performance, stability, cost-efficiency and ease of processability. We expect our electro-optic plastics to broadly replace more expensive, lower-performance materials that are currently used in fiber-optic ground, wireless and satellite communication networks.

In order to transmit digital information at extremely high-speeds (wide bandwidth) over the Internet, it is necessary to convert the electrical signals produced by a computer into optical signals for transmission over long-distance fiber-optic cable. The actual conversion of electricity to an optical signal may be performed by a molecularly-engineered material known as an electro-optic plastic.

We are currently developing electro-optic plastics that promise performance many times faster than any technology currently available and that have unprecedented thermal stability. High-performance electro-optic materials produced by our Company have demonstrated stability as high as 350 degrees Celsius. Stability above 300 degrees Celsius is necessary for vertical integration into many semi-conductor production lines. Recent results, independently confirmed by the University of Arizona, have demonstrated that the molecular performance of some of our Company's molecular designs perform 650% better than competitive electro-optic compounds.

Our revenue model relies substantially on the assumption that we will be able to successfully develop electro-optic products for applications within the industries described below. When appropriate, we intend to create specific materials for each of these applications and use our proprietary knowledge base to continue to enhance its discoveries.

- Satellite Reconnaissance
- Navigational Systems
- Radar Applications
- Telecommunications
- Optical Interconnects
- Optical Computing
- Entertainment
- Medical Applications

To be successful, we must, among other things:

- Develop and maintain collaborative relationships with strategic partners;
- Continue to expand our research and development efforts for our products;

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Develop and continue to improve on our manufacturing processes and maintain stringent quality controls;

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Produce commercial quantities of our products at commercially acceptable prices;

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Rapidly respond to technological advancements;

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Attract, retain and motivate qualified personnel; and

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Obtain and retain effective intellectual property protection for our products and technology.

We believe that Moore's Law (a principle which states the number of transistors on a silicon chip doubles approximately every eighteen months) will create markets for our high-performance electro-optic material products.

Plan of Operation

Since our inception, we have been engaged primarily in the research and development of our polymer materials technologies and potential products. We are devoting significant resources to engineer next-generation electro-optic plastics for future applications to be utilized by electro-optic device manufacturers, such as telecommunications component and systems manufacturers, networking and switching suppliers, semiconductor companies, aerospace companies and government agencies. We expect to continue to develop products that we intend to introduce to these rapidly changing markets and to seek to identify new markets. We expect to continue to make significant operating and capital expenditures for research and development activities.

As we move from a development stage company to a product vendor, we expect that our financial condition and results of operations will undergo substantial change. In particular, we expect to record both revenue and expense from product sales, to incur increased costs for sales and marketing and to increase general and administrative expense. Accordingly, the financial condition and results of operations reflected in our historical financial statements are not expected to be indicative of our future financial condition and results of operations.

On August 8, 2006, we contracted with Triple Play Communications Corporation, a design and market consulting company, to deliver a comprehensive market opportunity assessment report for high speed 40G (commercial) & 100G+ (military/aerospace) modulators and system applications.

In August, 2006 we entered into a co-location agreement with InPlane Photonics, a New Jersey-based micro-optics company that allowed our scientists to establish a pre-production line in order to test and integrate our organic materials into waveguide devices and system prototypes as a first step toward product commercialization. This agreement was terminated at the end of January 2007 so that we could focus on pursuing a strategic relationship with Photon-X LLC, a Pennsylvania-based firm with extensive experience in polymer waveguide processing. We entered into a non-binding memorandum of understanding with Photon-X, LLC in December 2006 to work towards creating a fee for services agreement with Photon-X, LLC to design, develop, produce and market electro-optic components based upon our polymer technology, which we ultimately finalized in March 2007. This agreement with Photon-X, LLC enables our Company access to a full suite of fabrication facilities capable of producing commercial quantities of precision micro-optic devices such as high-speed (40GHz) telecom modulators, optical filters, and optical interconnects important to military and civilian global information movement and management markets.

On September 25, 2006 we obtained independent laboratory results that confirmed the thermal stability of our Perkinamine electro-optic materials. Thermal stability as high as 350 degrees Celsius was confirmed, significantly exceeding many other commercially available high performance electro-optic materials, such as CLD-1 which exhibits thermal degradation in the range of 250 degrees Celsius to 275 degrees Celsius. This high temperature stability of our materials eliminates a major obstacle to vertical integration of electro-optic polymers into standard microelectronic manufacturing processes (e.g. wave/vapor-phase soldering) where thermal stability of at least 300 degrees Celsius is required. In independent laboratory tests, ten-percent material degradation, a common evaluation of overall thermal stability, did not occur until our Perkinamine material base was exposed to temperatures as high as 350 degrees Celsius, as determined by Thermo-Gravimetric Analysis (TGA). The test results supported our Company's progress to introduce our materials into commercial applications such as optical interconnections, high-speed telecom and datacom modulators, and military/aerospace components.

In July 2007, our Company developed an innovative process to integrate our unique architecture into our anticipated commercial devices, whereby dendritic spacer systems are attached to its core chromophore. In the event we are successful in developing a commercially viable product, we believe these dendrimers will reduce the cost of manufacturing materials and reduce the cost and complexity of tailoring the material to specific customer requirements.

In January 2008, we retained TangibleFuture, Inc., a San Francisco based technology analysis and business development consulting company, to generate an independent assessment of our business opportunities in the fiber-optic telecommunications and optical computing sectors and develop strategies to penetrate those potential markets.

In March 2008, we commenced production of our first prototype photonic chip, which we delivered to Photon-X, LLC to fabricate a prototype polymer optical modulator and measure its technical properties. As a result of delays caused by engineering setbacks related to our material production, the production of our first prototype photonic chip was temporarily halted, along with the completion of our proof of concept tests that were being administered by Dr. Robert Norwood at the University of Arizona Photonics Department. In order to address this issue, Dr. David Eaton s role and responsibilities with the Company were significantly expanded, and we added two veteran synthetic chemists to our science and technology team. We have since overcome a majority of these engineering setbacks and we are currently in the continual process

of extensive testing for material performance, including, among other tests, the (r33) Teng-Man testing protocol. In June 2009 we released test results conducted by Dr. C.C. Teng that re-confirmed our previous test results, and we intend to deliver completed independent validated material performance test results, including the (r33) Teng-Man testing protocol, as they become ripe for release.

In August 2009, Photon-X, LLC commenced a compatible study, process sequences, and fabricated wafers/chips containing arrays of phase modulators. The first one hundred plus modulators were completed at the end of October 2009, and were successfully characterized for insertion loss, Vpi, modulation dynamic range and initial frequency response in March 2010. The multi-step manufacturing process we utilized to fabricate our modulators involved exposing our proprietary Perkinamine material to extreme conditions that are typically found in standard commercial manufacturing settings. Our step-by-step analysis throughout the fabrication process demonstrated to us that our Perkinamine material can successfully withstand each step of the fabrication process without damage. We anticipate completing the development and building of functional prototype 40 Gb/s and 100 Gb/s modulators during the second quarter of 2010. However, we may incur delays in this process due to slower than expected material production within our laboratories and/or delays caused by the production of the modulator and testing procedures.

In August 2009, we retained Perdix, Inc. to help us identify and build prototype products for high growth potential target markets in fiber optic telecommunications systems. During October 2009, we initiated the development and production of our prototype amplitude modulator, which can ultimately be assembled into 1- and 2- dimensional arrays that are useful for optical computing applications, such as encryption and pattern recognition. We expect our initial prototype amplitude modulator to be completed by the end of the second quarter 2010.

In November 2009 we introduced our new prototype phase modulator to the Gilder/Forbes Telecosm Conference in Tarrytown, New York and discussed how Lightwave s material could be spun onto silicon chips prior to stacking and used for input, output, and interconnect due to the stability of Lightwave s electro-optic polymer and Lightwave s recent demonstration that its proprietary Perkinamine material can survive all of the rigors of standard commercial manufacturing processes. Other applications discussed with the conference attendees included low cost modulators for fiber optic communications, multi-channel modulators for ultra dense wavelength division multiplex systems, and optical computing.

In December 2009 we filed our sixth patent application. The provisional application covers stable free radical chromophores for use in Non-Linear optical applications. The new polymeric electro-optic material has enormous potential in spatial light modulation and all optical signal processing (light switching light).

In January 2010 we entered into an agreement with the University of Alabama at Tuscaloosa to conduct cooperative development, analytical testing, optimization, and scale-up of our proprietary materials platform, which should help shorten the time to market for our new Polymeric Electro-Optic materials.

In March 2010 we successfully concluded the electrical and optical performance testing stage of our prototype phase modulator and began Application Engineering of our technology in customer design environments and working directly with interested large system suppliers to attempt to engineer specific individual product materials and device designs for sale to or by these suppliers.

We ultimately intend to use our next-generation electro-optic plastics for future applications vital to the following industries. We expect to create specific materials for each of these applications as appropriate:

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Satellite Reconnaissance

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Navigational Systems

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Radar Applications

.

Telecommunications

.

Optical Interconnects

.

Optical Computing

.

Entertainment

.

Medical Applications

In an effort to maximize our future revenue stream from our electro-optic polymer products, we are currently evaluating each of or some combination of the following approaches:

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Licensing our technology for individual specific applications;

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Entering into collaborative or joint venture agreements with one or a number of partners; or

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Selling our products directly to commercial customers.

Additionally, we must create an infrastructure, including operational and financial systems, and related internal controls, and recruit qualified personnel. Failure to do so could adversely affect our ability to support our operations.

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. During 2004 we raised approximately $529,000 from the issuance of convertible promissory notes, of which $30,000 was converted into common stock of the company during 2004 and the remaining $499,000 converted in 2005. Also, during 2005, we raised an aggregate of $1,000,000 from the private sale of our common stock. During 2006, we raised approximately $425,000 from the private sale of our common stock, of which $200,000 was rescinded during 2007.

During 2007, we raised approximately $2,301,524 from the private sale of our common stock. During 2008, we raised approximately $414,000 from the private sale of our common stock and $375,270 upon the exercise of existing warrant holder s warrants. Through June 30, 2009, we raised approximately $855,000 from the sale of our private stock. We have also issued shares of our common stock and warrants to purchase shares of our common stock in exchange for services rendered to our company, including professional services. During October 2009 we obtained proceeds of $455,000 from the exercise of existing warrant holder s warrants. During April 2010 we obtained proceeds of $451,783 from the exercise of existing warrant holder s warrants.

Award

On September 26, 2006, we were awarded the 2006 Electro-Optic Materials Technology Innovation of the Year Award by Frost & Sullivan. Frost & Sullivan's Technology Innovation of the Year Award is bestowed upon candidates whose original research has resulted in innovations that have, or are expected to bring, significant contributions to multiple industries in terms of adoption, change, and competitive posture. This award recognizes the quality and depth of our Company's research and development program as well as the vision and risk-taking that enabled us to undertake such an endeavor.

Results of Operations

Comparison of three months ended March 31, 2010 to three months ended March 31, 2009

Revenues

We had no revenues during the three months ended March 31, 2010 and 2009 since we are a development stage company that has yet to commence revenue creating operations.

Operating Expenses

Our operating expenses were $1,010,706 and $756,984 for the three months ended March 31, 2010 and 2009, respectively, for an increase of $253,722. This increase in operating expenses was due primarily to amortization of warrants of as part of the employment agreement entered into with the Company s new non-executive chair of the board of directors, increases in laboratory electro-optic device prototype, development and testing expenses and investor relations fees offset by a decrease in management fees and decreases in research and development stock compensation and awards.

Included in our operating expenses for the three months ended March 31, 2010 was $279,493 for research and development expenses compared to $449,717 for the three months ended March 31, 2009, for a decrease of $170,224.

This is primarily due to a reduction in stock compensation and stock option amortization offset by an increase in laboratory electro-optic device prototype, development and testing expenses.

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

We expect to continue to incur substantial research and development expense to develop and commercialize our electro-optic material platform. These expenses will increase as a result of continued development to support commercialization of our electro-optic materials technology; subcontracting work to build prototypes; expanding and equipping in-house laboratories; hiring additional technical and support personnel; pursuing other potential business opportunities; and incurring related operating expenses.

Stock compensation and stock option amortization decreased $214,565 from $325,332 for the three months ended March 31, 2009 to $110,767 for the three months ended March 31, 2010. Wages and salaries increased $2,361 from $80,529 for the three months ended March 31, 2009 to $82,890 for the three months ended March 31, 2010.

Electro-optic device development and laboratory material testing expense increased $43,735 from $2,275 for the three months ended March 31, 2009 to $46,010 for the three months ended March 31, 2010.

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 increased $423,946 to $731,213 for the three months ended March 31, 2010 compared to $307,267 for the three months ended March 31, 2009. The increase is due primarily to amortization of warrants as part of the employment agreement entered into with the Company s new non-executive chair of the board of directors, amortization of warrants for accounting and administrative services and an increase in investor relations fees offset by a decrease in management fees.

Stock compensation increased to $415,117 for the three months ended March 31, 2010 compared to $0 for the three months ended March 31, 2009. The stock compensation includes amortization of warrants of $356,400 as part of the employment agreement entered into with the Company s new non-executive chair of the board of directors and amortization of warrants of $53,365 for accounting and administrative services.

Management fees decreased $55,330 to $0 for the three months ended March 31, 2010 compared to $55,330 for the three months ended March 31, 2009 since the Company decided not to renew its management contract on February 28, 2009.

Investor relations fees were $35,437 and $0 for the three months ended March 31, 2010 and 2009. Wages and salaries were $170,297 for the three months ended March 31, 2010 and March 31, 2010. Legal fees decreased $1,726 to $16,125 for the three months ended March 31, 2010 compared to $17,851 for the three months ended March 31, 2009.

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.

Net Loss

Net loss was $1,010,652 and $757,398 for the three months ended March 31, 2010 and 2009, respectively, for an increase of $253,254, primarily resulting from amortization of warrants as part of the employment agreement entered into with the Company s new non-executive chair of the board of directors, increases in laboratory electro-optic device prototype, development and testing expenses and investor relations fees offset by a decrease in management fees and decreases in research and development stock compensation and awards.

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 critical 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, 2009 contains a discussion of these critical accounting policies. There have been no significant changes in our critical accounting policies since December 31, 2009. See our Note 1 in our unaudited financial statements for the three months ended March 31, 2010, as set forth herein.

Liquidity and Capital Resources

During the three months ended March 31, 2010, net cash used in operating activities was $349,949 and net cash used in investing activities was $30,574. Net cash provided by financing activities for the three months ended March 31, 2010 was $0. At three months ended March 31, 2010, our cash and cash equivalents totaled $79,466, our assets totaled $527,230, our liabilities totaled $138,213, and we had stockholders equity of $389,017.

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 plastic 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 in excess of $1,500,000 of expenditures over the next 12 months. 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 plastic technology during the latter portion of 2010.

Our business does not presently generate the cash needed to finance our current and anticipated operations. We believe we have raised sufficient capital to finance our operations through the middle of September 2010, however, we will need to obtain additional future financing after that time to finance our operations until such time that we can conduct profitable revenue-generating activities. Such future sources of financing may include cash from equity offerings, exercise of stock options, warrants and proceeds from debt instruments; but we cannot assure you that such equity or borrowings will be available or, if available, will be at rates or prices acceptable to us. If adequate funds are not available to satisfy either short-term or longterm 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.

We expect that our cash used in operations will increase during 2010 and beyond as a result of the following planned activities:

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

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

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

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Developing and maintaining collaborative relationships with strategic partners;

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Developing and improving our manufacturing processes and quality controls; and

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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

For the three months ended March 31, 2010

Net cash used in operating activities was $349,949 for the three months ended March 31, 2010, consisting of payments for research and development, legal, professional and consulting expenses, rent and other expenditures necessary to develop our business infrastructure, offset by $652,681 in options and warrants issued for services, $18,750 in amortization of prepaid expenses, $7,316 in depreciation, ($24,281) in prepaid expenses and $6,537 in accounts payable and accrued expenses.

Net cash used by investing activities was $30,574 for the three months ended March 31, 2010, consisting of $15,241 in cost for intangibles and $15,333 in purchase of equipment, furniture and leasehold improvements.

Net cash provided by financing activities was $0 for the three months ended March 31, 2010.

Inflation and Seasonality

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

Item 4T

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 March 30, 2010. Based on this evaluation, the Company s Principal Executive Officer and Principal Financial Officer concluded that, as of March 30, 2010 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 (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the quarter ended March 31, 2010 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II OTHER INFORMATION

Item 2

Unregistered Sales of Equity Securities and Use of Proceeds

During March 2010, we issued to one accredited person a warrant to purchase up to 150,000 shares of our common stock at an exercise price of $0.25 per share in exchange for past and future consulting services. The warrant was valued at $279,045, fair value. This person was the only offeree in connection with this transaction. We relied on Section 4(2) of the Securities Act since the transaction did not involve any public offering. No underwriters were utilized and no commissions or fees were paid with respect to the transaction.

Item 6

Exhibits

The following exhibits are included herein:

Exhibit No.

Description of Exhibit

31.1

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.

31.2

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.

32.1

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.

32.2

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.

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/ James S. Marcelli
James S. Marcelli,

Chief Executive Officer

Date: May 17, 2010

By: /s/ James S. Marcelli
James S. Marcelli,

Chief Executive Officer

Date: May 17, 2010

By: /s/ Andrew J. Ashton
Andrew J. Ashton,

Treasurer

Date: May 17, 2010