



Lightwave Logic Issues Shareholder Letter and Provides Corporate Update

Dr. Michael Lebby to Host Fireside Chat with Benzinga All-Access Hosts at 11:30 a.m. Eastern time Today

ENGLEWOOD, Colo., Dec. 4, 2023 /PRNewswire/ -- [Lightwave Logic, Inc.](#) (NASDAQ: LWLG), a technology platform company leveraging its proprietary electro-optic (EO) polymers to transmit data at higher speeds with less power in a small form factor, today issued a letter to shareholders from its Chairman and Chief Executive Officer, Dr. Michael Lebby.

Dear Fellow Shareholders,

2023 has been a transformational year for Lightwave Logic, underscored by the first commercial material supply and license agreement for our electro-optic polymer materials and ongoing efforts to build on this commercialization momentum. Throughout the year we focused on industry awareness efforts, evangelizing the benefits of our platform at leading industry events globally. We received the "2023 Most Innovative Product - Hybrid PIC/Optical Integration Platform Award at this year's ECOC Exhibition Industry. We are engaging with a variety of companies to discuss product design, device prototype sampling, and material supply and licensing agreements. Operationally, we completed the expansion of our new laboratory production facilities and added key team members to enable our anticipated growth. Supporting these efforts, we continued to fortify our intellectual property position with new patent issuances and patent applications.

Commercialization of EO Polymer Materials

We signed a four (4) year material supply and license agreement for Perkinamine® in May 2023 with a company designing and providing polymer based photonic devices and photonic integrated circuits (PICs). We believe this agreement demonstrates tangible commercial progress for electro-optic polymers as well as market acceptance. We made significant progress throughout the year, with delivery of material to support our licensee.

Per the terms of the non-exclusive material supply and license agreement, the licensee shall pay Lightwave Logic a running royalty with a minimum royalty paid on an annual basis over the term of the License Agreement. Revenue will be generated from royalties from the licensee's sale of licensed products.

In addition to this first licensee, we continue to receive strong interest from other potential customers in our innovative device platform and licensing our technologies. We are working hard to close additional commercial agreements by year end, but since these are long deliberate processes, we can't guarantee that we will do so. We are presently working with a wide spectrum of companies including multinational tier-1 corporations which manufacture data communications network equipment. Several tier-1 manufacturers have also requested to meet and test our polymer modulators, while fiber optic transceiver companies have expressed interest in learning how to implement our polymer modulators into their ongoing 800G transceiver development programs. Also of note, we are planning to implement our PIC designs using commercial semiconductor foundries for multi-channel polymer modulator engines, including 4 channel solutions for 800G. We believe these constructive discussions are positioning us to capitalize on our momentum with additional licensees as we continue to build excitement around our technology.

Facility & Team in Place to Support Commercialization

During the year we aligned operations with our commercial business plans with a significant laboratory expansion to support volume scale of our EO chromophore materials and new commercial activity. We completed new laboratory

production facilities, expanding the corporate facility in Englewood, Colorado by nearly 10,000 square feet for a total of approximately 23,500 square feet. The renovations and installation of new laboratory and engineering facilities expands the size of our facility by over 65%, enabling commercial device testing and evaluation, product reliability testing, high speed optical characterization, SEM analysis and the expansion of our chemical synthesis production line. The facilities are being utilized to provide Perkinamine® chromophore materials for polymer based photonic devices and PICs, and the multiple requests for our prototypes.

To support our commercialization advancement, we added several new key team members in 2023. At the staff level, these new team members included organic chemists as well as additional photonics design, packaging, reliability engineers, and finance personnel to further enhance our in-house capabilities.

At the Board level, the Board of Directors appointed respected industry executive Laila Partridge to the Board. Laila brings a 30+ year track record of executing transactions in the technology space. Her knowledge of both the fiber optic communications markets as well as non-communications markets (such as artificial intelligence, consumer, display, sensing, medical, biotech, etc.) will help us hone business strategies for growing our electro-optic polymer business.

Fortifying Our Intellectual Property Portfolio

We continued to fortify our intellectual property portfolio in 2023 with two new U.S. patents issued and one patent allowed, and expected to be issued in the near future. In addition, we had a further six patent applications published, outlining new inventions to further improve our technology offering. One notable patent issuance was for continued advanced chemical structural design and process that enhances the overall efficiency of poling non-linear organic optical chromophores while simultaneously improving thermal and photostability above what is already an acceptable performance. Finally, we received a patent for a cutting-edge design technique, enhancing the performance of polymer modulators through the use of an innovative polymer cladding design that is amenable for high-volume foundry fabrication when integrated with silicon photonics. This allows our proprietary polymers to perform more effectively and to be fabricated by silicon foundries in a high-volume manufacturing environment.

Taken together, these new patents showcase the depth of our achievements to the industry and position us for ubiquity. We continue to file patents to strengthen our position in the areas of organic chemistry, polymer device fabrication and design, and polymer device packaging.

Groundbreaking Results & Performance Metrics

Beyond patents for our technology, we also made several incredible achievements from a performance perspective. Our latest commercial-class EO polymer material achieved breakthrough performance metrics at 1310 nanometers (nm), a wavelength popular in hyperscale datacenter applications. The achievement of these results at the 1310nm bandwidth positions us well for potential near-term licensing opportunities in datacenter applications. We also achieved record optical modulator performance using our latest Perkinamine® Series 5 material at extremely low cryogenic temperatures, delivering the potential to revolutionize applications in supercomputers, quantum circuits and advanced computing systems.

Commercial Outreach & Business Development

Throughout the year we continued to maintain industry thought leadership through speaking at key industry conferences worldwide. We recently participated in an industry panel discussion at the Optica Photonic-Enabled Cloud Computing Industry Summit, focusing on bringing world leading companies together in the supply chain to discuss the innovations and deployment of optics in data center applications and beyond. Earlier in the year, we also presented and participated in industry panels at the Photonics Spectra Conference and Laser Focus World Executive Forum events - further building thought leadership. Notably, we were again invited to co-chair the Photonic Integrated Circuits (PIC) International Conference - with prominent positions at impactful industry events such as these representing a key driver of the accelerating interest for our technology that we have seen this year.

These industry conferences not only provide an opportunity to evangelize the benefits of our platform to industry leaders, but also serve as forums to hold constructive meetings with decision makers at our target customer companies. At these meetings we receive insight on where end-users are heading and what performance they are looking for from polymer modulator technologies, and we have received multiple requests for prototypes and licensing inquiries as a result.

Market Positioning with Artificial Intelligence

During 2023, we positioned ourselves to show value for internet and optical network operators in the growing artificial intelligence (AI) markets. We have seen that our technology platform dovetails perfectly with the increased generation of information and data that needs to be communicated using fiber optic interconnects and datacenters in general. We all are aware that AI has been integrated deeper within our daily activities with applications to make us more efficient and possibly smarter. The impact on the internet is huge, and the internet is based on an optical network that utilizes data centers to route and switch traffic or information to and from destinations.

Data centers are being upgraded today in a fashion that the industry has not seen before. The expected demands of increased traffic, information, and data driven by AI is changing the way the internet is being operated. AI is now creating new and interesting market opportunities to upgrade the internet. Three of these are important today: density, speed, and low power and these are very well aligned with our high performance electro-optic polymers. We are designing high performance polymer modulator optical engines to support the rise and growth of AI as it generates more information that will travel through the internet and optical networks.

Today's Benzinga All-Access Interview

I will be hosting a fireside chat today with the hosts of the Benzinga All-Access show to discuss this shareholder letter, recent milestone achievements and potential near-term catalysts. Webcast details are shown below.

Benzinga All-Access Show

Date: Monday, December 4, 2023

Presentation Time: 11:30 a.m. Eastern time

Webcast: https://youtube.com/live/CEZ51a_HTpY?feature=share

I would encourage all of our shareholders to tune in for the discussion. A live audio webcast and an archived replay will be available using the webcast link above.

2024 Goals & Final Thoughts

In 2023, we validated our business plan with the initial commercialization of our technology. Our progress was further validated by positive discussions for potential future licensing agreements with a variety of companies. Our technology continues to be recognized for driving innovative change in our industry.

Looking ahead, with the team, technology, intellectual property assets and operational capabilities in place to support our commercialization at scale, we firmly believe that we are well positioned for a future of electro-optic polymer ubiquity. As we move through 2024, we expect continued momentum in our material supply and license agreement program and product design platform that will expand on an exciting new era of commercialization to help to make our next-generation technologies truly ubiquitous in the global internet infrastructure of the future. At no time in history have I been more confident of Lightwave Logic's potential, and I look forward to sharing exciting new milestones during the balance of this year and in the next year to come.

Sincerely,

Dr. Michael Lebby

Chairman and Chief Executive Officer

About Lightwave Logic, Inc.

Lightwave Logic, Inc. (NASDAQ: LWLG) develops a platform leveraging its proprietary engineered electro-optic (EO) polymers to transmit data at higher speeds with less power in a small form factor. The company's high-activity and high-stability organic polymers allow Lightwave Logic to create next-generation photonic EO devices, which convert data from electrical signals into optical signals, for applications in data communications and telecommunications markets. For more information, please visit the company's website at lightwavelogic.com.

Safe Harbor Statement

The information posted in this release may contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. You can identify these statements by use of the words "may," "will," "should," "plans," "explores," "expects," "anticipates," "continue," "estimate," "project," "intend," and similar expressions. Forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from those projected or anticipated. These risks and uncertainties include, but are not limited to, lack of available funding; general economic and business conditions; competition from third parties; intellectual property rights of third parties; regulatory constraints; changes in technology and methods of marketing; delays in completing various engineering and manufacturing programs; changes in customer order patterns; changes in product mix; success in technological advances and delivering technological innovations; shortages in components; production delays due to performance quality issues with outsourced components; those events and factors described by us in Item 1.A "Risk Factors" in our most recent Form 10-K and 10-Q; other risks to which our company is subject; other factors beyond the company's control.

Investor Relations Contact:

Lucas A. Zimmerman

MZ Group - MZ North America

949-259-4987

LWLG@mzgroup.us

www.mzgroup.us

SOURCE Lightwave Logic, Inc.

12/4/2023 8:31:00 AM