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Neonode Inc. (NEON-OTC.BB)

Snapshot

March 7, 2012

neonode[®]

Neonode Inc. ("Neonode" or "the Company") provides optical infrared+ touchscreen solutions that make handheld to midsized consumer and industrial electronic devices touch sensitive. Neonode operates via a resource-efficient technology licensing model where revenues are primarily generated through non-exclusive, royalty-based licenses to original equipment manufacturers (OEMs), original design manufacturers (ODMs), and component suppliers. The Company's innovative touch technology, for which it holds multiple patents worldwide, is branded zForce®. With zForce®, Neonode seeks to rival low-cost resistive touch technologies while outperforming today's advanced capacitive touch solutions. To date, zForce® is employed in the Kindle Touch eReader from Amazon.com, Inc. and the Nook eReader from Barnes & Noble, Inc., as well as in eReaders from Sony Corp., Kobo Inc., and Koobe Inc. The Company has also licensed its display technology to ASUSTEK Computer Inc. and L&I Electronic Technology Co., Ltd (a joint venture between LG Display Co., Ltd and IRIVER Ltd), among other companies in the tablet PC, mobile phone, and automotive sectors. Neonode has headquarters in Sweden with development and sales offices in Santa Clara, California, and Korea.

Corporate Headquarters

Financial Data

Linnégatan 89, SE-115 23
Stockholm, Sweden
Phone: +46 8 667 17 17

www.neonode.com

Neonode Inc.

Ticker (Exchange)	NEON (OTC.BB)
Recent Price (03/07/2012)*	\$3.97
52-week Range	\$2.50 - \$6.10
Shares Outstanding	~32.8 million
Market Capitalization	~\$130 million
Average 3-month Volume	98,030
Insider Owners +5%	~26%
Institutional Owners**	6.24%
EPS (Qtr. ended 09/30/2011)	(\$0.07)
Employees	32



* A 25-to-1 reverse stock split occurred on March 28, 2011. ** Source: Capital IQ, March 6, 2012.

Key Points







Amazon Kindle Touch

- The global touchscreen market was estimated at \$13.4 billion in 2011, forecast to reach nearly \$24 billion by 2017. Within this arena, Neonode estimates that it holds approximately 80% of the market for touchscreen interfaces in black-and-white eReaders—a sector expected to ship between 34 million and 38 million units during 2012 (Sources: Forbes and the New York Times).
- Keeping its clients' costs of producing touchscreens low is imperative for Neonode, as is enabling touchscreens that have 100% optical transparency for a clear viewing experience without glare. The Company's proprietary architecture innately offers these benefits by reducing the amount of glass required in the manufacture of touch interfaces—a key competitive advantage for Neonode.
- In January 2012, Neonode introduced NN1001, an ultra-low-power, single-chip optical controller. This chip reduces the size of the Company's solution, increases performance, and decreases manufacturing costs. In February 2012, the Company further announced an enhanced optical 3D multi-touch technology, called Multi Sense, which could reach consumers as early as 2013.
- Neonode's leadership comes from backgrounds in product design, electronics engineering, and the semiconductor industry, and is experienced in finance, accounting, and communications.
- As of September 30, 2011, Neonode held cash of \$4.1 million, subsequently raising net proceeds of \$11.2 million in December 2011. Year-end 2011 financials will likely be reported on March 13, 2012.

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Table of Contents

Executive Overview
Growth Strategies7
Technology License Model9
Intellectual Property10
Company Leadership
Core Story15
Touchscreen Market15
zForce [®] : A Next-generation Alternative19
Competitive Advantages Driving Adoption of zForce [®] 22
Target Markets and Customer Agreements 27
Product Reviews
Competition
Recent Milestones
Key Points
Historical Financial Results
Risks
Glossary

Executive Overview

Neonode Inc. ("Neonode" or "the Company") provides an optical infrared touchscreen technology to make consumer and industrial electronic devices touch sensitive. The Company's solution—called a zForce® optical touchscreen—has been licensed to original equipment manufacturers (OEMs) and original design manufacturers (ODMs) in several high-volume markets worldwide, including for eReaders, mobile handsets, automotive products, and tablet PCs. The manufacturers that license Neonode's patented technology embed it into their branded products, compensating Neonode both for engineering support during the product development process and through royalties on each product sold that uses the technology.

As consumers have readily accepted and embraced touchscreens, manufacturers continuously seek out new applications and uses for this type of display, making the production and utilization of touchscreen modules one of the fastest growing technology segments. Researchers forecast that the market for touchscreen technologies, which was estimated at roughly \$13.4 billion worldwide during 2011, could almost double by 2017, reaching nearly \$24 billion (Source: NPD DisplaySearch's *Touch Panel Market Analysis*, July 12, 2011). Accordingly, the rate of expansion for touch-sensitive interfaces is nearly 10 times that of the overall display market.

Technology to Build Advanced, Economical Touch Interfaces

Neonode has patented and commercialized the zForce[®] (an abbreviation for "zero force necessary") touch technology, which was designed to overcome many of the limitations of today's touchscreens. The premise of the Company's approach entails the projection of an infrared grid across an electronic display. As users tap, swipe, or write on the screen, zForce[®] detects the location of the touch based on the interruption in infrared light projecting across the screen, which translates to coordinates on the grid. The zForce[®] architecture and input method is believed to be unique to Neonode.

A zForce[®] touchscreen can be activated by multiple modes of input, including bare fingers, gloves, styluses, and pens, as well as recognizes **multi-touch** (multiple simultaneous touches). It is uncommon today to find both of these features innately built into the same touchscreen. The resistive touch technology used on most PDAs to recognize stylus writing works as a spot on the screen is pressed inward, causing one layer of the touchscreen to make contact with a layer beneath. This contact sends a signal to the device to recognize the touch. Although relatively low cost, resistive touchscreens do not typically allow multi-touch (swiping, gesturing).

The newer and higher-cost capacitive technology, such as that used on Apple Inc.'s (AAPL-NASDAQ) iPhone, is activated by conductive material rather than applied pressure. Electrodes in the display recognize contact with an electrical conductor, such as a finger. Capacitive devices perform multi-touch but cannot be activated by standard pointers or gloves as these are non-conductive. As a result, many users find that their touchscreen can recognize taps from their fingers but not fingernails. In contrast, the zForce[®] screens offer full finger touch capabilities (e.g., gestures like "pinching" the screen to zoom in or out) as well as high-resolution pen support in the same solution.

Both capacitive and resistive screens are composed in part of microscopic circuits embedded on a glass or plastic substrate, which is layered on top of the device display. The substrate layer(s) is then protected by an additional cover glass or another protective coating. In contrast, the infrared grid used in zForce[®] does not require that any glass or plastic layer be placed on top of the display. The reduction in glass is a primary benefit to the zForce[®] technology, as it reduces manufacturers' cost of materials, keeping zForce[®] more economical than alternatives.

As well, by removing the extra layers and exposing the underlying display, Neonode improves touchscreen visibility and performance. Reflection off of glass covering the touchscreen is one of the primary factors preventing consumers from viewing their capacitive touch smartphones and tablet PCs in sunlight. With an uninhibited view of the display, a zForce[®] touchscreen has reduced glare, 100% optical transparency, and prolonged battery life as backlights require less power to achieve the desired brightness. As well, zForce[®] enables the development of touch-sensitive products that can be viewed both indoors and outdoors.

A zForce[®] screen can be used in light-weight devices with a streamlined design—a key quality as consumer electronics manufacturers are ever-striving to create thinner, sleeker products. Due to its low total weight and building height, the zForce[®] solution allows for industrial design flexibility.

Neonode has refined zForce[®] such that it believes the technology can be more cost effective to employ than a traditional keypad on a mobile handset. The Company estimates that using its optical touch interface on a tablet is up to five times more cost effective than employing a capacitive screen and either the same or slightly more cost effective than a resistive screen. The cost benefits of zForce[®] are derived from its lower cost of materials as well as simpler manufacturing process versus layered capacitive and resistive screens.

January 2012 Release of a Single-chip Optical Touch Controller

The introduction of an ultra-low-power, single-chip optical touch controller called NN1001 in January 2012 serves to extend Neonode's competitive advantage by combining several existing components into one chip. Developed in collaboration with Texas Instruments Inc. (TXN-NASDAQ), NN1001 increases touch performance and reduces manufacturing cost. As a single-chip solution, it requires less space on the motherboard, increasing the suitability of zForce[®] for handsets. NN1001 has already been sampled and evaluated by customers. It is scheduled for mass production in the second quarter 2012, followed by a launch for automotive applications in the second half of 2012.

February 2012 Release of New Multi Sense Technology

In February 2012, Neonode introduced Multi Sense, an addition to the Company's technology portfolio intended to enhance standard multi-touch processes. The technology is built upon the zForce[®] multi-touch platform and uses light rather than physical touch sensors to identify and track finger movements. It senses multiple dimensions: proximity, pressure, depth, and surface. By layering several optical sensors into the body of a Multi Sense touch frame (which is shown in Figure 14 [page 21]), Neonode gives the touch frame the ability to follow the motion of multiple objects (e.g., two fingers) in 3D space. Keeping in line with the proprietary characteristics of zForce[®], Multi Sense can detect hands, bare fingers, gloved fingers, pens, brushes, styluses, or other objects at high speed with virtually zero latency. The Company presented Multi Sense at the Mobile World Congress 2012 in Barcelona, Spain. Specific launch details for the new technology are not yet available, though products using it could reach the market as early as 2013 (Source: SlashGear, February 28, 2012). Multi Sense is applicable to a wide range of devices, including smartphones, tablets, automotive controls, and in-flight infotainment systems.

Customers

To date, Neonode estimates that it holds approximately 80% market share for touchscreen interfaces in the blackand-white eReader sector alone—a market anticipated to ship between 34 million and 38 million units during 2012 (Sources: *Forbes* and the *New York Times*, January 2012). Leveraging its success with eReaders, Neonode has since refined its solution in both price and performance to meet the unique needs of handset, tablet, and automotive manufacturers. Figure 1 (page 5) summarizes the companies that have already licensed the zForce[®] technology for their products, noting that Neonode is often prohibited from publicly naming the entities with which it is working due to confidentiality agreements.

The zForce[®] technology is display agnostic, indicating that it can be added to a variety of surfaces, including **liquidcrystal display (LCD)**, **electronic ink (e-ink)**, **organic light-emitting diode (OLED)**, and **electronic paper display (EPD)**. Accordingly, the Company's addressable market is considerable, comprising today's touchscreen products as well as any product that may in the future be made touch sensitive. A visual display is not required; thus, zForce[®] is applicable to touchpads, keypads, door locks, appliances, industrial goods, and other items in addition to handheld consumer electronics.





Source: Neonode Inc.

Moreover, Neonode's optical touchscreen is believed to be one of a few viable touch solutions for today's reflective display panels versus a backlit display. Reflective displays are used in a number of devices, especially eReaders, as they can be viewed with ease in any ambient light environment both indoors and outdoors. Neonode believes that reflective display panels will likely be the future displays of choice for eReader, tablet PC, and GPS devices as well as many mobile phone and other handheld electronics.

eReader Shipments Driving Near-term Revenue

Neonode's sales cycle typically ranges from 9 to 18 months for new customers and six to nine months for existing customers, with a longer lead time for automotive products. For the most recently reported quarter as of the date of this report, the third quarter ended September 30, 2011, five customers were shipping product under a license agreement with Neonode, reflected in the Company's third quarter 2011 revenue of nearly \$1.3 million versus \$90,000 in the third quarter 2010. For the nine months ended September 30, 2011, Neonode reported revenue of \$2.1 million, up from \$359,000 in the year-ago period. Neonode is expected to release fourth quarter and full year 2011 results on March 13, 2012.

Neonode is now in a period of growth as the Company is continuing to realize revenue under its eReader licenses as well as expand into new sectors. In late 2011, Amazon.com, Inc. (AMZN-NASDAQ) released the Kindle Touch eReader, which uses zForce[®] technology. Although Amazon typically does not release sales figures, the online retailer announced that the Kindle Touch held the second spot on its bestseller chart for electronics over the holiday season (Source: Amazon.com's December 29, 2011, Press Release). Recent estimates from analysts at Goldman Sachs and Barclays Capital forecast that Amazon will likely ship between 23.5 million and 25 million units of Kindle eReaders during 2012 (Sources: *Forbes* and paidContent.org, January 9, 2012).

Another company employing zForce[®] in an eReader is Toronto technology company, Kobo Inc., which also reported favorable fourth quarter 2011 eReader shipments. Kobo announced that it added more than one million new users for its eReading business during December 2011, with eReader and eBook sales more than double those of the 2010 holiday season. Rakuten, Inc., a Japanese Internet services company, acquired Kobo in January 2012 for \$315 million—a transaction that Neonode believes enhances its relationship with Kobo, as Kobo is now part of a much larger company with greater resources to expand the reach of zForce[®]-enabled Kobo products. With access to Rakuten's resources, Kobo may emerge as a larger competitor to Amazon and Barnes & Noble, Inc. (BKS-NYSE) in the eReader business going forward, particularly as the company expands across the U.K. and Europe (Source: the *Huffington Post Canada*, November 8, 2011).

The zForce[®] technology is further integrated into Barnes & Noble's Nook eReader and several generations of eReaders from Sony. As well, in August 2011, the Company entered into a multi-year technology license agreement with L&I Electronic Technology Co., Ltd, a joint venture between LG Display Co., Ltd and IRIVER Ltd, to use zForce[®] in a new family of touch eReaders to be sold worldwide.

Expansion into New Markets

During 2012, Neonode expects product shipments to ramp-up under several new license agreements, which are anticipated to demonstrate the zForce[®] technology for tablet PCs and mobile phones as well as printers, GPS units, and additional eReaders. These agreements, which the Company entered into in 2011, include licenses to ASUSTEK Computer Inc. (2357-TPE), Chinese company Onyx International, and rugged mobile phone manufacturer, Sonim Technologies.

Additionally, Neonode entered into a license agreement with a global consumer products manufacturer in January 2012. This manufacturer plans to integrate a zForce[®] optical touchscreen into a series of consumer products using color LCD panels. Also during January 2012, Neonode highlighted automotive touch solutions at the Consumer Electronics Show (CES) in Las Vegas, Nevada. The Company has an agreement with a Korean company, Daesung, which is an LG company that makes electronic components and systems for the automobile industry.

Further, in February 2012, Oregon Scientific, Inc. announced that it was launching a kid-centric, Wi-Fi-enabled MEEP! Android tablet using a seven-inch zForce[®] color touchscreen (Source: AOL Inc.'s *Engadget*, February 11, 2012).

Capital-efficient License Model Emphasizing High Margins

Neonode outlicenses the right to use zForce[®] and associated software to its OEM/ODM clients. Coupled with standard components from partners like Texas Instruments, these licenses enable a complete optical touchscreen solution. By licensing the technology rather than taking on internal product/device development, Neonode can grow sales without increasing its cost of sales at the same rate. OEM/ODM clients are responsible for product manufacture, including the costs and logistics that accompany production. Neonode is able to direct resources toward the development of innovative new solutions. For the third quarter 2011, Neonode had a gross margin of approximately 74% (revenues of \$1.287 million at a cost of revenues of \$333,000). As of September 30, 2011, year-to-date gross margin was approximately 65%.

Headquarters and Employees

The Company, formerly known as SBE, Inc., was incorporated in Delaware in September 1997. In 2007, SBE and Neonode (incorporated in Delaware in 2006) completed a reverse merger whereby SBE changed its name to Neonode Inc. Neonode was previously involved in the development of mobile touch-based phones using the zForce[®] technology. In 2008, the Company opted to focus on licensing zForce[®] to global equipment and device manufacturers rather than internally developing mobile phones. Over the past several years, Neonode has also devoted resources to innovating new features that increase the value of zForce[®] technology.

Neonode is headquartered in Stockholm, Sweden, with offices in Santa Clara, California, and Korea. The Company is also considering opening a Japanese office. Neonode is traded on the U.S. Over-the-Counter Bulletin Board (OTC.BB) under the symbol "NEON" and on the Berlin exchange under the symbol "SB6N." It employs 32 individuals and operates a wholly owned Swedish subsidiary, Neonode Technologies AB.

Neonode Inc. (Headquarters) Linnégatan 89, SE-115 23 Stockholm, Sweden Phone: +46 8 667 17 17

Neonode Inc. (U.S. Address) 2700 Augustine Drive, Suite 100 Santa Clara, CA 95054 Phone: (408) 496-6722 or (925) 768-0620

Growth Strategies

Neonode is not in the business of building or selling products or components. Rather, it is a technology license company providing customers with software intellectual property (IP) and optical expertise. Neonode's growth strategy is centered on continuously strengthening its technology, identifying optimal market segments, and striving to lead those sectors. The Company is particularly interested in high-volume markets.

During 2012, Neonode is focusing on serving a greater number of customers across multiple sectors, requiring the Company to expand its resources. Neonode reported in December 2011 that it was increasing staff at its Stockholm, Sweden, offices, with the objective of engaging new competencies. Specifically, this move sought to hire additional technical project management personnel who have expertise in R&D, engineering, and industrial design.

Strategies

- Target Market Leaders. The sales strategy that has shown to be successful for Neonode to date is to initially target the market leaders of high-volume product sectors. The Company converts the large manufacturers to zForce[®], followed by the smaller entities. Figure 2 (page 8) illustrates the type of positive feedback Neonode received when its zForce[®] touchscreen technology was first commercialized on Sony's eReaders. The Company was subsequently able to obtain a number of other eReader licenses.
- Expand into Follow-on and Next-Generation Products. Manufacturers using zForce® for one product have adopted the technology for their next-generation devices as well. For example, Sony has used zForce® technology in its Pocket Edition (five-inch screen), Touch Edition (six-inch), and Daily Edition (seven-inch) eReaders as well as its newer Sony Reader Wi-Fi PRS-T1 model. Similarly, every client relationship presents the opportunity for an ongoing revenue stream, as Neonode expands into future product iterations.

Moreover, Neonode is expanding across its existing clients' business segments, seeking out new areas, e.g., handset and tablet businesses, within companies that already employ zForce[®] for a different market segment, e.g., eReaders.

- Become a Ubiquitous Optical Touchscreen Solution Not Constrained to One Product Platform. While Neonode initially focused its zForce[®] technology on the eReader market—which led to the Company achieving an estimated 80% market share in this sector—its technology is suited for a diverse range of applications. Neonode is advancing zForce[®] into the mobile phone, tablet PC, and automotive sectors, and is also targeting office equipment, white goods, and GPS applications. Figure 19 (page 27) summarizes the fields where Neonode is or may in the future be present.
- Drive Revenue by Reducing Customers' Materials Costs. When Neonode licenses its technology into new segments or to new customers, it can drive revenue growth by raising the unit cost per license. This is particularly true when the Company advances a proprietary new feature that increases the value of the technology.

However, in many other situations, such as subsequent license agreements for next-generation products, OEMs/ODMs are known to pressure suppliers to continuously reduce prices. In the face of this practice, Neonode sustains revenue by advancing new features and reducing manufacturers' materials costs for building their products. With lower manufacturing and product development costs, manufacturers are less likely to pressure Neonode to reduce the cost of its touchscreen solution. This strategy serves to maintain the Company's margins over time. Neonode does not anticipate price pressure from its customers, as the Company believes that it provides a cost-efficient optical touch solution.

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Recent Financing

In December 2011, Neonode raised approximately \$11.2 million in net proceeds through an offering of its Common Stock. The Company intended to use these proceeds for general corporate purposes, including capital expenditures and working capital. Additional uses of these funds could include the consideration of investments in complementary businesses, technologies, product candidates, or other IP.

Figure 2 EARLY POSITIVE FEEDBACK FROM SONY SPURS ADDITIONAL LICENSES FOR ZFORCE®



Source: CNET <http://reviews.cnet.com/8301-18438_7-20021924-82.html>.

Technology License Model

For the nine months ended September 30, 2011, Neonode reported net revenue of \$2.1 million, up from \$359,000 in net revenue for the nine months ended September 30, 2010. Of the \$2.1 million, approximately \$1.8 million was derived from technology license fees and \$299,000 resulted from fees for engineering design services.

Neonode's sales cycle typically ranges from 9 to 18 months for new customers and six to nine months for existing customers. The initial phase is the evaluation stage. Neonode is presently engaged in the evaluation of product prototypes with several global OEMs/ODMs, during which time these entities qualify the zForce[®] touchscreen solution and evaluate the product engineering design process.

The longest part of the sales cycle is the design phase, during which customers undertake product development and integration of the Company's solution into their products. Neonode's technology has recently been licensed for ASUSTEK Computer, Onyx International, Sonim Technologies, and L&I Electronic Technology Co. (a joint venture between LG Display and IRIVER). Neonode anticipates that product shipments under these licenses could commence or ramp-up during 2012, as companies complete their final product development and manufacturing cycle. Altogether, as of January 2012, Neonode reports that it has entered into license agreements with 14 customers.

The majority of the Company's revenue is generated through technology licenses paid as customers report the quantity of products shipped to market using Neonode's technology. Licensees typically report sales volumes 30 to 45 days after the end of the month or quarter. Neonode's customers that have already entered the commercial stage include Amazon, Barnes & Noble, Sony, Kobo, and Koobe.

Licensing

Agreements for the use of Neonode's internally developed IP components in third-party products may vary by customer but generally include a nonexclusive license with associated fees and royalties payable following the sale of products incorporating the licensed technology.

Previously, Neonode had deferred technology license fee revenue until after the warranty period stipulated in its license agreements had expired, due to the Company's lack of historical experience estimating potential warranty costs. During the third quarter 2011, Neonode was able to establish sufficient evidence regarding estimated warranty costs; thus, the Company began reporting technology license fee revenues, net of warranty costs. To date, Neonode has not incurred warranty-related costs for customer products after they have been released to market.

Engineering Services

As needed, Neonode collaborates with clients' engineering departments to help integrate zForce[®] technology into the end unit. Engineering consulting services are provided on a flat or hourly rate basis as an upfront non-recurring engineering (NRE) fee typically ranging from \$50,000 to \$100,000.

R&D Investment

Neonode's addressable market is considerable, as it includes applications both where a touchscreen is currently present or may in the future be employed. Accordingly, the Company continues to invest in R&D of current and emerging technologies that may further enhance its solutions in terms of both price and performance—a strategy designed to allow Neonode to maintain a competitive position in its existing markets as well as exploit opportunities as they arise in new sectors.

Neonode reported R&D expenses of more than \$1 million for the first nine months of 2011. R&D is conducted predominantly in-house, though the Company may also work in collaboration with external partners and specialists. Development includes software, optical, mechanical, and electrical areas.

Intellectual Property

Neonode provides customers with software IP and considerable expertise in optical technologies. Its touch solutions are based on a patented zForce[®] optical infrared touchscreen technology and Neno[™] software-based user interface. The Company holds a portfolio of issued and pending patents comprising optical technology patents as well as use patents for gestures and other features. Through **Patent Cooperation Treaty (PCT)** and European Patent Office (EPO) applications, Neonode has IP in the U.S., China, Singapore, Australia, and Japan as well as in multiple European countries.

Figure 3 summarizes Neonode's global IP position, including three issued U.S. patents, 15 filed U.S. patent applications, five applications under the PCT, one to the EPO, and one in Singapore.

Figure 3 INTELLECTUAL PROPERTY SUMMARY			
Issued U.S. Patents			
Patent Number	Title	Issue Date	
8,095,879	User interface for mobile handheld computer unit	January 10, 2012	
8,068,101	On a substrate formed or resting display arrangement	November 29, 2011	
7,880,732	Touch screen for mobile telephone	February 1, 2011	
	U.S. Patent Applications		
Published App. Numb	er Title		
20110210946	Light-based touch screen using elongated light guides		
20110181552	Pressure-sensitive touch screen		
20110175852	Light-based touch screen using elliptical and parabolic reflectors	Light-based touch screen using elliptical and parabolic reflectors	
20110169782	Optical touch screen using a mirror image for determining three-dimensi	Optical touch screen using a mirror image for determining three-dimensional position information	
20110169781	Touch screen calibration and update methods		
20110169780	Methods for determining a touch location on a touch screen		
20110167628	Component bonding using a capillary effect		
20110163998			
20110134064			
20110043485 Scanning of a touch screen			
20110007032			
20100238139			
20100238138	Optical touch screen systems using reflected light		
20100017872	User interface for mobile computer unit		
20090189878Light-based touch screen			
	World Intellectual Property Organization (WIPO)		
Type Numbe		Issue Date	

Туре	Number	Title	Issue Date
РСТ	WO/2011/119483	Lens arrangement for light-based touch screen	September 29, 2011
PCT	WO/2010/121031	Optical touch screen systems using reflected light	October 21, 2010
PCT	WO/2010/093570	Light-based touch screen	August 19, 2010
PCT	WO/2009/008786	Scanning of a touch screen	January 15, 2009
PCT	WO/2008/147266	Multi-function input device	December 4, 2008
EPO	2165248	Scanning of a touch screen	March 24, 2010
Singapore	172755	Light-based touch screen	August 29, 2011

Sources: the U.S. Patent and Trademark Office (www.uspto.gov) and WIPO (www.wipo.int).

Neonode further relies on a combination of copyrights, trademarks, trade secrets, confidentiality provisions, and licensing arrangements to establish and protect proprietary rights. The Company has been granted trademark protection for "zForce" in the U.S.; "NEONODE" in the U.S., EU, Sweden, Norway, and Australia; and the figurative NEONODE mark in Sweden. Globally, applications for the figurative trademark are pending in Switzerland, China, Russia, and the U.S.

In addition to existing IP, the Company works to identify new patents and new patentable inventions. Neonode employs dedicated engineers who are focused on optical and related research. A patent firm also works closely with the Company to track and identify relevant IP worldwide. Beyond internal R&D, Neonode may seek to acquire outside technologies from other individuals or companies.

Company Leadership

Management

Company cofounder Mr. Thomas Eriksson was appointed chief executive officer (CEO) of Neonode in January 2011. The Company's former CEO, Mr. Per Bystedt, remains chairman of Neonode's Board of Directors. Figure 4 summarizes Neonode's current key management, followed by brief biographies.

Figure 4 MANAGEMENT		
Chief Executive Officer, Cofounder, and Director		
Chief Financial Officer		
Vice President of Sales		
Vice President North America		
Head of Intellectual Property		
Marketing Director		

Thomas Eriksson, Chief Executive Officer, Cofounder, and Director

Thomas Eriksson has served as Neonode's CEO since January 28, 2011, as a director of the Company since December 2009, and as the CEO of Neonode Technologies AB (the Company's wholly owned subsidiary) since January 1, 2009. From February 2006 through December 31, 2008, Mr. Eriksson served as chief technical officer. He was one of the founders of Neonode Inc. in 2001. Prior to founding Neonode AB, he founded several companies with products ranging from car electronics test systems and tools to GSM/GPRS/GPS-based fleet management systems, including machine-to-machine (M2M) applications and wireless modems. He has over 15 years of experience in product design and electronics engineering. He holds an M.S. from KTH Royal Institute of Technology.

David Brunton, Chief Financial Officer

David Brunton has served as chief financial officer (CFO), vice president of finance, secretary, and treasurer of Neonode since November 2001 and has served as its principal accounting officer. He has also served as CFO, senior vice president, and corporate controller at several other companies, including ReSourcePhoenix.com, a financial services outsource provider; Phoenix American Companies, an equipment leasing, cable television, telecommunications, and software development company; and Arthur Andersen & Co. He holds a B.A. from California State University.

Johan Eriksson, Vice President of Sales

Johan Eriksson serves as vice president of sales at Neonode. He has been with the Company since 2007. He holds an M.S. from KTH Royal Institute of Technology.

Douglas Young, Vice President North America

Douglas Young has served as CEO or general manager at several high-technology companies, including Hitachi Data Systems, Neomagic Corp., and Unilease Computer Corp. He has been with Neonode since 2007. Previously, Mr. Young was senior vice president of sales at closely held Planetweb and vice president of enterprise sales at Data General. He holds a degree in biology from Princeton University and an MBA from New York University's Leonard N. Stern School of Business.

Yossi Shain, Head of Intellectual Property

Yossi Shain has been involved in the semiconductor industry for the past 15 years. For the bulk of that time, he was involved in R&D commercializing parallel processing arrays based on content addressable memory for video and 3D graphics. He has authored several patents, including novel methods for addition and subtraction using content addressable memory cells. His education included the School of Visual Arts, Juilliard, and City University of New York, before he began drafting patent applications for a patent attorney in 1996. He subsequently joined a semiconductor start-up as a technical writer. As he became proficient in the company's technology, Mr. Shain began giving technology seminars for engineers at large multinational corporations and was invited several times to guest lecture in the Tel Aviv University MSEE program. He has also previously worked with Neomagic Corp., serving as a software engineer and in-house source for porting algorithms to the company's hardware, eventually managing a team that developed a 3D graphics library for the company's processor.

Annica Englund, Marketing Director

Annica Englund has served as chief public relations and market communications officer at Kista Science City, chief project officer at Lowe Brindfors/LargeMedium, and as head of market communications at Eric Rahmqvist AB. She has served as a Board Member of the Electrum Foundation, and has been with Neonode since 2011. She holds a Master's degree from Uppsala Universitet, a Cambridge English Proficiency Certificate, and graduated from Berghs School of Communication.

Board of Directors

The Board of Directors oversees the conduct of and supervises the Company's management. Figure 5 provides a summary of Board members, followed by brief biographies.

Figure 5 BOARD OF DIRECTORS		
John Reardon	Director	
Thomas Eriksson	Chief Executive Officer, Cofounder, and Director	
Lars Lindqvist	Independent Board Member	
Mats Dahlin	Independent Board Member	
Source: Neonode Inc.		

Per Bystedt, Executive Chairman

An investor and shareholder in Neonode since 2004, Mr. Per Bystedt has been executive chairman of the Company since May 2008. He served as CEO of Neonode from 2008 to 2011 and as its president since 2008. He has also served as CEO of various television production and network companies, including Trash Television, ZTV AB, TV3 Broadcasting Group Ltd, and MTG AB. Mr. Bystedt was CEO and president of Spray AB and Spray Ventures AB. He serves as chairman of Efti AB and has been chairman of SBE Inc., eBuilder AB, and Eniro AB since 2000. From 1998 to 2000, he served as chairman of Razorfish Inc. He has been a director of Axel Johnson AB since 2000 and of Servera AB since 2005. From 1997 to 2005, he served as a director of Ahlens AB. He has been the chairman of AIK Fotboll AB since 2004. Mr. Bystedt holds an MBA and an M.S. in economics from the Stockholm School of Economics.

John Reardon, Director

On the Neonode Board since 2007, Mr. John Reardon has also served as a director of SBE since February 2004. He is the chairman of the Audit Committee and member of the Compensation and Nominating and Governance Committees of the Company. Mr. Reardon has served as president and member of the Board of Directors of the RTC Group, a technical publishing company, since 1990. In 1994, he founded a Dutch corporation, AEE, to expand the activities of the RTC Group into Europe. He also serves on the Board of Directors of One Stop Systems Inc., a computing systems and manufacturing company. Mr. Reardon holds a B.A. from National University.

Thomas Eriksson, Chief Executive Officer, Cofounder, and Director

Biography provided on page 12.

Lars Lindqvist, Independent Board Member

Mr. Lars Lindqvist is the CFO of Mankato Investments AG, which he joined in 2005. Prior to that, he was CFO at Microcell Oy, which he joined in 2002. He previously served as CFO of Ericsson Mobile Phones from 1995 to 2002. At Ericsson, Mr. Lindqvist was also responsible for the IS/IT function as well as the implementation of a new business model. In addition, Mr. Lindqvist served as unit controller at Ericsson Information System from 1986, where he was directly involved in the divestment of the whole business to Nokia Corp. (NOK-NYSE) in 1991. He was also business area controller of Ericsson Radio System, American Standard. He serves as director of Nanjing Scandinavian Industrial Campus AB. Mr. Lindqvist holds a Master's of Finance degree at Uppsala University, Sweden.

Mats Dahlin, Independent Board Member

Mr. Mats Dahlin has been senior advisor of Neonode Technologies AB, a subsidiary of Neonode, since December 2009. He has been a director of Neonode since November 2011. Mr. Dahlin joined Ericsson in 1980 and served as vice president, executive vice president, and general manager of several business units within Ericsson in Europe, the Middle East, and Africa. He served as president for Ericsson Enterprise AB from 2004 to May 2005. Mr. Dahlin served as president of Ericsson Radio Systems AB from 1998 and head of business segment network operators responsible for the Mobile Systems Division from 2000. In 1984, he started at Cellular Systems Group as regional manager of cellular systems for the Far East and Oceania. Mr. Dahlin also served in senior positions, such as vice president and director of cellular business, Ericsson Canada, and vice president of project management and materials and general manager of Business Unit Mobile Data Systems at Ericsson U.S. He served as "in charge of market operations, the Americas" within the business unit GSM, NMT, and TACS from 1994 to 1997. He served as head of market area Europe, Middle East, and Africa (EMEA) at Ericsson from 2001. He is chairman of the Board at Teligent Telecom AB and has been chairman of Apptoo AB since April 2007. He has additionally served as the chairman of the Board of Appgate Network Security AB. From June 2005, he served as an advisor to venture capital and private equity companies. Mr. Dahlin served as chairman and director of PacketFront Sweden AB. He holds a degree in engineering and a B.Sc. in business administration from Stockholm University.

Core Story

Neonode Inc. ("Neonode" or "the Company") provides optical infrared touchscreen solutions for handheld to midsized electronic devices. The Company's next-generation touchscreen technology is employed by original equipment manufacturers (OEMs) and original design manufacturers (ODMs) in several high-volume markets, including eReaders, mobile handsets, automotive and GPS products, and tablet PCs. The OEMs/ODMs that license Neonode's solution (or other proprietary component or feature from the Company) embed the technology into their branded products, compensating Neonode both for engineering assistance in the product development process and through royalties.

The accompanying pages detail the market for touchscreen technologies and Neonode's patented touch solution called zForce[®] (an abbreviation for "zero force necessary"). In particular, pages 19-26 highlight the novel characteristics that enable zForce[®] to offer an improved touch interface versus competitive approaches. Existing customer agreements, where information has been made publicly available, are detailed on pages 27-31.

TOUCHSCREEN MARKET

Demand for touchscreens in consumer and industrial product designs has grown considerably over the past three years. In 2009, global touchscreen revenue was approximately \$4.3 billion, as illustrated in Figure 6. However, with a rate of expansion that is nearly 10 times faster than the display market overall, touchscreen revenue was expected to total \$13.4 billion worldwide in 2011—a 90% growth rate over 2010 (Source: *Touch Panel Market Analysis* from NPD DisplaySearch, a global market research and consulting firm specializing in the display supply chain, July 12, 2011). Researchers forecast that the market for touchscreen technologies could almost double by 2017, reaching nearly \$24 billion.



Source: DisplaySearch 2011 Touch Panel Market Analysis, July 12, 2011.

Expansion is fueled by the technology's pervasiveness among mobile phones, printers, laptops, tablet PCs, eReaders, navigation screens, and many other products. To this extent, Microsoft Corp.'s (MSFT-NASDAQ) Windows[®] 8 (anticipated for release during 2012) is being optimized for touch support in one of the most significant upgrades to a Windows[®] operating system since Windows 3.0 (Source: CNET.com, January 17, 2012). As consumers have readily accepted touchscreens, manufacturers continuously seek out new applications and uses for touch technology, making the production and utilization of touchscreen modules one of the fastest growing technology segments.

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Emerging markets such as Turkey and China are also adopting touch functionalities and capitalizing on the technology for new uses, including in education and training where new multimedia teaching systems allow multiple schools to share resources. Optical imaging and infrared touch are potential solutions for education and training applications where screen sizes may exceed 30 inches (Source: NPD DisplaySearch's *Touch Panel Market Analysis update*, December 22, 2011).

The two most commonly used touchscreen technologies today are "capacitive" and "resistive." According to analysis from NPD DisplaySearch, **projected capacitive** screens presently command roughly 70% of the market for touchscreen solutions. In December 2011, NPD DisplaySearch estimated that shipments of projected capacitive touchscreens could exceed 566 million units in 2011 for just the mobile phone sector alone. Resistive technology has previously been the technology of choice for touchscreen manufacture, although it is now second to capacitive approaches overall. Its continued use is driven by its lower costs compared to capacitive and ability to be operated by gloves and styluses as well as fingers.

Growth of New Touchscreen Technologies

Despite the prominence of capacitive and resistive technologies, the touchscreen market is still at an early stage, characterized by rapid growth and continued technological advancements. As described on pages 17-18, both resistive and capacitive technologies have cost and feature limitations that leave considerable room for next-generation approaches. One trend in particular that experts forecast could change the current market dynamic is the rise in popularity of reflective electronic-ink (e-ink) displays for eReaders, which could bring about true alternatives to the projected capacitive screen approaches (Source: *VentureBeat*, August 17, 2011).

Neonode's patented optical infrared touch technology, branded zForce[®], is believed to be one of few viable touch solutions for the new reflective e-ink displays, as described on pages 23-24 under Competitive Advantages Driving Adoption of zForce[®]: Enables the Development of Indoor/Outdoor Devices. The Company has already demonstrated market acceptance of its zForce[®] technology for such displays, as it is included on Amazon's Kindle Touch, the Barnes & Noble Nook, the Kobo eReader Touch, and several generations of eReaders from Sony.

Figure 7 (page 17) overviews the leading touchscreen technologies in use today, followed by descriptions of the resistive and capacitive approaches and alternative zForce[®] solution.

Resistive	Uses conductive and resistive layers separated by a thin space	
Surface Acoustic Wave	Uses ultrasonic waves that pass over the touchscreen panel	
Capacitive and Projected Capacitive	The touchscreen panel is coated with a material, typically indium tin oxide, that conducts a continuous electrical current across the sensor. When the sensor's "normal" capacitance field (its reference state) is altered by another capacitance field, e.g., a finger, electronic circuits located at each corner of the panel measure the resultant distortion in the sine wave characteristics, indicating the detection of a touch.	
Infrared	Uses infrared beams that are broken by finger (or heat from the finger) sensed by a camera to detect a touch	
Strain Gauge	Uses a spring mounted on four corners; strain gauges are used to determine deflection when the screen is touched	
Optical Imaging	Uses two or more image sensors placed around the edges (predominantly the corners) of the screen and a light source to create a shadow of the finger	
In-cell Optical Touch Technology	Embeds photo sensors or conductive sensors directly into an LCD glass. By integrating the touch function in the glass, the LCD functions like a low-resolution camera to "see" the shadow of the finger.	
Dispersive Signal	Uses sensors to detect the mechanical energy in the glass that occurs due to a touch	
Acoustic Pulse Recognition	Uses more than two piezoelectric transducers located at some positions of the screen to turn the mechanical energy of a touch (vibration) into an electronic signal	
Source: Neonode Inc.		

Figure 7

Limitations of Resistive and Capacitive Technologies

As illustrated in Figure 8, resistive touchscreens work on the basis of pressure, such as a finger press, applied to the screen. When the user presses the display with their finger or stylus, the topmost layer of screen flexes and is pushed back onto the display layer underneath, effectively completing a circuit and sending a signal to the controller chip. This action tells the device which part of the screen has been depressed. Resistive screens are optimal for detailed work where users desire greater touch accuracy and are frequently selecting a specific area of the screen. As a result, most stylus-based PDAs utilize a resistive display. Resistive technology is also known for having a lower cost of manufacture than capacitive touchscreens, which drives its use in an array of consumer electronics, such as GPS units, certain smartphones from LG, Sony, and Nokia, and lower-end touchscreen mobile phones, among other products. At the Consumer Electronics Show (CES) in Las Vegas, Nevada, in January 2012, Nintendo exhibited a new Wii U video game console, featuring a 6.2-inch resistive touchscreen with finger and stylus support.



2011/08/different-kinds-of-touchscreen-and-itsuser-experience-design-implication.

However, resistive screens do not typically allow multi-touch functions, such as pinching the screen to make it larger or smaller. As well, since they work by sensing pressure, resistive screens are less sensitive to soft gestures like "swiping" and often require greater force on behalf of the user.

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Source: Mashable, Inc.

In contrast, consumers do not need to apply pressure to a "zero-force-necessary" zForce[®] optical touchscreen in order for it to recognize a command. In this way, zForce[®] is similar to capacitive touch technology. Capacitive screens are sensitive to soft touches and react well to sweeping gestures and multi-touch motions, such as "pinching" the touch surface in order to zoom in and out on a screen. Apple's iPhone, like many Android and Windows[®] smartphones, uses a capacitive screen. Laptop mouse pads also employ capacitive technology, as users favor the ability to make a series of finger movements without lifting the hand off of the touchpad.

Figure 9 SPECIAL FINGERLESS OR CONDUCTIVE GLOVES Capacitive touchscreens react to conductive properties rather than applied pressure. Because the human body works as an electrical conductor, electrodes in the display can recognize finger taps. However, a major limitation of capacitive technology is that it cannot recognize contact with objects that are not conductive, such as clothing (gloves) or styluses, prohibiting use in cold weather or for pen writing. In order to touch a capacitive screen without a bare hand, users must purchase special conductive gloves or fingerless gloves, as illustrated in Figure 9.

In addition, capacitive technology has higher production costs. It typically includes a protective layer as well as one or two sensor layers made of glass or plastic coated with conductive material. Each of these additional layers placed on top of the display adds to the cost of the device and reduces screen clarity. Figure 10 illustrates the layers of a capacitive display, as found on the iPhone.

Figure 10



Source: HowStuffWorks, Inc. (http://electronics.howstuffworks.com/iphone2.htm).

ZFORCE®: A NEXT-GENERATION ALTERNATIVE

Neonode overcomes limitations of both resistive and capacitive screens with its zForce[®] technology—creating a next-generation touch surface that the Company believes can be more economical as well as higher performing than either of the main technologies in use today. Currently, projected-capacitance touchscreens represent the mainstream technology for multi-touch interfaces (Source: *EE Times*, November 13, 2011). However, zForce[®] also enables the convenient multi-touch features of capacitive screens but at the cost structure of more affordable resistive technologies. Further, as overviewed on page 21, in February 2012, the Company introduced a new Multi Sense component to the zForce[®] technology that is intended to improve upon standard multi-touch processes.

In contrast to capacitive and resistive screens, which have microscopic circuits embedded on a glass substrate, Neonode's controller projects a grid of infrared light beams across the display layer. Importantly, the Company's technology is display agnostic and can be added to a variety of display surfaces, including liquid-crystal display (LCD), e-ink, organic light-emitting diodes (OLED), and electronic paper displays (EPD). Touch is detected as a finger or object interrupts (by obstructing or reflecting) the light beams projected across the screen surface, which identifies the X and Y coordinates of the touch. The zForce[®] infrared optical touchscreen relies neither on pressure nor conduction, enabling consumers to use a Neonode touchscreen barehanded or while wearing gloves, holding pens or styluses, etcetera. As illustrated in Figure 11, there is no glass substrate or glass overlay required.

In Figure 11, a plastic **light guide** is located under the **bezel** on top of the display. It serves to reflect and focus light for the zForce[®] display. LEDs and **photodiodes** are shown attached to a **printed circuit board (PCB)** around the display (also shown in Figure 12 [page 20]). The zForce[®] technology pulses an infrared light across the screen at a rate of up to 120 times a second so the grid is continuously refreshed. As the user's fingers move across the screen, the grid's coordinates where the screen is touched are converted into mathematical algorithms in a process that is unique to Neonode. The Company holds patents worldwide related to the zForce[®] architecture and input method.





Figure 12 BACK SIDE OF MOTHERBOARD IN THE KINDLE TOUCH

Source: Bill Detwiler / TechRepublic, December 2, 2011.

NN1001 Single-chip Optical Touch Controller

At the CES 2012 show, Neonode displayed a new, ultra-low-power, single-chip optical touch controller called NN1001. This new controller, developed in collaboration with Texas Instruments, combines several existing components into a single chip to increase performance and reduce manufacturing costs. As a single-chip solution, NN1001 takes up less space, reducing the size of Neonode's technology to increase its suitability for handsets.

Neonode has maintained a long-term strategic relationship with Texas Instruments, through which several commercial projects designed to improve the functionality, performance, and cost advantage of zForce[®] have been completed.

The NN1001 controller builds upon Neonode's technology by adding new features, including no overlay, lowlatency (low time delay) pen tracking, proximity sensing, and touch object size measurement. Keeping in line with the Company's strategy of consistently seeking to reduce the cost of manufacturing for touchscreens, NN1001 is designed to reduce the bill of materials (BOM) cost while increasing performance and function for customers in a variety of markets, including smartphones, tablets, e-books, and automotives. It can work in single or multiple configurations to support screen sizes up to 20 inches.

NN1001 supports advanced power management functions for low-power mobile devices, and employs Neonode's AlwaysON[™] technology, which allows users to keep the touch functions active when the device's application processor is in sleep or off mode. Figure 13 (page 21) highlights a selection of NN1001's key specifications.

This chip has already been sampled and evaluated by customers. It is scheduled for mass production in the second quarter 2012, followed by a launch for automotive applications in the second half of 2012.

Figure 13 NN1001 CONTROLLER

- High scanning speed of 1000 Hz (latency down to 1 millisecond)
- Consumes less than 1 milliwatt at 100 Hz
- High accuracy
- Tracks high-speed, multi-touch gestures with any object (e.g., finger, glove, pen)
- Connects to any microcontroller or application processor with a high-speed serial peripheral interface (SPI)
- Supports screen sizes up to 20 inches

Source: Neonode Inc.

Multi Sense

In February 2012, Neonode introduced a new Multi Sense technology designed to enhance standard multi-touch processes. The technology is built upon the zForce[®] multi-touch platform and uses light rather than physical touch sensors to identify and track finger movements, determining an object's size, pressure, depth, speed, and proximity to surface. Figure 14 depicts a demo of Multi Sense, as debuted at the Mobile World Congress 2012 (held in Barcelona, Spain, from February 27, 2012, to March 1, 2012). In the scenario in Figure 14, the user physically reaches through the Multi Sense touch frame to control the graphics on the laptop—a function made possible because of Neonode's technology's ability to follow the motion of multiple objects (e.g., two fingers) in 3D space. The Company has layered several of its optical sensors into the body of the new Multi Sense touch frame.

Figure 14 MULTI SENSE TOUCH FRAME



 $Source: Slash \ Gear < http://www.slashgear.com/neonode-3d-touch-headed-to-tablets-and-phones-hands-on-28215933/> 2/28/2012.$

Keeping in line with the proprietary characteristics of zForce[®], Multi Sense can detect hands, bare fingers, gloved fingers, pens, brushes, styluses, or other objects at high speed with virtually zero latency. The Company believes that its new frame could be a similar price to its existing optical touch sensors, which are less expensive for manufacturers to implement than traditional resistive touchscreens (Source: SlashGear, February 28, 2012). While shown in Figure 14 to be a thick frame, the final Multi Sense frame could be as thin as two millimeters. Specific launch details for Multi Sense are not yet available, though products using the technology are expected to reach the market during 2013.

The aim of Multi Sense is to improve the user experience and help OEMs and other device manufacturers to further differentiate their products in competitive markets. Multi Sense is applicable to a wide range of devices, including smartphones, tablets, automotive controls, and in-flight infotainment systems.

COMPETITIVE ADVANTAGES DRIVING ADOPTION OF ZFORCE®

Neonode's competitive advantage is not only derived from its ability to combine the "feel" of a capacitive screen with the pen support and low cost of a resistive screen. The zForce[®] solution also enables a clearer viewing experience and reduces manufacturers' need for cover glass or glass/plastic substrates on top of the display layer. This reduction in layers reduces the cost of manufacturing, decreases the weight and height of the touch interface, and enables 100% optical transparency, which improves viewing quality, reduces glare, and prolongs battery life (as the backlight requires less power to achieve the desired brightness).

Moreover, Neonode's optical touchscreen is further believed to be one of the few viable touch solutions for today's reflective display panels, as described on pages 23-24. Reflective displays are used in a number of devices, especially eReaders, as they can be viewed with ease in any ambient light environment both indoors and outdoors.

In the product design and development process, there are several criteria that device manufacturers prioritize when selecting a solution for inclusion in their product. Among these are cost, power consumption, and performance—all of which are areas where Neonode believes it holds a competitive advantage, as outlined on the accompanying pages. Figure 15 summarizes key attributes of the zForce[®] touchscreen, followed by a description of each on pages 23-26. Neonode's launch of the NN1001 optical touch controller in January 2012 further strengthens many of these characteristics.

Figure 15

DESIGN ADVANTAGES FUELING ADOPTION OF ZFORCE®

Does Not Require a Glass Substrate or Additional Layers

- Lowers cost of manufacture
- Enables a clearer picture without reflection or parallax
- Durable materials reduce the need for protective layers/coatings

Enables the Development of Touchscreens that can be Viewed Both Indoors and Outdoors

- Compatible with backlit and reflective displays (including electronic ink [e-ink])
- Display-agnostic solution

Is a Cost-efficient Solution for Manufacturers

- Fewer components equal lower materials costs
- Simple manufacturing process
- · Licensing a complete solution from Neonode obviates the need to purchase additional modules from third-party vendors

Incorporates Advanced Features Sought After by Device Manufacturers

- Combines the benefits of both resistive and capacitive touchscreens
- Consumes less power than competitors' solutions
- Includes new features that overcome limitations of resistive and capacitive screens
- Works in a wide temperature range and can be used with thick gloves
- Allows for waterproofing the device

Sources: Neonode Inc. and Crystal Research Associates LLC.

Does Not Require Glass or Additional Screen Layers

Placing glass on top of a display can reduce the screen's transparency and viewing angle, alter its color, and cause a reflection from sunlight that makes it challenging to view outdoors. Reflection off glass is the primary barrier preventing users from viewing their smartphones, computer screens, and other electronic devices in sunlight. Picture quality is further hindered by the methods used to attach a glass substrate to the display layer. Many manufacturers leave an air gap between the layers due to the low costs of this approach. However, an air gap can cause further internal reflection. Each subsequent layer added to a display may dilute the screen's contrast and clarity as well as increase manufacturing costs.

Neonode's zForce[®] touchscreens may offer a clearer picture than resistive and capacitive touchscreens, as zForce[®] does not require a glass or plastic film overlay—or any other protective, bonding, or conductive layer—added to the top of the display window. The Company reports that a Neonode touchscreen is designed to be hard and durable, reducing the need for an additional protective glass covering on the surface of the screen. Thus, there is no glare caused by a reflection off of glass because there is no glass, and there is no internal reflection caused by air gaps between layers. This arrangement improves visibility and provides a viewing experience free from reflection and **parallax** effects.

The reduction in glass is a primary benefit to the zForce[®] technology, as it reduces material costs (often making zForce[®] more economical than alternatives) and improves the touchscreen's visibility and performance. For companies that wish to further protect the display layer, a very thin hardener can be laminated onto the screen that does not degrade the picture nor create a reflective surface.

A zForce[®] screen can be used for light-weight devices with a streamlined design—a key quality for mobile phone and tablet PC manufacturers in particular, as these industries continually strive to create thinner, sleeker products. Due to its low total weight and building height, the zForce[®] solution enables industrial design flexibility. Weight and height data are summarized in Figure 18 (page 26).

Enables the Development of Indoor/Outdoor Devices

Compatible with Backlit and Reflective Screens

A particular challenge facing electronics manufacturers today is the ability to produce a screen that is visible in both sunlight and low-light settings. Many capacitive smartphones and tablet PCs, among other products, use backlighting (an internal light source) to illuminate the display. While backlighting a display makes it easily viewable indoors or at night, capacitive LCD displays still do not perform well in sunlight due to the reflection of the sun off of the glass. By eliminating the need for a glass substrate over the LCD display, Neonode's technology overcomes this limitation, thereby enabling the development of backlit LCD products that can perform both indoors and outdoors.

As an alternative, some device manufacturers use a reflective screen or an electronic ink (e-ink) display, whereby the surface reflects ambient light to illuminate the display in the same manner as ordinary paper. Reflective screens are found on most eReaders, PDAs, and some notebook computers that are designed specifically for outdoor use. The appeal of reflective surfaces in the eReader market is driven by the e-ink technology, which enables a paper-like reading experience on an electronic device. Reflective and e-ink screens are preferable for use outdoors or in bright indoor lighting where a backlit LCD screen can be difficult to see. They also require less power and have been associated with reduced eyestrain during prolonged viewing.

Figure 16 (page 24) illustrates Amazon's Kindle Touch eReader, which uses Neonode's multi-touch zForce[®] technology on a six-inch e-ink display. As of the end of 2011, the Kindle Touch held the number two spot on the Amazon.com bestseller chart in electronics, which also included the Kindle Fire tablet as the bestseller: (1) Kindle Fire, (2) Kindle Touch, (3) Kindle (Source: Amazon.com, Inc.'s December 29, 2011, Press Release).

Figure 16 EREADER WITH A SIX-INCH E-INK DISPLAY

Amazon's Kindle Touch Using Neonode's zForce® Touchscreen



Source: TechRepublic, December 1, 2011.

Neonode's display-agnostic zForce[®] is one of the few touchscreens optimized for use in electronics with nextgeneration reflective screens, which emphasize greatly reduced power consumption and a paper-like reading experience in almost any ambient light condition. The Company's compatibility with reflective screens thus far is evidenced by the zForce[®] technology's wide acceptance across the eReader market. In addition to eReaders, manufacturers of reflective display panels are targeting mobile phone and tablet PC markets because these devices require the clear viewing screen and low power consumption of reflective display panels.

Neonode believes that reflective display panels will likely be the future display panels of choice for all eReader, tablet PC, and GPS devices as well as many mobile phone and other handheld devices.

Display-agnostic Solution

The zForce[®] optical touch technology is compatible with a wide range of display panels in use today, including LCDs, e-ink, OLED, and EPDs. It can also be applied to proprietary displays, such as Qualcomm MEMS Technologies, Inc.'s mirasol displays (<u>www.mirasoldisplays.com</u>) and Plastic Logic Ltd.'s (<u>www.plasticlogic.com</u>) innovative plastic substrates, which are intended as an alternative to LCD glass displays in the eReader market. The mirasol displays of Qualcomm MEMS, a wholly owned subsidiary of Qualcomm, Inc. (QCOM-NASDAQ), are based on a reflective technology called interferometric modulation (IMOD), which was targeted to reduce power consumption while improving viewing quality in a wide range of environmental conditions, including bright sunlight.

Additionally, products do not require a visual display as found on eReaders and cell phones in order to use zForce[®]. The technology can be used on display-less items such as keypads, mouse pads, and remote controls as well. Pages 27-31 provide greater details of the many fields where zForce[®] is currently or may in the future be employed.

zForce® is an Economical Investment for Manufacturers

Keeping costs low for customers is an imperative for Neonode, as described under Growth Strategies on page 7. The Company has refined its touch solution such that it believes the technology is often more cost effective to employ than even a traditional keypad on a mobile handset (as illustrated in Figure 17) as well as competitive touchscreens.

For example, Neonode estimates that using its optical touchscreen on a tablet is approximately five times more cost effective than employing a capacitive screen and either the same or slightly more cost effective than a resistive screen. The cost benefits of zForce[®] are derived from its lower cost of materials as well as its simple manufacturing process versus layered capacitive and resistive screens. The Company continues to emphasize cost efficiency by reducing system cost in the development of new components, such as the NN1001 controller (described on pages 20-21).



Source: WirelessInfo.com 2010.

Cover glass is an important component of projected capacitive touchscreens. However, finishing processes for applying cover glass are labor intensive. Going forward, as the industry seeks to optimize cover glass production, manufacturers are expected to enter into contracts or informal relationships with cover glass finishers and touch module makers more frequently or integrate and expand their own in-house cover glass finishing capacities (Source: NPD DisplaySearch's *Touch Panel Market Analysis: October 2011 Update*). In contrast, by licensing touch technology from Neonode, OEMs/ODMs receive a complete touch solution that does not require cover glass finishing, thereby reducing materials and labor costs. With access to Neonode's license, there is also no need to seek out a vendor for assembling the touch sensor with the controller (called a module maker), further reducing production costs.

Neonode's Solution Enables High-Performance Touchscreens

As a next-generation touchscreen solution, the zForce[®] technology is designed to improve upon each of the mainstream existing touch technologies: resistive and capacitive. Neonode's optical infrared design combines advantages of both techniques while striving to overcome their limitations. Figure 18 (page 26) highlights features of zForce[®] that enable this technology to be competitive with resistive and capacitive screens, including reduced weight, height, and power consumption. Amazon.com reports that its Kindle Touch, using the zForce[®] touchscreen, can last up to two months on a single charge if the wireless functions are off (based upon a half-hour of daily reading time). Even with wireless left always on, the Kindle Touch can keep a charge for up to six weeks.

User Input

Neonode aims to combine or exceed the user input capabilities of resistive and capacitive technologies. The zForce[®] screen is highly sensitive to touch, designed to respond more quickly and more accurately than capacitive screens. With the NN1001 controller, Neonode's latency (time delay) is only approximately one millisecond. As well, contributing to the accuracy of zForce[®] is its insensitivity to electromagnetic interference unlike capacitive displays, which are vulnerable to electrical interference impacting system performance. Because capacitive screens rely on conduction, sources that are both internal and external to the touchscreen device can cause charge movement within the touchscreen, which may be confused with the measured charge movement of a finger touch on the screen (Source: *EE Times*, November 13, 2011). In contrast, Neonode maintains that zForce[®] technology is less prone to misreads than capacitive technology.

While zForce[®] allows gesturing, sweeping, pinching, and other multi-touch motions (unlike point-sensitive resistive screens), it can also be used for high-resolution pen writing. The technology's multiple modes of input uniquely combine full finger touch capabilities with high-resolution pen support in the same solution.

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Feature/Technology	Resistive	Surface Capacitive	Projective Capacitive	zForce®
Low-cost Solution	V	√/x	Х	V
Multi-touch Support	√/x	√/x	٧	V
Finger Touch Support	√/x	V	٧	V
Pen Support	V	x	√/x	V
Gestures	√/x	V	٧	V
Low Power Consumption	V	√/x	√/x	V
Weight of 10" Tablet	>150 grams	>200 grams	>250 grams	25 grams
Not Sensitive to RFI / EMI	V	х	Х	V
Bezel Height	Flush	Flush	Flush	>0.4 mm
Building Height (10" Tablet)	>1.5 mm	>2.0 mm	>2.0 mm	0.8 mm
No Need for Calibration	Х	√/x	√/x	V
Viewable in Sunlight	v/x	√/x	√/x	V
v = Yes $v/x = Not Good$ $x = No$				

Figure 18 NEONODE'S COMPARISON OF KEY FEATURES

* RFI / EMI = Radiofrequency interference / Electromagnetic interference

Source: Neonode Inc.

TARGET MARKETS AND CUSTOMER AGREEMENTS

The primary licensees for Neonode's technology are original equipment manufacturers (OEMs), original design manufacturers (ODMs), and their contract manufacturers (component suppliers). Customers come from the U.S., Europe, and Asia, and the Company maintains several offices worldwide to serve these clients. Neonode has been entering into contracts with global equipment and device manufacturers since 2009. Over the past three years, the Company has emerged to become the primary touchscreen interface among black-and-white eReaders, and has seen the applications for its technology expand into many new sectors beyond eReaders.

Addressable Market

The addressable market for Neonode's optical touchscreen solution is considerable. Since the Company's technology is low cost and display agnostic, its potential applications include areas where touch functions are currently present or may in the future be desired. Neonode strives to focus on high-volume markets, several of which are described on the accompanying pages.

The zForce[®] solution may be applicable to a wide variety of consumer and industrial electronic devices, a selection of which are highlighted in Figure 19. Neonode has already commenced discussions or entered into license agreements with entities in several of these areas. As well, while touchscreen displays are often the first to come to mind when considering applications for an optical touch technology, it is important to note that Neonode's zForce[®] works even when there is no visual display, such as on a door lock or touchpad. The OEMs/ODMs that employ zForce[®] have the ability to create touch-enabled surfaces at a low cost, independent of underlying screen technology.



eReaders

Neonode works to continually strengthen its position among touchscreen eReaders worldwide. Its patented zForce[®] technology is already incorporated into many of the eReaders sold today, including those listed below and pictured in Figure 20.

- Amazon's Kindle Touch eReader
- Barnes & Noble's Nook eReader
- Sony's Pocket Edition (five-inch), Touch Edition (six-inch), and Daily Edition (seven-inch) eReaders and the Sony Reader Wi-Fi PRS-T1 model
- Kobo Inc.'s Kobo eReader Touch, which uses zForce[®] under the name "Real Touch"
- Koobe Inc.'s JinYong Reader in the Chinese market



Sources: PCWorld and Amazon.com, Inc.

As well, in August 2011, the Company entered into a multi-year technology license agreement with L&I Electronic Technology Co., Ltd to use zForce[®] in a new family of touch eReaders to be sold worldwide.

Neonode initially targeted the eReader market because of several characteristics of this sector that it believed could promote rapid adoption of zForce[®]. Due to the prevalence of e-ink displays, eReader manufacturers were already familiar with reflective touchscreens. They also desired products that could enable a book-like experience with low power consumption, low costs, and both indoor and outdoor viewing. Neonode first introduced zForce[®] to Sony and Barnes & Noble and found that the innovative features of zForce[®] coupled with its cost efficiency were well received. To date, Neonode estimates that it holds approximately 80% of the market share for touchscreen technologies in the eReader sector—a high-volume market forecast to ship more than 34 million units in 2012. As described on page 9 under Technology License Model, the bulk of Neonode's revenue is generated based on the number of units sold incorporating its technology.

eReader Market Volume and Trends

Amazon, the leading supplier of eReaders, does not typically release sales figures for its Kindle products. However, recent estimates from analysts at Goldman Sachs and Barclays Capital forecast the online retailer to sell between 23.5 million and 25 million units of Kindle eReaders (which does not include the Kindle Fire tablet) during 2012 (Sources: *Forbes* and paidContent.org, January 9, 2012).

Toronto technology company, Kobo, announced that it added more than one million new users for its eReading business during December 2011, with eReader and eBook sales more than double those of the 2010 holiday season. Additionally, the company reported that it was acquired by Rakuten, Inc. in January 2012 for \$315 million. With access to Rakuten's resources, Kobo may emerge as a larger competitor to Amazon and Barnes & Noble in the eReader business, particularly as the company expands across the U.K. and Europe (Source: the *Huffington Post Canada*, November 8, 2011).

Data from I.H.S. iSuppli, a research company that has tracked shipments of display parts for eReaders, suggest that Amazon holds 67% of this market and Barnes & Noble 13% (Source: *New York Times*, January 5, 2012). Altogether, eReader shipments during 2012 are anticipated to range between 34 million and 38 million units (Sources: *Forbes* and the *New York Times*, January 2012).

Despite competition from the Kindle Fire and other color tablets, eReaders are expected to continue to attract consumers due to their lower price points and non-glare screens. Kindle eReader sales are projected to exceed Kindle Fire sales through 2014. However, there may be consolidation or shifts in the market for eReaders going forward as the touchscreen technology defining the eReader design is adopted and refined for other consumer products as well, such as tablet PCs. To this extent, Neonode, one of the main providers of this non-glare touchscreen technology, has already entered into licenses for use of the zForce[®] technology on tablet PCs, among other sectors.

Increasingly, consumers may find that eReaders are offered at a discount or for free as part of a subscription bundle to drive content sales. In January 2012, Barnes & Noble was the first to roll-out such a promotion, whereby consumers who purchased a year-long subscription to the *New York Times* were eligible for either a free Nook Simple Touch black-and-white eReader or a \$100 discount off the price of a Nook Color. This scenario may serve to further increase the unit volume of the eReader market.

Mobile Phones

As well, Neonode has entered the mobile phone space, working with handset vendors to integrate its optical touchscreens into cell phones. Neonode's decision to enter the eReader market prior to the mobile phone market was purposeful. Solutions provided to handset makers must be physically very small to accommodate the small form factors of cell phones. Accordingly, the Company has worked diligently to develop the required integrated parts and optimize its technology for mobile phones, which has now been accomplished. Thus, Neonode is currently emphasizing handset manufacturers among its targeted customers, and is actively working to build market share in this sector.

During 2011, the Company licensed its optical touchscreen technology to Sonim Technologies (<u>www.sonimtech.com</u>), a manufacturer of rugged mobile phones intended for demanding and hazardous environments. Sonim's phones, which are designed to be water submersible and high performance, are targeted for workers in the construction, security, utilities, transportation and logistics, forestry, agriculture, defense, and oil, gas, and chemical industries.

Sonim maintains a worldwide royalty-based license agreement with Neonode, under which Sonim is integrating zForce[®] into certain of its mobile phone products. Sonim has stringent requirements for its mobile phones, which it believes are supported by Neonode's technology.

High-volume, Low-cost Phones

While premium smartphones such as Apple's iPhone have grown at a rapid rate over the past several years, Neonode believes that the mobile phone segment with the greatest overall volume entails lower-cost or feature phones. Lower-end phones are common in emerging markets but are also on the rise in the U.S. as even low-cost cell phones today are equipped with smartphone characteristics. Greater consumer demand for less expensive phones that still offer touchscreens, Internet access, and email create a need for technologies like zForce[®] that offer a low-cost, durable, and intuitive touch solution to enable scrolling through menus and navigating both basic and advanced phone functions.

Further, because zForce[®] can be used with reflective displays, the Company believes that it can position the technology for use in sizable emerging markets, such as India or China, where many people work outside and require screens designed for high-quality outdoor visibility. Neonode's cost efficiency compared to competitive touch solutions as well as traditional keypads may be a key driver for such emerging market applications.

The Company expects that licenses in the low-cost, high-volume mobile phone sector may represent an important percentage of its future net revenue. Factors fueling Neonode's opportunity in this space include the following:

- continued growth of the overall mobile phone market;
- a continued transition to high-functionality interactive infrared touchscreens rather than mechanical buttons or capacitive/resistive touchscreens, as the interface for application access and control in all cell phones; and
- Neonode's ability to demonstrate to mobile phone OEMs the advantages of its touchscreen solutions in terms of price, performance, ease-of-use, size, durability, power consumption, and industrial design possibilities.

Based on industry projections, Neonode anticipates that the low-end mobile phone market may expand at a compound annual growth rate of approximately 21% from 2011 through 2013, reflecting trends toward greater functionality across all phone segments and demand for low-cost options, even in the smartphone segment. In 2012, there are expected to be over 500 million entry-level smartphones costing less than \$100 in use worldwide, which is more than twice the installed base of \$100 smartphones in 2011 (Source: *Financial Times*, January 16, 2012). Nokia Corp. and Chinese manufacturers Huawei Technologies Co. and ZTE Corp. are among the main suppliers of phones in the low-end sector.

Tablet PCs/Computers

In April 2011, Neonode entered into a license agreement with one of the world's leading computer companies, ASUSTEK Computer Inc., for the development of a series of products that include zForce[®] optical touchscreen technology. Headquartered in Taiwan, ASUSTEK is a global manufacturer of computers, communication products, and consumer electronics, including motherboards, 3D graphic display cards, audio cards, notebook computers, smart navigation mobile phones, LCD monitors, servers, and broadband and communication products, among others. The company sells its products under the "ASUS" brand.

In July 2011, Neonode entered into a multi-year technology license agreement with Chinese company Onyx International Inc. Onyx licensed the zForce[®] technology for use on forthcoming eReader and tablet PC products. Onyx specializes in the design, development, and production of new reading equipment and Internet service platforms. The company manufactures its own branded products as well as develops products for branding and sale by other OEMs.

As well, in February 2012, Oregon Scientific, Inc. announced that it was launching a kid-centric, Wi-Fi-enabled MEEP! tablet using a seven-inch zForce[®] color touchscreen (Source: AOL Inc.'s *Engadget*, February 11, 2012). The MEEP! runs on an Android platform and is suitable for children ages six and up. Parents can monitor and limit Internet access via an online control panel. The tablet is anticipated to be affordable and have a rugged design for protection against drops, breaks, and scratches.

New product shipments in 2012 will likely demonstrate the use of zForce[®] on multi-application, color LCD screens. Neonode believes that manufacturers of tablet PCs are adopting zForce[®] instead of traditional LCD display panels in large part due to the technology's cost and functionality advantages over capacitive solutions. For many tablets, touchscreen assembly is among the most expensive aspects of production. Reducing costs here without sacrificing function could translate to higher margins for manufacturers. Additionally, zForce[®] is applicable to an array of computer products, such as keyboards or touchpads, in addition to tablets.

Market Opportunities

As of late 2011, a consumer could choose between more than 90 different types of tablet computers for purchase. With over 72 million units sold, these devices accounted for roughly a quarter of all mobile PC shipments in 2011, as shown in Figure 21 (Source: NPD DisplaySearch's *Quarterly Mobile PC Shipment and Forecast Report*, January 4, 2012).

Shipments of touch-based tablets are forecast to reach 360 million units by 2017 (Source: *VentureBeat*, August 17, 2011). Touch adoption is being fueled in part by the upcoming launch of Windows[®] 8, which is optimized for touch support (Source: NPD DisplaySearch's *Touch Panel Market Analysis update*, December 22, 2011).

Figure 21		
MOBILE COMPUTER SHIPMENTS		
Computer Form Factor	Units Shipped (Estimated)	
Tablet PCs	72.7 million	
Notebook PCs	187.5 million	
Mini-note PCs	25.2 million	
Overall Mobile PCs	285.4 million	
Source: NPD DisplaySearch, January 4, 2012.		

Automotives/Navigation

The automotive and navigation sectors represent expanding markets for Neonode, particularly given the need for automotive displays to function well in all types of ambient lighting. The Company believes that it is possible to rapidly obtain market share in the automotive sector, as it accomplished in the eReader sector. Neonode presently has an agreement with a Korean company, Daesung, which is an LG company that makes electronic components and systems for the automobile industry.

There are many possible applications for an efficient touch technology among car and vehicle component manufacturers, including for entertainment and navigational displays in high-end vehicles that can be made touch sensitive. The zForce® technology is suitable for lower-end vehicles or cars without displays in the dash as well, as a zForce® touchpad could replace the dial, buttons, or joystick that adjust volume, climate, and other controls. A touchpad design would likely eliminate several dashboard buttons, with different gestures indicating volume, stereo, and other functions.

In January 2012, Neonode presented its automotive touch solutions at CES 2012 in conjunction with TI Automotive Ltd. (<u>www.tiautomotive.com</u>). TI is a global manufacturer of automotive fluid storage, carrying, and delivery systems.

While details have not been made public, Neonode is undertaking projects with both OEMs and automotive component vendors. The NN1001 controller could favorably impact the Company's progress in this sector, as it is intended to reduce cost and add functionality for the next generation of automotive touch displays.

PRODUCT REVIEWS

Customers such as Barnes & Noble, Sony, and Kobo have reported favorable reviews for their touch-enabled products using Neonode's zForce[®] touch technology. A selection of statements from these reviews, as announced by Neonode on September 6, 2011, is provided below. A larger selection of articles, links, and commentary is available on the Company's website at <u>www.neonode.com</u>.

Baystreet.ca

Junior Tech Company Adds LG Display JV to List of Licensing Partners, August 10, 2011

"Neonode's patented zForce[®] touchscreen is unprecedented in the industry and gaining substantial traction with major industry players. The zForce[®] screen uses a proprietary infra-red array which enables precise identification of the touch point that features sweeps, high resolution pen writing and finger navigation. While this may sound a bit like technology already on the market, nothing could be further from the truth. Neonode's zForce[®] does not require the overlay on the display window that all other screens do. This provides a 100% clear viewing experience that is free of the reflection and parallax error that compromise viewing with other screens on the market today."

CNET News

Sony Reader Wi-Fi puts Kindle in its sights, August 31, 2011

"Sony was actually the first to license and include Neonode's infrared touch-screen technology in last year's PRS-350, PRS-650, and PRS-950 Readers. Since then, both Barnes & Noble and Kobo have incorporated the technology into their latest touch-screen e-readers. Because that technology uses infrared sensors to register touch gestures on screen, it has allowed e-reader manufacturers to make touch-screen interfaces without adding an extra screen layer that reduces contrast."

International Business Times (Australia) Nook: The simple eReader, May 25, 2011

"Neonode's zForce[®] infrared touch technology can sense where your finger is touching. You don't have to touch the screen at all the sensors will allow your fingers to hover to get a response. The touch screen interface is a perfect match for e-reading. You can even tap on words in a book to get a definition from the dictionary."

Figure 22 KOBO EREADER TOUCH USING ZFORCE®



Source: OhGizmo!, July 25, 2011.

CNET News

Kobo Unveils Wi-Fi Touch Edition e-Reader for \$129.99, May 23, 2011

"As its name implies, the new e-reader has a touch screen and uses the same Neonode infrared technology that's found in Sony's touch-screen e-readers...I got a chance to play around with a prototype for the new device and found it to be very similar to Sony's PRS-650 Touch Edition e-reader, with a nice responsive touch screen."

OhGizmo! (a blog for gadgets, innovation, and design) *Kobo eReader Touch Edition* Review, July 25, 2011

"Thanks to Neonode's zForce technology, eReaders like Kobo's new Touch Edition have finally gained touch screen functionality. Without affecting the contrast or legibility of their displays."

Competition

The global touchscreen field includes approximately 190 suppliers, many of which initiated operations within the past several years (Source: *VentureBeat*, August 17, 2011). Neonode characterizes its most significant competition as being capacitive touchscreens, for which there are approximately 80 suppliers worldwide, although competition may also come from resistive touchscreens and other new techniques.

The selection of competitors presented in Figure 23 is not intended to be an exhaustive collection of Neonode's possible competition but is believed to be representative of the technologies and suppliers that the Company may encounter as it seeks to increase its share of the market for touch-based interfaces. Additionally, several potential competitors that have recently made key announcements are profiled following Figure 23.

Figure 23			
A SELECTION OF COMPETITORS			
Company	Ticker	Technology	
3M Company	MMM-NYSE	Capacitive, Dispersive Signal Touch	
ATMEL Corp.	ATML-NASDAQ	Capacitive touch IC controllers	
Cypress Semiconductor Corp.	CY-NASDAQ	Capacitive touch IC controllers	
Mass Multimedia Inc.	_	All touchscreen technologies	
Maxim Integrated Products Inc.	MXIM-NASDAQ	Capacitive touch IC controllers	
NextWindow, a wholly owned subsidiary of SMART Technologies Inc.	SMT-NASDAQ	Optical with camera sensor	
RPO Inc.	_	Optical wave guide	
Synaptics, Inc.	SYNA-NASDAQ	Capacitive sensors and IC controllers	
TE Connectivity Ltd.	TEL-NYSE	Capacitive, Resistive, Surface Wave	
Touch International	_	Resistive and Capacitive	
TPK Holding Co., Ltd.	3673-TPE	Capacitive (provides the capacitive touch sensor for the Apple iPhone)	
Young Fast Optoelectronics Co., Ltd	3622-TPE	Capacitive/resistive sensors and module maker	
Zytronic plc	ZYT-LON	Capacitive	
Source: Neonode Inc.			

Corning Inc.

www.corninggorillaglass.com

Advancements in display components that improve current touch technologies may reduce the value of Neonode's competitive advantage. For instance, Corning Inc. (GLW-NYSE), the maker of Gorilla[®] Glass, introduced Gorilla[®] Glass 2 in January 2012 that is lighter, 20% thinner, and more responsive to touch than the original generation. Corning maintains that Gorilla[®] Glass 2 offers faster and more accurate touch controls and is engineered to let more light through, creating a brighter display. Gorilla[®] Glass is used in more than 500 types of touchscreen gadgets, including in electronics from Acer, Asus, Dell, HTC, LG, Motorola, Nokia, Samsung, and Sony (Source: CNN, January 10, 2012).

Cypress Semiconductor Corp.

www.cypress.com

Cypress Semiconductor, headquartered in California, provides programmable system solutions, including systemon-chip families, solutions for high-voltage and LED lighting applications, touch sensing and touchscreen technologies, USB controllers, and programmable timing devices. The company's customers span the consumer, mobile handset, computation, data communications, automotive, industrial, and military markets. In January 2012, Cypress launched a single-chip TrueTouch[®] controller for tablets, **ultrabooks**, and laptops that the company believes offers improved performance in the presence of all noise sources, low active power consumption, enhanced tracking accuracy, and fast refresh rates. It provides full support for major mobile operating systems, including Win8 and Android, and has waterproofing functionality. Cypress's touch technology is characterized by a patent-pending ability to switch dynamically between self-capacitive and mutual-capacitive sensing methods on the same chip. The company holds over 250 issued and pending patents related to touchscreens.

Freescale Semiconductor Inc.

www.freescale.com

Headquartered in Austin, Texas, Freescale Semiconductor (FSL-NYSE) provides embedded processing solutions including microprocessors, microcontrollers, sensors, analog integrated circuits, and connectivity—for the automotive, consumer, industrial, and networking markets. In January 2012, Freescale launched a controller that combines gesture recognition on resistive screen technology and capacitive touch sensing in a single integrated circuit. This new chip, termed the Xtrinsic smart controller, can make resistive screen technology recognize gestures, in essence, creating a multi-touch option for resistive displays. With this technology, existing resistive touch designs on automobiles, appliances, medical devices, and low-end smartphones can be retrofit for multitouch by upgrading the controller chip to the new Xtrinsic chip from Freescale. The company anticipates that by implementing capacitive and resistive technologies in a single, turnkey device, customers can reduce software development costs, board space, and time to market while adding features to their products. Freescale operates in more than 20 countries and employs approximately 19,000 people.

NextWindow

www.nextwindow.com

NextWindow, a wholly owned subsidiary of SMART Technologies (<u>http://smarttech.com</u>), supplies optical touch panels and touchscreen components to OEMs, ODMs, and integrators. The company's hardware is designed for allin-one computers, computer displays, and large-format screens from 17 inches to 120 inches. NextWindow is commercializing an optical technology where sensors, which are placed along the edge of a screen, track the movement of an object near the screen by detecting the interruption of an infrared light source. The company's product line includes the following: (1) Desktop Touch for Windows[®] 7 (which is included on the HP[®] TouchSmart PCs); (2) ProfileTouch large-format multi-touch solutions for corporate, retail, government, military, broadcast, commercial, and education environments; and (3) OverlayTouch, an aftermarket method to touch-enable existing displays sized between 30 inches and 65 inches. NextWindow has offices in New Zealand, Taiwan, the U.S., Singapore, Korea, and Japan.

Synaptics, Inc.

www.synaptics.com

California-based Synaptics develops interfaces for mobile computing, communications, and entertainment applications that include touch-based solutions for notebook PCs, PC peripherals, tablets, and mobile phones. Among its most well-known products is the TouchPad^M, which is integrated into the majority of notebook computers. In January 2012, the company introduced the ASIC ClearPad^M 7300 solution for tablets, which is designed to support up to 12-inch touchscreens with multi-touch tracking of 10 or more fingers. The ClearPad^M 7300 has a single-chip architecture that is anticipated to reduce total system costs, shorten development times, and enable thinner and lighter product designs. During 2011, Synaptics was included on *Forbes'* 20 Best Small Companies list as well as on Deloitte's Technology Fast 500^M, which recognizes companies with high revenue growth. From 2006 to 2010, Synaptics reported growth of approximately 179%. Synaptics is one of three official co-engineering partners for the touch interface in Microsoft's Windows[®] 8.

Recent Milestones

March 2012

• Neonode is expected to release fourth quarter and full year 2011 results on March 13, 2012.

February 2012

- Neonode introduced a new Multi Sense technology to improve upon standard multi-touch processes at the Mobile World Congress 2012
- Oregon Scientific, Inc. announced that it was launching a kid-centric MEEP! tablet using a seven-inch zForce[®] color touchscreen

January 2012

- Issued U.S. patent number 8,095,879 for sweep gesture user interfaces. The patent covers activating a function in response to a touch-and-glide operation on a touch-sensitive surface. It complements Neonode's existing U.S. patents for small and midsized touchscreen devices.
- Entered into a technology license agreement with a global manufacturer of consumer products, under which zForce[®] is being integrated into a series of consumer products using color LCD panels
- Participated at the 2012 International Consumer Electronics Show (CES) in Las Vegas, Nevada, from January 10-13, 2012, where the Company presented new touch solutions for the automotive industry in conjunction with TI Automotive
- Announced a new ultra-low-power, single-chip optical touch controller, NN1001

December 2011

Closed an underwritten registered offering of 4,300,000 shares of Common Stock, of which 3,000,000 shares were sold by Neonode and 1,300,000 shares were sold by Mr. Per Bystedt, its executive chairman, and Mr. Thomas Eriksson, its chief executive officer (CEO), at a price of \$4.00 per share. The offering resulted in net proceeds to Neonode of approximately \$11.2 million, after deducting the underwriting discount but before deducting other estimated offering expenses payable by Neonode.

November 2011

- Entered into a worldwide royalty-based technology license agreement with Sonim Technologies for the integration of zForce[®] into certain of Sonim's mobile phone products for the global marketplace
- Appointed Messrs. Mats Dahlin and Lars Lindqvist to fill two vacancies on the Company's Board of Directors until the 2014 Annual Shareholders' Meeting

September 2011

■ For the third quarter ended September 30, 2011, Neonode reported net revenue of \$1.3 million versus \$90,000 in the third quarter 2010. For the first nine months of 2011, revenue was \$2.1 million, up from \$359,000 in the prior year. Revenue increases reflect greater eReader shipments during 2011, although it is worth noting that Amazon's Kindle Touch was not released to market until late in 2011. Generally, customers report to Neonode the quantity of products they distributed 30 to 45 days after the end of the month or quarter.

neonode

As of January 2012, Neonode had 14 signed technology license agreements, several of which were shipping product. The Company expects product shipments under several additional agreements during 2012, which are anticipated to extend the zForce[®] technology into new market sectors beyond eReaders.

August 2011

Entered into a multi-year technology license agreement with L&I Electronic Technology Co., Ltd to use Neonode's touchscreen solution in a new family of touch eReader products to be sold worldwide

July 2011

Entered into a multi-year technology license agreement with Onyx International Inc. to use Neonode's touchscreen solution in a family of eReader and tablet PC products

May 2011

Announced a collaboration with Texas Instruments to further develop and improve the functionality, performance, and cost advantage of zForce[®]

April 2011

- Entered into a multi-year technology license agreement with a global consumer electronics company to incorporate Neonode's touchscreen solution into its family of products
- Entered into a license agreement with ASUSTeK Computer Inc., under which Neonode and ASUSTeK agreed to develop a series of products that include zForce[®]
- Entered into a license agreement with a global manufacturer of consumer and business products

March 2011

 Filed a certificate of amendment to Neonode's Amended and Restated Certificate of Incorporation to effect a 25-for-1 reverse stock split of Common and Preferred Stock
Key Points

- Neonode's optical infrared touch technology—zForce®—can be integrated into consumer and industrial electronics to enable touch controls. The Company seeks to compete with low-cost resistive touch options while outperforming today's advanced capacitive touch solutions. To do so, Neonode strives to effectively combine the advantages of each technology into one streamlined solution.
- Due to the high costs of the capacitive technology substrates, which have been made popular primarily through smartphones and tablets, lower-cost functional alternatives such as zForce[®] are emerging. Neonode has already penetrated the leading eReader suppliers, which are now shipping products using the zForce[®] solution.
- The patented zForce[®] optical technology has been licensed to original equipment manufacturers (OEMs) and original design manufacturers (ODMs) in several high-volume markets worldwide.
- The Company's primary business entails a capital-efficient licensing model through which near-term revenue is driven by global eReader shipments. During 2012 and beyond, Neonode anticipates demonstrating its technology in a number of new markets, including tablet PCs and mobile phones. Continued future expansion may include automotive touch products and color LCDs, among others.
- Keeping costs low for customers is imperative for Neonode, as is enabling the development of devices that have 100% optical transparency for a clear viewing experience without reflection. The Company's proprietary architecture innately offers these benefits by reducing the amount of glass required in the manufacture of touchscreens.
- Neonode believes that zForce[®] is well suited for OEMs/ODMs developing a touch-enabled product. The technology offers advanced functionalities with features that include multi-touch and stylus support as well as enhanced picture quality and low total cost compared to current touch technologies.
- The introduction of an ultra-low-power, single-chip optical touch controller, called NN1001, in January 2012 serves to extend Neonode's competitive advantage by combining several existing components into one chip. Developed in collaboration with Texas Instruments, NN1001 increases touch performance and reduces manufacturing cost. As a single-chip solution, it requires less space on the motherboard, increasing the suitability of zForce® for handsets.
- There have been a host of favorable reviews regarding the inclusion of Neonode's technology on products to date. Positive feedback has been instrumental in enabling the Company to bring onboard new customers as well as maintain relationships with existing customers for follow-on products.
- Researchers forecast that the market for touchscreen technologies, which was estimated at roughly \$13.4 billion worldwide during 2011, could almost double by 2017, reaching nearly \$24 billion.
- The Company holds a portfolio of issued and pending intellectual property comprising optical technology patents as well as use patents for gestures and other features. Neonode has IP in the U.S., China, Singapore, Australia, and Japan as well as in multiple European countries.
- Neonode's CEO and cofounder, Mr. Thomas Eriksson, has over 15 years of experience in product design and electronics engineering. The Company is led by individuals with high-level experience in finance, accounting, and communications, as well as by people with considerable backgrounds in the semiconductor industry and leadership experience at other high-tech companies.
- As of September 30, 2011, Neonode held cash of \$4.1 million. Subsequently, in December 2011, Neonode raised \$11.2 million in net proceeds through a public offering.

Historical Financial Results

Figures 24, 25, and 26 (pages 39-41) provide a summary of Neonode's key historical financial statements (which include the accounts of the Company's wholly owned Swedish subsidiary, Neonode Technologies AB): its Condensed Consolidated Statements of Operations and Comprehensive Loss, Balance Sheets, and Statements of Cash Flows.

During the nine months ended September 30, 2011, Neonode received approximately \$4.2 million in cash proceeds related to a private placement of Convertible Notes bearing interest at a rate of 7% per annum, which mature on March 1, 2014. These Notes can be converted at the holder's option into 1,691,320 shares of the Company's Common Stock at a conversion price of \$2.50 per share. The loan will automatically be converted into restricted shares of Common Stock in the event that on or before the loan due date either of the following occurs: (1) Neonode's Common Stock is traded at a price per share of \$6.25 or higher for five consecutive trading days; or (2) the Company consummates a financing in the amount of at least \$5 million. In addition, as part of the transaction, Neonode issued 427,830 new five-year Common Stock Purchase Warrants with an exercise price of \$3.13 per share. Greater details of this financing are provided in the Company's recent filings with the U.S. Securities and Exchange Commission (SEC).

Subsequently, in December 2011, Neonode raised approximately \$11.2 million in net proceeds through the sale of its Common Stock. The Company anticipated using these proceeds primarily for general corporate purposes, including capital expenditures and working capital. Additional uses of these funds could include the consideration of investments in complementary businesses, technologies, product candidates, or other intellectual property.

Figure 24 CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

(In thousands, except per share amounts) (Unaudited)

	Three months ended September 30,			Nine months ended Septemb			ember 30,	
		2011		2010		2011		2010
Net revenues	\$	1,287	\$	90	\$	2,109	\$	359
Cost of revenues		333		47		726		213
Gross margin		954		43		1,383		146
Operating expenses:								
Product research and development		385		225		1,043		855
Sales and marketing		411		123		1,126		210
General and administrative		518		822		2,303		1,525
Amortization of fair value of stock issued to								
related parties for purchase of Neonode								
(formerly AB Cypressen)		_	_	_		_		3,168
Total operating expenses		1,314		1,170		4,472		5,758
Operating loss		(360)		(1,127)		(3,089)		(5,612)
Other income (expense), net:								
Interest expense		(76)		(84)		(211)		(162)
Loss on extinguishment of debt		_		(356)		_		(356)
Non-cash items related to debt discounts and								
deferred financing fees and the valuation of								
conversion features and Warrants		(1,475)		(6,979)		(11,043)		(18,459)
Total other expense, net		(1,551)		(7,419)		(11,254)		(18,977)
Loss before provision for income taxes		(1,911)		(8,546)		(14,343)		(24,589)
Provision for income taxes		19				30		
Net loss	\$	(1,930)	\$	(8,546)	\$	(14,373)	\$	(24,589)
Foreign currency translation loss		(34)		(90)		(16)		(74)
Comprehensive loss	\$	(1,964)	\$	(8,636)	\$	(14,389)	\$	(24,663)
Loss per common share:								
Basic and diluted loss per share	\$	(0.07)	\$	(0.47)	\$	(0.55)	\$	(1.41)
Basic and diluted – weighted average shares								
used in per share computations		27,934		18,130		26,050		17,391
Source: Neonode Inc.								

CONDENSED CONSOLIDATED BALANCE	SHEETS				
(In thousands, except share and per share	e amounts)				
	Septeml	ber 30, 2011	December 31, 2010		
ASSETS	(Un	audited)	(Audited)		
Current assets:					
Cash	\$	4,146	\$	911	
Accounts receivable		594		151	
Debt issuance costs, net		29		4	
Prepaid expenses and other current assets		171		161	
Total current assets		4,940		1,227	
Property and equipment, net		65		24	
Total assets	\$	5,005	\$	1,251	
LIABILITIES AND STOCKHOLDERS' DEFICIT					
Current liabilities:					
Accounts payable	\$	307	\$	442	
Accrued expenses		383		643	
Deferred revenue		2,578		540	
Convertible debt, net of discounts, current portion		_		2,772	
Embedded derivatives of convertible debt		7,662		6,718	
Total current liabilities		10,930		11,115	
Convertible debt, net of discounts, net of current portion		_		_	
Total liabilities		10,930		11,115	
Commitments and contingencies					
Stockholders' deficit:					
Series A Preferred Stock, 889,081 shares authorized with par value \$0.001 per share; 83 and 166 shares issued and outstanding at September 30, 2011 and December 31, 2010, respectively. (In the event of dissolution, each share of Series A Preferred Stock has a liquidation preference					
equal to par value of \$0.001 over the shares of Common Stock.) Series B Preferred Stock, 108,850 shares authorized with par value \$0.001 per share; 114 and 141 shares issued and outstanding at September 30, 2011 and December 31, 2010, respectively. (In the event of dissolution, each share of Series B Preferred Stock has a liquidation		_		_	
preference equal to par value of \$0.001 over the shares of Common Stock.) Common Stock, 848,000,000 shares authorized with par value \$0.001 per share; 27,934,179 and 21,816,602 shares issued and outstanding		_		_	
at September 30, 2011 and December 31, 2010, respectively		28		22	
Additional paid-in capital		120,682		102,360	
Accumulated other comprehensive loss		(79)		(63)	
Accumulated deficit		(126,556)		(112,183)	
Total stockholders' deficit		(5 <i>,</i> 925)		(9,864)	
Total liabilities and stockholders' deficit	\$	5,005	\$	1,251	

Figure 25

Source: Neonode Inc.

Figure 2	26
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CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (In thousands) (Unaudited)

	N	ine months end	ed September 30,		
	2011			2010	
Cash flows from operating activities:					
Net loss	\$	(14,373)	\$	(24,589)	
Adjustments to reconcile net loss to net cash used in operating activities:					
Stock-based compensation expense		517		3,275	
Fair value of shares issued in settlement		_		563	
Depreciation and amortization		17		7	
Loss on troubled debt restructuring		_		356	
Debt discounts and deferred financing fees and the valuation of conversion					
features and Warrants		11,043		18,518	
Changes in operating assets and liabilities:					
Accounts receivable		(450)		(51)	
Other assets		(430)		(31)	
Prepaid expenses and other current assets		(12)		(60)	
Accounts payable and accrued expenses		(205)		(00)	
Deferred revenue					
		2,038		436	
Net cash used in operating activities		(1,425)		(1,460)	
Cash flows from investing activities:		(50)		(0)	
Purchase of property and equipment		(59)		(8)	
Net cash used in investing activities		(59)		(8)	
Cash flows from financing activities:					
Proceeds from issuance of convertible debt		4,228		1,597	
Repayment of convertible debt		(25)		_	
Proceeds from exercise of Warrants		515		101	
Net cash provided by financing activities		4,718		1,698	
Effect of exchange rate changes on cash		1		13	
Net increase in cash		3,235		243	
Cash at beginning of period		911		28	
Cash at end of period	\$	4,146	\$	271	
Supplemental disclosure of cash flow information:					
Interest paid	\$	90	\$	76	
Income taxes paid	\$	4	\$		
-	<u> </u>		<u>ب</u>		
Supplemental disclosure of non-cash transactions:					
Fair value of shares of Common Stock and Warrants issued to brokers in					
connection with financing, recorded as debt issuance costs and debt discount	\$ \$	_	\$	128	
Reclassification of derivative liability to additional paid-in-capital	\$	_	\$	10,417	
Debt discount recorded as part of convertible debt financing					
transactions, including Warrants issued	\$	4,228	\$	1,761	
Accounts payable converted in 2010 convertible debt offering	\$ \$	_	\$	163	
Exchange of Preferred Stock for Common Stock	\$	_	\$	806	
Debt issuance costs related to 2011 financing	\$	35	\$		
Debt issuance costs recorded in connection of debt extinguishment	\$		\$	8	
Accrued expenses converted to Common Stock	\$	120	\$	_	
Conversion of debt and accrued interest to Common Stock	\$ \$ \$	2,860	\$	93	
Reduction of derivative liabilities upon conversion of debt	\$	13,379	\$	150	
Source: Neonode Inc.	-	,	<u> </u>		

Risks

Some of the information in this Executive Informational Overview[®] (EIO[®]) relates to future events or future business and financial performance. Such statements can only be predictions and the actual events or results may differ from those discussed due to the risks described in Neonode's statements on Forms 10-K, 10-Q, and 8-K, as well as other forms filed from time to time. The content of this report with respect to Neonode has been compiled primarily from information available to the public released by Neonode through news releases, Annual Reports, and U.S. Securities and Exchange Commission (SEC) filings. Neonode is solely responsible for the accuracy of this information. Information as to other companies has been prepared from publicly available information and has not been independently verified by Neonode. Certain summaries of activities have been condensed to aid the reader in gaining a general understanding. For more complete information about Neonode, please refer to the Company's website at www.neonode.com.

Investors should carefully consider the risks and information about Neonode's business described below. Investors should not interpret the order in which these considerations are presented as an indication of their relative importance. The risks and uncertainties described below are not the only risks that the Company faces. Additional risks and uncertainties not presently known to Neonode or that it currently believes to be immaterial may also adversely affect its business. If any of the following risks and uncertainties develops into actual events, the business, financial condition, and results of operations could be materially and adversely affected, and the trading price of the Company's shares could decline.

RISKS RELATED TO NEONODE'S BUSINESS

Neonode may require additional capital to fund operations, which may not be available on commercially attractive terms or at all.

Neonode may require sources of capital in addition to cash on hand to continue operations and to implement its business plan. The Company projects that it has sufficient liquid assets to continue operating for at least the next 12 months. It is currently evaluating different financing alternatives, including but not limited to, selling shares of Common or Preferred Stock or issuing Notes that may be converted into shares of Common Stock, which could result in the issuance of additional shares. If Neonode's operations do not become cash flow positive, it will be forced to seek credit line facilities from financial institutions, additional private equity investment, or debt arrangements. No assurances can be given that it will be successful in obtaining such additional financing on reasonable terms, or at all. If adequate funds are not available on acceptable terms, or at all, the Company may be unable to adequately fund its business plan, which could have a negative effect on its business, results of operations, and financial condition. In addition, if funds are available, the issuance of equity securities or securities convertible into equity could dilute the value of shares of Common Stock and cause the market price to fall, and the issuance of debt securities could impose restrictive covenants that could impair Neonode's ability to engage in certain business transactions.

Neonode has never been profitable and may suffer significant additional losses in the future.

Neonode was formed in 1997 and reconstituted in 2006 as a holding company, owning and operating Neonode AB, which had been formed in 2004. The Company had been primarily engaged in the business of developing and selling mobile phones. Following the liquidation of Neonode AB, the Company implemented a new business strategy. It has a limited operating history on which to base an evaluation of business and prospects. Its prospects must be considered in light of the risks and uncertainties encountered by companies in the early stages of development, particularly companies in new and rapidly evolving markets. It was not successful in selling mobile phones and has refocused on licensing touchscreen technology. It may not be successful in entering the technology licensing business. Neonode's success will depend on many factors, including, but not limited to the following (continued on page 43):

the growth of touchscreen interface usage;

- the efforts and success of Neonode's OEM and other customers;
- the level of competition that the Company faces; and
- its ability to meet customer demand for engineering support, new technology, and ongoing service.

In addition, Neonode has experienced substantial net losses in each fiscal period since inception. These net losses resulted from a lack of substantial revenues and the significant costs incurred in the development of products and infrastructure. The Company's ability to continue as a going concern is dependent on its ability to raise additional funds and implement its business plan.

Neonode's limited operating history and the emerging nature of its market, together with the other risk factors detailed in the Company's SEC filings, make prediction of Neonode's future operating results difficult. There can be no assurance that it will ever achieve significant revenues or profitability or, if significant revenues and profitability are achieved, that they could be sustained.

The report of Neonode's independent registered public accounting firm that accompanies its audited consolidated financial statements for the years ended December 31, 2010 and 2009 contains a going concern qualification in which such firm expressed substantial doubt about the Company's ability to continue as a going concern. In addition to a history of losses, its accumulated deficit as of September 30, 2011, was approximately \$126.6 million. For the nine months ended September 30, 2011, the Company used cash in operations of approximately \$1.4 million.

Neonode's operating results may fluctuate significantly as a result of a variety of factors, many of which are outside of its control.

Neonode is subject to the following factors, among others, that may negatively affect operating results, the Company's ability to compete, and/or its ability to generate revenues:

- the announcement or introduction of new products by competitors;
- its ability to upgrade and develop products and infrastructure to accommodate growth;
- its ability to introduce new products and services successfully and in a cost-effective and timely manner;
- the ability of its customers to design, manufacture, and sell products that incorporate its touchscreen technologies;
- its ability to retain current and attract new key personnel in a timely and cost-effective manner;
- its ability to secure and protect its IP from infringement, which may require significant resources to enforce or defend, and its ability to continue to obtain IP;
- technical difficulties;
- the amount and timing of operating costs and capital expenditures relating to the expansion of business, operations, and infrastructure;
- changes in financial accounting standards or practices that may cause unexpected fluctuations in and adversely affect reported results of operations; and
- general economic conditions as well as economic conditions specific to the handheld device and/or touchscreen industry.

As a result of a limited operating history and the nature of the markets in which the Company competes, it is extremely difficult for Neonode to forecast accurately. Neonode has based current and future expense levels largely on investment plans and estimates of future events, although certain expense levels are, to a large extent, fixed. The Company may be unable to adjust spending in a timely manner to compensate for any unexpected revenue shortfall. Accordingly, any significant shortfall in revenues relative to planned expenditures would have an immediate adverse effect on business, results of operations, and financial condition. Further, as a strategic response to changes in the competitive environment, Neonode may from time to time make certain pricing, service, or marketing decisions that could have a material and adverse effect on its business, results of operations, and financial condition. Due to the foregoing factors, Neonode's revenues and operating results are and will remain difficult to forecast.

The Company will need to increase the size of its organization, and may be unable to manage growth effectively.

Neonode's failure to manage growth effectively could have a material and adverse effect on its business, results of operations, and financial condition. The Company anticipates that expansion of its organization will be required to address internal growth to handle licensing and research activities. This expansion may place a significant strain on management, operational, and financial resources. To manage the expected growth of operations and personnel, Neonode must both improve existing operational and financial systems, procedures, and controls, and implement new systems, procedures, and controls. The Company must also expand its finance, administrative, and operations staff, including its sales and product development organizations. Its current personnel, systems, procedures, and controls may not adequately support future operations. Management may be unable to hire, train, retain, motivate, and manage the necessary personnel, or to identify, manage, and exploit existing and potential strategic relationships and market opportunities.

Neonode is dependent on a few customers.

The Company's net revenues for the nine months ended September 30, 2011, was earned from eight customers, three of which accounted for approximately 89% of net revenues during this period. Neonode's customers are located in the U.S., Europe, and Asia. In the future, loss of any of these customers, a reduction in sales to any of these customers for any reason, or a failure of any of these customers to fulfill their financial or other obligations due to Neonode could have a materially adverse effect on the Company's business, financial condition, and future revenue stream.

Neonode has an international presence in countries where laws may not provide protection of its IP rights to the same extent as U.S. laws, which may make it more difficult for the Company to protect its IP.

Neonode targets customers and relationships with suppliers and OEMs in countries with large populations and propensities for adopting new technologies. However, many of these countries do not address misappropriation of IP nor deter others from developing similar, competing technologies or IP. Effective protection of patents, copyrights, trademarks, trade secrets, and other IP may be unavailable or limited in some foreign countries. In particular, the laws of some foreign countries in which Neonode does business may not protect its IP rights to the same extent as U.S. laws. As a result, the Company may not be able to effectively prevent competitors in these regions from infringing its IP rights, which could reduce its competitive advantage and ability to compete in those regions and negatively impact its business.

RISKS RELATED TO OWNING NEONODE'S STOCK

If Neonode continues to experience losses, it could have difficulty meeting its business plan and its stock price could be negatively affected.

If the Company is unable to increase revenues from its touchscreen technologies, it will likely experience continuing operating losses and negative cash flow from operations. Any failure to achieve or maintain profitability could negatively impact the market price of its Common Stock. Neonode anticipates that it will continue to incur product development, sales and marketing, and administrative expenses. As a result, it will need to generate significant quarterly revenues if it is to achieve and maintain profitability. A substantial failure to achieve profitability could make it difficult or impossible for the Company to grow its business. Neonode's business strategy may not be successful, and it may not generate significant revenues or achieve profitability. Any failure to increase revenues would also harm its ability to achieve and maintain profitability. If the Company does achieve profitability in the future, it may not be able to sustain or increase profitability on a quarterly or annual basis.

Neonode's certificate of incorporation and bylaws and the Delaware General Corporation Law contain provisions that could delay or prevent a change in control.

The Company's Board of Directors has the authority to issue up to 2,000,000 shares of Preferred Stock and to determine the price, rights, preferences, and privileges of those shares without any further vote or action by the stockholders. The rights of the holders of Common Stock will be subject to, and may be materially adversely affected by, the rights of the holders of any Preferred Stock that may be issued in the future. The issuance of Preferred Stock could have the effect of making it more difficult for a third party to acquire a majority of Neonode's outstanding voting stock. Furthermore, certain other provisions of its certificate of incorporation and bylaws may have the effect of delaying or preventing changes in control or management, which could adversely affect the market price of Common Stock. In addition, Neonode is subject to the provisions of Section 203 of the Delaware General Corporation Law, an anti-takeover law.

Investors may experience additional dilution upon conversion of Notes or exercise of Warrants.

As of September 30, 2011, Neonode had 1,691,320 shares of Common Stock issuable upon conversion of outstanding Notes (at an assumed conversion price of \$2.50 per share), and 5,405,606 shares of Common Stock issuable upon exercise of outstanding Warrants, and 19,324 shares of Common Stock issuable upon exercise of outstanding Options. If the holders of the Notes, Warrants, and Options convert or exercise their rights, investors may experience additional dilution in the net tangible book value of their Common Stock.

Neonode's stock price has been volatile, and investments in its Common Stock could suffer a decline in value.

There has been significant volatility in the market price and trading volume of equity securities, which is unrelated to the financial performance of the companies issuing the securities. These broad market fluctuations may negatively affect the market price of Neonode's Common Stock. Investors may not be able to resell shares at or above the price paid for those shares due to fluctuations in the market price of the Company's Common Stock caused by changes in operating performance or prospects, and other factors. Some specific factors that may have a significant effect on Common Stock market price include those listed below:

- actual or anticipated fluctuations in Neonode's operating results or future prospects;
- Company announcements or competitors' announcements of new products;
- public reaction to Neonode's press releases, other public announcements, and filings with the SEC;
- strategic actions by Neonode or its competitors, such as acquisitions or restructurings;
- new laws or regulations or new interpretations of existing laws or regulations applicable to the Company's business;

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- changes in accounting standards, policies, guidance, interpretations, or principles;
- changes in Neonode's growth rates or competitors' growth rates;
- developments regarding Neonode's patents or proprietary rights or those of its competitors;
- an inability to raise additional capital as needed;
- concern as to the efficacy of its products;
- changes in financial markets or general economic conditions;
- sales of Common Stock by Neonode or members of its management team; and
- changes in stock market analyst recommendations or earnings estimates regarding the Company's Common Stock, other comparable companies, or Neonode's industry generally.

Future sales of Neonode's Common Stock by the Company could adversely affect its price and the Company's future capital-raising activities could involve the issuance of equity securities, which would dilute investments and could result in a decline in the trading price of Common Stock.

Neonode may in the future sell securities in the public or private equity markets if and when conditions are favorable, even if it does not have an immediate need for additional capital at that time. Sales of substantial amounts of Common Stock, or the perception that such sales could occur, could adversely affect the prevailing market price of Common Stock and the Company's ability to raise capital. Neonode may issue additional Common Stock in future financing transactions or as incentive compensation for its executive management and other key personnel, consultants, and advisors. Issuing any equity securities would be dilutive to the equity interests represented by then-outstanding shares of Common Stock. The market price for its Common Stock could decrease as the market takes into account the dilutive effect of any of these issuances. Furthermore, Neonode may enter into financing transactions at prices that represent a substantial discount to the market price of its Common Stock. A negative reaction by investors and securities analysts to any discounted sale of the Company's equity securities could result in a decline in the trading price of its Common Stock.

Neonode's Common Stock is currently traded on the Over-the-Counter Bulletin Board (OTC.BB), which may impact its stock price and liquidity.

The Company's Common Stock is traded on the OTC.BB, which is generally considered a less efficient market than other markets, such as the NASDAQ Capital Market. The price and liquidity of Neonode's stock may be adversely affected as a result of it trading on the OTC.BB.

Glossary

Bezel—A grooved ring holding the glass or plastic cover of an eReader face or other device in position.

Capacitive—A capacitive touchscreen panel is coated with a material that stores electrical charges. Touching a capacitive object with a conductive object (e.g., skin) draws a small amount of charge to the point of contact. In a touchscreen, circuits located at each corner of the panel measure the charge and send the information to the controller for processing.

Controller—The chip in an electronic system that governs how specific operations are performed or how instructions are executed to perform a variety of operations.

Electronic-ink (E-ink)—An electronic device similar to a computer display but with qualities that enable it to be used for applications such as eBooks, electronic newspapers, portable signs, and foldable, rollable displays.

Electronic Paper Display (EPD)—A display technology designed to mimic the appearance of ordinary ink on paper. Unlike backlit flat panel displays that emit light, EPDs reflect light like ordinary paper. It can hold static text and images without using electricity, allowing images to be changed later. Flexible electronic paper uses plastic substrates and plastic electronics for the display backplane.

Infrared—Of or relating to the range of invisible radiation wavelengths from about 750 nanometers, just longer than red in the visible spectrum, to 1 millimeter, on the border of the microwave region. Generating, using, or sensitive to infrared radiation. Infrared light or the infrared part of the spectrum.

Latency—Reaction time; the time that elapses between a stimulus and the response to it.

Light Guide—A transmission channel that contains a number of optical fibers packaged together.

Liquid-crystal Display (LCD)—A method of displaying readings continuously, as on digital watches, portable computers, and calculators, using a liquid-crystal film sealed between glass plates that changes its optical properties when a voltage is applied.

Multi-touch—The ability to simultaneously touch a screen at more than one point at a time. Multi-touch enables gesturing on touchscreens, such as pinching to zoom in or out, swiping, and scrolling.

Organic Light-emitting Diode (OLED)—A self-luminous diode (glows when an electrical field is applied to the electrodes) that does not require backlighting or diffusers.

Original Design Manufacturer (ODM)—A company that designs and manufactures a product that is specified and eventually branded for sale by another firm.

Original Equipment Manufacturer (OEM)—A company that designs and specifies products under its own company name and brand.

Parallax—The effect whereby the position or direction of an object appears to differ when viewed from different positions, e.g., through the viewfinder and the lens of a camera.

Patent Cooperation Treaty (PCT)—A unified procedure for filing patent applications to protect inventions in over 140 countries. A single filing results in a single search accompanied by a written opinion, after which the examination and grant procedures are handled by the relevant national or regional authorities.

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Photodiodes—A semiconductor device that converts light to electrical current.

Printed Circuit Board (PCB)—A thin board made of fiberglass or a similar material. Electrical wires are "printed" onto the board, connecting the central processor to other components on the board. Some examples of PCBs include motherboards, RAM chips, and network interface cards. PCBs are commonly used in radios, televisions, computer monitors, and thin devices, such as laptops and portable music players.

Projected Capacitive—A projected capacitive touch panel projects an electromagnetic field through the surface of the touch panel.

Resistive—A resistive touchscreen panel is coated with a thin metallic electrically conductive and resistive layer. When the top layer is depressed so that it is pushed inward to connect to another layer, the action causes a change in the electrical current that is registered as a touch event and sent to the controller for processing.

Ultrabook—A new category of notebook computers that seeks to fill the gap between lightweight laptops and tablets. They are distinguished from netbooks by offering faster processors and additional RAM as well as better storage and larger screen sizes, features that add to their costs versus netbooks.

White Goods—Heavy consumer durables such as air conditioners, refrigerators, stoves, water heaters, freezers, and washing machines/dryers that used to be painted only in white enamel finish.

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Jeffrey J. Kraws and Karen B. Goldfarb Phone: (609) 306-2274 Fax: (609) 395-9339 Email: <u>eio@crystalra.com</u> Web: <u>www.crystalra.com</u>

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