COGNEX CORP
Form 10-K
February 11, 2010

Table of Contents

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

FORM 10-K

(Mark One)
[X] Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended December 31, 2009 or

[ ] Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the transition period from_____to_____

Commission File Number 001-34218

COGNEX CORPORATION

(Exact name of registrant as specified in its charter)

Massachusetts	**04-2713778**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*

One Vision Drive
Natick, Massachusetts 01760-2059
(508) 650-3000
(Address, including zip code, and telephone number, including area code, of principal executive offices)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Exchange on Which Registered
Common Stock, par value $.002 per share	The NASDAQ Stock Market LLC
Preferred Stock Purchase Rights	The NASDAQ Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes _____ No __X__

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Yes _____ No __X__

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes __X__ No _____

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes _____ No _____

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [ ]

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

x Large accelerated filer o Accelerated filer o Non-accelerated filer o Smaller reporting company

(Do not check if a smaller reporting company)

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

Aggregate market value of voting stock held by non-affiliates of the registrant
as of July 5, 2009: $507,504,000
$.002 par value common stock outstanding as of January 31, 2010: 39,665,559 shares

Documents incorporated by reference:

The registrant intends to file a Definitive Proxy Statement pursuant to Regulation 14A within 120 days of the end of the fiscal year ended December 31, 2009. Portions of such Proxy Statement are incorporated by reference in Part III of this report.

COGNEX CORPORATION ANNUAL REPORT ON FORM 10-K FOR THE YEAR ENDED DECEMBER 31, 2009

INDEX

Table of Contents

PART I

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Federal Securities Laws. Readers can identify these forward-looking statements by our use of the words expects, anticipates, estimates, believes, projects, intends, plans, will, may, shall, could, and similar words and other statements of a si Our future results may differ materially from current results and from those projected in the forward-looking statements as a result of known and unknown risks and uncertainties. Readers should pay particular attention to considerations described in the section captioned Risk Factors, appearing in Part I Item IA of this Annual Report on Form 10-K. We caution readers not to place undue reliance upon any such forward-looking statements, which speak only as of the date made. We disclaim any obligation to subsequently revise forward-looking statements to reflect the occurrence of anticipated or unanticipated events or circumstances after the date such statements are made.

Unless the context otherwise requires, the words Cognex, the Company, we, our, us, and our company refer t Corporation and its consolidated subsidiaries.

ITEM 1. BUSINESS

Corporate Profile

Cognex Corporation (Cognex or the Company, each of which includes, unless the context indicates otherwise, Cognex Corporation and its subsidiaries) was incorporated in Massachusetts in 1981. Its corporate headquarters are located at One Vision Drive, Natick, Massachusetts 01760 and its telephone number is (508) 650-3000.

Cognex is a leading worldwide provider of machine vision products that capture and analyze visual information in order to automate tasks, primarily in manufacturing processes, where vision is required. Machine vision is important for applications in which human vision is inadequate to meet requirements for size, accuracy, or speed, or in instances where substantial cost savings are obtained through the reduction of direct labor or improved product quality. Today, many types of manufacturing equipment require machine vision because of the increasing demands for speed and accuracy in manufacturing processes, as well as the decreasing size of items being manufactured.

Cognex has two operating divisions: the Modular Vision Systems Division (MVSD), based in Natick, Massachusetts, and the Surface Inspection Systems Division (SISD), based in Alameda, California. MVSD develops, manufactures, and markets modular vision systems that are used to automate the manufacture of discrete items, such as cellular phones, aspirin bottles, and automobile wheels, by locating, identifying, inspecting, and measuring them during the manufacturing process. SISD develops, manufactures, and markets surface inspection vision systems that are used to inspect the surfaces of materials processed in a continuous fashion, such as metals, paper, non-wovens, plastics, and glass, to ensure there are no flaws or defects on the surfaces. Historically, MVSD has been the source of the majority of the Company s revenue, representing approximately 79% of total revenue in 2009. Financial information about segments may be found in Note 19 to the Consolidated Financial Statements, appearing in Part II Item 8 of this Annual Report on Form 10-K.

What is Machine Vision?

Since the beginning of the Industrial Revolution, human vision has played an indispensable role in the process of manufacturing products. Human eyes did what no machines could do themselves: locating and positioning work, tracking the flow of parts, and inspecting output for quality and consistency. Today, however, the requirements of many manufacturing processes have surpassed the limits of human eyesight. Manufactured items often are produced

too quickly or with tolerances too small to be analyzed by the human eye. In response to manufacturers needs, machine vision technology emerged, providing manufacturing equipment with the gift of sight. Machine vision systems were first widely embraced by manufacturers of electronic components who needed this technology to produce computer chips with decreasing geometries. However, advances in technology and ease-of-use, combined with the decreasing cost of implementing vision applications, have made machine vision available to a broader range of users.

Table of Contents

Machine vision products combine cameras with intelligent software to collect images and then answer questions about these images, such as:

Question	Description	Example
GUIDANCE		
Where is it?	Determining the exact physical location and orientation of an object.	Determining the position of a printed circuit board so that a robot can automatically be guided to place electronic components.
IDENTIFICATION		
What is it?	Identifying an object by analyzing its physical appearance or by reading a serial number or symbol.	Reading a two-dimensional barcode directly marked on an automotive airbag so that it can be tracked and processed correctly through manufacturing.
INSPECTION		
How good is it?	Inspecting an object for flaws or defects.	Inspecting the paper that US currency is printed on.
GAUGING		
What size is it?	Determining the dimensions of an object.	Determining the diameter of a bearing prior to final assembly.

Machine Vision Market

Cognex machine vision is primarily used in the manufacturing sector, where the technology is widely recognized as an important component of automated production and quality assurance. In this sector, Cognex serves three primary markets: discrete factory automation, semiconductor and electronics capital equipment, and surface inspection.

Discrete factory automation customers purchase Cognex vision products and incorporate them into their manufacturing processes. Virtually every manufacturer can achieve better quality and manufacturing efficiency by using machine vision, and therefore, this segment includes a broad base of customers across a variety of industries, including automotive, consumer electronics, food and beverage, health and beauty, medical devices, packaging, and pharmaceutical. Sales to discrete factory automation customers represented approximately 70% of total revenue in 2009, compared to 68% of total revenue in 2008.

Semiconductor and electronics capital equipment manufacturers purchase Cognex vision products and integrate them into the automation equipment that they manufacture and then sell to their customers to either make semiconductor chips or assemble printed circuit boards. Demand from these capital equipment manufacturers has historically been highly cyclical, with periods of investment followed by downturn. This market has been in a prolonged downturn since early 2006. In recent years, the competitive landscape in this market has also changed, with price and the flexibility of purchasing hardware from other vendors becoming more important factors in the purchasing decisions of these manufacturers. In response to this market change, Cognex has introduced software-only products. Although these products have high gross margins, the average selling price of these offerings is significantly lower than for a complete vision system, and therefore, we expect this trend to have a negative impact on our revenue in this market. Sales to semiconductor and electronics capital equipment manufacturers represented approximately 9% of total revenue in 2009, compared to 17% of total revenue in 2008.

Surface inspection customers are manufacturers of materials processed in a continuous fashion, such as metals, paper, non-wovens, plastics, and glass. These customers need sophisticated machine vision to detect, classify, and analyze

defects on the surfaces of those materials as they are being processed at high speeds. Surface inspection sales represented approximately 21% of total revenue in 2009, compared to 15% of total revenue in 2008.

No customer accounted for greater than 10% of total revenue in 2009, 2008, or 2007.

Table of Contents

Business Strategy

Our goal is to expand our position as a leading worldwide provider of machine vision products. Sales to customers in the discrete factory automation market represent the largest percentage of our total revenue, and we believe that this market provides the greatest potential for long-term, sustained revenue growth.

In order to grow the discrete factory automation market, we have invested in developing new products and functionality that make vision easier to use and more affordable, and therefore, available to a broader base of customers. This investment includes selective expansion into new industrial and commercial vision applications through internal development, as well as the acquisition of businesses and technologies. We have also invested in building a worldwide sales and support infrastructure in order to access more of the potential market for machine vision. This investment includes sales offices in regions, such as China and Eastern Europe, where we believe many manufacturers can benefit from incorporating machine vision into their production processes, and developing strategic alliances with other leading providers of factory automation products.

Acquisitions and Divestitures

Our business strategy includes selective expansion into new machine vision applications through the acquisition of businesses and technologies. We plan to continue to seek opportunities to expand our product line, customer base, distribution network, and technical talent through acquisitions in the machine vision industry.

In May 2005, we completed our largest acquisition when Cognex purchased DVT Corporation for $112 million. This business is included in the Company s MVSD segment. Over the past several years, we have expanded our product line by adding low-cost, easy-to-use vision sensors. However, reaching the many prospects for these products in factories around the world requires a large third-party distribution channel to supplement our direct sales force. With the acquisition of DVT Corporation, we immediately gained a worldwide network of distributors, fully trained in selling and supporting machine vision products. We believe that we can accelerate our growth in the factory automation market by selling our expanding line of low-cost, easy-to-use products through this worldwide distribution network.

In July 2008, we sold all of the assets of our lane departure warning business for $3 million. We entered this business in May 2006 with the acquisition of AssistWare Technology, Inc., a small company that had developed a vision system that could provide a warning to drivers when their vehicle was about to inadvertently cross a lane. For two years after the acquisition date, we invested additional funds to commercialize AssistWare s product and to establish a business developing and selling lane departure warning products for driver assistance. This business was included in the MVSD segment, but was never integrated with the other Cognex businesses. During the second quarter of 2008, we determined that this business did not fit the Cognex business model, primarily because car and truck manufacturers want to work exclusively with existing Tier One suppliers and, although these suppliers had expressed interest in Cognex s vision technology, they would require access to, and control of, our proprietary software. Accordingly, we accepted an offer from one of these suppliers and sold the lane departure warning business.

In September 2009, we acquired the web monitoring business of Monitoring Technology Corporation (MTC), a manufacturer of products for monitoring industrial equipment and processes, for $5 million. This business is included in the Company s SISD segment. The acquired SmartAdvisor Web Monitoring System (WMS) is complementary to Cognex s SmartView Web Inspection System (WIS). When used together, WIS will automatically identify and classify defects and the WMS will then provide the customer with the ability to determine the root causes of each of those defects so that they can be quickly eliminated. The combination of WMS and WIS will allow SISD to provide a fully-integrated system to paper manufacturers. SISD will serve SmartAdvisor s established customer base, primarily in North America, and plans to expand the sales of SmartAdvisor globally through its existing worldwide sales and

service organization. Additional information about acquisitions and divestitures may be found in Notes 20 and 21 to the Consolidated Financial Statements, appearing in Part II Item 8 of this Annual Report on Form 10-K.

Table of Contents

Products

Cognex offers a full range of machine vision products designed to meet customer needs at different performance and price points. Our products range from low-cost vision sensors that are easily integrated, to PC-based systems for users with more experience or more complex requirements. Our products also have a variety of physical forms, depending upon the user s need. For example, customers can purchase vision software to use with their own camera and processor, or they can purchase a standalone unit that combines camera, processor, and software into a single package.

Vision Software

Vision software provides the user the most flexibility for combining the full general-purpose library of Cognex vision tools with the cameras, frame grabbers, and peripheral equipment of their choice. The vision software runs on the customer s PC, which enables easy integration with PC-based data and controls. Applications based upon Cognex vision software perform a wide range of vision tasks, including part location, identification, measurement, assembly verification, and robotic guidance. Cognex s VisionPro® software offers the power and flexibility of advanced programming with the simplicity of a graphical development environment. VisionPro s extensive suite of patented vision tools enables customers to solve challenging machine vision applications.

Vision Systems

Vision systems combine camera, processor, and vision software into a single, rugged package with a simple and flexible user interface for configuring applications. These general-purpose vision systems are designed to be easily programmed to perform a wide range of vision tasks including part location, identification, measurement, assembly verification, and robotic guidance. Cognex offers the In-Sight® product line of vision systems in a wide range of models to meet various price and performance requirements.

Vision Sensors

Unlike general-purpose vision systems that can be programmed to perform a wide variety of vision tasks, vision sensors are designed to deliver very simple, low-cost, reliable solutions for a limited number of common vision applications such as inspection, error proofing, part detection, and gauging. Cognex offers the Checker® product line of vision sensors that perform a variety of single-purpose vision tasks.

ID Products

ID products quickly and reliably read codes (e.g., one-dimensional or two-dimensional barcodes) that have been applied or directly marked on discrete items during the manufacturing process. Manufacturers of goods ranging from automotive parts, pharmaceutical items, aircraft components, and medical devices are increasingly using direct part mark (DPM) identification to ensure that the appropriate manufacturing processes are performed in the correct sequence and on the right parts. In addition, DPM is used to track parts from the beginning of their life to the end, and is also used in supply chain management and repair. Cognex is also pursuing applications for ID outside of the manufacturing sector, such as integrating ID products into document processing equipment. Cognex offers the DataMan® product line of ID readers that includes both hand-held and fixed-mount models.

Surface Inspection Systems

Surface inspection systems detect, classify, and analyze defects on the surfaces of materials processed in a continuous fashion at high production speeds, such as metals, paper, non-wovens, plastics, and glass. Cognex s SmartView® Web Inspection System identifies and classifies defects on surfaces, while Cognex s recently-acquired SmartAdvisor™ Web

Monitoring System then provides the customer with the ability to determine the root causes of each of those defects so that they can be quickly eliminated.

Table of Contents

Research, Development, and Engineering

Cognex engages in research, development, and engineering (RD&E) to enhance our existing products and to develop new products and functionality to meet market opportunities. In addition to internal research and development efforts, we intend to continue our strategy of gaining access to new technology through strategic relationships and acquisitions where appropriate.

As of December 31, 2009, Cognex employed 168 professionals in RD&E, many of whom are software developers. Cognex s RD&E expenses totaled $31,132,000 in 2009, $36,262,000 in 2008, and $33,384,000 in 2007, or approximately 18%, 15%, and 15% of revenue, respectively.

We believe that a continued commitment to RD&E activities is essential in order to maintain or achieve product leadership with our existing products and to provide innovative new product offerings, and therefore, we expect to continue to make significant RD&E investments in the future in strategic areas, such as the ID products business and the development of a Vision System on a Chip. In addition, we consider our ability to accelerate time to market for new products critical to our revenue growth. Although we target our RD&E spending to be between 10% and 15% of total revenue, this percentage is impacted by revenue levels.

At any point in time, we have numerous research and development projects underway. Among these projects is the development of a vision system (i.e., imager, analog to digital converter, vision processing, and camera peripherals) on a semiconductor chip (Vision System on a Chip or VSoC). This technology is expected to make it possible to build customized CMOS (complementary metal-oxide semiconductor) sensors that are optimized for machine vision applications. These customized CMOS sensors or vision chips can then be integrated into a wide range of devices to improve the speed and performance of vision applications. Cognex plans to use VSoC technology to enhance the performance of its own products, and may also make specialized devices using VSoC technology available for purchase by third parties. We expect to launch our first product featuring VSoC technology in the second half of 2010.

Manufacturing and Order Fulfillment

Cognex s MVSD products are manufactured utilizing a turnkey operation whereby the majority of component procurement, system assembly, and initial testing are performed by third-party contract manufacturers. Cognex s primary contract manufacturers are located in Ireland and Southeast Asia. The contract manufacturers use specified components and assembly and test documentation created and controlled by Cognex. Certain components are presently available only from a single source. After the completion of initial testing, a fully-assembled product from the contract manufacturer is routed to one of the Company s two distribution locations: Cork, Ireland or Natick, Massachusetts, USA. At these locations, Cognex s software is loaded onto the product, final quality control is performed, and the product is kitted for shipment to our customers. Orders for customers in the Americas are shipped from our Natick, Massachusetts facility, while orders for customers in Japan, Europe, and Southeast Asia are shipped from our Cork, Ireland facility.

Cognex s SISD products are manufactured at its Alameda, California facility. The manufacturing process at the Alameda facility consists of component procurement, system assembly, quality control, and shipment of product to customers worldwide. During the fourth quarter of 2009, Cognex closed its Kuopio, Finland facility and transferred the manufacturing activities that were previously performed at this location to the Alameda facility. Activities that were previously performed at the Kuopio facility included integration of the sub-assembly with the frames on which the cameras and lights used to illuminate the surface are mounted, as well as quality control, and shipment of product to customers within Europe and Asia. With the closure of the Kuopio facility, all SISD products are now assembled at and shipped from the Alameda facility.

Table of Contents

Sales Channels and Support Services

Cognex sells its MVSD products through a worldwide direct sales force that focuses on the development of strategic accounts that generate or are expected to generate significant sales volume, as well as through a global network of integration and distribution partners. Our integration partners are experts in vision and complementary technologies that can provide turnkey solutions for complex automation projects using vision and our distribution partners provide sales and local support to help Cognex reach the many prospects for our products in factories around the world. Cognex s SISD products are primarily sold through a worldwide direct sales force since there are fewer customers in a more concentrated group of industries.

As of December 31, 2009, Cognex s sales force consisted of 234 professionals, and our partner network consisted of approximately 213 active integrators and 197 authorized distributors. Sales engineers call directly on targeted accounts and manage the activities of our partners within their territories in order to implement the most advantageous sales model for our products. The majority of our sales force holds engineering or science degrees. Cognex has sales and support offices located throughout the Americas, Japan, Europe, and Southeast Asia. In recent years, the Company opened sales offices in China (which the Company currently includes in its Southeast Asia region) and Eastern Europe, where we believe many manufacturers can benefit from incorporating machine vision into their production processes.

During 2008, Cognex announced a partnership with Mitsubishi Electric Corporation, a leading worldwide provider of factory automation products (i.e., programmable controllers, motion controls, and industrial robots) based in Japan. Cognex and Mitsubishi have and will continue to jointly develop and market Cognex vision products to Mitsubishi s factory automation customers. The products resulting from this collaboration have improved connectivity with Mitsubishi factory automation products and enabled customers to deploy systems more quickly. Cognex expects this partnership to increase its market presence on the factory floor, first in Japan and eventually in the fast-growing markets throughout Asia.

Sales to customers based outside of the United States represented approximately 66% of total revenue in 2009, compared to approximately 70% of total revenue in 2008. In 2009, approximately 34% of the Company s total revenue came from customers based in Europe, 20% from customers based in Japan, and 12% from customers based in Southeast Asia. Sales to customers based in Europe are predominantly denominated in Euro, sales to customers based in Japan are predominantly denominated in Yen, and sales to customers based in Southeast Asia are predominantly denominated in U.S. Dollars. Financial information about geographic areas may be found in Note 19 to the Consolidated Financial Statements, appearing in Part II Item 8 of this Annual Report on Form 10-K.

Cognex s MVSD service offerings include maintenance and support, training, and consulting services. Maintenance and support programs include hardware support programs that entitle customers to have failed products repaired, as well as software support programs that provide customers with application support and software updates on the latest software releases. Training services include a variety of product courses that are available at Cognex s offices worldwide, at customer facilities, and on computer-based tutorials, video, and the internet. Cognex provides consulting services that range from a specific area of functionality to a completely integrated machine vision application.

Cognex s SISD service offerings include maintenance and support and training services similar to those provided by MVSD, as well as installation services. The installation services group supervises the physical installation of the hardware at the customer location, configures the software application to detect the customer s defects, validates that the entire integrated system with the peripheral components is functioning according to the specifications, and performs operator training.

Intellectual Property

We rely on the technical expertise, creativity, and knowledge of our personnel, and therefore, we utilize patent, trademark, copyright, and trade secret protection to maintain our competitive position and protect our proprietary rights in our products and technology. While our intellectual property rights are important to

Table of Contents

our success, we believe that our business as a whole is not materially dependent on any particular patent, trademark, copyright, or other intellectual property right.

As of December 31, 2009, Cognex had been granted, or owned by assignment, 281 patents issued and had another 133 patent applications pending. Cognex has used, registered, or applied to register a number of trademark registrations in the United States and in other countries. Cognex s trademark and servicemark portfolio includes various registered marks, including, among others, Cognex®, In-Sight®, Checker®, DataMan®, VisionPro®, and SmartView®, as well as many common-law marks, including, among others, Cognex VSoC™ and SmartAdvisor™.

Compliance with Environmental Provisions

Cognex s capital expenditures, earnings, and competitive position are not materially affected by compliance with federal, state, and local environmental provisions which have been enacted or adopted to regulate the distribution of materials into the environment.

Competition

The machine vision market is highly fragmented and Cognex s competitors vary depending upon market segment, geographic region, and application niche. Our competitors are typically other vendors of machine vision systems and manufacturers of image processing systems and sensors. In addition, in the semiconductor and electronics capital equipment market, Cognex competes with the internal engineering departments of current or prospective customers. In the direct part mark identification market, Cognex competes with manufacturers of automatic identification systems. Any of these competitors may have greater financial and other resources than Cognex. Although we consider Cognex to be one of the leading machine vision companies in the world, reliable estimates of the machine vision market and the number of competitors are not available.

Cognex s ability to compete depends upon our ability to design, manufacture, and sell high-quality products, as well as our ability to develop new products and functionality that meet evolving customer requirements. The primary competitive factors affecting the choice of a machine vision system include vendor reputation, product functionality and performance, ease of use, price, and post-sales support. In addition, in the semiconductor and electronics capital equipment market, the flexibility of purchasing hardware from other vendors has become an important factor in recent years. The importance of each of these factors varies depending upon the specific customer s needs.

Backlog

As of December 31, 2009, backlog totaled $31,459,000, compared to $30,423,000 as of December 31, 2008. Backlog reflects customer purchase orders for products scheduled for shipment primarily within 60 days at MVSD and six months at SISD. The MVSD backlog excludes deferred revenue. Although MVSD accepts orders from customers with requested shipment dates that are within 60 days, orders typically ship within one week of order placement. The level of backlog at any particular date is not necessarily indicative of future revenue. Delivery schedules may be extended and orders may be canceled at any time subject to certain cancellation penalties.

Employees

As of December 31, 2009, Cognex employed 729 persons, including 349 in sales, marketing, and service activities; 168 in research, development, and engineering; 89 in manufacturing and quality assurance; and 123 in information technology, finance, and administration. Of the Company s 729 employees, 325 are based outside of the United States. None of our employees are represented by a labor union and we have experienced no work stoppages. We believe that our employee relations are good.

Table of Contents

Available Information

Cognex maintains a website on the World Wide Web at www.cognex.com. We make available, free of charge, on our website in the Company Information section under the caption Investor Information Annual Reports & SEC Filings our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, including exhibits, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after such reports are electronically filed with, or furnished to, the SEC. Cognex s reports filed with, or furnished to, the SEC are also available at the SEC s website at www.sec.gov. Information contained on our website is not a part of, or incorporated by reference into, this Annual Report on Form 10-K.

ITEM 1A. RISK FACTORS

The risks and uncertainties described below are not the only ones that we face. Additional risks and uncertainties that we are unaware of, or that we currently deem immaterial, also may become important factors that affect our company in the future. If any of these risks were to occur, our business, financial condition, or results of operations could be materially and adversely affected. This section includes or refers to certain forward-looking statements. We refer you to the explanation of the qualifications and limitations on such forward-looking statements, appearing in Part II Item 7 of this Annual Report on Form 10-K.

Current and future conditions in the global economy may negatively impact our operating results.

Our revenue is dependent upon the capital spending trends of manufacturers in a number of industries, including, among others, the semiconductor, electronics, automotive, pharmaceuticals, metals, and paper industries. These spending levels are, in turn, impacted by global economic conditions, as well as industry-specific economic conditions.

The credit market crisis and slowing global economies have resulted in lower demand for our products as many of our customers experienced deterioration in their businesses, cash flow issues, difficulty obtaining financing, and declining business confidence. Although the fourth quarter of 2009 was the third quarter in a row that order levels increased on a sequential basis, demand is still lower than the levels we reported through the third quarter of 2008, when our business first began to be impacted by the worldwide economic slowdown. Our 2010 business plan assumes that the worldwide economy will continue its recovery. If global economic conditions do not continue to improve, or if they deteriorate, our revenue and our ability to generate quarterly operating profits could be materially adversely affected.

As a result, our business is subject to the following risks, among others:

- our customers may not have sufficient cash flow or access to financing to purchase our products,
- our customers may not pay us within agreed upon terms or may default on their payments altogether,
- our vendors may be unable to fulfill their delivery obligations to us in a timely manner,
- lower demand for our products may result in charges for excess and obsolete inventory if we are unable to sell inventory that is either already on hand or committed to purchase,
- lower cash flows may result in impairment charges for acquired intangible assets or goodwill,
- a decline in the fair value of our limited partnership interest in a venture capital fund, which is invested primarily in young and emerging companies, may result in an impairment charge,
- a decline in our stock price may make stock options a less attractive form of compensation and a less effective form of retention for our employees, and
- the trading price of our common stock may be volatile.

As of December 31, 2009, the Company had approximately $194,161,000 in either cash or investments that could be converted into cash. In addition, Cognex has no long-term debt and we do not anticipate needing debt financing in the near future. We believe that our strong cash position, together with the cost-

Table of Contents

cutting measures we implemented over the past several months, put us in a relatively good position to weather a prolonged economic downturn. Nevertheless, our operating results have been materially adversely affected in the past, and could be materially adversely affected in the future, as a result of unfavorable economic conditions and reduced capital spending by manufacturers worldwide.

Our restructuring programs may result in disruption to our business and may negatively impact our operating results.

Late in 2008 and again during 2009, the Company implemented various restructuring actions which will result in long-term cost savings. These actions, which included work force reductions, office closures, mandatory shutdown days, and decreases in discretionary spending, were intended to more closely align our cost structure with the lower levels of business resulting from worldwide economic conditions. Although operating expenses before restructuring charges were down by 15% in 2009 from the prior year, these actions were not sufficient for the Company to generate a profit for 2009. Furthermore, these lower expense levels may not be sufficient for the Company to generate a profit in 2010 depending upon revenue levels. Although we expect to continue to make investments in strategic areas throughout this downturn, these restructuring actions may nevertheless negatively impact programs we believe are crucial to the long-term success of the Company, such as the ability to accelerate time to market for new products. In addition, our ability to provide a high level of service to our customers may be negatively impacted by these actions, particularly in regions where we have significantly downsized our operations.

Downturns in the semiconductor and electronics capital equipment market may adversely affect our business.

In 2009, approximately 9% of our revenue was derived from semiconductor and electronics capital equipment manufacturers. This concentration was as high as 61% in 2000 during its revenue peak. The semiconductor and electronics industries are highly cyclical and have historically experienced periodic downturns, which have often had a severe effect on demand for production equipment that incorporates our products. While we have been successful in diversifying our business beyond OEM customers who serve the semiconductor and electronics industries, our business is still impacted by capital expenditures in these industries, which, in turn, are dependent upon the market demand for products containing computer chips. As a result, our operating results in the foreseeable future could be significantly and adversely affected by further declining sales in either of these industries. Furthermore, the competitive landscape in this market has changed in recent years, with price and the flexibility of purchasing hardware from other vendors becoming more important factors in the purchasing decisions of these manufacturers. In response to this market change, we have introduced software-only products. Although these products have high gross margins, the average selling price of these offerings is significantly lower than for a complete vision system, and therefore, we expect this trend to have a negative impact on our revenue in this market.

Economic, political, and other risks associated with international sales and operations could adversely affect our business and operating results.

In 2009, approximately 66% of our revenue was derived from customers located outside of the United States. We anticipate that international sales will continue to account for a significant portion of our revenue. In addition, certain of our products are assembled by third-party contract manufacturers in Ireland and Southeast Asia. We intend to continue to expand our sales and operations outside of the United States and may expand our presence in international markets, such as our expansion into China and Eastern Europe, which will require significant management attention and financial resources. As a result, our business is subject to the risks inherent in international sales and operations, including, among other things:

- various regulatory requirements,
- export and import restrictions,

transportation delays,

Table of Contents

employment regulations and local labor conditions,
difficulties in staffing and managing foreign sales operations,
instability in economic or political conditions,
difficulties protecting intellectual property,
business systems connectivity issues, and
potentially adverse tax consequences.

Any of these factors could have a material adverse effect on our operating results.

Fluctuations in foreign currency exchange rates and the use of derivative instruments to hedge these exposures could adversely affect our reported results, liquidity, and competitive position.

We face exposure to foreign currency exchange rate fluctuations, as a significant portion of our revenues, expenses, assets, and liabilities are denominated in currencies other than the functional currencies of our subsidiaries or the reporting currency of our company, which is the U.S. Dollar. In certain instances, we utilize forward contracts and other derivative instruments to hedge against foreign currency fluctuations. These contracts are used to minimize foreign currency gains or losses, as the gains or losses on the derivative are intended to offset the losses or gains on the underlying exposure. We do not engage in foreign currency speculation.

The success of our foreign currency risk management program depends upon forecasts of transaction activity denominated in various currencies. To the extent that these forecasts are overstated or understated during periods of currency volatility, we could experience unanticipated foreign currency gains or losses that could have a material impact on our results of operations. Furthermore, our failure to identify new exposures and hedge them in an effective manner may result in material foreign currency gains or losses. In addition, although the use of these derivative instruments may be effective in minimizing foreign currency gains or losses, significant cash inflows or outflows may result when these instruments are settled.

The only foreign currencies in which a significant portion of our revenues and expenses are denominated are the Euro and the Japanese Yen. Our predominant currency of sale is the U.S. Dollar in the Americas and Southeast Asia, the Euro in Europe, and the Yen in Japan. We estimate that approximately 54% of our sales in 2009 were invoiced in currencies other than the U.S. Dollar, and we expect sales denominated in foreign currencies to continue to represent a significant portion of our total revenue. While we also have expenses denominated in these same foreign currencies, the impact on revenues has historically been, and is expected to continue to be, greater than the offsetting impact on expenses. Therefore, in times when the U.S. Dollar strengthens in relation to these foreign currencies, we would expect to report a net decrease in operating income. Conversely, in times when the U.S. Dollar weakens in relation to these foreign currencies, we would expect to report a net increase in operating income. Thus, changes in the relative strength of the U.S. Dollar may have a material impact on our operating results. Furthermore, our U.S. Dollar based pricing in Southeast Asia may put us at a competitive disadvantage with Asian vendors that offer local currency based pricing.

The loss of a large customer could have an adverse effect on our business.

In 2009, our top five customers accounted for approximately 9% of total revenue. Our expansion into the factory automation marketplace has reduced our reliance upon the revenue from any one customer. Nevertheless, the loss of, or significant curtailment of purchases by, any one or more of our larger customers could have a material adverse effect on our operating results.

Our business could suffer if we lose the services of, or fail to attract, key personnel.

We are highly dependent upon the management and leadership of Robert J. Shillman, our Chief Executive Officer, and Robert J. Willett, our Chief Operating Officer and President, as well as other members of our senior management team. Although we have many experienced and qualified senior managers, the loss of

Table of Contents

key personnel could have a material adverse effect on our company. Our continued growth and success also depends upon our ability to attract and retain skilled employees and on the ability of our officers and key employees to effectively manage the growth of our business through the implementation of appropriate management information systems and internal controls.

We have historically used stock options as a key component of our employee compensation program in order to align employee interests with the interests of our shareholders, provide competitive compensation and benefits packages, and encourage employee retention. We are limited as to the number of options that we may grant under our stock option plan. Furthermore, the decline in the stock market has made stock options a less effective means of retaining our employees. Accordingly, we may find it difficult to attract, retain, and motivate employees, and any such difficulty could materially adversely affect our business.

The failure of a key supplier to deliver quality product in a timely manner or our inability to obtain components for our products could adversely affect our operating results.

A significant portion of our MVSD product is manufactured by two third-party contractors. As a result, we are dependent upon these contractors to provide quality product and meet delivery schedules. We engage in extensive product quality programs and processes, including actively monitoring the performance of our third-party manufacturers; however, we may not detect all product quality issues through these programs and processes. In addition, a variety of components used in our products are only available from a single source. The announcement by a single-source supplier of a last-time component buy could result in our purchase of a significant amount of inventory that, in turn, could lead to an increased risk of inventory obsolescence. Although we are taking certain actions to mitigate sole-source supplier risk, an interruption in, termination of, or material change in the purchase terms of any single-source components could have a material adverse effect on our operating results.

Our inventory levels have declined over the past year, as we have reduced our purchase requirements in response to the lower level of demand from our customers. Likewise, many of our vendors have reduced their inventory levels and manufacturing capacity during the economic slowdown. As a result, if demand from our customers increases beyond the levels we are forecasting, our vendors may have difficulty meeting our accelerated delivery schedules due to their reduced manufacturing capacities. We may therefore be unable to take delivery of an adequate supply of components and turnkey systems from our vendors in order to meet an increase in demand from our customers. These supply issues could impact our ability to ship product to customers, and therefore, to recognize revenue, which could have a material adverse effect on our operating results.

Our failure to effectively manage product transitions or accurately forecast customer demand could result in excess or obsolete inventory and resulting charges.

Because the market for our products is characterized by rapid technological advances, we frequently introduce new products with improved ease-of-use, improved hardware performance, additional software features and functionality, or lower cost that may replace existing products. Among the risks associated with the introduction of new products are difficulty predicting customer demand and effectively managing inventory levels to ensure adequate supply of the new product and avoid excess supply of the legacy product. In addition, we may strategically enter into non-cancelable commitments with vendors to purchase materials for our products in advance of demand in order to take advantage of favorable pricing or address concerns about the availability of future supplies. Furthermore, the global economic slowdown has resulted in lower forecasted demand for our products, which may result in excess or obsolete inventory if we are unable to sell inventory that either is already on hand or committed to purchase. Our failure to effectively manage product transitions or accurately forecast customer demand, in terms of both volume and configuration, has led to, and may again in the future lead to, an increased risk of excess or obsolete inventory and resulting charges.

Table of Contents

Our products may contain design or manufacturing defects, which could result in reduced demand, significant delays, or substantial costs.

If flaws in either the design or manufacture of our products were to occur, we could experience a rate of failure in our products that could result in significant delays in shipment and material repair or replacement costs. While we engage in extensive product quality programs and processes, including actively monitoring and evaluating the quality of our component suppliers and contract manufacturers, these actions may not be sufficient to avoid a product failure rate that results in:

- substantial delays in shipment,
- significant repair or replacement costs, or
- potential damage to our reputation.

Any of these results could have a material adverse effect on our operating results.

Our failure to develop new products and to respond to technological changes could result in the loss of our market share and a decrease in our revenues and profits.

The market for our products is characterized by rapidly changing technology. Accordingly, we believe that our future success will depend upon our ability to accelerate time to market for new products with improved functionality, ease-of-use, performance, or price. We may not be able to introduce and market new products successfully, including our proposed Vision System on a Chip, and respond effectively to technological changes or new product introductions by competitors. Our ability to keep pace with the rapid rate of technological change in the high-technology marketplace could have a material adverse effect on our operating results.

Our failure to properly manage the distribution of our products and services could result in the loss of revenues and profits.

We utilize a direct sales force, as well as a network of integration and distribution partners, to sell our products and services. Successfully managing the interaction of our direct and indirect sales channels to reach various potential customers for our products and services is a complex process. In addition, our reliance upon indirect selling methods may reduce visibility of demand and pricing issues. Cognex expects its partnership with Mitsubishi Electric Corporation to grow its factory automation revenue in Japan, as we utilize Mitsubishi s existing distribution network to reach more factory automation customers in this region. Each sales channel has distinct risks and costs, and therefore, our failure to implement the most advantageous balance in the sales model for our products and services could adversely affect our revenue and profitability.

If we fail to successfully protect our intellectual property, our competitive position and operating results could suffer.

We rely on our proprietary software technology and hardware designs, as well as the technical expertise, creativity, and knowledge of our personnel to maintain our position as a leading provider of machine vision products. Although we use a variety of methods to protect our intellectual property, we rely most heavily on patent, trademark, copyright, and trade secret protection, as well as non-disclosure agreements with customers, suppliers, employees, and consultants. We also attempt to protect our intellectual property by restricting access to our proprietary information by a combination of technical and internal security measures. These measures, however, may not be adequate to:

- protect our proprietary technology,
- protect our patents from challenge, invalidation, or circumvention, or

ensure that our intellectual property will provide us with competitive advantages.

Any of these adverse circumstances could have a material adverse effect on our operating results.

Table of Contents

Our company may be subject to time-consuming and costly litigation.

From time to time, we may be subject to various claims and lawsuits by competitors, customers, or other parties arising in the ordinary course of business, including lawsuits charging patent infringement. We are currently a party to actions that are fully described in the section captioned Legal Proceedings, appearing in Part I Item 3 of this Annual Report on Form 10-K. These matters can be time-consuming, divert management s attention and resources, and cause us to incur significant expenses. Furthermore, the results of any of these actions may have a material adverse effect on our operating results.