

Seeing is believing: How any product can be made better with Cognex machine vision

Reading scores worldwide improve dramatically thanks to Cognex ID readers

Are manufacturing defects really a thing of the past?

TIME



Special Report

White House Appoints Vision Czar

Just in case it isn't completely clear from the disclaimer on the cover and from the contents of this publication, Cognex Corporation and Dr. Robert J. Shillman have no official status as representatives of the federal government of the United States, and none of the statements contained in this publication are really from the President of the United States.

This report, including the letter to shareholders, contains "forward-looking statements" within the meaning of the Securities Act of 1933 and the Securities Exchange Act of 1934. Please see Part II – Item 7 of the Annual Report on Form 10-K within the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations – Forward-Looking Statements" for a discussion regarding risks associated with these statements.

Copyright 2010, Cognex Corporation. All information in this document is subject to change without notice. All rights reserved. Printed in U.S.A.

Cognex, DataMan, In-Sight and SmartView are registered trademarks, and SmartAdvisor and VSoC are trademarks of Cognex.



A New Vision for America

President Barack Obama has surprised the nation by announcing the appointment of America's first Vision Czar. Following is the prepared text of the President's speech to a joint session of Congress explaining why Doctor Robert J. Shillman of Cognex Corporation is his choice for the job.

Madame Speaker, Vice President Biden, Members of Congress, and the American people:

Why does America need a Vision Czar?

The answer is easy to see (pun intended!). In government, a czar is a person who monitors a situation and takes care of problems that arise. Well, machine vision products are used around the world to monitor situations and eliminate problems. It's a perfect fit!

Here are just some of the problems that can be solved with machine vision:



An unsuspecting Vision Czar gets his wrist watch lifted amid a crowd of well-wishers.

Ensuring Manufacturing Quality

Manufacturers use machine vision to inspect products as they are being made to ensure that automation equipment is functioning properly. Is the safety seal present on the bottle? Is the print on the label legible? Instead of having people inspect a random sample of products at the end of the line, machine vision can inspect 100% of products...even at high production speeds...and ensure that no defective items ever make it out of the factory and into the hands of consumers.

Reducing Manufacturing Costs

Vision systems can detect when an automated process has started to drift out of tolerance and then automatically alert factory personnel or other equipment to take corrective action. Manufacturing equipment can then be adjusted *before* mistakes are made, eliminating both scrap and the need for costly rework or downtime on the production line.

Helping the Environment by Reducing Waste

Everyone today is concerned with saving the planet...using machine vision is one of the most effective ways for companies to “go green” in their manufacturing processes, while at the same time saving money. (If only it were so easy to reduce waste and inefficiency in Congress!) Imagine a machine that makes paper at speeds of up to sixty miles an hour...a mile of paper every minute. A small, undetected tear in the paper can cause the web to rip during production. In just one minute a mile of paper is strewn all over the plant and will have to be scrapped. Surface

“Using machine vision is one of the most effective ways for companies to ‘go green’ in their manufacturing processes.”

inspection systems (also called web inspection systems) are machine vision systems that can detect these defects and reduce the risk of serious production errors.

Ensuring greater control over manufacturing by providing a detailed audit trail

Vision systems collect lots of useful data that factory floor managers can use to evaluate production and keep track of important quality metrics. Machine vision systems called ID readers are used to read 1-D and 2-D identifying codes on items as they go through production in order to track information about how, where and when an item has been handled. The ability to track unique items using vision enables greater customization in manufacturing and can help to dramatically reduce costs in the event of a product recall.

A Leader in Vision

Clearly, there are many benefits to be gained by a greater use of machine vision, both here and abroad.

Now let me tell you why I chose Cognex Corporation and its CEO, Doctor Robert J. Shillman, to oversee vision for America. As the world leader in machine vision, Cognex is best suited for the job of providing machine vision products to help companies... not just in our country, but around the world...improve their quality and reduce their manufacturing costs. Cognex products have a well-earned reputation as the most reliable, cost-effective and easiest to use in the industry.

Since 1981 when the company was founded, Cognex has been the technology leader in the machine vision industry...and Cognex engineers around the world work hard to maintain the company’s reputation for technical excel-

lence. The 281 patents that have been granted to Cognex for machine vision technology provide proof of their creativity. Their innovations have not only made Cognex vision systems more capable, but they have also made Cognex products easy to set up and to use.

Cognex prides itself on having a strong corporate culture that encourages creativity in every department, especially in product design. With nearly three decades of experience applying machine vision in a large variety of factory settings, Cognex has both the products and the expertise to help companies achieve the results they are looking for: higher production quality at lower manufacturing costs.

And, as a financially stable company with no debt, Cognex has the clout to continue investing in the R&D necessary to advance the technology so that its products will be able to solve even more problems in the future.

Bold and Decisive Management

Tough times provide the best test of management's skill. Starting in the fall of 2008 and throughout most of 2009, virtually every company was put to the test by rapidly declining revenues. For an organization to survive in times of adversity, it must be willing to take bold and decisive action...even if that action is difficult, and that is what Cognex did.

In November of 2008 Cognex reduced expenses by approximately \$6 million (on an annualized basis). Unfortunately, as the recession deepened those cuts proved to be insufficient, and in 2009 Cognex cut expenses by another \$15 million (on an annualized basis). As a result of these actions, Cognex eliminated a total of 150 positions, closed its offices in Kuopio, Finland and Duluth, Georgia, and moved its North American

Distribution Center from Georgia to its corporate headquarters in Massachusetts. Cognex also reduced certain executive salaries, decreased the company contribution to employee 401(k) plans, and implemented mandatory shutdown days for its employees.

The bottom line is that Cognex finished 2009 with \$175.7 million in revenue, a decrease of 28% compared to the revenue reported in 2008, and it recorded a loss of \$4.9 million (\$0.12 per share) for the year...a loss that would have been considerably larger if Cognex had been slower to take action.

These cuts were painful...but they did not stop the company from continuing to invest in...and to make progress in...strategic areas that are likely to position the company for future growth. This investment included continued development of key products and new technology, as well as the acquisition of a new product line for the company's Surface Inspection Systems Division.

In October of 2009, Cognex purchased Monitoring Technology Corporation's SmartAdvisor™ web monitoring product line (a product used in paper manufacturing that is complementary to Cognex's existing SmartView® surface inspection system) which strengthens the company's offering in the paper industry.

And, although the world has not yet emerged from the recession, Cognex has already begun to see the rewards of its efforts: Orders have been increasing sequentially every quarter starting with the second quarter of 2009, and in the fourth quarter of 2009 orders increased year-on-year for the first time since the beginning of the global economic downturn, and that increase enabled the company to report a profit in Q4!

A Winning Team

The number of highly-educated, creative, productive and self-motivated candidates for employment worldwide



Dr. Shillman checks his notes before his first address as Vision Czar.

is limited, and Cognex prides itself on its ability to attract and retain more than its fair share of them. Every Cognoid is carefully chosen, trained and motivated to work hard and to work smart for the continued success of Cognex. And it is because of them that Cognex has become the world's largest and most successful machine vision company.

Management fully recognizes that in order to stay #1 in the vision indus-

success through the years.

Unfortunately, however, due to a number of factors in recent years having nothing to do with the efforts of Cognex employees, officers or directors, such as the recent precipitous downturn in the worldwide economy, the vast majority of Cognex's outstanding stock options...more than 99% of them... were "underwater" (meaning the stock option exercise price exceeded the mar-

appreciation from its work force, and I want to add my own thanks to Doctor Shillman for implementing Cognex's very own economic stimulus package which put some cash in the pockets of its hard-working employees during these difficult economic times.

Although the offering did cost the company a lot of money, \$9.2 million to be exact, it is important to note that the tender offer did not result in any material incremental expenses on Cognex's P&L. In addition, the tender offer had the benefit of reducing the company's outstanding stock options by 4.9 million shares, or 43%.

Vision for Success

So far I've been talking in detail about the benefits of machine vision...but companies also need plenty of the other kind of vision to succeed. By this I mean that they need both the ability to look into the future to see where opportunities lie and the power to lead the their organizations in that direction.

Cognex has been focusing on opportunities for growing its business both by targeting new and potentially large markets for its existing products, and by developing new vision technologies and products to increase its lead over the competition and to expand the market for machine vision.

Here are some of the strategic initiatives that Cognex has undertaken recently to increase the use of its products worldwide:

Partnering with Mitsubishi

Japan is one of the largest markets for factory automation in the world, and, therefore, you would think that Cognex should have a large presence in the factory automation market in Japan. Unfortunately, that has not been the case because there are two very large and well-known local automa-



Russian Prime Minister Vladimir Putin gave lukewarm support to Obama's choice for Vision Czar. "We have had plenty of czars in Russia...it is not such a big thing."

try, Cognex must invest a significant amount of time and energy to find ways to continue to motivate its employees. This effort is the most important investment that management can make.

Until recently, the company has relied on the power of stock options to recruit, retain and motivate the best employees. Since the company's founding in 1981, stock options have always been a core element of Cognex's compensation philosophy, and they have played an instrumental role in Cognex's

ket price of Cognex stock). As a result, these options were not providing either the incentive or the retention value that was originally intended.

To rectify this situation Cognex's Board of Directors decided to purchase, for cash, all stock options that were significantly underwater. That program was completed on December 15th; the vast majority of Cognoids participated, with 95% of the eligible options being tendered. Cognex management received many, many notes of

“The number of highly educated, creative, productive and self-motivated candidates for employment worldwide is limited, and Cognex prides itself on its ability to attract and retain more than its fair share of them.”

tion companies in Japan that happen to also sell machine vision. Although Cognex believes that the machine vision products offered by these competitors are not as capable as Cognex products, both of these companies have extensive distribution networks, and, as a direct result, they each have a significantly larger share of their domestic market than does Cognex.

But, Cognex is not settling for the status quo. In August of 2008 Cognex entered a strategic partnership with Mitsubishi Electric Corporation. Mitsubishi is the largest supplier of automation products in Japan, and, coincidentally, it is a direct competitor of the two Japanese automation companies that Cognex competes with in the machine vision market. Working closely with Mitsubishi, Cognex launched a new version of its In-Sight® vision system called In-Sight EZ in the first quarter of 2009. In-Sight EZ is designed to integrate seamlessly with Mitsubishi’s factory automation products, and Cognex is currently working with Mitsubishi and its distributors to promote this product to factory automation customers throughout Japan.

As a result of this partnership,

Mitsubishi has gained a strong vision partner to serve its customers, and Cognex has gained direct access to an extensive new channel for selling Cognex products to factories throughout Japan. Since announcing this partnership, Cognex has qualified, trained and signed eighteen of Mitsubishi’s largest distributors, and bookings from this channel are already meeting the company’s expectations.

information about the production of each item to reduce errors in manufacturing and handling, and to track the item throughout the supply chain.

Today many best-in-class manufacturing companies are implementing traceability or track-and-trace programs using image-based ID readers such as Cognex DataMan® in order to improve their own efficiency or to meet regulatory requirements.



Mistakenly concerned about the impact a Vision Czar would have on their business, a group of angry optometrists protests President Obama’s decision.

ID and Traceability

ID readers are specialized machine vision sensors that are used to read codes off of a wide variety of different items at various stages during their manufacture. These codes can be either one-dimensional codes (often called barcodes) or the newer two-dimensional codes that contain more information to enable unique item traceability. The process of automatically reading these codes allows companies to track useful

ID has been a fast-growing business for Cognex as more and more manufacturers invest in track-and-trace projects. In 2009, Cognex won a number of projects in industries including mail fulfillment, solar cell manufacturing, pharmaceutical manufacturing and medical device manufacturing. The company expects that this segment of its business will continue to grow at a very rapid pace in the future.

“Ladies and gentlemen, our moment in history is a moment that calls for vision.”

Vertical Markets

Cognex is also focused on expanding the use of general machine vision by targeting key vertical markets where the company believes there will be a growing demand for vision in the long term. Two of these markets are solar energy production and pharmaceuticals; manufacturers in both of these industries are currently increasing their investments in machine vision.

Solar cell panels are made from silicon, and manufacturers in this industry are now adopting many of the automation processes used in the semiconductor industry to manufacture silicon wafers, including the use of machine vision for identification, alignment, handling, inspection and sortation.

In the pharmaceutical industry, traceability and safety issues are key drivers for using machine vision. In particular, there's a strong need for inspection and traceability throughout the pharmaceutical supply chain to combat counterfeiting and diversions as well as to comply with the new GS1 standards for traceability which many countries will be requiring for pharmaceutical manufacturers.

New Technology

For the past several years, Cognex has been working on a new technology known as VSoC™ (Vision System on a Chip). VSoC technology will make it possible to build customized CMOS sensors and co-processors that are optimized for machine vision applications. These customized devices or “vision chips” can then be integrated into a



A possible threat from the anti-automation lobby is phoned in during Dr. Shillman's meeting with the White House press corps.

wide range of devices to improve their speed and performance in vision applications. Cognex plans to use VSoC technology first to enhance the performance of its own products, and it may also make specialized vision chips available for purchase by third parties. The company is on target to launch its first product featuring VSoC technology in the second half of 2010.

In Conclusion

Sensors of all kinds are becoming increasingly important in many areas of our lives. Cognex remains committed to expanding the use of its machine vision sensors and systems in order to enable all Americans...and people everywhere...to raise their standard of living by giving them the opportunity to purchase high-quality products at the lowest-possible prices...all made possible because of factory automation, of which machine vision is a key element.

As Cognex enters its thirtieth year in business, it continues to operate with energy and an entrepreneurial spirit,

to successfully adapt to changes in the machine vision market and to find opportunities to expand its business in new applications, new industries and new regions around the world. And I am confident Cognex will continue to do so, because of its dedicated team of Cognoids who are passionate about machine vision and who are committed to keeping the company on a path of growth and profitability.

Ladies and gentlemen, our moment in history is a moment that calls for vision. I ask you all to join me in supporting the efforts of Cognex, and our new Vision Czar, Doctor Shillman, in his efforts to bring more vision...and better vision...to wherever it is needed in America and the world.



Thank you, God bless you, and may God bless the United States of America!

Barack H. Obama
President of the United States

10 Questions.

The new Vision Czar thinks the world would be a better place with more machine vision.
Dr. Bob Shillman will now take your questions.

What is your platform as Vision Czar?

My platform is to encourage more companies to benefit from the advantages of machine vision. Machine vision can reduce errors in manufacturing, and it also drives down manufacturing costs by reducing waste and scrap. Higher production quality and lower manufacturing cost...who doesn't like that?

Are you going to have to give up the corporate jet now that you work for the government?

I am absolutely *not* going to give up the corporate jet because Cognex never had one! And we don't believe in other expensive executive perks, either.

You claim that you can improve reading scores in America...isn't that a job for an Education Czar?

Cognex already *has* improved reading scores... not just in America, but around the world. Cognex ID readers offer unmatched performance for reading codes such as bar codes and 2D Data Matrix codes that are used to track items during manufacturing and throughout the entire distribution or supply chain.



These readers not only read better....they can read faster too.

As a graduate of M.I.T., do you keep up with the football team?

No, but I do follow the nano-robotics team. It's a very small team, by the way.

Could a Cognex vision system have caught the gate crashers who got into a White House state dinner without an invitation?

That is a question you will have to address with the new Party Invitation Czar.

What are the perks of being the Vision Czar?

Free eye exams and unlimited saline solution.

Has Cognex ever accepted a government bailout?

I've never been out on bail myself, and I don't anticipate that Cognex will ever need bail either.

Are you a tweeter or a blogger?

Actually, I'm an Aries.

What makes you qualified for this position?

My own vision is 20/20! Way back in 1981...30

years ago...I had the foresight to see the potential for machine vision, and I founded Cognex to develop the technology and bring products to market. That company is now the world leader and offers a wide range of products from low-cost vision sensors and ID readers to large surface inspection systems.

What are the key elements of your strategic plan for expanding the use of machine vision in America...and the world?

It's a very simple plan. As the economy improves, people will increase their consumption of products. And, that increased consumption can only be filled by increasing production, which itself can only be achieved by increased use of automation. And, increased reliance on automation can often be achieved by increased use of machine vision systems! ■



VIDEO AT
INVESTOR.COGNEX.COM
To watch an interview with Bob Shillman go to <http://investor.cognex.com>

Numbers

2009 RESULTS

REVENUE
\$175.7 million

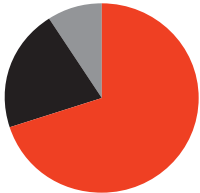
NET INCOME (LOSS)
(\$4.9 million)

REVENUE BY GEOGRAPHY



■ Americas 34% ■ Europe 34%
■ Japan 20% ■ Asia 12%

REVENUE BY MARKET SEGMENT



■ Factory Automation 70%
■ Surface Inspection 21%
■ SEMI 9%

HISTORY

YEAR COGNEX WAS FOUNDED

1981

VISION SYSTEMS SHIPPED SINCE 1981



CUMULATIVE REVENUE SINCE 1981

>\$2.5 billion

GLOBAL PRESENCE

COUNTRIES WORLDWIDE WHERE COGNEX HAS AN OFFICE OR A DISTRIBUTOR



SYSTEM INTEGRATORS AND DISTRIBUTORS THAT ARE SELLING COGNEX VISION

400

ADDITIONAL FEET ON THE STREET ADDED IN JAPAN THROUGH MITSUBISHI PARTNERSHIP

850

TECHNOLOGY

COGNEX ISSUED PATENTS WORLDWIDE AS OF 12/31/09



2009 REVENUE INVESTED IN R&D

18%

CODES PER SECOND THAT CAN BE READ BY COGNEX DATAMAN ID READERS



45

BUSINESS

STOCK PRICE ON 12/31/09

\$17.71

FIRST YEAR ON NASDAQ STOCK MARKET

1989

STOCK SPLITS SINCE 1989

3

SHARES OUTSTANDING AS OF 12/31/09

39,665,514

CASH & INVESTMENT BALANCE AS OF 12/31/09

\$202 Million

DIVIDENDS PAID TO SHAREHOLDERS SINCE 2003



CONSECUTIVE QUARTERLY DIVIDENDS PAID

26

CASH USED TO BUY BACK COGNEX STOCK

\$292 Million

ACQUISITIONS COMPLETED



CULTURE

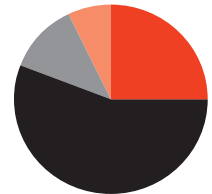
SUM OF MONEY COGNOIDS ARE GRANTED TO DONATE TO CHARITY IN RECOGNITION OF THEIR 25TH ANNIVERSARY WITH COGNEX

\$25,000

COGNEX WORLDWIDE EMPLOYEES (AS OF 12/31/09)



EMPLOYEES BY GEOGRAPHY AS OF 12/31/09



■ Americas 56% ■ Europe 25%
■ Japan 12% ■ Asia 7%

MAJOR COMPANY MILESTONES MARKED BY CHAMPAGNE BOTTLES DISPLAYED ON COGNEX WALL OF FAME



PINBALL GAMES IN COGNEX GAME ROOM



Information

CORPORATE HEADQUARTERS

Cognex Corporation
One Vision Drive
Natick, Massachusetts 01760
Telephone: (508) 650-3000
Fax: (508) 650-3333
<http://www.cognex.com>

TRANSFER AGENT

Computershare Investor Services
<http://www.computershare.com/investor>

OUTSIDE LEGAL COUNSEL

Goodwin Procter LLP
Boston, Massachusetts

INDEPENDENT AUDITORS

Grant Thornton LLP
Boston, Massachusetts

FORM 10-K

The Cognex Annual Report on Form 10-K is incorporated in this report and has been filed with the Securities and Exchange Commission. Additional copies are available free of charge upon written request to the address below. Or, request information on-line at <http://www.cognex.com>.

Department of Investor Relations
Cognex Corporation
One Vision Drive
Natick, Massachusetts 01760

BOARD OF DIRECTORS

Robert J. Shillman
Chairman and Chief Executive Officer
Cognex Corporation

Patrick A. Alias
Senior Vice President
Cognex Corporation

Jerald G. Fishman
Chief Executive Officer and President
Analog Devices

Theodor Krantz
President
Airmar Technology, Inc.

Edward J. Smith
President
Barneget Bay Capital

Anthony Sun
Former Managing General Partner
Venrock Associates

Reuben Wasserman
Business Consultant

CORPORATE OFFICERS

Robert J. Shillman
Chairman and Chief Executive Officer

Robert Willett
President and Chief Operating Officer

Richard A. Morin
Executive Vice President of
Finance and Administration and
Chief Financial Officer

SENIOR MANAGEMENT

Patrick Alias
Senior Vice President

Bhaskar Banerjee
Business Unit Manager, Vision Systems

Pascal Dorster
Senior Director & Business Unit
Manager, Vision Sensors

David Gantt
Vice President of Sales,
OEM Vision Engines

SENIOR MANAGEMENT (CONT'D)

Carl Gerst
Senior Director & Business Unit
Manager, ID Products

Markku Jaaskelainen
Executive Vice President & Business
Unit Manager, Vision Software

Todd Keebaugh
Vice President, Legal Services

Didier Lacroix
Senior Vice President of
Sales and Service, International

Herbert Lade
Vice President, Operations

Stanley Luboda
Senior Vice President,
SISD Sales and Business Development

Laura MacDonald
Vice President and Corporate Controller

John McGarry
Senior Vice President,
Research and Development

Thomas F. Nash
President, Surface Inspection
Systems Division (SISD)

Kris Nelson
Senior Vice President of Sales,
Americas

Peter Neve
Vice President, Global Marketing

Kiyoshi Shima
President, Cognex K.K.

Hisataka Shitara
Senior Vice President of SISD,
Cognex K.K.

William Silver
Senior Vice President and
Senior Fellow

COGNEX

Cognex Corporation

One Vision Drive

Natick, MA 01760-2059

www.cognex.com