

PLASTICS MANUFACTURING AUTOMATION AND ROBOTICS REVIEW & OUTLOOK 2013 - NORTH AMERICA



This report includes in-depth analysis of the automation and robotics industry for North America. It includes discussions of market trends, opportunities and threats as well as the latest developments in automation innovation. It also details lights-out manufacturing, equipment trends and automation's impact on employment and an outlook for automation adoption in North America.

Charts and graphs outline North American robot shipments from 1999 through 2012, forecast growth for North American economies and Top 10 countries by robot density in 2012.

We review 10 leading manufacturers of automation and robotic solutions, assessing their business strategy, challenges, opportunities for growth as well as their manufacturing and production outlook.

Our experts also offer perspectives from industry thought leaders regarding their views on industry trends, threats to business and growth prospects. These include:

- Jeff Burnstein, President, Association for Advancing Automation
- Jisuke Hozumi, President, Sailor Automation
- Christopher Parrillo, National Sales Manager, Yushin America
- Jim Swim, Business Manager, CBW Automation

Plastics News

1725 Merriman Road
Akron, OH, 44313-5283
United States

Phone: +1-330-836-9180
Fax: +1-330-836-2322
Web: www.plasticsnews.com

Vice President/Publisher
Anthony J. Eagan
aeagan@crain.com

Editorial Director/Associate Publisher
Robert Grace
rgrace@crain.com

Editor
Donald Loepp
dloepp@crain.com

Manager, Digital Strategy & Development
David Irvin
dirvin@crain.com

Plastics News Reports

Director, Audience Development &
Data Products
Glenn Glasberg
gglasberg@crain.com

Research Analyst
David Hutton
dhutton@crain.com

Lead Analyst
Bill Bregar
wbgregar@crain.com

Contributing Analyst
Dante Giancola
Dante_giancola@hotmail.com

Production Assistant
Kim Stannard
kim.stannard@yahoo.com

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Table of Contents

Automation Market Overview	3
Baxter: Next Generation of Robot	8
Automation Equipment Overview	11
Lights Out: Future of Automation.....	13
Automation's Impact on Employment.....	15

Manufacturer Profiles

Ranger Automation Systems Inc.....	18
Reis Robotics USA.....	19
Sailor Automation Inc.....	20
Yushin America Inc.....	22
Sepro America LLC.....	24
Stäubli America.....	25
Motoman Robotics	26
CBW Automation	27
ABB.....	29
Wittmann Battenfeld Inc.....	30

Tables

North American Robot Shipments	3
Top 10 Countries by Robot Density.....	6
Forecast Growth of North American Economies	7

Perspectives

Q&A With Jeff Burnstein, President, Association for Advancing Automation.....	9
Q&A With Jisuke Hozumi, President, Sailor Automation Inc.....	21
Q&A With Christopher Parrillo, National Sales Manager, Yushin America.....	23
Q&A With Jim Swim, Business Manager, CBW Automation.....	28

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Glenn Glasberg
+1-330-865-6161
gglasberg@crain.com

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Automation making impact on plastics industry

Robots have long been a source of fascination for people. The female-form robot in Fritz Lang's iconic silent film "Metropolis" disturbed audiences in 1927 and remains unsettling to this day. Other notable examples include Robbie the Robot from science fiction movies in the 1950s and the simply named Robot from "Lost in Space" in the 1960s.

Some fictional robots have turned out, decades later, to be the real thing.

Clifford Simak's classic 1952 science fiction book, "City" starts like this:

"Gramp Stevens sat in a lawn chair, watching the mower at work, feeling the warm, soft sunshine seep into his bones. The mower reached the edge of the lawn, clucked to itself like a contented hen, made a neat turn and trundled down another swath."

About 50 years later, John Deere demonstrated a solar-powered lawn mower, mesmerizing people at an outdoor power equipment trade show in Louisville, Ky.

Rosie the Robot vacuumed the floor on "The Jetsons." Today, you can buy a Roomba robotic vacuum to do that chore. Rosie had a face, and today you, too, can get a robot with a face. A two-armed robot called Baxter is at work right now at a couple of plastics factories, grabbing plastic parts off a conveyor belt — and turning its gaze upon human coworkers, raising an eyebrow.

Baxter cannot deliver a cold beverage as you sit in your reclining chair. At least not yet.

The plastics industry is highly networked

and specialized, with plastic production, plastic processing and mechanical engineering all closely interlinked.

Plastics are used in virtually every sector: from the automotive and electronics industries to the consumer goods and food industries. Mechanical engineering plays an important role here as the link between the production and the processing of plastics. Injection molding machines and tools process the raw material to form innovative, precise and robust end products or intermediate products for further processing — production steps that can be carried out more efficiently, cost-effectively and reliably with automation solutions.

Today, robots and automation have a significant impact on the plastics industry by increasing production levels and decreasing production costs.

Robot sales near record

Dr. Shinsuke Sakakibara, president of the International Federation of Robots (IFR), noted that 2012 proved to be a solid year for the global robot industry as robot sales reached the second highest level ever.

Between 2008 and 2012, robot sales increased by 9 percent, on average, per year.

"We are very pleased that in 2012 we have reached the second highest level of robot sales ever recorded in the history of industrial robots," said Dr. Andreas Bauer, chairman of the IFR Industrial Robot Suppliers Group.

According to Bauer, more than 159,000

units were sold during the year.

"The demand for industrial robots is increasing due to the accelerating trend towards automation all over the world," Bauer said. "We estimate that robot installations will reach a similar level again in 2013. In the last three years, investments in robots have been strongly supported by the automotive industry. In other industries, the general industry sales are increasing."

About 70 percent of the total robot sales in 2012 went to Japan, China, United States, South Korea and Germany.

Worldwide in 2011, robot supplies increased by 38 percent to 166,028 units, by far the highest level ever recorded for one year. The value of sales surged by 46 percent to \$8.5 billion, also a new record.

NORTH AMERICAN ROBOT SHIPMENTS 1999-2012		
Year	Shipments (units)	Shipment (U.S. dollars)
1999	12,836	1,066,218
2000	12,986	1,019,611
2001	10,813	882,167
2002	8,856	676,830
2003	12,684	889,487
2004	13,444	914,431
2005	19,594	1,183,762
2006	13,498	1,020,181
2007	14,919	971,617
2008	12,781	953,502
2009	10,443	663,390
2010	10,780	665,453
2011	17,887	1,103,315
2012	20,328	1,293,800

Source: Robotic Industries Association (RIA)

About this report

This report, "Plastics Manufacturing Automation & Robotics Review and Outlook 2013 - North America," examines current trends in automation & robotics, including impact on the plastics industry, sales trends and innovations that could impact adoption throughout plastics manufacturing. Included are Q&A interviews with industry leaders, as well as charts and graphs that outline North American economic trends and robot shipments since 1999.

THE REPORT FEATURES CHARTS, INCLUDING ROBOT DENSITY ...

Clifford Simak's classic 1952 science fiction book, "City" starts like this:

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KOBOT SALES NEAR RECORD

Dr. Shinsuke Sakakibara, president of the

dustrial robots," said Dr. Andreas Bauer, chairman of the IFR Industrial Robot Suppliers Group.



PROFILES OF 10 ROBOT MANUFACTURERS ...

Ranger Automation Systems Inc.



820 Boston Turnpike,
Shrewsbury, MA 01545
P: 508-842-6500
F: 508-842-5941
www.rangerautomation.com
Privately held

Key Official:
John Campbell, national sales manager

With one production facility in Massachusetts and three field services in the

from small pickers to some of the largest robots in the world for very large presses and other applications."

The company has experienced a number of innovations. It has grown in some areas, including the production of large press robots for structural foam plastics machines such as the large Uniloy or Wilmington presses that are making large surface area parts like pallets and panels for sheds.

Quick Facts

2012 Annual Sales: Undisclosed
Markets served: Blow molding, injection molding, plastics processing
Product listing: servo robots, sprue pickers, large-part pickers, side-entry and floor-mounted robots, end-of-arm tooling
Plant locations: Shrewsbury, MA
North American Employees: 50

Q&A INTERVIEWS WITH INDUSTRY THOUGHT LEADERS ...

Executive Spotlight | Jeff Burnstein

President, Association for Advancing Automation (A3)

Jeff Burnstein is the president of the Association for Advancing Automation (A3), the parent group of the Robotic Industries Association (RIA), AIA – Advancing Vision + Imaging, and the Motion Control Association (MCA). Together these trade groups represent

about 650 global companies involved in robotics, vision, motion control and related automation technologies. Burnstein joined RIA in 1983 and has held a variety of senior positions, culminating in his promotion to President in 2007. He is a frequent commentator on issues

such as the impact of automation on jobs and the future of automation beyond the factory floor.

Q. In 2012, North American robot orders were up 17 percent in units and 27 percent in dollars over 2011. What was behind this