

MANUFACTURING & TECHNOLOGY NEWS

PUBLISHERS & PRODUCERS, P.O. BOX 36, ANNANDALE, VA 22003

PHONE: 703-750-2664 FAX: 703-750-0064 URL: WWW.MANUFACTURINGNEWS.COM

Friday, January 30, 2015

Volume 22, No. 2

ISO Introduces International Standard For Outsourcing

The International Standards Organization has finalized and introduced “ISO 37500:2014 Outsourcing” to help bridge the “communications divide” that exists between companies that are outsourcing and those providing outsourcing services, says ISO. The standard was driven by “cultural misunderstanding and the fact that there is no one language on outsourcing in international waters.”

ISO 37500 addresses different outsourcing arrangements in order to accommodate “changing business requirements,” notes ISO. “The risks involved in outsourcing are confronted to enable mutually beneficial collaborative relationships.” The new standard addresses issues associated with “too much focus on cost cutting rather than added value; too little governance; and too little effort in building sustainable relationships.”

It also should help improve public perception. “To many people, outsourcing is a frightening proposition,” ISO explains. “Yet this new business model, which has been adopted worldwide across both the private and public sectors, provides multiple benefits.” It should not be confused with “offshoring” of jobs to take advantage of lower-cost foreign labor because outsourcing “gives the client access to expertise and to a level of productivity not available in house.”

Companies adopting the standard will have an easier time outsourcing manufacturing and information technology services, says ISO. “No doubt that, as ISO 37500 gains popularity and traction, even more sectors will weigh in and provide their know-how for the next revision of the stan-

dard.”

Companies will use the standard’s “common vocabulary” across different countries and industry sectors “to improve the understanding of all stakeholders involved in managing the outsourcing life cycle.” Governance is at the heart of the new standard, because “experience has shown that many of the problems arise from the lack of, or poor, governance practices,” says ISO outsourcing chair Adrian Quayle.

The standard was written by indi-

viduals working in pension funds, financial services, administration, IT, consultancies, packaging and energy.

ISO 37500 is not a “political document,” ISO states. But it will be important to help combat the negative public perception of outsourcing. ISO asks, “Can outsourcing’s poor public image be remedied? Why? Because of the loss of jobs? This is a temporary situation. We all seek wealth and good fortune. The infusion of good standards and free trade is beneficial to all citizens of our global village. Outsourcing is not an evil. It is a means to spread wealth more evenly throughout the world. However painful this may sometimes be on an individual basis, people are forced to change.”

There is no stopping the outsourcing trend, says ISO. In 2012, 43 percent of the global information technology sector had been out-

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Agriculture Is The Engine Driving Passage Of A New Trade Deal

Members of the Senate Finance Committee welcomed United States Trade Representative Michael Froman to their chamber in late January, with most members lavishing praise on him as the public persona of President’s Obama’s embrace of free trade.

Save for a few Democrats on the Committee who raised concerns about the proposed Trans Pacific Partnership and Trade Promotion Authority, most of the senators were pleased by progress being made and encouraged rapid passage of TPA.

The majority of senators on the Finance Committee were most ebullient over prospects of TPP opening Asian markets for agricultural commodities, and many of their questions of the Trade Rep. concerned poultry, beef, dairy, cotton, ethanol, wheat and soybeans.

Even some Democrats who have been skeptical about free trade seemed

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U.S. Intelligence Analyst: China Has Become A World Superpower Due To Poor U.S. Policy

A new book on how the United States has been deceived by China in its quest to become the world's largest superpower is starting to make a splash in Washington. The book, *The Hundred-Year Marathon: China's Secret Strategy to Replace America as the Global Superpower*, is written by Michael Pillsbury, who spent the past 40 years as a China analyst for the Pentagon and CIA. Pillsbury, who is fluent in Mandarin Chinese, interviewed Chinese defectors and analyzed recently declassified national security documents to write the book and draw his conclusions.

He found that the United States is playing an "indispensable role helping the Chinese government build a booming economy, develop its scientific and military capabilities, and take its place on the world stage in the belief that China's rise will bring us cooperation, diplomacy and free trade," he writes in a synopsis.

But the United States has unwittingly fallen into the "China Dream," which is "to replace us, just as America replaced the British Empire, without firing a shot." The book, he writes, offers "an inside look at how the Chinese really view America and its leaders — as barbarians who will be the architects of their own demise."

Pillsbury, director of the Center on Chinese Strategy at the Hudson Institute, says the United States must "implement a new, more competitive strategy toward China as it really is and not as we might wish it to be." He hopes that the book will act as a "wake up call as we face the greatest national security challenge of the twenty-first century."

Pillsbury has held senior national security positions in the U.S. government since the 1970s "and draws on his decades of contact with the 'hawks' in China's military and intelligence agencies and translates their documents, speeches and books to show how the teachings of traditional Chinese statecraft underpin their actions," says book publisher Henry Holt & Co., a division of Macmillan.

No Growth For U.S. PCBs

The U.S. printed circuit board industry remains in a slump. PCB shipments in 2014 declined by 0.8 percent from 2013, according to IPC — Association Connecting Electronics Industries. "PCB business in North America was virtually flat in 2014 compared to the previous year," said Sharon Starr, IPC's director of market research. "Sales ended the year less than one percentage point below 2013, while orders finished the year just 0.6 percent above 2013. Strong orders in the fourth quarter have kept the book-to-bill ratio solidly in positive territory, which bodes well for sales growth in 2015."

China Gains Global Market Dominance In High-Speed Rail Equipment Industry

Chinese high-speed rail manufacturing companies have completely displaced foreign firms from the fast-growing Chinese market, due to a focused national industrial policy and an aggressive construction program over the past decade. The result: China's high-speed rail equipment manufacturers are now the dominant suppliers around the globe.

"With its strategy of 'introduction, digestion, absorption and innovation,' China's domestic industry is now a roaring success," according to a report in the January 29 edition of *China Daily*.

Two Chinese manufacturers — China North Railway (CNR) and China South Railway (CSR) — now control the entire domestic Chinese high-speed rail equipment industry. "When the idea for a high-speed rail network was raised over a decade ago, trains and supporting equipment had to be sourced from foreign companies," such as Japan's Kawasaki, France's Alstom and Germany's Siemens, according to the report. Those companies are no longer selling any equipment in China.

China has installed 10,000 miles of high-speed rail over the past decade, with plans for another 10,000 miles by 2020, for a total of 20,000 miles.

"Not just satisfied with domestic expansion, China has been ambitiously extending its influence beyond its borders," according to *China Daily*. "Although a latecomer to the field, Chinese companies are now in a position to bid for and win major contracts in both emerging and developed countries."

CNR and CSR "currently hold the lion's share of the world's high-speed rail market, with their sales revenue equal to the other top five companies combined," notes *China Daily*. "Cost advantages and shorter delivery time have made Chinese high-speed rail equipment more competitive than its counterparts," it notes, referring to statements made by CSR vice president Xu Zongxiang. Chinese companies can deliver one train in 12 months as opposed to 18 to 22 months for foreign rivals.

The two Chinese manufacturers are also considering a merger, which should allow China "to better concentrate on innovation," says Wang Mengshu of the Chinese Academy of Engineering.

Almost All States Have Lost Factories Over The Past Decade

California remains in a sizeable lead among the 50 states in the number of manufacturing workers, factories and output, but the state, like almost all others, has seen a sizeable drop in factories and manufacturing employment since 2002.

Between 2002 and 2012, California experienced a net loss of almost 10,000 factories, falling from 48,478 in 2002 to 38,741 in 2012, according to the latest data from the Census Bureau's "Geographic Area Series."

From 2007 to 2012, California lost almost 6,000 factories (from 44,299 to 38,741).

The number of workers employed in the manufacturing sector in California has fallen from 1.62 million in 2002 (with an annual payroll of \$66.5 billion) to 1.45 million in 2007 (with an annual payroll of \$71 billion), to 1.16 million in 2012 (with an annual payroll down to \$69.3 billion).

The number of production workers in California in 2012 stood at 733,044 (compared to 916,057 in 2007 and 1.03 million in 2002).

The factories that remain in California are producing more output in current dollars, however. In 2012, the total value of shipments and receipts for services for the California manufacturing sector stood at \$512 billion, up from \$491 billion in 2007 and \$377 billion in 2002.

Texas remained in second place nationally with the number of factories and manufacturing workers. But since 2002, the number of factories has also declined, from 21,450 in 2002 (with 855,658 manufacturing workers), to 19,782 in 2012 (with 767,024 workers).

Other states have experienced sizeable decreases in factories and manufacturing employees.

New York had 21,450 factories (with 855,658 workers) in 2002, falling to 16,475 factories (with 426,621 workers) in 2012.

Illinois tumbled from 16,860 factories in 2002 (with 742,000 manufacturing employees) to 13,868 factories in 2012 (with 542,004 man-

ufacturing employees).

Ohio's plant count fell from 17,494 in 2002 (with 868,732 manufacturing employees), to 14,482 factories in 2012 (with 627,124 manufacturing employees).

Only a few states experienced growth — modest growth — in the number of factories and manufacturing workers. The number of factories in Alaska increased from 514 in

2002 (with 10,933 employees) to 527 in 2012 (with 12,450 workers).

The number of factories in North Dakota increased from 724 in 2002 to 745 in 2012 though employment stayed steady at 23,000.

To view the full report, which includes every state, go to the Census Bureau's "Factfinder," <http://factfinder.census.gov/>. In the menu bar along the top click "Advanced Search." In the next page, in the "topic or table name" search box, type in the series numbers for the data — for 2012 it is EC1231A1; for 2007 it is EC0731A1; and for 2002 it is EC0231A1.



ILO Issues Warning On Potential For Global Strife

Government officials throughout the world should be aware of social upheaval as tens of millions of people are finding themselves unemployed with no prospects for jobs anytime soon, according to the United Nation's International Labor Organization (ILO).

"The challenge of bringing unemployment and underemployment back to pre-crisis levels now appears as daunting a task as ever, with considerable societal and economic risks associated with this situation," warns the ILO in its 2015 "World Employment Social Outlook."

The number of people unemployed globally in 2014 stood at 201 million, an increase of 31 million from before the start of financial crisis in late 2008. Global unemployment is expected to increase by another 3 million in 2015 and by 8 million over the next four years.

"The global employment gap, which measures the number of jobs lost since the start of the crisis, currently stands at 61 million," says ILO. To keep up with the world's growing population, which increases by more

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ILO Warns About Global Labor Strife... (Continued from page three)

than one person per second and stands at 7.221 billion, the world needs to create an additional 280 million jobs by 2019 “to close the global employment gap caused by the crisis,” says ILO.

The shortfall of jobs is adversely impacting young people just entering the workforce, a troubling trend in countries that are or could soon be experiencing social upheaval. There were 74 million young people out of work in 2014, and global youth unemployment is three times higher than for adults. “The heightened youth unemployment situation is common to all regions and is occurring despite the trend [of] improvement in educational attainment, thereby fueling social discontent,” notes the ILO.

For those who are employed, many of their jobs are not stable and could disappear. “The incidence of ‘vulnerable’ employment is projected to remain broadly constant at around 45 percent of total employment over the next two years, in stark contrast to the declines observed during the pre-crisis period,” notes the ILO. “The number of workers in vulnerable employment has increased by 27 million since 2012, and currently stands at 1.44 billion worldwide.” Three out of four workers in South Asia and sub-Saharan Africa are in “vulnerable” jobs.

One cause of this situation is linked to income inequality, says the ILO, with the richest 10 percent of global workers earning almost 40 percent of total income, whereas the poorest 10 percent earn around 2 percent of total income. In advanced economies like the United States “income inequalities have worsened rapidly in the aftermath of the crisis and in some instances are approaching levels observed in some emerging economies.”

Another reason for widening income inequality is the loss of medium-skilled “routine” jobs, as demand for low- or no-skilled jobs as well as high-skilled jobs has grown. “As a result, relatively educated workers that used to undertake these medium-skilled jobs are now increasingly forced to compete for lower-

skilled occupations,” says ILO. “Rising inequalities have also undermined trust in government, with few exceptions. Trust in government has been declining particularly rapidly in countries in the Middle East and North Africa region but also in advanced economies, East Asia and Latin America.”

Beware, warns the ILO, of the impact of governments colluding with the wealthy. “Social unrest has gradually increased as joblessness persists. Countries facing high or

rapidly rising youth unemployment are especially vulnerable to social unrest.” Public confidence in government has been declining in most of the world, including Latin America, East Asia, in the developed economies and in the Middle East and North Africa.

The ILO report is located at: http://www.ilo.org/wcmsp5/groups/public/-/dgreports/-/dcomm/-/publ/documents/publication/wcms_337069.pdf.

QUOTABLE, FROM THE ILO'S ‘SOCIAL OUTLOOK’ REPORT: ‘China’s Graduates: Not Enough Good Jobs’

“To expand higher education in the country, the Government of China increased the number of colleges and universities from 1,552 to 2,491 between 2003 and 2013. During the same period, the number of secondary vocational schools declined by 16.4 percent (from 14,682 to 12,281). Moreover, 6.4 million college graduates entered the labor force in 2013, 3.4 times higher than in 2003. According to the Chinese College Graduates’ Employment Annual Report 2014, China now faces the significant challenge of addressing unemployment among graduates, which stood at 8.6 percent in 2013. For those new graduates who found jobs, the average wage was 3,250 yuan (about \$525 as of 2013) per month, which is roughly four-fifths of the urban average. Approximately 56 percent of graduates in 2013 expressed dissatisfaction with their current jobs. One of the main challenges for the country, is, therefore, to utilize the potential of new graduates more productively in the economy.”

Rail Equipment Industry Needs Steady Funding

The U.S. passenger and transit rail industries support up to 90,000 jobs at 754 companies throughout the country, but in order for the industry to remain viable and supply the next generation of equipment to a growing nation, “long-term sustainable funding is vital,” says the BlueGreen Alliance.

The United States operates a successful passenger rail and transit system. Ridership on subways and commuter rail lines is up. “Amtrak has broken ridership records in 11 of the last 12 years, with 31.6 million passengers taking intercity rail trips in 2014, despite limited service and aging equipment,” says a study by the BlueGreen Alliance. “Demand for public transportation is expected to continue increasing as more Americans move away from car ownership and the U.S. population grows, adding 100 million people by 2050.”

The study notes that 29 new light rail and 20 commuter rail systems have been built in the United States over the past 30 years, “generating \$10 billion in orders for subway, commuter and high-speed passenger rail cars and locomotive equipment orders.”

The BlueGreen Alliance notes that spending on new rail projects “supports the entire economy, so funding can appropriately come from multiple sources, including increasing the gas tax, additional general fund appropriations and other measures.” The report, “Passenger Rail and Transit Rail Manufacturing in the U.S.,” which provides a list of the 754 companies in the U.S. rail supply chain, is located at <http://www.bluegreenalliance.org/news/publications/document/PassengerRailTransitRailManufacturing.pdf>.

TPP Protestors Disrupt USTR's Senate Testimony

The Obama administration's push for Trade Promotion Authority and completion and approval of the Trans Pacific Partnership is raising the ire of organizations representing American workers, environmental groups and domestic producers. Tempers are flaring.

At a hearing of the Senate Finance Committee, U.S. Trade Representative and former Citibank executive Michael Froman got a first-hand taste of the anger building over Obama's free-trade agenda. In a rare demonstration at a Senate Finance Committee hearing, a group of protestors started heckling Froman as he began reciting his prepared comments. For the next five minutes, protestors implacably refused appeals by Committee Chairman Orrin Hatch (R-Utah) to settle down.

Displaying anti free-trade posters and a large banner that read, "TPP Fast Track, Job Killing Act," protestors began yelling: "You are not telling the American people the truth!" Committee Chairman Orrin Hatch (R-Utah) directed the Capitol Hill police to "remove this person from the room and if anybody else does this you are going to be removed." Whereupon another protestor chimed in: "The American people are against it! They are against TPP!"

Hatch looked on sternly, but then another man rose above the fray: "Stop Fast Track! Stop TPA! No TPP! No TPP!"

Froman, with his back to the disturbance, did not budge, keeping a sedate countenance and his gaze straight ahead, save for a quick glance when things got unruly.

Looking a bit exasperated Hatch said, "Just take them out. Look, the committee will be in order. Comments from the audience are inappropriate. They are out of order. If there is any further disruption, then the committee will recess until the police can restore order."

The committee room remained restive. Hatch continued: "I understand that some people have strong feelings about the subject we are talking about. That is fine. The first amendment guarantees your right to express your views, but we have to allow civic discussion to occur in the context of this hearing."

He then asked that the protestors put their signs down. "Show some courtesy here," he said. "We're not going to put up with it and if we have to recess this committee we will, which would be a shame but we'll recess until order is restored. And I ask our Capitol Hill police to make sure that we don't have any more of this type of activity."

Froman, reading glasses still perched on his nose, picked up from the point where he had stopped and then another outburst from the gallery. Hatch told the miscreant: "You are not representing your people properly. Take him out."

The protestor said: "It's a fraud! Big business and secret deals and a loss of American jobs!"

Hatch: "You're not helping your case I can tell you that right now (chuckles). . . Mr. Ambassador."

Froman: ". . . as we work to open markets around the world. . ."

Hatch: "If any signs go up again we're going to throw you out of the meeting too. So let's just stop the cheap politics. Ambassador Froman . . ."

Republicans Give Obama A Thumbs Down On Everything Save For Trade

A large and diverse group of organizations fighting passage of upcoming legislation to provide President Obama with Trade Promotion Authority are engaged in an uphill battle, given that Democrats opposed to the agenda no longer control Congress.

During Obama's January 20 State of the Union Address, Republicans sat glued to their chairs as the president boasted about health care inflation being at the lowest level in 50 years; the U.S. having the highest all-time high-school graduation rate; and the economy creating 11 million new jobs over the past five years. Democrats were standing, roaring in approval.

Republicans sat stone-faced when Obama proposed a \$3,000 tax cut for child care, paid maternity leave, an increase in the minimum wage, free community college, and a new round of infrastructure spending. They didn't budge when Obama talked about the end of the wars in Iraq and Afghanistan, the reduction of federal budget deficits, the need for equal pay for women and lower gas prices saving an American family \$750 a year.

But eight pages into Obama's 18-page speech, they jumped out of their seats when he said, "I am asking both parties to give me Trade Promotion Authority to protect American workers with strong new trade deals from Asia to Europe that aren't just free but fair."

On the democratic side of the chamber, fewer than a dozen members rose from their chairs to give the president an ovation for his statement on Trade Promotion Authority. Most others sat silently.

Obama's next line — "Look, I'm the first one to admit that past trade deals haven't always lived up to the hype" — elicited clapping from the Democrats; silence from Republicans.

If an observer to the affair didn't know that the Democrats were crushed in the November election (now holding 188 seats to the Republicans' 246 in the House and 46 to the Republicans' 54 in the Senate), they would have thought the Democrats were in control of Capitol Hill, given all the whooping, whistling and stomping coming from their side of the House Chamber.

After the event when members of Congress migrated to Statuary Hall amidst the crush of television cameras and reporters, your *Manufacturing & Technology News* correspondent asked a handful of Republicans about their impressions of the speech. Said one House member: "Other than trade authority, there was nothing to clap about." Sen. Dan Coats (R-Ind.) said later that Obama's mention of trade "brought Republicans to their feet faster than anything else."

Overwhelming Show Of Support For Mfg. Composites Center

There is a huge amount of private-sector interest in the federal government's new program aimed at creating a National Network for Manufacturing Innovation. The U.S. Department of Energy has selected a contractor to run its new "Advanced Composites Manufacturing Innovation Institute," the fifth new "National Manufacturing Institute" (or manufacturing hub) to receive federal funding. Dozens of major companies, laboratories, universities and small and medium-sized businesses are involved in the effort, and will supply the majority of funding for the new enterprise.

The institute will be run by a new not-for-profit organization created by the University of Tennessee in Knoxville, Tenn. The Department of Energy will provide it with \$70 million, while another \$189 million will be provided by 86 partners and 36 consortia members.

The center will focus on developing new materials that are three times as strong and twice as light as "the lightest materials," says DOE. The new center has a goal of lowering the cost of fiber-reinforced polymer composites by 50 percent, reducing the amount of energy used to make

composites by 75 percent, and increasing the recyclability of composites to over 95 percent.

If they are able to do this, then companies producing the new materials should be able to manufacture new automotive parts and structures, longer wind turbine blades, high-pressure tanks for natural gas-fueled cars and more efficient industrial equipment.

"By doubling the length of a turbine blade these materials can help quadruple the amount of electricity generated," says DOE. "In automotive applications, advanced composites could reduce the weight of a passenger car by 50 percent and improve its fuel efficiency by roughly 35 percent without compromising performance or safety — helping to save American families more than \$5,000 in fuel costs over the car's lifetime."

(A sixth institute, focusing on photonics and funded by the Pentagon, has three finalists competing for the award.)

The composites institute brings together producers and users of composites along with research universities. Here are the members of the winning team.

57 Companies:

- A&P Technology, Inc.
- Adherent Technologies, Inc.
- Altair
- Ashland Performance Materials
- Assembly Guidance Systems, Inc.
- BASF Company
- Boeing Company
- Celanese International
- Continental Structural Plastics
- Convergent Mfg. Technologies
- Cytec Engineered Materials
- Dassault Systemes Americas Corp.
- Dow Chemical Company
- DowAksa
- DuPont
- ESI North America
- Evonik Corporation
- Faurecia US Holdings
- Fives
- Ford Motor Company
- GE Water & Power
- Graco, Inc.
- GrafTech International
- Heil Trailer International
- Herty Advanced Materials Dev. Center
- Hills, Inc.
- Honda R&D Americas, Inc.
- Huntsman Polyurethanes
- N3 Applications
- Johns Manville
- LayStitch Technologies
- LM Wind Power
- Local Motors
- Lockheed Martin
- Materials Innovation Technologies
- McWhinney Real Estate Services
- Michelman Inc.
- Milacron Plastics Technologies Group Momentive; North Coast Tool & Mold Corp.
- Owens Corning
- Phoenix Integration
- PolyNEW, Inc.

- PolyOne Corporation
- PPG Industries, Inc.
- SABIC Innovative Plastics US
- SAERTEX USA, LLC
- Strongwell, Inc.
- Thogus Products Company
- Toray Composites (America), Inc.
- TPI Composites, Inc.
- Vestas Americas
- Volkswagen
- Wetzel Engineering
- Williams, White & Company
- Wolf Robotics, LLC
- Xperion

15 Universities and Laboratories:

- University of Tennessee, Knoxville
- Colorado School of Mines
- Colorado State University
- Iowa State University
- Michigan State University
- Mississippi State University
- National Renewable Energy Lab.
- Oak Ridge National Laboratory
- Purdue University
- The Ohio State University
- University of Colorado-Boulder
- University of Dayton Res. Institute
- University of Kentucky
- University of Michigan
- Vanderbilt University

14 Other Entities:

- Institute for Advanced Composites Manufacturing Innovation (IACMI)
- Abaris Training Resources, Inc.
- American Chemical Council
- National Composites Center
- Oak Ridge Carbon Fiber Composites Consortium
- Polymer Ohio, Inc.
- Southern Research Institute
- Colorado Office of Economic Development & International Trade
- Indiana Economic Development Corp.

- Michigan Econ. and Community Dev.
- Ohio Development Services Agency
- State of Kentucky Cabinet for Economic Development
- State of Tennessee
- University of Tenn. Res. Foundation

36 Consortia Members:

- Alcoa Inc.
- 3M Company
- BioCycle, LLC
- Braskem America
- BST Nano Carbon
- Chomarat North America
- Cincinnati Incorporated
- Concordia Fibers
- Eaton Corporation
- EWI
- Fiber-Tech Industries, Inc.
- FibrTech; Global Wind Network
- Harper International
- Hexagon Lincoln
- Ingersoll Machine Tools
- Interlaken Technology
- International Fibers, Ltd.
- Johnson Controls, Inc
- Koppers
- Materia, Inc.
- Mentis Sciences, Inc.
- Michigan Molecular Institute
- Nexgen Composites
- NONA Composites, LLC
- Oerlikon Metco
- OshKosh Corporation
- Plasan Carbon Composites
- PlastiComp
- Quickstep Composites, LLC
- Rocky Mountain Institute
- The Magni Group
- Techmer
- Toyota Motor Engineering & Manufacturing North America
- United Technologies Research Center
- XG Sciences

China On Path To Have More Robots Than U.S., Europe

China will overtake both the United States and the EU by 2017 in the number of installed advanced industrial robots, according to the International Federation of Robotics (IFR). China currently has 200,000 industrial robots installed, but that will double by 2017 to 400,000.

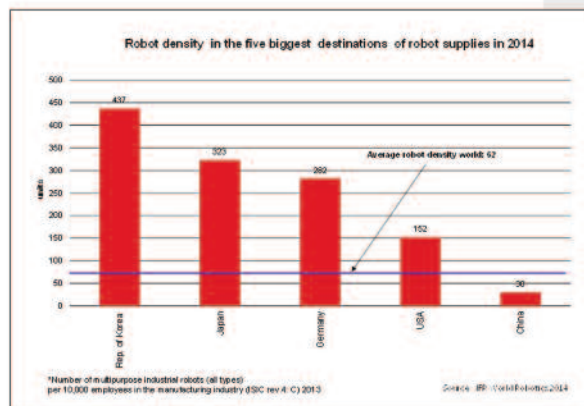
“To compare: in North America, numbers will rise to about 300,000 — with 340,000 predicted for Europe’s five largest economies,” says IFR.

China is now the world’s largest market for industrial robots. “To date, China only has 30 industrial robots per 10,000 employees in manufacturing industries,” notes IFR. Germany’s robotic density is 10 times larger. In Japan, it’s 11 times larger. In North America, robot density is five times higher than in China.

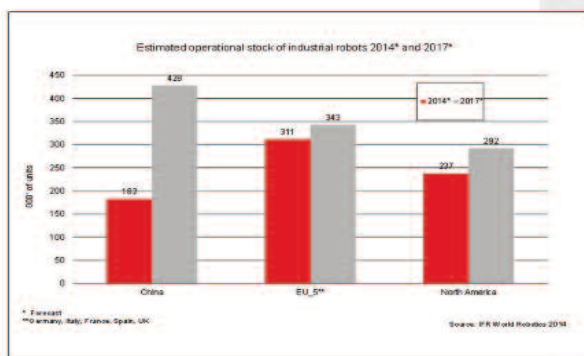
“The automation of China’s production plants has just started,” says Per Vegard Nerseth, managing director of ABB Robotics. “As the first foreign robot manufacturer to arrive here, we have witnessed swift, almost explosive growth over the last two to three years, surpassing even our expectations.”

IFR says that four out of five industrial robots sold in China are made by foreign robotic manufacturers, with most of the robots coming from Japan, North America and Europe. “More manufacturers are planning to build their own production lines in China,” IFR notes. “The Chinese government is simultaneously pushing forward with robotic research. Once again, the main partners are leading foreign robotic manufacturers. In contrast, Chinese manufacturers have concentrated on customer satisfaction with average quality and unsophisticated technology, but sales in this segment have also more than tripled since 2012.”

Low robot density in China



Robot stock in China will surpass North America and main EU countries in 2017



Venture Capitalists Invest In U.S. Industrial Robot Company

Rethink Robotics, the startup from MIT, has raised an additional \$26.6 million through a “Series D” financing led by GE Ventures. “This new investment brings the company’s total funding to more than \$100 million since its founding in 2008,” says the company. Goldman Sachs was also involved in the latest financing, as well as all of Rethink Robotics’ earlier investors including Bezos Expeditions, CRV, Highland Capital Partners, Sigma Partners, Draper Fisher Jurvetson and Two Sigma Ventures.

“Our new and existing investors recognize the enormous market potential for smart, collaborative robots in manufacturing and they share our vision for driving ongoing product innovation, volume deployments and continued expansion into global markets,” said Rethink Robotics president and CEO Scott Eckert. The company’s robots are easy to train and work closely and safely with humans. GE Ventures joined the financing because “advanced manufacturing is an important area of focus for GE both as an investor and as a manufacturer,” says GE Ventures CEO Sue Siegel.

MAPI: Oil Prices Will Start To Rise — But Slowly

Don’t expect oil prices to stay so low for very long, according to the Manufacturers Alliance / MAPI Foundation. The increase of U.S. production from 5.1 million barrels per day in 2008 to 9.1 million by December 2015 along with the slowdown in world economic growth has led to the drop in prices.

But global economic growth will lead to increased consumption and “the balance between oil supply and demand will tighten as the price will rise,” notes Donald Norman, director of economic studies at the MAPI Foundation. “It may be a few years before it reaches \$90 to \$100 per barrel, but a price below \$50 per barrel does not appear to be sustainable for very long.” Norman’s analysis is located at <https://www.mapi.net/research/publications/oil-demand-other-side-equation>.

Ag Drives Trade...*(From page one)*

to waver and focused on agriculture, with Sen. Ron Wyden (D-Ore.) telling Froman that “dairy is a very important issue in the Pacific Northwest.”

Sen. John Isakson (R-Ga.) said his primary concern is opening overseas poultry markets. “That is very important to my state of Georgia,” he said.

Sen. Tom Carper (D-Del.) echoed Isakson’s statement. “We raise poultry and soybeans on the Delmarva Peninsula. We want to sell them to as many markets as possible.”

Sen. Rob Portman (R-Ohio) said he was concerned about a small company in Akron “that is getting shut out of the beef market in Japan.”

Sen. Michael Bennett (R-Colo.) said “nowhere is [TPP] more important to our state than our agricultural sector.” His state exports \$2 billion a year in wheat and the state’s wheat growers “export 80 percent of what they grow.”

The Senate has far more members from small agricultural states than industrial states, with North Dakota (population 700,000) having as much representation in the chamber as New York (population 20 million).

After asking about whether Japan would be required to open its market to U.S. pork producers under TPP, Sen. Chuck Grassley (R-Iowa) stated the obvious: “It seems to be at least in the U.S. Senate that a good agricultural agreement seems to be the locomotive that brings along everything else. I hope that manufacturing will help along that line as well, for their own good.”

A few of the senators from industrial states said TPP would likely not be for their own good. “I care about agriculture but I care about manufacturing and automobiles,” said Sen. Debbie Stabenow (D-Mich.) “The key is to export our products not our jobs and that is the fundamental debate.”

Sen. Bob Casey (D-Penn.) said that “despite promises and assertions that lead up to trade agreements too often our state has gotten the short end of the stick. We see very powerful and financed special interests in this town who don’t get the short end of the stick. They do very well.”

Froman came armed to address Casey’s concerns. Pennsylvania’s exports have grown by 150 percent over the last 10 years and now amount to \$41 billion, he told Casey. The top export products from Pennsylvania are chemicals, minerals and fuels, and metals and ores. In most foreign markets, there are 35 percent tariffs on these

products. “With this trade agreement we will open up markets and protect workers, protect American jobs by ensuring a fair and level playing field by raising environmental and labor standards and IP rights” and new controls on state-owned enterprises “that pose a real threat to your workers in Pennsylvania.”

Casey said he has “no doubts” about Froman’s intentions, “but the problem is some of us have heard this before” and it has never panned out with respect to manufactured products like tires, paper, solar panels or steel.

Froman was asked repeatedly if there are provisions being negotiated in the Trans Pacific Partnership to address countries that manipulate their currencies to give their manufacturers an advantage over American competitors in the U.S. market and in global trade. Froman was elusive though consistent. In addressing Sen. Grassley on the issue, he said, “Well, this is an issue, as you know, of top importance to the administration and we are pursuing it from the President on down directly with countries such as China but also through the G7 and G20 and the IMF to encourage countries to move toward market-determined exchange rates. I know you will be seeing [Treasury] Secretary Lew here soon. He obviously has the lead on those issues. It is something that he and I are consulting on and continue to engage with others about.”

So, Grassley wanted to know, does that mean it’s not being included in the trade negotiations?

Froman replied: “At this point, Secretary Lew who obviously has the lead on this, has been having conversations with these other mechanisms, bilaterally, the G7, G20 and IMF.”

Grassley had still not received a direct answer, so he persisted: “But not through TPP.”

Froman sat taciturn. Grassley said, “thank you.”

Sen. Chuck Schumer (D-N.Y.) was next up. He spent his five minutes lecturing Froman without asking him question. “With all due respect,” Schumer said, “Secretary Lew is great and he talks to me but the administration hasn’t done very much [on currency.] They have never called China a currency manipulator when it is as plain as the nose on your face that they are.”

Schumer said he would not support TPP if there was not “at the same time a new statutory law to enforce currency. I will not support moving this trade agreement forward if we are not fighting to make sure we have the necessary tools to protect the American middle class and American jobs.”

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sourced. “This jumped to 60 percent in the following year,” it notes, citing data from udeMy.com. It also references a Deloitte study that predicts outsourcing will continue growing at a rate of 12 percent to 26 percent per year.

ISO says outsourcing started in 1989 when Eastman Kodak “took the then revolutionary step of outsourcing its information technology systems.” Kodak was the first of many multinational corporations “unable to compete globally as bloated management structures hindered flexibility,” says ISO. Outsourcing did not help Kodak, which declared bankruptcy in 2012.

In its latest SEC 10-Q filing for the quarter ending September 2014, Kodak states that one of the risks in its recovery from bankruptcy is “associated with reliance on third-party suppliers.” It has outsourced a “significant portion of our overall worldwide manufacturing, logistics and back-office operations” and that those third-party suppliers may not be able to develop new manufacturing systems appropriate for the company’s products; may not have adequate environmental controls; may not be able to respond quickly to changes in customer demands for its products; and may not be able to find suppliers and materials for its products.”

ISO says its new standard should help companies successfully address these issues.