Why a Sustainable Supply Chain Is Key to Staying Competitive

written by admin | April 18, 2016

(Environmental Leader – Jessica Lyons Hardcastle: 4-11-16) Apple's latest supply chain audit report shows its push for more rigorous environmental standards and renewable energy production across its supply chain is working: suppliers in 2015 diverted more than 73,000 metric tons of waste from landfills and saved more than 3.8 billion gallons of freshwater.

Other companies should take note, and look for ways they can improve their supply chain sustainability to stay competitive.

The tech giant conducted 640 audits across its global supply chain last year — a 1 percent increase from 2014 and a 41 percent increase from 2013 — in its efforts to improve environmental sustainability, working conditions and transparency.

As an example: Foxconn Zhengzhou, one of Apple's final assembly facilities for iPhones, partnered with Underwriters Laboratories to help the Chinese plant improve its waste management. Working with UL, the company discovered 80 percent of the facility's total waste was generated by production, so local managers created a system to increase recycling and worked with parts vendors to improve packaging. The efforts allowed Foxconn Zhengzhou to divert 40 percent of previously landfill-bound waste for recycling and sent much of the remaining waste to waste-to-energy facilities.

As of early 2016, Foxconn Zhengzhou is 96 percent landfill-free and has set a goal to be 100 percent landfill free by the end of this year.

Also in the report: in the first year of the company's energy efficiency program, suppliers at 13 sites prevented more than 13,800 metric tons of carbon emissions

through replacing outdated or inefficient heating, cooling, and lighting systems, repairing compressed air leaks, and recovering and redirecting waste heat.

Last year 100 percent of process chemicals at all final assembly facilities were free of "Apple-prohibited substances" — these are hazardous chemicals identified by Apple's Regulated Substances Specification list that the company prohibits or limits in manufacturing. Apple says now it's working to identify these chemicals at its non-final assembly facilities.

"We're proud of the progress we've made so far," writes Apple COO Jeff Williams, in a letter at the beginning of the supplier responsibility report. "Yet even as you read this, Apple continues to address challenges throughout the supply chain. We are openly working with industry partners, governments, NGOs, and others who share our vision of improving lives and caring for the environment."

The news of Apple's supply chain audit has — or should have — other companies looking for ways that they can work with suppliers to improve their environmental performance. As the same time, growing demand for natural resources like water, minerals and oil puts a stain on supply, making it harder for companies that want to implement sustainable practices and materials in the supply chain.

Despite the challenges involved with improving environmental sustainability and transparency in the supply chain, Hans Thalbauer, senior vice president of extended supply chain management at global software developer SAP, says sustainability is becoming an increasingly important aspect in business management.

In an interview with Environmental Leader, Thalbauer said there are three major components companies should look at to improve supply chain sustainability: raw materials used, the treatment of people who make the products and supply the services — as well as how operations affect people in the local communities — and overall compliance with laws and regulations as well as consumer and investors' expectations.

"It is important to understand what raw materials are being use, if the raw material is scarce and if so, what would be the impact if this material was not available going forward," Thalbauer says. "Water, for example, is driving a lot of innovation in the

entire manufacturing sector, with companies trying to reduce water consumption during production. But it also goes back to innovations that use less water for the product itself. So especially for the food and chemical industries, a lot of products are emerging in the market place that have reduced water content in the product itself."

Reducing emissions and waste, and conserving water are easier when confined within a company's own walls. But leading companies can take a page from Apple's playbook and continue pursing environmental sustainability goals across the supply chain.

Says Thalbauer: "Sustainability as a topic is not new. It has been discussed now for more than a decade; however, in talking with many companies around the world we see *sustainability is coming up higher in the list of extended supply chain priorities*."

Pennsylvania Governor's Occupational Safety & Health Conference

written by admin | April 18, 2016

SAVE THE DATE!

Mark your calendar for October 31 – November 1, 2016, and we'll see you at the Hershey Lodge and Convention Center for the 90th annual Governor's Occupational Safety & Health Conference (GOSH).

Since 1926, the GOSH Conference has educated and empowered safety professionals, employers, and employees. Our mission is to reduce accidents and injuries for workers across all industries and occupations by presenting a series of workshops that address current safety best practices.

Registration Fees:

- Full Conference Attendee = $200
- 8 x 10 exhibit = $575

Registration will open in early June.

AME announces Spring events

written by admin | April 18, 2016
AME Mid-Atlantic Newsletter

Obama Administration Announces New Revolutionary Fibers & Textiles Manufacturing Innovation Hub

written by admin | April 18, 2016
(SSTI: 4-1-16) The eighth manufacturing innovation institute brings over $300 million in public-private investment from leading universities and manufacturers to develop futuristic fabrics and textiles, helping accelerate the revival of textiles

manufacturing in the United States. Today, Secretary of Defense Ash Carter announced that a leading consortium of 89 manufacturers, universities, and non-profits organized by the Massachusetts Institute of Technology (MIT) will spearhead a new manufacturing innovation institute in partnership with the Department of Defense focused on securing U.S. leadership in revolutionary fibers and textiles manufacturing. The new Revolutionary Fibers and Textiles Manufacturing Innovation Institute in Cambridge, MA, will combine over $75 million of Federal resources with nearly $250 million of non-Federal investment in innovative fabrics and textiles with novel properties ranging from being incredibly lightweight and flame resistant, to having exceptional strength and containing electronic sensors. With wide-ranging applications, these technical textiles can forge protective gear for firefighters impervious to the hottest flames, replicate the sensing capabilities of a smart watch into a lightweight fabric, or detect when a wounded soldier needs to be treated with an antimicrobial compression bandage.

ISM Index Points to First U.S. Manufacturing Growth Since August

written by admin | April 18, 2016

According to at least one analyst, "the worst is over," and "manufacturing will be less of a drag on the economy."

(IW – Shobhana Chandra: 4-1-16) While manufacturing jobs dropped precipitously for March, manufacturing somehow still expanded for the first time in seven months, fueled by a surge in orders that signals American factories are emerging from their worst slump since the last recession.

The Institute for Supply Management's index climbed to 51.8 from 49.5 in February,

figures from the Tempe, Ariz.-based group showed Friday. It was the first time since August that the gauge exceeded 50, the dividing line between growth and contraction.

Factory bookings were the strongest since November 2014 and a measure of production reached a 10-month high as companies made further progress getting inventories in line with sales. The outlook for manufacturing is a bit brighter following a recent recovery in commodities prices and a tempering of the dollar's strength.

"The worst is over," said Harm Bandholz, chief U.S. economist at UniCredit Bank AG. "The rebound in the sentiment data avoids a self-fulfilling negative spiral" and it means "manufacturing will be less of a drag on the economy."

Twelve of 18 industries surveyed by the purchasing managers' group posted growth, including printing, furniture, machinery and plastics. The ISM index was the strongest since July and exceeded the Bloomberg survey median forecast of 51. Economists' estimates ranged from 48 to 53.2.

"There looks like a lot of momentum," Bradley Holcomb, chairman of the ISM factory survey, said. "Let's be careful to note this is just one month after five months of contraction," he said, adding there is "every reason to be confident about the next few months."

Signs manufacturing is "moving in the right direction" include supplier deliveries showing tightness in the supply chain, customer inventories that are too low, growing backlogs and improving exports, Holcomb said.

The new orders gauge increased to 58.3 from 51.5, and a measure of production rose to 55.3 from 52.8. Thirteen of 18 industries reported a pickup in March bookings. The index for orders waiting to be filled advanced to 51 from 48.5. One weak spot in the report was the factory employment measure, which decreased to 48.1 from the prior month's 48.5.

The index of export orders rose to 52, from 46.5. That marked the biggest jump since April 2011. The gauge of factory inventories edged up to 47 from 45, and

customer stockpiles rose to 49 from 47.

The index of prices paid surged 13 points, the most since August 2012, to 51.5. It was the first time since October 2014 that the measure indicated rising prices.

SBDC GrowSmart – Expertise for Growing Businesses

written by admin | April 18, 2016
SBDC *GrowSmart* is a dynamic program for owners and senior managers of growing businesses.

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- At least two years of successful operation
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2016 Global Manufacturing

Competitiveness Index

written by admin | April 18, 2016

The 2016 Global manufacturing competitiveness index reveals country rankings and competitiveness drivers through a survey of more than 500 of the world's leading manufacturing CEOs and senior executives.

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Pennsylvania's Manufacturing Industry Showcased in New Edition of Pennsylvania Economic Quarter

written by admin | April 18, 2016

Pennsylvania's manufacturing industry has transformed over the years through dynamic evolution to meet modern needs, and the incorporation of world-class R&D and innovative methods. To continue to market the thriving sector, the Department

of Community and Economic Development unveiled the newest edition of Pennsylvania Economic Quarterly with a focus on advanced manufacturing in the Keystone State. Featuring everything from 3-D labs to industrial resource centers, this edition showcases how manufacturing propels Pennsylvania's future.

Click Here to Read the newest edition of Pennsylvania Economic Quarterly.

Think nothing is made in America? Output has doubled in three decades

written by admin | April 18, 2016

U.S. manufacturing isn't dead; factories are running at close to a record pace

(Market Watch – Rex Nutting: 3-28-16) The U.S. manufacturing sector doesn't get any respect. Ask a random sample of people on the street and you're likely to hear that America doesn't make anything anymore, that China, Mexico and Vietnam took all of our factories, and that the only jobs left in America are flipping burgers and cleaning hotel rooms.

"Throughout history, at the center of any thriving country has been a thriving manufacturing sector," says presidential candidate Donald Trump. "But under decades of failed leadership, the United States has gone from being the globe's manufacturing powerhouse — the envy of the world — through a rapid

deindustrialization.”

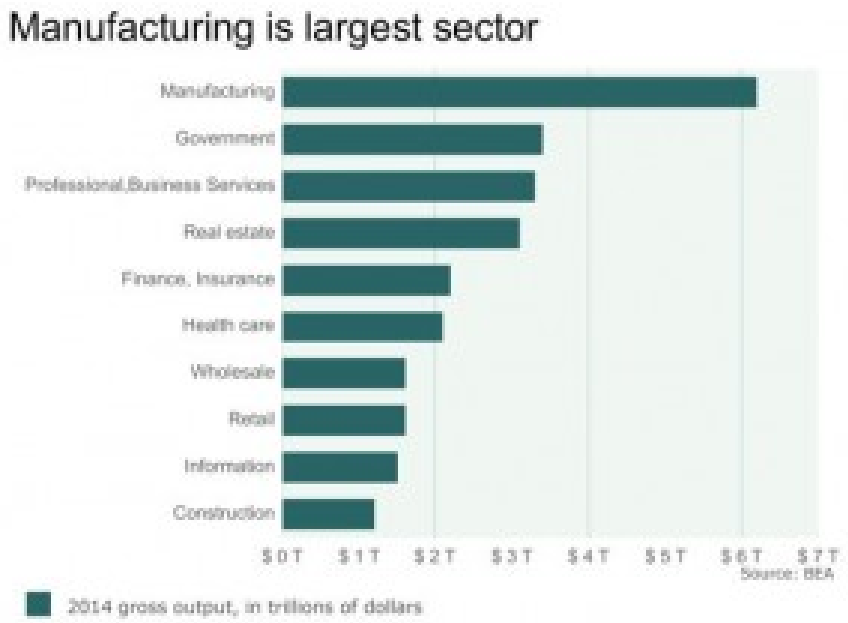
As with all myths, there’s some element of truth in what everyone says.

The number of jobs in the manufacturing sector has declined by about 5 million since 2000, falling from 17.3 million at the turn of the century to 12.3 million in 2015.

During World War II, when America was the Arsenal of Democracy, manufacturing provided more than a third of civilian jobs in the U.S., but that share has declined to only 8.7% in 2015. Only one of every 11 jobs is in a factory. Retail, health care, professional and business services, and leisure and hospitality services now employ more workers than manufacturing does.

The decline in manufacturing jobs certainly makes it seem as if America has been deindustrialized, but it’s not so. America still makes lots of stuff, but the number of jobs has shrunk because it doesn’t take nearly as many workers as it used to.

Here are four surprising facts about American manufacturing you may not know.



Surprising Fact No. 1: Manufacturing is the largest and most dynamic sector of the U.S. economy.

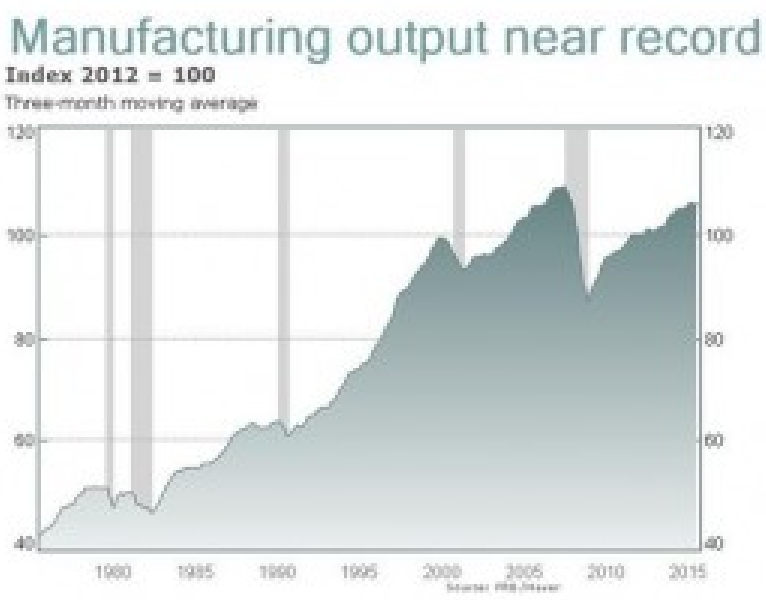
China became the leading manufacturing economy in the world in 2010, but the

United States maintains a strong second-place standing. The *value added* by U.S. factories is more than $2 trillion a year, equal to the next three countries (Japan, Germany and South Korea) combined. U.S. manufacturing is still the envy of the world.

Gross output of U.S. manufacturing industries — counting products produced for final use as well as those used as intermediate inputs — totaled $6.2 trillion in 2015, about 36% of U.S. gross domestic product, nearly double the output of any of the other big sectors: professional and business services, government and real estate.

Manufacturing is at the center of the economy; it's highly connected with most other sectors, such as transportation, retail, mining, utilities and business services.

Manufacturing companies also account for about 77% of what the private sector spends on research and development each year. If it weren't for manufacturing, there would be very little innovation in the United States.



Surprising Fact No. 2: Manufacturing output is a near a record high.

Technology and new ways of organizing work have revolutionized the American factory since the Golden Age of the 1980s. *Today, U.S. factories produce twice as much stuff as they did in 1984, but with one-third fewer workers.*

Total production of U.S. factories peaked in 2007 before falling by 18% during the Great Recession, according to the Federal Reserve's industrial production report, which measures the volume of goods produced rather than the market value of those goods. The manufacturing sector has nearly recovered from the recession; output in 2015 was within 3% of the 2007 level.

But factory output has now stalled, with a strong dollar boosting demand for foreign-made goods at the expense of things made in the USA. It may take a few more years of growth to beat that record.

The output of durable goods was at an all-time high in 2015, more than triple what it was in 1980 and double what it was 20 years earlier. The production of electronics, aerospace goods, motor vehicles and machinery are at or close to all-time highs.

On the other hand, the production of nondurable goods is still down 7% from the peak. The output of the food and petroleum industries are at record highs, but the output of the chemicals, paper and printing industries are all off significantly from the pre-recession peak.

And, of course, other industries have nearly disappeared. The output of the apparel industries is down more than 80% since the heydays in the 1980s, while the output of textile mills is down about 50% since 2000. Those are the factories and jobs that are really gone for good.

When you buy a gallon of gasoline, tip your hat to the American workers who made it.

Surprising Fact No. 3: Refined oil is America's top manufactured good.

Most Americans use something every day that's made in America without ever thinking about where it's made: gasoline.

The crude oil may come from Canada, Saudi Arabia or North Dakota, but it's refined right here in America.

Refined petroleum products — such as gasoline, fuel oil, jet fuel and liquefied refinery gases — are America's top manufactured product, with a value of shipments going out the factory door of nearly $700 billion in 2014, more than four times as much as the No. 2 product: light trucks.

America's other top manufactured products are pharmaceuticals, airplanes and automobiles. Rounding out the top 10 are iron and steel, animal slaughtering, plastics, organic chemicals and petrochemicals.

American companies sell more airplanes to foreigners than any other kind of manufactured good.

Surprising Fact No. 4: America also exports a lot of gasoline.

Despite what the haters say, the U.S. exports a lot of manufactured goods: $1.3 trillion worth in 2015. Last year, the leading exported manufactured good was civilian airplanes worth $63 billion, followed by auto parts ($58 billion), pharmaceuticals ($55 billion), autos ($55 billion), and gasoline, diesel and other refined oil distillates ($46 billion).

Other top exports include semiconductors, telecommunications equipment, medical equipment, plastics and airplane engines.

In 2014, before the price of gasoline tumbled along with the price of crude oil, refined oil was America's biggest exported good, worth $62 billion.

Conclusion

American manufacturing isn't dead by any means. But the loss of good-paying manufacturing jobs has devastated the working class, and made reaching the American dream more difficult. Technological advancements and the rise of low-skilled manufacturing in China and other developing nations mean that fewer Americans work in factories, just as technological advancements 100 years ago

meant that fewer Americans worked on farms.

Most Americans now work in service-producing industries, where inequalities in opportunities, skills and incomes are more apparent. Recreating an economy that provides equitable growth won't be easy, especially if we pine for the good old days when a third of us worked at the factory.

Those days are gone for good, even if U.S. factories still churn out lots of items that are Made in the USA.

Look Out China, US Manufacturing is Headed for No. 1

written by admin | April 18, 2016
U.S. expected to take crown as most competitive manufacturing nation by 2020

(IW – Steve Minter: 3-31-16) Advanced manufacturing technologies are helping to push the United States back toward being the most competitive manufacturing nation in the world, according to a new survey of global CEOs and other senior executives.

While China is the world's most competitive manufacturing nation, according to the 2016 Global Manufacturing Competitiveness Index developed by Deloitte and the Council on Competitiveness, the U.S., now ranked second, is expected to take the top spot by 2020.

U.S. manufacturers are investing in technologies such as predictive analytics, the Internet of Things (IoT), smart factories, and advanced materials that will be keys to improved competitiveness in the coming years. Other traditional manufacturing powerhouses – Germany, Japan and the United Kingdom – are making similar investments that will maintain or improve their competitive positions.

While technology is a critical factor in future competitiveness, *manufacturers rank talent as the most critical driver of competitiveness*. Just behind is cost competitiveness and productivity, not surprising given slow growth in most economies, and then supplier network.

What accounts for China's anticipated drop to second in manufacturing competitiveness? Though China has increased its investment in R&D, the economy is slowing and manufacturing activity has dropped, resulting in excess capacity. The report notes that China's auto industry has capacity utilization of 70% versus nearly 100% in 2009. China also is seeing a rise in labor costs, up five-fold since 2005.

"Concerned by rising labor costs and declining cost arbitrage between advanced economies and China, some companies from advanced economies have moved their production to alternate low-cost nations or back to their home nations," the report states.

Compared to the 2013 survey, U.S. manufacturing executives were more favorable about policies in the country. They cited as helping to create a competitive advantage U.S. policies on sustainability, technology transfer, monetary control, science and innovation, foreign direct investment, intellectual property protection, and safety and health regulation. Working against U.S. manufacturers, said survey respondents, were policies on corporate tax rates, healthcare, labor, and taxation of foreign earnings.

The survey shows two strong regions for manufacturing have emerged. For North America, the United States, Canada and Mexico are all in the top 10 most competitive countries today and will remain so in 2020, executives predict. By 2020, the top 10 is also expected to have five Asia Pacific nations – China, Japan, South Korea, Taiwan and India. India is expected to jump from number 11 in 2016 to number 5 in 2020.

Once growth darlings, the BRIC nations have felt the brakes applied on their economies. Brazil fell from the eighth most competitive nation in 2013 to 29th in 2016. Russia dropped from 28th in 2013 to 32nd in 2016. China and India are expected to remain in the top 10 most competitive nations.

Likely to take an increasingly important role in global manufacturing are the so-called Mighty Five – Malaysia, India, Thailand, Indonesia and Vietnam. “These nations could represent a ‘New China’ in terms of low cost labor, agile manufacturing capabilities, favorable demographic profiles, market and economic growth,” the report stated.

The report concludes that the most competitive manufacturing nations are embracing higher-value manufacturing profiles reflective of Industry 4.0. “In the wake of this transformation, the days when a country could establish a position of manufacturing dominance on the back of a single point of strength, such as cost competitiveness, are decidedly gone,” the report notes. “In fact, leading countries are taking a much more balanced approach to talent, cost competitiveness, and innovation to set themselves apart from the global crowd.”