

MANUFACTURING Matters

Revisiting Onshoring *by Karen Hatke*



Mark Burton, Strategic Sourcing Manager for John Deere

After decades of steadily moving their supply chains and production to other countries, are U.S. companies returning to U.S. shores? Maybe...maybe not, according to Mark Burton, Strategic Sourcing Manager for John Deere, "It all depends on your seat in the ballpark." Mr. Burton was one of six speakers at the Dauch Center's 2011 Fall Operations Seminar on September 16, 2011. "Revisiting Onshoring" was the topic of the day, and it was plain to see from the variety of speakers who participated that not everyone agrees how much of this type of activity is occurring and when it make sense to do so. There was agreement by the speakers, though, on the main reason for taking their production needs elsewhere: to reduce the high labor and material costs of formerly "made in USA" products in order to stay competitive. Some experts have estimated this offshore lost production to be as much as one-third of the U.S. manufacturing capacity, but the tide may be turning in the current volatile world economy.

According to a March 12, 2010 Wall Street Journal article, onshoring is picking up steam because the weakened U.S. dollar makes it costlier to not only import products from overseas, but makes them more expensive to produce there too. "We have sufficient data to show that many companies that thought they would save money



Patricia Polastri, adjunct professor at Indiana State University

by offshoring really didn't," said the first speaker of the day, Patricia Polastri, an adjunct professor at Indiana State University and an associate of ReshoreNow.org. Her organization's mission is to change the sourcing mindset of manufacturers from "Offshore is Cheaper" to "Local Reduces the Total Cost of Ownership." Mark Burton, as shown above, took a contrarian view to her onshoring one-size fits-all attitude. As the world's largest exporter of tractors and many factories worldwide, John Deere continues to have very strong foreign markets and always looks to find the best strategic source for their supply chain, wherever that may be, and "made in USA is not important in Turkey."



The speakers that followed added clarity with examples from their worldwide companies. General Motors' Executive Director of Global Purchasing and Supply Chain, Matthus Joshua, explained the sequence of events leading up to the unveiling of the Chevy Volt, the batteries for which currently can be manufactured only by LG Chem in Korea. Negotiations are now under way with LG Chem to bring \$100,000,000 of this battery production to Holland, Michigan in the near future to take advantage of the labor market there. GenPact, a provider of "back room" processes for clients worldwide, deals with a people-based product. According to GenPact's Senior VP, Scott McDonnell, the key



Matthus Joshua, General Motors, Executive Dir. of Global Purchasing and Supply Chain

to their success is a clear understanding of the client's needs and the context of delivery. "It's not about whether I do the work in Danville or Juarez," he declares, "It's about how I integrate what I know about the capabilities available there with what I know about the customer's needs."



Scott McDonnell, GenPact, Senior VP





Taking a Second Look at Manufacturing in U.S.

By Jessica Rush MBA 2013
DCMME Center Graduate Asst.

Patricia Polastri's lecture, the Reshoring Initiative, gave a brief summary of the consequences of off shoring American jobs over the last forty years.

Polastri introduced attendees to the principles of Harry Moser, the founder of the Reshoring Initiative, who was recently elected in the 2010 Manufacturing Hall of Fame. In her lecture, Polastri focused on one of Moser's underlying principles: bringing manufacturing job opportunities back to America.

Polastri discussed the impact that years of teaching an outdated image of manufacturing, has had on our students: lack of students wanting to join this sector. But the impact has reached beyond the classroom. Offshoring has caused a lot of heartache to the United States including loss of jobs and increased deficit. The jobs that have been lost over the last forty years have included manufacturing jobs that required workers with minimal experience or education. Today, there is not a service sector to absorb that loss of employment. Bringing back these jobs could directly help the American economy as well as well as employing many people who are without jobs.

Surveys have shown that more companies in the United States are bringing jobs and operations back home because of rising salaries and wages in China, a limited amount of trained and capable workers in many areas, and a general lack of control (natural disasters, excessive government control, etc).

In closing, Polastri believes reshoring deserves a second look in the manufacturing arena in every sector.



John Deere's Strategic Formula = U.S. Manufacturing

By Tony Fisher MBA 2012
DCMME Center Graduate Asst.

Mark Burton, Strategic Sourcing Manager with John Deere gave a fascinating presentation covering onshoring and its tactical and strategic implications for companies, and specifically how John Deere incorporates this concept into their business model.

He began his presentation by providing a definition of onshoring as the "repatriation" of manufacturing and service execution. He went on to explain recent trends in industry, and how major U.S. manufacturers had recently changed their strategic sourcing strategy, including GE, Caterpillar, NCR, and Ford, all suggesting an inherent value in onshoring. Mr. Burton suggested the decision to onshore is more than a tactical consideration, rather it can have major strategic implications. While labor cost is an important decision, other things to consider are manufacturing competencies including quality and time for delivery, IP considerations, local content laws, and foreign exchange and its inherent risk due to volatility. Similarly, nationalistic marketing advantages, the proximity to "end use" markets and how this can save on logistics costs, working capital, and overall cycle time can influence a company's decision.

The final part of Mr. Burton's presentation was focused on John Deere's approach to onshoring, which includes a blend of total acquisition costs, supplier positioning, sourcing efforts to improve direct material costs, and potentially building new facilities in strategic regions of growth. Mr. Burton provided specific examples of how John Deere has incorporated these methodologies from a national and global perspective.



JOHN DEERE



GM Brings Work to Michigan

By Jennifer Evemeyer MBA 2013
DCMME Center Graduate Asst.

Matthus Joshua, Executive Director and Global Lead Electrical Systems, Global Purchasing and Supply Chain at General Motors Company, discussed the supply chain strategy behind one of Chevrolet's eco-friendly vehicles in its fleet, the Volt. The Volt features a lithium ion battery pack that enables the vehicle to operate without consuming fuel. Mr. Joshua stressed that GM wanted to make a one-time permanent decision when choosing where the lithium-ion battery pack would be made and assembled. The 10kWh pack is one of the unique features of the Volt, allowing 80% drivers to commute to and from work daily without using a single drop of gasoline.

After a yearlong process, GM arrived at a partnership with Lucky Goldstar (LG) Chem to develop the packs. The initial manufacturing plan was to manufacture the packs in Korea, ship them to Brownstown, MI for final assembly and finally to Detroit, MI for integration into the vehicle. This strategy would work on a small scale but would pose too many challenges in a large scale manufacturing environment, Mr. Joshua noted. GM eventually decided to domestically manufacture the packs in Holland, MI, saving approximately \$500 per pack. This decision was motivated by the domestic location of the primary consumer, varying labor rates across the world, and logistics costs, illustrating the complexities of successfully operating a global supply chain.





ArcelorMittal's R & D finds home in U.S.

By David McDairmant MBA 2012

DCMME Center Graduate Asst.



Richard Sussman **General Manager, R&D, North America** for **ArcelorMittal** presented a presentation about ArcelorMittal, the largest steel company in the world. He focused his talk on R&D at ArcelorMittal, and the innovations being made in steel in North America, especially in the automotive industry, which is on the cutting-edge of steel manufacturing and processing. Dr. Sussman detailed the advantages of locating significant R&D in North America, such as the access to technically advanced markets and world-class research talent. By constantly improving their product offerings, ArcelorMittal is able to maintain its market leadership position.

To illustrate the R&D process, he gave the example of the development of a lightweight concept car. Safety and environmental standards in the US and Europe are driving demand for lighter cars that do not sacrifice strength, safety, or cost. To achieve this, ArcelorMittal developed advanced steels and designed a small car that reduced weight by 14% below the baseline. They have also identified areas that will yield significant further improvements. Innovations in steel, like these, will enable continued advancement for ArcelorMittal within the automotive industry.



Bremen Castings Inc., Seeking U.S. Foundation

By Jennifer Evemeyer MBA 2013

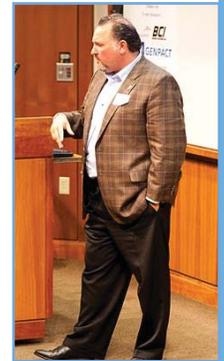
DCMME Center Graduate Asst.



James Louis Brown, President of Bremen Castings, Inc (BCI), spoke about the issues that accompany outsourcing and onshoring from the perspective of a foundry. Operating domestically and in five other countries, BCI is a family owned foundry and machine shop that manufactures castings from 92% recycled material.

Mr. Brown noted that BCI began to lose work due to foreign competition in 1996-1997. This shift in demand was a direct result of customers requiring lower prices for castings. In an attempt to reduce costs, many companies shifted manufacturing facilities to China and Japan. This focus on price, however, resulted in the delivery and quality of the product becoming less of a priority. Overseas production had issues with long lead times, quality, and timing, ultimately resulting in higher overall costs for customers.

In 2007-2008, BCI noticed much of the work coming back to the US. However, delivery was still a major issue. As a result of the weakened US economy, many of the US foundries had closed, and capacity of many of the remaining foundries and machine shops had decreased. Going forward, Mr. Brown expressed concern regarding government environmental regulations, the impact of technology on alloy and casting pricing, and how to perform overseas manufacturing while still maintaining and creating jobs in the US. These will be ongoing challenges within the foundry industry. in the US.



GenPact looks to U.S. to Service Customers

By Diane Gonzalez MBA 2013

DCMME Center Graduate Asst.



Scott McConnell, Senior Vice President and Operating Leader in the Americas for Genpact, lectured about his company's view on global supply chain and how they are reacting to certain challenges. Genpact began in 1997 as a business unit in GE. It is a rapidly growing company that was started in India and has about 40,000 employees who are responsible for consulting, analyzing and outsourcing.

Customers are concerned about contextual knowledge, which is knowledge that is dependent on the content of the information shared. This "ability to relate" is a valuable aspect based on the areas of the globe in which they work. It is especially beneficial with all of the new regulations currently being implemented in different countries. They are also experiencing some organizational and customer resistance to using services outside of the United States.

Genpact wants to ensure that they hire the most knowledgeable staff to best serve their customers. In order to resolve a talent gap, Genpact is making investments in Research and Development in order to find ways for people throughout the United States to be employed by Genpact without having to be in the office. This is not only beneficial to future employees, but allows Genpact to create access to new labor opportunities.

Business models are shifting. Companies can no longer just pick up a department and outsource it in order to save a certain percentage on labor expense. It is important that if you sign up for a commitment that you question how it drives the outcome of a process. Global operations sourcing is not about where it is done, but how all the different places are integrated together to create the best possible process. It is imperative that all of a company's operations across the world work as one and flow together.



Revisiting Onshoring (cont. from front page)



Richard Sussman, ArcelorMittal
General Manager Research
& Development N.A.

Research and development costs are over \$300 million annually for ArcelorMittal Steel, the No. 1 steel company in the world, and Richard Sussman, its general manager, is convinced that only in North America can his company be on the cutting edge of new technology and at the forefront of improving their products and developing future products.

Bremen Castings, an Indiana family-owned and operated foundry and machining business, talked about how his company has been benefitting from the return of businesses to the U.S. "We began to see a marked downturn in customers in the late 1990s with lower prices overseas that we could not compete with," according to Bremen's president, JB Brown. That changed, though, in 2007 when they began to see customers return to them from overseas suppliers due to the quality and delivery problems. After expanding his facilities recently, he has a new problem of finding capable manufacturing employees due to the prolonged cutting back of manufacturers' capacities and the greater emphasis on higher education.



James Brown, president of Bremen Castings

Onshoring is a complicated issue and clearly has its own problems. The speakers may not have offered solutions in a few hours, but attendees like David Futa of Break Rubber Technologies of North Liberty, Indiana summed up the value of the Dauch Center's real world approach. "I have been coming to these conferences for four years and I always learn something new or make a contact that helps my business, and this year," he added, "I located a foundry right here in Indiana that may enable me to bring back my casting needs from China."

Congratulations to the 2011 DCMME Fall Internship Poster Winners

1st Place Masters



Left Simki Sanyal, Julie Zimmerman, Patsy Sebben, Anna Peckard & Dr. Iyer

2nd Place Masters



Left Simki Sanyal, Julie Zimmerman, Patsy Sebben, Deepti Nair & Dr. Iyer

3rd Place Masters



Left Patsy Sebben, Simki Sanyal, Julie Zimmerman, Heather Padgett & Dr. Iyer

1st Place Undergraduate



Left Patsy Sebben, Simki Sanyal, Julie Zimmerman, Kyle Young & Dr. Iyer

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