



General Electric's New Reshoring Efforts

"Outsourcing is quickly becoming mostly outdated as a business model for GE appliances."

COMPANY: General Electric

INDUSTRY:

Consumer Products

YEAR RESHORING EFFORT BEGAN:

March 2012

NEW LOCATION:

Louisville, Kentucky



“LOUISVILLE’S
APPLIANCE PARK
TEAMS HAVE CUT
THE TIME TAKEN
TO BUILD A
DISHWASHER BY 68
PERCENT.”

CEO Jeffrey Immelt



BACKGROUND:

General Electric is an iconic American company that has been in business since 1892. GE has continuously innovated leading-edge products since its beginning, and currently produces products for industries such as technology, energy, oil, healthcare, and home appliances. GE employs over 300,000 people world-wide in roughly 140 countries. In March 2012, GE decided to Reshore some of its appliance manufacturing to Louisville, Kentucky at a price tag of \$1 billion dollars for the newly renovated Appliance Park facility. The main products that GE is reshoring from China and Mexico include a high-quality bottom mounted refrigerators, Geo-spring water heaters, and front-load washing machines.

The refrigerators start at a retail price of \$1,700 up to \$3,000 and some of the unique features of this product include a hot water dispenser, advanced water filtration, temperature-controlled drawers and French doors. The new highly efficient Geo Spring water heaters range from \$1,100-\$1,300 dollars but should save the customer up to \$350 dollars annually in energy costs. According to General Electric, this product is “67% more efficient than the standard electric water heater”. The third product being produced is a front-loading washing machine priced between \$700-\$1,400 that has new features to reduce the cycle time and remove stains effectively. According to Earl Jones (Senior Counsel GE), “The new reshoring strategy of creating new and innovative products here in the U.S. will have a great advantage over top competitors such as Samsung and LG, leaders of the white goods industry within the USA.” White goods include large household appliances such as refrigerators, stoves, and washing machines.

DECISION FACTORS FOR RESHORING:

In the 1970s and 1980s GE and then CEO, Jack Welch, were focused on reducing costs. They introduced six sigma manufacturing techniques to help reduce defects, and they started offshoring some of their products to lower their labor costs. In the early 2000s GE analyzed the total cost of ownership from outsourcing, and found that the cost of labor had increased and so had oil prices and transportation costs. They also found that the market had changed, customers were demanding higher quality products with more features. GE decided to investigate reshoring and lean manufacturing. Since GE’s appliance customer base was largely located in the US, they were motivated to evaluate bringing manufacturing back to the Kentucky manufacturing site. Being closer to the customer allowed for a quicker time to market and lower shipping costs.

The second deciding factor was access to an experienced and youthful work force. Workers in Kentucky have adapted to the new technology and processes quickly, which has helped to

increase long-term efficiency. GE's new method of collaboration and empowerment between engineers, designers, and assembly workers has become quite effective. These teams work together with management to decide how to reduce manufacturing hours per unit. For example, the dishwasher division has been able to reduce production time per unit by 68% and reduced the space needed by over 80%

Incentives also played an important role in the decision process for GE. These incentives totaled over \$20 million for the initial effort. Earl Jones described the incentives as a "three legged stool" that all worked together to stand the new facility up. GE provided an initial investment, the local and state governments provide tax credits as well as other incentives, and lastly, the local union played a critical role. GE negotiated a new starting wage, and made it possible to cross train and move employees to different manufacturing lines depending on demand.

RESULTS:

Results of this reshoring effort helped create over 4,000 jobs since 2008, and contributed an additional 18,000 jobs to GE's US suppliers from increased domestic sourcing. GE has also invested over \$1 billion in property, plant, and equipment within the Louisville plant which further helped stimulate the economy.

The new facility has drastically reduced environmental impact through new production processes. One way GE has accomplished this is by removing and recycling roughly four million pounds of steel from the facility. The second change that contributed to the environmental sustainability, is utilizing energy-efficient light bulbs in the facility that will save GE over 5 million Kilowatts per year.

The environmental effort at this facility was ahead of the curve in ensuring that their manufacturing was in compliance with new environmental standards in effect as of 2010. GE was able to decrease its carbon impact in manufacturing by 99% through a new sustainable chemical called cyclopentane. This chemical is used for foam insulating processes for refrigerator manufacturing, in comparison to a foam-blowing agent used previously.

The utilization of lean manufacturing in Kentucky helps to reduce costs such as excess inventory and waste. The lean approach eliminates any form of waste that does not add value to production or the supply chain. An underlying method of lean includes Just-In-Time inventory, which largely helps to reduce warehousing costs and increases cash flow.

GE's ability to develop new products to match new trends has increased dramatically. An underlying benefit of reshoring is being able to modify existing products on the

market much more efficiently without having to create new designs, and communicate with contract manufacturers in China. GE's reshoring efforts have paid off. The refrigerator products manufactured in Kentucky won "[Refrigerator of the Year](#)" for both 2013 and 2014.

Though Kentucky is GE's flagship manufacturing facility in the United States, they also have manufacturing facilities in Alabama, Tennessee, and Georgia that manufacture other products, which helps stimulate the American economy. GE promises to continue to innovate and according to Earl Jones, they hope to reshore another product from China soon.

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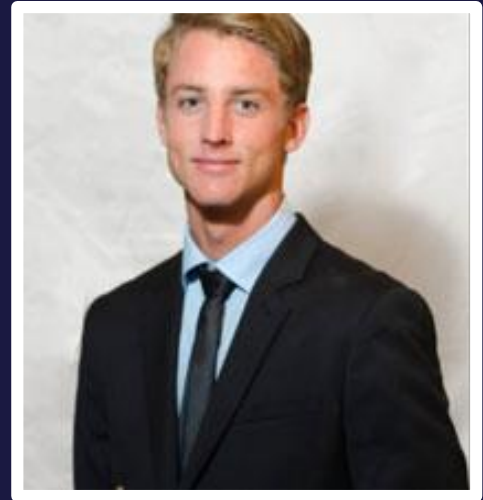
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