

# The State of U.S. Manufacturing

CRAIG HODGES, General Manager, U.S. Manufacturing and Resources Sector,  
Microsoft

By CRAIG HODGES, General Manager, U.S. Manufacturing and Resources Sector,  
Microsoft



In a 2008 research paper titled, “Revised Forecast Advances Date of China Becoming the Preeminent Global Manufacturer,” Global Insights predicted that by the year 2016-17, the United States could lose its status as the world’s top manufacturer for the first time in more than 100 years, providing a clear call to action for U.S. manufacturers to renew their focus on the development and delivery of new products created here at home.

Technology, not just the technology produced and sold, but also the technology used behind the scenes to create the next generation of manufactured goods, will be a key driving force behind the country’s efforts to stay ahead of its impeding rivals. Technology streamlines processes, creates cost-saving efficiencies, and gives us a level of insight into our own organizations at levels never before achieved.

Technology advancements also help differentiate our nation’s products from our rivals, and technology serves as a key competitive differentiator in the global marketplace.

By fostering an environment by which our domestic organizations can both invest in and create new technologies, we are each doing our part to help drive innovation and growth here at home.

## Invest in Technology

## **The State of U.S. Manufacturing**

Published on Chem.Info (<http://www.chem.info>)

---

Having experienced increasing pressures from foreign rivals, manufacturers must recognize that the capabilities being outsourced could in part be replaced by forward-looking, technology-enabled manufacturing, keeping both the manpower and intellectual property here at home.

For example, several domestic automotive companies are investing in various new technology platforms for the plant floor and across the enterprise to improve areas of business process automation, product lifecycle management, product design collaboration and even employee efficiencies, among other areas.

The rebound that we are beginning to see in the automotive manufacturing industry illustrates the importance of investments, not only in new products and technologies but in the tools and processes that support their successful development and deployment.

For example, in the high-tech manufacturing sector, several organizations have made the investment or re-investment in “mission-critical” applications such as CRM and ERP to power their strategies for growth out of the recession.

The automotive and high-tech industries have shown us that by investing now in technology, our manufacturing organizations can run more efficient businesses, streamline productions and enable collaboration on new products in order to drive growth out of the recession.

### **We Each Have a Part to Play**

If we hope to maintain our leadership position in the global manufacturing marketplace for years to come, we each must participate in the re-building efforts, with a focus not only on today’s employees, but also on training the skilled professionals of tomorrow.

And it’s not just corporations within the manufacturing industry that must take the long view. The U.S. government has a large hand to play, and in March of this year, domestic manufacturing leaders from GM, Proctor & Gamble and PMC Group testified in front of Congress that more investment and support is needed to keep U.S. manufacturing from losing its edge in the global marketplace.

The U.S. government can have a tremendous impact, not just by monetarily supporting manufacturing operations, but also by recognizing that innovation, research and development and cutting-edge technologies — in the plants and across the organizations — are critical to securing the industry’s future.

The U.S. government has an opportunity to foster a business-friendly environment in which corporations can operate and areas where they can positively contribute include: increased funding of applied research; attracting more students in the U.S. to science, technology, engineering and math programs and careers; and, like many of our individual organizations already are doing, equipping current workers with the technology fluency needed for 21st century jobs. In the end, we will all benefit

## **The State of U.S. Manufacturing**

Published on Chem.Info (<http://www.chem.info>)

---

from working together to attract and retain the world's best and brightest minds to the U.S. and ensure that corporations have access to that talent.

### **Outsourcing Is Not the Enemy**

Outsourcing is frequently accused of being a major contributor to the decline of manufacturing jobs in the U.S. However, with the right investments this needn't be the case. The key is to make sure that while commoditized manufacturing jobs and processes are outsourced abroad to take advantage of available cost savings, that they are replaced in the U.S. with cutting-edge technologies, new research and development, and new high-tech manufacturing processes, all of which require talented, dedicated workers.

Keeping the intellectual property and innovation associated with next-generation technologies, such as in the energy and automotive industries, is critical to ensure not only a leadership position in global manufacturing but that manufacturing jobs continue to exist in the US.

Unfortunately, innovation is difficult to measure, and as pressures to deliver on short-term financial metrics increase during a recession, research and development expenditures are often slashed because of intangible, long-term returns. And therefore, with a high priority often placed on short-term financial measurements the value of replacing outsourced manufacturing capabilities with cutting-edge manufacturing ability tends to be discounted.

The semiconductor manufacturing industry is a prime example. The industry, which began here in the U.S., shifted both intellectual property development and commoditized manufacturing processes overseas, leaving a void domestically. However, companies like Intel are regaining lost ground by investing in the next generation of American high-tech manufacturing. While there will always be a case to be made about the need to manufacture commoditized products overseas, the U.S. needs to continue to re-focus our efforts on keeping IP here at home.

### **The Future Looks Bright**

According to a Bloomberg survey in March of this year, global manufacturing was on-track to be one of the bright spots in the global economic recovery, and many large domestic-based organizations, including Caterpillar Inc., are poised to hire and expand plants and manufacturing facilities here in the U.S. And in the beginning of May, the Institute for Supply Management reported that in April, the U.S. manufacturing sector grew at the fastest pace in the last six years.

However, in the future, we're not going to be manufacturing the same things that we did five years ago — or even the same things we do today. We have to advance manufacturing to create the goods and services that are going to be in demand. If we're not investing in these new properties, then we not only lose the ability to create high-value products and services, but also high-value jobs for the future.

To stay ahead of the game, U.S. companies must recognize that the next generation of manufacturing innovations come not just from new products, but new

## The State of U.S. Manufacturing

Published on Chem.Info (<http://www.chem.info>)

---

software, new e-business and e-manufacturing processes. For example, simply using social networking tools to collaborate on product development with customers and partners can help manufacturers create a better product, while investing in new product lifecycle management tools can enable manufacturing teams to quickly identify bottlenecks and get projects back on track as soon as possible.

In the end, without the right public and private research partnerships, both the intellectual property and the innovations will be patented elsewhere, the talent necessary to sustain innovation will go with it and the manufacturing plants will eventually get built elsewhere too.

*Craig Hodges is responsible for the overall business performance of Microsoft's U.S. Manufacturing and Resources Sector, which represents automotive & industrial equipment, high- tech & electronics, chemical, oil & gas and utilities industries. For more information, please visit*

[www.microsoft.com/industry/manufacturing/default.aspx](http://www.microsoft.com/industry/manufacturing/default.aspx) [1].

**Source URL (retrieved on 03/29/2015 - 10:36pm):**

<http://www.chem.info/blogs/2010/12/state-us-manufacturing>

**Links:**

[1] <http://www.microsoft.com/industry/manufacturing/default.aspx>