

The Smart Manufacturing Leadership Act

Legislation Led by Senator Jeanne Shaheen

The Smart Manufacturing Leadership Act, introduced by Senator Shaheen, will facilitate innovation, enhance energy savings and improve the global competitiveness of American manufacturers through the use of smart manufacturing technologies. Specifically, the Smart Manufacturing Leadership Act establishes a national smart manufacturing plan and provides assistance to small- and medium-sized manufacturers (SMMs) in implementing smart manufacturing in their facilities.

By 2040, the Smart Manufacturing Leadership Act is estimated to save consumers \$5 billion in energy savings, while reducing carbon emissions equivalent to taking 116 million cars off the road, according to a 2015 study of the bill.

Smart manufacturing uses technology to integrate all aspects of manufacturing, allowing for real-time management of energy, productivity and costs across factories and companies. These advanced technologies are set to transform the industrial sector, which represents approximately 20 percent of the U.S. economy and accounts for one-third of U.S. energy consumption. Improvements in automation and control through smart manufacturing are estimated to add \$10-\$15 trillion to global GDP over the next 20 years, with \$5-\$25 billion annually in energy savings for electricity alone. The United States must engage in an effective strategy for smart manufacturing in order to retain global economic competitiveness.

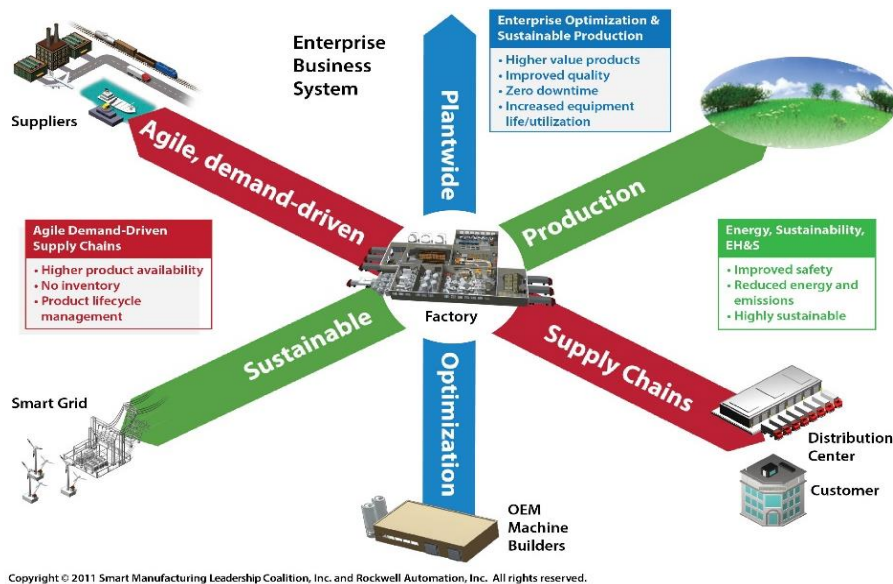


Figure Above: Illustration depicts how smart manufacturing connects all levels of manufacturing.

The adoption of smart manufacturing technologies is currently limited to a small fraction of the manufacturing sector due to the high cost and complexity of the technologies. Particularly, SMMs have little access to advanced technologies due to a lack of staff resources, capital constraints and a dearth of expert information on energy efficiency opportunities. The Smart Manufacturing Leadership Act removes barriers to smart manufacturing for SMMs, thereby improving energy efficiency, creating jobs and securing a more competitive position in the market place for the American manufacturer.

What the Smart Manufacturing Leadership Act Will Do

- **National Smart Manufacturing Plan**
 - Directs the Department of Energy (DOE) to develop a national smart manufacturing plan that will identify areas where the agency can facilitate more rapid development, deployment and adoption of smart manufacturing technologies.
- **Technical Assistance for Small- and Medium-Sized Manufacturers**
 - Expands the scope of existing technical assistance programs for SMMs within DOE to include smart manufacturing technologies and practices.
- **Access for SMMs to Smart Manufacturing Infrastructure at National Labs**
 - Facilitates access to high-performance computing facilities in the national labs for SMMs, allowing these companies to develop realistic simulations and gain insight on product behavior and optimization of their production processes.
- **State Leadership Grants for Smart Manufacturing**
 - Creates a competitive grant program for states to assist SMMs with deployment of smart manufacturing through access to state shared supercomputing facilities, training on how to integrate advanced technologies into their facilities and conducting demonstrations of the benefits of smart manufacturing.