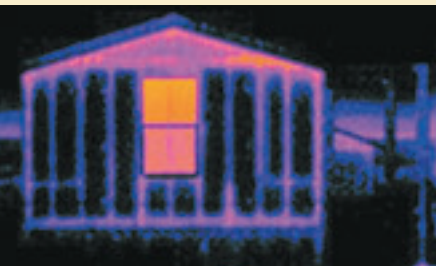


**TECHNOLOGIES**

## About MHRA

The Manufactured Housing Research Alliance (MHRA), the research arm of the manufactured housing industry, provides content for *Technologies*. ■ *Technologies* highlights the research of MHRA and examines other research and development activities throughout the industry.

■ For more in-depth information about research in the factory-built housing industry, or to find resources mentioned in *Technologies*, visit the MHRA Web site at [www.mhrahome.org](http://www.mhrahome.org). ■



**Manufactured Housing Research Alliance**

2109 Broadway, Suite 200

New York, NY 10023

(212) 496-0900

[info@research-alliance.org](mailto:info@research-alliance.org)

# Getting Started With Lean

**M**HRA has been collaborating with SENCO on how best to assist factory building operations looking to capitalize on lean concepts. Following on the highly successful production benchmarking survey, which involved over 140 modular and HUD-code plants, the next phase of the lean effort will most likely include the following steps:

### Planning and Preparation

In order to strategically improve processes, MHRA will identify and train “lean champions” chosen for their leadership abilities and a willingness to embrace change, in selected plants across the nation. Under the guidance of

MHRA’s lean experts, these champions will lead a process to compile a *Value Stream Map* identifying areas of waste, such as overproduction, excessive inventory, waiting time, unnecessary conveyance and corrections.

### Implementation

MHRA will work with plants to utilize rapid process improvement (RPI) events that help to accelerate change. The method, which was developed by Toyota to gain a competitive edge, employs a system to prioritize, implement, evaluate and follow up on improvements.

Some of the most useful RPI tools to be considered are:

- Put all of the operations

areas in order using the five Ss: sort, set in order, shine (clean), standardize and sustain (monitor);

- Deliver supplies to the production line using “just-in-time” techniques, such as ordering cards called Kanbans; and,
- Proactively reduce equipment downtime and/or loss with total productive maintenance.

### Follow-up

At the end of each RPI event, the lean champion and the team that carried out RPI event will meet with management to present the results and celebrate their success. For example, SENCO gives *Pillars of Excellence*

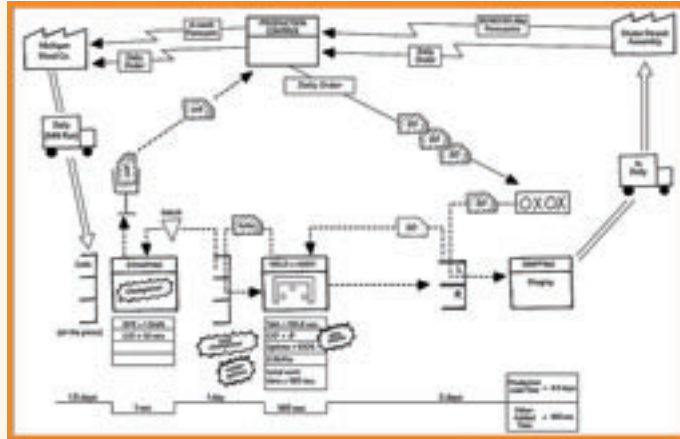


MHRA members visit SENCO to explore lean production

awards to employees who went the extra mile toward the goal of continuous improvement.

Over time, this process becomes ingrained into the culture of the organization and employees work to improve safety, quality and productivity by eliminating waste and making continual improvements to the process.

For more information about the lean production effort,



contact Jordan Dentz at 212-496-0900, ext. 13 or visit [www.mhrahome.org](http://www.mhrahome.org). ■

Lean production utilizes Value Stream Maps, like this one

Source: Lean Enterprise Institute, [www.lean.org](http://www.lean.org)

## GET INVOLVED

### Map the Future

We need your help to determine the future direction of the industry. Over the last year, a working group of industry leaders and the Manufactured Housing Research Alliance (MHRA) put together a wish list of research and development projects for the factory-built housing industry called the Technology Roadmap.

The final roadmap will form the basis of funding for industry research and development projects in the coming years. The projects fall under one of five categories: the home, factory, consumer, market and home site.

MHRA has posted a draft list of suggested research projects in each of these five areas on its Web site at [www.mhrahome.org](http://www.mhrahome.org).

Return any comments, suggestions and recommendations on the technology road map by July 22, 2005. Opinions will be compiled and a final Technology Roadmap will be released later this fall.

## A Lean Machine

*Incorporating the principles of lean*

Contrary to popular belief, Henry Ford did not invent the assembly line. That distinction goes to Ransom Olds, who created the assembly line in 1901 to keep up with an increased demand for his horseless carriage.

Ford is remembered for the assembly line because he added conveyor belts that cut the time to manufacture a Model T from a day and a half to ninety minutes. This small adjustment made Ford the king of mass production. It also made him the first to apply lean manufacturing principles on a mass scale.

Today, lean manufacturing principles have been adopted by many industries to achieve similarly surprising results.

The Manufactured Housing Research Alliance (MHRA) currently has a research program underway to investigate

how these principles could be applied in the factory-built housing industry (See *Technologies*, September—October 2004). As a part of this effort, members of MHRA toured SENCO, an industry supplier located in Cincinnati, Ohio, in order to see one example of a firm that has successfully applied lean principles in its operations.

SENCO began using lean production techniques in 1993. They learned from Toyota personnel, who worked with the company for nine months to teach them the concepts.

It paid off in a big way. By applying lean production techniques, SENCO tripled its cash flow, reduced fixed overhead by 28 percent and saved millions of dollars by dramatically reducing finished goods and work-in-process inven-

tory from four months to just eight days or less.

And lean techniques aren't only useful in a factory environment. SENCO is starting to apply its lean processes to the back office as well.

"We are finally getting off the factory floor and into the offices as well," said Dewey Warden, SENCO's lean manager. Warden says that the biggest obstacle to going lean is getting started. "People read about [lean processes], but they have a fear about how it will change their business," he said.

Warden and SENCO's Lean Specialist Kent Williams recommend that companies start with an easy project that will be visible and provide a noticeable impact on operations. They suggest keeping the elimination of waste as the focus. ■