

# SUCCESS STORY



**Global Engagement**—a Next Generation Manufacturing Success Strategy

## Harvard Corporation taps WMEP to filter out waste, ramp up efforts to gain new customers



### Company is positioned to grow through exporting and serving customers with sustainability goals

Founded in 1973, Harvard Corporation is a privately-owned manufacturer of filters and filtration systems based in Evansville. Its proprietary state-of-the-art filters are designed to clean fluids, such as the lubricants used in the transportation, power generation, and mining and construction industries. Otto Knottnerus purchased the company in 2007 after working as one of the firm's distributors for several years. "I always thought that we were just scratching the surface of the market potential for this unique filter," said Knottnerus. "Our filter system is so effective that some customers use it to clean new oil before they put it into their hydraulic systems." Clean oil dramatically reduces the wear on expensive industrial machinery

### Harvard Results:

Due to Lean initiatives, customer-focused innovation and global engagement, Harvard:

- ▶ Reduced product build time by 15-20%
- ▶ Reduced paper media waste from 12% to 4%
- ▶ Developed a completely recyclable filter product
- ▶ Developed a new marketing program to reach new customers
- ▶ Developed an export strategy that has already produced new customers in Brazil and Africa



*Otto Knottnerus, president of Harvard Corporation, with some of its proprietary filters.*

(such as the turbines used in power plants), thereby greatly reducing maintenance and replacement costs.

Today the company is poised for growth due to industry trends to reduce costs and enhance sustainability. "Our products have the ability to save companies a lot of money while using resources more efficiently," Knottnerus said.



## Lean fuels efficiency

Knottnerus' first order of business was to review the Harvard production process to make it more efficient and improve product quality. His background in industrial and mechanical engineering gave him the background he needed to implement lean manufacturing techniques. Knottnerus made a series of improvements throughout the plant that enhanced work flow, and reduced waste, energy and raw material usage. Design changes reduced the number of filter components by two thirds, greatly reducing assembly time. In addition, Harvard was able to reduce paper media waste from 12% to 4% by working with the supplier and by changing how the media was processed on the shop floor.



*Donald Short puts the final touches on the canister assembly. Changes to his work area through the lean process increased safety and efficiency.*

"The changes we made were good, but I knew that much more could be done to increase efficiency, so I contacted WMEP for fresh perspective on the operation," said Knottnerus. WMEP experts demonstrated how Value Stream Mapping (VSM)

"This process [Value Stream Mapping with video] greatly reduced wasted effort and also highlighted areas where we really needed new equipment for safety or efficiency reasons."

*Otto Knottnerus,  
President, Harvard Corporation*

could eliminate wasted steps and increase efficiency. VSM includes video-taping each step of the production process so that the entire team can review what is happening and suggest improvements. "This process greatly reduced wasted effort and also highlighted areas where we really needed new equipment for safety or efficiency reasons," said Knottnerus. Harvard has reduced its product build time by 15-20% since it began its Lean journey.

## Tapping new customers, markets

Highly regarded as a leader in quality and innovation, Harvard is ready to take the company to the next level with an aggressive marketing campaign to target new customers and markets.

The firm again reached out to WMEP for assistance. Marketing Specialist Laura Voll is working with Harvard to develop and implement a marketing plan that includes a range of sales programs, a website upgrade, new advertising, and outreach to international markets.

"We've just started selling through distributors in Africa," said Knottnerus. "This product is ideal for their needs. Often, newly purchased lubricants are

# Harvard Corporation



*Sing Sayarath vacuum packs filters to prevent the sensitive media from absorbing water from the air during shipping, an critical step in serving international customers.*

already contaminated during the shipping process, and our filter system will clean the new oil and keep it clean. This extends the life of the equipment and the lubricant. In addition, the filters do not need to be drained or handled as toxic waste.”

“Because of the design changes I made to the filter, it is now completely recyclable,” said Knottnerus. “The filter is made from paper with 80% recycled content, and any waste produced during manufacture is returned to the suppliers so it can be recycled again. This opens up new markets to large customers with sustainability requirements as well as some countries with strict sustainability regulation.”

Voll recommended the ExporTech program to Harvard. ExporTech is a series of day-long training sessions where non-competing participants develop an export strategy with help from experts from the Department of Commerce and local export professionals with a variety of backgrounds. “The

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President, Harvard Corporation*

ability to get credit checks of potential customers and overseas distributors has been particularly valuable.” In addition, he’s planning to go on an upcoming trade mission to Brazil to meet with potential distributors. “It looks like Brazil has tremendous market potential for Harvard, and this trip will help me assess the both the potential and the challenges involved in selling in that market.”



*Ty Kilgore prepares the filter media for slitting.*

# Success



*Mark Bilhorn operates the hole-punch machine to prepare canister lids for assembly.*

Despite the recent recession that hit some industry segments particularly hard, Harvard increased sales by 5% last year. Knottnerus viewed the recession as an opportunity to get aggressive to take market share from the competition, bring new customers in and build business with existing customers. Though the firm doesn't have Chinese competitors yet, Knottnerus is gearing up. "We're constantly working to increase quality, provide great customer service and custom products, and become more efficient and innovative. Harvard sets the standard for quality in this industry, and we are committed to maintaining this high standard and to bringing our products to new customers throughout the world."

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President, Harvard Corporation*

Knottnerus said WMEP has been an invaluable resource in helping the company implement lean and tap new customers and markets. "We're a very small firm, and don't have the in-house resources to tackle some of these challenges. WMEP brings us a fresh perspective and creative concepts and ideas that represent the best practices in industry today," he said.

To learn more about Harvard Corporation, go to [www.harvardcorp.com](http://www.harvardcorp.com)

## About WMEP

WMEP is a private, nonprofit consulting organization committed to the growth and success of Wisconsin manufacturers. WMEP is a leader in bringing Next Generation Manufacturing best practices to Wisconsin firms to help them achieve world-class performance through innovation and transformation.

**For more information, visit [www.wmep.org](http://www.wmep.org) or call 1-877-856-8588.**

