



# Letterkenny Army Depot Captures Its Second Shingo Prize in Two Years

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**W**inning the Shingo prize for the second consecutive year validates the success of Letterkenny Army Depot (LEAD) and its Lean journey! In 2005, LEAD was the first Army depot to win the distinguished Shingo Prize by using Lean principles in its Patriot Launcher Rebuild Program. LEAD built upon its previous success by winning the 2006 Silver Shingo Prize for Excellence in Manufacturing (Public Sector Award) for its Tactical Wheeled Vehicle Humvee Recapitalization program.

LEAD's successful application of Lean Six Sigma has saved depot customers more than \$21 million over the past 3 years. More importantly, LEAD returns the critical equipment, weapons systems and refurbished assemblies in near new condition. LEAD's current initiative, M1114 Humvee Recap, has garnered the depot its second Shingo Prize for Excellence in Manufacturing (Public Sector Award) in two years. (U.S. Army photo.)



Located in South Central Pennsylvania, LEAD entered the Lean path to transformation in 2002. The depot's original focus was learning Lean processes to improve productivity and reduce costs. Depot management and its employees were soon actively

engaged. They participated in rapid improvement events that offered systematic approaches to the depot's Lean transformation. Emphasis was placed on quality, cost and timely delivery. The workforce's focus then became how to best serve its end users — our

warfighters. After launching Lean transformation, Letterkenny also assimilated Six Sigma methodologies. Employees were trained in Lean Six Sigma (LSS) principles and tools. The customer remained in sight and the continually improved Lean processes

and initiatives earned Letterkenny the reputation as a “capabilities-based depot.”

Letterkenny has become very adept at effectively weaving LSS through the Humvee Recap program. A primary tool of choice has been value stream analysis. LSS has been thoroughly integrated into the organizational culture at Letterkenny. To its credit, LEAD has embraced LSS concepts, thereby improving its processes and markedly increasing its capacities by using the data and tools from this proven manufacturing system.

The realities of war and the constantly changing support requirements for Soldiers in the field were clearly evident for the overextended fleet of Army Humvees. In January 2005, the original Recap goal was five vehicles per day. Throughput surged to 19 Humvees per day to supplement

customer demand by July 2005. Today, LSS is helping LEAD sustain 15 Humvees per day.

**Humvee Recap Innovations**

Originally, LEAD used a bay-type process for its Humvee line setup, where the body and chassis were combined. This process was improved and converted to a flow process by separating the body from the frame into different functions or processes. As a result of this reengineered process, by July 2005, Humvee flow surged to 19 vehicles per day. Likewise, LEAD instituted a new parts ordering process defined as a kanban system that uses gravity feed racks for hardware and bakers racks for

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larger parts. Through LSS and by re-vamping the process flow, Letterkenny reduced the overall Humvee Recap hours from 274 to 174 per vehicle, increased throughput from 1 to 19 and reduced internal Humvee defects by 80 percent. Through a newly improvised quality management system, charts identifying defects, parts shortages, trends and daily “heroes and zeros” were formulated and posted in each work cell to further spur productivity and document critical lessons learned.

Lean is about achieving results that are tangible to customers. Letterkenny changed the paradigm and developed



Twenty-seven “free” Humvees circle the Letterkenny Army Depot sign. These vehicles exemplify the return on investment to the Army and LEAD’s customers. (LEAD photo by Don Bitner).

Letterkenny employees easily transfer Humvees into the shop for overhaul after reengineering the depot's flow process. (LEAD photo by Don Bitner).



a cutting-edge innovative process that allowed tangible results to yield tangible savings. Costs are captured and savings are presented to the customer in a ceremonial check presentation. Letterkenny's successful application of Lean principles has saved the depot's customers more than \$21 million over the past 3 years.

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Cognizant of warfighter needs, Letterkenny recently returned 27 "free" Humvees to its customer. At a time when the Nation was marking the 5-year anniversary of Sept. 11, LEAD held a ceremony with 27 Humvees lined in a row. The Humvees glistened and the spectators listened as U.S. Army Aviation and Missile

Command Commanding General MG James Pillsbury remarked, "This is a big deal. Nothing in this world is free, but this is. Twenty-seven Humvees and they are free to the warfighters." Letterkenny increased monthly production of the Humvees from 276 to 303 at no additional cost. This will be done for a

period of six months and is a direct result of Lean initiatives and Six Sigma applications.

Training and education are a continuing initiative with Lean execution. "Learn by doing" was a great philosophy that worked at the time, but to continue, it became evident that additional specific courses of instruction were needed. Letterkenny staff

now has LSS Champions, Green Belts and Black Belts who maintain the program's integrity and viability, and serve as coaches and valuable resources. The entire workforce is empowered to make improvements through Lean events, the Army suggestion program and the value engineering program.

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