



US Army ARDEC

The US Army Armament Research, Development and Engineering Center (ARDEC) is the internationally acknowledged hub for the advancement of armaments technology and engineering innovation. ARDEC's workforce provides Product Life Cycle support for 90% of the Army's lethality used every day by the Warfighter. The ARDEC workforce and our network of suppliers and partners have no single counterpart in the world, and our collective goal is to become the world-recognized leader in cutting-edge armament technology solutions that save Soldiers' lives.

PRODUCT

ARDEC provides armaments research, development and engineering for a broad spectrum of armaments technologies and products used by US forces and its Coalition allies, as well as domestic law enforcement agencies. These include small, medium and large caliber weapons, guidance systems, explosives, warheads, propellants, ammunition and related support systems.

PLANT/LABORATORIES

ARDEC employs over 3,700 civilians. The ARDEC Headquarters at Picatinny Arsenal, NJ is home to almost 3,400 staff with other employees located at ARDEC's offices and facilities in NY, IL and MD.

PEOPLE

Culture & Empowerment:

- Lean Six Sigma is ARDEC's "improvement engine" – it has been the key to embedding innovation, effectiveness and efficiency in our work systems. To date, over 55% of ARDEC's employees have taken Green Belt or Black Belt training, and over 30% are either Green Belt or Black Belt certified.
- ARDEC has over 400 Integrated Product Teams that bring together members from across the ARDEC competency directorates, customers, and current suppliers and partners. Most ARDEC employees participate in one or more cross-functional teams.

Human Capital Innovation:

- Our Human Capital Management and Performance System supports our customer

focus by rewarding employees for the accomplishment of customer needs.

- Both ARDEC Project Officers (APOs) and customers provide input on employee objectives and performance ratings to the supervisor.
- ARDEC executed a Talent Maturity Audit (Human Capital Institute) to provide benchmark data on human capital practices at ARDEC and design initiatives to improve ARDEC's talent management abilities.

Training:

- The skills and expertise that ARDEC requires are not taught in universities or readily obtainable through previous work experience. Therefore, ARDEC created an internal Armament University to provide its staff with specialized training. Annual investment in Training \$ per employee perennially exceeds the American Society for Training & Development (ASTD) benchmarks.
- ARDEC's "Greening Program" provides its scientists, engineers and business professionals with knowledge of the U.S. Military and the Warfighter's operational environment and requirements through a four-phased training series. This knowledge enables our employees to design relevant and innovative products for the Soldier – right the first time.

PROCESS

ARDEC is committed to creating a culture focused on continuous improvement. Deployment of lean tools, systems and principles across our key business processes – lifecycle RD&E, workforce development and financial management – is anchored by a constancy of purpose shared by all of ARDEC's employees - to always do what is in the best interest of the Soldier. By integrating industry best-practices in project management, systems engineering, quality/performance management and business intelligence, we strive to continuously improve our work processes to maximize customer value, as measured by a rigorous, results-driven performance management system.

ARDEC ACHIEVEMENTS

Quality Integrated with Best Practices:

- Integration of industry best-practices such as Capability Maturity Model Integration (CMMI)

and ISO 9001, Voice of the Customer (VOC) and Lean Six Sigma (LSS) to consistently deliver the right product at the right time at the right cost.

- Overall Lean Six Sigma projects calculate to improvements in: Quality (88%), Cost (65%), Schedule (92%), and Risk (86%) and life cycle cost benefit/avoidance of over \$3.7B since FY (Fiscal Year) 2001.

Delivery/Productivity:

- ARDEC's customer satisfaction ratings (assessed through quarterly surveys) surpass both government and industry best-in-class benchmarks.
- By adopting world-class modeling, simulation and prototyping design tools, ARDEC has been able to shorten development cycles and reduce costs. This has enabled a greater than 50% increase in the volume of armament releases to the field.

Innovation and Technology:

- ARDEC has dominated the Army's 10 Greatest Inventions of the Year Award by receiving 33% of the awards over a 9 year period. The totals for the next three sister organizations combined are 36% (these awards are selected by Soldiers).
- The products and services offered by ARDEC are world-class, often with no competition. Project Management and Systems Engineering & Design for Lean Six Sigma (DFLSS) tools provide a disciplined framework for the development of innovative products.
- Our innovative technology transfer program has been designated as the Army's benchmark (Army Audit Agency).

Costs and Profits:

- Overall revenue has increased from \$600M in fiscal year 2001 to over \$1.3B in FY2011.
- ARDEC has expanded its markets. Revenues from non-Army customers grew from \$60M to almost \$130M (since 2001).
- ARDEC's Value Engineering Program has consistently exceeded the Army's annual cost savings target of \$10M. Savings have been realized in all ARDEC supported product lines.

Environmental Health & Safety:

- Because of the hazardous nature of its work, ARDEC undergoes regular audits to ensure environmental and safety compliance with regulations established by the DoD acquisition process, the Federal Code, OSHA & EPA.
- ARDEC maintains strict compliance with measures to reduce product risk (i.e. soldier safety and environmental impact) throughout the product lifecycle.
- ARDEC has numerous workplace preparedness processes for disasters and emergencies (100% of ARDEC employees are trained).

RECOGNITION

National/International Recognition:

- 2010 CMMI Level 5 for Development - First Federal Organization
- IMX-101, a new, more stable explosive to replace TNT, named by *TIME* Magazine as one of "The 50 Best Inventions of 2010," Nov. 11, 2010.
- XM25 Combat Rifle, designed to fire explosive rounds to neutralize enemies camped out behind cover, named by *TIME* Magazine as one of "The 50 Best Inventions of 2009," Nov. 12, 2009.
- 2009 Goodman Strategic Planning Award recipient.
- 2009 Gartner Business Intelligence (BI) Excellence Award recipient.
- 2007 Malcolm Baldrige National Quality Award recipient.

Department of Defense Recognition:

- 2011 and Seven time winner of the Army's Large R&D Laboratory of the Year award.
- 2009 & 2005 Gold-Level Workforce Development Award, presented by the Undersecretary of Defense Acquisition, Logistics and Technology.
- 2006 Army Performance Excellence Award – Gold (Army Baldrige)
- Four time winner of the Army's R&D Collaboration Team of the Year award.

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