



Enterprise Excellence and the Soldier and Ground System Enterprise

Roger Oben

Army Chief of Staff GEN Peter Schoomaker (left) receives a briefing from TACOM Commanding General MG N. Ross Thompson III (third from left), TACOM-Rock Island's Commander COL Mike Mullins (second from left) and Benny Wild (right) on the Opposing Forces Surrogate Training System Main Battle Tank, Rock Island Arsenal, IL, April 7, 2004.

MG N. Ross Thompson III currently commands the U.S. Army Tank-automotive and Armaments Command (TACOM) in Warren, MI. TACOM, a major subordinate command of the U.S. Army Materiel Command (AMC), champions the deployment of Enterprise Excellence and Lean/Six Sigma in both the command's manufacturing and service/administrative processes.

Thompson brings extensive operational command and staff experience from platoon leader through brigade command. He served in the 82d Airborne Division, 4th Infantry Division (Mechanized) in Germany; 19th Theater Support Command in Korea; commanded the 27th Main Support Battalion in the 1st Cavalry Division;

and commanded the 45th Corps Support Group at Schofield Barracks, HI. Prior to commanding TACOM, Thompson was the Military Deputy Director, Program Analysis and Evaluation Directorate, Office of the Deputy Chief of Staff for Programs, HQDA.

The following interview — conducted April 20, 2004 — highlights the development of Enterprise Excellence at TACOM and the formation of the Soldier and Ground System Enterprise.

Q: Recently we heard about the “Enterprise Excellence” concept and understand that the “Soldier and Ground Systems Enterprise” goal is to provide a new and innovative path to support Joint warfighters. What is Enterprise Excellence, and how will the Soldier and Ground System Enterprise benefit the warfighter?

Thompson: Enterprise Excellence is designed to help us provide the best possible support to the Joint warfighter. As Army Chief of Staff

GEN Peter J. Schoomaker noted, both the global war on terrorism (GWOT) and Army transformation demand that “our individual and organizational approach to our duties and tasks must reflect the seriousness and sense of urgency characteristic of an Army at war.” Enterprise Excellence optimizes quality, cost, schedule and risk across processes, products and organizations. It uses a holistic approach for improving and focuses leadership, management and technology on the enterprise’s critical systems and processes. It brings a sense of urgency to improving our systems and our support. We’ve been at war and transforming, while learning to use best business practices such as lean thinking, balanced scorecards and activity-based costing and management to help us better support Joint warfighters, innovate and seek continuous measurable improvement.

Q: How did Enterprise Excellence get started?

Thompson: Providing some background will clarify Enterprise Excellence. Almost two years ago, AMC depots, arsenals and ammunition plants collectively began implementing lean thinking to improve our competitiveness, meet a sense of urgency and greatly improve materiel support to Joint warfighters. Additionally, lean thinking was a proven way to help us navigate through the changes we faced because of Army transformation and the GWOT. Lean thinking developed from the Toyota Production System. It is a disciplined approach to problem solving, along with a “bag of tools” — an array of leadership and management techniques — that focuses on getting to the root of problems to identify waste in a process, and then works to remove that waste. When you remove waste, you increase speed and efficiency. We’ve begun to see

some promising results in AMC through our lean efforts.

The following are examples of how lean thinking resulted in substantial process improvements:

- The Reciprocating Engine line at Anniston Army Depot, AL, improved productivity 31 percent; Tank Turbine Engine line improved labor efficiency 14 percent, resulting in \$8.8 million in savings for one year.
- The Heavy Truck line at Red River Army Depot, TX, improved productivity 20 percent; Track and Road Wheel lines improved productivity 57 percent.
- The PATRIOT Launcher line at Letterkenny Army Depot, PA, decreased FY03/04 costs by \$3 million and is projected to save approximately \$9 million from FY05 to FY09.
- The Apache and Black Hawk Helicopter Engine line at Corpus Christi Army Depot, TX, increased production quantities 23 percent and decreased turnaround time by 62 percent.
- Lean methods also contributed to providing HMMWV Armor Protection Kits to support GWOT. From funding to first delivery — 7 weeks — with the delivery schedule accelerated by 90 days. This was done at seven AMC organic industrial base installations in TACOM, the Aviation and Missile Command (AMCOM) and the Joint Munitions Command (JMC).

About that same time we also developed a balanced scorecard during work to implement the Army’s Strategic Readiness System, designed to provide our leaders objective feedback to ascertain whether we’re achieving our strategic objectives. Balanced scorecards help us understand where to

focus our resources and efforts, such as our lean implementation, to solve problems that could preclude us from reaching our objectives and supporting the warfighters.

Another important methodology we began practicing was activity-based costing and management to measure the performance of resources, activities and cost objects in achieving customer value. So with these three best business practices, we started to realize there’s a better way to make decisions, manage and lead. Lean thinkers call this, “learning to see.” Well, the more we learned, the more we saw our deficiencies across all our products and processes. We hadn’t really focused on Six Sigma — a methodology and tool set that works to increase quality and effectiveness. But with both Lean and

Six Sigma, we saw opportunities to drive our efficiency and effectiveness to new levels. Peter Drucker said that “effectiveness is doing the right things,” and “efficiency is doing things right.” You need both, effectiveness and efficiency.

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Thompson delivers opening remarks during the 13th Annual Logistics Symposium, March 2004, at the Dearborn Hyatt Regency in Dearborn, MI.

Building on our lean deployment, we wanted to intensify our efforts to institutionalize a culture of innovation and continuous improvement. We started a “bottom-up” approach to implementing lean in 2003 through forming lean deployment cells in our depot lines, business processes and staff sections. But as we progressed on our lean journey, we saw the need to complement that with a “top-down” approach and began formal, institutionalized Lean/Six Sigma training, starting with our top executives and senior managers. They’re getting “Executive Black Belt” training. I’m going through the training also. You can’t just dictate this from a senior level. The culture change must be led. We began training in March 2004. Eventually, all our managers will receive formal “green belt” training. Some will become Lean/Six Sigma “black belts.” This is aggressive and demanding, but it’s the right thing to do to meet the challenges of fighting the GWOT and transforming. That’s how Enterprise Excellence came into our lexicon.

Q: How does Enterprise Excellence work?

Thompson: Enterprise Excellence takes us farther down the path we began in 2002 and 2003 to bring these leading edge practices — used today in the most competitive commercial enterprises — to TACOM and its partners. The Enterprise Excellence Framework is a holistic imple-

mentation of tools employed to inculcate a culture of innovation and continuous improvement to an organization. Mike Joyce, LM21 Vice President at Lockheed Martin’s operational excellence program, describes the kind of operating excellence we want to achieve as taking the smart path to change, which includes cutting waste, introducing Enterprise Excellence tools and making fact-based decisions, versus taking the “stupid” path — cutting services to meet budget targets without fully analyzing cost, waste or capability; or the “lazy” path of “salami slicing” or cutting a certain percentage to apply resources elsewhere.

The “lazy” path is how I sometimes view the DOD programming and budget processes — allocating inputs, not focusing on output metrics and harvesting funds from programs by just cutting them to “reinvest” in higher priorities.

The Enterprise Excellence Framework includes using Lean and Six Sigma, and also includes something called “Voice of the Customer,” a system that seeks to know and understand the full scope of our customer’s needs and then cost-effectively satisfy those needs.

Also important to Enterprise Excellence is something called a “Quality Management System” (QMS) in which we, as an enterprise, make a commitment to fact-based decision making and continuous measurable improvement. A QMS provides the management system to integrate Lean, Six Sigma, Voice of the Customer and balanced scorecard so they all work together to leverage each other’s strengths and compensate for weaknesses. A QMS can include standards such as International Organization for Standardization (ISO) 9001:2000 or Malcolm Baldrige Award criteria to achieve Enterprise Excellence. The QMS also becomes intrinsic to the strategic planning, decision, execution and feedback cycles.

Enterprise Excellence is a big change — fighting a war while transforming is a big change — and we know that this change is stressful and demanding on our people, so TACOM also includes a Leadership Competencies Program to our Enterprise Excellence framework. We could not have begun this Enterprise

Excellence journey without first focusing on the “people” dimension. Our Leadership Competencies Program — ongoing for about 2 1/2 years now — aims to develop our workforce’s and management’s ability to adapt to change and cope with the stress and

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demands by fostering desired behaviors such as leadership, teaming, communication, employee support, strategic thinking and a positive organizational climate. To adopt new ways of thinking, we needed to adopt new ways of acting.

Q: You have started this in TACOM. But “enterprise” implies other organizations and cross-functional process understanding. Will this involve other organizations?

Thompson: Through a Soldier and Ground System Enterprise, we intend to bring Enterprise Excellence to our diverse Soldier and Ground System Community — Army and Joint. We intend to cut across organizational boundaries and institutionalize collaborative teams among the AMC commands, which include TACOM; AMCOM; the Communications-Electronics Command; JMC; the Research, Development and Engineering Command; the U.S. Army Field Support Command; and the U.S. Army Security Assistance Command. We will also include the Program Executive Offices (PEOs) for Ground Combat Systems, Combat Support and Combat Service Support, Ammunition and Joint PEO Chemical and Biological Defense; the Army Test and Evaluation Command (ATEC); U.S. Army Training and Doctrine Command (TRADOC); Defense Logistics Agency; other Joint organizations and commercial industry. This will achieve what LTG Joseph L. Yakovac Jr., Military Deputy (MILDEP) to the Assistant Secretary of the Army for Acquisition, Logistics and Technology, referred to in his *Army AL&T* Magazine January-February 2004 interview as “interdependency.” In fact, my G-3 is leading a Lean/Six Sigma Black Belt project that uses Enterprise Excellence methods and tools to develop the Soldier and Ground System Enterprise

infrastructure to achieve that interdependency. That infrastructure will go far toward instilling, as the MILDEP describes in his interview, “a culture that will encourage people to work together across various domains.” As we progress through our lean deployment and formal Lean/Six Sigma training with black and green belt projects, we’ll build the necessary partnerships and teams, and construct the Soldier and Ground System Enterprise infrastructure maps.

Q: Why do we need a Soldier and Ground System Enterprise? What’s its purpose?

Thompson: In the book, *The Lexus and the Olive Tree*, Thomas Friedman describes the Cold War system as “being built around weight,” but that today’s “Globalization System is built around speed ... the fast eat the slow.” Global stability is in our Nation’s interest and our Army helps preserve that stability. As the Army’s senior leadership describes the future, we must have a campaign quality Army with a Joint and Expeditionary mindset. Our Army needs speed — Joint speed — global speed. Not just in the materiel sense, but in approaching all DTLOMSPF (doctrine, training, leader development, organization, materiel, soldiers, personnel and facilities)-based problems to achieve warfighting capability solutions. In Lean/Six Sigma you find that speed improves quality, quality improves speed and speed and quality reduce cost. This is counterintuitive in the DOD culture that we see today. The Soldier and Ground System Enterprise will foster cross-organizational interdependency, providing the infrastructure to attain speed and enhancing

continuous adaptation to our stressing and demanding Joint and global environment. The Soldier and Ground System Enterprise will develop and focus on innovative, new ways of achieving Enterprise Excellence.

Q: What principal organizations will participate in Soldier and Ground System Enterprise efforts? What contributions will they collectively make?

Thompson: From my perspective, the Soldier and Ground System Enterprise comes from a diverse community that influences soldier systems, ground combat systems, ground support systems and services across Army and Joint organizations. It’s a partnership of key players with significant roles that include:

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- PEOs of Ground Combat Systems, Combat Support and Combat Service Support, Soldier, Ammunition and Joint Chemical and Biological Defense.
- Research, Development and Engineering Command, particularly the Tank-Automotive Research Development and Engineering Center; Army Research and Development Center; Natick Soldier Center; and Edgewood Chemical and Biological Center, MD.
- TACOM’s Integrated Logistics Support Center and Acquisition Center.
- TACOM’s Ground System Industrial Enterprise with their Joint Manufacturing and Technology Centers at Rock Island Arsenal and Watervliet, NY, Joint Maintenance Centers at Anniston and Red River and the Expeditionary Logistics Center at Sierra, CA.
- TRADOC Combat Developers and Futures Center.

- ATEC.
- Combatant commanders and other Joint service commanders.
- Defense industry partners — both large and small companies.
- Possibly allied and coalition member militaries and industries.

Collectively, huge potential for contributions exists. We see tremendous opportunity to continuously improve support to the Joint warfighter. Not only by leading the development of new technologies and sustainment processes, but by modernizing our logistics support systems and improving acquisition support to program managers and PEOs. Enterprise Excellence has great benefit to our industrial capabilities, but can also greatly improve our service and administrative processes, too. Our Joint forces employ substantial ground systems; 141 allied and coalition partners also employ Soldier and Ground System Enterprise supported equipment. Both DOD and Army transformational programs include Soldier and ground systems.

Q: You talked about Enterprise Excellence requiring the need to learn new ways of thinking, develop new abilities and enhance skill sets. What type of training and development is required, how can Soldier and Ground System Enterprise community members learn and what should leaders do to support the learning?

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Thompson: Enterprise Excellence will help us evolve to a culture of innovation that can be brought about through several courses of action. Our course of action was to employ both the “bottom-up” and “top-down” methods I spoke of earlier. This included workforce and

management participation in quite a few Lean Value Stream Analyses and “Kaizens,” called Rapid Improvement Events, led by world-class lean practitioners. We also included a lot of lean self-study and on-the-job training (OJT) by many of my motivated people, and we now include a formalized institutional training program of Lean/Six Sigma.

Really, Enterprise Excellence is providing us a new way to manage, make fact-based decisions and change our internal culture. We also feel it’s critical that the senior leaders go through the same training that is provided to midlevel managers and other associates, both in the classroom and through OJT on lean events and Lean/Six Sigma projects. We are also insisting that interns, apprentices and co-op students get involved as well when they complete their initial training requirements.

Through everyone’s involvement, we want to enlist their commitment to transforming and reshaping our 21st century workforce.

A reference list follows this article and lists the texts I feel are essential to study. Self-study and self-improvement equals proactive support. People at every level



During a visit to Red River Army Depot last year, Thompson received several briefings demonstrating lean success stories and lean initiatives pioneered by the depot. Pictured left to right are: Deputy Commander Felix McClellan, Supervisor Willie Houff, Thompson and Depot Commander COL Michael Cervone.

in the Soldier and Ground System Enterprise must proactively work toward achieving individual and institutional excellence. We really believe that as we reshape our workforce, learning and understanding Enterprise Excellence tools like Lean/Six Sigma and embracing our leadership competencies will enhance one’s ability to succeed in our changing culture and contribute the best possible support to the Joint warfighter. Examples of some of the Lean/Six Sigma Black Belt projects our partners are initiating to build the Soldier and Ground Systems Enterprise infrastructure follow:

- Command Commodity Standard Systems Inventory.
- Modernizing industrial capabilities across the organic base.
- Future Combat Systems Manned Ground Vehicle Production Study Project.
- Army Working Capital Fund Capital Investment Program.
- Omnibus Services Contract process.
- HEMTT (Heavy Expanded Mobility Tactical Truck) RESET process.
- HMMWV Recapitalization Program.
- TACOM Resource Planning, Programming, Budgeting and Execution process.

- TACOM Information Technology Process, Products and Services.
- Civilian career program management.

Q: You've spent a large part of your career in battalions, brigades and divisions, and commanded a Main Support Battalion and a Corps Support Group. From the customer's perspective, when brought fully to fruition, tell us what the results of the Soldier and Ground System Enterprise would look and feel like.

Thompson: The ideal state — and we think it's an achievable state — is a Soldier and Ground System Enterprise infrastructure that supports Army expeditionary leaders, Joint force commanders and combatant commanders with quicker solutions to the "M" in DTLOMSPF — problems they encounter as they attempt to turn inside an enemy's decision cycle and gain strategic and operational momentum while planning, preparing for and conducting Joint and combined operations. We see interdependent Soldier and Ground System Enterprise partners collaborating to rapidly define problems and make fact-based decisions while developing and selecting courses of action, thereby supplying quicker solutions to problems. We see this accomplished with a sense of urgency and speed, focused on quality, cost and schedule, and while understanding and mitigating the risks. Although we often focus our efforts on acquisition and logistics communities, the DOD requirements system and Planning, Programming, Budgeting and Execution System (PPBES) are also ripe for applying Enterprise Excellence tools, with even greater potential benefits.

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Q: Do you have any final comments?

Thompson: We have been discussing the use of Enterprise Excellence tools in the acquisition and logistics processes. However, there is equally as much to be gained by using these tools in the DOD requirements and PPBES processes. There are a number of individuals in DOD who have started down this path, as I mentioned already, but it is not comprehensive enough in my view. Having spent six years in the Pentagon, I learned that there is more

emphasis on meetings than results. We need more speed and higher quality output in the requirements and PPBES processes to better support our combatant commanders and Joint warfighters. When the Enterprise Excellence tools are properly applied in all these areas — acquisition/logistics, requirements and PPBES — DOD will get more

warfighting capability for the resources allocated by Congress. Thanks for the opportunity to discuss Enterprise Excellence with you.

ROGER OBEN is a Management Analyst and Lean Practitioner at TACOM. He has a B.A. from Michigan State University and an M.S. in administration from Central Michigan University. He's also a graduate of the Army Logistics Management College and the Army Command and General Staff College.

REFERENCES

**Lean Thinking: Banish Waste and Create Wealth in Your Corporation*, James P. Womack and Daniel T. Jones, Free Press, Copyright 1996, 2003, ISBN 0-7432-4927-5.

**Lean Six Sigma for Service*, Michael George, Dave Rowlands and Bill Kastle, McGraw-Hill, Copyright 2003, ISBN 0-07-141821-0.

**What is Lean Six Sigma?*, Michael L. George, ISBN 0-07-142668-X.

**The Power of Six Sigma*, Subir Chowdhury, Dearborn Trade, Copyright 2001, ISBN 0-7931-4434-5.

**The Toyota Way: 14 Management Principles From the World's Greatest Manufacturer*, Jeffery K. Liker, McGraw-Hill, Copyright 2004, ISBN 0-07-139231-9.

**The Quality Management Forum*, A Peer-Reviewed Publication of the Quality Management Division of the American Society for Quality:

-*Enterprise Excellence: Six Sigma and Lean Production*, Harry Jackson, Normand Frigon and Lawrence Barkau.

-*Creativity Plus Knowledge Equals Innovation*, Douglas Smith.

