

**PEO STRI TEAM ACHIEVEMENT RECOGNITION (STAR)
AWARD NOMINATION – PROJECT EXECUTION**

Live Training Transformation (LT2)



**Respectfully submitted by the Project Manager
Training Devices
PM TRADE
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NOMINATED TEAM: Live Training Transformation (LT2)

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AWARD CATEGORY: Project Execution

INTRODUCTION/PROGRAM SUMMARY: At the Association of the United States Army (AUSA) Sunshine Chapter Army Ball in June 2010, the Program Executive Officer for Simulation, Training, and Instrumentation (PEO STRI), Dr. James Blake, presented the Consolidated Product-Line Management (CPM) team with the STAR Award for Contract Execution. That recognition of team excellence was a preview to where we find this team today in the execution of the project known as Live Training Transformation (LT2). The LT2 project is managed under the CPM contract.

The CPM contract is a five year, \$200 million, single award IDIQ contract to meet the requirement for a consolidated streamlined approach which provides the Project/Product Managers (PMs) an efficient, effective, and agile method to accomplish the:

- Management, maintenance and evolution of the LT2 Product Line Core Assets.
- Total Life-Cycle System Management product line support of systems/products within the LT2 Product Line Family of Training Systems.
- Product Line support of systems/products that leverage LT2 Product Line assets.
- Support of external interoperability initiatives (such as Live, Virtual, Constructive-Integrating Architecture (LVC-IA)) and joint programs.
- Synchronization with Warfighter Field Operations Customer Support Contract (Warfighter FOCUS).

The objective of the CPM contract is to provide for the managed evolution of the LT2 Product Line Core Assets and to provide product line support across all facets of the life-cycle for LT2 Product Line product teams. The purpose of the CPM contract is to provide the necessary product line support to ensure compatibility, commonality, and interoperability with current and future LT2 Product Line elements and systems, and to maintain this compatibility throughout the life-cycle. The CPM contract provides simultaneously support to multiple programs in various stages of acquisition, and is in compliance with the PEO STRI Common Standards, Products, Architectures and/or Repositories (CSPAR) policy. To illustrate in pictorial fashion the LT2 paradigm of project execution across not only PM TRADE, but also across PEO STRI programs, and extending into our joint services, please see Figure 1, “**LT2 CPM Paradigm**”. This diagram captures the streamlining and efficiencies power of the LT2 Product Line that is in keeping with the 14 September 2010 Memorandum for Acquisition Professionals, signed by the Honorable Ashton B. Carter in his directive titled “Better Buying Power: Mandate for Restoring Affordability and Productivity in Defense Spending”. It is this memorandum that launched the superseding of the PEO STRI SOP 672-20-2A, dated 25 June 2008 that brought forth the new SOP that governs the categories for which this STAR award nomination is written to. Those new categories include:

- Target Affordability and Control Cost
- Incentivize Productivity and Innovation in Industry
- Promote Real Competition
- Improve Tradecraft in Service Acquisition

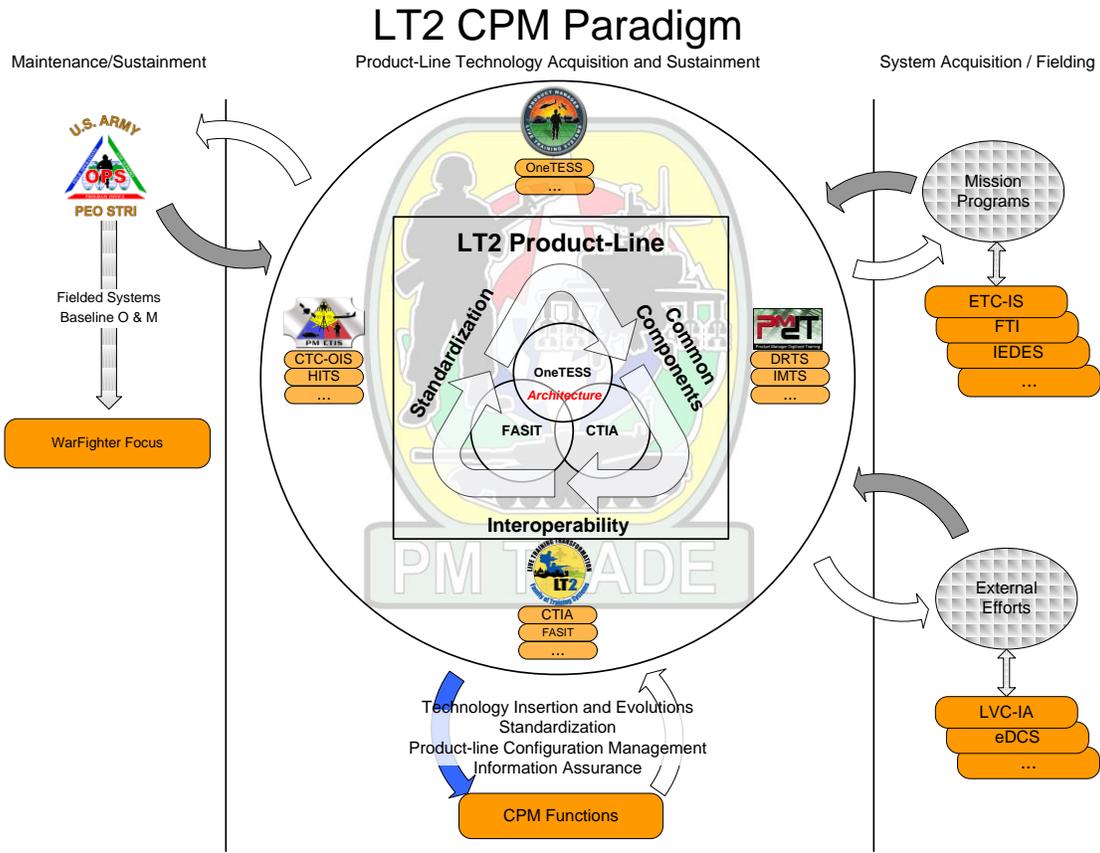


Figure 1

TARGET AFFORDABILITY AND CONTROL COST: Hallmark to the LT2 program is affordability and controlled cost. In the aforementioned Carter memo, it directs – “Eliminate redundancy within warfighter portfolios”. Eliminating redundancy is exactly the premise that the LT2 program is modeled to, and accomplished through the management of common components for extensive reuse, interoperability, and standardization. The LT2 program, recognized as the Army’s live training standard and consisting of the LT2 product line architecture, standards, assets, and environment has been used by more than 16 major Army and DoD live training programs, with more than 130 systems fielded. With 121 common components in the LT2 repository available for systematic reuse, there are several shining examples of tremendous dollars savings and cost avoidances, not only by the U.S. Army, but also by the Marine Corps and Air Force to meet their requirements ahead of schedule and for significant cost savings:

- The Marine Corps-Instrumented Training System was developed reusing 87 percent of existing LT2 software and completed in two years, saving \$11 million and seven years in schedule.

- The U.S. Air Force Counter IED AAR System leveraged LT2 assets and fielded seven training systems to meet the Air Force IED training needs at four bases with very little developmental investment.
- LT2 Exercise Control, a composable set of capabilities, has been systematically leveraged for 13 different products fielded around the globe, delivering more than \$94.2 million in cost avoidance for new product development, as well as significant cost avoidance for new equipment training, sustainment, and procurement.

Overall, the LT2 program execution has generated a significant return-on-investment to date within PM TRADE’s live training system acquisition portfolio, generating an estimated \$340 million in cost avoidance across the development and sustainment for Live Training Systems, to include Combat Training Centers Instrumentation Systems (CTC-IS), Home Station Instrumentation Systems (HITS), Instrumented Ranges, and Targetry.

INCENTIVIZE PRODUCTIVITY AND INNOVATION IN INDUSTRY: To stay cutting edge, top performing programs have to continually be looking for ways to improve productivity and how to inject new technologies and innovative leaps into the products they produce. The Carter memo also directs – “Reinvigorate industry’s independent research and development and protect the defense technology base”. The LT2 program, in conjunction with the CPM prime contractor GDC4S and its 17 subcontractors, injects a combat multiplier effect in terms of technology, innovation, and productivity.

One instantiation of this is the EDGE Innovation Network. From the EDGE Innovation Network website (www.edge-innovation.com/) it states:

The EDGE® Innovation Network is a revolutionary model where industry, academia, and non-profit organizations, along with government entities, collaborate in an open community environment to rapidly deliver new technologies and innovative capabilities to warfighters and first responders.

Our mission: Create and maintain an open environment where [members](#) and customers can characterize, nurture, develop and deliver current and emerging technologies and capabilities to equip a more mobile, better connected and better informed end-user.

The EDGE Innovation Network is currently comprised of 262 members, with a projection to be over 300 total by year’s end. If an Army program has a technology void the EDGE Innovation Network is a mechanism whereby a “Call for Innovation” can be submitted and the member organizations can work toward a solution by pooling resources, both technical experts and independent research and development dollars – all this at no cost or commitment on the government’s end. If a technological solution is derived to fit the program void, the government can then decide to purchase the solution to improve the product – a win-win scenario for Army programs and for our industrial base.

Another illustration of how the LT2 program has continued to stay efficient and take advantage of advancing technologies is through the implementation of the Second Generation Software Product Line Management (2G PLM) to consolidate the LT2 product baselines using variation management and an integrated, feature-driven software product-line factory approach (see Figure 2). This incremental approach incorporates state-of-the-art automated software tools and processes, management dashboards, and software product line technology, all while protecting the investment in the existing LT2 core assets.

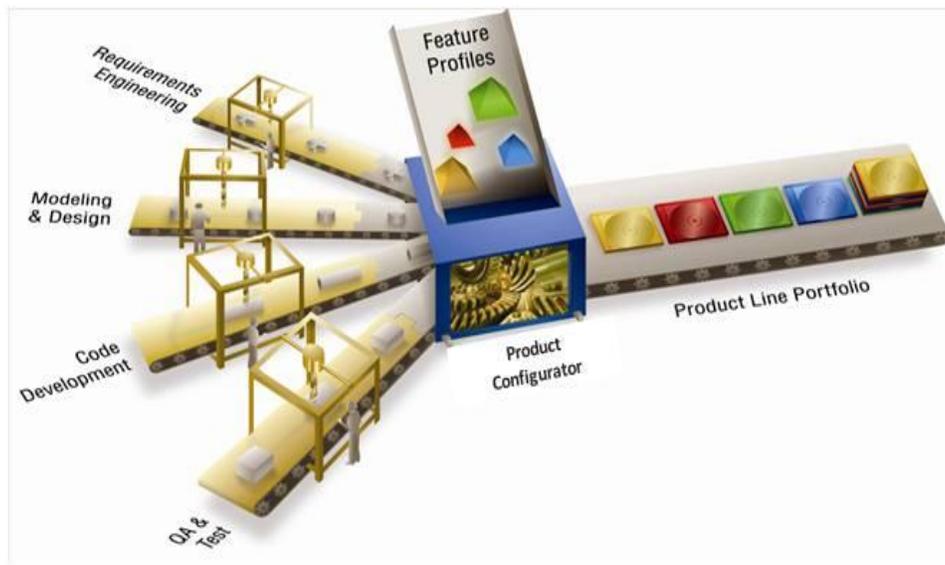


Figure 2

The 2G PLM allows for an automated process of generating all variants of products from a consolidated set of core assets. This means of production is simpler, more agile, more scalable, and more cost-effective. Shifting from a product-centric to a feature-driven perspective supports core assets based on the needs of the entire product line, resulting in high levels of reuse, deep asset expertise, and optimal quality. This eliminates uncontrolled growth in complexity management and allows us to move beyond trying to keep up with all the current product issues and instead to focus on the evolution of the LT2 product line.

In support of the Army vision to evolve live training solutions and improve cost efficiencies in a resource-limited environment, the 2G PLM approach provides the means to:

- Protect the significant live training investment.
- Provide for the continued development, production, and sustainment of LT2 products and ease the insertion of new technology.
- Realize objectives for return on investment and sustainment cost avoidance.
- Enable managers to maintain visibility and provide enhanced configuration control of their systems, and to avoid duplicating efforts.

Whereas it was previously mentioned that to date the LT2 program has generating an estimated \$340 million in cost avoidance across the development and sustainment for Live Training Systems, it is further estimated that another \$200 million in cost avoidance is projected over the next 2-5 years in the implementation of the 2G PLM approach.

PROMOTE REAL COMPETITION: The Carter memo directs – “Require open systems architectures and set rules for acquisition of technical data rights”. On mark to that directive, the LT2 program is based on the Common Training Instrumentation Architecture (CTIA) – an open system architecture. The CTIA is the technical framework that provides commonality across

training instrumentation systems and is the live training instrumentation interface to the Live, Virtual, Constructive Integrated Training Environment. It consists of government-owned and managed standards and protocols to be used by system developers and is the core software infrastructure of training instrumentation systems.

Reusable LT2 core assets consist of the open architectures, common software components, standards, processes, policies, governance, documentation, and other core assets that make up the common approach and frameworks for developing live training systems in support of home station, deployments, Military Operations on Urban Terrain, the Maneuver Combat Training Center, instrumented live-fire range training, and Joint training domains.

The LT2 program execution is also in keeping with the directives of the Carter memo that states in part – “Real competition is to be distinguished from a series of directed buys or other contrived two source situations which do not harness the full energy of competition”. The LT2 program’s execution contract, CPM, is set-up in fact to maximize a deep and talented industrial base of 18 companies – all with modeling, simulation, and training capabilities in various niche areas of expertise. This bench of companies can then in-turn be configured and utilized to fit the various and multifaceted requirements of each specific delivery order on contract under the CPM contract. This methodology produces better products for Soldiers due to tapping into a wide-ranging number of companies to draw from the best in breed.

Yet another element of the Carter memo when touching on promoting real competition, states this – “Remove obstacles to competition”. The LT2 program in its execution fully embraces this concept and leads a charge in this realm via its LT2 Portal (<https://www.lt2portal.org/>), or Live Training Community website. The Live Training Community website is marketed and earmarked as the first stop shop for Live Training information, to include News/Events, Products, Standards, References, Collaboration Areas, Common Components, etc. The Live Training Community website initiative is a success story to removing obstacles to competition – information is shared forward and often to the masses, and the numbers reflect this. Two years ago to this award nomination writing, the Live Training Community website had 899 subscribers. One year ago – 1,386. Today, we stand at 1,991 – more than double the subscribers just two years ago – program execution is on mark in this regard.

IMPROVE TRADECRAFT IN SERVICE ACQUISITION: “Increase small business participation in providing services. Small businesses provide the Department with an important degree of agility and innovation, even in support services, and they do so with generally lower overhead structures”, per the Carter memo. As has been discussed already in several instances of this award nomination, the LT2 program keys on agility and innovation, and to the matter of improving tradecraft via increased utilization of small business to garner this agility and innovation, this program hits the mark. The CPM contract, as mentioned previously, is comprised of 18 companies, and of those 18 companies, 11 of them are small businesses – with one (nFocus Software) brought in the fold under the DoD Mentor-Protégé program. To illustrate the wide-ranging composition of LT2 program’s CPM contract mechanism, here is the team listing, with those marked by an asterisks being small businesses:

- General Dynamics C4 Systems (Prime)
- Riptide *
- SAIC
- General Dynamics Information Technology
- Big Lever Software *
- nFocus Software *
- Scientific Research Corporation
- Raytheon VTC
- Raytheon TSC
- AIT *
- Inter-coastal Electronics, Inc. *
- Intelligent Decisions *
- Lockheed Martin
- ELEIT Technology *
- Cole Engineering *
- JB Management, Inc. *
- Quadsight *
- Applied Research Associates, Inc. *

To further illustrate the inclusion of the small business element in how the LT2 program is executed, the previously mentioned EDGE Innovation Network that is currently comprised of 262 members boasts a small business membership of 187 companies of that 262 – a 71% ratio of small businesses in the portfolio.

In addition to the 18 companies listed above that make up the CPM contract element of the LT2 program, industry partners outside the CPM contract like Lockheed Martin, Cubic, Saab, and many others routinely utilize products from the LT2 Product Line for the products they produce on other contracts/programs. Further, when these companies make improvements to an LT2 component, they check the improved version back into the repository to make available for systematic reuse by other companies and programs.

CONCLUSION: The LT2 program project execution team has proven over and over again to be cutting edge, innovative, and a cost savings/avoidance offering to a multitude of programs across the Army and other Services. A few examples of this team’s project execution have been cited in this award nomination write-up. This team has continually been recognized by Senior Leadership in their achievements toward excellence. To close, here is a listing of awards that the LT2 program, or members of its team were nominated for and/or awarded during the fiscal year of 1 October 2010 – 30 September 2011 (the five marked by an asterisks were singular nominations for all of PEO STRI, as endorsed by Dr. Blake):

- David Packard Excellence in Acquisition Award *
- Association for Enterprise Information (AFEI) 2011 Excellence in Enterprise Integration Award *
- 2011 Lt Gen Thomas R. Ferguson, Jr. Systems Engineering Excellence Award *

- NTSA M&S Awards for Fiscal Year 2011 – Cross-Function Award
- NTSA M&S Awards for Fiscal Year 2011 – Analysis Award
- NTSA M&S Awards for Fiscal Year 2011 – Acquisition Award
- AMSO M&S Awards for Fiscal Year 2011 – Analysis Award
- AMSO M&S Awards for Fiscal Year 2011 – Acquisition Award
- 2011 Army Acquisition Excellence Award for Individual Sustained Achievement – Dr. Jeremy Lanman *
- DoD David O. Cooke Excellence in Public Administration Award – Mr. Mike Dillon *
- Army Civilian Achievement Award – Mr. Graham Fleener
- Army Civilian Achievement Award – Mr. Brian Kemper
- Army Civilian Achievement Award – Dr. Jeremy Lanman
- Army Civilian Achievement Award – Mr. James Todd
- Army Civilian Achievement Award – Mr. Derek Vick
- Army Civilian Achievement Award – Mr. Steven Horvath (UCF Student Intern) – see Note below
- Army Civilian Achievement Award – Mr. Mike Dillon
- Army Civilian Achievement Award – Ms. Michelle Garcia

Note – this award was co-presented by COL Mike Flanagan, PM TRADE and Dr. John Hitt, UCF President, to Mr. Horvath in front of his Senior Project class in an auditorium setting in a surprise announcement to Mr. Horvath. The presentation was featured as the front page leading article in the UCF weekly newsletter publication and further featured on the UCF internal TV news network. Research into the UCF archives indicates this is the first student intern at UCF to ever receive this distinguished accolade and recognition.