The Future Logistics Enterprise

Roadmap to Transformation

November 2002 Revision 02
About ChainLink Research

ChainLink Research is a Supply Chain research organization dedicated to helping executives improve business performance and competitiveness through an understanding of real-world implications, obstacles and results for supply-chain practices, processes, and technologies. The ChainLink Inter-Enterprise Model is the basis for our research; a unique, real-world framework that describes the multi-dimensional aspect of links between supply chain partners.

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Introduction

Objective of This Paper

This paper will articulate and validate the Future Logistics Enterprise (FLE) vision and objectives for readers such as industry suppliers and partners, members of Congress, members of other government agencies, and fellow members of the Department of Defense who need to understand the challenges, and align with the FLE goals.

Approach: Frame and validate the Future Logistics Enterprise objectives and approach by comparing and contrasting them against industry efforts and best practices, and highlighting the lessons learned and implications for the Future Logistics Enterprise initiatives.¹

Executive Summary

The Future Logistics Enterprise is a set of synergistic and integrated initiatives, managed by the DOD and sponsored by the Joint Logistics Board (JLB), which is headed by the Deputy Under Secretary of Defense for Logistics and Material Readiness, The Honorable Diane K. Morales. The members of the JLB are the most senior ranking DOD logisticians.

Joint Vision 2020 (JV 2020), issued by the Joint Chiefs of Staff described a future military capability based upon speed, precision, lethality, and information dominance. JV 2020 identifies “Focused Logistics” as a critical requirement to project and sustain forces. The Services and Defense Agencies have initiated numerous actions in pursuit of the objectives of JV 2020. The 2001 Quadrennial Defense Review documented the need to accelerate DOD transformation efforts to meet emerging threats and established ambitious goals for rapid engagement of forces. The attacks of September 11, 2001, and the

¹ Content for this research came from: documents and interviews with senior professionals who are responsible to the Future Logistics Enterprise policy and leadership; interviews and research on several hundred private sector and public sector programs that have relevance to the FLE.
War on Terrorism have given a sense of urgency to accelerating change. The Future Logistics Enterprise is a crucial cornerstone of this required transformation.

DOD Logistics Transformation Imperative

Logistics is recognized as a foundation and key enabler of the warfighter’s ability to project force. It is critical for the DOD logistics community to drive programs of on-going improvements. Today:

- $88 billion is spent each year in total on DOD logistics
- $64 billion is spent each year on sustaining weapons\(^2\) alone
- $58 billion is spent on research and development\(^3\)
- $72 billion is spent on weapons procurement
- On average, it takes 18 days to fulfill an order
- The DOD has 600 legacy logistics systems with 400 million lines of un-integrated legacy code
- There is over $50 billion in logistics inventory

Non-aligned processes from supporting organizations and stovepipe management between processes (such as acquisition to maintenance) prevent the realization of return on investments, lengthen the time required for weapons introduction, and increase the sustaining costs.

The new global realities and changing national security requirements that have arisen since the end of the cold war create the need for today’s military to operate in multiple modes of agile deployment. Beyond the DOD’s own continuous focus on improvement, Congress continues to support fundamental logistics transformation in support of the warfighter. In September, the joint session of Congress stated, “The unparalleled strength of the United States armed forces and their forward preparation has maintained the peace in some of the world’s most strategically vital regions. The threats and enemies we must confront have changed and so must our forces. The structure to deter massive Cold War-era armies must be transformed to focus on how an adversary might fight rather than where and when a war might occur.”

\(^2\) Sustain is only support, not investment in new systems or weapons.
\(^3\) October 2002 appropriated by Congress for 2003 budget.
The warfighter’s requirement as outlined by the 2001 Quadrennial Defense Review is to have a ready and capable force—employ in 96 hours and deploy in 7-14 days—versus the 3-6 month timeframe of the past. The recent 28-day response time to Afghanistan illustrates the benefits of such a strategy: alignment with allies, and success with little loss of life. The 21st century deployment sequence and footprint looks significantly different from the past. Air and ground troops lead, in parallel with infrastructure (pull model), versus the past model of creating the fixed infrastructure base and then projecting warfighters (push model). This evolution is being driven by the changing political and economic landscape, with significant parallels in the private sector, as illustrated in Figure 1 below.

DoD Logistics Transformation Imperative

The implications of this strategy have far reaching consequences for logistics personnel, weaponry, technology, and supplier relationships. This strategy allows a higher degree of responsiveness and more assured success for today’s conflicts. In addition it demands the next generation of weaponry and process innovation and the transformation of DOD Logistics - with benefits in the cost of operation - but more
importantly further enhancing the warfighter goals of winning the battle while minimizing loss of life.

**The Industry Parallel**

Over the last ten years, entire industries have transformed from vertical integration of designing, manufacturing, delivering, servicing, and proprietary information technology development to a strategy of virtual value chain management. Within these virtual environments firms have created and funded ‘centers of expertise’\(^4\), based on the pursuits and implementation of best practices. Best practices are those that are validated by **tangible, demonstrated benefits**.

Firms have achieved higher levels of success in three major business objectives:

- Profit – maximum results with minimum expense or effort
- Time-to-Market – getting innovation into the market place and into use rapidly and effectively
- Customer-for-Life – aftermarket service, upgrades, enhancements, and modification of the product to help the customer achieve the full lifetime asset value and return on their investment

In contrast, the United States Department of Defense has largely maintained a strategy of vertical integration. Once the Services take possession of equipment and personnel, they house, train, service, deploy, heal/repair, and retire them - all within their own infrastructure.

Both strategies have distinct advantages and disadvantages. The Defense department has constraints regarding security, legislation, and the need to stand at a **level of readiness** that incurs substantially more cost than the private sector. The Department of Defense objectives are more complex than private industry—from operational availability, to sustaining troops, to nation building—all the while balancing innovation with the slower process of legislation.

\(^4\) The emergence of 3rd party providers—in manufacturing, logistics, and IT—has created multi-billion dollar corporations that span the globe. Most of these firms did not even exist in 1985 or were at an insignificant scale compared to their current market and global position.
Historically, the military has been, and continues to be, a chief investor in technology innovation, and has acted as an underwriter of R&D frequently leveraged in the ‘parallel universe’ of the private sector. Now, within the initiatives of the FLE are efforts to embrace some of the highest-impact capabilities and knowledge from the private sector in order to become more agile and cost effective, while still meeting National Defense requirements. Technology will move from the commercial sector to the government, translating commercial advances in supply chain techniques to comparable areas in the Department of Defense logistics chain.

Executive Summary of Findings:

- The FLE initiatives are framed to enable the next generation of force projection capability that confront the current and future realities of conflict and combat in the 21st century.
- The Future Logistics Enterprise embodies the best practices and strategies from both industry and the DOD.
- The FLE’s proposed policies and practices comprise extremely high payback initiatives with low risk. The concepts and practices at the heart of these initiatives have been successfully implemented previously in both DOD and industry.
- The scale of change, though massive, also has precedent in global industrial transformations. These industries have not only gone through major transformations in how the entire industry operates, but are exemplified by cross-enterprise cooperation between industry competitors and cross-enterprise integration between supply chain partners.
- The collaborative approaches advocated by the FLE programs can have major benefits to the US economy by creating new revenue opportunities for industry. The infrastructure, technology, and services required to support FLE, will take logistics capabilities to a new level that will enable expanded business opportunities for the private sector above and beyond their business with the DOD.
- Sharing information with the private sector through a Total Life Cycle Management approach will net gains in research and development, reduced cost in procurement and maintenance, and improved service responsiveness.
The focus and resolve of top leadership—from the President and Congress to the Department of Defense—has lent power and urgency to these initiatives. This has created a climate of learning and engagement, which has a direct, positive, and beneficial impact on the projects and operations within the Services.

**Early accomplishments in the transformation:**

There are already early accomplishments that point the way to success:

- Deep commitment, across the highest levels of the DOD, for broad and sweeping transformation of DOD logistic capabilities through the six comprehensive initiatives of the FLE that focus on total integration of weapons life cycle design, sustainment, and more effective, integrated deployment management.
- The implementation of best-in-class logistics systems in the Navy and DLA.
- Elimination of over 400 logistics legacy systems.
- The creation of an end-to-end integration strategy across the whole DOD in order to focus on customer satisfaction across the Services.
- The creation of an enterprise architecture based on best operational and IT practices.

In addition, specific management focus groups and working groups have been created that have already delivered on their policy objectives.

**How this paper is organized**

After this introduction, the paper consists of two major sections: “FLE Initiatives” and “Conclusion: Roadmap to Transformation”.

The FLE Initiatives section discusses each of the six initiatives, including goals, challenges, and best practice validation of the strategy. Examples from industry and DOD are used to compare and contrast different (or similar) approaches, illustrate where DOD or industry may be ahead, and highlight the issues, lessons learned, and implications these have for the FLE initiatives.

The final section, Conclusion: Roadmap to Transformation, is the summation of this paper. It draws observations and describes lessons...
and challenges, especially the technology, supply chain and change management issues.

There are significant benefits for the U.S. and its allies from enhancing readiness and responsiveness through the FLE initiatives. The challenges to FLE must be understood and addressed and the initiatives must be broadly embraced and implemented in order to attain success.
Acronyms

3PL – Third Party Logistics
APS – Advanced Planning and Scheduling
AUTO-ID – Automatic Identification
CBM+ – Condition-Based Maintenance Plus
CENTCOM – Central Command
CFAR – Collaborative Forecasting and Replenishment
CONUS – Continental United States
COTS – Commercial Off-The-Shelf
CPIO – Chief Process Improvement Officer
DLA – Defense Logistics Agency
DOD – Department of Defense
EA – Executive Agents
ERP – Enterprise Resource Planning
FIRST – F-18 Integrated Readiness Support Team
FLE – Future Logistics Enterprise
IT – Information Technology
JIT/QC – Just-In-Time/Quality Control
JLB – Joint Logistics Board
JV 2020 – Joint Vision 2020
KPI – Key Performance Indicator
LLP – Lead Logistics Provider
NAVAIR – Naval Air Systems Command
NAVSUP – Naval Aviation Supply
NDMS – Naval Depot Management System
NIST – National Institute of Standards and Technology
OEM – Original Equipment Manufacturer
PDM – Product Data Management
PLM – Product Life Cycle Management
PIA – Priority Information Agreement
PM – Project Manager OR Program Manager
POS – Point-of-Sale
PWIP – Producing Well Improvement Process
QDR – Quadrennial Defense Review
R&D – Research and Development
RCM – Reliability Centered Maintenance
RFID – Radio Frequency Identification
ROA – Return on Asset
ROI – Return on Investment
SMART – Supply Maintenance Aviation Reengineering Team
TLCSM – Total Life Cycle Systems Management
TSMC – Taiwan Semiconductor Manufacturing Company
UCC – Uniform Code Council
UI – User Interface
VICS – Voluntary Inter-industry Commerce Standards
WIP – Work-In-Progress