

# Logistics Digital Transformation

Enhancing product lifecycle management in the Marine Corps

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*“We cannot continue to rely on the processes and procedures of yesterday and expect them to meet the challenges and threats of tomorrow.”*

*—Gen David H. Berger,  
38th Commandant of  
the Marine Corps*

The Logistics Digital Transformation (LDT) team assigned to Program Manager, Logistics Integrated Information Solutions Marine Corps, provides information technology innovation to the Marine Corps logistics community at ever-increasing speed through digital transformation efforts. The LDT team is implementing industry product lifecycle data standards, leveraging modern digital technologies, and adopting adaptive software development practices to create new or modified logistics processes. The emphasis is on relentlessly challenging the status quo where it is no longer viable or valuable from a modern information technology perspective and delivering incremental value to the warfighter as rapidly as possible.

## What is Digital Transformation?

Digital transformation is the process of using data in a digital form and infor-

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mation technologies to create new—or modify existing—business processes, culture, and customer experiences to meet changing business and market requirements. This reimagining of business in the digital age is digital transformation. The four pillars of digital transformation are people, processes, data, and technology.

## It Starts with People

Digital transformation does not start with data or technology—it begins with people. People are paramount to transformation because all the data and technology in the world are only useful if it is helpful to the Marine performing the mission. This customer-focused approach gives the team and participants a more holistic view of the complex nature of DOD logistics and provides the transparency required to build trust. The LDT team engages with key stakeholders through product councils, which evaluate existing pain points to identify opportunities for better effectiveness and efficiency

through process improvement. The product council sets the direction of the technical data management (TDM) products, allocates resources, and provides insights into how the product performs. The TDM platform is a streamlined product data management platform for delivering current/accurate ground weapons systems and equipment information. The platform consolidates the data, information, and processes from several legacy logistics systems to improve data quality, integrity, and transparency while shortening process times.

## It is Founded on Standardized Data

Digital transformation begins with people, but achieving it relies on accurate, transparent, and reliable data. Consolidating data from multiple legacy systems and then conforming it toward a common data standard is the key. To accomplish this, the LDT team implemented the Society of Automotive Engineers, Government Electronics, and Information Technol-

ogy Association standard for logistics product data. The DOD adopted this industry standard in April 2014 and set specific criteria for conducting product support analysis. Standardization creates a common language that enables seamless communication, integration, and interoperability with industry suppliers, the DOD, government agencies, the Department of the Navy, and other sister Services. The initial release of TDM-CATALYST has exposed a small percentage of these standardized data elements, with future releases revealing even more, leading the Marine Corps to ever-greater process automation.

### **It Incorporates Modern Technology and Software Development Practices into the Solution**

The third element of the LDT paradigm is the team's technology and agile software development lifecycle. Utilizing cloud services, a low-code business process model, and modern database platforms coupled with a development,

as conditions change or user feedback dictates by utilizing continuous integration/continuous delivery. Incremental delivery improves efficiencies and aligns the finished product with end-user needs while allowing room for quick failures if project progress is not meeting the mission.

### **Process Transformation and Installation and Logistics 2030**

Logistics digital transformation provides significant process improvement and automation opportunities to the Marine Corps logistics community and enables the vision of the *Installation and Logistics 2030 Plan*. An example of current LDT efforts is the automated update of component lists for Marine Corps equipment. The Stock List 3 (SL-3) documents inventoried and required components and accessories for individual weapon systems and other military equipment. It is an essential product for periodic inventories for accountability and equipment readiness. The data elements within the 1,469 Marine

the size and complexity of the equipment and inventory document being created. Once an SL-3 publication is released, updates are provided through naval messages requiring a Marine on the ground to perform pen and ink changes to the publication. The result is SL-3 information is out-of-sync with the actual bill of materials, which produces inconsistent, inaccurate, and untimely inventory findings. This inaccurate information leads to erroneous supply and maintenance actions causing delays in the repair, which decreases readiness and increases costs by ordering and stocking out-of-date repair parts.

### **The Solution**

The LDT team will implement a solution to allow Marines in the fleet to directly access bill of materials information instead of abstracting it into a publication. The solution will leverage the TDM-CATALYST capability as the authoritative data source for managing the weapon system configuration BOM. TDM will refine the capability by automating realtime extractable SL-3 inventory listings directly from the system, including piece-part relationships and part images, to quickly identify items for inventory purposes. The revised process will ensure SL-3 extract is synchronized and available for download from TDM based on the initial weapon system baseline at fielding. Additional approved baseline configuration changes that occur during the lifecycle of the weapon system will automatically update the current SL-3 extract, which will include all additions, changes, and deletions for any data elements within the SL-3 format. Configuration management is maintained through the change promulgation log in TDM-CATALYST, with automated notifications occurring instantaneously to all Marines at every level of the chain of command based on their TDM-CATALYST in-system subscription or their unit table of equipment subscriptions. The automated SL-3 update capability is planned for deployment in FY23.

### **Future Considerations**

Logistics digital transformation is

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security, and operations tool chain, the team performs short-timed, incremental delivery of capability—typically less than two weeks. This incremental approach to software development delivers the logistics community a usable portion of capability while providing feedback to the team for future development. Teaming Marine users with software developers helps ensure that these products meet the mission and are useful in their intended environments. Our innovative approach represents a departure from traditional software development projects. These antiquated approaches can take months to years to complete—only to find the original requirements were not met, were ill-defined, or had changed since starting the project. Instead, we can rapidly pivot

Corps SL-3 documents come from the bill of material information managed by Marine Corps program management offices using the TDM-CATALYST application.

### **The Problem**

A major conceptual flaw with SL-3s is how they are created and distributed as traditional publications. Producing publications requires several manual tasks—including gathering information; drafting, formatting, reviewing and after approving the document—and then distributing the final product. Discussions with individual program management offices indicate that the current timeline to generate and distribute an SL-3 publication can range from three to twelve months, depending on

an ongoing process of continuously seeking out automation, technology, and process improvements to improve effectiveness and to serve the Marine in the field better. Introducing TDM's robust IT capability brings us closer to bridging the gap between the weapon system data and logistics functions performed in realtime.

A capability currently being explored is the development of the automatic creation of supply requisitions after an SL-3 inventory. Suppose inventories can be conducted on a mobile device or laptop. In that case, as items are found to be either missing or unserviceable, they can be automatically added to a data file to be either manually exported or transmitted across the network to the ordering system. Performing these functions simultaneously and sequentially will increase efficiencies and improve data quality by removing the manual inputs

between the two systems. It would also reduce audit findings regarding equipment being on hand or ordered.

**Summary**

SL-3 automation is only one of several opportunities the LDT team is exploring. We continue to explore opportunities identified through our continuous engagement with the logistics community to deliver products that improve processes at all chain of command levels. Automating tasks through synchronizing people, data, processes, and technology produces the results needed to keep pace with the Nation's adversaries. Achieving the strategic goals identified in the *Installations and Logistics 2030* plan requires a different approach that uses data and automation to accelerate its implementation. We cannot rely on past processes and procedures to solve future problems

and must be adaptive to change to meet logistics information requirements at the speed of relevance.

Program Manager, Logistics Integrated Information Solutions Marine Corps will bring Marine Corps Logistics Product Data into the 21st century with an intuitive application design that facilitates user interactions, provides high-quality data, and effective business process automation. PMLI2S-MC will continue identifying opportunities to transform logistics processes to ensure Marine Corps Logistics Information Technology warfighters the technical advantage over our Nation's adversaries.



## The LtGen Bernard E. "Mick" Trainor Military Writing Award

*The Lieutenant General Bernard E. Trainor writing contest invites papers that propose an innovative solution to one of the warfighting challenges that the Marine Corps will face in the future operating environment.*

**Deadline | 31 July 2023**

**2000 to 2500 words**

\$1000 and a commemorative plaque shall be presented to the winner of the contest. The winning essay will also be published in the *Marine Corps Gazette*.

The *Marine Corps Gazette* Writer's Guidelines may be found at [mca-marines.org/magazines/marine-corps-gazette](http://mca-marines.org/magazines/marine-corps-gazette)



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