

General Services Administration (GSA) Western Distribution Center

Client Overview

One of three central management agencies in the Federal government, General Services Administration (GSA) provides United States Government Agencies around the world with the products, services and space needed to accomplish the government's important work. GSA's customers include all civilian and military agencies of the U.S. Government. In its critical support role, GSA provides supplies needed to empower U.S. Military forces around the world and to assist personnel who fight wild fires in our nation.

The Western Distribution Center in Stockton, California operated from 13 separate buildings with a footprint of 1.6 million square feet spread over 60 acres. GSA's distribution operations were managed using an internally developed paper-based legacy system that did not provide management with the up-to-date information needed to manage a DC that fills such a critical US Government support role.

The Challenge

GSA engaged Tompkins Associates to evaluate consolidating distribution operations into an existing 535,000 sq. ft. government-owned warehouse located in Lathrop, California. The facility required extensive upgrades, including fire suppression, lighting, electrical, information technology, materials handling equipment and hazardous materials storage. The following issues were considered and solved during the consolidation study:

- Concept feasibility of moving into a smaller consolidated facility
- Business process and material flow reengineering to meet GSA's critical operating requirements
- Facility modifications required
- Storage types and equipment needed to maximize capacity
- Materials handling automation and information technology required to meet throughput and productivity requirements
- Interface requirements between the warehouse management system and GSA's legacy order entry and management systems.

As the Systems Integrator and Prime Contractor, Tompkins Associates developed the overall project plan, made appropriate make-buy decisions and implemented a turnkey solution for GSA that included all of the elements of the consolidation study.

The Solution

With the results of the consolidation study in hand, Tompkins worked with GSA to implement the consolidation strategy using a turnkey approach. The strategy employed the

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procedural changes needed and the right amount of automation to enable GSA to more effectively serve their customers. This comprehensive turnkey design and implementation included:

- Business Process Redesign and overall system functionality
- Facility and leasehold Improvements
- Material Handling Equipment
- Information Technology
- Inventory Transfer
- Business Recovery
- Systems Integration

Systems Functionality. Working with GSA, Tompkins Associates produced:

- A requirements document that defined GSA's current operations and future needs; this document served as the user requirements for the facility, material handling equipment, and information technology initiatives.
- A plant layout defining the overall warehouse layout, storage equipment, pick engines and conveyor system
- A detailed description of GSA's interface and data flow requirements within the facility and between the WMS and GSA's legacy systems
- Computer systems network mapping and design for the new distribution center
- Standardized labor analysis for every functional area along with cost justification

Facility modifications. To meet GSA's operating and safety needs, extensive facility modifications were required. Working with GSA, Tompkins designed and managed the installation of a new fire suppression system, lighting system, and the information technology network. Tompkins also designed and managed the expansion of one hazardous materials storage area and the construction of a second hazardous materials storage area.

Material Handling Equipment. GSA's diverse order profile consisted of individual pieces, full cases, and pallets. Shipments to domestic customers were by either small parcel carriers or common carriers. Their international shipments were in 20' and 40' ISO containers or military air shipments. Based on the requirements Tompkins designed an automated material handling system with a bin-pick area for each pick, a three-level bulk pick module for full case picking, decked racking for non-conveyable items, and reserve storage racking (combination of floor, double deep pallet and single select pallet rack). A powered conveyor system transported product from the bin and full-case picking modules to a packaging area and sorter that diverted product to the correct shipping destination. The configuration selected enabled GSA to consolidate material coming from all areas of the facility into a single customer shipment.

WMS Implementation and Integration. A commercial, off-the-shelf WMS was required to direct day-to-day operations and drive the automated material handling system. The WMS needed to be upgradeable, flexible, cost affective, and fit within GSA's existing Information Technology architecture.

GSA and Tompkins selected HighJump Software's Warehouse Advantage™ WMS to provide GSA with the real-time warehouse management functionality and capabilities

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required to meet their operational needs. Warehouse Advantage enables real-time inventory tracking and location, and it has the ability to reduce labor costs and increase productivity through directed putaway and replenishment actions.

Tompkins also developed a custom interface application to translate and map the data from GSA's legacy systems to and from the WMS. This interface application further evolved into an automated system, as well as one where authorized GSA staff can manually enter data when needed. Tompkins also implemented the Tompkins Control System (TCS) to provide the control logic for GSA's automated material handling system.

User Training. A comprehensive training program was developed to educate GSA's associates on the new processes, systems, and equipment.

Acceptance Testing. The GSA/Tompkins team developed a comprehensive user and system acceptance test that included module, sub-system, and system tests. To mitigate risks during the testing phase, GSA and Tompkins instituted a "Go/No Go Board" made up of GSA and Tompkins management and lead technical staff. The board reviewed the results of each test phase to a set of quantitative criteria and made decisions to proceed to the next testing phase. This process proved to be successful and eliminated the risk of transferring inventory too early to the new DC, resulting in a highly successful Go-Live.

Tompkins supported GSA from project initiation through Go-Live and post-acceptance support. In addition to leading the project management, Tompkins also managed: planning, scheduling, operational design, set-up and configuration, physical preparation, acceptance testing, user training, conversion and contingency planning, documentation, and user support.

Results

The successful implementation provided GSA with a fully functional distribution center (DC) that allows them to achieve their key business and distribution goals. The implementation resulted in improved productivity, reduced costs, shortened order cycle times, and improved customer service.

The consolidated DC enabled GSA to reduce their fixed expenses and provide more timely service. These benefits will become even more important as GSA continues to consolidate its operations into a single location. Specific results include:

- The normal order cycle time was reduced from 3 days to 1 day, a reduction of 66%.
- The time required to receive and put away product was reduced from 3-5 days to 1 day, a reduction of 80%

A paperless system that eliminated much of the data entry and printing/distribution of paper pick tickets was also implemented. This introduction of a paperless system significantly improved product availability, reduced operating expenses by eliminating paperwork, and improved access to information. Further benefiting GSA and its customers, the ready access to information improved stock visibility and provided managers with the information needed to make timely decisions and maximize facility throughput.

The new facility produced major gains in productivity for both inbound and outbound operations due to more effective receiving, putaway, picking and shipping. All these results combined make for a stronger, more responsive GSA — which means stronger, more responsive military and fire-fighting forces.