Solution Guide

ASRS in the Military

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Introduction

In an era where military readiness and efficiency are paramount, leveraging advanced technologies becomes critical. This solution guide from Kardex provides an introduction to Automated Storage and Retrieval Systems (ASRS) and its impact on military logistics and supply chain management.

This guide will outline the benefits of ASRS tailored to military needs, take a detailed look at the types of ASRS available, and highlight the five key applications of ASRS in a miliary setting:

1) Supply chain management

2) Combat logistics support

3) Production and maintenance support facilities

4) Disaster relief operations

5) Administrative and document management

This guide showcases how ASRS technology not only enhances operational efficiency but also improves military readiness and inventory control. With Kardex's dedicated team of veterans and decades of experience deploying ASRS on bases around the country, we look forward to bringing the strategic advantage and operational readiness of ASRS to your base too.

Why deploy ASRS?

ASRS can significantly enhance the logistics side of military operations, streamlining the storage and retrieval process for supplies and equipment. By optimizing logistical workflows, ASRS contributes to the overall efficiency and readiness of military operations. This section will explore the three primary benefits of ASRS within the military context: Space Utilization, Inventory Control & Security, and Operations Efficiency.
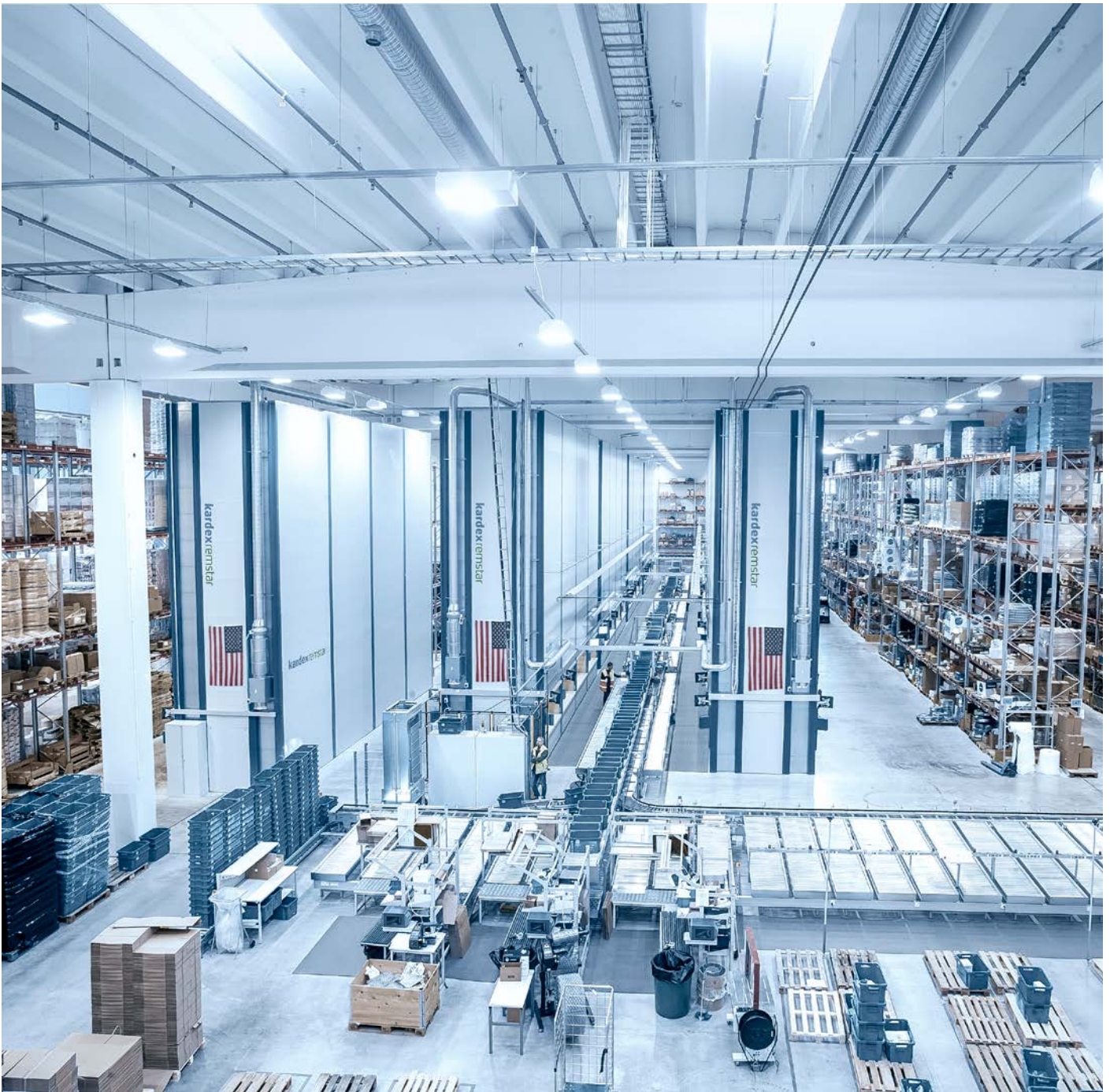
Recover Floor Space

ASRS significantly enhances space utilization within military logistics, helping maximize storage efficiency in facilities without room to expand. By employing systems like Vertical Lift Modules (VLMs), military facilities can save up to 85% of the floor space required in a traditional shelving and racking system. This optimization is achieved by transforming vertical space into a highly organized and accessible storage area, crucial for maintaining operational readiness and facilitating swift mobilization.

The compact footprint of ASRS lets you consolidate storage areas into one highly efficient area, freeing up the original space for other activities. This not only enhances the facility's maneuverability but also supports the strategic objectives of military logistics by ensuring that supplies and equipment are stored efficiently and retrieved swiftly.

Improve Inventory Control & Security

ASRS plays a pivotal role in enhancing inventory control and security within military operations because it provides precise tracking and management of supplies and equipment. With ASRS and the software that runs it, you can maintain real-time visibility of their inventory, ensuring accurate data on stock levels, locations, and movements of any item that goes in or out of an ASRS machine. This capability is critical for minimizing errors, preventing stockouts, and optimizing the allocation of resources.

Moreover, ASRS makes inventory audits and cycle counts easy, substantially reducing the time required for these tasks. ASRS solutions are equipped with features such as user restricted access that enhance inventory security, reducing the risk of theft and misuse of potentially dangerous inventory. The result is a more strategically managed inventory system that supports the fast-paced, ever-changing needs of military logistics.

Increase Operations Efficiency

In military settings, ASRS elevates operations efficiency by automating tasks that traditionally require extensive manpower. This automation allows military personnel to allocate their efforts towards strategic operations rather than manual inventory management. The reduction in labor-intensive activities not only accelerates operational workflows but also decreases the potential for human error, contributing to a smoother, more reliable logistics chain. By optimizing workforce allocation, ASRS ensures that personnel are utilized where their skills are most needed, reinforcing the overall effectiveness and readiness of military operations.

4 Types of ASRS Technologies

Automated storage and retrieval systems (ASRS) are used to to save floor space, increase productivity and improve inventory control when compared to traditional rack and shelving systems. ASRS operate on a goods-to-person principle, eliminating walk and search time to a pick location, for increased material handling efficiencies.

Vertical Carousel Module Kardex Megamat 115/120/125

The VCM 115/120/125 operates much in the same way as a standard VCM, but is specialized for an office setting. The 115/120/125 can replace approximately 16 four-drawer filing cabinets and double productivity while offering workers an ergonomic and safe filing experience.

Learn more about VCM 115/120.

Vertical Carousel Module Kardex Megamat

Comprised of a series of shelves that rotate around a track—similar to a Ferris wheel—these automated storage and retrieval systems quickly deliver stored items to an ergonomically positioned work counter at the operator's command. When compared to static shelving and rack, they save up to 75% of floor space.

Learn more about VCMs.

Vertical Lift Module Kardex Shuttle

VLMs are the most popular automated storage type, consisting of an enclosed system that optimizes storage with two columns of trays and a central inserter/extractor. The mechanism automatically locates and retrieves trays from either column, efficiently presenting them to an operator at an ergonomic, waist-high pick window. Renowned for its space-saving capabilities, the VLM reduces floor space usage by up to 85% when compared to traditional static shelving and racking solutions, making it a preferred choice for modernizing storage and retrieval operations in military settings.

Learn more about VLMs.

Vertical Buffer Module Kardex Miniload-in-a-Box

In the middle of a multi-segment shelving system is an aisle, where a moveable mast with a telescopic gripper operates. The control unit sets the gripper in motion picking a bin and transporting it to a picking station.

Learn more about VBMs.

ASRS Applications on Base

This section explores the five most critical applications of ASRS in a military setting, covering Supply Chain Management, Combat Logistics Support, Production/Maintenance Support Facilities, Disaster Relief Operations, and Administration & Document Management. It highlights how ASRS enhances operational efficiency, readiness, and security across these areas.

Supply Chain Management

Within the confines of military operations, ASRS plays a pivotal role in revolutionizing supply chain management by ensuring efficient inventory control and maximizing storage capacity. These systems enable precise coordination and swift access to critical resources, facilitating seamless logistical operations essential for mission readiness and execution.

Moreover, ASRS's automation capabilities significantly reduce the need for manual inventory handling, minimizing errors and enhancing overall operational efficiency. This advancement in logistics support empowers military bases to maintain a strategic edge, ensuring that they can meet the dynamic challenges of modern military engagements with agility and effectiveness.

Examples of items stored for Supply Chain Management:

- Replacement parts for engine rooms, vehicles, aircraft...
  including valves, motors, pumps, bearings, small tools, clamps, fasteners
  of all kinds, hoses, electrical components, filters, tires, brakes, etc.

- Bench stock, including: tools and toolboxes, parts, raw materials and
  finished goods

- Aircraft and vehicle maintenance parts

- Manufacturing tools/equipment

- Mobility/chemical warfare protective gear

- Small parts such as gas masks, vests, rifles, hand guns

- Medium to larger items on pallets

Combat Logistics Support

In military operations, ASRS plays a crucial role in enhancing Combat Logistics Support by streamlining the storage and retrieval of mission-critical equipment and supplies. These automated systems ensure that logistics teams can quickly access the necessary resources, reducing downtime and improving response times in critical situations.

Furthermore, ASRS's ability to manage and track inventory in real-time supports strategic planning and operational readiness. By automating logistics processes, military bases can maintain a high level of preparedness, ensuring they are equipped to meet any challenge efficiently.

Examples of items stored for Combat Logistics Support:

- Weapons and weapon systems, including: small arms (rifles, pistols), ammunition, magazines/clips, weapons pieces/parts (barrels, slides, triggers, springs, etc.), mortar rounds

- Personal protective equipment, including: kevlar helmets, kevlar vests, gloves, eye protection, boots, backpacks, night vision, cammo gear/wear,

- Other equipment, including: batons, radios, GPS, satcom gear, gas masks, deployment bags

- Fuel and oil (lubricants)

- Aircraft parts, weapons, personal protective equipment

Production/Maintenance Support Facilities

ASRS enhances Production/Maintenance Support Facilities by ensuring critical parts and tools are readily available, minimizing downtime of equipment and improving overall operational efficiency. These systems allow for precise inventory control, quick retrieval of parts, and streamlined maintenance processes, supporting rapid response and repair activities essential for military readiness.

Additionally, ASRS technology in these facilities enables the consolidation of resources, reducing the footprint of storage areas and freeing up space for operational use. This logistical optimization not only improves maintenance workflow but also contributes to the overall strategic efficiency of military operations, ensuring that equipment is maintained at peak readiness.

Examples of items stored for Production/Maintenance Support Facilities

- Aircraft and vehicle parts

- Maintenance tools, welding gear, cutting tools, dies, and finished goods

- Workbench stock, including nuts, bolts, washers, grommets, and other replacement parts

- Small engine repair parts

- Raw materials including metal sheet stock, wood, etc.

Disaster Relief Operations

In disaster relief operations, ASRS technology plays a critical role in the expedited distribution of essential supplies. By ensuring fast and accurate retrieval of necessary items, ASRS supports effective emergency response, allowing for immediate action during crises. This efficiency is pivotal in saving lives and providing aid swiftly.

Furthermore, the system's precise inventory management capabilities ensure a constant readiness state, enabling military bases to respond proactively to disaster scenarios. The ability to quickly access and deploy resources without delay is crucial in disaster relief efforts, underscoring the value of ASRS in such critical applications.

Examples of items stored for Disaster Relief Operations

- Medical supplies, medications, first aid supplies

- Water, rations

- Clothing, linens, blankets

- Cots, generators, batteries

Administration & Document Management

ASRS's capability to automate the storage, retrieval, and management of a vast array of documents ensures swift access to critical information, bolstering decision-making processes and operational readiness. This organization and accessibility are crucial for maintaining an effective administrative backbone in fast-paced military environments.

Moreover, ASRS contributes to heightened security and confidentiality of sensitive documents. By minimizing manual handling, the risk of misplacement or unauthorized access is substantially reduced. The precise control over document flow and inventory enables military bases to uphold stringent security protocols, ensuring that vital information remains protected while still readily accessible to authorized personnel. This balance of security and efficiency underscores the pivotal role of ASRS in modern military administrative and document management strategies.

Ready to take the next step?

From optimizing supply chain management and supporting combat logistics to streamlining production/maintenance facilities, aiding disaster relief efforts, and managing administrative documents, ASRS stands as a great avenue to advance military efficiency, readiness, and security.

Kardex boasts a proven track record of implementing ASRS on military bases, supported by a team of U.S. military veteran sales representatives from the Army, Navy, Air Force, and Coast Guard. This dedicated group has the unique capability to navigate base protocols, working closely with military personnel to get these types of ASRS done smoothly and effectively.

If you're considering ASRS for your base, to enhance operational efficiency across various sectors, our team is ready to assist. With extensive experience and a commitment to excellence, Kardex ensures a seamless integration of ASRS technology to meet your operational needs.

ⓘ Contact us

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