



Case Study **NASA**

Improving asset inventories by 80%

NASA employs RFID asset management solution for data center and lab equipment



As one of the most high profile government facilities in the United States, the Langley Research Center (LaRC) is the oldest of NASA's field centers.

Industry

Government and Defence

Formed in 1917, this principal center focuses most of its efforts toward aeronautical research to improve aircraft and spacecraft safety, performance, and efficiency and development.

LaRC has long been a center of excellence for space training rendezvous, support for Mars landing projects and conducting earth science research to support a variety of principal NASA missions.

Recognizing that the proprietary and mission-critical nature of the research being conducted in its facilities required an enhanced level of asset tracking support, the NASA team turned to a highly reliable and flexible, RFID asset management solution to help them ensure the security of its data and protect its equipment.

The Challenge:

Keeping track of critical assets

Government agencies and commercial companies alike face similar problems keeping track and managing critical assets in their organizations. These assets are some of the largest investments that any business or organization will make and as such, NASA's Langley Research Center required a better method for managing inventory for thousands of critical data center assets as well as managing the movement of costly laboratory and testing equipment between the various NASA field locations.

“Ensuring that we could lower costs and achieve superior control of our datacenter assets, IT devices outside the data center as well as our in-transit testing laboratory equipment was absolutely achieved using this RFID solution”

Steve Mercier, Senior Systems Engineer, NASA

The Process:**The need for a new approach**

Several existing challenges in tracking and identifying both the data center and highly mobile laboratory assets pointed to the need for a new approach. The LaRC team recognized that the physical inventories they were conducting were costly, time consuming and often highly inaccurate. In addition, the bar code labels being utilized were not readily visible or readable, contributing to the inaccuracies and it did not provide the ability to locate critical assets across multiple facilities on a more real-time basis.

Based on these challenges, NASA conducted a review process and evaluated several options to introduce a more efficient solution. As a government agency, they recognized that the solution that was selected absolutely had to be best-in-class, providing them the necessary functionality, while at the same time, maintaining budget limitations and meeting compliance requirements.

Implementation:**Combining and Implementing**

NASA needed to combine and implementing the requirements of both assets needs in the data center and laboratory environments. The RFID solution implemented by DataSpan for NASA depends upon the successful combination of CS101 handheld readers and three different types of EPCGlobal Class 1 Gen 2 RFID tags.

The Results

The full integrated RFID solution has assisted in managing asset inventory and tracking, as well as creating some significant process efficiencies:

- NASA's RFID Project Manager noted at the conclusion of the project that they have improved the speed with which they conduct asset inventories by 80%
- Mobile lab asset inventory is now inventoried at 100% accuracy
- With the cost and process efficiency savings, the Return on Investment for the complete project was just 18 months
- The solution can be scaled to multiple NASA sites, for multiple applications, based on these successes

“We have seen a significant improvement in our Directorate’s ability to conduct fast and efficient inventories by approximately 80% using RFID and now have an accurate record of key testing and technical equipment being sent to and from field deployments.”

Steve Mercier, Senior Systems Engineer, NASA

**Designed**

High UV tolerance



Label should adopt as little dirt as possible (slippery/low moisture absorption)



Weight below 23 grams



Label pull strength above 15kg



If the label is removed, it should be visibly damaged and not be reusable



RFID performance should be the same or better as with the red tag

**Tested**

Water resistance (non emersion: exposure to rain and watering of plants)



Resistant to solvent and chemicals used in agriculture grower and retail operation (like chloring solutions)



Storing temperatures from -30 to +70, operating temperatures from -10 to +60



Material tested for the automotive industry



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Omni-ID is the leading supplier of passive, low-profile UHF RFID solutions. Through our patented technology, Omni-ID “cracked the code” to overcome the problems traditionally associated with RFID, enabling a broad range of new applications that improve accuracy and efficiency in asset tracking, supply chain management and work-in-process. Our family of versatile RFID tags works reliably in the harshest environments, including on, off, and near metal and liquids and excels in solving tracking and identification challenges with unprecedented accuracy. With offices in the USA, UK, Asia and India backed up by a purpose-built manufacturing facility in China, our mission is to drive the widespread adoption of RFID and wider IoT technologies as the optimal tracking and identification devices.