

# Dugway Proving Ground and Chemical Lab



*Dugway Proving Ground, Salt Lake City UT*

## BACKGROUND



Located 85 miles southwest of Salt Lake City, Utah, Dugway Proving Ground is a US Army site approximately the size of the state of Rhode Island. Having used active RFID for nearly five years, numerous devices were installed in outdoor locations within the West Desert Test Center, and many assets have active RFID

tags mounted to them. As these assets travel, their locations were automatically updated and displayed in Savi's SmartChain, allowing the assets to be located with minimal effort. However, the success is limited to only those locations where active RFID devices are installed.

## CHALLENGES

Dugway had the challenge of managing assets in a remote rugged area covering over 800,000 acres. When it came time to locate an asset that was delivered to a user weeks ago, if it wasn't in the location it was delivered to, the asset was almost impossible to find. As a result, the user had to play detective, ask multiple people if they knew where it might be, and send emails to many people hoping someone may have seen it. When all else failed, massive searches were made within various locations,

taking hundreds of manhours. Sometimes the search led to success. Many times it did not.

In addition to these random losses leading to extensive searches, a yearly inventory was performed by those who have assets assigned to them (hand receipt owners). Many times, these 'owners' never use the asset and may never see the asset throughout the year since they are assigned/given to someone else for use.



However, they are still accountable for it, are required to locate it once a year and document where it is. These hand-receipt owners dread this annual inventory knowing the exercise is will be tedious, difficult, and many times leading to failure. If the asset cannot be found, the user can be held financially liable for the asset.

Lastly, Dugway was also looking to have asset tracking capabilities for indoor assets at its Chemical Lab (chemical agents) and Life Sciences Lab (biological agents).

# Dugway Proving Ground and Chemical Lab

## SOLUTION

In addition to the existing active RFID technology used, it was decided passive RFID technology was better suited for the required indoor tracking of assets. Nine passive portals have been installed throughout the Chemical Lab facility in various locations selected by the customer. Passive RFID tags are mounted to calibration equipment used in chemical testing and when something is due for re-calibration, it is critical that it is found in a timely manner.

As the tagged equipment moves around the Chemical Lab facility, they are detected by the passive devices. This information is sent to the Savi SmartChain Site Manager software which consolidates reads from all devices and then onto the Savi SmartChain. The last location of the asset is displayed in SmartChain, allowing users to start their search at the last known location where it was detected. This has significantly minimized the amount of time needed to locate calibration equipment—allowing them to perform the necessary maintenance and get it back to an operational capability as quickly as possible. The plan is to install more passive portals in various locations to provide more granular visibility of this equipment.

The long-term plan is to use this same approach in the Life Sciences lab during a follow-on phase. Data from this exercise will also be sent to SmartChain, allowing all assets to be tracked using the same software.

In addition to addressing the tracking of internal assets, Dugway still needed a solution to address outdoor assets where active RFID is not the right solution. Instead, GPRS technology was used. GPRS tags are mounted to equipment that is delivered to test grids in the middle of the desert. These tags obtain their GPS coordinates from satellites. Once that information is retrieved, the data is transferred to the server via cellular communication. The SmartChain application module used to display the asset and its

GPS coordinates is known as the Savi Tracking. All assets with GPRS tags are displayed in their exact location on a Google Map within the Savi Tracking module. The tags are highly configurable: they can be configured to report numerous times a day, only when an asset is moved, or as seldom as once per day. At Dugway, the decision was made to report twice per day—once shortly before the workday starts and then again at noon. By using this reporting interval, Dugway's project managers are able to verify all required assets are properly located and, if not, the resources hunting for equipment are able to drive directly to the location and locate the desired asset—no more search parties are required.



*Dugway Proving Ground (DPG) is the Army's first choice for test and evaluation (T&E) of chemical defense equipment and systems while providing technical expertise to combat emerging chemical threats*