

KEY WARFIGHTER BENEFITS

- 24/7/365 container tracking, monitoring and security on a single integrated solution.
- All electronics discreetly installed inside the container ... no outside antenna required.
- Provides near – real time reporting of container location and intrusion alerts.
- No new infrastructure required.
- Reliable communications architecture and door intrusion and light sensors that have been proven and tested.
- Interfaces with RF-ITV Server and other Common Operating Picture Systems.
- Reusable device.
- Lower total life cycle costs than ad hoc solutions being implemented in theater today.



STAKEHOLDERS



SMART CONTAINERS



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LOGISTICS
INNOVATION
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PROJECT DESCRIPTION

The Smart Container project integrates state-of-the-art communications, tracking and sensing technologies with an innovative recyclable twenty-foot equivalent unit (TEU) intermodal shipping container made from light-weight, polymer material. This integration effort seeks to alleviate past challenges encountered with active RFID-only applications by providing discreet, near-real time tracking and monitoring of a shipping container moving anywhere in the world. Advanced sensors integrated with a satellite tracking device provide intrusion detection and send an auto alert with location data to appropriate military authorities in near-real time.

PROJECT OBJECTIVES

- Develop a polymer-and-steel shipping container that allows radio wave penetration and secures/protects all electronic devices completely inside the container.
- Integrate an advanced sensor system that will immediately auto alert when a container intrusion occurs to include providing accurate location data via GPS.
- Integrate and test a commercial off the shelf (COTS) Iridium satellite tracking device that provides near-real time tracking and monitoring of a shipping container and its contents anywhere in the world.

“SMART” TECHNOLOGY

- Worldwide “infrastructure free” tracking, monitoring and security.
- Low-latency data transmissions ... alerts and notification are available within two to six minutes of an event occurrence.
- Light and door intrusion sensors programmed to alert any unscheduled intrusion or event.
- GPS provides accurate location data.
- Remote program feature allows one to reset sensor thresholds, change alert notifications and/or alter reporting intervals by location even when the container is “on the move.”
- Encrypted data.
- Server tracking and sensor alerts capable of interfacing with IRRIS and iSDDC. Tracking data can interface with RF-ITV server on to BCS3.

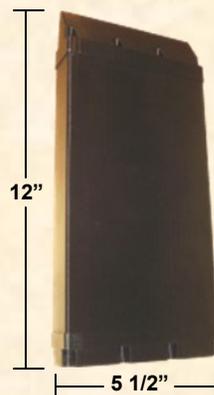
Communications Equipment

Global Sentinel Unit

- Iridium - Satellite Communications
- GSM - Cellular Communications
- GPS - Global Positioning System
- RFID - capable, but not currently embedded

Sensors

- Light
- Humidity
- Door State
- Others as needed
- Temperature



POLYMER ADVANTAGES



20-foot Polymer & Steel Container

- Allows electronics package to be completely secured and protected inside the container with no loss of radio wave transmission.
- Carries the same payload as a traditional steel container... ISO and CSC certified by the American Bureau of Shipping in 2010.
- Polymer shell keeps contents cooler in hot weather conditions and warmer in cold environments.
- Heat resistant and fire retardant additives can be easily mixed with polymer resin.
- End state to be 10% lighter than a standard steel TEU container.
- Polymer shell is totally recyclable with a 20:1 consolidation ratio.

