ARG-US CommBox

Flexible Monitoring and Tracking for Transportation

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OVERVIEW

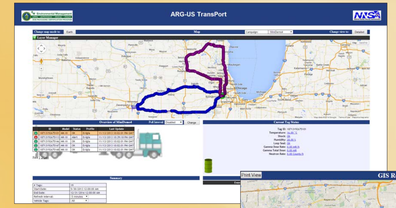
ARG-US CommBox, based on the ARG-US RFID system for monitoring drum-type packages in storage, expedites item-based monitoring and tracking of packages during transport. The ARG-US RFID system consists of RFID tags, fixed readers, and a laptop control computer. The CommBox and CommBox Mini add an external communication capability to the reader to allow for monitoring during transportation, eliminating the need for the laptop.

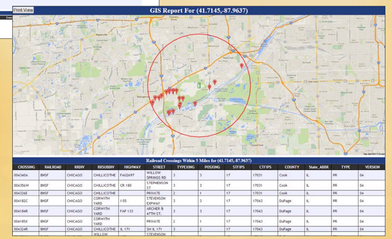
TRANSPORTATION PROTOTYPE – CommBox PREDECESSOR

- Technology requires physical modifications to the vehicle, including installation of a fixed reader mounted in the cargo area of the vehicle.
- Reader depends on vehicle communication platform and power supply.
- While physical installation is straightforward, gaining approval for implementation is time consuming, making the technology difficult to deploy for many shippers.

CommBox

- Features self-contained power source
- Includes Omnitracs MCP200 system
- Does not require physical modifications to the vehicles for installation
- Is readily deployable – CommBox can be placed inside the trailer
- Is reusable on different vehicles/shipments
- Is being integrated with DOE TRANSCOM





CommBox Mini

- Is smaller and lighter than CommBox
- Features self-contained power source
- Operates by using versatile communication platform (cellular/ satellite)
- Does not require physical modifications to the vehicles for installation
- Is readily deployable – can be placed inside the trailer
- Is reusable on different vehicles/shipments

MONITORING PLATFORM

- Provides secure web interface
- Updates position information in near real time
- Updates package state of health (SoH) in near real time
- Displays position history and route, allowing for geofencing
- Enables customizable one-click GIS and status history reports
- Supports concurrent multiple vehicle and campaign tracking

BENEFITS AND FUTURE

- Argonne has conducted multiple tests and demonstrations of the CommBox and CommBox Mini. The simplicity of the CommBox and CommBox Mini systems gives shippers an option to monitor and track packages during transport, overcoming limitations of cost and infrastructure.
- With ongoing improvements to the ARG-US RFID system, the CommBox/ CommBox Mini will allow shippers to monitor packages of different sizes and contents. The most recent addition of an electronic loop seal allows the ARG-US system to monitor such items as UF_6 cylinders during transportation and storage.

2007 – ARG-US RFID Concept | 2009 – ARG-US TransPort Launched | 2011 – ARG-US RFID Patented | 2013 – CommBox | 2014 – CommBox Mini | Future