A Readily Deployable, Low-Cost Means to Track High Risk Materials in Transport

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Overview

- ARG-US RFID — in conjunction with fixed-mount in-vehicle satellite and cellular communication gear (e.g., Qualcomm MCP 200) — can accurately monitor and track high-risk materials in transport.
- What if such pre-wired assets are not available in the transport vehicles, due to cost or infrastructural limitations?
- Argonne’s CommBox is a viable alternative.

CommBox Performance and Reliability

- **PROVEN:** System has been successfully demonstrated in multiple road tests.
- **FULLY FUNCTIONAL:** Tracking features are identical to those of the wired-in system, including accurate sensor and location reporting, rapid alarm notification in near real time (within 2 minutes of event), prompt Geographic Information System (GIS) report dissemination, availability of hard-copy records, and broad adaptability to multiple vehicles and fleets. Other advanced features, such as geo-fencing, are also available.
- **RELIABLE:** If cellular communication connection is lost, the system data are queued and resent when the connection is restored, just as in satellite-based technology.

Fixed-Mount System
- Roof-top satellite and GSM transponders with Global Positioning System (GPS) receiver
  - In-cab tablet
  - Cargo-bay reader
  - Power and cable connections for reader and tablet
  - Tracking through Argonne and DOE TRANSCOM

CommBox System
- All-in-one robust, compact unit — cellular/satellite module, reader, and disposable batteries
  - Free of any external connections
  - Small footprint and simple installation — just place and tie down the CommBox in the cargo bay with the ARG-US- tagged containers and turn on the power
  - Tracking through Argonne and DOE TRANSCOM

Summary

- When limited by cost or infrastructure, Argonne’s CommBox can be deployed to monitor high-risk materials during transport.
- The all-in-one CommBox can be readily deployed. No fixed infrastructure is required.
- Because CommBox is reusable, the cost of operation is minimal. The only consumable is the disposable battery.
- Secure web-based ARG-US software allows the user to track the transport with the CommBox from any location.