



Freight Security Consortium Sees GPS Use for HAZMAT Tracking

A group of companies assembled in response to the threat of terrorist attacks on the hazardous materials (hazmat) supply chain is working to establish common standards for security-related messaging and data encryption for GPS-based location devices that track tank trucks and railcars.

Focusing on the transport of dangerous chemicals and fuels by truck and rail tankers, the Freight Transportation Security Consortium (FTSC) comprises an alliance of companies in the fields of asset tracking, vehicle monitoring, emergency response, mobile resource management systems, equipment finance and insurance. Core members include TransMatch, Transentric, ALK Technologies Inc., Criticom International, Railinc, Operation Respond Institute Inc., Environmental Resources Management (ERM) Inc., Bulk Logics, and Freightgate. More than 30 companies have joined as FTSC "technology members."

Formed late in the wake of the terrorist attacks on the World Trade Center, FTSC would like to see a system for real-time monitoring of tankers and reporting of incidents similar to that used for nuclear and explosive hazmat shipments, says Drew Robertson, FTSC director and president of ASI-Transmatch, a New York City-based consortium of transportation management professionals.

The group will also work on security-device financing and related insurance issues. Robertson believes that rebates of excise taxes on in-vehicle systems would stimulate adoption of security devices by vehicle manufacturers and fleet operators. Eventually, FTSC plans to create a full-service lease model that will include the cost of tracking/security hardware and airtime, as well as the provision of safety and security services for hazmat carriers.

"The companies in the FTSC believe that monitoring the tractors, tank trailers and tank railcars used to move chemicals and fuels with modern location and sensing devices is the best way to markedly reduce the risk of hijacking, tampering and theft by terrorists," says Robertson. To be effective, however, the data from those devices need to be collected and analyzed by a central monitor that can simultaneously track the 200,000 assets in the hazmat supply chain.

"It's our conviction that GPS is the essential element to make a robust security system for mobile carriers of hazardous materials," Robertson told *GPS World*. But even more important than the location, communications, and sensor technologies needed for the on-board systems is the creation of a nationwide system for efficiently providing the location of hazmat-related incidents, the materials involved, and other key information needed by

police, fire and other first responders.

"There are hundreds of companies in the vehicle tracking and mobile resource management industries using many different proprietary communications protocols," Robertson points out. "However, we can't build an effective centralized security tracking system if we have dozens and dozens of operating systems that can't talk to each other. Our members have solved most of the design problem. GPS tracking devices for railcars and truck tractors and trailers are ready to go. Now we need a Rosetta Stone to make them work together for national security. That's what FTSC members have agreed to work toward."

FTSC is advocating its solution before industry organizations such as the National Tanker Truck Carriers and the American Trucking Association, as well as government agencies including the U.S. Department of Transportation divisions with hazmat responsibilities. These include the Research and Special Projects Administration, the Federal Highway Administration, the Motor Carrier Safety Administration, and the Federal Railroad Administration.

The consortium is open to members, including device manufacturers, who accept the need for adopting common standards for security-related

ed messaging and encryption.

"In the past, developers designed proprietary systems optimized for their unique hardware, software, communications channel, and target vertical market," says Mark Hornung, COO of ALK Technologies, a FTSC member company. "While it's not realistic to ask every developer to recode their entire systems, it is possible for them to extract just the few pieces of data relating to security and make them available to a central monitor." With common definitions for security-related messages — such as location, driver, and load status — a central monitor could integrate the data from the many different location devices now deployed across the railcar and truck trailer fleets, Hornung says.

Ray Menard, senior vice-president of FTSC member Criticom, says his company has been actively monitoring mobile assets using several different GPS systems. "That has meant we have had to become an expert in each one," Menard says. "The FTSC initiative to set messaging standards will allow us to greatly expand our service so we can use many, perhaps most, of the commercially available systems in our security business. More importantly, it will mean we can dispatch fire, police and other first responders much more quickly and accurately."

More information can be obtained from the Freight Transportation Security Consortium, 420 Lexington Avenue, Suite 300, New York, NY 10170; telephone, (212) 297-6226; e-mail, <FTSC@transmatch.com>; website, <<http://www.transmatch.com>>.

Agencies to Sponsor L2C Tests for GPS Commercial Units

The Federal Aviation Administration (FAA) and other civil agencies are seeking participation from GPS equipment manufacturers interested in getting a head start on testing the new L2 civil signal (L2C).

Beginning later this year, the civil government participants will accept industry-supplied receivers for use in early tests and will share with the equipment suppliers data collected during testing. The government will bear the test expenses, according to Tom Nagle, an FAA representative now serving as the Program Manager for Civil Applications at the NAVSTAR GPS Joint Program Office (JPO).

The first launch of a modernized Block IIR

satellite (Block IIR-M) that will broadcast the new civil signal is scheduled to take place late next year. Although several

years will pass before enough satellites are in orbit to support practical use of the additional signal, the civil agencies want to encourage development of L2C-capable equipment as soon as possible.

The FAA Technical Center in Atlantic City, New Jersey, will oversee a three-step test process designed to allow maturity growth of receivers as the civil signal testing matures, says Nagle. The first step calls for early-prototype testing, which will require that receivers be available by December 2002. This prototype equipment may use development software and rack-mounted hardware and will support anechoic chamber tests.

The second step is development-prototype testing, with receivers needed by May 2003. These GPS receivers should represent commercial packaging and beta-level software that can support inverted-range testing, which employs ground-based transmitters broadcasting L2C signals for equipment trials.

The third step is production quality testing, which will require receivers by December 2003. These GPS receivers should be suitable for the commercial market and be able to support on-orbit testing.

Companies interested in this activity should contact Frank Lorge, GPS Civil Applications Test Director (SMC/CZCT), at the FAA Technical Center, telephone (609) 485-4588; e-mail <Frank.Lorge@losangeles.af.mil>. ☉