Pilot Project Tracks Cargo From Shanghai to Savannah

Shanghai International Port Group (SIPG), the exclusive operator of all public terminals in China’s Port of Shanghai, is preparing an RFID pilot to track the location and security of containers leaving the ports and arriving in Savannah, Georgia. The Shanghai-Savannah Express Trade Lane Project, as the pilot is known, leverages active RFID-based electronic seals (e-seals) from Savi Networks and includes a partnership with the Georgia Ports Authority (GPA), which owns and operates the Port of Savannah’s two terminals, Garden City and Ocean.

The pilot is expected to demonstrate how e-seals can help companies that ship goods across oceans track when those goods leave and enter terminals. In addition, since the e-seals reveal whether containers have been opened, they can also provide additional security.

Use of the Port of Shanghai is growing fast. By some estimates, the port is expected to become the world’s largest within a year, says Larry Trebesch, general manager, China, for Savi Networks, a joint venture of RFID systems provider Savi Technology and seaport operator Hutchison Port Holdings (HPH). The port’s container throughput, in fact, reached 21.71 million twenty-foot equivalent units (TEUs), a measurement of container capacity, in 2006, and has been ranked as the third largest container port in the world for three years running.

The Port of Shanghai is situated at the middle of the Chinese coastline, where the Yangtze River flows into the sea. In terms of value, annual imports and exports passing through Shanghai accounts for a quarter of the country’s total foreign trade. For that reason, Trebesch says, “an RFID-based solution that provides operational efficiencies and security to the
Slated to commence in July or August, the RFID pilot will last a couple of months. This project will involve the tagging of 500 containers with e-seals supporting ISO standard 18185 for electronic container security devices that contain active tags operating at 433.92 MHz frequency, and complying with ISO 18000-7 standard for active RFID devices.

The e-seals will likely be affixed to the containers at a container depot near the port. Once this occurs, the tags inside will be encoded with a unique ID number, via a handheld RFID interrogator equipped with GPS functionality. A Savi application will coordinate all this tag information and will funnel it to a database hosted by Savi Networks. This will register the container in the application as secured, and the GPS coordinates obtained from the handheld will also be documented.

As the containers pass through the port’s entry gates, fixed interrogators will scan the e-seals to document their arrival and determine whether any e-seals have been tampered with. The pilot may also incorporate a reader attached to a crane built to lift and load the containers onto ships.

After a ship arrives at Savannah, its containers will be removed and loaded onto trucks, after which the e-seals will again be scanned as the containers exit the port gates. This will document each container’s arrival and verify that its e-seal is still intact. Outside the port, likely at a nearby depot, the e-seals will then be scanned using another GPS-equipped handheld reader. At that point, the handheld will also decommission the e-seal’s tag.

It is possible the pilot will include an interrogator affixed to a crane offloading the containers from the vessels, though that has not yet been decided. Details of the pilot are still being worked out. A Chinese shipping company has agreed to
participate, but the company’s name has not yet been released. According to Trebesch, SIPG, Savi Networks and the GPA anticipate the participation of several multinational companies that ship products on that trade route.

The Port of Savannah is also involved in several other RFID pilots (see Georgia Ports Authority Hopes RFID Will Boost Efficiency, Throughput).