

# Schenker Pilots RFID to Secure Cargo Shipments

The company intends to create a modular system allowing customers to choose the security level most appropriate to their needs.

By Rhea Wessel

Oct. 30, 2006—Schenker, the transportation and logistics division of Deutsche Bahn, is testing RFID-tagged containers circulating between the ports of Hamburg and Hong Kong to learn how the technology can help improve the transparency of the supply chain and increase security.

The test on sea freight includes trials of e-seals and container security devices. Schenker, number three in sea freight worldwide, employs 48,000 people.

Hans-Michael Dietmar, Schenker's global product manager for sea freight/FCL (full container load), says the company aims to challenge the assumption that no "one-size fits all" solution exists for container security. The company wants to create a modular system providing freight customers a choice of security levels when booking passage for their containers.

"Sometimes, a container headed from Europe to Asia can hold goods worth hundreds of thousands of dollars," he says, "while on other trade lanes, like the trans-Pacific westbound, lower-value commodities such as scrap metal and waste paper may be shipped. That's why high-tech security solutions cannot be used for every container."

According to Dietmar, the basis of an all-in-one solution should be a device offering a track-and-trace function. Modules for additional security should include devices to monitor such parameters as the temperature and humidity inside a container.

Theft of in-transit freight is on the rise, says the Technology Asset Protection Association (TAPA), of which Schenker is a member. "In some cases, expensive computer devices such as microprocessors have replaced drugs as criminals' 'currency' of choice, since it is not illegal to possess these products," the association says. TAPA was founded to address cargo-theft problems faced by the high-tech industry.

Schenker's trial phase began in mid-August and will include 10 RFID-tagged containers in a so-called "consolidation" trade lane between Hamburg and Hong Kong. All of the containers will be shipped via one of Schenker's preferred carriers. (In a consolidation trade lane, containers are packed with goods from multiple customers.)

Schenker will test the equipment for approximately a year—or longer, he says, if necessary. Dedicated Schenker staff in Hamburg and Hong Kong are supervising the RFID-equipped containers. Currently, the containers are being sent consecutively to Hong Kong. By the end of the year, the trade lane will be deemed full and the RFID-tagged containers will continue to circulate in this particular lane only, giving trial operators a continuous overview of the route.

The test is being conducted in two phases. The first focuses on RFID tags, while the next stage will focus on the e-seal and security devices. RFID tags on the containers are interrogated each time liability for the cargo changes hands. This occurs at four points in the port packing stations: two at the originating location, and two more at the container's destination.

At present, the trial is using UHF (860 to 960 MHz) RFID tags and handheld readers made by Intermec. Each tag is integrated into a piece of plastic, designed to protect it from rain and salt water.

In the first step of the process, workers load the containers at a packing facility, where the RFID-enabled device attached to the container is written with select manifest information. This information is recorded onto the RFID module and retrievable by the handheld reader.

The next interrogation occurs at the container freight station of Schenker Hong Kong, where employees unload the container and then check the reloaded container once again before returning it to Hamburg. The final check takes place when the container is unloaded at the Hamburg freight station.

Other project partners include Oracle, T-Systems Enterprise Services, IBM and Kirsen Technologies.

Dietmar declined to disclose the amount Schenker is investing in the pilot, though he did say the company was interested in improving customer service. "We want to be able to tell our customers what solutions are practical for them in the future, but we will also determine which solutions we prefer," he says.

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