

Wireless System Aims to Fast-Track Heineken From Holland

The Living Beer Plan aims to make moving products through customs more efficient.

By Claire Swedberg

Oct. 30, 2006—Next month, 10 containers loaded with Heineken beer will leave Holland for the United Kingdom and the United States—a fairly common occurrence. The difference this time is that the containers will be equipped with a wireless tracking system designed to improve the movement of goods through customs in Europe and the United States.

The pilot, know as the Living Beer Plan, is being undertaken by Europe's Information Technology for Adoption and Intelligent Design for E-government(ITAIDE). This project aims to develop a common information model for electronic documents and document-mapping software, with the ultimate goal of eliminating the time-consuming paperwork and processes surrounding the movement of goods among European countries. ITAIDE is a five-year research project whose participants include European customs entities and Vrije Universiteit Amsterdam (University of Amsterdam).

The Living Beer Plan's wireless system, Secured Trade Lane, was provided by IBM. The system is based on the EPCglobal EPCIS (EPC Information Services) specification, a candidate standard interface for accessing EPC-related information, and Discovery Services, a method of browsing the EPCIS network for specific data to allow the shipping company, customs officials or Heineken personnel access data regarding the containers. The EPCIS network acts as the infrastructure to exchange data and monitor shipments in transit. Each party—whether the product manufacturer, the shipping carrier or a customs agency—owns its own EPCIS data record, though it "can define the access rights or guarantee privacy," says Stefan Reidy, Secure Trade Lane manager at IBM. This lets parties more easily access the data they are authorized to see on their partners' systems via a password-protected, encrypted Web site.

Initially, the plan was to conduct the pilot between the Heineken plant in Holland, and Dutch and U.K. customs agencies. When IBM got involved, however, Reidy—who has a working relationship with the U.S. Department of Homeland Security (DHS)—asked that the United States be included, as well. The plan was researched and developed over the past year, with the pilot itself scheduled to last from the second week of November to the end of December.

During the pilot, Heineken will load 10 containers with its bottled beer and attach to each container an IBM tamper-resistant embedded controller (TREC), which includes a microprocessor, a GPS receiver and links to sensors. The TRECs are wirelessly connected to a Logistics Service Provider (LSP)—in this case, Safmarine Container Lines—as well as the participating shipping carrier, using either GPRS or satellite communication links.

Data stored on the TREC processor, such as whether a container door has been opened, will be sent to the Secure Trade Lane Container Information Services (CIS) database, which will process the information. The

data will then be stored on Heineken's EPCIS database, used to maintain records of the containers' transit. Heineken will be able to utilize that data to send an electronic bill of lading to Dutch customs officials.

When a container passes through customs, that agency will create its own EPCIS data record before Safmarine loads the container onto a vessel. The shipping carrier will then create an electronic bill of lading that can be sent directly to U.K. customs, to be saved in the agency's database. The wireless devices send data about the shipment to cellular networks, but if none are available, they transmit the data via satellite.

As the containers enter the United Kingdom and pass through British customs, an EPCIS data record of each container's arrival and departure will again be created, along with information required for completion of the customs process. From there, they will continue on to the United States, where U.S. customs will be able to access information about the shipment before it ever arrives, by logging onto the EPCIS sites using the Discovery Service. They will also be able to access other data, Reidy says, such as where the containers were stowed in the vessel, or whether doors have been tampered with.

RFID readers can be connected to the TREC unit in the same way that sensors can be connected, thereby allowing shippers to track RFID-tagged cases, pallets or items inside the container. However, such interrogators will not be used with this pilot. Vrije Universiteit Amsterdam will coordinate the project, providing best-practices documentation to share across the European Union (EU).

Reidy says the EU hopes the pilot will illustrate how paperless trade might be used to eliminate most inspections upon arrival, speed ocean freight shipments by making the customs process more efficient and increase security. The organization also hopes to reduce the tax fraud that occurs in Europe when individuals looking to avoid paying European taxes unload products theoretically bound for America.

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