

Byline article:

SUCCESS OF EPCIS PILOT IN SWEDISH FISHERY

Swedish pilot applies EPCIS standard to food traceability

by Niklas Hild, Project Manager, eTrace Sweden

June 22, 2010 - eTrace, a project within an EU food safety program, SafeFoodEra, conducted a traceability pilot with Swedish fisheries last month, to find out if the EPCIS standard is suitable for tracing fish through a supply chain. The successful pilot proved various benefits of EPCIS-based systems including increased profits for retailers. EPCIS (Electronic Product Code Information Services) is an EPCglobal standard designed to enable EPC-related data sharing within and across enterprises.

The initial scope

The pilot represented a joint effort between SINTEF Fisheries and Aquaculture(NO), TraceTracker (NO), Lund University (SE), ROI4U (SE), the Swedish Board of Fisheries (SE) and a selected number of supply chain actors. The initial scope was to track fish all the way through a supply chain, from a fishing boat, through a landing site, processor and wholesaler to a final retailer. Besides testing EPCIS standard, the pilot aimed to provide retailers with detailed information about the source and history of specific, individual boxes of fish. The ultimate aim was to develop and evaluate traceability systems that increase the ability to perform precise and reliable recalls in the case of food scares. At the same time as the pilot in Sweden, two other eTrace pilots have been started, tracing meat products in Norway and fish products in Iceland.

Tracking from the boat to the retailer

The pilot in Sweden took place from the 17th to the 21st of May. Starting in Simrishamn, catches from three boats were loaded into returnable plastic boxes that were labeled with individual, unique numbers (RFID). The data associated with each box contained information that had been sent to the fishing authority including the ID, date, type of catch and the catch location.

In the next step, the raw fish went through the production line to be filleted and then packaged in cardboard boxes for distribution. These cardboard boxes were also equipped with RFID tags, so that they could be registered along the downstream chain. The relationship between the caught fish and the fillet product was established via transformations recorded in an EPCIS database from TraceTracker.

The individual ID tags were read once again when the cardboard boxes arrived at the wholesaler, Brødrene Hanson, in Gothenburg. Part of the batch was bought by a retailer, Fisklyckan, in Gothenburg who registered that he received the individual cardboard boxes, and was now ready to sell the fish in his store. Other boxes were bought by a restaurant and a fish auction.

By the time the fish reached the retailer, all of the product details were available online. The retailer could print out a traceability graph showing where each specific fish came from, where it was caught and how it traveled to the store. Significantly, the information could be presented to the customer as proof of the source.

EPCIS in action

At every stage of the pilot the EPCIS standard was employed to streamline traceability data. Data from individual RFID tags were captured using handheld RFID readers and the information was automatically uploaded to TraceTracker's EPCIS database using an application called TT Data Uploader. An online user interface, the TT Navigator, was available for showing product details.

Positive results on all sides

According to the Swedish Fishery Board, the results have been positive.

"The response from the fishermen, first buyers and retailers who have been involved in the project is very positive about the possibilities of sharing information in a structured and understandable manner," said Mårten Gustafsson, Swedish Board of Fisheries.

The participating retailer noticed an increase in sales. "Traceability has been a driver for increase sales," said Peter Kallstrom, owner of Fiskelyckan, Gothenburg. "By taking part in the eTrace project and promoting traceable food, we have stimulated a strong interest from consumers. Next to the cod, we posted a map showing where the fish was caught and processed. The map told the history that consumers have been waiting to hear, namely that the fish is local. Instead of selling just a few kilos a day, I sold more than 150 kilos over 4 days. This is a very significant increase for us."

Other supply chain partners experienced a decrease in manual data entry. "Having an open, automatic system directly reduces the need to enter information manually," explained Niklas Hild, the Project Manager of the Swedish eTrace pilot. "Everyone along the supply chain can access the same information on the screen, reducing redundancy. In addition, the pilot showed that RFID and EPCIS works well in harsh environments such as the fishing industry."

EPCIS proved to be a viable standard enabling compliance with European regulations on food safety. "The Swedish Board of Fisheries sees the EPCIS-standard and RFID-technology as a potential tool to meet the upcoming demands of the new control regulation,(EG) nr 1224/2009 in EU. This regulation states that all member states must have traceability in the fish supply chains. Also, it seems to be a great tool in fisheries control," said Mårten Gustafsson.

"From an academic perspective, the EPCIS pilot demonstrated IT tools for solving traceability problems that have been clearly documented." said Henrik Ringsberg from Lund University Department of Design Science, Division of Packing Logistics, "Over the last year and half I have been working for the Swedish Fishing Authority carefully charting various issues involved with achieving full chain traceability in seafood supply chain. A lack

of supply chain visibility, and a lack of data compatibility between supply chain players is clearly improved by uploading product information to EPCIS databases and available online."

Final results

In effect, the pilot proved that EPCIS compliant traceability systems can integrate data from different information sources related to food safety and suitable enterprise management systems. EPCIS based systems were shown to improve the speed and efficiency of traceability operations.

More information

EPC Global: <http://www.epcglobalinc.org>

EPCIS standard: <http://www.epcglobalinc.org/standards/epcis>

SafeFoodEra network: <http://www.safefoodera.net/>

Sintef Fisheries and aquaculture: <http://www.sintef.no/Marin/Fiskeri-og-havbruk-AS>

TraceTracker AS: <http://www.tracetracker.com>

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Fig 1. Fishing vessels at Simrishamn



Fig. 2 Labeling boxes



Fig.3 Marten Gustavsson shows a handheld RFID device

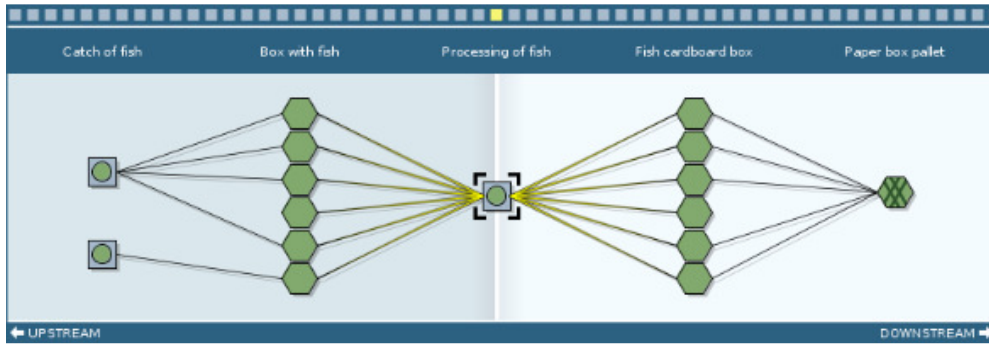


Fig.4 A traceability graph available online



Fig.5 Retailer



Fig 6. Peter Kallestrom, the owner of Fiskelyckan

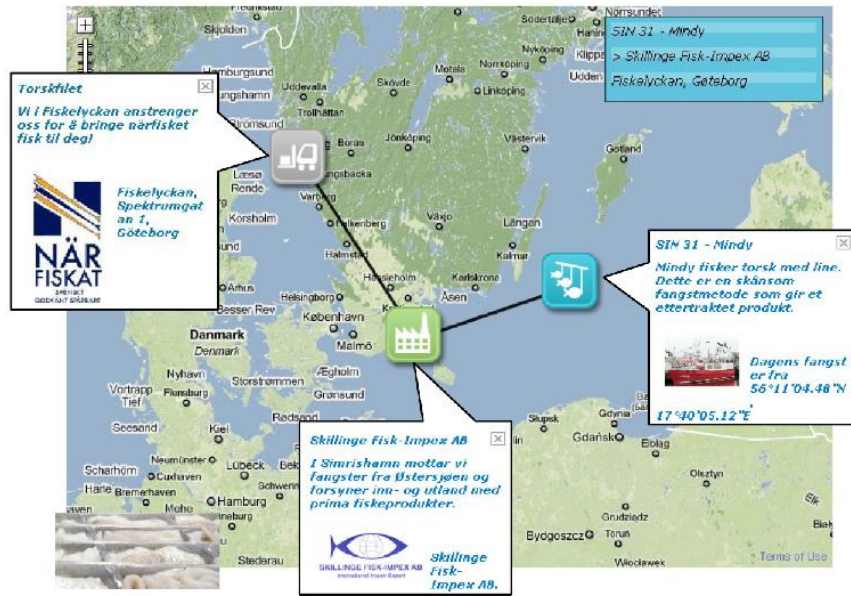


Fig 7. Traceability map for fresh fish