# Sweden takes the lead in RFID standards for railways
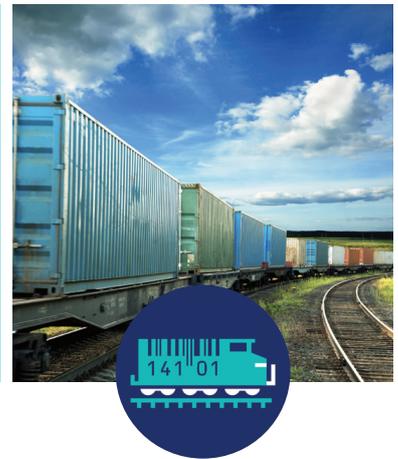
Early in 2011 goods wagons marked with RFID tags started to roll in a full-scale test between some of Volvo's facilities in Sweden and Belgium. This is a major step towards creating a common standard for identifying and tracking rolling stock throughout Europe. It is the Swedish Transport Administration (previously the National Rail Administration) that has been testing RFID solutions for many years. It all started with a system using active tags, but with the major drawback that they must be powered with batteries.

"The solution we have ended up with is based on passive RFID tags that are activated by the radio signal from the reader. This is a new generation of tags that can be read even when the trains are running at high speeds," says Gunnar Ivansson, consultant at Learningwell who has helped to implement the technology.

In order for the solution that Swedish Transport Administration is testing to be developed into a European standard, GS1's global standards for RFID are being used. Even the readers are standardized with a specific interface.

Lennart Andersson, who is responsible for the project at Swedish Transport Administration, is pleased with the high level of interest from all over Europe, "Swedish Transport Administration was on GS1's stand at the InnoTrans fair in Berlin last autumn and we made contact with about 70 people from a long list of countries. Many different solutions are being tested, but we want to drive development so that there will really be a European standard that everyone can use."
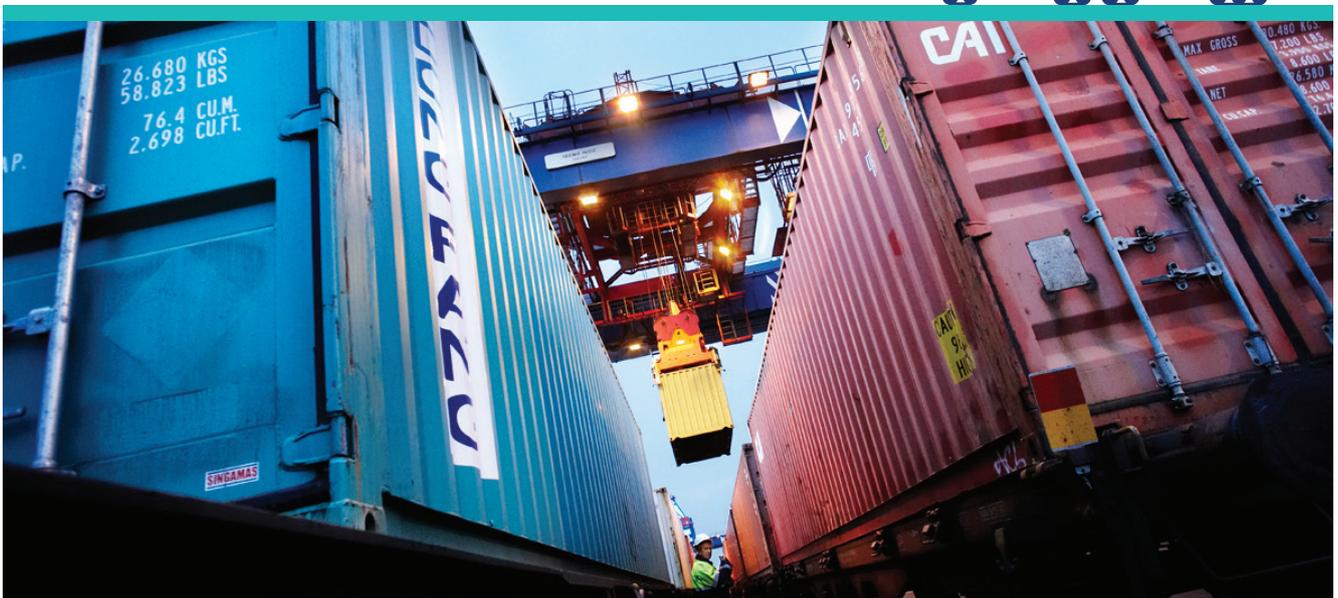
Operators in Sweden are also very keen that RFID technology is standardised so that it works outside Sweden, too, "60 per cent of our volume is international, that is, it is in transit to or from Europe. Sweden lives by exporting, and transport is an important part of it," says Michael Nysten, quality manager at Green Cargo, a company that handles up to 60,000 loaded goods wagons each month. Green Cargo has invested its own money in the trial, with Volvo Logistics' transports from Olofström in the south of Sweden, "Keeping track of rolling stock using RFID tags is a simple and inexpensive solution. We have tried to put a GPS on the wagons, and that gets expensive," says Michael Nysten

Nysten continues,"It is a great advantage, not least for freight customers, to be able to go to a web portal and easily access information about where the wagons and goods are". Nysten also believes that RFID technology will reduce administration and paper handling, including everything from billing to reporting what has been done.

Swedish Transport Administration also foresees big gains with less administration and improved information to customers, and in addition expects to reduce maintenance costs, "Goods wagons generate considerable wear and tear on the rails, especially if they have any damage. Today, we have difficulty getting an overview of which wagons have problems, but with RFID, we can identify wagons and take prompt action," says Lennart Andersson. "We also get statistics that we can use for preventative maintenance."

Labelling of wagons is carried out by the operators. There are two RFID tags on each wagon. According to Gunnar Ivansson the price has now dropped to about €3 per tag. It is Swedish Transport Administration that sets up readers and runs the system, which it is then is up to operators to use. The tests now being carried out provide information about what services will be in demand.
"The railways have always been good at finding their own solutions in each country. We are now developing a standard that is common to all countries and which also can be used by other modes of transport," Lennart Andersson concludes.

When fully operational, it will be possible to follow a wagon through the whole of Europe using GS1 global standards.

Contact information

Interested in learning more about this project? Contact Jaco Voorspuij, Senior Manager, Industry Engagement, GS1 at jaco.voorspuij@gs1.org

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