



# FASTER

## into the Future

Automotive logistics service provider E. H. Harms pushes to get FASTER, a mobile recognition system that combines three innovative technologies – wireless LAN, GPS and RFID. T-Systems is responsible for implementing this unique project.



### E. H. Harms Automobile-Logistics

is an independent division of Bremen-based logistics service provider BLG Logistics Group.

This business segment provides vehicle transport by rail, road or inland waterway as well as technical services.

The company has an extensive network of 26 locations and terminals across Europe, with around 1,500 employees. In 2004, turnover rose by 8.3 percent to €225.7 million (\$275.25 million).

This makes E. H. Harms one of Europe's leading automotive logistics service providers.

The company's key location is Bremerhaven, which handled the shipment of 1.4 million vehicles last year. In 2005, Harms hopes to break through the 1.5 million barrier for vehicle import and export for the very first time.



■ Their windshields glisten in the sunlight and their paint gleams. A sea of cars stretches back across the huge parking lot as far as the eye can see. Holger Werner climbs into a silver Audi that has just arrived by ship. Just before he gets in, his mobile data entry device (MDE) displays the VIN (vehicle identification number) as well as all current orders for the recently acquired used car. The next station is a factory building for repairs. Holger Werner parks the Audi in front of the building, while his MDE device automatically logs the new position of the vehicle in the central data acquisition system. The Audi's current location at the ve-

hicle terminal is always reported to the E. H. Harms central data management system within a matter of seconds.

#### Fully automatic

While this is only a scenario of things to come in the future, the necessary technology is already available. Automotive logistics service provider E. H. Harms has therefore joined forces with the Bremen Institute of Industrial Technology and Applied Work Science (BIBA) at the University of Bremen to design an innovative vehicle control

system called FASTER. "The aim of this cooperation project is to develop a decentralized solution for vehicle control in logistics networks using innovative technologies – and RFID technology in particular," says Felix Böse, FASTER project coordinator at BIBA

Like bar codes, RFID technology provides an effective means of identifying goods and objects – including cars, which pass through a number of different stations en route from the production line to the dealership. Instead of bar codes, radio frequency identification technology uses transponders, also referred to as TAGs. These TAGs

consist of microchips with mini antennae, can store any volume of data and can be read in groups using radio frequency signals. "Up to now, every vehicle has had a bar code behind the windshield that has to be scanned manually. However, rain, ice or dirt on the windshield make reading the bar code more difficult," explains Wolf Lampe, head of Processes/QM at E. H. Harms, as these conditions weaken the radio waves more than air.

Vehicle terminals like the one in Bremerhaven, where the Automobile division of the BLG Logistics Group — to which E. H. Harms also belongs — handles 1.4 million vehicles every year, require much more than just the efficient identification of vehicles. They also require information about the current location of each individual vehicle. "We cover a huge area right across Europe. To ensure on-time delivery, we therefore need to be kept informed about all inventories and vehicle movements," explains Mr Lampe. Has the car already passed through all of its key stations? Has it been repaired, painted, washed, waxed and filled with gas? When and where is it available for collection? The answers to all of these questions will be provided

FASTER in the future. To make this possible, readers are being installed in cubicles and gateways as well as being provided in the form of the MDE devices referred to earlier. These readers automatically detect the RFID tags and forward their data to a central system. The GPS satellite navigation system will be used to check whether a vehicle has been parked correctly. Additional information is transferred wirelessly via wireless LAN.

### Always within range

Although FASTER is still only a pilot project, E. H. Harms aims to roll it out across Europe in the long term. In the search for a suitable partner with the required resources and competence for the job, T-Systems emerged as the outright winner. "Our duties include procuring and controlling the mobile data entry devices. They have to understand RFID, wireless LAN and GPS," says Dr. Rolf Schmid, project manager at T-Systems. "We also look after all the software as well as providing a link to the existing system."

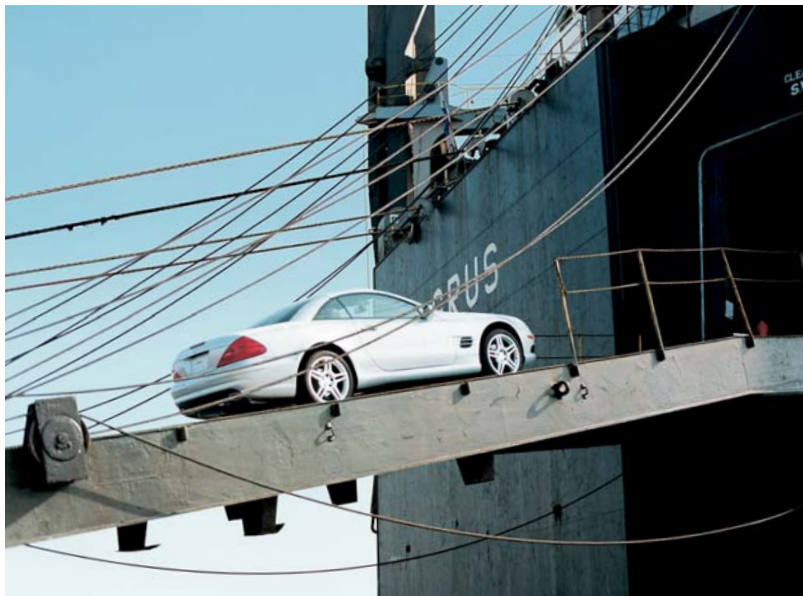
Field trials will begin in the fall. "When the weather worsens we will have the ideal test con-

ditions," says Dr. Schmid. Rollout is expected to begin in early 2006. There are, however, still a few hurdles to be overcome between now and then. Wolf Lampe cites metal-coated car windows and the vehicle electronics in luxury sedans, which can affect the current RFID technology, as typical examples. The differences in capture situations also present a major challenge. "In the car, a range of 60 to 80 centimeters (24 to 32 inches) is enough to read a TAG with the MDE device. When a car passes through a gate, on the other hand, a range of 3 meters (10 feet) is required." T-Systems therefore uses an ultra high frequency of 868 Megahertz, which provides a range of several meters.

Although the costs for RFID are still relatively high, Mr Lampe is optimistic: "We won't have to be printing bar codes in the future. We'll also save a lot of time due to greater transparency and the direct availability of information, and we'll become much more reliable, which justifies the cost of the project." The logistics service provider is also more than a little proud of the fact that the level of automation he is seeking to achieve will make his business unique!

PHOTOS: TOM SCHULTE

**LINKS**  
You can find further information on RFID at:  
[www.t-systems.de/rfid/engl](http://www.t-systems.de/rfid/engl)



### T-Systems and RFID

With RFID (Radio Frequency Identification) technology, goods and objects across the entire value-added chain can be identified and tracked using radio signals. T-Systems offers industry-specific RFID solutions that enable companies to optimize their business processes and control them in real time. Examples include systems for determining the location of freight cars, truck trailers, containers or wire mesh pallet cages, as well as RFID solutions for the healthcare sector, the tracking of goods such as food products or ticketing. As a member of EPCglobal — the international standardization organization for RFID — T-Systems is promoting the development and delivery of radio frequency technology to meet market demands.

