

With four German auto factories already equipped with a real-time location system, the company plans to use RFID to track finished cars at its U.K. and South African plants.

By Jonathan Collins

Sept. 20, 2005—Automobile manufacturer [BMW](#) is extending deployment of an RFID-based real-time location system (RTLS) used to manage finished vehicles in Germany to two of its international production plants.

The system has been designed and installed by [Siemens](#) using technology from U.S. RFID RTLS specialist [WhereNet](#). The system places active RFID tags on finished vehicles as they leave the production line to help BMW workers instantly locate cars before they are shipped to dealers. Siemens' [Automation and Drives Group](#) resells the WhereNet system under its own MOBY-R brand.

In the first quarter of 2003, Siemens installed BMW's RTLS system at the carmaker's Dingolfing plant (see [RTLS Drives Efficiencies at BMW](#)). Since then, it has been steadily rolling out the system at BMW plants across Germany. Siemens installed a network at BMW's Munich plant in mid-2004, a third at its Regensburg plant at the end of 2004 and a fourth in Leipzig at the start of 2005. This accounts for all European sites at which finished BMW vehicles are made.

The company now says it will deploy the same system at its factory in Rosslyn, South Africa and its [Mini](#) plant in Oxford, United Kingdom, by the end of the year. WhereNet hopes that BMW will also deploy the system in the near future at its plant in Spartanburg, S.C., but there are no firm plans at this time.

The Siemens-developed system places an active tag on the front passenger seat of each completed vehicle as it is prepared to leave the production line. A worker scans the car's unique vehicle identification number (VIN), printed on a bar-coded label attached to the vehicle, and also the unique ID encoded on the RFID tag. The two numbers are then linked in the RTLS database. For the rest of the time the vehicle remains at the plant, a network of RFID readers linked together over a wireless LAN will detect the tag as it beams its unique tag ID number every four minutes.

When it comes time to do additional work on or ship the car, the BMW staff can track it down in real time on the company's intranet via a Web browser and an application that graphically displays the car's location. When the vehicle leaves the plant, a worker removes the tag and returns it to the production line for reuse. WhereNet says the tag has a lifespan of at least five years.

The MOBY-R system uses WhereNet's WhereLAN Location Sensor and Locating Access Point technology to create a 2.4 GHz wireless network within a facility. To track vehicles both inside and outside the plant, access points (devices that read the tags' transmitted signals) are installed 250 to 350 feet apart indoors, and 750 to 1,000 feet apart outdoors. BMW has used its RTLS network to replace a manual method of tracking finished vehicles, increasing efficiency and speeding throughput of vehicles through its production plants.

The new RTLS deployments will be smaller than the previous ones. Although the Dingolfing and Regensburg plants each use 3,000 tags, the Mini location will employ half that number and the South African facility will use just 1,000 tags because those sites have a lower number of finished vehicles on site at any time. According to WhereNet, the expansion of the RTLS deployment to BMW's international plants underscores the value of the system to the automotive manufacturer.

"BMW is seeing real value [from its RTLS systems]. It wouldn't deploy across more and more sites if it wasn't working and there weren't real benefits," says Gary Latham, director of industry marketing at WhereNet.