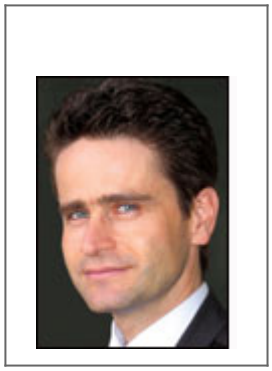
Designer Tags for RTIs

For several years, manufacturers, logistics providers and pooling companies have been using radio frequency identification to track and manage returnable transit items (RTIs)—the containers, crates, pallets, roll cages and totes used to transport parts and products. The technology can provide exact information regarding where a particular RTI has traveled, who used it last and when it should be returned. The

benefits have been proved: Tracking RTIs improves usage and reduces loss of these costly assets, providing a fast return on investment. Recently, RFID solution providers have developed tags that make it easier and more cost-effective for companies to RFID-track RTIs.

RTIs tend to have a long life, during which they travel between many users, and that means RFID tags must be able to withstand repeated usage, often operating in harsh environments. Companies that were using pressure-sensitive adhesive labels, attached with high-speed applicators, to track plastic crates found the paper inlays did not remain functional after exposure to aggressive cleaning processes. So new label materials were selected to be durable when exposed to high temperatures, chemicals, ultraviolet light and other conditions.



Another challenge was tracking metal RTIs, when labels were not an option. RFID solution providers developed on-metal tags that work well and are available in a wide range of sizes, but they require a mechanical attachment to meet demanding industrial environments. For a company with a lot of metal RTIs, that could mean drilling millions of holes and fitting in millions of screws. Clearly, the industry needed a fast and reliable mechanical mounting method.

Several RFID companies have developed options, some of which exploit the structure of an RTI in a noninvasive way. If a metal pallet has readymade holes or lugs, a tag can be

attached quickly without drilling holes or fixing screws; the Confidex Captura, for example, can be mounted with just a click. Other on-metal tags have built-in magnets, so the tag needs only to be placed on its target. This solution is practical for work-in-process applications, such as tracking a car assembly. In some cases, on-metal tags can be affixed with industrial adhesive. When these options won't work, tags with brackets, such as the Confidex Ironside, can be spot-welded to a surface, for a firm attachment.

Some RTI pool operators face another challenge. They rent high-quality containers or gas cylinders that have substantial value, but these special RTIs are often exchanged en route for inferior ones. To overcome this obstacle, they have tagged these RTIs with ultrahigh-frequency Gen 2 tags with Electronic Product Codes, to prove their origin. But often, the EPC is a rewritable serial number, which is relatively easy to clone. So solution providers have developed factory-programmed identification numbers that provide secure authentication. Smart programmed tags help RTI pool operators reduce losses, as well as improve the quality, safety and protection of their capital, brand and reputation.

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