

CASE STUDY

Integrated Enclosure for Cutting-Edge Railway RFID

Submitted by Ventev Innovations, Division of TESSCO Technologies

IDT Services, a designer and developer of radio frequency identification (RFID) and automatic equipment identification (AEI) systems servicing the railway industry, provides state-of-the-art, breakthrough products and solutions that together have made IDT the leader in mainline rail RFID/AEI systems for North America.

RFID technologies raise asset tracking to a new level -- providing faster, seamless, more secure wireless transfer transactions that deliver a higher return on investment when compared to previously used systems. For IDT, older deployed systems included enclosures that consumed a significant amount of space, were bulkier and therefore more tedious to install, and required more room to allow for the proper functioning and organization of batteries and other RFID components.



To improve its older systems, IDT sought expertise, guidance and overall enclosure improvements from Ventev Innovations, an engineering-driven manufacturer, and Division within TESSCO Technologies, that focuses on developing high-performing, intelligent, and exciting products for the ever-changing world of wireless. After IDT and Ventev together created a unique, panel-mounted RFID product, allowing an easy retrofit of an existing trackside hut or enclosure installation, IDT then required from Ventev, a means to power their RFID solution, while simultaneously simplifying the deployment of new wayside points -- ensuring that the interaction with the device would be both easy and reliable.

The team of experts at Ventev worked with IDT to not only provide reliable power to their RFID assembly, but to develop a robust enclosure that was powerful enough to integrate the RFID assembly, power supply, cable management, antennas and batteries. The final product was the new Ventev LinkUPS™ power system -- a complete, turnkey enclosure that features heavy-duty aluminum that handles harsh, outdoor environments, and is robust enough for close proximity to railroad tracks.

With interior lighting, a breaker disconnect, AC power, and a separate battery compartment, the LinkUPS power system is an easy-to-install, integrated power enclosure that provides a user-friendly, consistent, scalable solution. The system's efficient form factor offers ample, yet not wasteful space, for mounting and configuring various internal components, and the featured lighting promotes easier installation and maintenance, as well as proper organization of the RFID equipment and batteries. For remote locations where AC power is unavailable, this innovative system is available with an accompanying solar kit.

Another participant in the project was TESSCO, who not only brought together the Ventev Team with IDT, but also provided logistical support for the LinkUPS power system through the consolidation of component sources, stock maintenance, and timely delivery of all contents of the IDT reader system. IDT soon started to rely on TESSCO for several additional products required at their sites, including tower sections, cabling and antennas, as well as conduit and lightning protection.

Ultimately, TESSCO not only provided the equipment needed to meet IDT's needs -- but also began to manage the product's packaging, staging, and on-time-delivery -- TESSCO even agreed to inventory a small amount of third-party equipment to help facilitate the delivery of the final product. Through substitutions and key design changes and features, TESSCO also streamlined the component supply chain for which IDT provided the reader panel, a railroad-specific manufacturer supplied the wheel sensor, Ventev developed the power system, while TESSCO provided all other site components. *Visit www.tessco.com/go/ventev or see page 14 and 15 for more Ventev solutions.*

This integrated enclosure by Ventev Innovations is an excellent solution for many railroads wishing to invest in RFID technology.