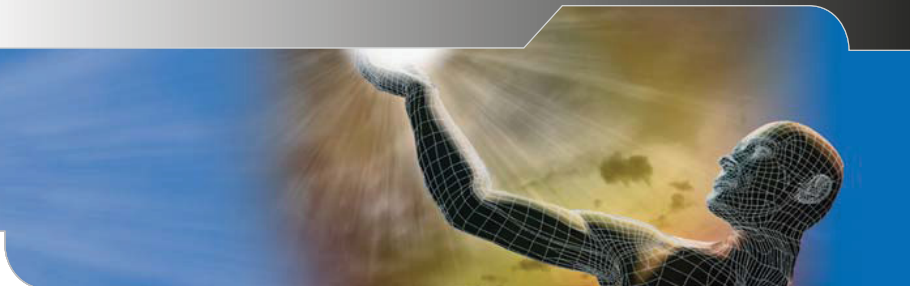


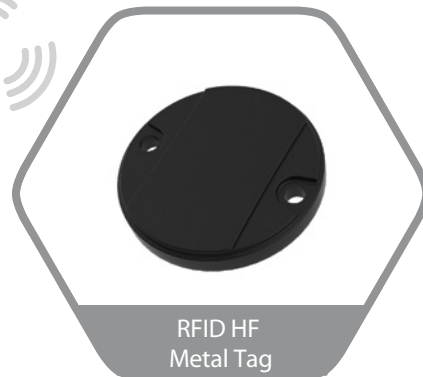
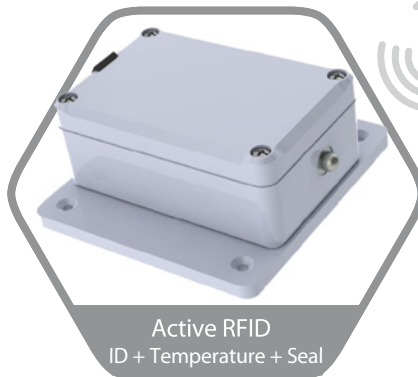


TERTIUM
— technology



MWS System




Conad del Tirreno is a large Co-operative of independent entrepreneurs that, thanks to its 7000 employees and operating under E.Leclerc Conad, Conad Superstore, Conad, Conad City and Margherita brand names, supplies 329 sales outlets in four regions, Tuscany, Latium, Sardinia and Liguria, through its supplying, operative and logistic structures.

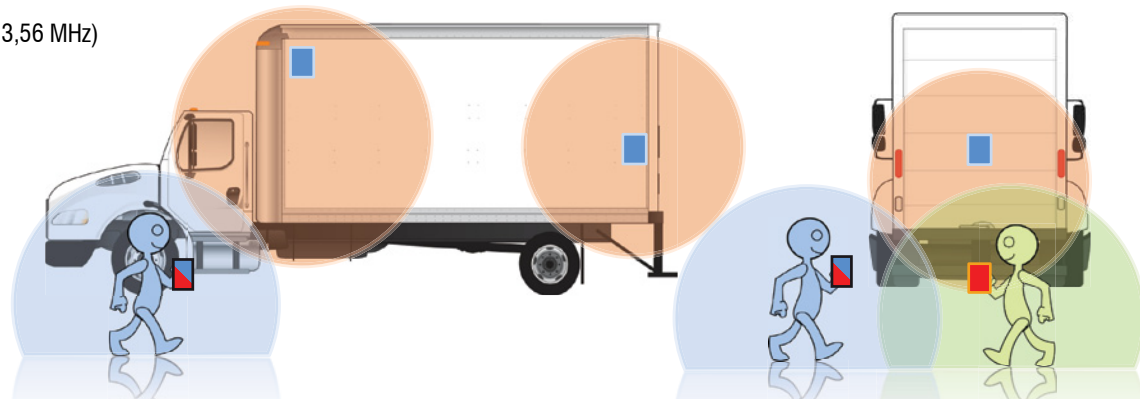


The need

One of Conad del Tirreno's undertakings is the control of the loading and unloading process of the goods at the affiliated sales outlets by means of a smartphone.

What the Co-operative needed was to be able to automatically control the opening and closing of trailer doors by means of an electronic seal, an operation that was being performed at the moment using a disposable mechanical seal at every opening/closing of the doors. Another target Conad del Tirreno wanted to reach was to constantly monitor the trailers' internal temperature thanks to a wireless system.

-  Active sensors for door opening and temperature (2,45 GHz)
-  RFID reader (2,45 GHz + 13,56 MHz) associated to a smartphone
-  Passive RFID identification badge (13,56 MHz)



The solution

The solution proposed by TERTIUM Technology has been a 2,45 GHz active RFID seal, to be installed on the trailer, equipped with a sensor for the control of the door opening and a temperature data-logger. The system is completed by a RFID reader, physically coupled to the protection shell of a smartphone, and able to read 2,45 GHz RFID TAGS and RFID HF Tags. Thanks to these two devices and to the coupling to a GPS-equipped smartphone, the automatic and geo-referenced door opening and temperature control have been achieved.