Tracking robots in the world’s most advanced warehouses

Ocado is the world’s largest online-only grocery retailer and its Ocado Smart Platform is the most evolved system of its kind. Ocado approached CoreRFID as it wanted to deploy off-the-shelf RFID technology to maximise the reliability of the Ocado Smart Platform. The commercially available solution would not meet the operational requirements of this highly automated system.

The challenges
CoreRFID, in partnership with RFID tags vendor Omni-ID, quickly identified the possible improvements and worked with Ocado to create a custom-built integrated RFID tag to meet its requirements in terms of reliability, cost and ease of deployment.

Technology at heart of Ocado vision
Ocado’s founding vision was to use technology and automation to operate the online grocer business’ sustainably, profitably and to scale-up. At the centre of Ocado’s business model are its huge automated warehouses, the largest and most evolved of their kind in the world.

In its latest warehouse in Erith, London, thousands of bots whizz around on a giant grid, and can fulfill an average 50-item customer order in less than 5 minutes. The robots are orchestrated by a central control system which uses RFID technology to track their locations. The tags are mounted in close proximity to the metal grid and need to be usable in both an ambient and chill environments.
Meeting the challenge

CoreRFID, Omni-ID and Ocado worked together on trialling products and assessing the performance of different tags to achieve the required level of reliability, ease to fit and cost.

Early tests with the commercially available Omni-ID Fit210 tag achieved a close match but the project needed a tag with a more reliable fixing and better temperature range performance. Trials involved assessing both the radio frequency characteristics of the tags and the physical aspects of the installation.

The verdict

“Through our long-standing partnership with Core RFID, Omni-ID has addressed significant challenges that were delaying the widespread technology adoption by Ocado in their automated warehouses.”

– Dr Tony Kington, Chief Executive Officer, Omni-ID

“Core RFID made this project very easy to work on, by creating an open and honest 3-way relationship between Ocado, Core RFID and Omni. This has enabled us to exceed both cost and delivery targets... an enjoyable and successful project.”

– Ian Parks, Engineering Project Manager, Ocado

CoreRFID & Omni-ID

• Specified the attributes of a custom tag, translating Ocado’s needs into technical tag requirements.
• Applied their experience of working collaboratively and knowledge of what was needed for a successful project.
• Managed the entire project, co-ordinating design, prototyping, trial, manufacturing and delivery phases.