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Tracking robots in the world's most advanced warehouses

▎ Created for the world's largest online-only grocery retailer, Ocado

Omni-ID®
Intelligent Tracking & Monitoring Devices

In partnership with

core|rfid Ltd.

omni-id.com

Ocado is the world's largest online-only grocery retailer and its Ocado Smart Platform is the most evolved system of its kind.

Industry
Retail and Logistics

The Verdict:

"Through our long-standing partnership with Core RFID, Omni-ID has addressed significant challenges that were delaying the widescale 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

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 Challenge:
Technology at heart of Ocado vision

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.

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 fulfil 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.

The Solution:

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.

Designed

- High UV tolerance
- Label should adopt as little dirt as possible (slippery/low moisture absorption)
- Weight below 23 grams

- Label pull strength above 15kg
- If the label is removed, it should be visibly damaged and not be reusable
- RFID performance should be the same or better as with the red tag

Tested

- Water resistance (non emersion: exposure to rain and watering of plants)
- Resistant to solvent and chemicals used in agriculture grower and retail operation (like chloring solutions)
- Storing temperatures from -30 to +70, operating temperatures from - 10 to +60
- Material tested for the automotive industry

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Visit www.omni-id.com to learn more or email sales@omni-id.com for all product or technology inquiries and we will be pleased to get in touch.

Omni-ID is the leading supplier of passive, low-profile UHF RFID solutions. Through our patented technology, Omni-ID "cracked the code" to overcome the problems traditionally associated with RFID, enabling a broad range of new applications that improve accuracy and efficiency in asset tracking, supply chain management and work-in-process. Our family of versatile RFID tags works reliably in the harshest environments, including on, off, and near metal and liquids and excels in solving tracking and identification challenges with unprecedented accuracy. With offices in the USA, UK, Asia and India backed up by a purpose-built manufacturing facility in China, our mission is to drive the widespread adoption of RFID and wider IoT technologies as the optimal tracking and identification devices.