

Omni-ID Tracks Assets for a Global Provider of High-pressure Gas Cylinders



The Challenge

A worldwide atmospheric gas provider was looking for a way to track its inventory of high-pressure gas cylinders through its global supply chain, including warehouses and manufacturing facilities. The cylinders are placed on pallets and are delivered from and to a variety of locations around the globe daily. Not only would the tracking solution need to be intrinsically safe due to the volatile nature of the gasses inside the cylinders, it would need to work in an environment where multiple metal surfaces would be present such as carbon steel, stainless steel, nickel, aluminum and carbon fiber wound metal.

Adding to the challenge was the fact the customer required a tag small and flexible enough to adhere to the shoulder of the cylinders as well as a flat surface, but would need to be durable enough to withstand rough handling, harsh conditions and exposure to water, chemicals and extreme heat during the wash process.

With an HF RFID and barcode system already in place which required operators and manual inputs, they were subject to errors due to incorrect manual inputs or tag/barcode label read failures due to the harsh environment. This customer was interested in implementing not only a rugged system, but one which provided a hands-free, automated approach – Passive RFID.

The Solution

With extensive experience providing on-metal, global, and intrinsically safe RFID solutions to the energy industry, Omni-ID was well-positioned to recommend and provide a solution to fully meet all requirements for this customer.

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Omni-ID's team of experts quickly got to work with the customer surveying multiple sites to determine a best-in-class solution based on environmental and physical conditions. Some of the considerations were:

- A curved surface of various metals that the tag must work on and provide consistency in performance
- A long read range of at least 8 feet (the recommended Omni-ID tag, the Adept 500, provides 16 feet) to support both handheld and portal reading
- Compatibility across global passive RFID regulatory bands
- Ability to be read through over pack requirements including foam, cardboard and wood
- On container programmability
- 10 years of intrinsically safe tag life with constant exposure to harsh conditions including impact, chemical exposure and volatile gasses

A system of portal readers inside and outside was designed to accommodate the difficult task of tracking these metallic assets; and Omni-ID's Adept 500 was developed to support this application, including:

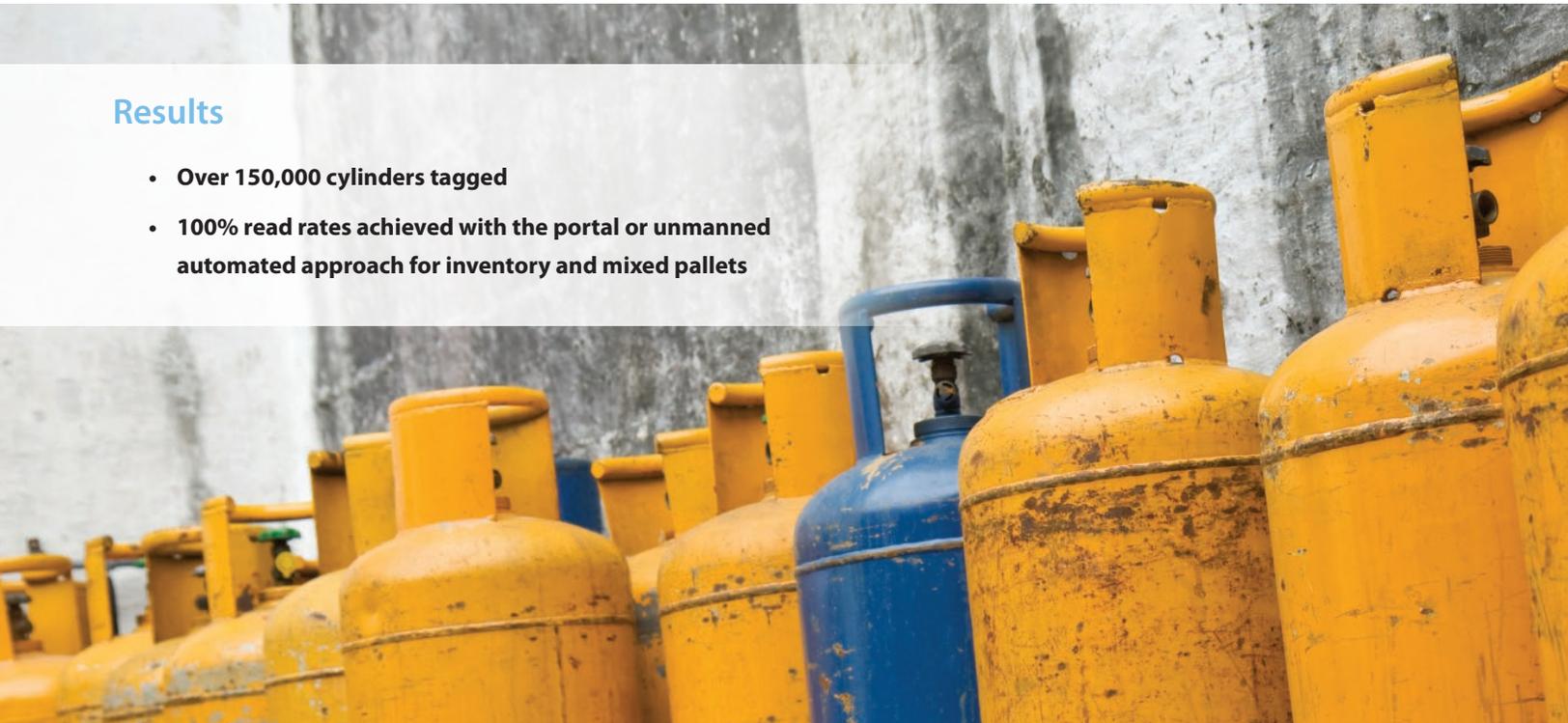
- Small, circular form factor specifically designed for permanent attachment to the shoulder of gas cylinders
- Encapsulation and shape of this tag provides adherence to 1 or 2 dimensional curvatures
- Global frequency
- Flexible EPC field to support the GRAI encoding standard for tracking
- Read range of 8 feet to support portal infrastructure
- Casing made of a highly impact resistant thermoplastic elastomer allowing the tag to withstand high temperatures, overspray by water and solvents and the overall rigors of industrial use



ADEPT 500

Results

- **Over 150,000 cylinders tagged**
- **100% read rates achieved with the portal or unmanned automated approach for inventory and mixed pallets**



Omni-ID office locations: US | UK | China | India | Southeast Asia
For product or technology inquiries email: sales@omni-id.com

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