Enhancing Medical Device logistics with RFID technology

How is technology improving the quality and efficiency of patient care, by automating logistics and making medical devices traceable?

The Challenge: Insights from the operating room

For every patient who is due to receive a prosthesis, hospitals order multiple sizes and dimensions pre-operation to have available in the operating room (OR). Only mid-operation does the surgeon decide which individual prosthesis best fits the patient's needs. Post-operation, the hospital returns all unused prostheses to the manufacturer.

For implantcast GmbH, a leading manufacturer of medical implants, this created a high volume of returns which were manually sorted. This was labor-intensive and error-ridden, as each product's barcode needed to be scanned. With an already automated warehouse, how could they redesign the return process with an automated product identification solution?
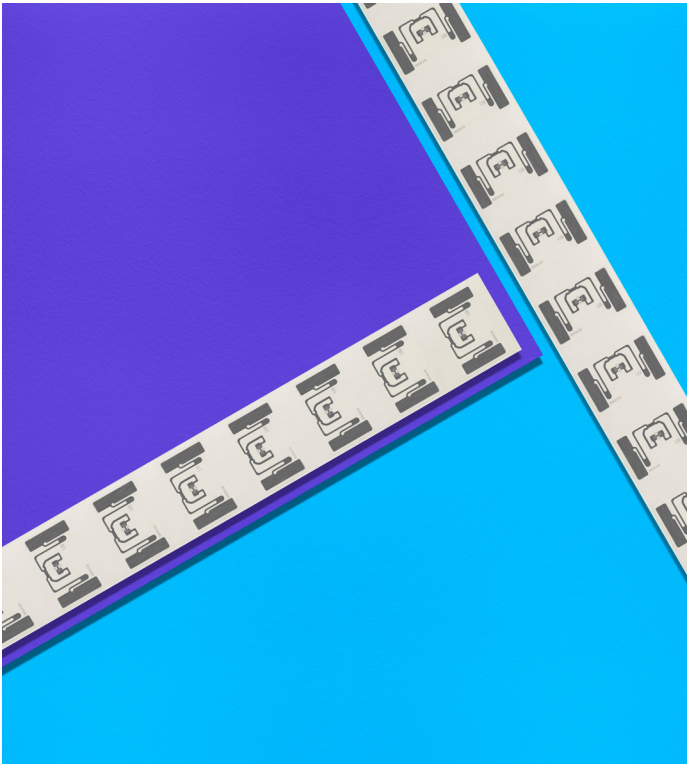
The Solution:
Beyond efficiency,
to traceability

The opportunity was to use a label technology that could meet the Unique Device Identification (UDI) labeling protocols, and provide automated identification at every stage of the logistics supply chain, from manufacturer to hospital.

Primtec collaborated with implantcast using Avery Dennison Smartrac inlays to develop a comprehensive RFID-based solution. Each product was distinctly marked with an RFID tag, and workstations were equipped with RFID readers that could simultaneously capture up to 150 products instantly.

To unlock the full value of the RFID technology, the solution extended beyond product labeling. The automated warehouse was enhanced with RFID solutions for both incoming and outgoing goods. Now real-time data exchange is linked with the warehouse system, which immediately flags any product discrepancies, reducing the error rate dramatically. With the key technology now on every product, the potential is to offer inventory traceability all the way to the patient.

The Result: speed and accuracy

The transformation has an impact across the business. The tedious process of manual scanning is now a hyper-efficient, fully automated system. Returns from hospitals are swiftly processed with products being recorded and assigned in seconds. Outgoing is also streamlined; as orders are now received, products are picked, verified using RFID technology, and dispatched with unmatched efficiency.

A standout feature is the RFID gate. As filled shipping boxes enter the goods issue warehouse, the gate detects tags and their movement direction. This automation not only sped up the shipping process but also ensured accurate chargebacks when necessary.

UDI-compliant labeling.

Simultaneous detection of up to 150 products in seconds.

No misreads between consignments, and workstations.

Near zero errors.

Real-time product tracking, from manufacturing to delivery.

Seamless integration with the fully automated warehouse and ERP system.

Contact us if you want to talk to one of our experts: rfid.averydennison.com/en/home/contact

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