

Avery Dennison Smartrac
Case study
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Driving Efficiency For Mass-Customization Vehicles



How has a leading manufacturer of agricultural and industrial vehicles transformed its interplant logistics?



The Challenge:

Often impressive in scale, industrial vehicles are also an impressively complex manufacturing challenge. In contrast to personal vehicles, agricultural and construction vehicles are modular platforms designed to be customized for specific tasks. Every vehicle on the production line is a unique combination of tailored options.

In this case, the assembly line is for a world-class equipment and technology manufacturer, including tractors. The goal was to provide instant traceability of every unique pre-assembled part across the network of manufacturing and assembly plants:

- Track the shipments of pre-assembled parts
- Locate in real-time parts to deliver
- Validate parts shipped based on sequencing orders



The Solution:

The key was to integrate the ERP and MES systems enabling the manufacturer to generate RFID labels for every pre-assembled component, containing data specific to the part.

The RFID system plays a pivotal role in identifying and tracking semi-finished components as they move between these factories. For instance, when a factory produces a cabin, it's labeled with RFID, specifying the machine it's intended for. This ensures that assembly factories in different countries, such as the UK, France, and Italy, can automatically identify and account for the components they receive.

This RFID system not only tracks the components but also provides vital information about the bill of materials, production timelines, and related data. Real-time visibility ensures that the assembly line is always equipped with the right components, at the right moment, in the right order. Moreover, it offers insights into warehouse stock levels, helping factories anticipate when they need to order more components.

The Result:

Previously, the manufacturer relied on barcodes to track components. The shift to RFID has automated and optimized the process. This system's strength is its real-time capability. Every plant in Europe can access the data on each label, ensuring real-time track and trace monitoring.

Benefits:



Precise control of product crossing times on the production line



Reduction of loading times as forklift drivers read the RFID label without getting off the forklifts



Digital inbound is done directly in the unloading area with multiple RFID labels reading



Informed decision-making by using the RFID label memory to make production data dynamic



Reduction of product research times in the event of last-minute changes

For automotive companies that deliver components or semi-finished goods between factories, RFID-based solutions provide the capability to significantly improve these processes, especially in scenarios with the added complexity of customization. The right components are always matched with the right end product.

This case also highlights the importance of collaboration in devising effective solutions.

This solution is a collaborative effort between three key partners:

- FasThink, system integration, design and implementation
- Kathrein, Industry 4.0 RFID hardware provider
- Avery Dennison, RFID, and digital ID solutions

Contact us if you want to talk to one of our experts:
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