

RFID Intelligent Shelving

Project charter

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1 Context

Nespresso is owned by Nestlé Nespresso S. A., one operational unit of the Nestlé Group, with headquarters in Lausanne, Switzerland [1]. (...)

2 Problem

With the growing of the brand, the complexity in the logistics networks starts to compromise the management of the products down in the chain.

The categorization and verification of new inventory, inspection of the arrived goods from the transportation company, returns, control and management of stocks, are all attended by manual labour. The manual labour is prone to errors, takes a lot of working time and interfacing with the management software isn't usually efficient.

3 Solution

The proposed solution is a system around **smart shelving**.

The structure storing the products contains RFID antennas and readers that detect and read the tags attach to them. Those readers will let the platform know in real time the state of the product in stock.

This system should handle the registration and verification of arriving stock and manage in real time warehouse products.

The product should integrate with the logistics management software used by the company, allowing the a real-time management off all the products, machine learning predictions and control of the product flow.

The solution must be reliable and cheap to maintain. The initial investment should also be the smallest possible.

- **Reduce time and errors from manual labour:** counts, identification, misplacement and lost or stolen items;
- **Help customers:** find and engage with the products they want;
- **Control:** who removes or checks out valuable items;
- **Automatic information and management of stock:** the logistics lines automatically transmits and receives stock information;
- **Smart physical storage:** automatic identification of goods in the warehouse/shelves, automatic matching of distribution requirements, improves the efficiency of goods storage;
- **Acquisition technology:** After the goods enter the collection area, the collection equipment automatically identifies multiple items by collecting RFID tags, thereby efficiently completing the goods in and out of the warehouse, ensuring whether the physical and distribution requirements are consistent, and improving the efficiency of goods distribution;
- **Real-time:** master the distribution of all goods in real time, accurately grasp the inventory situation, optimize the reasonable inventory, and grasp the status and changes of the warehouse environment in real time;

References

- [1] Nespresso. Our company. <https://www.nestle-nespresso.com/about-us/our-company>.

3.1 Benefits

- **Prevent stock-outs:** get timely replenishment and optimise in-store sales and management. Logistics companies deliver goods on time and according to delivery requirements;