ALIEN®

EUROPEAN DOOR DESIGNER GAINS
MANUFACTURING EFFICIENCIES

vicaima
UNEXPECTED HARMONY

Company: Vicaima
www.vicaima.com

Application: Material and asset tracking

Area of Use: Manufacturing and warehouse

Status: Production

Tag and Reader Supplier: Alien® Technology

Frequency: UHF 866MHz

Range: 1.5 meters

Reader Supplier: Alien Technology

System Integrator: CREATIVESYSTEMS
www.creativesystems.pt

Challenge
Vicaima worked with CREATIVESYSTEMS to create Europe's first EPC-compliant RFID installation within the door/window production industry

Solution
Toolset includes:

- Alien® ALR-8800 series readers

- EPC-compliant Gen 2 Alien Squiggle® tags

- Integration with Vicaima's ERP system

Benefits
- Reduce human intervention required for manufacturing process controls

- Eliminate tracking errors

- Greater flexibility and efficiencies at production control level

Vicaima is using RFID to slam the door on inefficiency. The company faced a growing worldwide demand for its elegant, stylish wooden doors. Vicaima was expanding from its traditional base of operations in Spain, Portugal and the United Kingdom, and to meet the growing customer demand, the company turned to an EPC-compliant RFID installation to carve out efficiencies in its production and stock control systems.
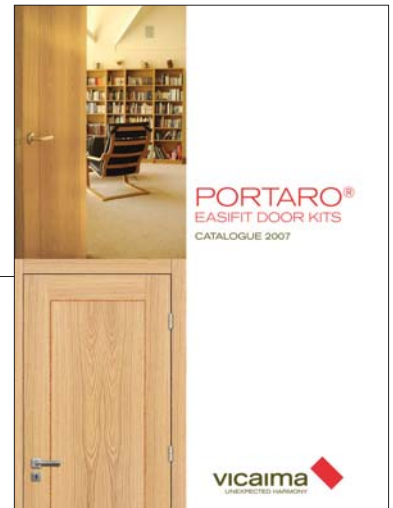
CHALLENGE

Vicaima views doors as works of art, bringing harmony and privacy into people's lives. And behind that philosophy is a focus on continuous improvement. To reduce manpower time and increase efficiency in its manufacturing processes, Vicaima was the first in the door/window production industry to roll out an EPC-compliant RFID installation.

"We constantly seek technologies to help maximize the quality of our products and services," says Filipe Maia Ferreira, managing director of Vicaima. "Alien's RFID solution, using the Squiggle tag affixed to each door, greatly reduced the amount of human intervention required for process controls while virtually eliminating tracking errors – resulting in greater flexibility and efficiencies at the production control level."
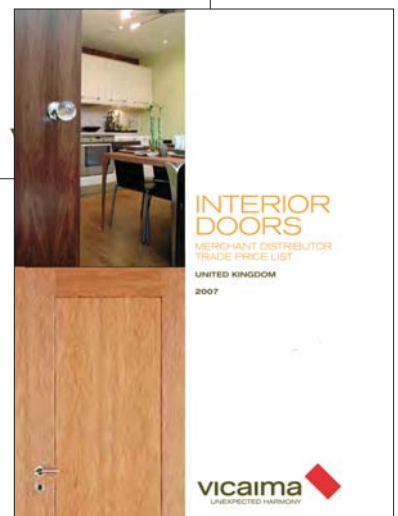
SOLUTION

Vicaima has deployed its RFID application in production at two factories, one that specializes in mass production wooden doors and another that specializes in special order doors, and the deployment will encompass millions of tags.

Tags are coded, printed and attached on the production line. Products can be located quickly and accurately, facilitating movement throughout the production process and to the warehouses

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and trucks. Tags are instrumental in stock-taking processes, so Vicaima always has an accurate inventory. The RFID application is integrated with Vicaima's ERP system for maximum flexibility and efficiency at production and stock control levels.

Once the tags are attached to the door, the door is tracked throughout the production process. The system is fully automated, so the machines can read which door is arriving and know what process should take place. It's also clear where the door needs to go next, whether that's another station on the production line or to the warehouse. Workers save time because they do not have to register the doors in the ERP system, since the products are automatically validated.

Vicaima worked with CREATIVESYSTEMS, an RFID consulting firm based in Portugal, on the design and deployment of the RFID application. "Embedding the tag into the door itself was a major challenge," says João Vilaça, managing director of CREATIVESYSTEMS. "It took a lot of technology and RF frequency knowledge to make it work in all of the situations. We did a lot of validation and testing."

Vicaima uses Alien® Technology Gen 2 Squiggle tags and Alien UHF ALR-8800 readers. The Squiggle tag is a high-performance solution for most packaging. It supports global operation at 860 to 960 MHz and meets the EPC Class 1 Gen 2 price performance benchmark. The ALR-8800 was built for optimal Gen 2 performance in Europe. It is compliant with ISO-18000-6c and EPC Gen 2 protocols. It is designed for scalable, streamlined, easy-to-manage data collection with a low total cost of operation. Implementation costs are kept low through the readers' simplified configuration and through its industrial-class general purpose I/O capability that eliminates the need for costly external programmable logic controller. It supports ultra high read rates, making it ideal for demanding applications.

RESULTS

Productivity has grown and potential errors have been eliminated with this solution. Vicaima managers have gained increased visibility into their production process: they can easily see how long each door took through each stage of the production process.

CREATIVESYSTEMS tuned the tags and readers to the unique conditions on the manufacturing line and achieved read accuracy of 99%. "The readability of the tag in any situation was also a challenge, because of the diversity of the doors. The tag is readable even with doors that have metal inside, such as fire safety doors," says Vilaça. He calls the Alien tools "great," noting that the toolkit gave him the information he needed for tuning and testing the readers.

The RFID system is fully integrated into Vicaima's ERP system, so Vicaima managers can access the data for reporting and queries. "Data management is a challenge, because we had to make sure we didn't lose any information between the RFID system and the ERP system," says Vilaça. "We can track exactly what happened to one lot on the 2:00 to 8:00 shift."

NEXT STEPS

In the next phase, Vicaima will expand the RFID system to additional factories in Europe as well as through its complete logistics flow. The company expects to gain additional efficiencies by tracking its doors across its supply chain.

Looking back on the rollout, Vilaça offers this advice to other companies considering RFID applications: "Phase 1, in which you develop the model for how the system will work, is the most important phase," says Vilaça. "You have to make sure you have a robust model for how you will tag the products and how you will read the products. Spend a lot of time testing and making sure it is right, because that is where you will find the biggest variables."

"Alien's RFID solution greatly reduced the amount of human intervention required for process controls while virtually eliminating tracking errors – resulting in greater flexibility and efficiencies at the production control level."

Filipe Maia Ferreira,
Managing Director,
Vicaima

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