

Cerealto Siro Foods implementing 4.0 throughout the value chain

Abstract

Cerealto Siro Foods represents a clear example of innovation as a business strategy. The company, supported by collaborators and strategic partnerships, clearly bets on innovation in their products and processes by incorporating the principles and technologies 4.0 throughout the value chain. The 4.0 strategy is allowing them to address the main challenges of sustainability and efficiency currently facing the agri-food industry.



Introduction

Cerealto Siro Foods is a global agri-food company dedicated to the development and manufacture of cereal-based food products for retail and B2B clients.

The Group, which has a consolidated turnover of more than 600 MM euros, has a team of more than 4,800 people and a production of more than 400,000 tons per year, in 16 production centers that the company has located in Spain, Portugal, Italy, United Kingdom, Mexico and the USA.

With an accumulated investment in 2018 of more than 13MM euros in product innovation, its business model is focused on the consumer, quality, product and process innovation and operational excellence.

Cerealto Siro Foods, which maintains a strategic alliance with I+Dea, a Research and Development Centre, is clearly committed to innovation in its products and processes, as well as to offering solutions that anticipate the needs of consumers. As a business strategy and generation of added value, the company has made a significant investment in digitalization and has carried out several 4.0 initiatives among which the sensorization of its factories or the use of artificial intelligence to anticipate consumer demands stand out.

Challenges

For Cerealto Siro Foods, the digital transformation of its processes is making it possible to address the sustainability challenges associated with the agri-food industry, which also demands high standards of quality and food safety from consumers.

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Diving into Industry 4.0 is an opportunity to face the challenges of the agro-food industry such as achieving the reduction of emissions and the decarbonization of the sector, the reduction of waste or guaranteeing food safety and traceability, ensuring competitiveness.

► Implementing 4.0 throughout the value chain

Two challenges that the agro-food industry is currently facing stand out. On the one hand, the new demands of the consumers, who bet more and more, for a healthy, safe, sustainable, and environmentally friendly food in their production processes as well as in the consumption. On the other hand, to mitigate and reduce the impact that the sector activity generates on the environment: generation of waste, efficiency in production, global logistics, high development costs, which have highlighted the need to generate new business models focused on sustainability.

For the company, digital transformation is an important lever to address the main challenges of sustainability, meet the needs of consumers and stakeholders, while achieving greater competitiveness.

For this reason, several transformations associated with the improvement of manufacturing processes, process control and consumer orientation have been implemented.

How will solve the problem?

Cerealto Siro Foods is undergoing a process of digitization of its entire value chain: agriculture, industrial processes, and customers.

Its 4.0 strategy is based on the following pillars: the application of artificial intelligence to anticipate consumer demands; the digitalization of the field to help obtain better yields and guarantee traceability; the sensorization of the factories to ensure the optimal process parameters and variables, to which the products must be submitted to ensure maximum quality.



One of the main initiatives is the sensorization of all its plants. In this way, optimal manufacturing conditions are recreated, allowing for improved on-line efficiency, traceability and waste reduction thanks to self-regulated processes.

Cerealto Siro Foods together with Shoplogix have joined their capacities to develop the project to monitor and sensorize the information generated in the manufacturing lines of food pasta, thanks to which they obtain the efficiency indicators in line (OEE) in real time, while before it was done manually, allowing to adjust the yields and process variables in real time in a simple and agile way for the plant operators, giving the opportunity to make decisions in real time. Automation has allowed them to gain in reliability and speed of data. The OEE of the plant has improved significantly. At the same time, it has helped them to identify many inefficiencies and improvement opportunities that they did not have perfectly identified, allowing them to save time and costs (improved on-line maintenance, less time spent on spare part changes).

The second pillar is the digitalization of the field. Its strategy also includes the digitalization of the field and the collaboration with producers in the joint development of intelligent systems. The geolocation of production or the sensorization of crops improves the yield of production as well as product traceability, key to quality assurance.

The third pillar is based on the use of artificial intelligence to understand consumer behavior. Cerealto Siro Foods has also incorporated artificial intelligence in its process of creation and product design to detect early trends.

The company has developed the first contrasted snack with the consumer through a tool, which analyzes and anticipates tastes almost instantly and globally. It is a real example of industrial application of Artificial Intelligence.

The biggest advantage of Industry 4.0 for the company will be to know all its variables and processes in real time and apply the knowledge generated to its processes to improve them and anticipate decisions.

One of the main challenges that Cerealto Siro is facing in its implementation process of industry 4.0 is to gain competitiveness by applying digitalization tools in all links of its value chain.

References

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