

# Taking wood through the digital transformation

## Abstract

Establishing digital transformation at the top of their priorities, this industrial plant has become a benchmark in the Spanish Industry 4.0. With digital transformation as an essential challenge and goal in this traditional industry, Sonae Arauco employs about 150 people and has achieved several distinctions and recognitions for its work in digital transformation.



## Introduction

In an industry with many difficulties to move towards digitalization, this company has developed and implemented a strategic roadmap to move forward from the traditional model to a digital one, steps that are allowing an integral transformation of the organization, the company's main project and goal.

Digital manufacturing, implementing a digital platform within the framework of Connected Industry 4.0 to increase efficiency and reduce costs in the main areas of the industrial plants (production, maintenance, quality, logistics and management) based on IIoT (Industrial Internet of Things). Customer experience, for a better understanding of the customer's needs. Digital workplace, increasing collaboration and agility. Talent management, through a technological platform capable of exploiting collective data.

## Challenges

For Sonae Arauco, two challenges clearly stand out in the industry.

First, the industry demands high standards of quality processes in manufacturing being their center point consumer's satisfaction. Second, to reduce the impact that the sector activity generates on the environment and moving towards a more sustainable industry.

For the company, digital transformation becomes a key aspect to address the main challenges mentioned above and to successfully meet these topics.

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Digitization throughout the production process thanks to the Internet of things (IoT) and Machine Learning (ML), along with the Integration of Industry 4.0 with Lean Manufacturing is part of the company's strategy

As a company, the first challenge they must face in the industrial field is to satisfy the

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demand of individual customers, while maintaining the cost of mass production. To achieve this, it seems clear that they must greatly favor their flexibility without compromising (or doing so in the least, failing that) costs. And it is precisely here where Industry 4.0 comes into play, a term that we could easily define as the ability to use data in real time to connect people, objects and systems with the aim of making production processes more efficient and, consequently, increase the competitiveness of companies.



## How will the problem be solved?

Continuing in their own digitalization path, Sonae Arauco has created a system to predict the best combination of parameters in the process of wood panels production, which is expected to culminate in a reduction of defects, down to a level of zero defects.

Through advanced predictive analysis systems, they aim to anticipate defects in the production of wooden boards, reducing the waste of raw materials and energy consumption associated with processes.

This project, called the Zero Defects 4.0 project, has been nominated for the 2020 EIT Awards (European Institute of Innovation and Technology), in the Innovators category, which recognizes the development of special products and services with a significant impact for a sustainable future. In addition, the production of wood panels in the company incorporates several of the principles of the circular bioeconomy, which includes also extension of the life cycle of materials (promotion of networks recycling),

recovery of by-products and waste (production of new solutions from waste / by-products) and self-awareness and social involvement.

Therefore, using data from the industrial process, itself, this Zero Defects 4.0 program will not only reduce compliance incidents by increasing the quality of the panels produced, but will also achieve the highest possible efficiency of the resources used, by reducing waste.

## References

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