

Success Story

Optimizing the production facility towards digitalisation and automation

CoffeeRoots Cantata



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Company description

CoffeeRoots Cantata is a vertically integrated hot beverages group carrying the world's broadest range of premium coffee and tea products. The group develops value-added private label assortments for partners in over 30 countries with inhouse manufacturing.

Within CoffeeRoots Cantata, the coffee roasting expertise of the group goes back to a modest family business established in 1907 in Antwerp, Belgium. For more than a century, the focus has been on roasting artisanal coffees.

Today, CoffeeRoots is the R&D and manufacturing heart of the CoffeeRoots Cantata group. The coffee is still being roasted according to traditional methods and recipes, even though the company also expanded into new product lines beyond coffee, including teas, nutritional products, hot chocolates and other beverages.

The logo for CoffeeRoots, featuring the word "coffee" in a cursive script and "roots." in a bold, sans-serif font, with a horizontal line underneath.

Motivation

Capacity constraints due to the limited space and an increase of customers and product variants stands in the way of further growth of the company. As well as the lack of a performant IT- system.

Therefore, the decision was made to invest in a new ERP and MES-system and to move forward to more digitisation and automation. CoffeeRoots applied to the SME support programme with the aim of finding ways to optimize their product flows of their production environment and to evolve towards a more digitized paperless production process. Furthermore they wanted to invest in automatic data-capturing to optimize and control their product-and production parameters in function of changing (environmental) conditions.



Analysis and technical solutions suggested

Before starting to digitize the production, a thorough production and information flow analysis was performed to identify bottlenecks and detect potential opportunities for improvement. This information also helped to establish a new robust and scalable way of working which

maximizes the potential impact of digital production technologies.

The first opportunity for improvement was to separate storage and production areas for a better product flow. Also, investing in tracking & tracing of all units will lead towards accurate stock-levels and a better production overview.

The analysis also highlighted the need for a suitable data architecture to be able to support the soft- and hardware systems which will fulfill the tasks of capturing and storing data from the production floor. This data is used for monitoring purposes and further analytical services, like predictive maintenance and anomaly detection. At this moment there are

production metrics which are captured but stored locally on machine or on paper and metrics that are not captured due to legacy systems.

Another conclusion was that the current ERP-system did not have sufficient functionalities to cope with the complexity of CoffeeRoots' business activities.



Result

These challenges and opportunities were summarized in a customized digitisation roadmap for CoffeeRoots.

Interview

How could COTEMACO support you?

Via the SME support programme, COTEMACO engages with SMEs from the automotive and food sectors through field labs. These regional field labs in the Netherlands, the UK, Belgium and Germany are showcasing key production steps in the automotive and food industries, in order to tackle current low sectorial awareness and knowledge gaps. The field labs will exchange knowledge on different manufacturing tasks, such as handling and (un)loading.

Within the COTEMACO programme, coffeeRoots was supported in the process to future-proof their current production environment by leveraging the potential of digital production technologies. A digitalisation roadmap was developed to guide them in this journey.

What was implemented and what are the benefits?

Within the COTAMACO program, a potential design of the new CoffeeRoots production environment was developed. The proposed solution was based on state-of-the-art facility design methodologies and validated by making use of the potential of digital models of the proposed solution.

The proposed solution is flexible enough to handle the wide range of products and variability of the customer demand. The implementation of the activities on the roadmap will increase the performance of the production system significantly and is scalable and flexible enough to handle future market requirements.

Were your expectations fulfilled – technical implementation?

Thanks to the elaborate research by the team of Flanders Make in the frame of the Cotemaco project, CoffeeRoots is confident that they will be able to cope with the increasingly challenging market requirements.

The roadmap developed by the team of Flanders Make provided them with very interesting insights and concepts to future-proof their production activities in Belgium.



What is COTEMACO?

The project, which is an initiative of Interreg North-West Europe, aims to support around 60 SMEs in the automotive and food manufacturing industries with so-called „test environments“ and to encourage them to integrate collaborative robotic systems and digital technologies into their business. Accordingly, in addition to increasing production flexibility, the relocation of production abroad will be curbed and the number of jobs in manufacturing increased, which will generally lead to an improvement in the competitiveness of the companies involved.

In the project new technologies are implemented in application examples - the aim is to move from the prototype in the laboratory environment to the transfer to production, taking into account the legal situation and certifications.

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www.robot-hub.org/cotemaco

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