



Digitalization of FUCHS's Manufacturing Process

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FUCHS is a global group of German origin that has been dedicated to **the development, production, and sale of lubricants and related specialty products** for all types of applications and sectors for over 90 years. With approximately 55 companies and nearly 6,000 employees worldwide, the FUCHS Group is the leading independent supplier of lubricants on the market.

With this project, FUCHS aims to digitalize its Heijunka manufacturing process, based on the Businessmap platform and a support application.

The Challenge

The project proposes the digitalization of FUCHS' production process, transforming the traditional model into an automated system that utilizes the Businessmap platform and a support application. The goal is to thoroughly understand the manufacturing process of a product and translate it into Businessmap templates and boards that accurately define the workflow.

This digitalization must integrate production orders, calculate manufacturing and packaging dates according to a set of established constraints, and enable faster, more adaptive planning.

The Project

The main tool of the project will be a support application specifically designed for managing and integrating production data. Some of the most important features include:

- **Loading and integration of the logistics box:** The application will allow users to upload an Excel file with production orders for the coming days, facilitating future planning.
- **Automatic planning of production orders:** The planning proposal is generated automatically, assigning start dates for both the blending and packaging phases. This planning is based on various variables that determine the order of production and calculate a “cost” for each order, considering operational factors and constraints, such as factory downtime (from 10:00 p.m. to 6:00 a.m.).
- **Manual control and visualization via Gantt chart:** The planning is displayed in a Gantt chart, where planners can manually adjust orders according to current needs, such as unexpected staffing issues.
- **Master data management:** The application allows for the management of master data, ensuring consistency and reducing errors in the production environment.

To automate processes, several backend processes will be developed to act as a bridge between Businessmap and the support application:

- **Automatic creation of production order cards:** Order cards will be generated in Businessmap a few hours before production begins, based on predefined templates.
- **Quality control:** When an error is detected in a product during lab testing, the system will automatically create adjustment cards until the desired result is achieved.
- **Automated card movement:** Cards will move between columns based on the planning date, enabling visual tracking of the process.
- **Delay and KPI calculation:** Delays will be calculated by comparing the planned start time with the actual start time, allowing the evaluation of process efficiency.

In Businessmap, templates will be created for each product, defining the workflow from start to finish. A board will also be created for each role so that each operator sees only the cards relevant to their responsibilities.

These cards will be grouped into stages, providing the shift supervisor with a global view of the product's manufacturing progress. Additionally, rules will be defined to automate actions at each stage of the production process.

Results

With the implementation of this solution, FUCHS expects to achieve substantial improvements in production management. The digitalization of the Heijunka process will:

- **Reduce inefficiencies of the manual process:** Automation will eliminate common delays and errors, resulting in a more streamlined workflow.
- **Automate the planning of production orders:** Automatically generating the planning will improve accuracy and speed in decision-making.
- **Monitor delays and evaluate process performance:** Real-time tracking of delays and inefficiencies will enhance data-driven management.

Overall, the project will not only optimize FUCHS' production process but also provide the company with a comprehensive view of operations, with access to real-time data and the ability to respond to changes and incidents with greater flexibility and accuracy.

