

Sales Policy Huber+Suhner AG

A data-driven and simulation-based approach for evaluating the future length-related sales policy strategy

Student



Roger Rinderer

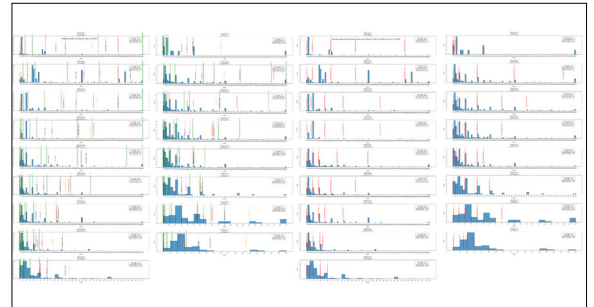
Objective: The production site of Huber+Suhner AG in Pfäffikon ZH manufactures a broad range of power and data transmission cables. The company aims to enhance its production process to improve order fulfilment efficiency. Currently, the variability in cable lengths from the manufacturing process can lead to challenges in meeting precise order specifications, which sometimes necessitates partial order fulfilment, adjustments, or re-production. Additionally, the absence of standardized length limits can result in orders of varying cable lengths, adding complexity to the process. To support the complex order fulfilment, an extended SAP APO functionality is utilized. With an upcoming ERP migration, the company seeks to review and optimize the current order-assignment process. Evaluating a policy change to sell cables exclusively in standardized lengths is part of this initiative.

Approach: To assess the impact of transitioning from flexible to standardized cable lengths, a discrete event simulation model was developed. The model's focus and process logic were defined by identifying specific impacted areas and examining the rules incorporated in the current SAP APO functionality. To determine meaningful standard lengths for the future scenario, a K-means clustering algorithm was applied to historical sales data and internal spool capacity restrictions were considered as well.

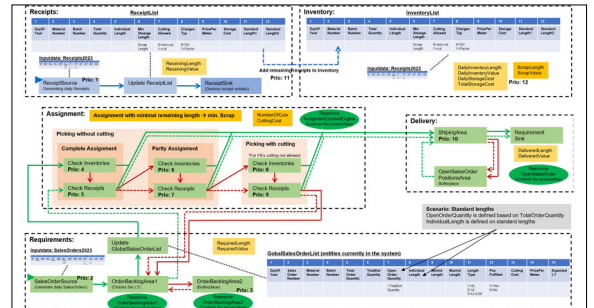
Result: The discrete event simulation model, applied to 2023 data, replicates Huber+Suhner AG's assignment process of customer orders to cables in-stock and incoming from production on a daily basis. By simulating two scenarios of "mixed lengths sales" and "standard length sales", the model allows the measurement of expected impacts on cutting and scrap costs. To derive a final decision on the future

sales policy, the standard lengths definition process will have to be extended to also incorporating production data. Additionally, to support the future decision-making process, specific recommendations for model extension opportunities and further quantitative analysis were provided.

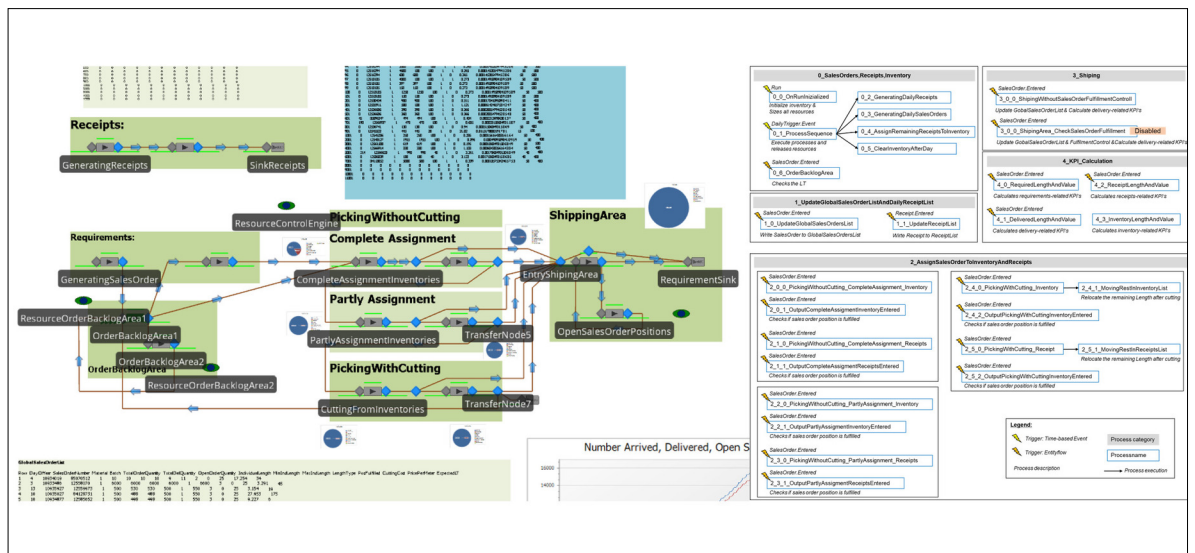
Snapshot standard-length definition process
Own presentation



Formalized model
Own presentation



Implemented model layout of the simulation model and the process map of the implemented process logic
Own presentation



Advisor

Prof. Dr. Katharina Luban

Subject Area
Business Engineering,
Data Science

Project Partner
Huber+Suhner AG,
8330 Pfäffikon, Zürich

