A TOOLBOX FOR DATA-DRIVEN BREWING OPTIMIZATION

Data Driven Process Optimization Using Machine Learning In The Beverage Industry

DAPRO

Motivation The brewing industry is heavily dependent on the price and quality of the natural ingredients. While prices for the ingredients are rising and climate is getting more unpredictable affecting the growth of ingredients, customers still expect a high-quality product for a price kept low by competition. Meanwhile the industry is already collecting a huge amount of data.

Solution **Reduce the effort needed to access the insights** hidden in the already collected data. Brewers will be enabled to more **easily create analytical processes** to take varying quality of ingredients into account for their recipes, become more carbon neutral by shifting energy needs towards times where natural energy production peaks, reduce downtimes of their bottling line and potentially even solving yet unsolved problems with complex bio-chemical process steps.

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VLB Berlin

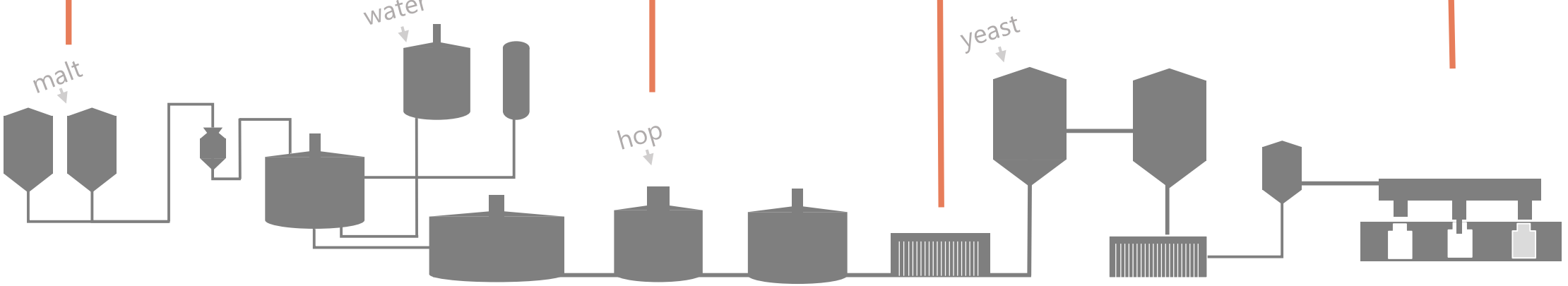
Brewing process and its diverse use-case landscape

Malt Yield Optimization

Prediction of the alpha content of hops

Forecast of the energy demand

Forecast of the truck volume



Predictive Maintainance

Prognosis of the filter life

Prognosis of filler-relevant faults

Toolbox overview

Problem Catalog - Selection of the analysis technique and suitable data

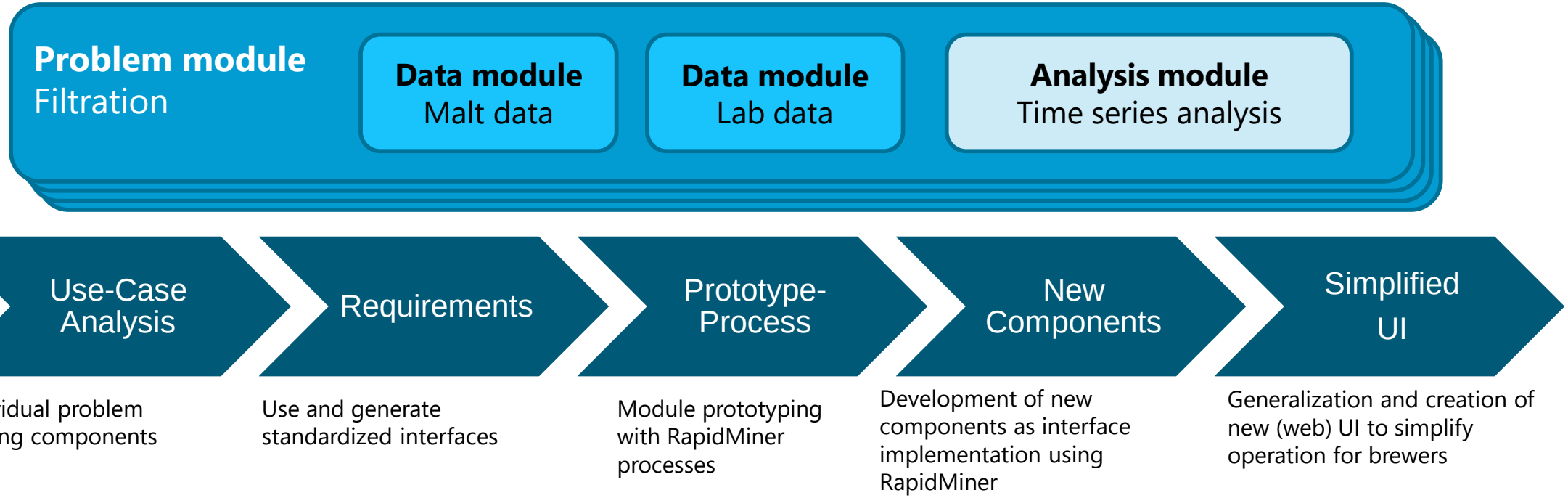
Data Aid - Access and preparation of required data

Analysis Configurator - Adaptation of analysis modules to current problems

Validation Wizard - Help with the creation and application of meaningfulness tests

Deployment Manager - Commissioning of the analysis process

Model Understanding Wizard - Interpretation of the analysis models in relation to process behavior



From individual solution to general problem solving