Meat Value Chain Optimization with AI

Service for Optimal Cutting & Processing Solutions
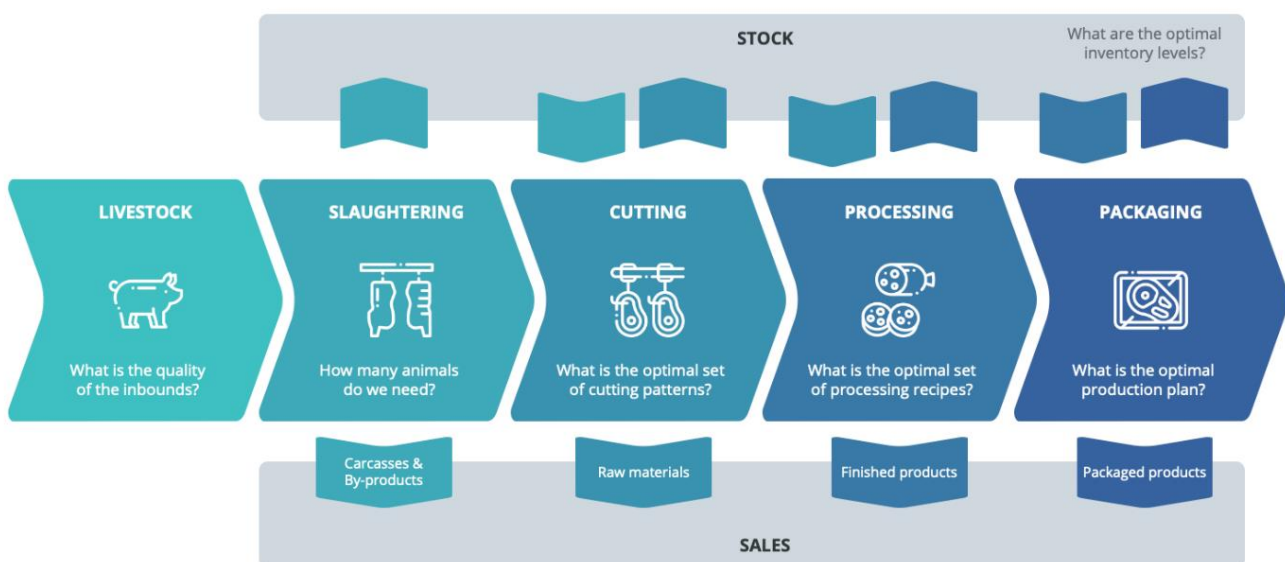
VÖLUR

Content

Overview

Völur AS

Völur provides tailored value chain optimization solutions based on AI for the meat industry. Helping customers create value by using less resources and getting the most out of every animal.

The problem we solve

The meat value chain is an extremely complex industrial chain, with trillions of possible production combinations at any given time. Each day, critical decisions are made to be able to satisfy current and future demand with the use of animals.

Because of the complexity in the value chain, especially driven from possible cutting and processing combinations, it has not been humanly possible to make optimal decisions. Leading to ineffective production, overstocking of materials, food waste, and utilization of more animals than what is required to satisfy market demand.

The service we offer

With advanced AI technology developed by Völur, it is now possible to make optimal cutting and processing decisions, leading to value creation through a higher utilization of animals and available cuts.

With the disruptive AI technology, Völur is giving the meat industry new real-time insights, production plans, what-if simulations and recommendations on the most optimal cutting and processing solutions. Enabling better and optimal decision-making plans at strategical, tactical, and operational levels. Making the industry both more sustainable, and more profitable.
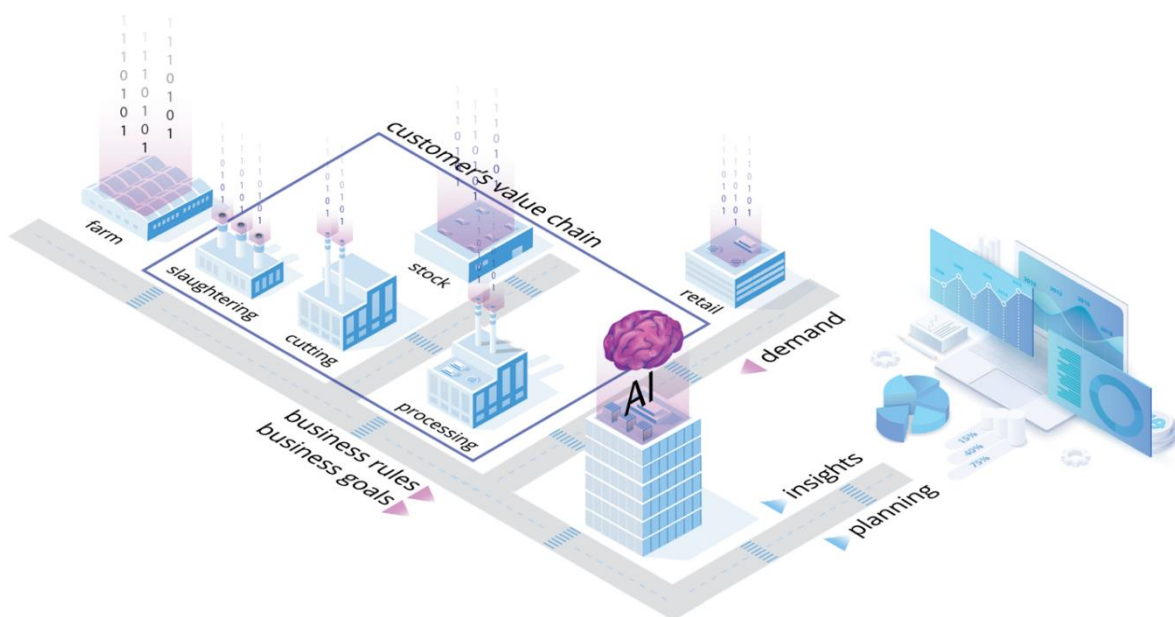
The value we bring

The effects from our system have already shown a 10% optimization performance, meaning our customers are able to utilize the animal in a more optimal way based on market demand.

This is leading to multiple beneficial outcomes, such as reduced purchasing, inventory and production costs, waste reduction and give the ability to gain an increased market share.

~10%
OPTIMIZATION
UP TO 10% BETTER USE
OF RAW MATERIALS

Problem

Optimal decision making

Making optimal utilization of resources and effective processes through the value chain is a continuous challenge. From slaughtering the optimal number of animals that are required by the demand of finished products, to executing the right production cuttings, processing recipes and manufacturing plans to deliver market demand. All without leading to overproduction of undesired goods and waste, non-optimal inventories, excess of purchasing costs, lower product quality and unnecessary high CO_2 emissions.

To be able to satisfy demand of finished goods while maximizing profits throughout the value chain, it is crucial to utilize resources optimally. To be able to do so, there are three main challenges that need to be addressed.

1

Value chain complexity
The value chain is a constantly moving set of gears, where isolated decisions have consequences both up- and downstream. With variables and parameters creating trillions of possible combinations at any point of time, it is crucial to have a system that can comprehend the complexity with a clear understanding and visibility of the consequences.

2

Uncertain demand & unbalanced inbounds of animals
Forecasts are always uncertain, and inaccuracies have an enormous impact on production effectiveness and profitability. At the same time, the value chain is in a constant change based on demand, inbounds of animals and cutting & processing possibilities, creating a high risk of building up undesired stock of meat when satisfying short- and long-term demand.

3

How many animals & what is the optimal cutting level?
Finding the correct quantity of animals and how to optimally utilize them through cutting and processing, based on company constrains, business rules, supply of animals and market demand. Making optimal value chain decisions that have a positive impact on production costs, demand satisfaction, inventory levels and profit margins.

Solution

Optimal number of animals needed for a given demand

Giving the **optimal number of animals** to slaughter based on market demand, both today and in the future

Optimal cutting and processing decisions

Making optimal cutting and processing decisions, leading to value creation through a **higher utilization of animals and available cuts**.

Value Chain Representation

Build an accurate representation of the constraints and *know-hows* along the value chain. Showing how all materials and processes are interconnected, and to enable a foundation for deploying tailored **Advanced Analytics** and **start-of-the-art AI** optimization models.

Data-driven production

Leverage the value chain complexity and uncertainty in supply and demand, while **enabling data-driven decisions** throughout the value chain.

Build-up inventory plan

Making **optimal value chain decisions** that have a positive impact on production costs, demand satisfaction, inventory levels and profit margins.

Optimal production plan

Executing the **right production plans** based on possible cuttings, processing recipes and manufacturing capacity, to deliver market demand.

Push-inventory recommendations

Push-inventory recommendations based on market demand, animal supply and all production possibilities

What-if simulation interface

Provide a flexible framework **to simulate *what-if* scenarios** to anticipate undesired situations, while triggering advantageous settings to increase competitiveness.
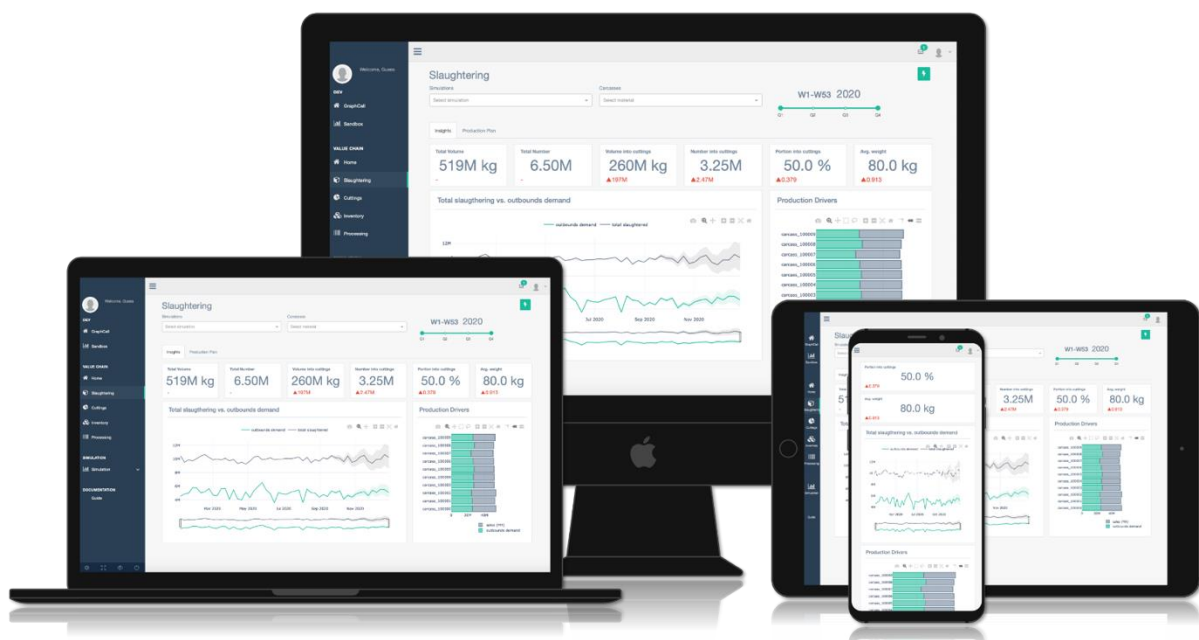
Approach

Analytics are essential for decision-making, and more **Advanced Analytics** and **Artificial Intelligence** tools and techniques are required as competitiveness and performance pressure increase. These tools support decisions at any given stage throughout the value chain and at any given time. Our process to provide this support begins by exploring and exploiting the customer's **data**, which is an essential asset and the main foundation for the rest of the components in this hierarchy. **Information** can be extracted through iterating with the data to identify how materials and processes are interconnected with each other. This information can then be transformed into business and process **knowledge**, and Völur wrap it all together, represent it, and transfer it to the customer in the shape of insights and **wisdom**.
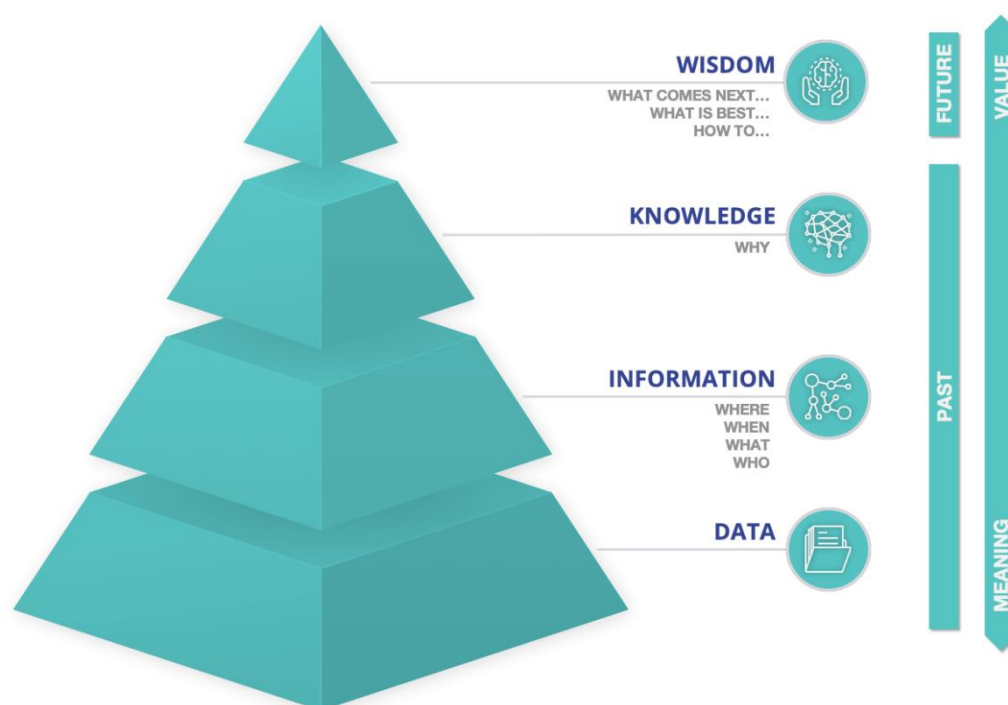
This methodology is essential to identify and isolate problems, formulate hypothesises and extract understanding. All to make the right decisions at any given stage through the value chain and to create beneficial outcomes from optimal decision making.

Implementation
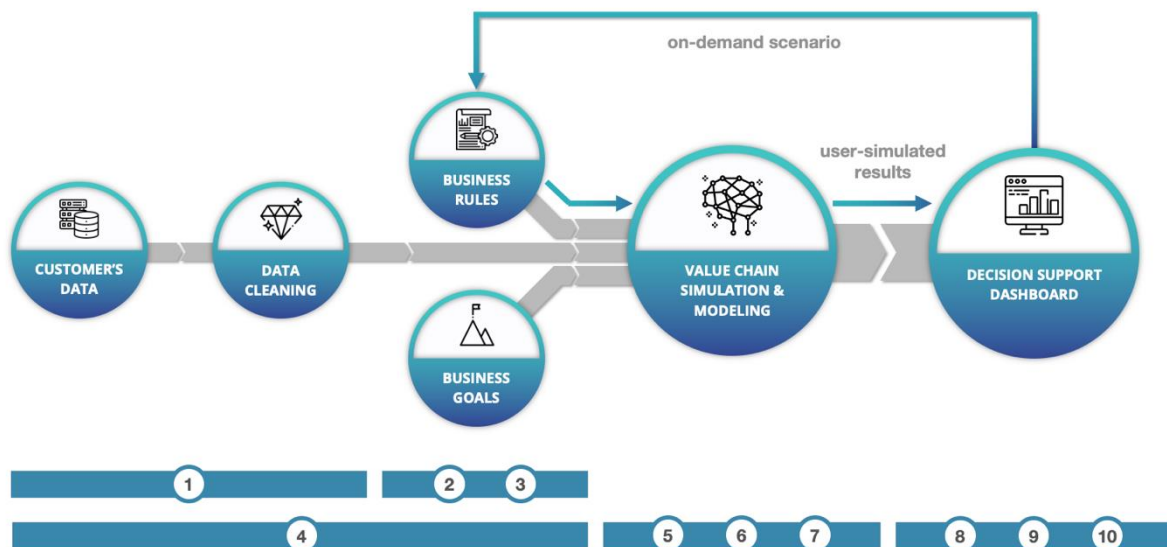
Through the defined 10 step process, Völur is implementing a tailored optimization model for the customer.

1. Data quality assessment.
2. Define baseline scope & timeline, requirements, business rules, and business goals.
3. Interaction with decision-makers and end-users to assess customer needs.
4. Design & implement data stream into Völur's data warehouse.
5. Deploy generic data infrastructure.
6. Tailor infrastructure, optimization model and dashboard based on customer needs.
7. Test beta version and training of system.
8. Deploy final version.
9. Showcase & Training.
10. Support & maintenance.

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Contact

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