

Co-Product Valorization: Towards Industrial Implementation of Innovative Food Processing Concepts for 100% Utilization

4rd Fish Waste for Profit Conference | 9th – 10th June, 2022
Session 2 - Technology Innovation

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BAADER 

Let's Grow Together

June 8th – 10th

Icelandic Fisheries Exhibition – Hall 2



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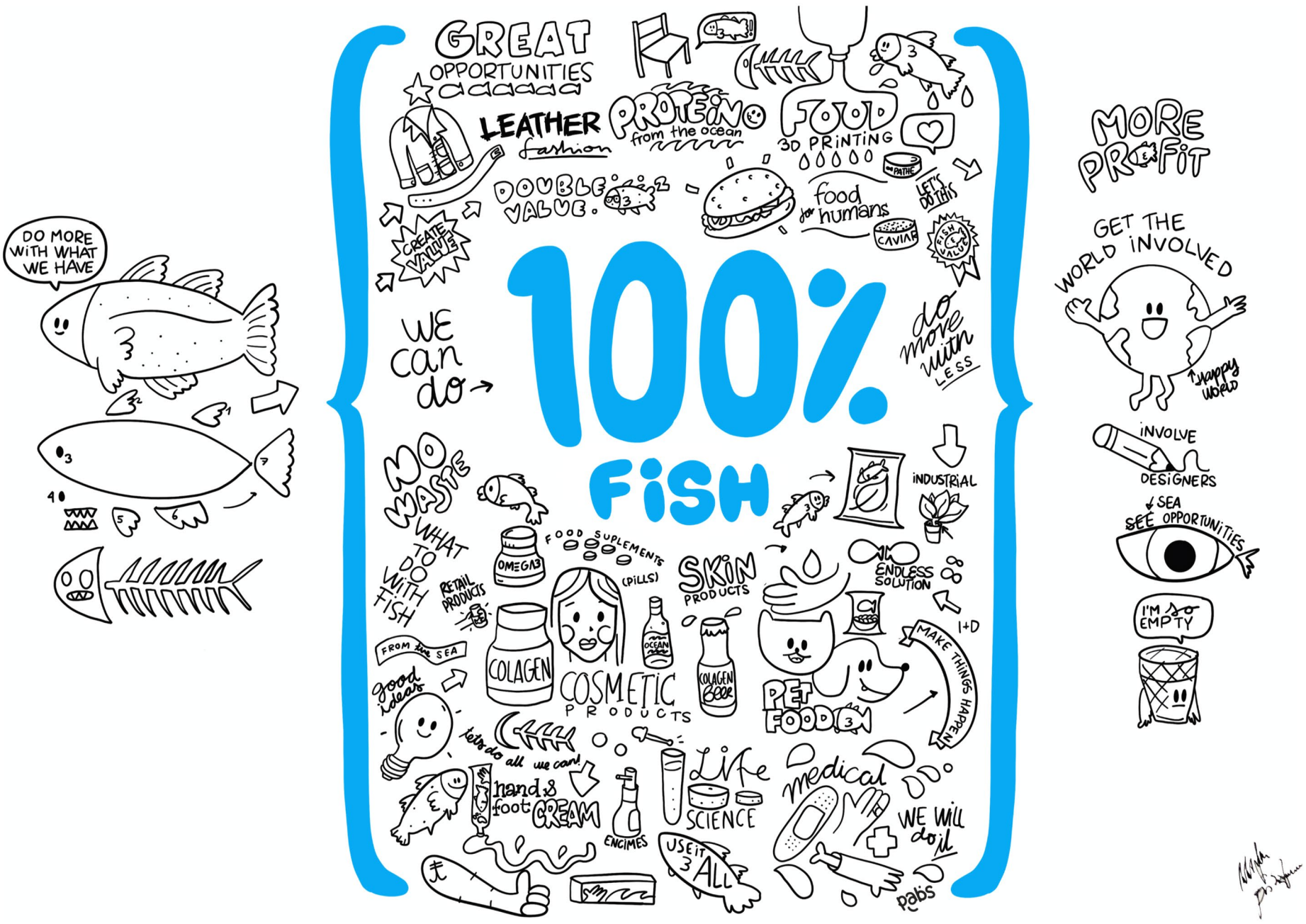


Food Processing Machinery

BAADER

We Innovate Food Value Chains





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Agenda

Joint Project by BAADER and GEA Westfalia Separator

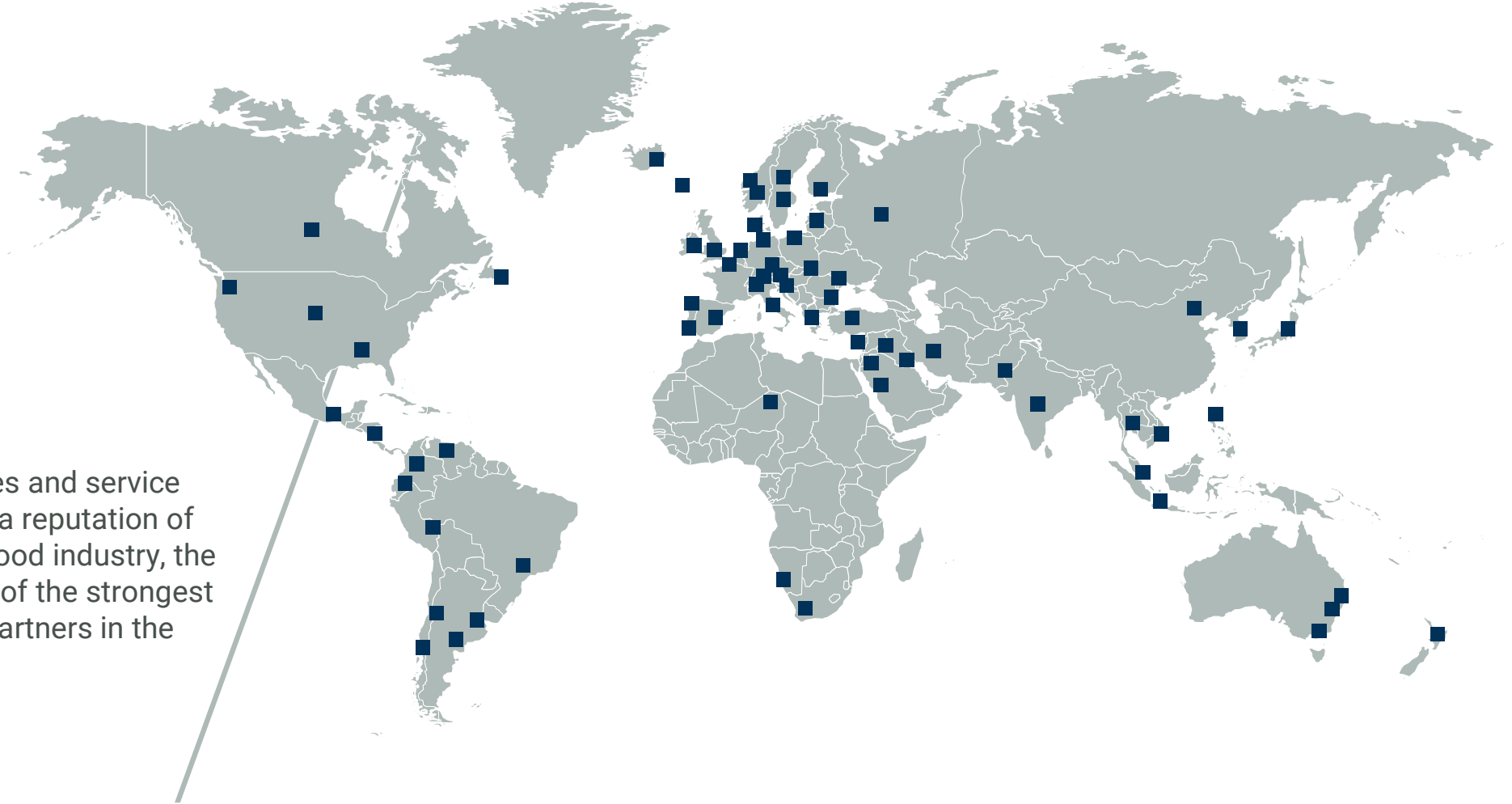
- Who We Are.
- Potential for higher added Value
- Adding Value to Co-Products
- Conclusion and Perspectives
- BAADER Mission



Our Global Presence



With own offices, representatives and service stations all over the world, and a reputation of high-quality equipment for the food industry, the BAADER Group constitutes one of the strongest and most innovative business partners in the global food processing market.





Fish Processing

Through excellent quality, top service and excellent food safety services for our customers, we generate the maximum benefit.



Poultry Processing

We provide a full range of poultry processing solutions focusing on animal welfare, biosecurity, food safety and sustainable business.



BAADERING

Our unique method for separating soft and solid offers a wide variety of applications from desinewing, meat recovery to recycling



Business Solution

Weighing, grading and business software solutions – BAADER is a full system supplier.



Digitalization

Through our data capabilities, we use data to interpret and forecast along the entire food value chain. In close collaboration and partnership with our customers we are taking further major steps toward greater efficiency, traceability, transparency, profitability, and sustainability.



Heading and Gutting Solution



Harvesting



Stunning/Bleeding



Chilling



Gutting



Cleaning/ Descaling



Heading

Filleting Solution



Filleting / Splitting



Trimming



Pinbone Removal



Skinning



Portioning / Slicing

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Focus on optimal Main Product Handling

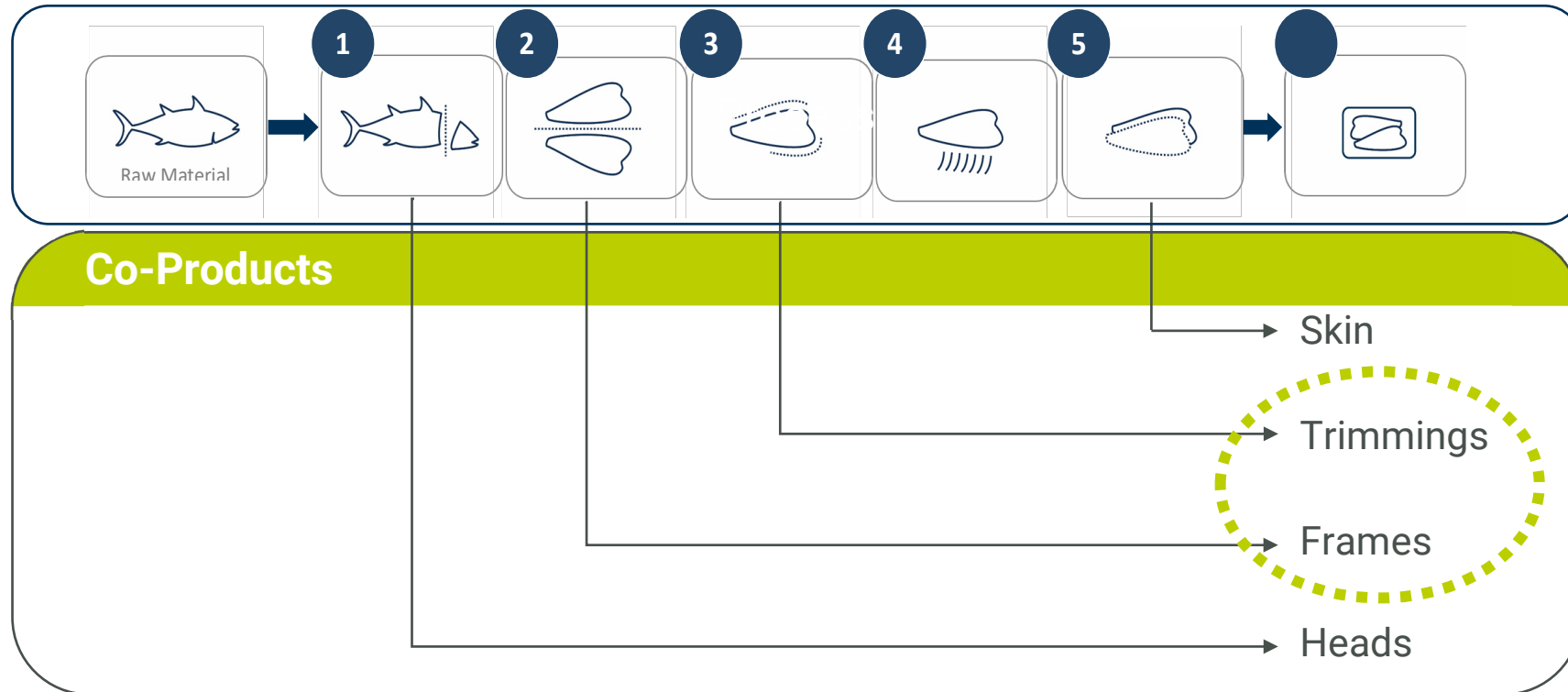
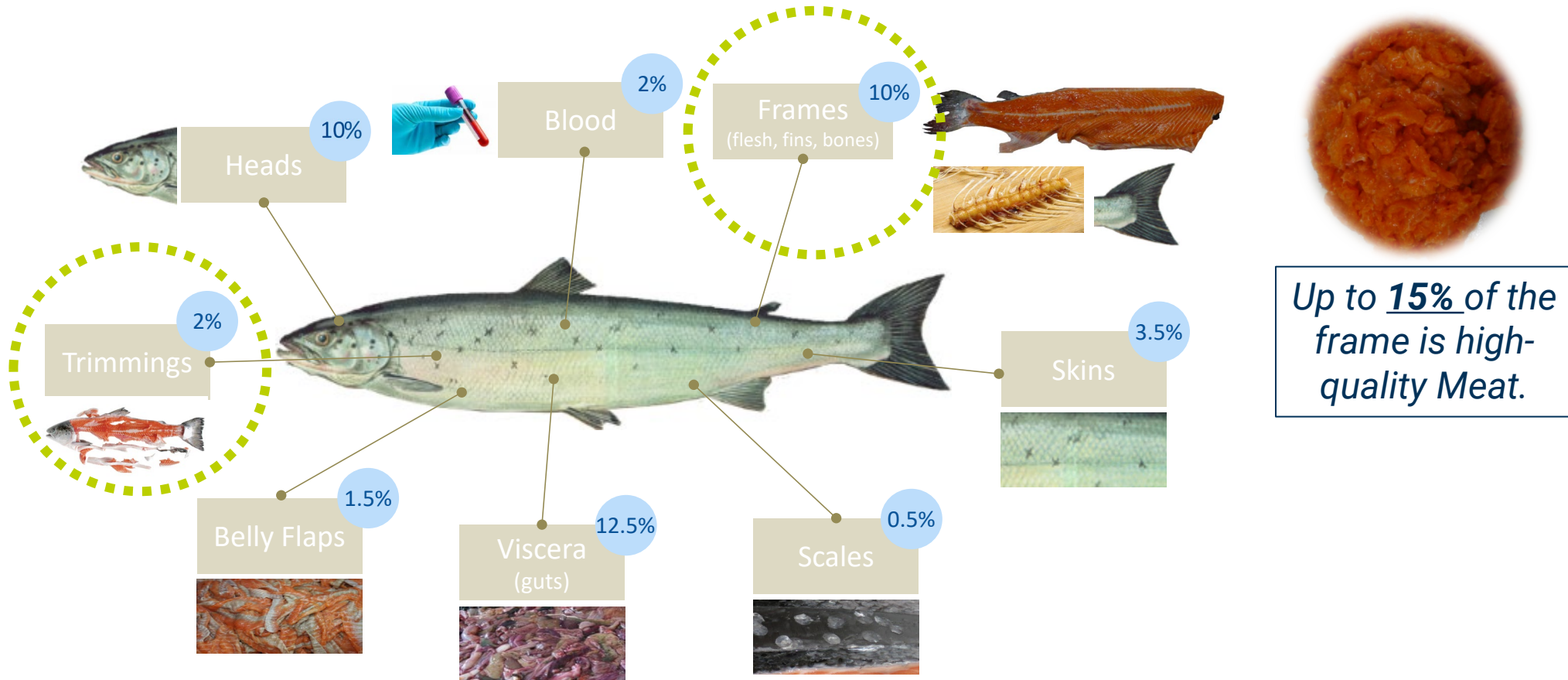


Figure 1: Current Fish Processing Process from heading to packaging. ①: Heading; ②: Filleting; ③: Trimming; ④: Pinboning; ⑤: Skinning; ⑥: Packaging.

The Potential – Striving for 100% Utilization

Frame/Trimmings: Areas of high-quality, yet *underutilized*, Meat

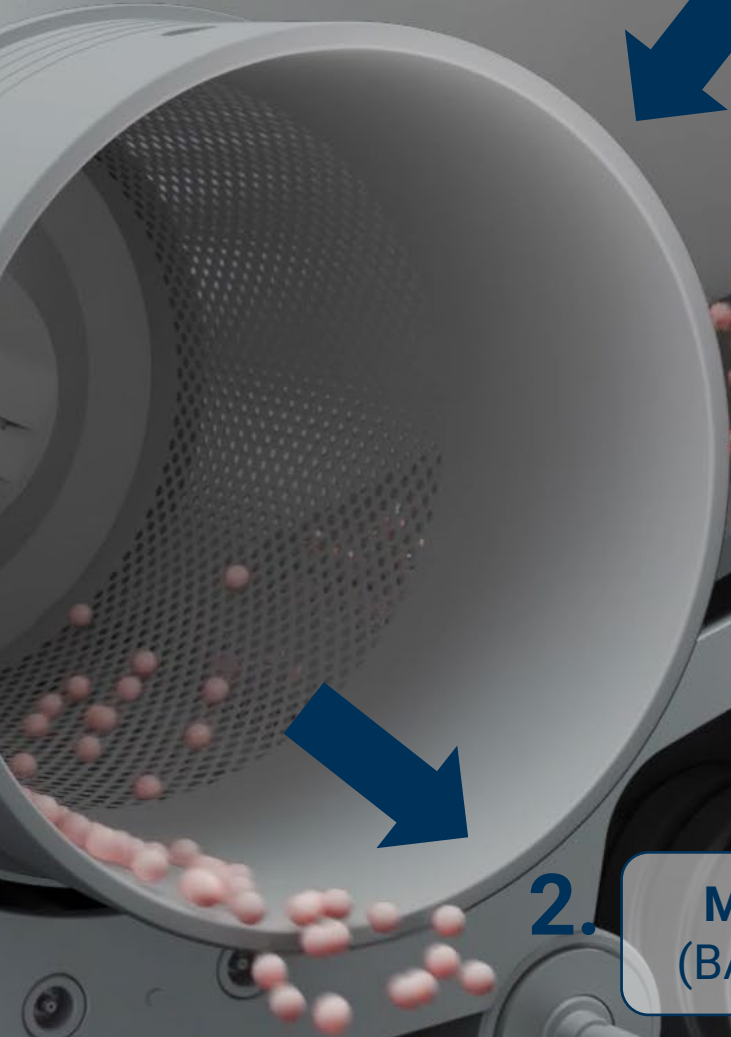


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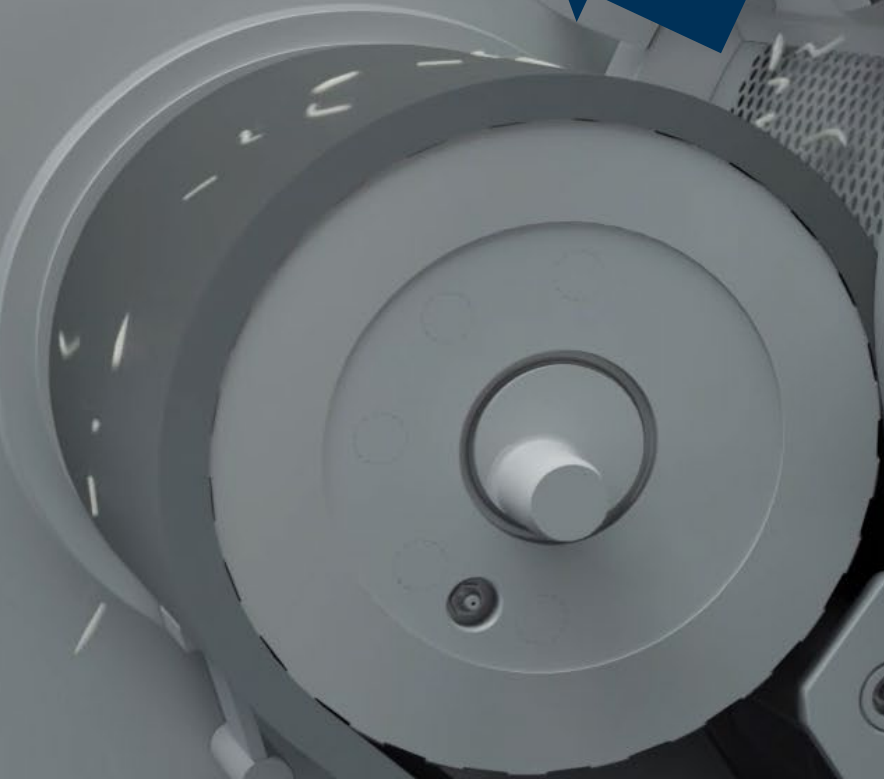
1. Raw Material



**2. Minced Meat
(BAADER Meat)**

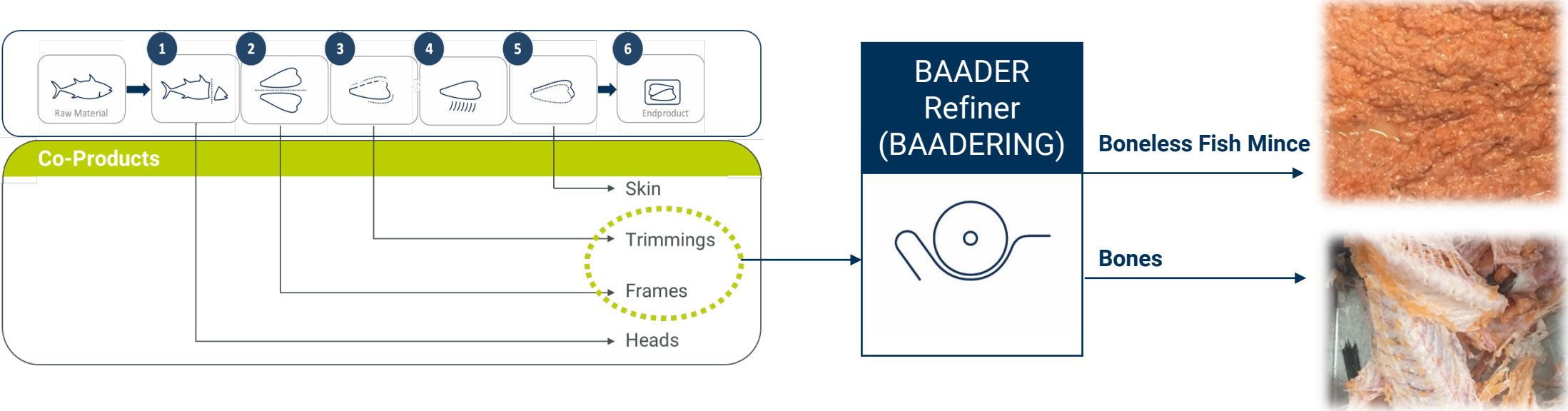


3. Bones



The Potential – Striving for 100% Utilization

Current Process – Producing TWO Endproducts



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Adding Value to Co-Products

Expanded Process – Producing **THREE** high-quality Endproducts

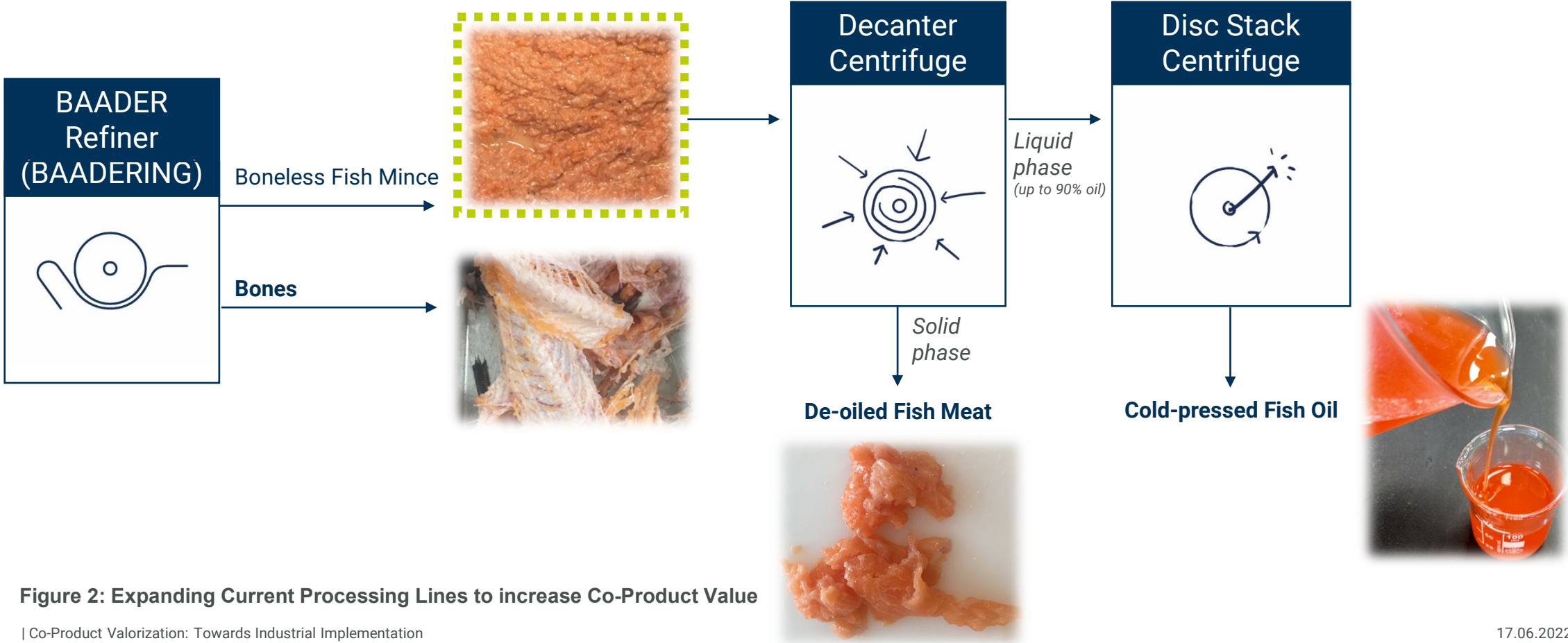
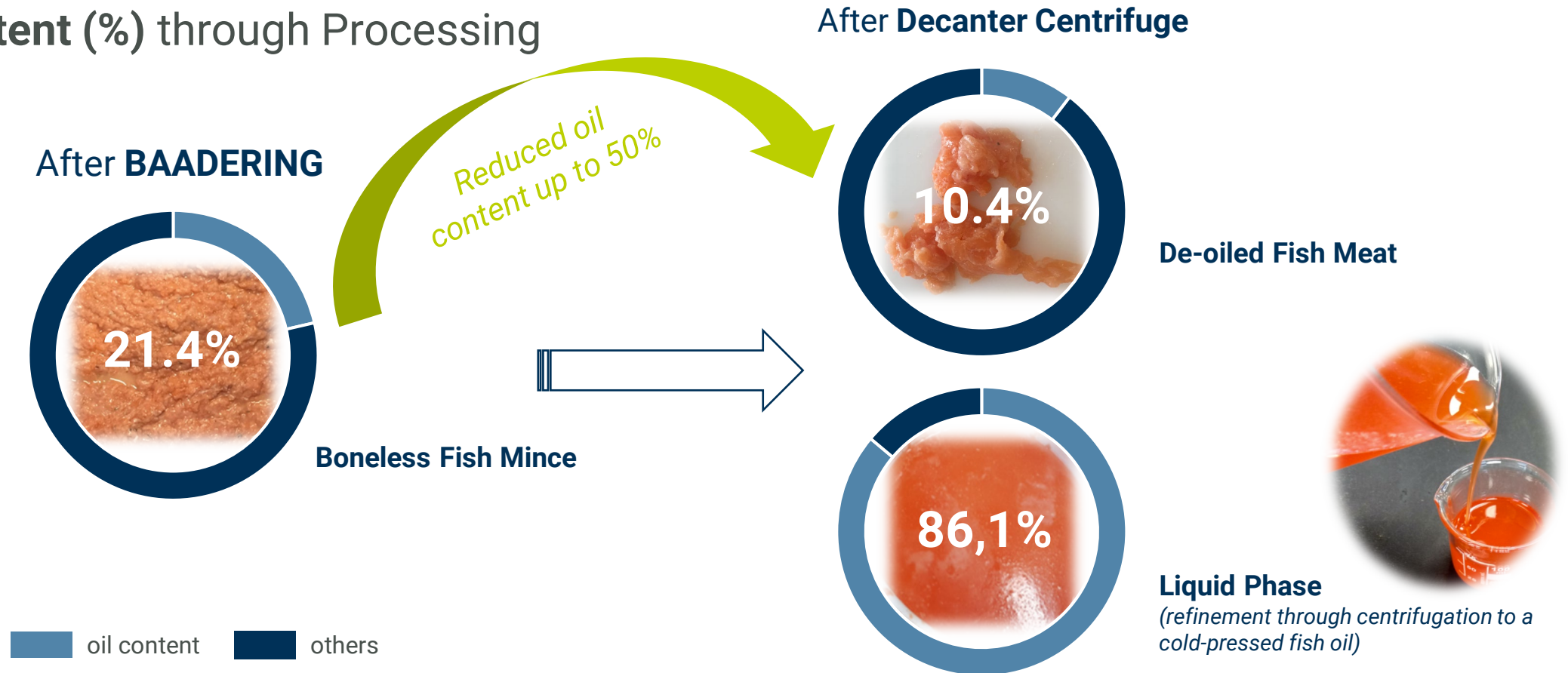


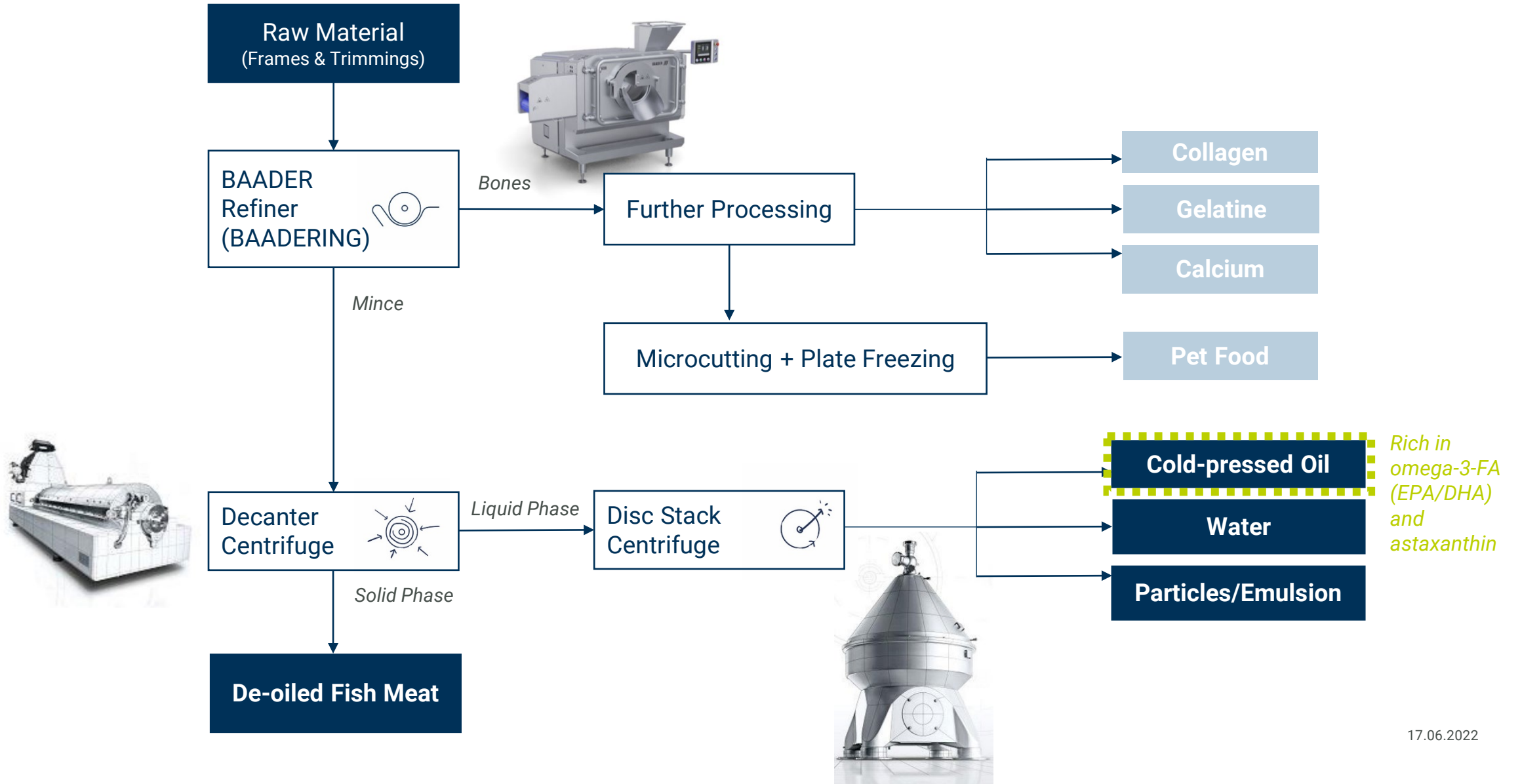
Figure 2: Expanding Current Processing Lines to increase Co-Product Value

Analytical Results

Oil Content (%) through Processing



Concept for an Industrial Implementation



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An Industrial Implementation of this Process can contribute to a **100% Fish Utilization**

- **This innovative Joint Project proved that ...**
 1. A complete Utilization of Co-Products is possible
 2. Co-Products can further valorized into high-value Products
 3. The Generation of additional, high-quality Products viably
- **This 3-Step-Process is feasible for an Industrial Implementation with well-known technologies**

NEXT STEP **Up-Scaling** – From *Pilot-* to *Industrial-Scale*
→ Test-Center at GEA for *Pilot-Scale* Tests
→ Further Products can be tested

Implementation as an automated, fully-integrated and digitalized Processing Line

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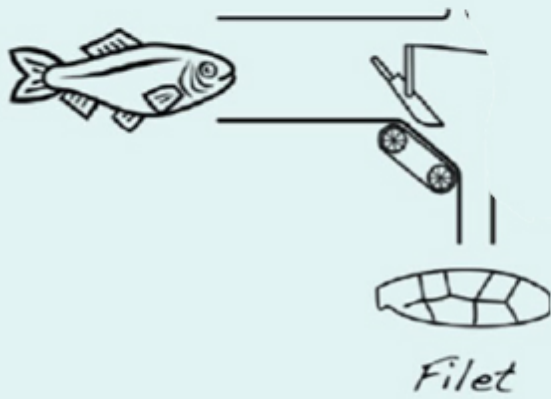


**We need the
processing tech
world to Lead**

THE
INCREDIBLE
*Fish Value
Machine*

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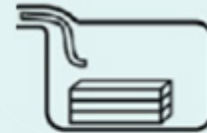
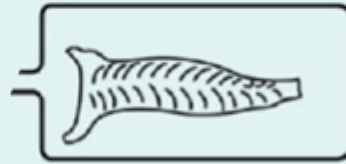


THE
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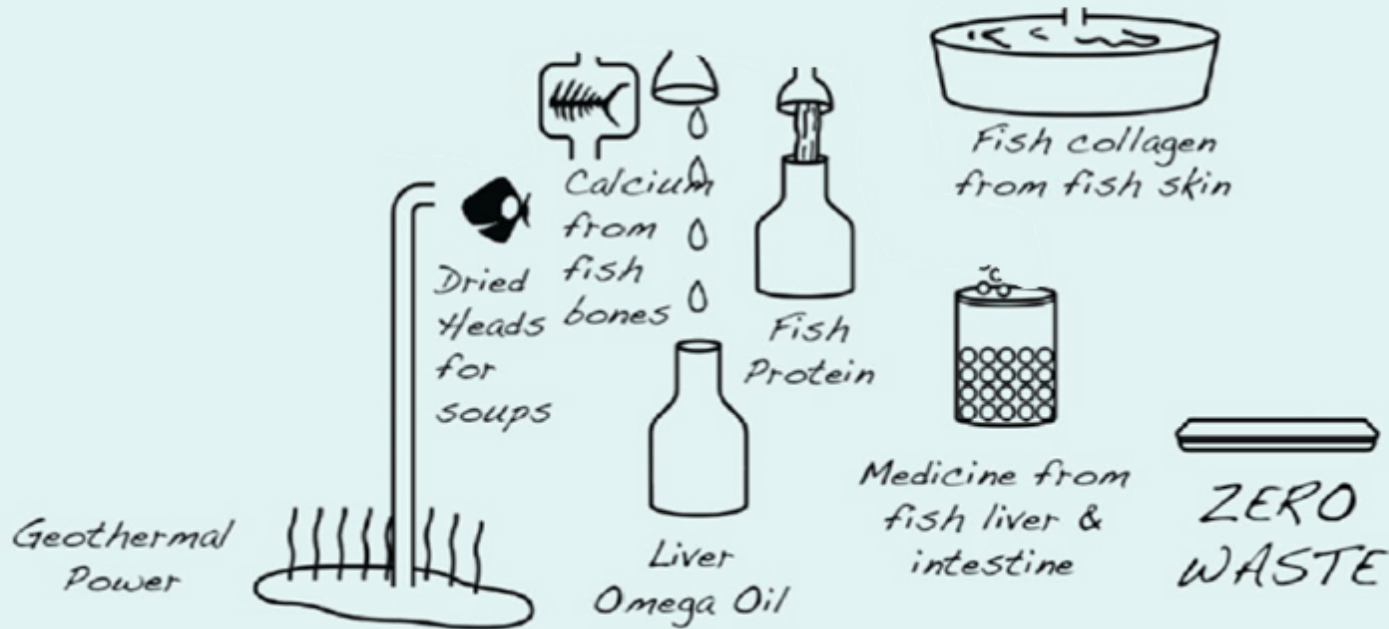
Cod Roes



Fish Leather



*Collagen human
skin replacement
from fish skin*

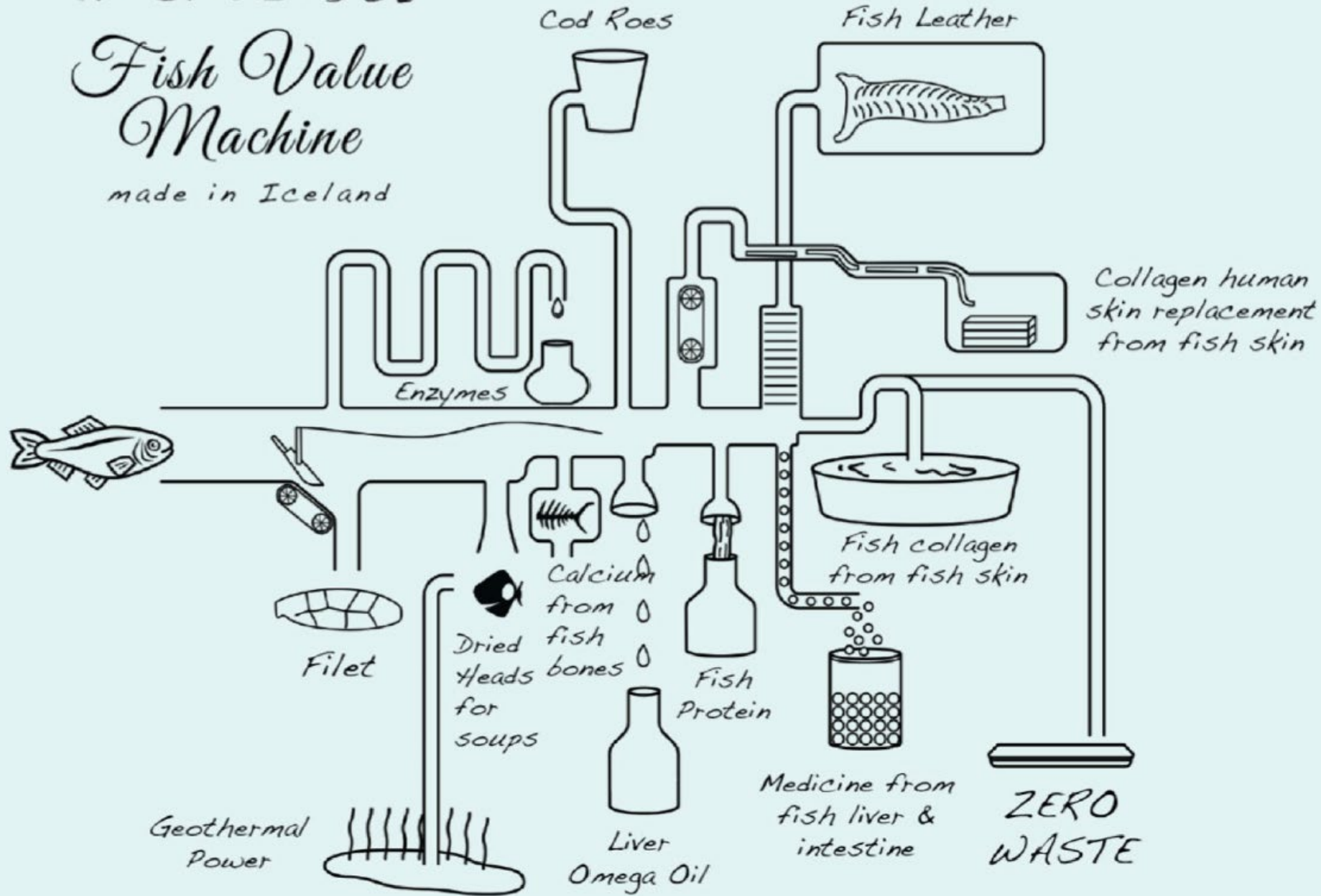




THE INCREDIBLE

Fish Value Machine

made in Iceland



Thank You.



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Let's stay in Touch.



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