

AccelWater



Accelerating Water Circularity in Food
and Beverage Industrial Areas around Europe

WP 10: Networking, Communication and Dissemination: Deliverable D10.10 “AccelWater Knowledge Platform and e- learning modules”

Responsible Partner:	AGENSO
Author(s):	Mariarina Michailidou, Zisis Tsiropoulos
Editor(s):	
Dissemination Level:	Public
Type:	Other
Due Date:	April 30 th 2025
Submission Date:	June 30 th 2025
Version:	1.0



This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 958266.

Project Profile

Programme	Horizon 2020
Call	H2020-LOW-CARBON-CIRCULAR-INDUSTRIES-2020
Topic	CE-SPIRE-07-2020
Number	958266
Acronym	AccelWater
Title	Accelerating Water Circularity in Food and Beverage Industrial Areas around Europe
Start Date	November 1st 2020
Duration	54 months

Partners

Beneficiary		Country	Logo
Agricultural & Environmental Solutions	AGENSO	EL	
National Technical University of Athens	NTUA	EL	
Institute of Communication and Computer Systems	ICCS	EL	
Athenian Brewery S.A.	AB	EL	
FrieslandCampina Hellas S.A.	FCH	EL	
Rezos Brands S.A.	REZOS	EL	
DIGNITY Private Company	DIGNITY	EL	
ProdAl Scarl	PRODAL	IT	
CALISPA SpA	CALISPA	IT	
Associazione Nazionale Industriali Conserve Alimentari Vegetali	ANICAV	IT	
University of Vic	UVIC	ES	
Innovacc Clúster Català de la carn i la proteïna alternativa	INNOVACC	ES	
Mafrica	MAFRICA	ES	
University of Iceland	UoI	IS	
Matís	MATIS	IS	
Útgerðarfélag Akureyringa	ÚA	IS	
Samherji Fiskeldi	SAMF	IS	

Document History

Version	Date	Author	Remarks
1.0	June 30 th 2025	AGENSO	Initial Version

Executive Summary

This deliverable presents the AccelWater Knowledge Platform and its key features. It also provides an overview of the available e-learning modules. The platform showcases the project’s solutions aimed at fostering a water-smart economy and society, targeting both current and future generations of professionals.

Table of Contents

Executive Summary.....	4
List of Figures	6
Table of Abbreviations	7
1 AccelWater Knowledge Platform	8
2 E-modules Overview	12
2.1 E-module: Training with OpenLCA Software (part A)	14
2.2 E-module: Training with Open LCA Software (part B)	15
2.3 E-module: Fish Processing and Aquaculture Demonstration (shorter version)	16
2.4 E-module: Fish Processing and Aquaculture Demonstration (longer version)	17
2.5 E-module: Meat Processing Industry Demonstrator	18
3 Conclusions	19

List of Figures

Figure 1: Accelwater knowledge platform.....	9
Figure 2: Tags list.....	11
Figure 3: Tags per e-module	11
Figure 4: Fish processing & Aquaculture demonstration e-module	12
Figure 5: OpenLCA Software e-module.....	13
Figure 6: Associated tags per e-module.....	13
Figure 7: Training with OpenLCA Software (part A).....	14
Figure 8: Training with OpenLCA software (part b)	15
Figure 9: Fish processing and aquaculture demonstration (shorter version).....	16
Figure 10: Fish processing and aquaculture demonstration (longer version)	17
Figure 11: Meat processing industry demonstrator	18

Table of Abbreviations

Abbreviation	Explanation
LCA	Life Cycle Assessment
LCSA	Life Cycle Sustainability Assessment
LCC	Life Cycle Costing
S-LCA	Social Life Cycle Assessment
KPI	Key Performance Indicators

1 AccelWater Knowledge Platform

The AccelWater Knowledge Platform has been developed as a digital learning and information-sharing environment to support the transition to a water-smart economy and society. The platform is a vital part of the sustainability of the AccelWater project after the completion of its lifetime. This platform is a freely accessible digital tool, available through the official project website, and it serves both as a repository and an educational interface to share project insights, technological innovations, and sustainable practices with current and future professionals in the sector.

The platform was designed to host a series of e-learning modules that are accessible, interactive, and grounded in real-world demonstrator experiences. Through these modules, users can explore detailed technical insights, case studies, and guidelines that facilitate the replication of AccelWater solutions in diverse industrial settings.

Users can explore the platform via the link provided below, while the platform is presented in the figure below (**Figure 1**).

<https://www.accelwater.eu/knowledge-platform/>

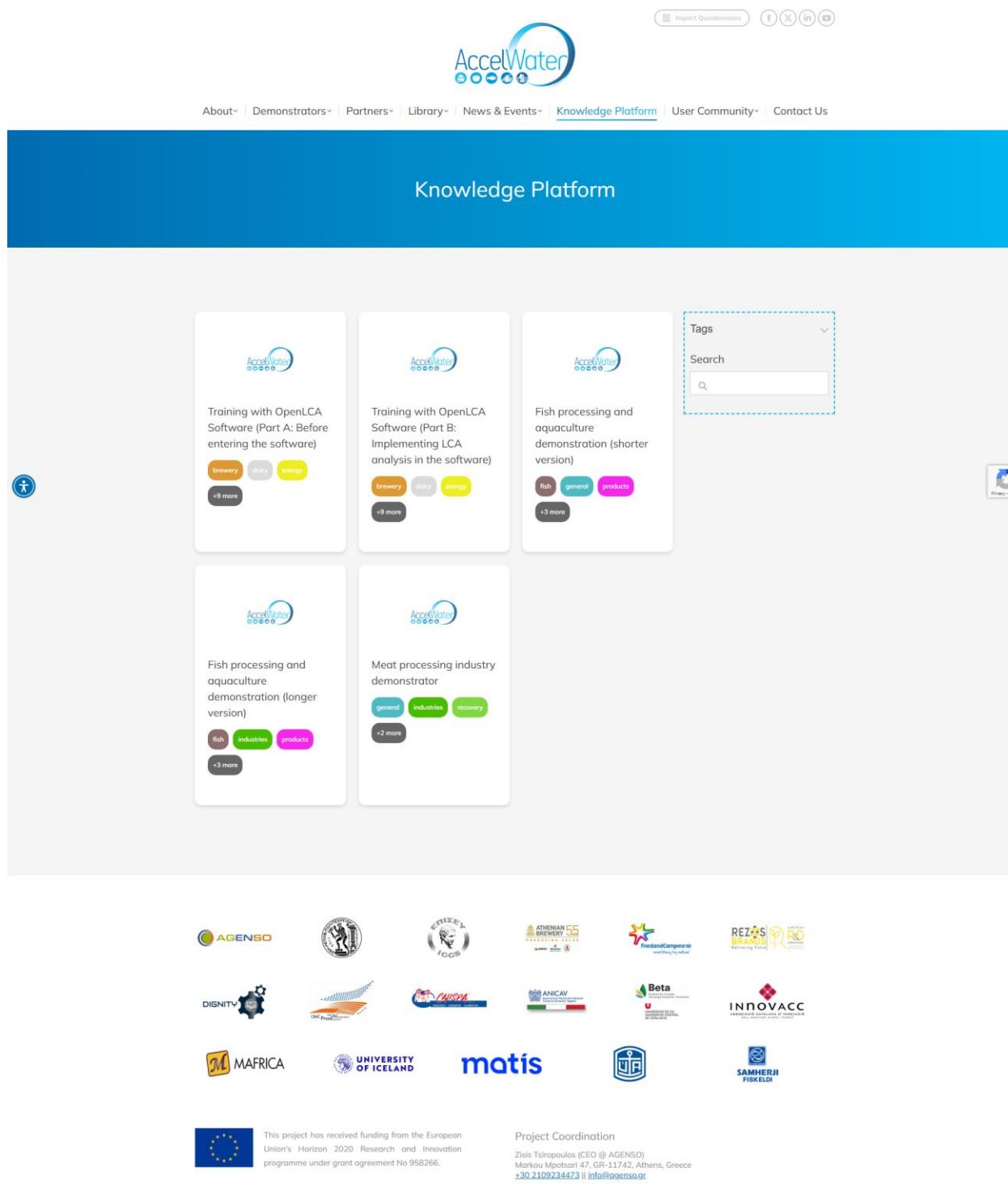


FIGURE 1: ACCELWATER KNOWLEDGE PLATFORM

In **Figure 1** an overview of the AccelWater Knowledge Platform's user interface is provided, highlighting its main features and functionalities. Users can easily navigate the AccelWater Knowledge Platform using a filtering system with tags located on the right side of the interface (**Figure 2**).

This system allows users to refine their search by **selecting specific tags** relevant to their interests. These tags appear also at the bottom of each e-module in the central page, with different and vivid colours in order to be easily distinguishable by the user (**Figure 3**). The tags provide searching capabilities based on technologies, industries, general knowledge and specific processes.

Additionally, a search bar is available for users who prefer to locate content directly by keyword. Once tags are chosen or a search is performed, the platform dynamically displays the corresponding e-learning modules. This functionality enhances the overall user experience by enabling quick and targeted access to relevant content, making the platform both efficient and user-friendly.

The architecture of the platform is modular, which allows for **scalability** and **potential integration** with other third party digital systems, **respecting long-term sustainability needs** and **aligning with FAIR data principles**. It also supports role-based access, ensuring that the content can be tailored to specific audiences such as students, technicians, managers, or policy makers.

The AccelWater Knowledge Platform is intended to bridge the gap between research, implementation, and workforce development. Its main goal is to provide structured learning pathways for professionals and general public to understand and adopt sustainable water and waste management solutions. The platform bridges this gap by curating thematic modules based on the technologies deployed and results achieved in pilot demonstrations.

These e-modules are organized in a manner that ensures accessibility for users of various technical backgrounds. The e-modules include theoretical foundations, step-by-step practical guidance, visual illustrations, and performance data from field implementations.

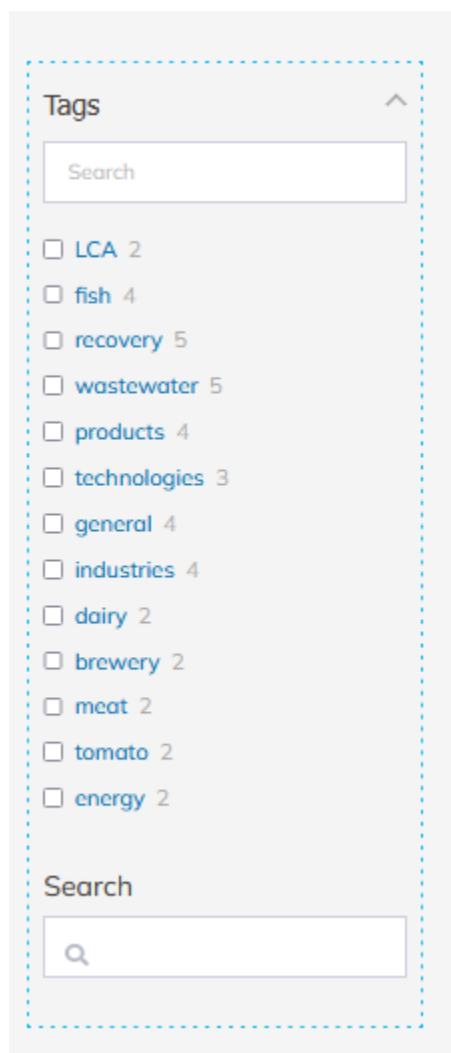


FIGURE 2: TAGS LIST



FIGURE 3: TAGS PER E-MODULE

2 E-modules Overview

The e-learning modules are a key component of the AccelWater Knowledge Platform, designed to educate both current and future generations of professionals on the principles of a water-smart economy. Developed in accessible formats, including video, text and subtitles, the modules are freely available to all users. They provide detailed insights into the processes implemented across the project's demonstrators, while also promoting awareness about smart monitoring practices for optimizing water, waste, and energy use in industrial settings. A core objective of these modules is their integration into existing undergraduate curricula and lifelong learning programs, ensuring broad and lasting **educational impact**.

Each e-module is designed as a standalone learning unit but collectively contributes to a comprehensive understanding of the AccelWater approach. As shown in **Figure 4** and **Figure 5**, each module begins with a brief description outlining its content and objectives. At the bottom of the page of each module (**Figure 6**), the associated tags are displayed, helping users quickly understand the module's focus and context.



FIGURE 4: FISH PROCESSING & AQUACULTURE DEMONSTRATION E-MODULE

Training with OpenLCA Software (Part A: Before entering the software)

Trainers: Dimitra-Nektaria Fragkouli, Dr. Sofia Papadaki
Dignity Private Company

This e-module offers a comprehensive introduction to Life Cycle Assessment (LCA) and its implementation using the OpenLCA software. It begins by outlining the purpose of LCA in the context of global sustainability efforts and the UN's Sustainable Development Goals. The module explains the three dimensions of sustainability—environmental, economic, and social—and focuses on the environmental aspect.

Learners are introduced to key tools: OpenLCA software, the Ecoinvent database and the ReCiPe 2016 Hierarchist methodology. The module also presents a real-world case study from the AccelWater project, focusing on improving the sustainability of dairy and brewery industries in Greece through industrial symbiosis and resource valorization. It concludes with practical guidance on inventory creation and data challenges, providing a solid foundation for conducting an environmental LCA.

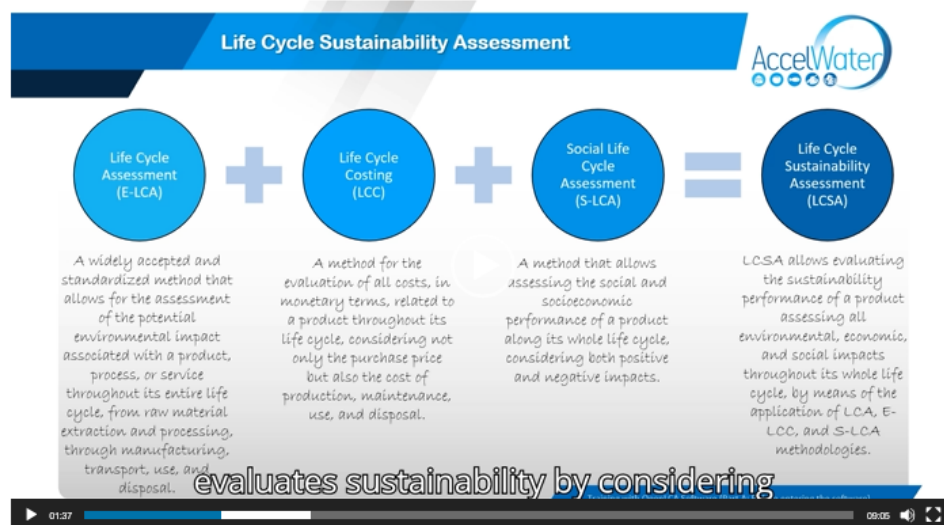


FIGURE 5: OPENLCA SOFTWARE E-MODULE



FIGURE 6: ASSOCIATED TAGS PER E-MODULE

Below is a detailed description for each of the e-modules that have been uploaded on the AccelWater Knowledge Platform.

2.1 E-module: Training with OpenLCA Software (part A)

This e-module offers a comprehensive introduction to Life Cycle Assessment (LCA) as a key methodology for evaluating the sustainability of products, processes, or systems. It begins by outlining the importance of assessing environmental, social, and economic impacts across the entire life cycle of a process — from raw material extraction and production to use and disposal. Understanding these impacts is crucial for identifying opportunities for improvement and supporting informed, sustainable decision-making (Figure 7).



FIGURE 7: TRAINING WITH OPENLCA SOFTWARE (PART A)

The module also explains the three interconnected pillars of Life Cycle Sustainability Assessment (LCSA): environmental LCA, life cycle costing (LCC), and social LCA (S-LCA). These dimensions together allow for a holistic approach to sustainability. Learners are introduced to the main standards that guide LCA practices, which define the framework and requirements for conducting such studies. The module also walks through the key steps of an LCA, such as defining the goal and scope, selecting appropriate methodologies, using databases and software tools, analysing midpoint indicators, and interpreting results.

2.2 E-module: Training with Open LCA Software (part B)

Part B of the Training with Open LCA Software e-module focuses on the practical application of the concepts introduced in the first section, using OpenLCA — a widely used open-source software for life cycle modelling and analysis. This section provides a step-by-step guide on how to set up and conduct an LCA study using the software, covering the process of creating a project, importing and linking datasets, applying impact assessment methods, and interpreting the results (**Figure 8**).

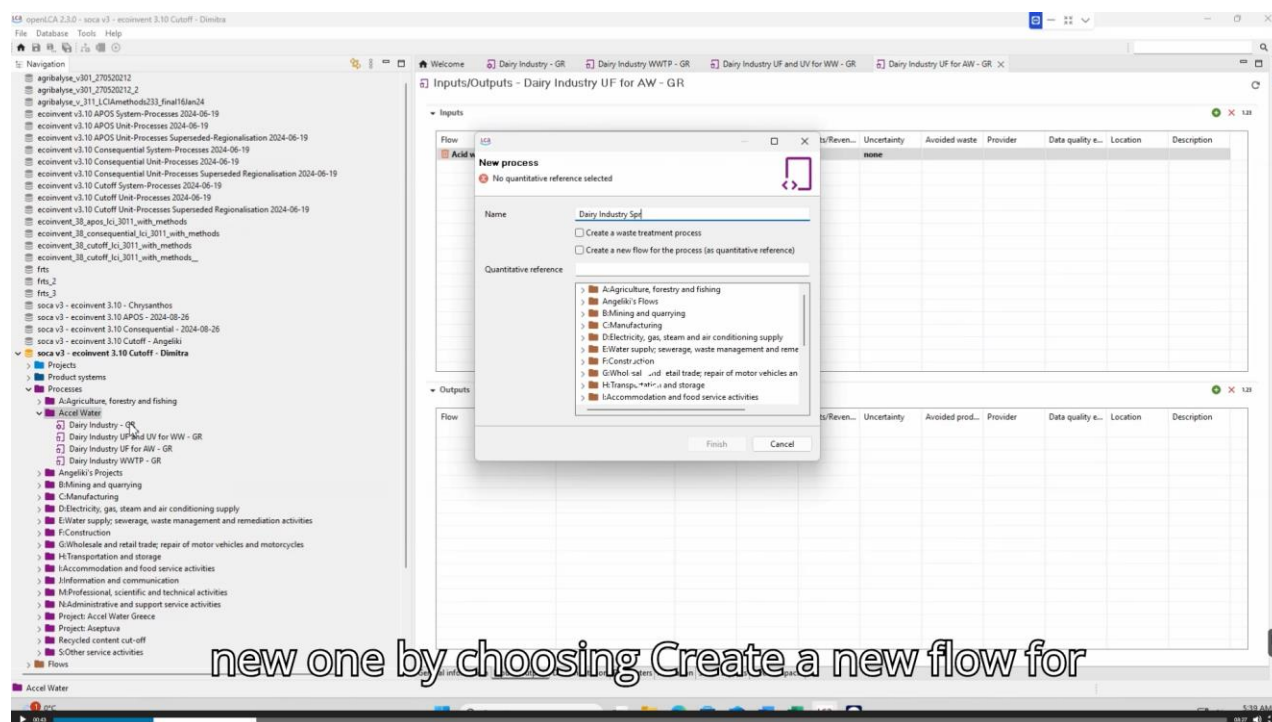


FIGURE 8: TRAINING WITH OPENLCA SOFTWARE (PART B)

In addition to software training, Part B presents real-world examples developed under the scope of the AccelWater project. These case studies illustrate how LCA was applied to assess resource and water efficiency in the food and beverage industry.

2.3 E-module: Fish Processing and Aquaculture Demonstration (shorter version)

This short version of the e-module offers a concise overview of the white fish processing and land-based aquaculture demonstrators in Iceland, under the scope of the AccelWater project. It begins with a brief introduction to each industry and outlines the specific challenges related to resource efficiency and sustainability. The module identifies key points in the production streams where targeted action is needed to reduce waste and optimize water and energy use, based on assessments conducted during the project (Figure 9).

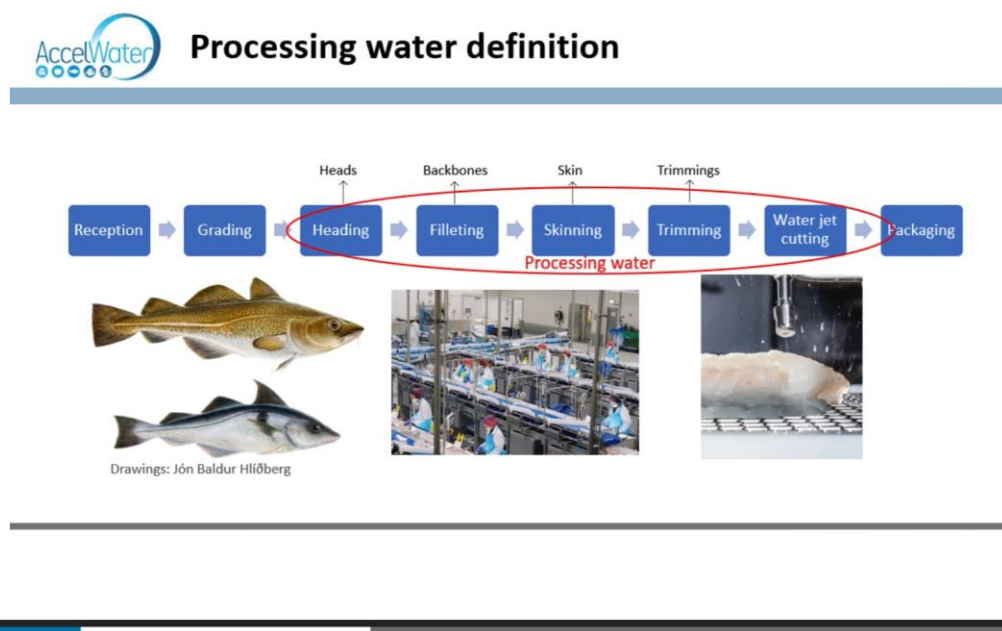


FIGURE 9: FISH PROCESSING AND AQUACULTURE DEMONSTRATION (SHORTER VERSION)

It also highlights the potential for by-product recovery in both sectors, illustrating how waste materials can be turned into valuable secondary resources. The module summarizes the main findings from the demonstrator sites, showing the impact of selected interventions and improvements.

2.4 E-module: Fish Processing and Aquaculture Demonstration (longer version)

The full version of this e-module offers a comprehensive exploration of the white fish processing and land-based aquaculture demonstrators in Iceland, developed within the framework of the AccelWater project. It provides an in-depth description of both sectors, including their operational structures, sustainability challenges, and the baseline resource and waste flows identified during the project’s initial assessments. The module explains the rationale for choosing these industries as demonstrator sites, given their strategic importance to Iceland’s economy and their potential for circularity improvements (**Figure 10**).

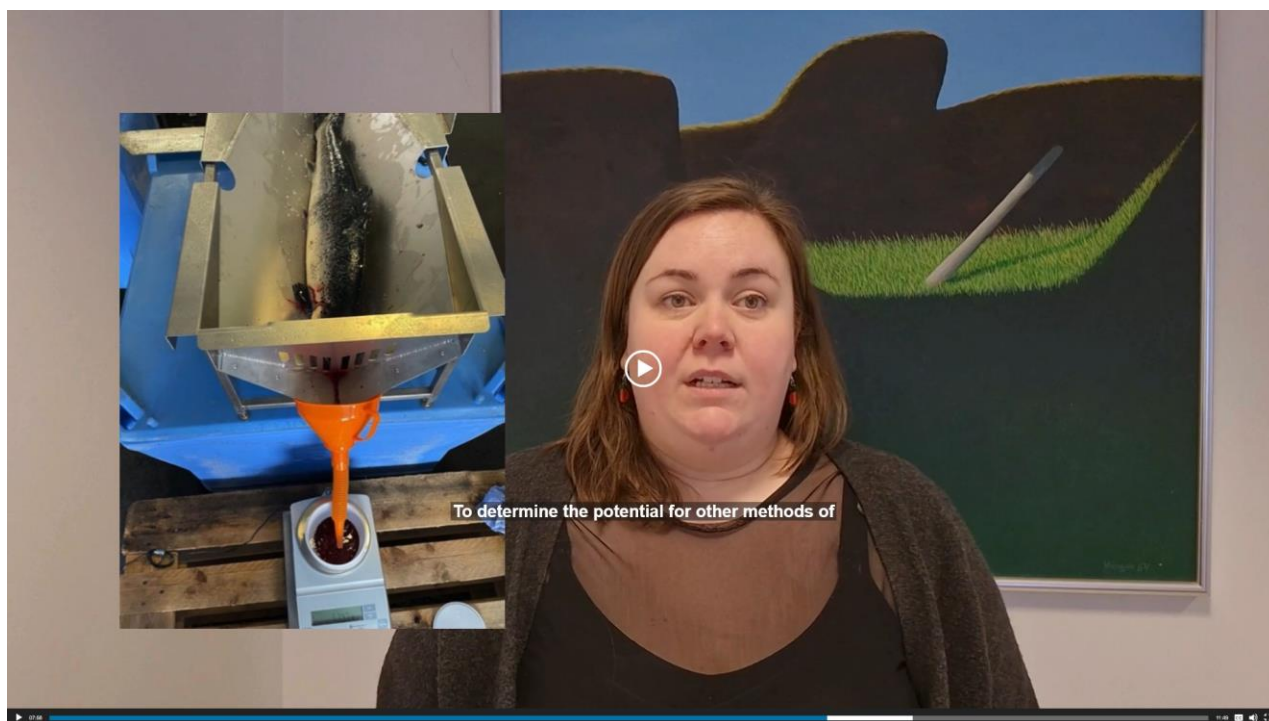


FIGURE 10: FISH PROCESSING AND AQUACULTURE DEMONSTRATION (LONGER VERSION)

2.5 E-module: Meat Processing Industry Demonstrator

This e-module focuses on the Meat Processing Industry demo at the MAFRICA slaughterhouse in Spain as part of the AccelWater project. It presents the challenges faced by the meat processing industry regarding water use and wastewater generation, and introduces the innovative treatment technologies implemented during the project to address these issues. The AccelWater project developed a demonstration line in this meat industry that integrates advanced processes and technologies. These technologies were combined to enable effective water reuse and nutrient recovery, contributing to the reduction of freshwater demand and environmental impact (**Figure 11**).

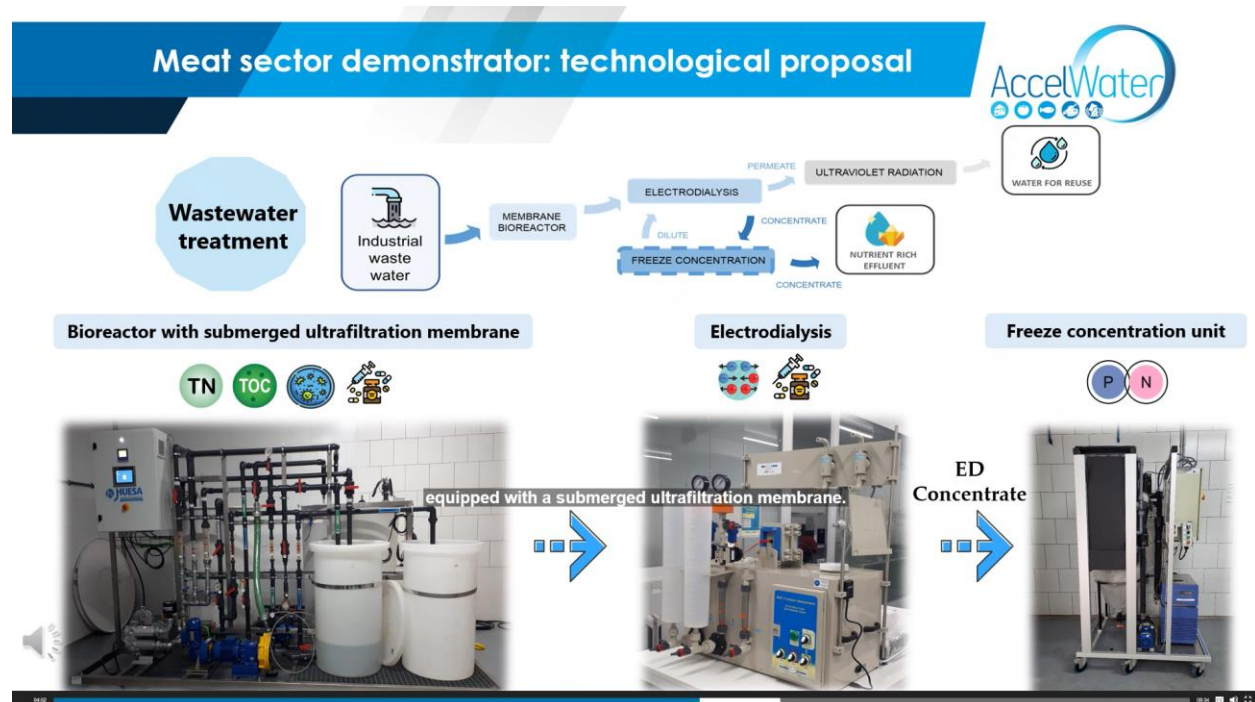


FIGURE 11: MEAT PROCESSING INDUSTRY DEMONSTRATOR

3 Conclusions

The AccelWater Knowledge Platform is an essential tool in promoting sustainability, innovation, and skills development across water-intensive industries and beyond. Through its structured e-modules, the platform not only documents the technical achievements of the AccelWater project but also makes them accessible to a wide audience. Its combination of theoretical depth, practical guidance, and real-world data ensures that it is not just an archive, but an active learning environment capable of influencing current practices and shaping the next generation of professionals committed to environmental responsibility.

The initial KPI target for the AccelWater Knowledge Platform was the development and upload of more than five e-learning modules. This target has now been achieved (**100% of the KPI set**), with five modules successfully published.

Looking ahead, **additional e-learning content is currently under development** and will be uploaded in the coming months highlighting the commitment of the AccelWater consortium to **long-term knowledge preservation and sustainable knowledge management**. These ongoing efforts aim to extend the reach and impact of the AccelWater project well beyond its official completion, ensuring continued knowledge dissemination and long-term added value.