



WATER VALLEY DENMARK

Improving life through co-creation of meaningful water innovation

Annual Report 2023

Ambitions set into tangible actions



WATER VALLEY DENMARK

WHAT

We innovate and demonstrate the world's most sustainable and efficient water cycle.

HOW

We bring the best minds in the water industry together. We facilitate project collaboration and innovation to create solutions for the world's fundamental water challenges.

WHO

We gather and connect the largest players within the water industry: **Large industrial companies, public utilities, universities, expert organizations** as well as a large number of **startups and scaleups**.

WHY

We want to improve life through cocreation of meaningful water innovation.

IMPACT HIGHLIGHTS 2023



1100+ water professionals engaged in innovation activities



Water Living Lab up and running in a partnership that keeps growing



120 m DKK new funding for water innovation



Seeds planted for **Living Labs on Industrial Circular Water and Zero Emissions in wastewater**



Doubled number of members who wants to **co-create** innovation

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Ambitions set into tangible results

A strong alliance with the mission to innovate and demonstrate the world's most sustainable and efficient water cycle.

Water Valley Denmark serves as a national unifying initiative driving the development and innovation of solutions for the water industry. We bring the best minds in the water industry together fostering open and creative thinking across segments, professions, and traditional mental barriers. Water Valley Denmark is an alliance encompassing Danish and international players, stretching from global water technology providers, water utilities, research institutes to SMV's and startups. With our agile and innovative approach to project work, combined industry effort and knowledge sharing we aim to solve some of the world's fundamental water challenges. In doing so we aspire to enhance the quality of life for people worldwide. Water Valley Denmark will create a platform, a network and unique testing facilities for developing groundbreaking water technology.

Living Labs into action

2023 has been a highly active year thanks to our partners and members: Gathering 14 partners for the ambitious project of developing a digital test and demonstration facility for drinking water in Aarhus Water was a key achievement and a good example of the power of partnerships. This is the first Living Lab facilitated by Water Valley Denmark, but we already have new living labs in the making. In 2023 Water Valley Denmark was recognized by the Water4All partnership funded by the European Union as a leading living lab organization in Europe. It is you, our members from utilities, the global water sector, and research institutions that drives the innovation, and Water Valley Denmark is happy to facilitate and enable new partnerships and projects.

Engaging in the innovation potential in industrial water

Watertech innovation is also driven by the water consuming industry and it has been a pleasure working with five innovation projects between the food industry, research institutions, and technology providers that evaluated and demonstrated new water technologies. Some of the tested solutions are already being implemented by the food industry. In 2024 we will further develop partnerships with the ambition of establishing a living lab for industrial circular water.

Turning data into to actionable insights

Data and digitalization are key in leveraging water innovation. In 2023 we went from the high-level vision of increased data sharing to performing and evaluating four specific use cases giving valuable learnings for enabling a Danish Water Data Space. A needed and ambitious project with 100+ participants from the Danish water sector and digitalization experts.

Powering the value chain from research to export

A strong innovation ecosystem is built on a strong research environment. With funding from Grundfos Foundation we initiated and published an in-depth mapping analysis of the Danish water-tech research activities– and in 2024 the mapping will be used to start actions to further strengthen water research and education.

Increase business potentials by innovating the world's most sustainable and efficient water cycle

Our agenda has a dual focus: a fundamental commitment to sustainability and a strong dedication to a commercial strategy aimed at doubling the export of Danish water technology. A warm thank you to our members and partners in the water innovation ecosystem for meaningful and inspirational collaboration.

We look forward to creating even more water impact with you in 2024.

Flemming Besenbacher
Acting Chairman

Ulla Sparre
CEO



A strong alliance of partners and members

PARTNERS



Improving life through co-creation of meaningful water innovation

MEMBERS

Utilities

aarhusvand



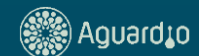
Knowledge & Research



Consultancies



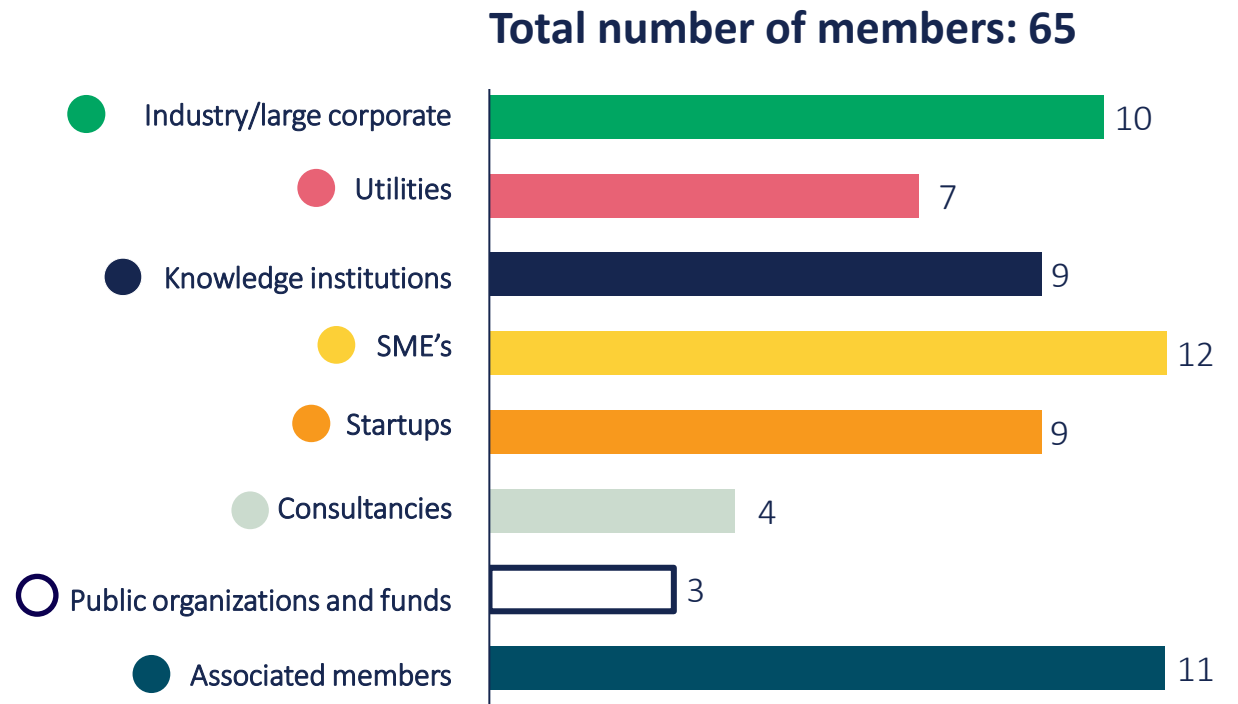
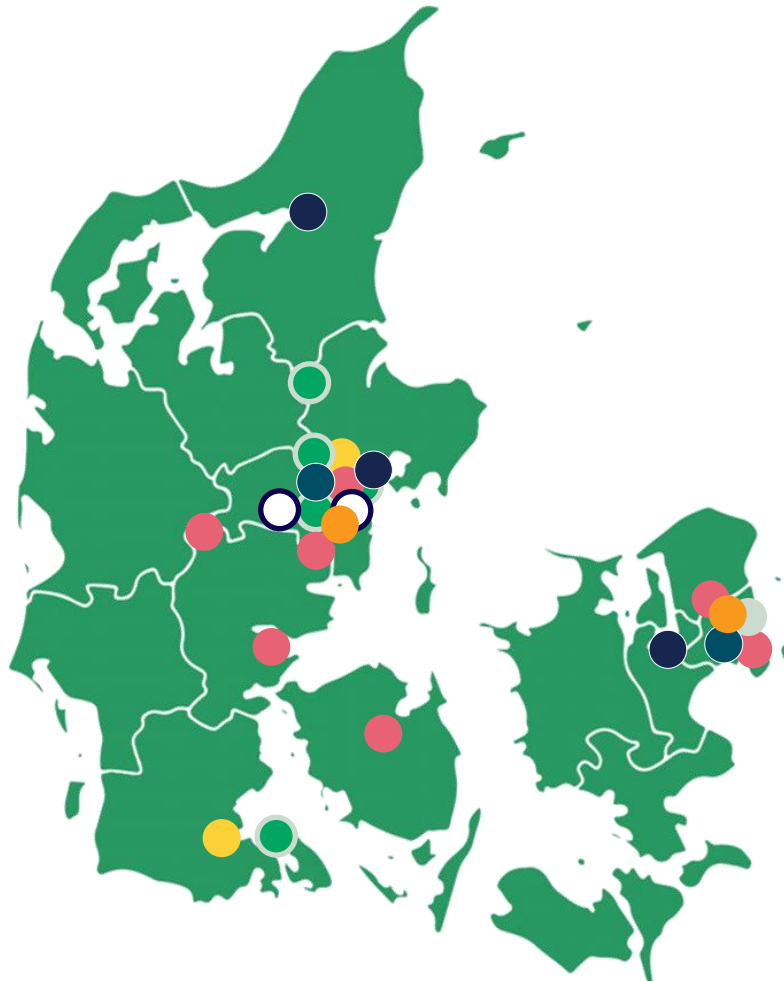
Companies



Other

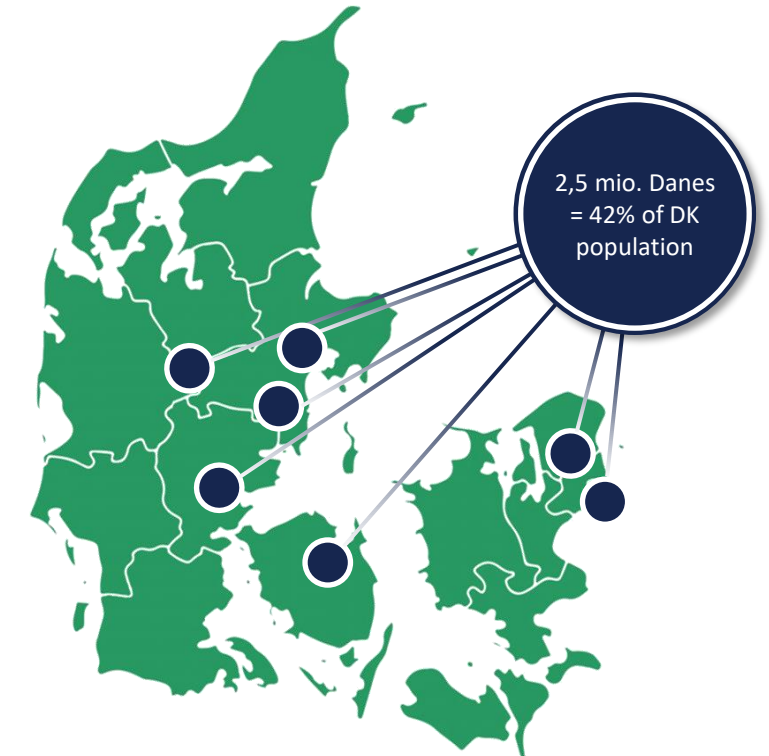
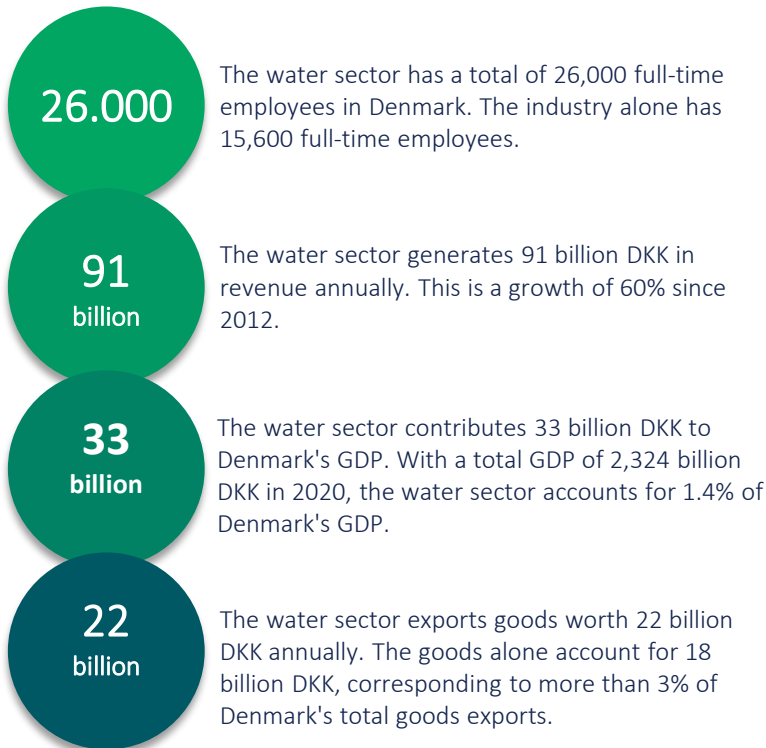


Water Valley Denmark is a national alliance with partners and members covering the water innovation value chain from research to export



Water Valley Denmark's members has the power to drive the needed innovation from research to market solutions

The importance of the Danish water sector *:



Water Valley Denmark's utility members supply almost half of Denmark's population with clean drinking water. We always welcome new members that want to co-create water solutions.

* Source: DANVA: Damvad Analytics, September 2021

A group of people in a meeting room, with a woman pointing at a whiteboard and others seated at tables with food.

Vision
Strategy
Impact



WATER VALLEY
DENMARK

WATER VALLEY
DENMARK

*Bringing the best
minds in the water
industry together*



Vision and Strategic focus areas



PURPOSE

Improving life through co-creation of meaningful water innovation

VISION

Accelerate global green growth by establishing one of the world's strongest platforms for water innovation

TARGETS

Contribute to a CO2 and climate neutral water sector

Innovate and demonstrate the worlds most sustainable and efficient water cycle

Enabling the ambition of doubling Danish export of water technology from 20 to 40 DKK billion by 2030



LIVING LABS

Innovation in partnerships with testing and demonstration



OPEN INNOVATION

Facilitate larger open water innovation projects



RESEARCH

Strengthen water research and education
Attract talents and funding



INCUBATION & ACCELERATION

Business acceleration
Mentoring & matchmaking
Acceleration Programs



INTERNATIONAL CHALLENGES

Engage in international partnerships and challenges



Efficient non-profit membership organization
Open innovation collaboration
Active communication of Danish Innovation Strongholds

Innovation and large-scale projects

Setting action to ambitions with our partners

1100+ water dedicated
professionals engaged in
innovation activities

Digital twin of drinking water supply

14 partners lead by Aarhus Water and Water Valley Denmark in Water Living Lab



Water Cycle Denmark

Danish State-of-the-art innovation: Creating a knowledge and demonstration hub



Mapping of Danish WaterTech Research

Setting the needed agendas for action



Industrial Circular Water: 5 innovation projects

with water consuming industries together with Food & Bio Cluster Denmark



Danish Water Data Space

Enabling data sharing through 4 use cases. Gaining best practice for the design of a Water Data Space



Unfolded in
the following
pages

Water Living Lab

A test and demonstration facility for full scale water supply area

Water Living Lab is a large-scale test facility from which safe, efficient and sustainable solutions within the distribution of drinking water are innovated, created and demonstrated. The Living Lab is initiated by Aarhus Vand with support from Water Valley Denmark. Water Living Lab Aarhus focuses on challenges in the Water Distribution Systems: New ideas, both technological and digital, can be tested and developed in various realistic full-scale tests based on 17,000 households, 415 km of pipeline and two water treatment plants with associated well fields and pumping stations. In addition, it is possible to test digital projects in a digital twin, which is a virtual copy of an entire operating area.

Main activities and impact in 2023 included: The development of a digital twin prototype, integrating of data via a data sharing infrastructure, testing of innovation concepts for forecasting / warning solutions on selected challenges and development of a blueprint for leakage management strategies.

In 2024 Water Living Lab is further developed by Aarhus Vand and partners in the project Imeter and implementation of a new test and demonstration facility for leakage detection.



Project Partners



Water Cycle Denmark

Showcasing Danish water innovation

It is now possible to find test- and demonstration facilities within Danish water technology and major innovation projects. The development and implementation project was part of “Erhvervsfyrntårn for Vandteknologi” with Aarhus Vand, VIA and Water Valley Denmark as project partners.

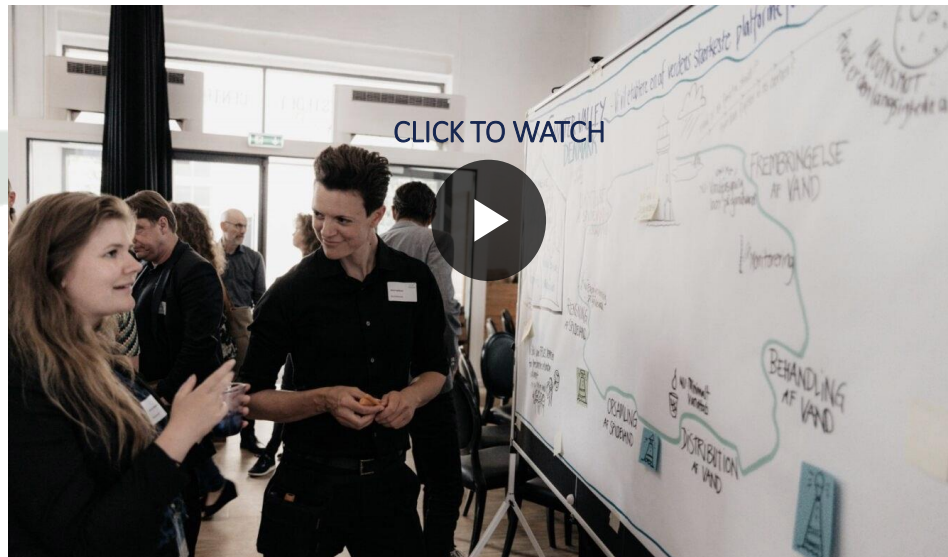
Water Cycle Denmark is a community-driven platform which is dedicated to promoting and strengthening the power of innovation in the Danish water sector. The platform exhibits the best Danish innovation projects and creates an overview of:

Showcases:

An overview of innovative Water Living Labs and demonstration projects from the Danish ecosystem. Some are open to collaboration with utilities, researchers, companies, students and start-ups seeking testing facilities.

Idea Space:

A tool for collaborating with other innovators on current and future water challenges. Idea Space is facilitated by Aarhus Vand.



The Danish water sectors shared ambition:

We innovate and demonstrate the world's most sustainable and efficient water cycle.



Find show cases of new innovations and join the water innovation community at www.watercycledenmark.com

Towards a living lab for industrial water

Green transition in the food industry

In water-consuming industries, the efficient and sustainable management of water resources is crucial for both environmental conservation and economic viability. As global water scarcity becomes increasingly pressing, industries reliant on water face heightened regulatory scrutiny, supply chain risks, and operational challenges. Embracing innovative water technologies not only enhances water conservation efforts but also improves operational efficiency, reduces costs, and mitigates environmental impact.

The collaboration between Water Valley Denmark members and the water consuming industry paves the way for new impactful innovation.

Together with Food & Bio Cluster Denmark, Water Valley Denmark has in 2023 run 5 innovation collaborations with a focus on water reduction and efficiency in the food industry leading to new business opportunities, see the topics on the right. In 2024 we continue to work towards a living lab with major industry partners.



Objectives in the 2023 project with the food industry:

- Testing flow sensors in a production environment
- Identifying demanding adaptations of sensors
- Identifying relevant data and data contexts
- Testing AI prototype models based on data
- Testing implementation of prototypes

Partners



E-CIP Concept



Water Data Space

Turning data into actionable insights

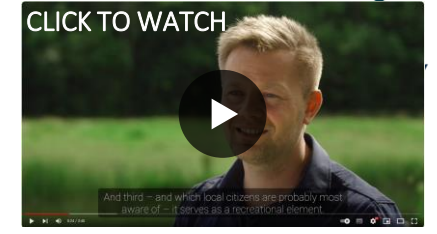
We started the Water Data Space project in 2022 and in 2023 we performed specific use case activity to learn more about creating a value adding Water Data Space, where data from several sources is made available for development and innovation at utilities, companies, authorities, research and education.

Through collaboration between the 100+ actors in the water sector, initial prototype designs for a Water Data Space was performed during an intense period of 12 months and 4 specific use case was identified and tested. Learn more about each use cases in the videos to the right.

The Water Data Space project has developed several value-creating learnings that benefit companies, startups, SMEs, utilities, municipalities and other players. Read more in the report *Turning water data into actionable insights*. We continue the work towards more open data sharing in 2024 and you are invited to join.



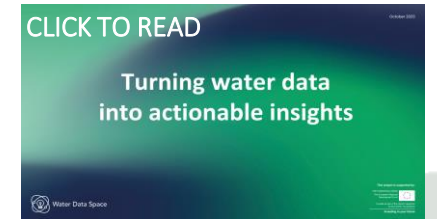
Use case 1: *Automated reporting Systematic and Herning Water share results*



Use case 2: *Detention Pond Analytics Aarhus Vand and Systematic share results*



Use case 3: *EHS Source tracking DHI and Systematic share results*



Find here the first report describing and analyzing a Danish Water Data Space

Project Partners



Research & Education water tech

Attracting the needed talents and investments

Mapping of Danish water tech research

At the end of 2023, the **first overall mapping analysis of water technology research in Denmark was published**. It is carried out by IRIS Group for Water Valley Denmark with support from Grundfos Foundation. The analysis provide a comprehensive overview and insights into water technology research in Denmark. Based on a thorough mapping of Danish water tech research environments and activities, the report analyses organizations, research performance, and trends. It also examines developments in public funding and collaboration patterns

The analysis shows that **Denmark holds an international forefront position within water tech research**. Denmark leads globally with the highest annual number of publications per million inhabitants. Moreover, Danish research articles receive a high degree of citations from the international research community, indicating a high level of quality. Researchers in Denmark are actively engaged in all aspects of the water cycle.

Denmark has a very international research community within water tech as 54 % of water tech researchers originate from outside Denmark.

We will in 2024 build on the learnings from the mapping and **work to attract more talents and funding to water innovation**



As Grundfos' main owner, we can only support the goal of doubling the export of Danish water technology towards 2030. We now have a clear picture of where and how Danish research can best contribute, so it's just a matter of getting started on exploiting existing knowledge - and closing the gaps that have been uncovered - if we as a society want to achieve our ambitions.



Kim Nøhr Skibsted,
Executive Director, Grundfos Foundation

[CLICK HERE FOR FULL REPORT](#)



International summer school

In 2023 Water Valley Denmark again contributed to the summer school 'Advanced Water Cycle Management Course' in August with record breaking 46 participants from 12 countries.



WVDK Partners involved:

Grundfos, AVK, Kamstrup, Aarhus University, NIRAS, Aarhus Vand, DHI, IGIS & Skanderborg Forsyning,

New summer school concepts are being developed in 2024


Startup & Acceleration

In May 2023, **Water Valley Denmark** proudly supported the inaugural **Tech Tour Water Tech**. A very successful event taking place in the water innovation district in Aarhus. This event was designed to allow selected, promising, **international watertech startups** the opportunity to pitch to the most active **investors, corporations, and government entities**, fostering a unique ecosystem for **innovation and growth**.

Throughout the spring of 2023, we further developed our startup and acceleration program. A highlight of this phase was the **Flow Camp**, funded by **Beyond Beta** and in collaboration with **CLEAN**. This 24-hour acceleration camp specifically designed for **water tech startups** enabled participants to devise strategic plans to overcome business challenges, expand their networks, and gain invaluable insights from a pitch panel and mentors consisting of **water industry experts**.

Additionally, 2023 saw the continuous expansion and engagement of **Water Valley Denmark's mentor network**. In June, we hosted a mentor event to ensure commitment and gather feedback on our mentorship program, ensuring its effectiveness and impact. **Our mentor network, composed of external water experts, provides knowledge, experience, and guidance to ambitious watertech startups.** This network leverages sector-specific, commercial, and technical expertise, coupled with the personal networks of our mentors in the water sector, significantly shortening the startups' path to market scaling. Since its inception in December 2022, seventeen esteemed mentors have joined our network.

Looking ahead to 2024, we aim to consolidate and further expand the **Mentor Network**. Moreover, we plan to increase our engagement in the **Tech Tour Water Tech** and other targeted acceleration programs for **watertech startups and scaleups**, reinforcing our **commitment to advancing water technology innovation**.



“ We have been happy to have a mentor who has brought an outside experience from which we have been able to learn a great deal. In addition it has opened many doors for us and we have gained new network. Basically it has just meant a lot to have someone from the outside who cares about you being successful as a small startup. **”**

RobSub
Cecilie Røes Andersen



“ It has been of great value to me to have a mentor with a solid business understanding. Especialle one who has been able to look at my business from a helicopter perspective and express his honest opinion, expectations and thoughts about my business. **”**

EWA Sensors
Eva Kuhne

“ *Collaborating with startups is crucial, both in terms of scouting for new technologies and ideas and for finding potential partners for future endeavors*

Henrik Ørskov Pedersen, Group Vice President, Head of Technology Innovation at GRUNDFOS and Water Valley Denmark mentor **”**



International Collaboration

Connecting Danish and international partners around the needed innovation

To solve the world's wicked water challenges of today and tomorrow, it is essential that **we innovate in strong collaborations, nationally as well as internationally**. 2023 marked the beginning of collaborative sessions facilitated by Water Valley Denmark and leading to new partnerships in Europe, US, and India.

Some highlights from an active year:

- UN Water Conference, New York, **where Water Valley Denmark supported and promoted the high-level event on 'Groundwater the hidden resource' by the World Bank & Danish Water Forum.**
- As part of **the India-Denmark Water Technology Innovation Network Project**, we went to India in August on a partner discovery trip, where we met stakeholders within IN-DK research collaboration and strengthened relation to our Indian partner, Pune Knowledge Cluster.
- At WEFTEC we **discussed common targets with US Water Alliance and established our close relation with The Water Council** at their fruitful post event.

Water Valley Denmark happily collaborates with **The Trade Council, DI Water, Danish Water Forum, Danish Export Association and State of Green** connecting export and innovation.

Wetsus, Holland

At the Wetsus Congress 2023 in Holland, Water Valley Denmark initiated a collaboration with Wetsus and Water Alliance.



“
International collaboration is especially valuable for Danfoss when it comes to sharing insights on global challenges and opportunities for new solutions
 ”

Jacob Vind, Global Water Industry Expert, Danfoss

Weftec, Chicago

Building partnerships with US Water Alliance, The Water Council and partnership agreement with WTA US.



UN Water Conference, New York
 The importance of groundwater with The World Bank and Danish Water Forum



Water4All and Water Europe
 Awarded into the EU Atlas of Water Oriented Living Labs



Partner Discovery Trip to India, GINP Network
 Meeting with stakeholders and strengthening relations

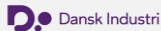














Data driven operation of the water distribution network
 Co-learning workshop with US Water Alliance, Water Technology Alliance at AVK,



Governance
Organization
Financial figures

Meet the board and the team

The board		
<p>F. Besenbacher Acting Chairman aarhusvand</p>	<p>H. Søltoft Deputy Director </p>	
<p>U. Gernow COO </p>	<p>N. A. Kjær Owner </p>	<p>M. Sckerl Director </p>
<p>J. Jacobsen CEO </p>	<p>M. Holm Owner </p>	<p>B. Seeberg CEO – Project Zero </p>
<p>Anette Raben Market Director </p>	<p>K. Stjernholm CEO </p>	<p>M. Østergaard Stadsdirektør </p>
<p>M. Dorff Chef for DI Vand </p>	<p>C. E. Larsen CEO </p>	<p>C. Helix Head of DTU Sustain </p>

The team	
<p>Ulla Sparre CEO</p>	<p>Digitalization Water Data Space Innovation District</p>
<p>Pia Jacobsen Head of Global Innovation</p>	<p>Water Living Labs International collaboration with export focus</p>
<p>Janni Thusgaard Pedersen Head of Business Innovation</p>	<p>Acceleration programs Open Innovation facilitation Mentor network</p>
<p>Jackie Van Tran Foged Project Manager</p>	<p>International collaboration with focus on India & Southeast Asia Administrative systems</p>
<p>Camilla Fænø Simonsen Head of Secretariat</p>	<p>Member service Communication Administration</p>
<p>Jesper Borg Christensen Head of Research and Funding</p>	<p>Research and education Funding EIT Water, Marine & Maritime KIC</p>



WATER

INNOVATION COUNCIL

Water Valley Denmark's work is shaped by its members and the Water Innovation Council, who collaboratively, based on the strategy, define the organization's key focus areas and themes. The Water Innovation Council convenes biannually to drive innovation forward.



Water Innovation Council

<p>S. Kristensen Head of Strategy and Business Development</p> 	<p>J. Vind Global Water Industry Expert</p> 	<p>M. Gustafsson Innovation & Technology</p> 	<p>F. Hedegaard Head of Water Treatment</p> 	<p>M. Ramlau Global Brand Manager</p> 
<p>K. Rokkjær New Business Development Manager</p> 	<p>A. Raben Country Market Director - Water</p> 	<p>B. Lindhardt Deputy Director & Water Manager</p> 	<p>C. Homann CSO</p> 	<p>M. Jeppesen Section Manager</p> 
<p>M. Leth CEO</p> 	<p>P. S. Mikkelsen Professor</p> 	<p>J. Vollertsen Professor</p> 	<p>T. R. Andersen Head of Research</p> 	<p>L. Ottosen Head of Department</p> 

Financial and operational key figures - Result



Income statement for the period January 1, 2023, to December 31, 2023

	2023 DKK	2021 -2022 DKK*
Revenue		
Membership fees	3,805,000	5,945,000
Project revenues	4,190,495	2,037,100
Other revenues	0	115,946
Total Revenue	7,995,495	8,098,046
Expenses		
Fees	(112,081)	(15,000)
Mileage allowance for own car	(41,396)	(19,482)
Meetings and travel etc.	(407,165)	(362,670)
Administrative expenses	(364,740)	(331,382)
Assistance from Experts, facilitators, and consulting	(1,903,490)	(2,210,210)
Personnel costs	(4,348,635)	(2,691,327)
Premises expenses	(42,496)	(241,963)
IT expenses	(111,624)	(313,542)
Loss on accounts receivable	0	(7,200)
Total expenses	(7,331,627)	(6,192,776)
Result of association operations	663,868	1,905,270
Total Financial Items	0	0
Result before taxes	663,868	1,905,270
Taxes	0	0
Annual Result	663,868	1,905,270



The positive result for the period of 664 thousand DKK is allocated, and the amount is transferred to the association's equity to support the association's purpose and activities according to the bylaws

* 1.10.2021-31.12.2022

Financial and operational key figures - Balance

Assets			
Note		2023 DKK	2021—22* DKK
	Financial Assets		
	Accounts Receivable		
	Debtors control account	1,861,092	2,167,164
	Beyond Beta	515,237	256,054
	Erhvervsfyrtårn for Vandteknologi	902,280	0
	VAT	270,304	375,858
	Accruals	33,631	6,000
	Other receivables	151,492	28,906
	Total Receivables	3,734,036	2,833,982
	Liquid assets	0	0
	Total Current Assets	3,734,036	2,833,982
	Total Assets	3,734,036	2,833,982

Liabilities			
Note		2023 DKK	2021-22 DKK
	Equity		
	Balance January 1	1,905,270	0
	Annual Result	663,868	1,905,270
	Total Equity	2,569,138	1,905,270
	Short-term liabilities		
	Danish Industry	644,002	86,050
	Creditors Control Account	117,116	529,635
	Other Liabilities	287,113	228,821
	<i>Project Fyrtårn</i>	0	84,206
	Water Tech Match and Spin-In	116,667	0
	Total Short-term Liabilities	1,164,898	928,712
	Total Liabilities	3,734,036	2,833,982

* 1.10.2021-31.12.2022

You can find the entire financial statement [here](#)



WATER VALLEY
DENMARK

For more information visit www.watervalleydenmark.com and [LinkedIn](#)