

Aarhus Vand Ltd.



The company's activities comprise rainwater disposal (including climate adaptation projects), production and distribution of drinking water, transportand purification of wastewater, emptying of private holding tanks as well as safeguarding a balanced and healthy water cycle.

Our mission is to offer and develop resource-efficient services throughout the entire water cycle, creating a sound, climate adapted environment, growth and export, all of which will be of benefit to customers and stakeholders.

Our vision is to be Denmark's leading water company.





Operator of the entire water cycle





Business strategy

VISION

AARHUS VAND WANTS TO BE DENMARK'S LEADING WATER COMPANY

STRATEGY 2020

Focuses on the development of a value-creating water company which is environmentally sound, resource-efficient, energy-neutral, well-run, innovative and partnership-promoting.

GROWTH	PRODUCTIVITY	INGENUITY
GOALS FOR 2020 Grow by 20%	GOALS FOR 2020 Grow by 20%	GOALS FOR 2020 Measured on the effect of productivity and growth
GOALS FOR 2019 Grow by DKK 51 million	GOALS FOR 2019 Grow by 2%	GOALS FOR 2019 Obtain an ingenuity score of 93%

CROSS-CUTTING PRIORITY AREAS

New products and services, water knowledge, research and development

FOUNDATION

VALUES: 'We' feeling, responsibility, innovation and dialogue MISSION: Offer and develop resource-efficient services throughout the water cycle in an attempt to create a sound, climate-adapted environment, growth and export of benefit to customers and stakeholders





Transforming Aarhus Water to a digital enterprise

Strengthening our ability to meet our strategic goals and secure our business foundation

UN's global goals for sustainable developments



Clean drinking water:

None-observance of the limit values resulting in a recommendation that water be boiled. Goal: 0

Climate adaptation:

Areas which change their status from shared sewer to separate sewer system. Goal: >80 hectares

Climate action: The energy produced at our wastewater treatment plants should cover 100% of the company's energy consumption for electricity and heat in 2030. Goal: 55%

Climate control measures: The total energy consumption at our wastewater treatment plants. Goal; <23 GWh

Resource utilisation: Production of PhosphorCare. Goal: >200 tonnes Water environment: Non-observance of the emission requirements for wastewater treatment plants having an impact on the aquatic environment. Goal: 0

Water environment: Non-observance of the emission requirements for waterworks having an impact on the aquatic environment. Goal: 0



Water problems





50% of drinking water is wasted before it reaches the consumer

Globally, **80%**

of waste water discharge is not purified

2 Non-revenue water 30 Water loss 10 – 15 % 20 Millioner M³ 12 孒 Water loss 5 – 7 % 10 5 0 1977 1979 1979 1978 1978 1978 1978 1981 1982 1982 1983 1984 1984 1987 1988 1988 1988 1988 1988 1989 1989 1999 <t

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The energy producing waste water treatment plant





The Aarhus River and Harbour Project

- Improved water quality in Lake Brabrand and river of Aarhus
- Prevent flooding
- Bathing water quality in the harbor







The Aarhus River Project

- Retention tanks
- From 2006 to 2013
- Capacity of 50.000 m³





The Aarhus River Project

- The lock at Aarhus River mouth









Bathing Water Quality



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Climate adaptation



Real time control of heavy rainfall





High quality and coherent data is essential for moving the water sector into the big-data era, and enable utilities to go from single measurement points to a broader knowledge and information generation in real time.

VeVa collaboration – High-resolution precipitation data



Vandsektoren



VeVa vision:

To create an organization that ensure a continuous evolving framework for transparent application of rainfall data in the Danish water sector.

To make VeVa a national collaboration between the Danish water utilities (non-profit)

To use the VeVa collaboration as a platform for continuous and coherent development and research focusing on high-resolution and high-quality rainfall data for the application of the water sector.

DONUT project – Distributed ONline monitoring of the Urban waTer cycle

Technologies provide opportunities. However, practical conditions often limit scaling possibilities. In the DONUT project we focus on adopting new technologies and tackle the practical challenges.



Central project concepts for enabling cost-efficient distributed monitoring:

Plug 'n' play Self-configuring Self-calibrating Self-diagnosing

Simple measurement principles combined with advanced data processing to limit maintenance.

Combing raw data to coherent information and knowledge for factbased decision-support.

Wide system integration with open API's based on open data standards.

Dryp – Bridging new technologies and practical challenges

Dryp.

Turning drops of data into information flows

DATA INFRASTURE TODAY



Expensive measurement points results in few measurement points.



WHY:

Increase the investment efficiency in water infrastructure and increase the environment benefits of these investments.

HOW:

Enable proactive and holistic decision-making for the whole water cycle on a dense observation basis for operation and planning.

WHAT:

Provide plug'n'play wireless water monitoring in an end-to-end solution with automated management and analytics enabling cost-efficient distributed monitoring and information generation. 2



The founding partners:

MONTEM – hardware experts and user interaction

InforMetics – data science, data integration and cloud platform

Aarhus Vand – Practical experience and use cases.







Digitalisation of water the industry



... proactive customer engagement





- Reducing support calls handle majority w cognitive services
- 360degree customer view

Customer

- Getting to know my utility much better, they do more than deliver water. Their • purpose is actually much higher, they take care of the environment, improve liveability, resillience...
- I can get to my utility when ever, where ever and service is good
- Services and support is available when I need it and I can easily configure to suit my needs (also when they change)
- I receive and handle all alarms, notifications, payment, etc on my mobile



Water Intelligence and Data Platform



We have a strong focus on creating accessibility, overview and openness of data.

We have embarked on an ambitious project to develop and implement a scalable **Water Intelligence and Data Platform**.

The platform will support and promote Open Data access and integration. The data platform will set the foundation for Aarhus Vand and partners to share data, apply data science and augmented intelligence and use new IoT based sensor platforms to support integrated water management.

The scalable and flexible data platform will encourage the **breaking down of data silos**, **promoting data sharing**, **innovation and communication**.





Global projects

