

Service water supply for the industry

Alternative resources for industrial service water supply

Minori Matoba

April 2025

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A dynamic splash of clear water against a light blue background, with numerous droplets and ripples. The water is captured in mid-air, creating a sense of movement and freshness.

01

oowv – Who are we?



oowv

The OOWV

The company

Public corporation

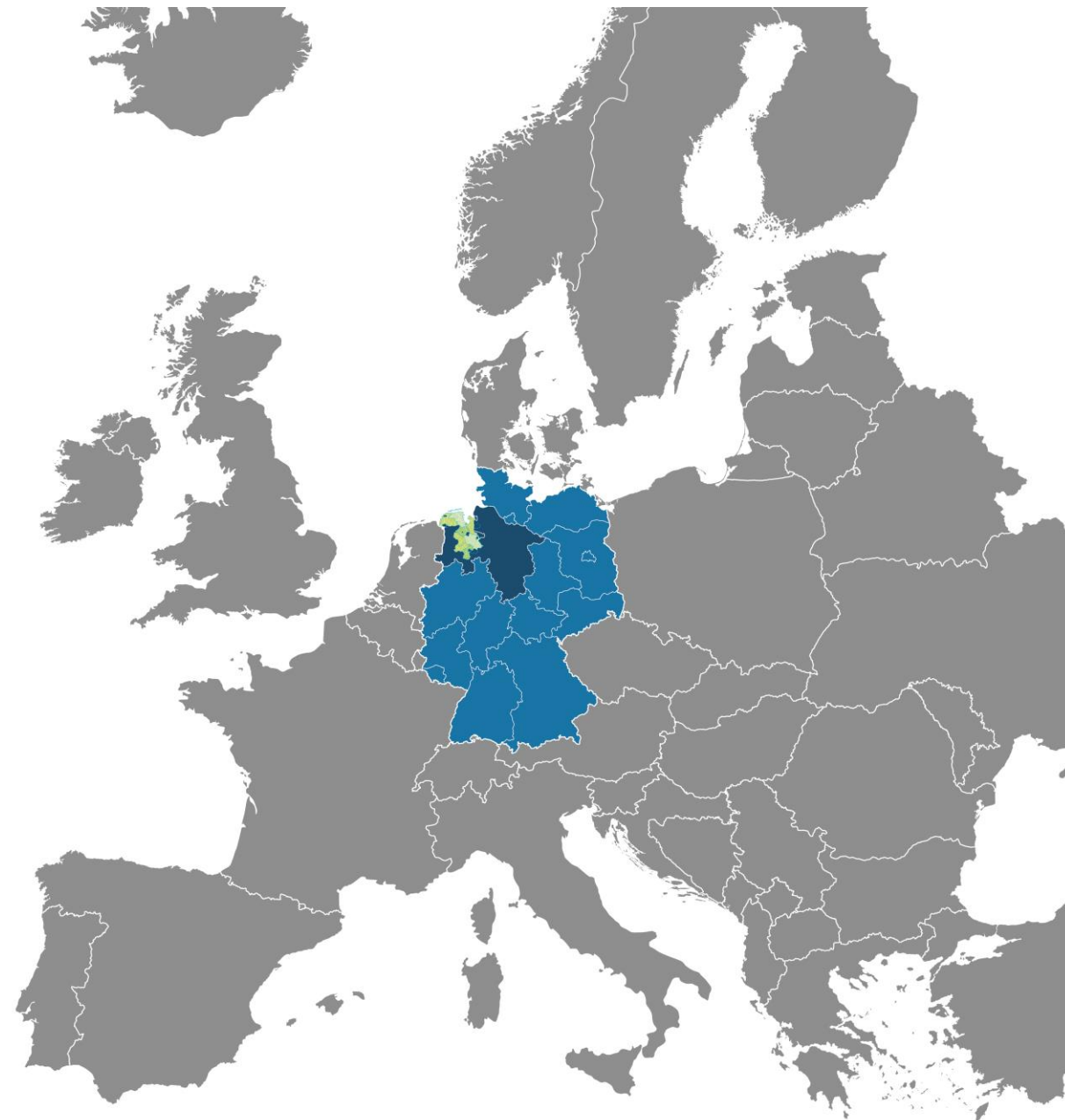
Founding year 1948

Area covered 7,480 km²

Inhabitants Approx. 1.2 million

Drinking water members
9 districts
21 cities
57 municipalities

Wastewater members
9 cities
30 municipalities
1 special-purpose
association

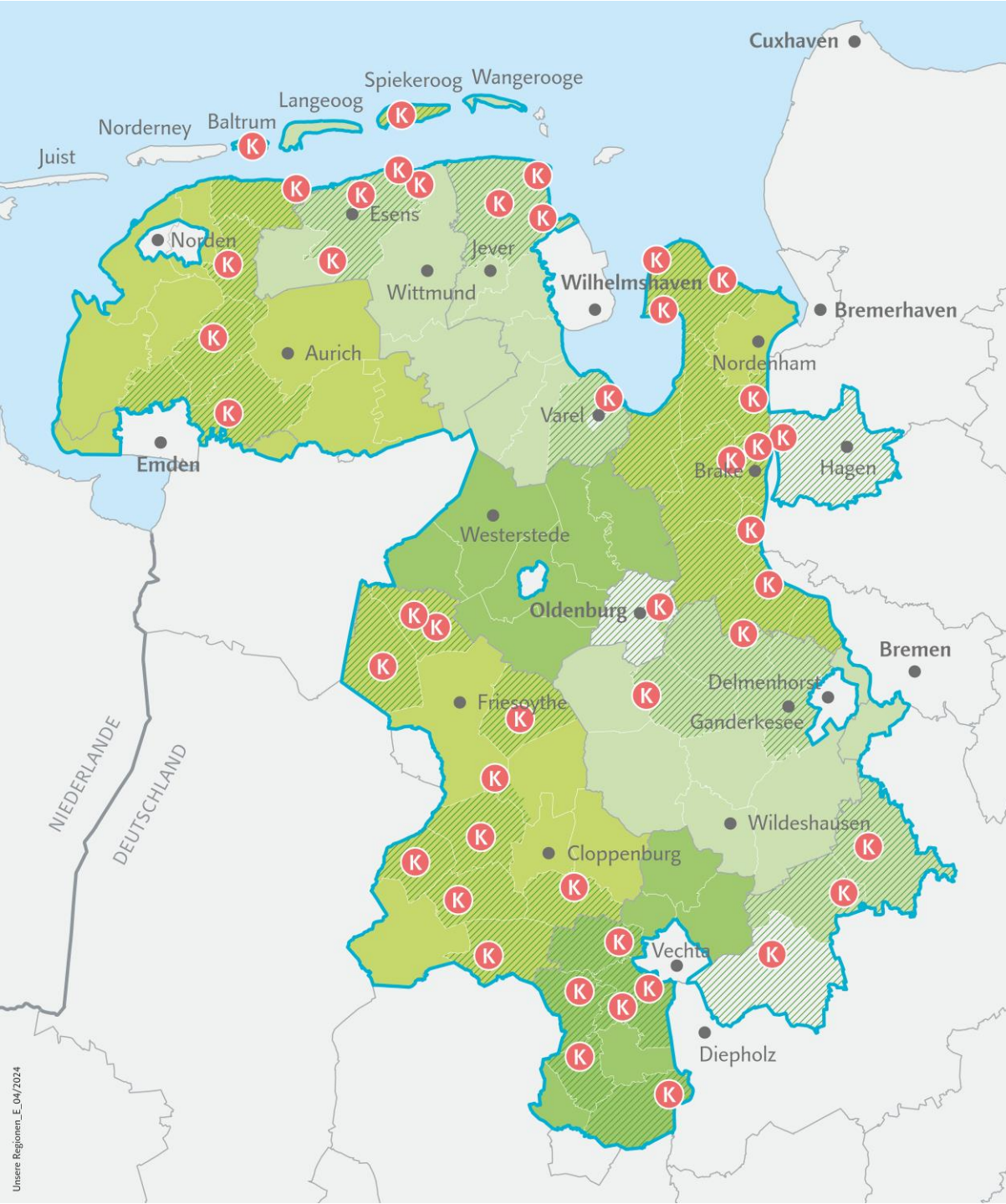




Water Supply Division



Supply area	7,105 km ²
Inhabitants to be supplied	> one million
Waterworks	15
Storage pumping stations	5
Production wells	257
Capacity of the waterworks	280,280 m ³ per day
Drinking water tank room at waterworks & SPS	244,991 m ³
Drinking water delivery	79,1 million m³ per year
Average daily production	216,627 m ³
Highest daily prod. (25 July 2019)	346,261 m ³



Wastewater Disposal Division



Sewer network length	4,879 km
Sewage treatment plants	45
House connections	190,496
2023 wastewater volume	approx. 40.5m m ³
2023 sewage sludge production (4% dry residue level)	230,375 m ³
Investment in 2023	EUR 53 million
Area	3,898 km ²
Small sewage treatment plants	23,075
Network pumping stations	1,074
Capacity of the wastewater treatment plants	787.271 population equivalents

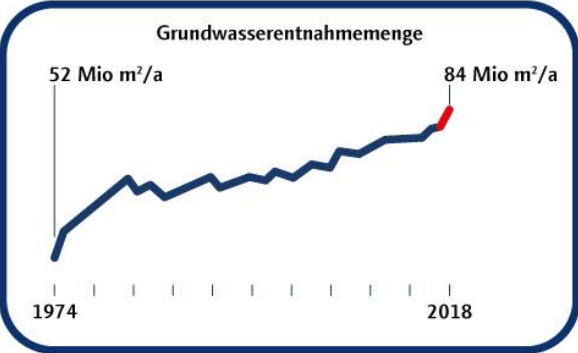


02

Motivation for water reuse

Field of tension drinking water supply

Climate change



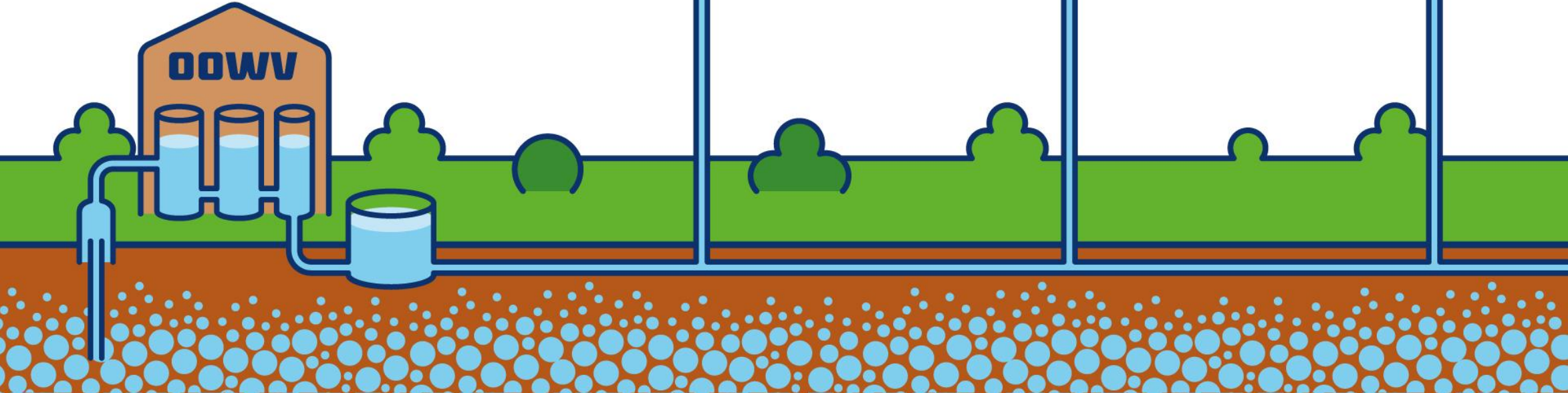
Public services



Industry



Agriculture



Does it always have to be groundwater?



Water „Fit-For-Purpose“



Treatment Processes

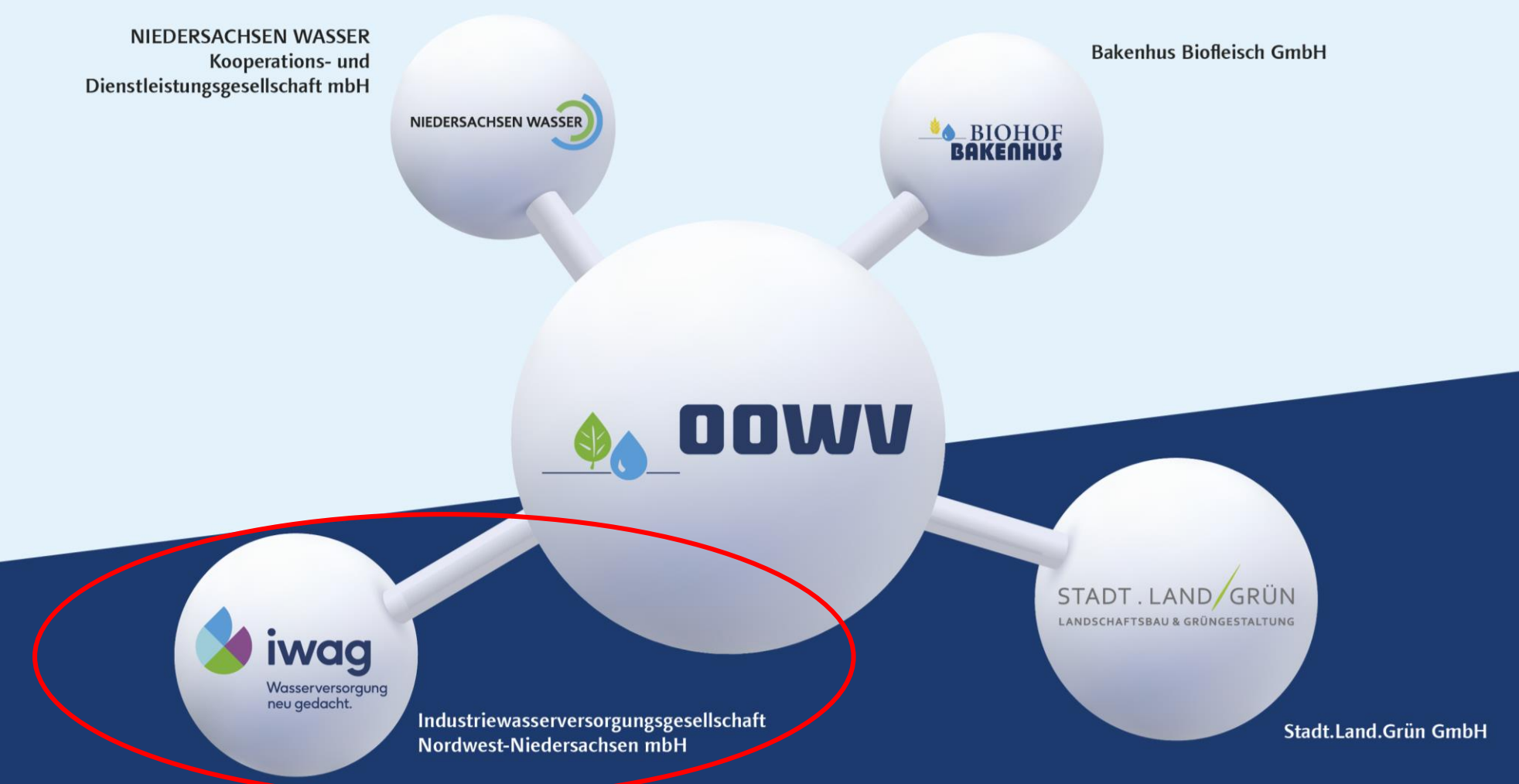
- Flocculation
- Sand filtration
- Ultrafiltration
- Reverse osmosis
- UV disinfection
- Electro-deionisation
- Ion Exchange

Water Applications

- Drinking water
- Industry/Commercial
 - Hydrogen industry
 - Steam Produktion
 - Cooling tower make-up water
- Process water
- ...



Establishment of a subsidiary



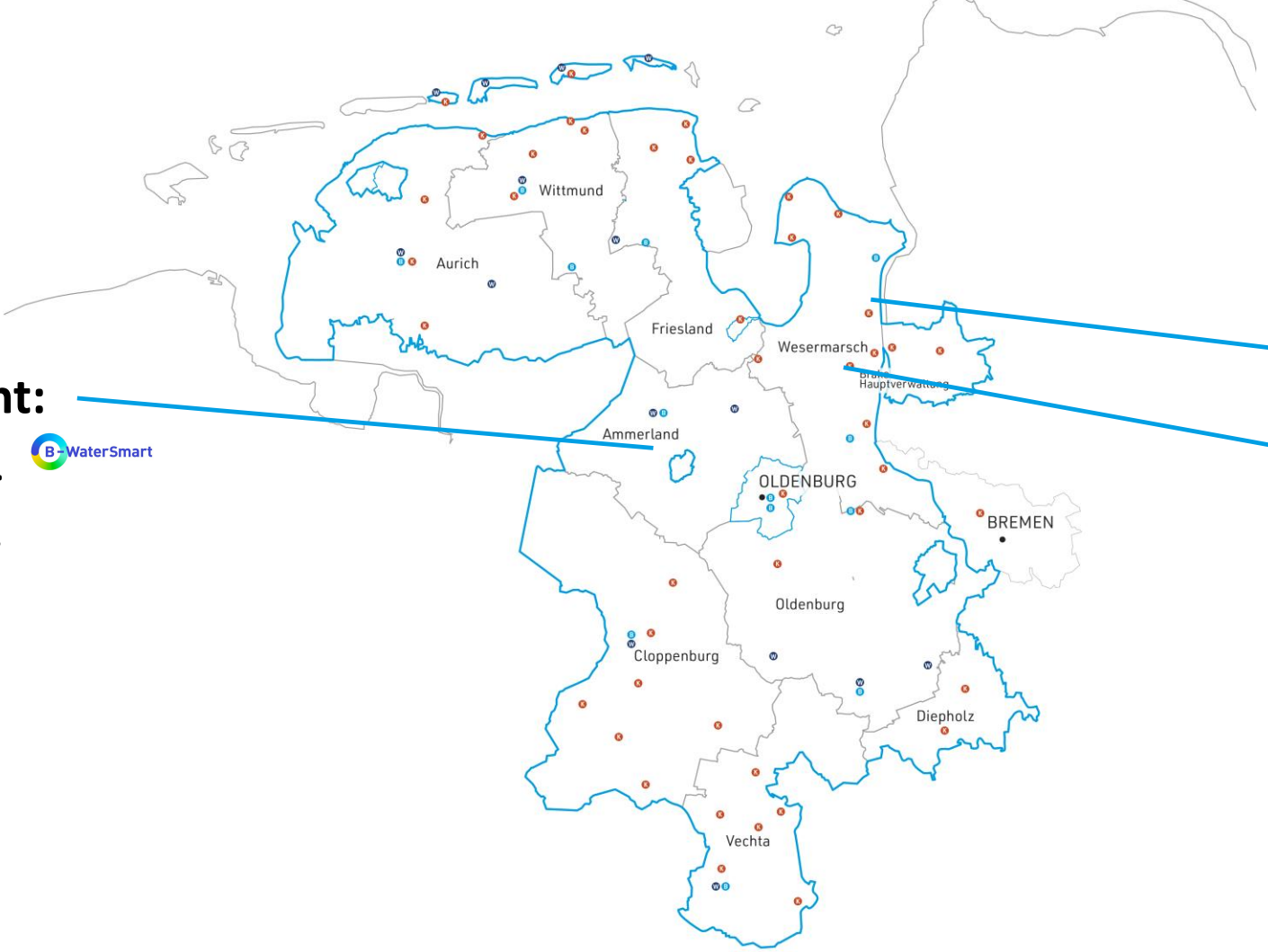
Projects for reusing water



Internal water reuse

DMK Edeweicht:

Step 1: 0,6 Mio.
Step 2: > 1 Mio.



Water reuse of municipal wastewater

WWTP Nordenham: 1,1 Mio.

WWTP Brake: 0,3 Mio.



Water for H2

03

Pilot project MULTI-ReUse

Results from the research project

MULTI-ReUse: Transdisciplinary research

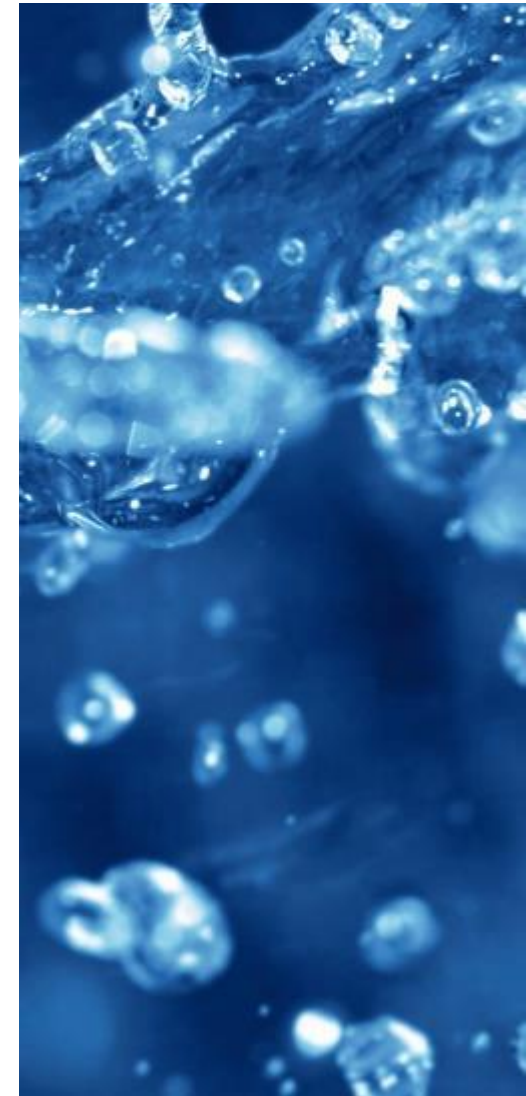
Project funded by federal ministry of education and research (BMBF)
(WavE: 09/2016 - 12/2019)

Management and coordination:  IWW ZENTRUM WASSER

Network partners:

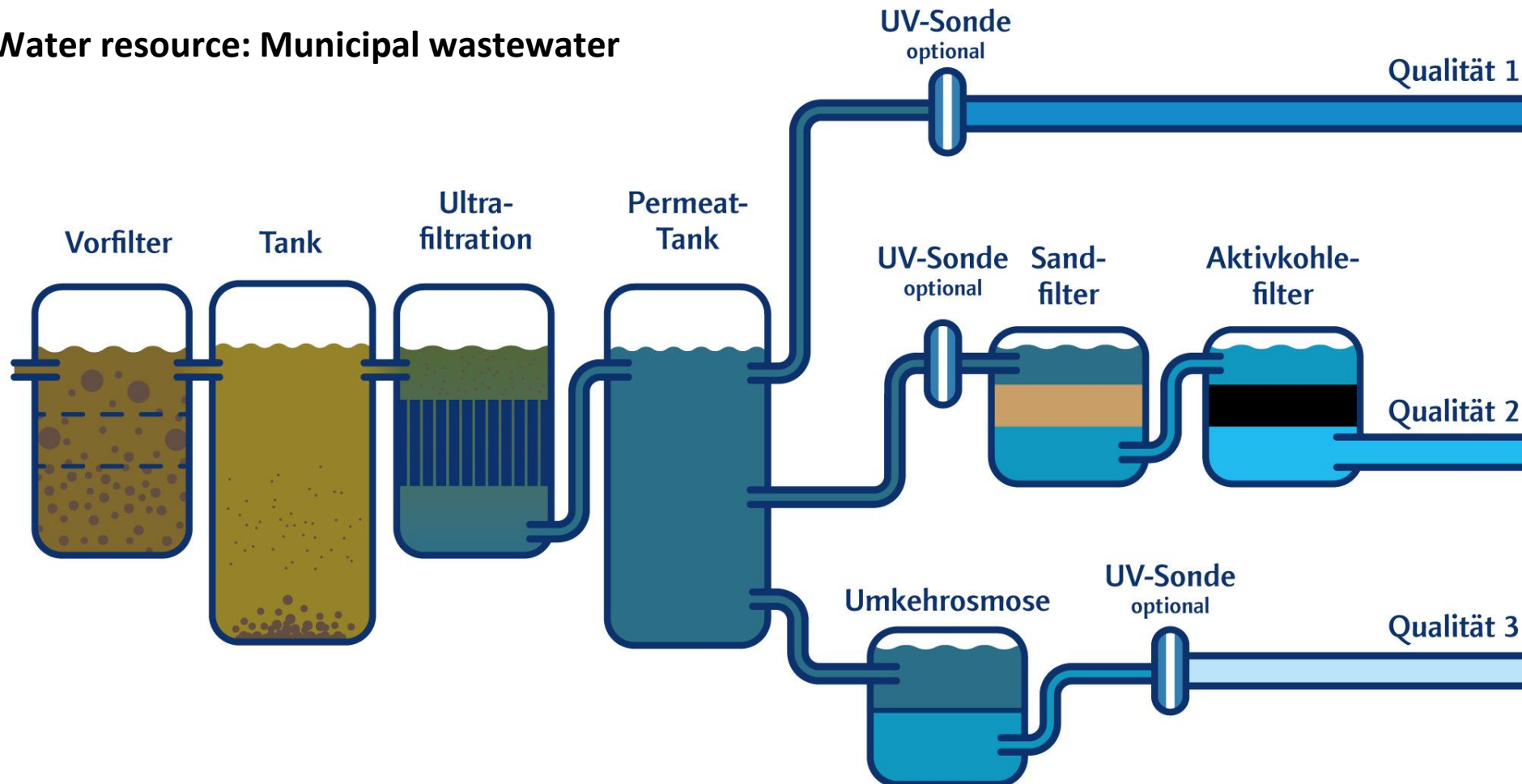


For more information see <https://water-multi-reuse.org/en/>



MULTI-ReUse: Pilot plant

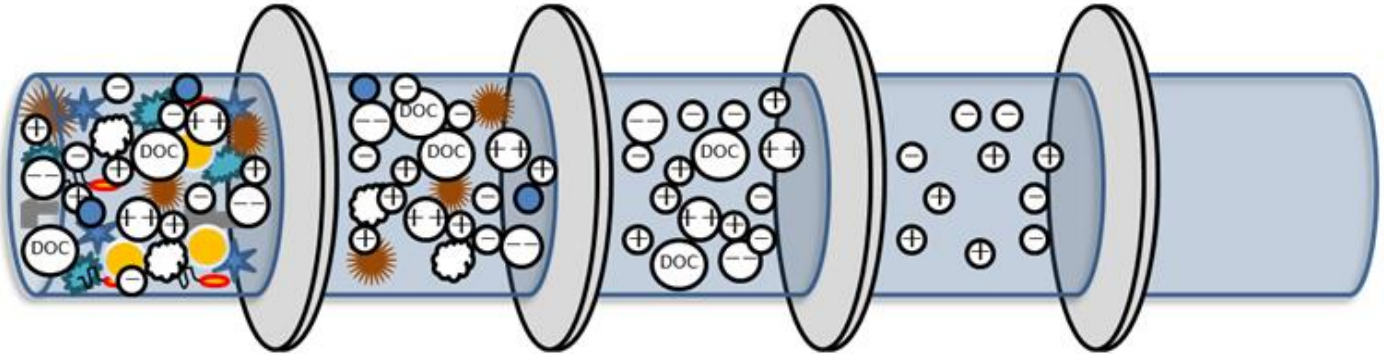
Water resource: Municipal wastewater



Service water

Modular water quality

	Quality 1 (UF)	Quality 2 (UF + SF + AC)	Quality 3 (UF + RO)
Fields of application	<ul style="list-style-type: none"> Processes at low (or very high) temperature levels closed cooling processes rinsing water 	<ul style="list-style-type: none"> Similar to drinking water Rinsing processes open cooling processes 	<ul style="list-style-type: none"> Boiler feed water Cooling tower make-up water



04

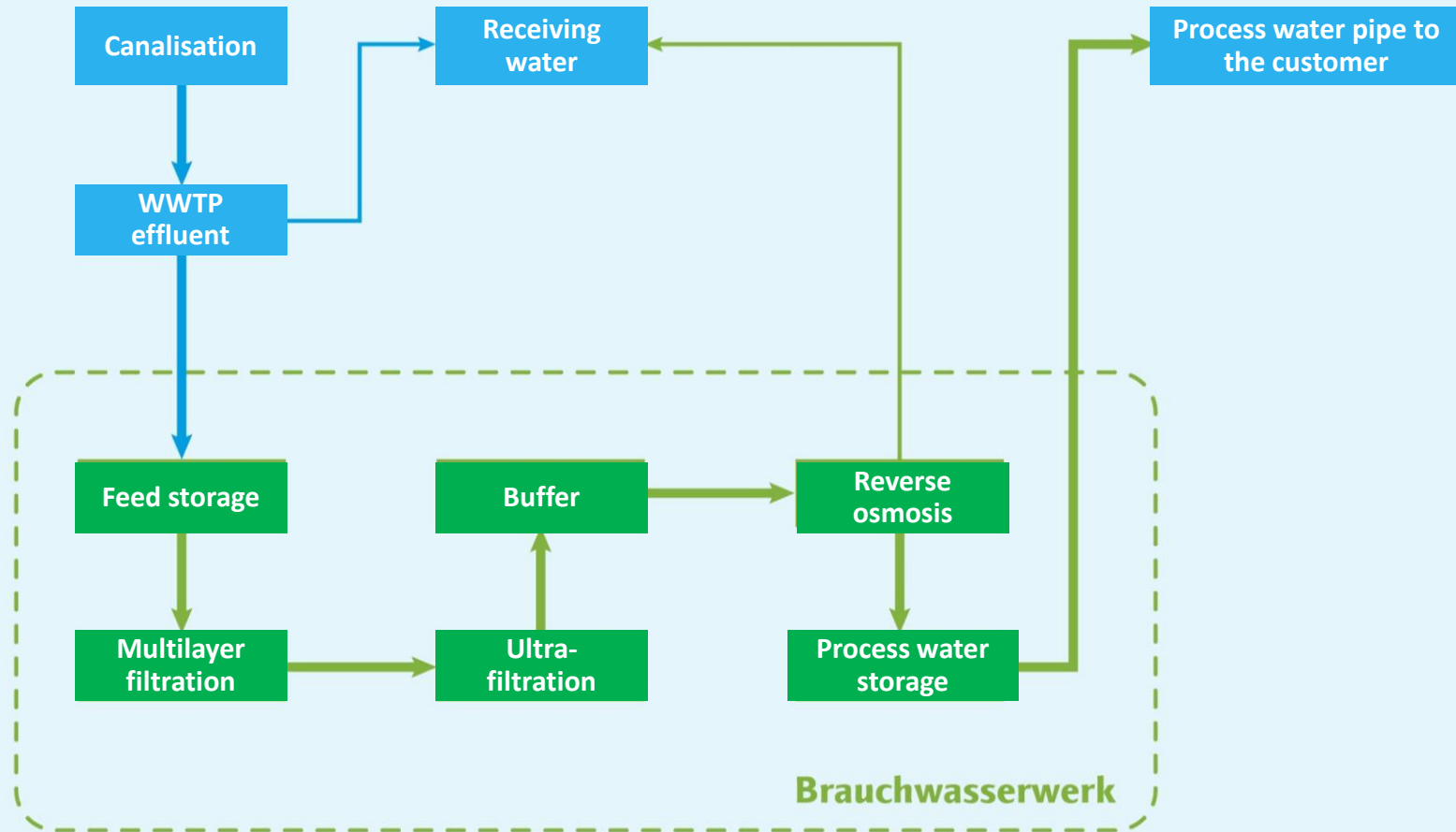
Water reuse in Nordenham

From research project to large-scale plant

Motivation for the industry

- **Securing the location**
 - Securing the water supply
 - Securing development options
 - Medium-term: securing an economically competitive location
- **Sustainability**
 - Taxonomy – ESG-Criteria (Environmental-Social-Governance)
 - CSRD-Legislation (= Corporate Sustainability Reporting Directive)
 - *ESRS* (= European Sustainability Reporting Standards)
- **Regional responsibility**

Service water plant Nordenham



Net costs:

17.5 million euros

Commissioning:

2026

Involved parties:

OOWV

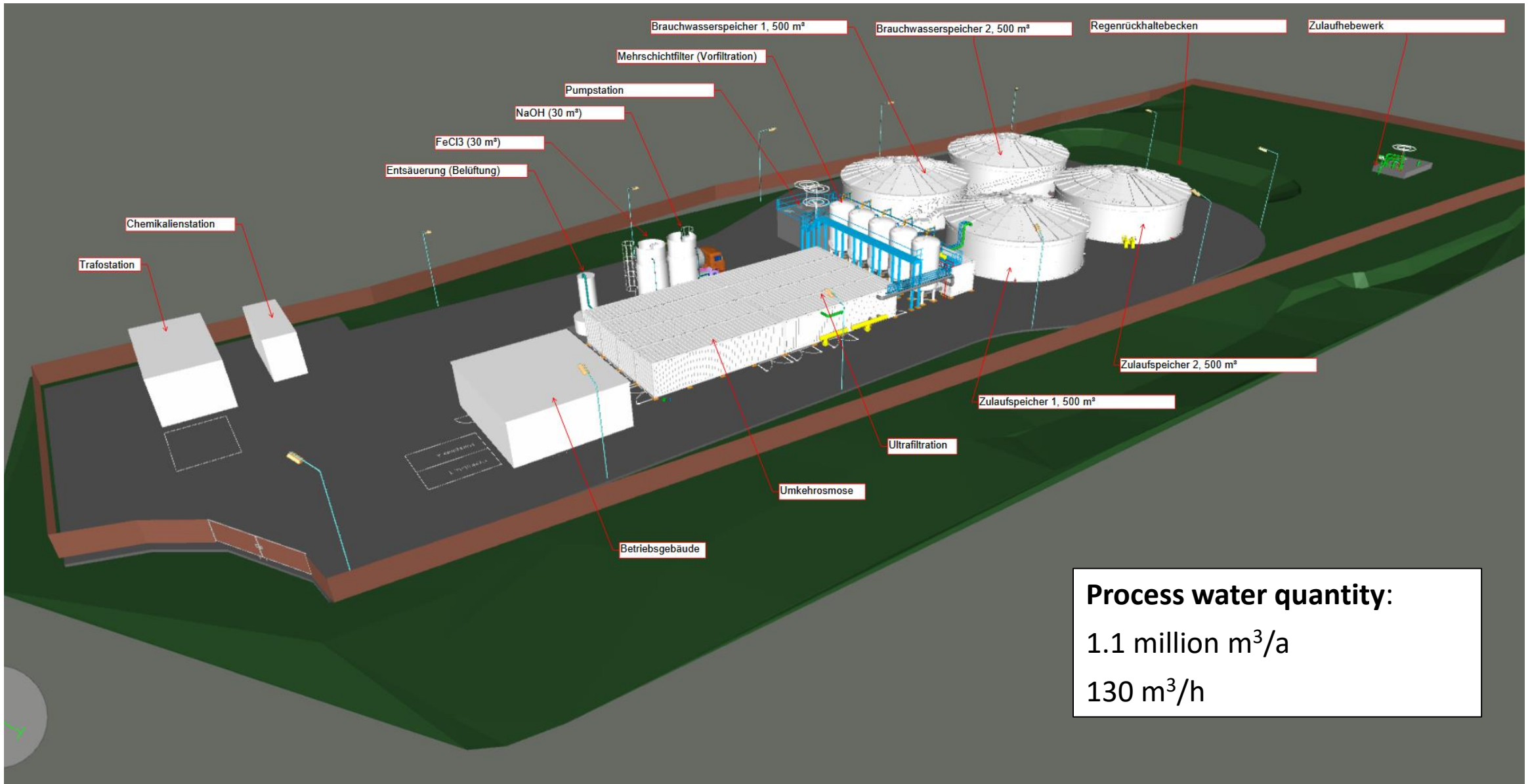
EnviroChemie

City of Nordenham

District of Wesermarsch

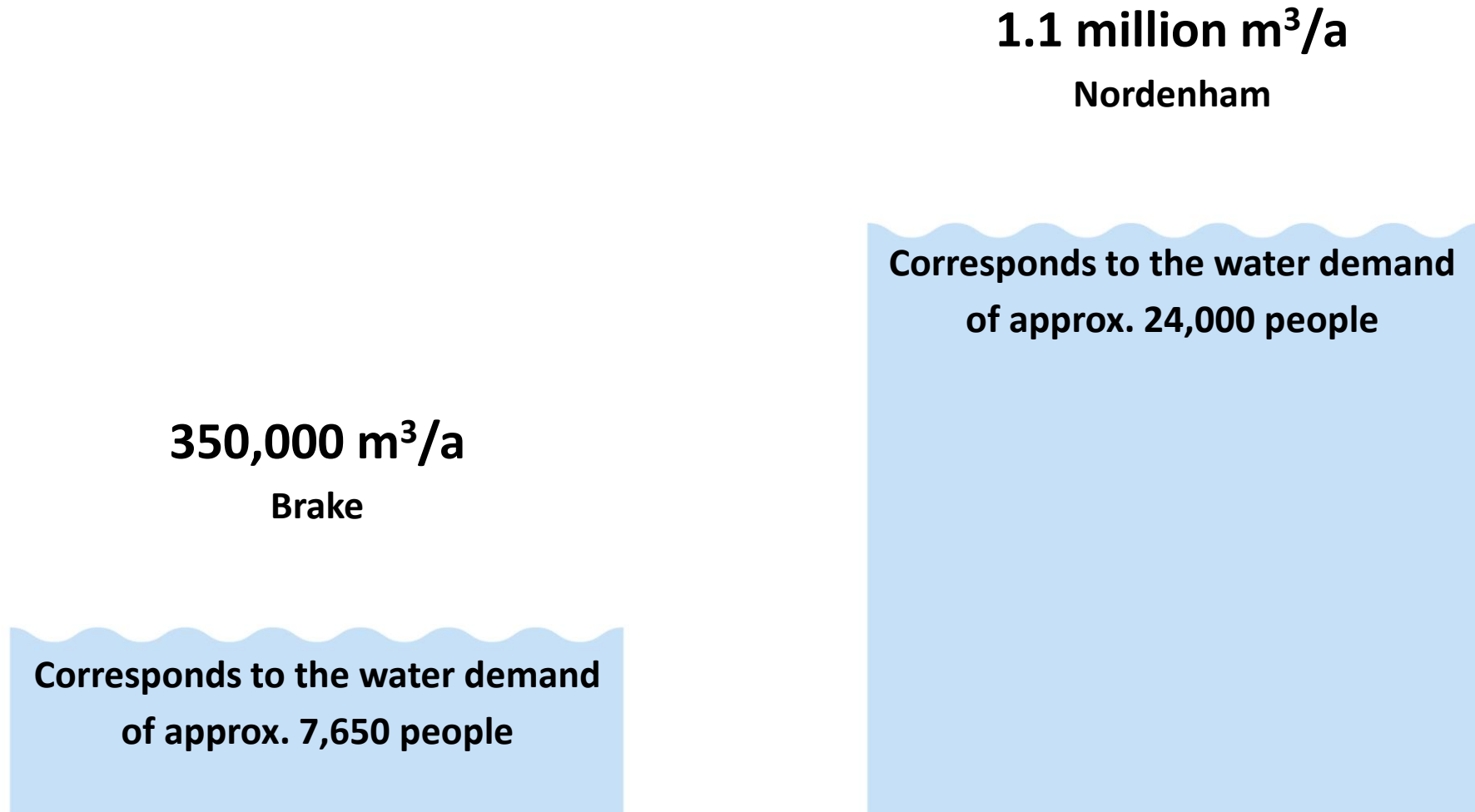
Customer:

KRONOS TITAN GmbH



3D Modell des BWW Nordenham (Envirochemie)

Service water plants

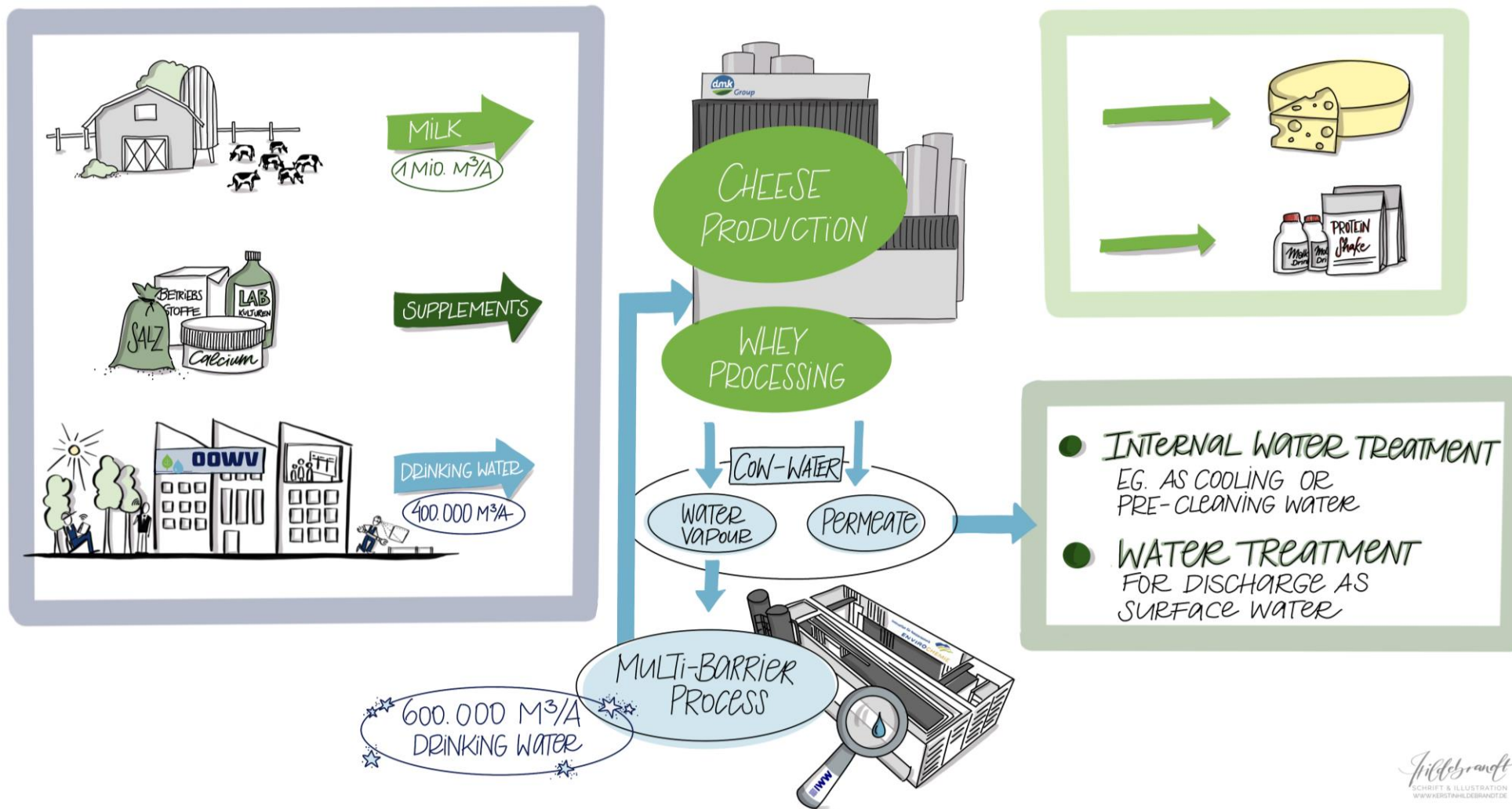


A dynamic splash of clear water against a light blue background, with numerous droplets and ripples. The water is captured in mid-air, creating a sense of movement and freshness.

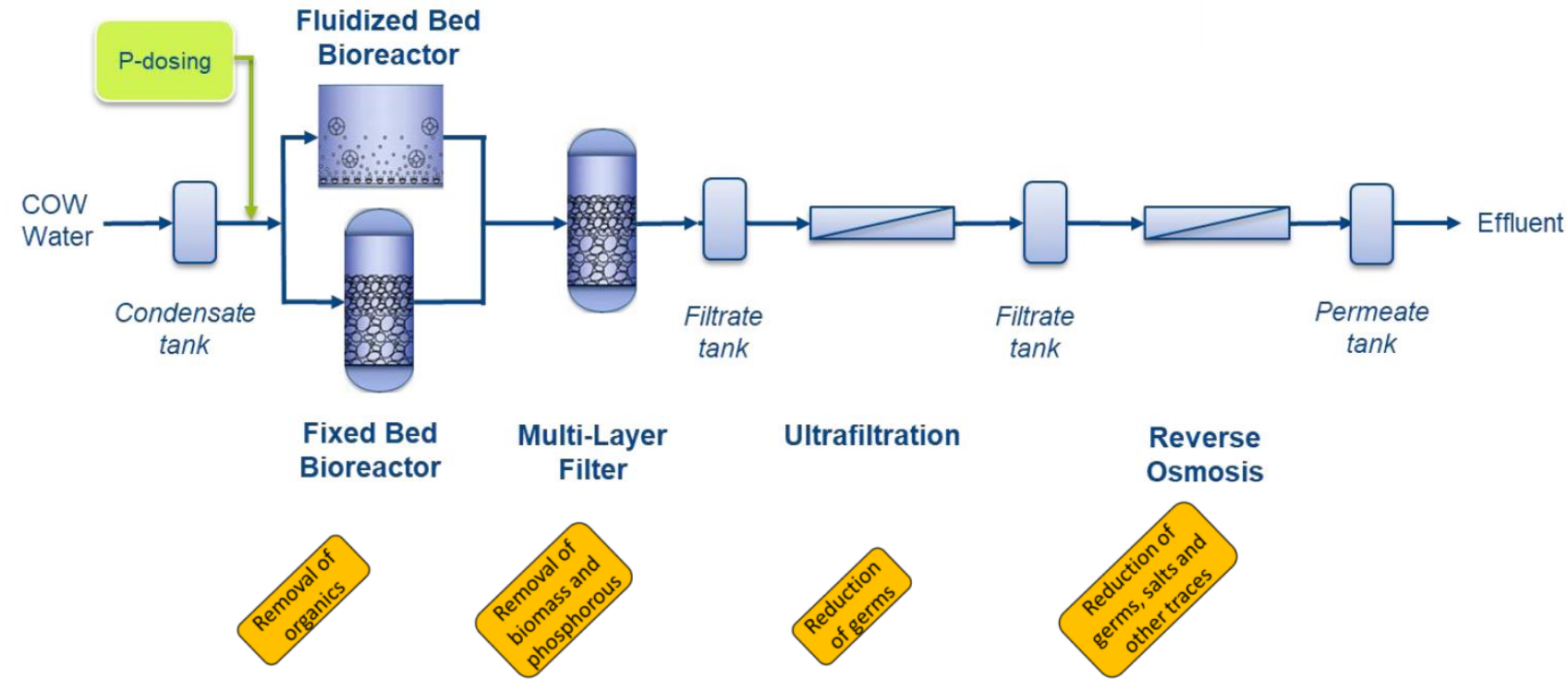
05

Water reuse in the dairy industry

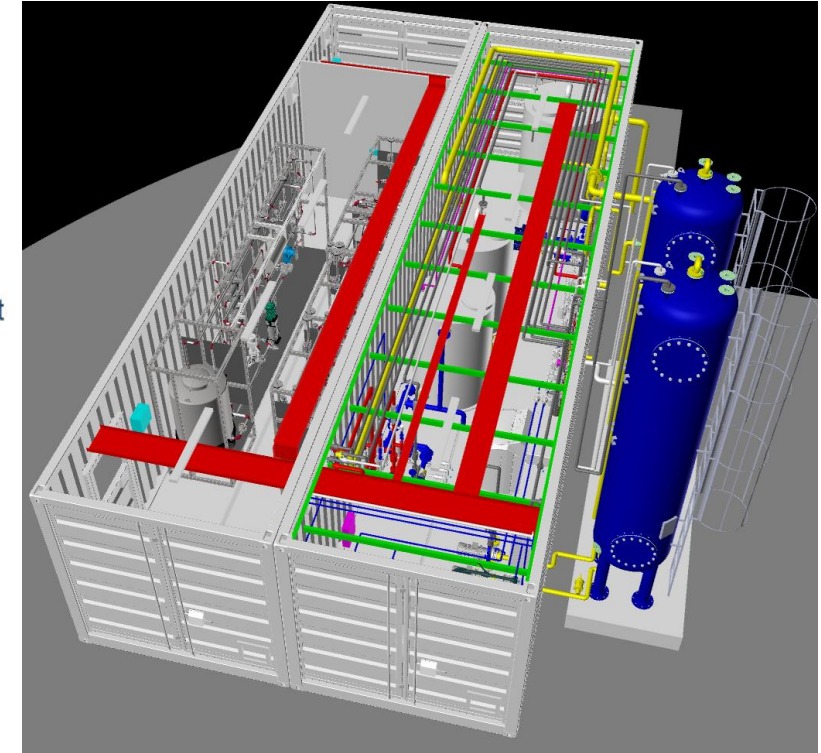
Reuse of whey vapour condensates



Reuse of whey vapour condensates



→ Multi-barrier treatment approach

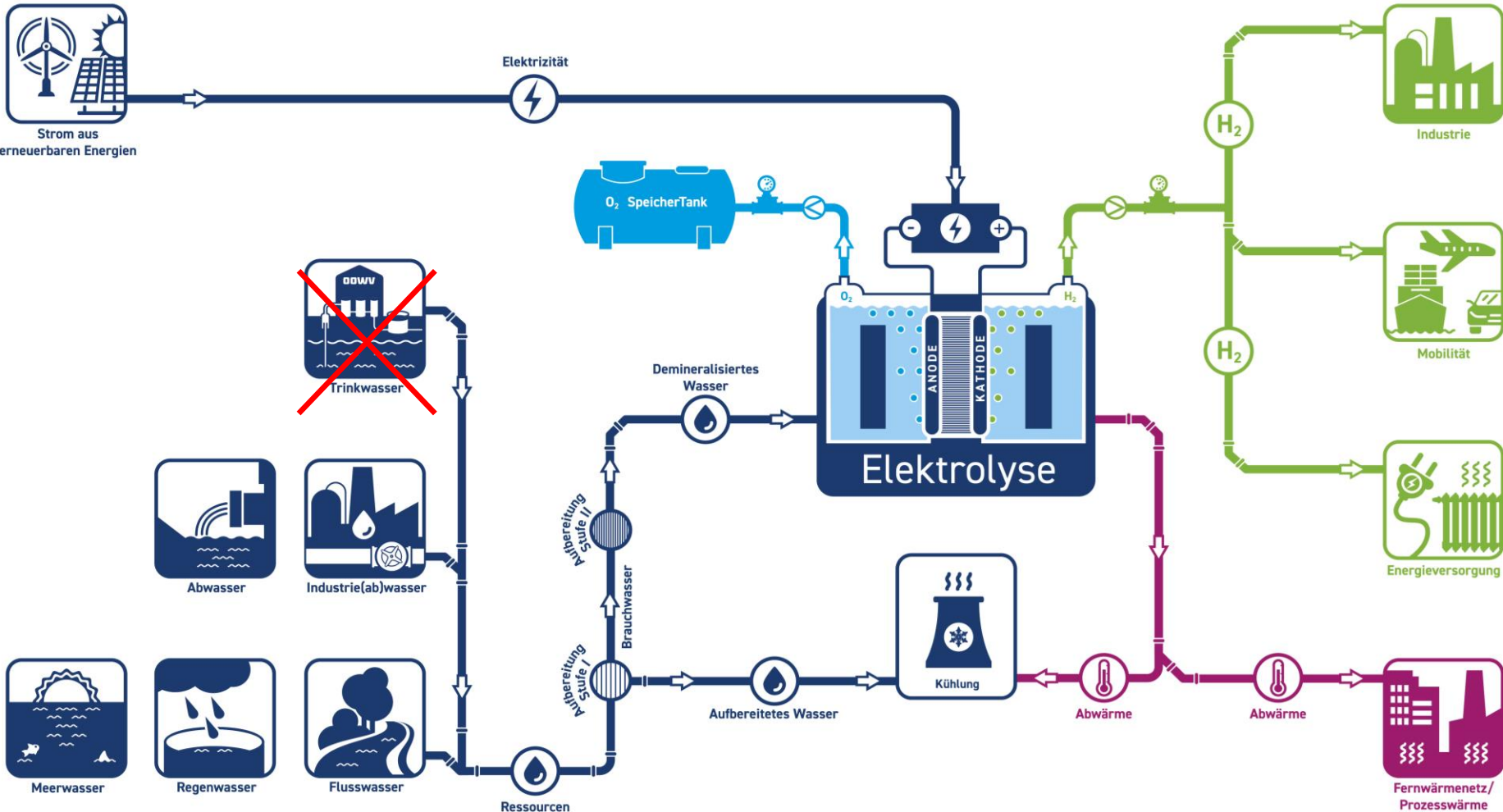


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06

Outlook

Water for H2



Objectives of the industrial water supply

- Competitive location, thanks to a public water supply
- Non-discriminatory access to water for all projects
- Industrial water solution is part of the basic infrastructure → for existing & new industrial consumers
- The use of drinking water in industrial processes is only an option in the start-up phase

Kontakt



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Thank you!