



Industry water utility symbiosis for a smarter water society

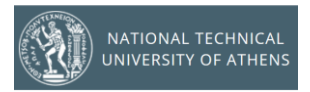
Anne Kleyböcker

March 29th 2022





- Promotion, establishment and extension of **Water Smart Industrial Symbioses**
- Development and demonstration of **innovative technologies** for symbioses
- **Assessment** of the technologies and development of **digital „support tools“**
- **Engagement of stakeholders** to discuss and enhance our Ultimate solutions
- Development of **new business models** towards marketability

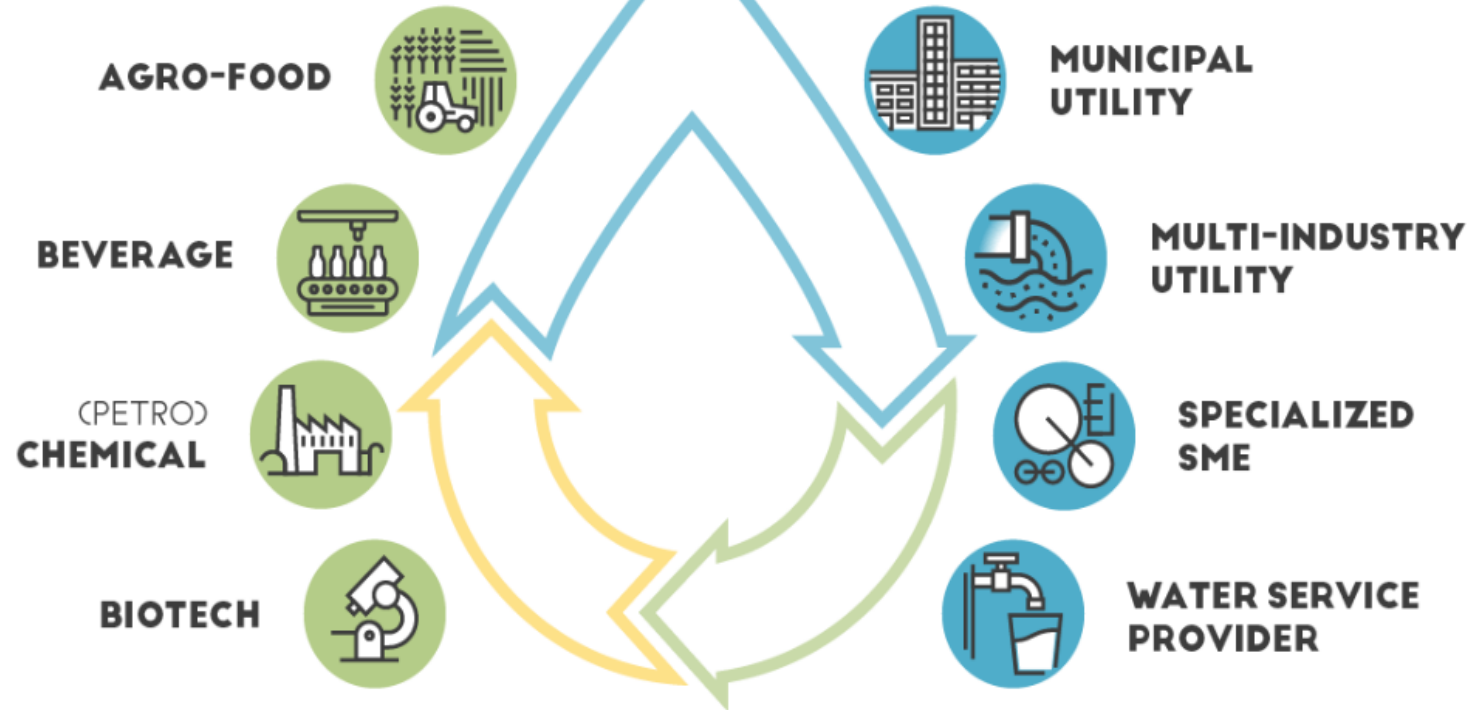




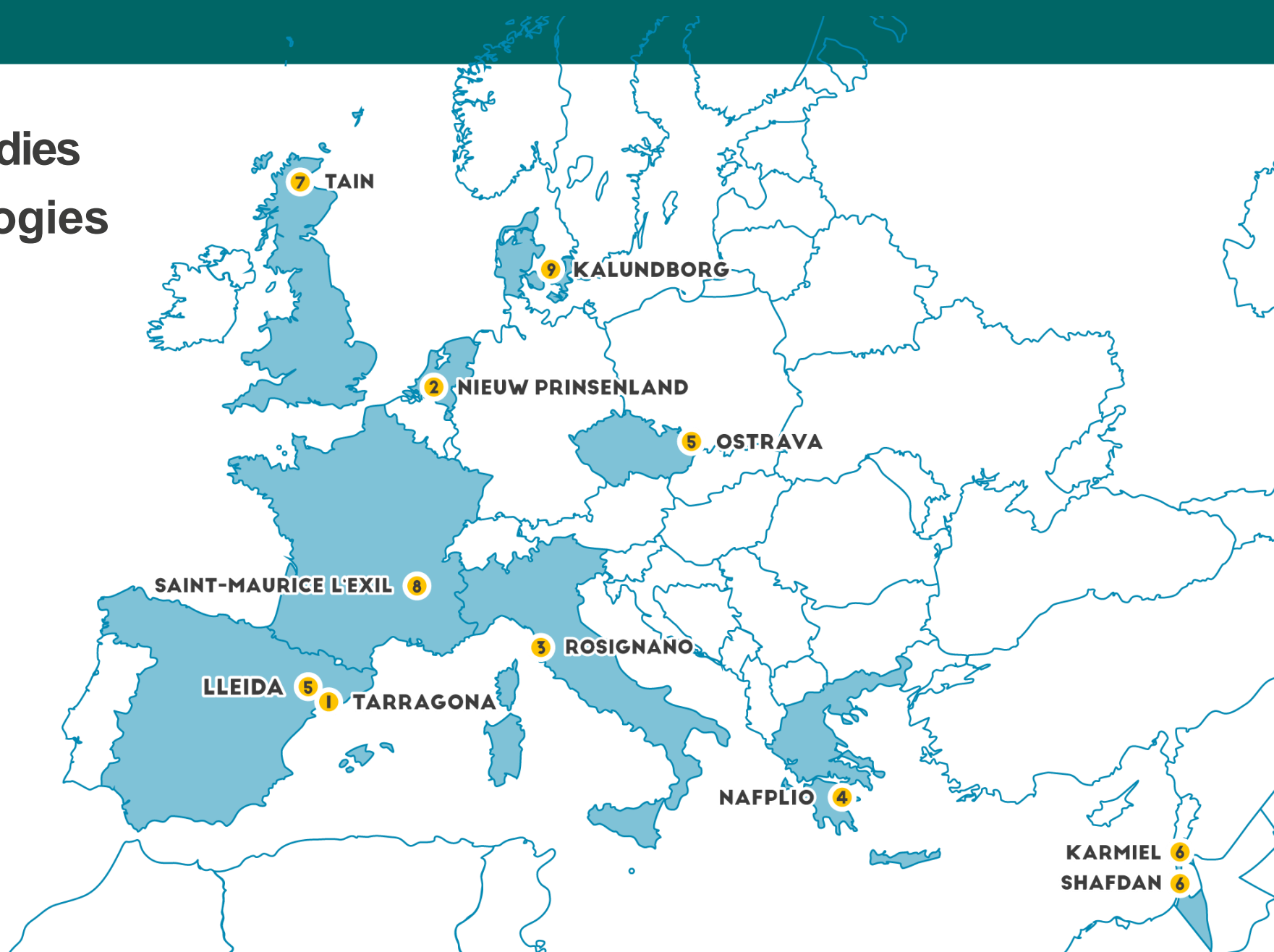
SYMBIOSES BETWEEN:

INDUSTRIAL SECTORS

SERVICE PROVIDERS



9 Case Studies 37 Technologies

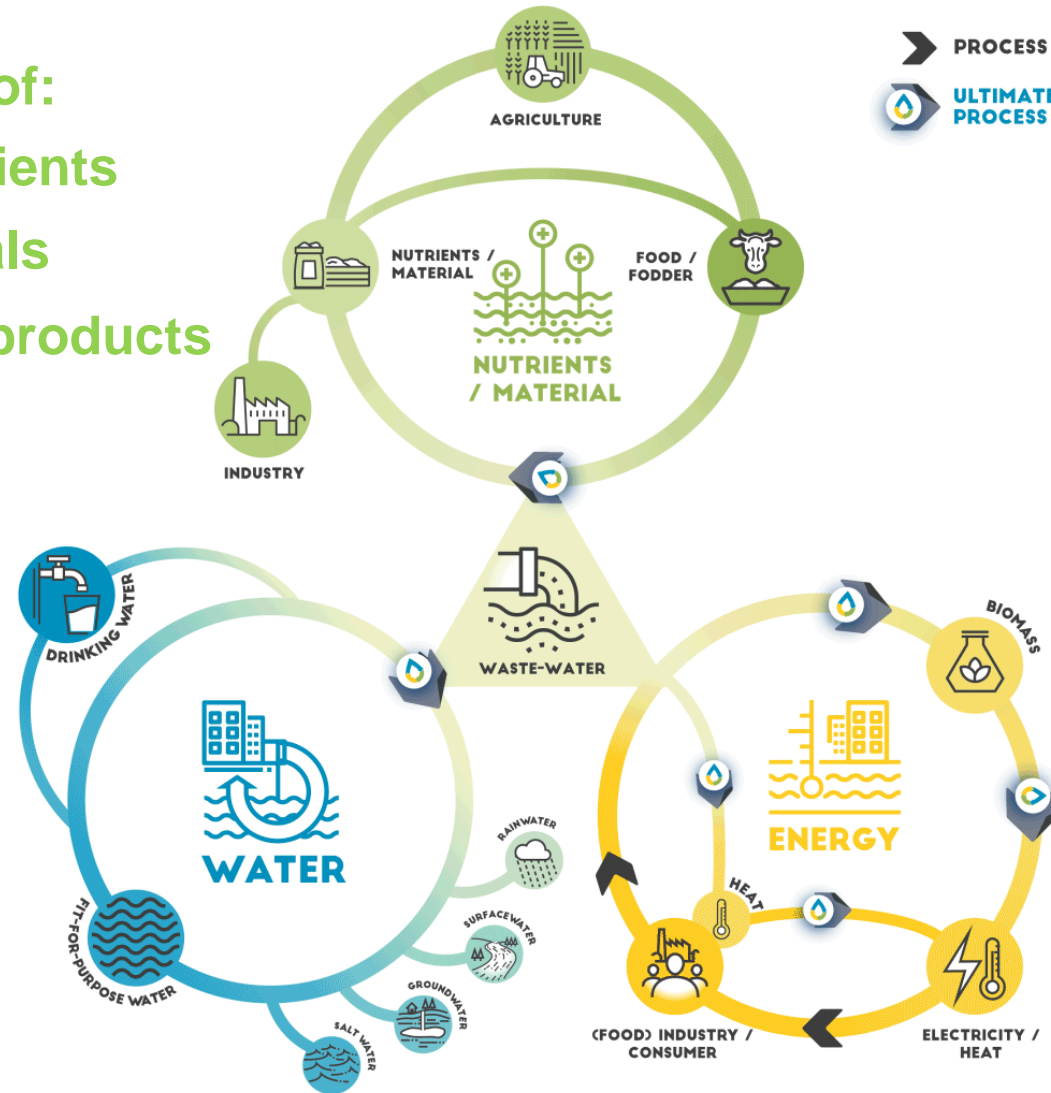


Ultimate solutions involve circular economy technologies



Recovery and reuse of:

- Materials
- Nutrients
- Sulphur
- Metals
- High added value products



- Membrane technologies
- Adsorption technologies
- Electrostimulated systems

- Biogas technologies
- Heat recovery
- Digitalization

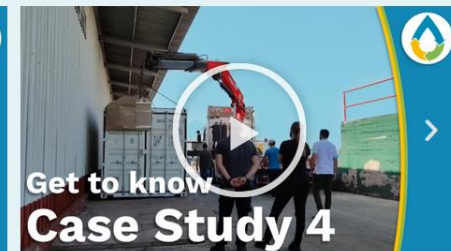
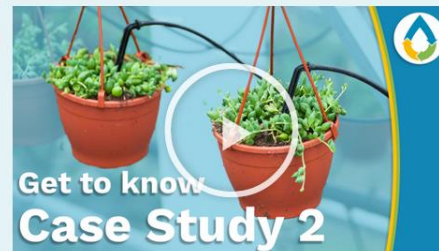


More information on our webpage:
ultimatewater.eu

MARKETPLACE AND TECHNOLOGY EVIDENCE BASE (TEB) FOR CIRCULAR ECONOMY

DISCOVER THE TEB

ULTIMATE VIDEOS



Technology Evidence Base: <https://mp.uwmh.eu/teb>



🔍 About the Marketplace

🔧 Technologies +

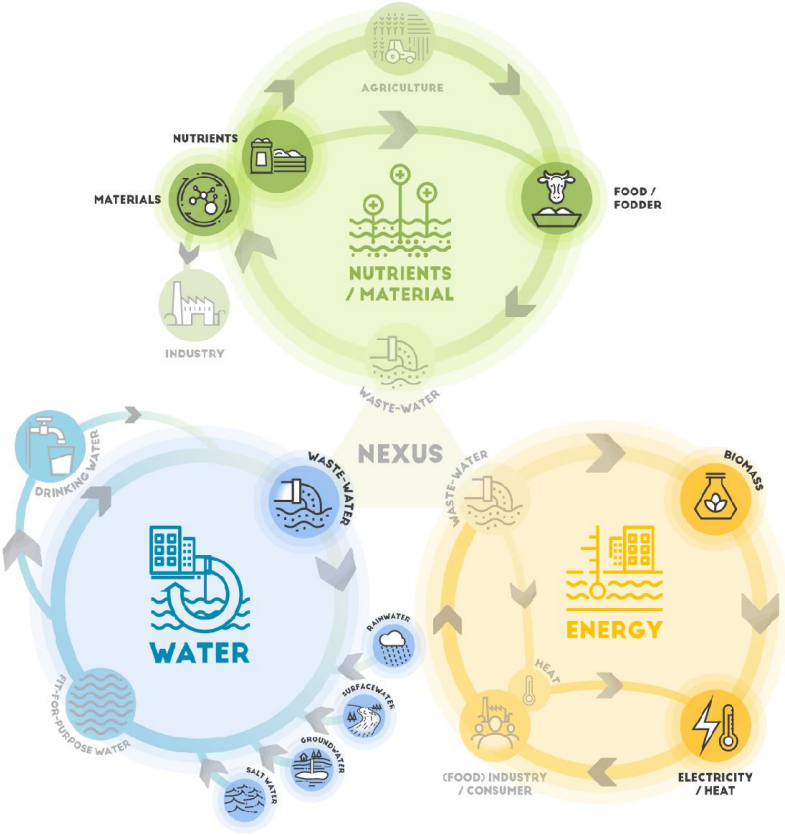
🛠️ Products

📍 Case studies +

📄 Marketplace

📅 Events

👥 Networking



Endorsed by



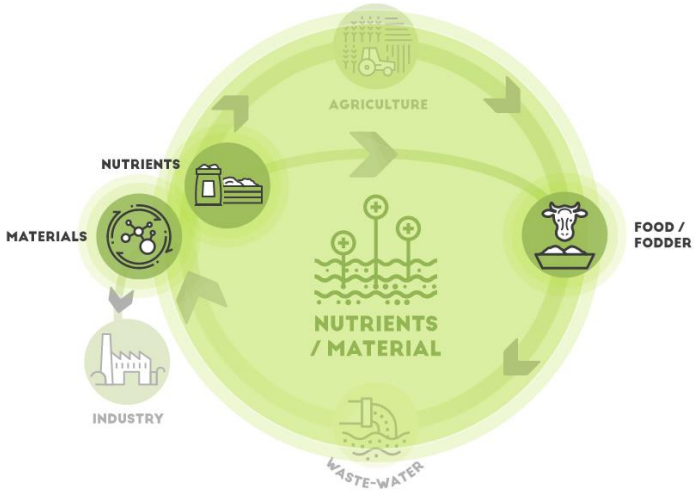
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< Back to all technologies



Nutrients/Material recovery technologies



Broader domain

- Resource for Circular Economy
- Overview of Technologies

Related products

- MobileAR solution for citizen engagement towards CE approach
- Digital Enabler

<p>Ammonium sulphate production (air stripping & scrubbing)</p> <p>Nitrogen is one of the main nutrients contained in wastewater. In wastewater treatment, nitrogen is usually removed bio...</p>	<p>Ammonium sulphate production (membrane stripping/ HFMC)</p> <p>Ammonia is a key component for fertiliser production, while ammonia and related compounds in wastewater streams have ad...</p>	<p>Granulated activated carbon (GAC) production via pyrolysis</p> <p>Activated carbon is the collective name for carbonaceous adsorbents. Activated carbon is a non-hazardous, processed car...</p>
<p>MELISSA advanced separation systems</p> <p>Micro-ecological life support system alternative (MELISSA) is a bioregenerative life support system established by the ...</p>	<p>Microalgae and purple phototrophic bacteria production in a photobioreactor</p> <p>Photobioreactors (PBR) act as solar receivers and supply sunlight (visible) and carbon dioxide (CO2) to microalgae (MA)...</p>	<p>Nutrient removal and recovery via ion exchange and HFMC</p> <p>Ammonia (NH4+) and phosphate (PO43-) are key components for fertiliser production and have a crucial role on the securi...</p>
<p>PK-fertiliser production via thermal treatment</p> <p>The Pyrophos® process jointly developed by FHNW, CTU AG, AVA Altenrhein, FIBL and Landor is a multi-</p>	<p>Rapid composting bioreactor</p> <p>Rapid composting can be applied for the treatment of excess sludge together with pruning waste. This technology can be ...</p>	<p>Struvite production</p> <p>In the wastewater sector struvite is usually used as a name for magnesium ammonium phosphate (MgNH4PO4*6H2O), even thou...</p>



Thank you for your attention!



KWB

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ULTIMATE

The logo for 'ULTIMATE' features the word in a bold, blue, sans-serif font. The letter 'A' is replaced by a graphic of three curved arrows forming a triangle, with colors transitioning from yellow to green.