WASSER 3.0

# FOR WATER WITHOUT MICROPLASTICS

www.wasserdreinull.com | 2022



Wasser 3.0 gGmbH is a Karlsruhe-based company founded in May 2020 that uses green chemistry, environmental technology and vision to explore new paths for water without microplastics.

#### **LET'S STOP MICROPLASTICS!**

Microplastics have been detected from the Arctic ice to the deep sea, from the Danube to Mount Everest, in animals, in human intestines, placenta and most recently also

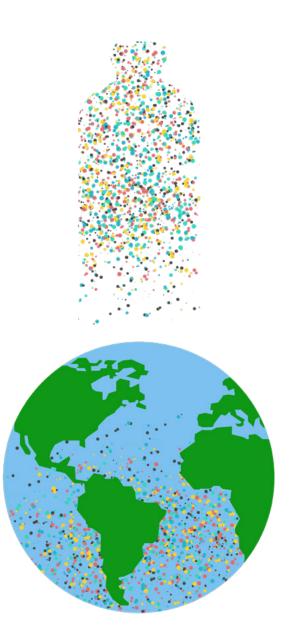
in blood and lungs. Every day, the burden of microplastics on our ecosystems and bodies increases. We ask ourselves: How can we stop this?



# OUR LEVERAGE FOR WATER WITHOUT MICROPLASTICS

In view of the extent of global water pollution through microplastics, we advocate a systemic approach: innovative water technology goes hand in hand with application-oriented basic research as well as transformative education and awareness-raising initiatives on the topics of microplastics and (waste)water.

We focus on synergy effects. We tackle economic, ecological and social levers for water without microplastics in their entirety.





















#### WHAT DRIVES US

As a sustainability entrepreneur, we apply our corporate added value to the overall social context of water without microplastics.

To this end, we are working on the socio-ecological transformation of general production and consumption logics. We consider purely commercial, profit-maximizing actions neither appropriate nor purposeful for securing the most important resource on this planet.

By choosing a non-profit limited liability company as our corporate form, we have decided to reinvest 100 percent of the profits directly and transparently in further research and educational projects.

**Greentech meets Social Business.** 







Micropolastics & Micropollutants









#### **WHO WE ARE**

The core team of Wasser 3.0 currently consists of six people, a large network and is: Interdisciplinary. Solution-oriented. Highly motivated.



#### **Dr. Katrin Schuhen**

Inventor and founder of Wasser 3.0, the basis of which she laid while working as an Junior Professor of Organic & Ecological Chemistry (2012-18). After receiving her PhD in Chemistry in 2007, she worked, among other things, in the polymer industry. She manages the business of Wasser 3.0.

#### Silke Haubensak

M.A. Ethnology / Coach (univ.), has 15+ years of experience in HR, training & development in the corporate environment and has been responsible for scientific communication and organizational development for 2+ years.

#### **Dennis Schober**

B.Sc. Environmental Science / Master Wastewater Engineer, has 10+ years of experience in the wastewater sector, including 6+ years with Wasser 3.0 as a research associate.

#### **Michael Sturm**

M.Sc. Environmental Sciences with focus on Environmental & Water Chemistry, has been with us for 7+ years as a research associate. His PhD at the Karlsruhe Institute of Technology, which he did in cooperation with Wasser 3.0, will be completed soon.

#### **Anika Korzin**

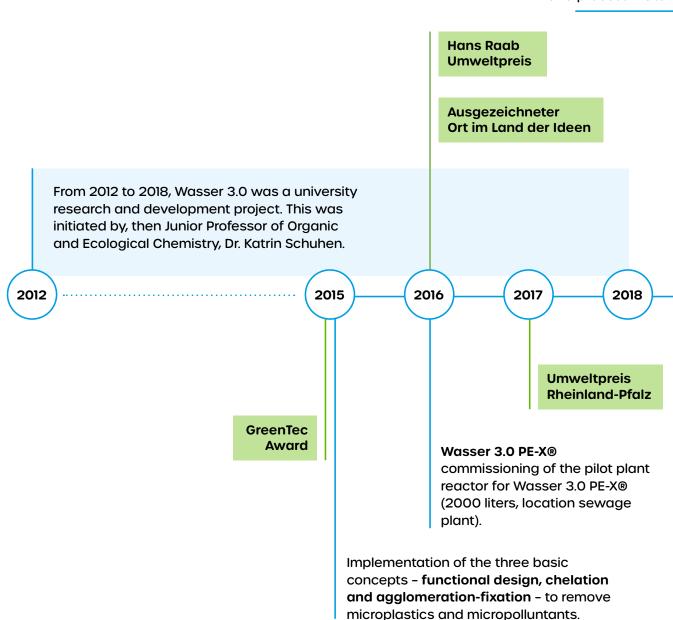
M.Sc. Sustainable Process Design, has been part of the team as a process engineer and process technician since September 2021.

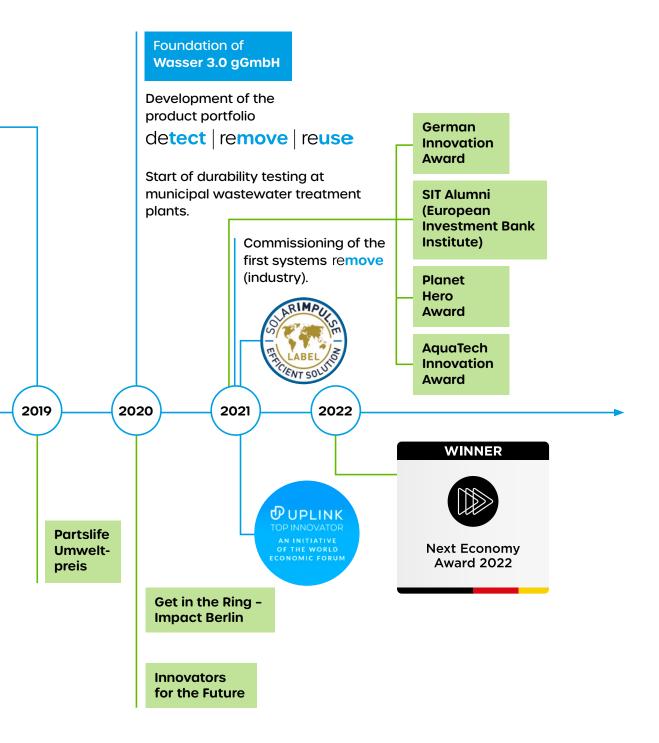
#### **Nadine Bolch**

Specialist for Audiovisual Media, has supported the Education and Communication area since April 2022.

#### A PATH IS MADE BY WALKING ON IT

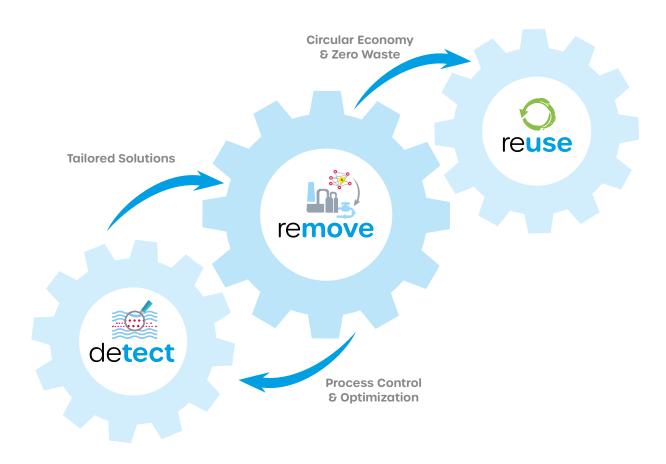
Successful pilots of Wasser 3.0 PE-X® in wastewater, seawater and process water.





#### **GREEN CHEMISTRY AND CIRCULAR ECONOMY FOR WATER** WITHOUT MICROPLASTICS

The unique Wasser 3.0 strategy detect | remove | reuse provides innovative solutions for dealing with microplastics. This is wastewater treatment in the sense of water, resource and health protection.



#### **DETECT MICROPLASTICS**

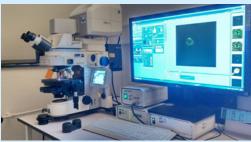
Our new analysis method Wasser 3.0 detect enables simple and cost-effective monitoring of microplastic contamination in processes for the first time. A new level of removal and resource efficiency.

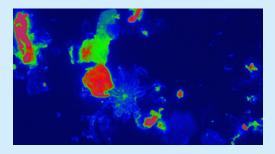
It is an urgently needed action option for harmonized data collection of microplastic loads in water.

It is currently undergoing final validation and is being further developed in current research projects as a rapid test for sampling water bodies and as a continuous analysis device.

# detect







# remove Li







#### **REMOVE MICROPLASTICS**

Wasser 3.0 remove is the ecological-economic alternative to installation-, maintenance-, energy- and resource-intensive water purification processes.

Hybrid silica gels, which are completely harmless to health, are added to the contaminated water in a simple process. By clumping together, many finely distributed particles become popcorn-like agglomerates. They float to the surface and are skimmed off there.

The adaptability of hybrid silica gels is the key to achieving tailored solutions for complex contamination scenarios and process requirements.

We achieve reproducible elimination rates of over 95% in industrial processes, wastewater treatment plants, surface waters and seawater.

#### **CLOSING LOOPS**

Wasser 3.0 reuse puts an end to linear action. We regard waste and wastewater as a resource. For each remove process, we develop an individual reuse concept.

Treated water can thus be reused as process water or discharged as microplastic-free wastewater. The removed agglomerates are used in new products depending on their composition. Initial research findings confirm a very good suitability as insulation and construction material.

The use of detect | remove | reuse in the treatment of process water is proving to be resource-saving along the entire value chain.

# reuse 🔾







#### **EDUCATION FOR WATER WITHOUT MICROPLASTICS**

With our education and awareness work, we want to close knowledge and action gaps so that we can take more effective action against the pollution of our environment through microplastics.

Sustainable action needs problem awareness. Questions about why and how changes are necessary and possible need answers. However, answers alone are not enough. It takes eureka moments that transform knowledge into understanding and give us the inner drive to become agents of action.

To achieve this, we combine the best of different worlds in our educational area WASoMI (water without microplastics): Real and virtual spaces, individual and collective learning, sound knowledge transfer and concrete action, open experimentation and a tangible connection to nature.

#### **DIGITAL-REAL EDUCATION SPACE**

# POLYMERS & SYNTHETIC MATERIALS. PLASTICS & MICROPLASTICS.

WHEN A GLOBAL ENVIRONMENTAL PROBLEM LURKS BEHIND EVERYDAY HELPERS



#### COMMUNICATION FOR WATER WITHOUT MICROPLASTICS

As a sustainability entrepreneur, we see it as our mission to question statements, to provide fact-based information and to encourage critical thinking.

On our homepage, in our blog, in social media as well as in our press and communications work, we continuously report on why we do what we do and describe the multi-faceted path we take as a sustainability entrepreneur.

We do not rely on green marketing campaigns, but on communicating our data mindset. We publish our findings and experiences in a transparent and scientifically sound way.

We do not do this with the aim of gaining customers, but rather fellow campaigners and promoters of water without microplastics.



















### WHAT WE HAVE ACHIEVED SINCE FOUNDATION

With the Solar Impulse Efficient Solution Label for our Wasser 3.0 PE-X® process, we are one of the #beyond1000solutions certified by the Solar Impulse Foundation (founded by Bertrand Piccard).

In 2021, Wasser 3.0 also received the German Innovation Award in Gold, the AquaTech Innovation Award in the category Green Chemicals for Water, the Planet Hero Award, the Next Economy Award and was among the TOP 15 finalists of the Social Innovation Tournament of the European Investment Bank Institute.

Moreover, we were the first non-profit Green-Tech company to achieve a ranking among the Top 50 Start-Ups 2021.



#### For more information visit us at www.wasserdreinull.com















