



SCAUT Forschungsgesellschaft mbH

**DEVELOPMENT AND LARGE SCALE TESTING OF WATER
REUSE PROCESS TECHNOLOGIES IN WASTE WATER
FREE HOUSES AND COMPANIES BASED ON
ULTRAFILTRATION MEMBRANES**

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Droughts: The climate change will cause wars for water and other resources.

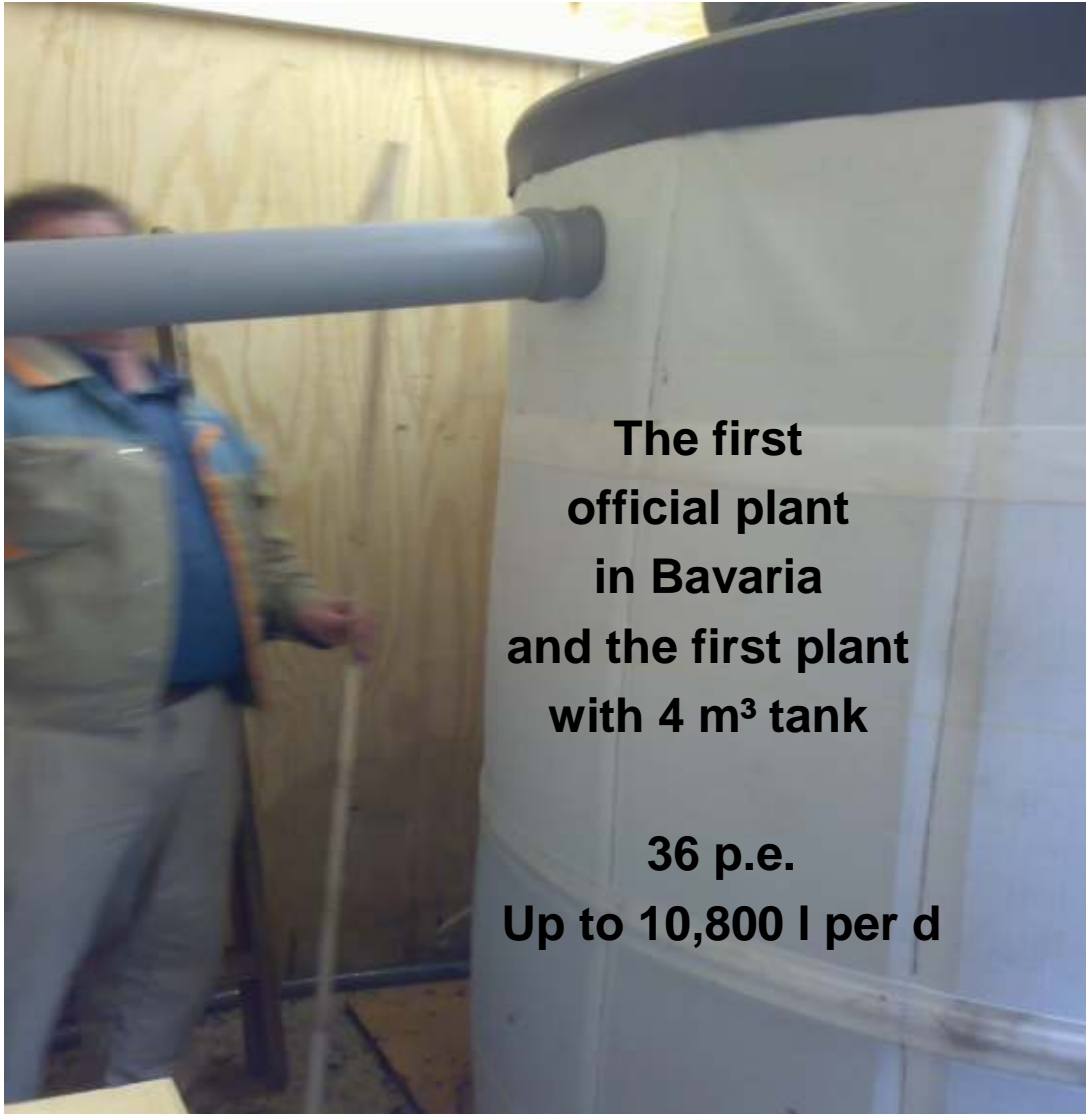


Result of the research project:

Problem solution

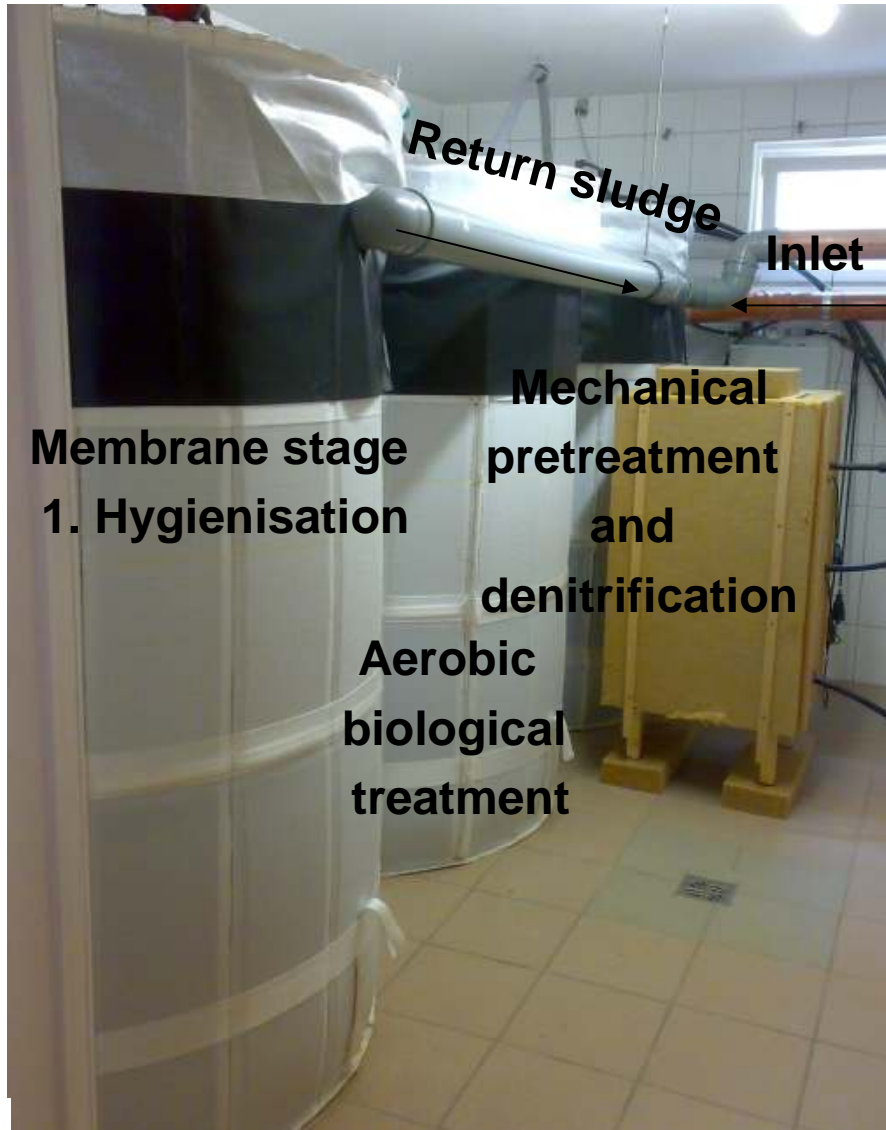
Waste water from households contains water, nutrients, minerals and impurities. Impurities are changed to CO₂ and H₂O and water, nutrients and minerals are reused.





**The first
official plant
in Bavaria
and the first plant
with 4 m³ tank**

**36 p.e.
Up to 10,800 l per d**



**A complete waste water
treatment in the basement
of a
two-family-house**

10 p.e.

Up to 3,000 l per d

Let's build a water recycling plant

1,800 mm

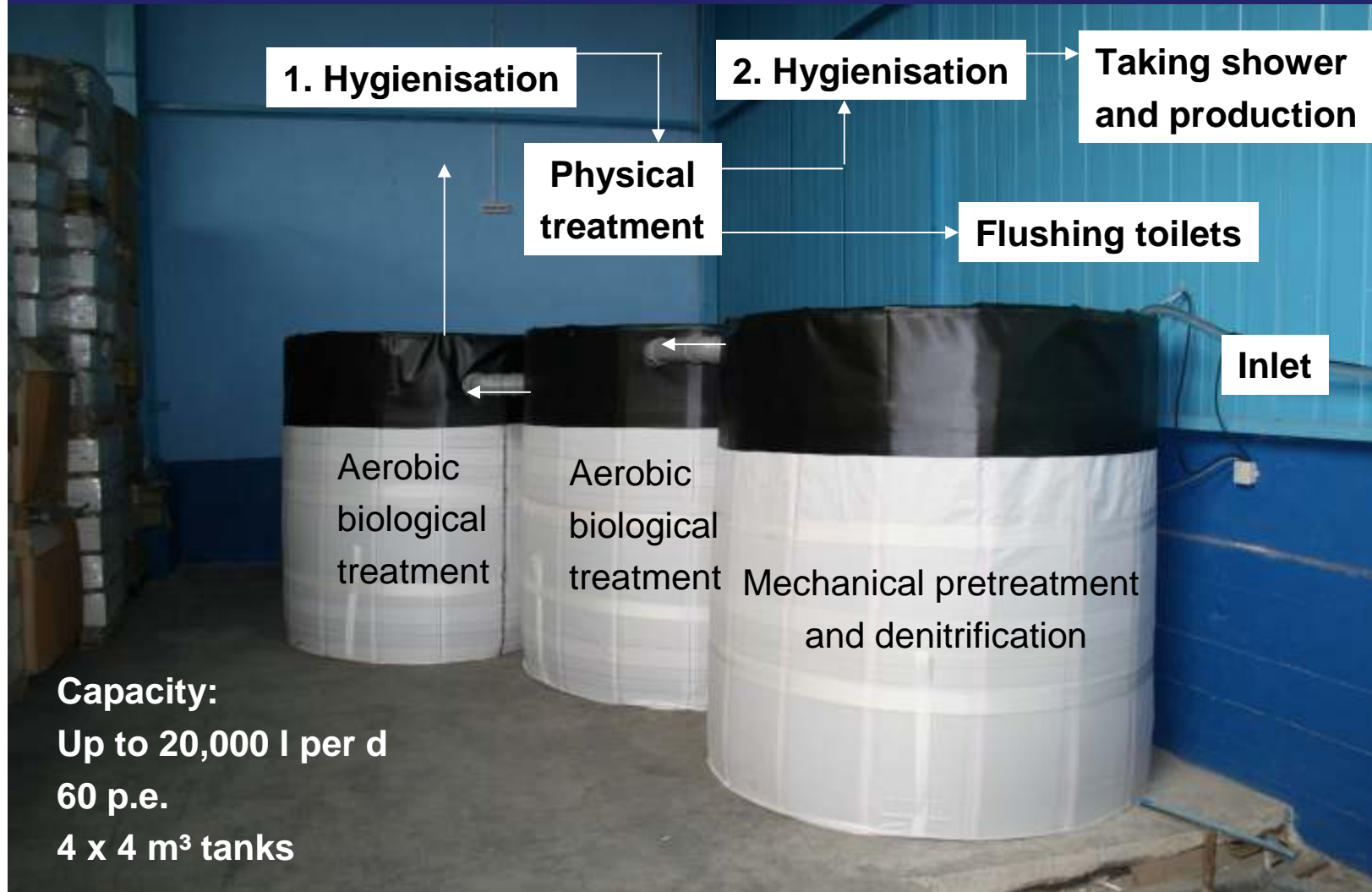
A photograph of a large, cylindrical object wrapped in white plastic, likely a water storage tank. The object is positioned in a warehouse or storage area. A man in a dark shirt and pants stands to the right of the tank, providing a sense of scale. A white double-headed arrow is drawn across the width of the tank, with the text "1,800 mm" centered above it. The background shows stacks of white bags and a blue wall.







Water recycling, Romania





Which one is from waste water?



Produced in Romania?



Analytical results

	Raw	MBR	SCAUT
COD	> 1.000	25	5
NH4-N	> 100	< 1	< 1
NO3-N	0	10	10
Ntotal	> 500	10	10
E-coli	10 Mio.	4	0
Coliforme	10 Mio.	120	0
Colony 22	10 Mio.	> 1.000	0
Colony 37	10 Mio.	> 1.000	0



	SBR plant	Trickle filter plant	Planted bed system	Membrane plant	SCAUT process	Sewer Treatment plant size 4
Waste water parameters						
COD [mg/l]	< 90	< 150	<150	< 90	< 5	< 90 (<40)
BOD [mg/l]	< 25	< 40	< 40	< 25	< 5	< 20 (< 8)
Ammonium [mg/l]	< 10	(< 10)	(< 10)	< 10	< 2	< 10 (2-3)
N _{inorg} [mg/l]	(< 25)			(< 25)	(< 6)	< 18 (< 1)
P _{total} [mg/l]	(< 2)	(< 2)		(< 2)	(< 0.02)	< 2 (< 1)
Faecal coli form germs in 100 ml	> 1 million (< 100)	> 1 million	> 1 million	< 100	0.0	> 1 million
Filterable substances	50.0	75.0	75.0	0	0	< 20
Bacteriological potable water parameters						
Coliform bacteria in 100 ml	not achievable	not achievable	not achievable	not achievable	0	not achievable
E. coli in 100 ml	not achievable	not achievable	not achievable	not achievable	0	not achievable
Enterococci in 100 ml	not achievable	not achievable	not achievable	not achievable	0	not achievable
Colony count 20° C in 1 ml	not achievable	not achievable	not achievable	not achievable	0	not achievable
Colony count 36° C in 1 ml	not achievable	not achievable	not achievable	not achievable	0	not achievable
Clostridium perfringens (including spores) in 100 ml	not achievable	not achievable	not achievable	not achievable	0	not achievable
Pseudomonas aeruginosa in 100 ml	not achievable	not achievable	not achievable	not achievable	0	not achievable
Salmonella spp.	not achievable	not achievable	not achievable	not achievable	0	not achievable





Result of the research project: Problem solution

Drinking and process water from waste water with the
SCAUT-Process

water saving potential up to 90 %

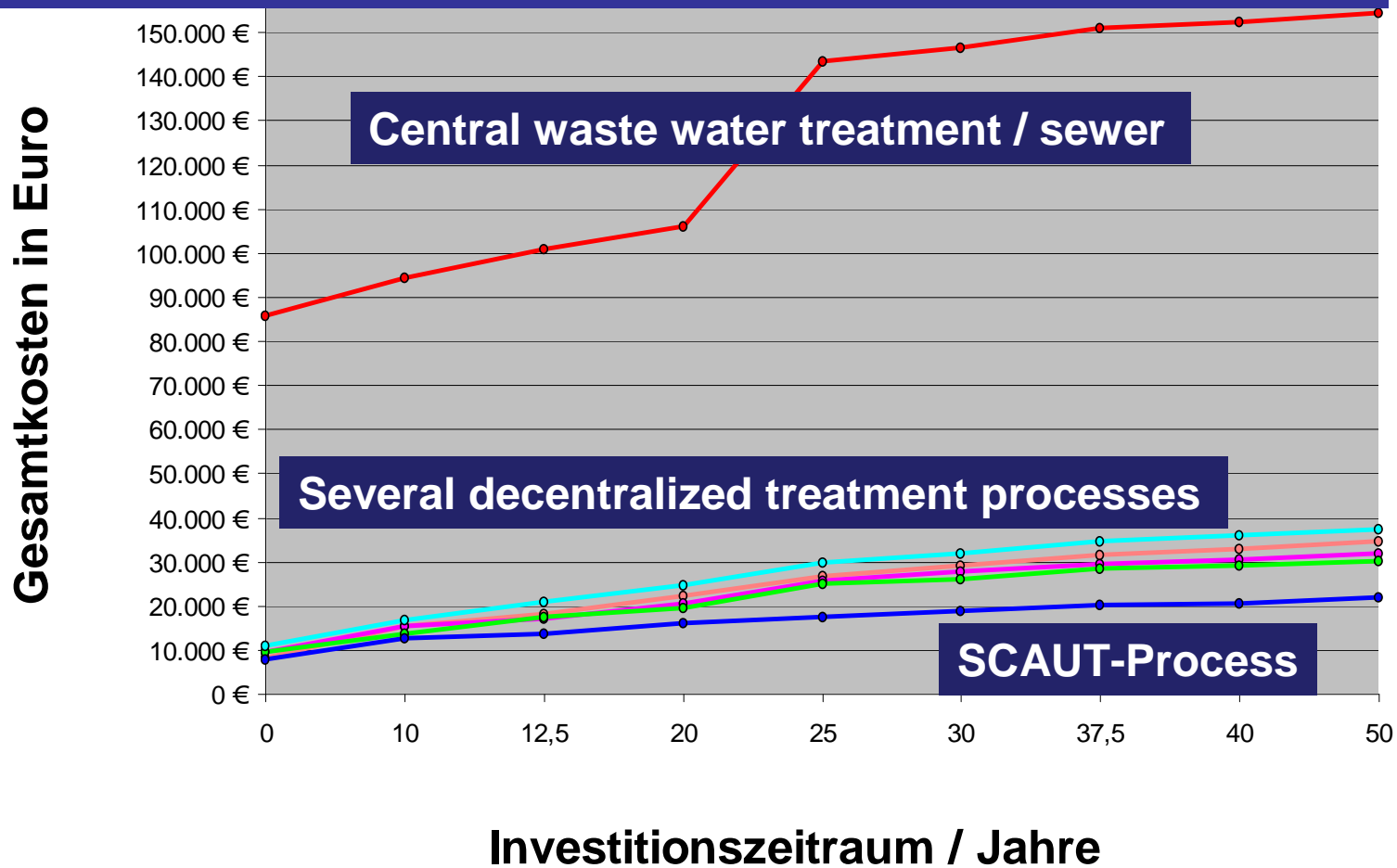


**Waste water is the biggest sweet water
resource in the world and it is
everywhere available!**

Let's clean it cost effective.



Costs of several WWT-processes within 50







SCAUT-Process is developed for

- **Many companies have water supply and waste water discharge problems**
- **The SCAUT-Process is useable for organic as well as for inorganic waste waters**
- **Thousands of construction areas need excess water treatment**
- **Mobile and stationary treatment systems therefore can easily be produced with flexible tanks**
- **Food and other industry**



SCAUT-Process is developed for

- **Wash water of car and truck stations**
- **Help organizations**
- **Emergency cases**
- **Intermediate cases**
- **Flexible tanks for**
- **Police for car accidents**
- **Fire protection organizations**
- **Military**



**The SCAUT-Process
based on ultra filtration
is a well developed,
immediately usable,
decentralized technology,
to produce holistic und
sustainable potable
und process-water quality
from several waste waters .**



Acknowledgements

The work presented here was performed within the framework of a research project funded by the German Ministry of Education, Science, Research and Technology (BMBF), contract No. 02 WD 0670 and 02 WD 0671



Thank you for your attention!

**Do you have any
further questions?**