Member of
German Water
Partnership

For a world with clean water ATB

Decentralised and semi-centralised wastewater treatment plants as an optimization approach already in the early project stage

Cairo Water Week, GWP-Atlantis Workshop

“Sewage treatment plants as a resource
for water, energy and nutrients”

25. Oktober 2021

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The company
ATB WATER
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Portfolio

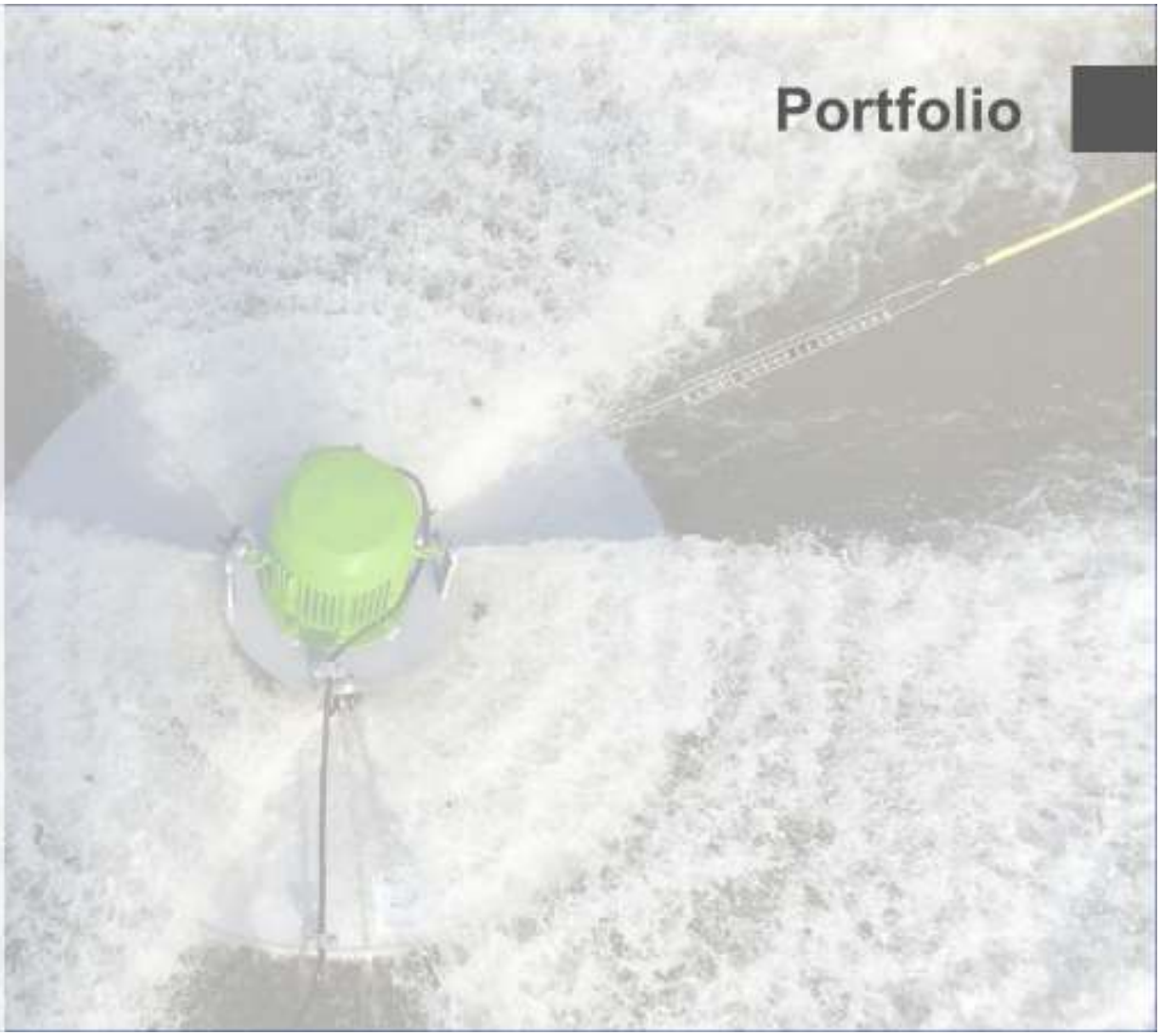
ATB

Development / production / distribution of:

- Fully biological small and small scale wastewater treatment systems
- Technical equipment for sewage technology
- Multi-chamber tanks and collecting pits made of precast concrete

ATBSHOP with accessories and spare parts

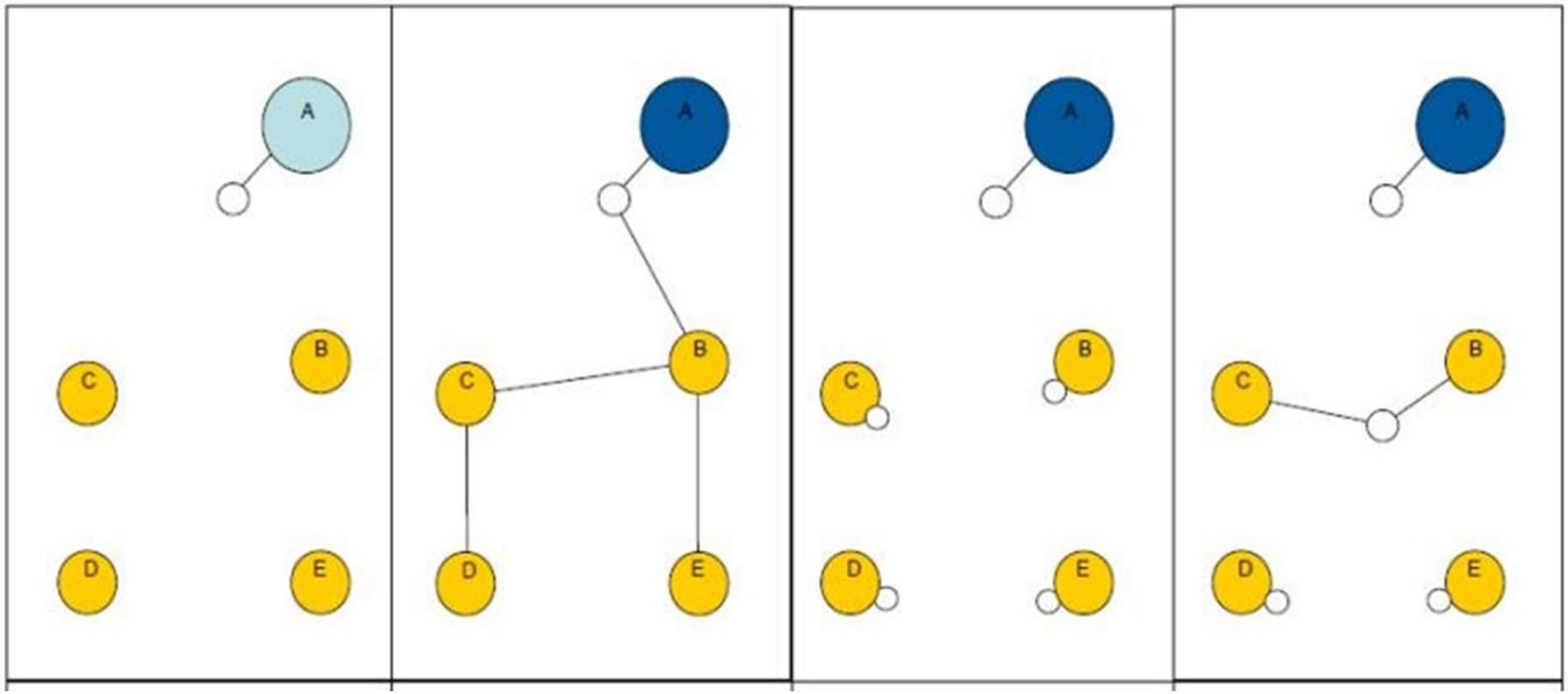
Service with maintenance and laboratory



ATB at a glance

Decentralized Wastewater Systems

Central – Decentral - Semicentral



Initial Situation

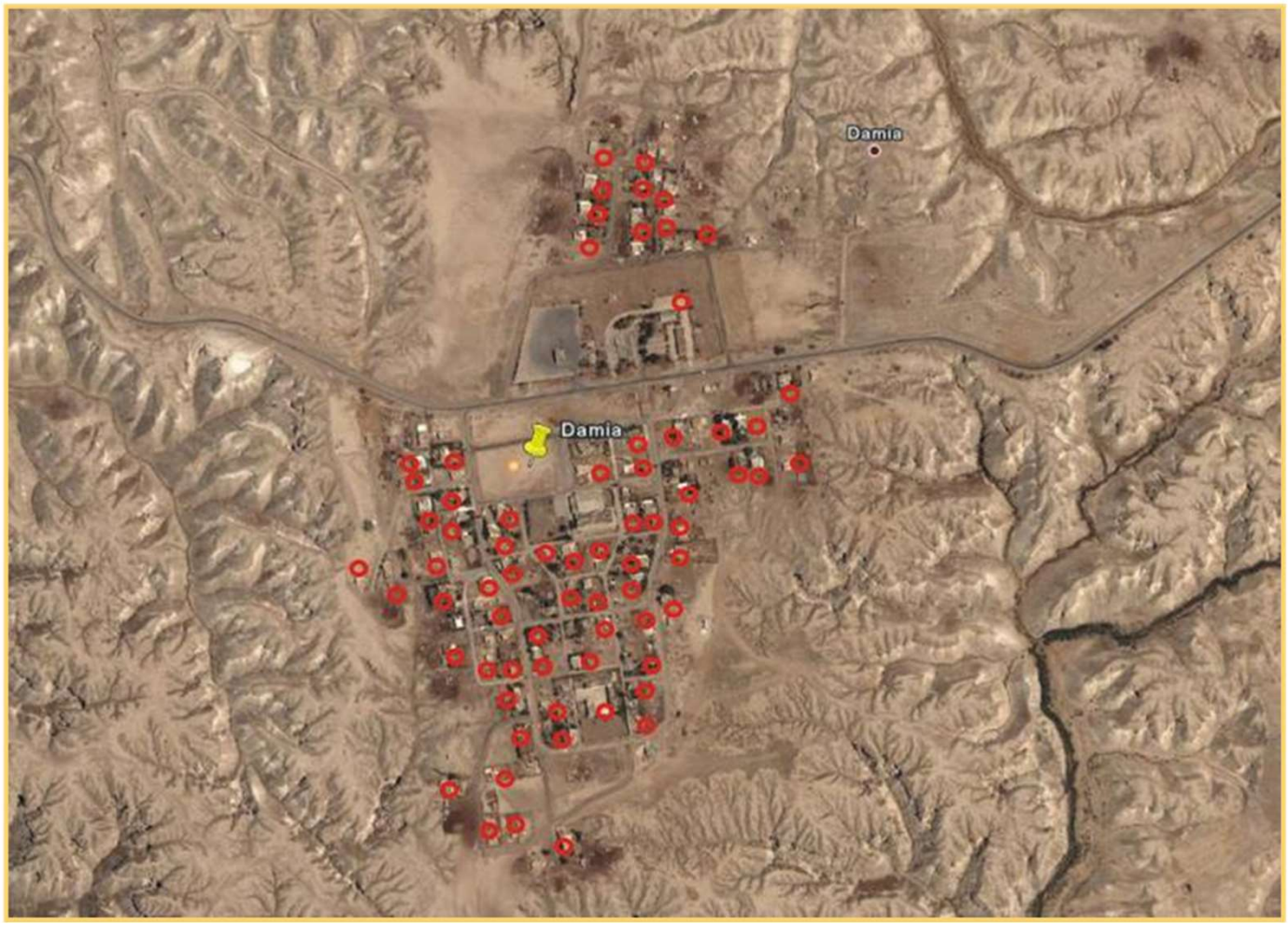
Centralized Solution

Decentralized Solution
4 - 50 EW

Semi-centralized Solution
50 - 500 EW
500 - 5.000 EW

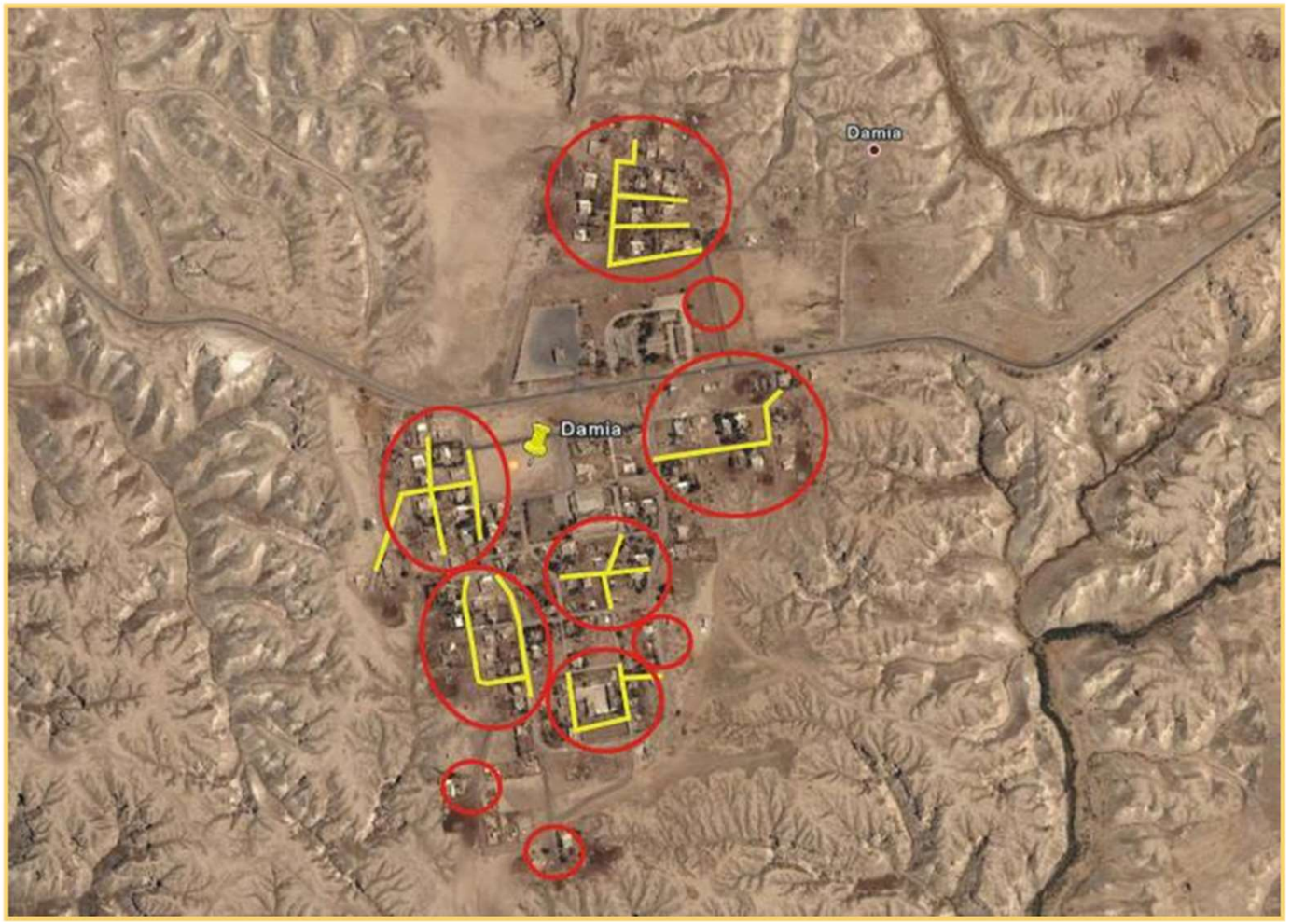
Decentralized Wastewater Systems

Onsite system: One house, one WWTP



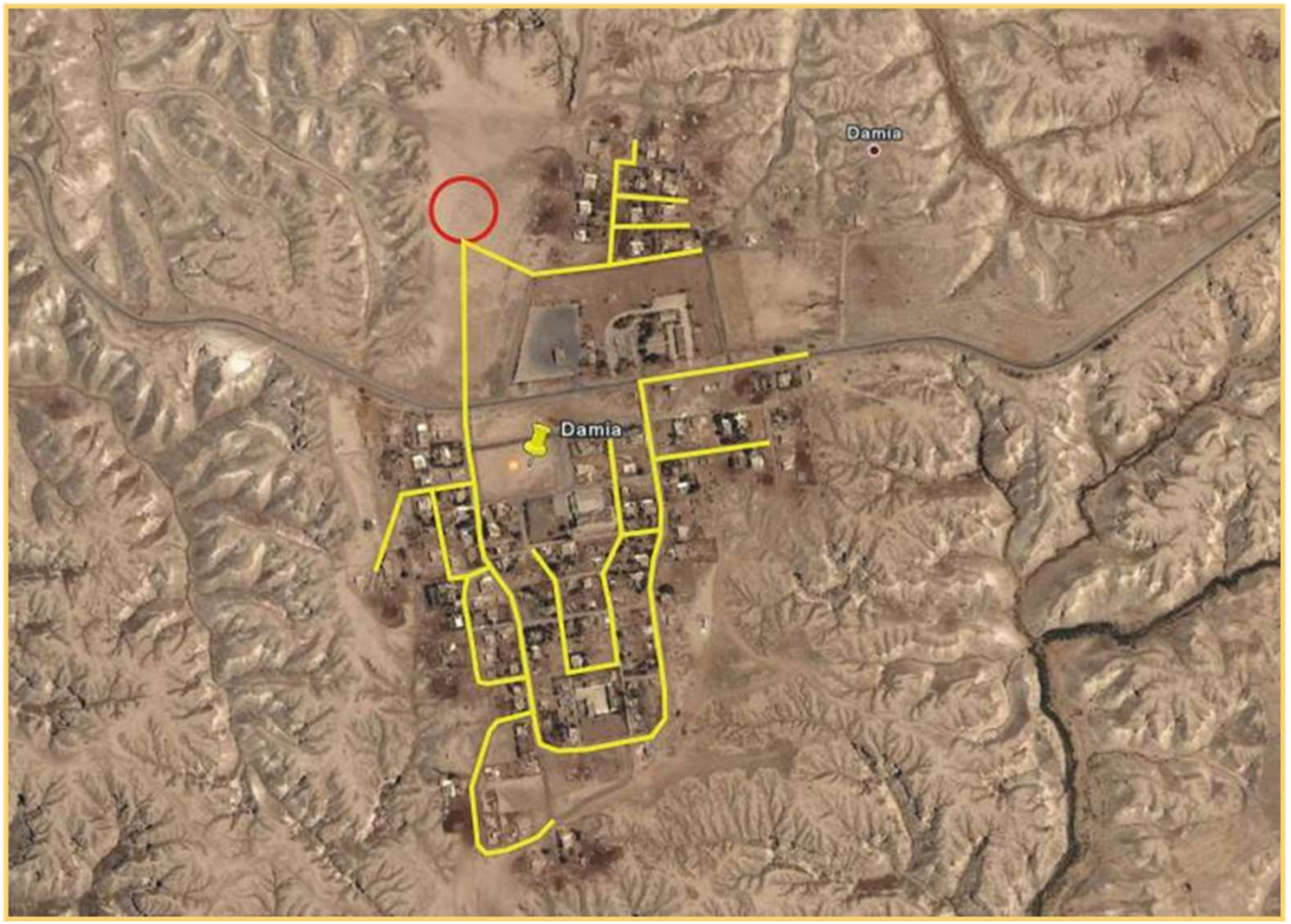
Decentralized Wastewater Systems

Cluster of WWTP: Parts of communities



Decentralized Wastewater Systems

One small community, one WWTP

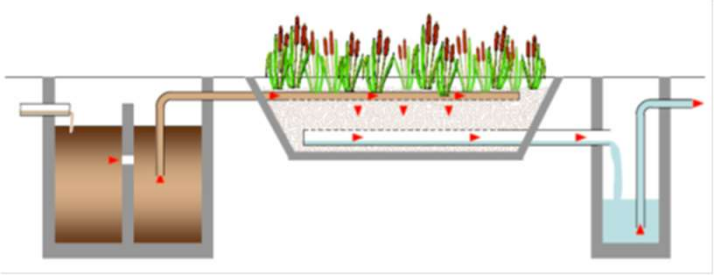


Treatment plant	On-site	cluster	Semi central
Scale of service	Individual building or property	Neighborhood portion of a community	Small community
Typical population equivalent	4 - 50	50 - 500	500 – 5.000
Approximate Amount of water [**m³ / day**] with 200 l / PE x d	**1–10**	**10–100**	**100–1,000**

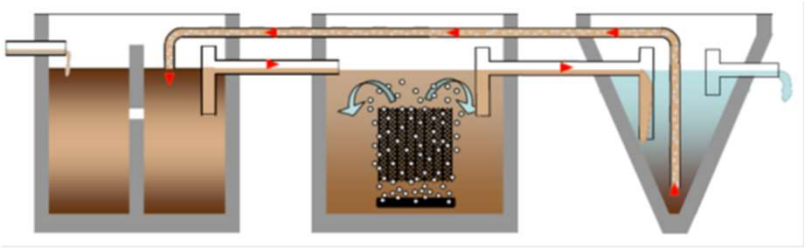
Advantages of semicentral and decentral solutions

- Individual adaption to local circumstances
- Moderate interference with local given structures
- Lower and more manageable investment costs (CAPEX)
- Lower follow-up costs due to missing or very reduced (collection and distribution) network structures (OPEX)
- Simplified integration of the affected group of persons
- Increasing environmental awareness due to the short distance to the project
- Decentralised treatment increases the rate of reuse (irrigation, toilet flushing, etc) due to simpler implementation and decreases the individual water consumption
- Nutrient rich water may lead to a reduction of fertiliser

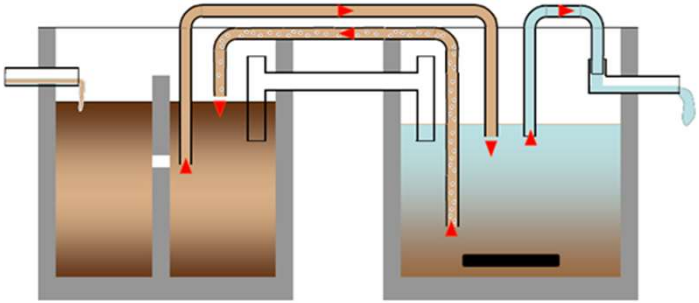
Comparison of processes



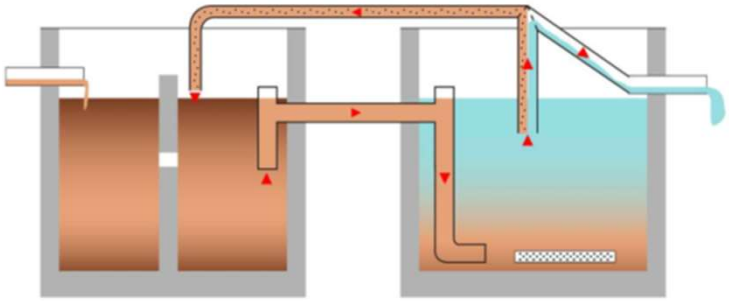
Gravity flow, no control / regulation



Gravity flow with control / regulation



Backwater / retention with fixed cycles
Time controlled SBR



Backwater / retention with open cycles
Water level / volume controlled SBR

Advantages of SBR treatment processes

(compared with gravity flow systems)

- Less footprint, flexible geometries of tanks
- Wide range of process controlling and operating
- Therefore adaptable to different conditions on site
  e.g. depending on daily, weekly, monthly, season influences
- Treatment of a wide range of wastewaters
  of different applications such as:
  residential buildings, hotels, restaurants
  leisure and tourism facilities, camping sites,
  food production / handling, etc.
- The treated wastewater is evacuated in batches,
  an ideal condition for subsequent equipment for
  disinfection and/or reuse/irrigation

(**SBR** = **S**equence **B**atch **R**eactor)

Advantages of ATB‘s SBR wastewater treatment plants

- Individual problem solutions based on standardised components.
  > Modular systems.
- Therefore short delivery / realisation times.
- Simple intuitive operation by the operator
  after introduction / instruction
  > a specialist company is only required for regular maintenance and possible repairs

Please see the following video animation.

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The specialist for SBR treatment plants up to 10,000 PT (~ 2,000 m³/day) and equipment & solutions even for bigger sizes

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