Resource efficient Wastewater Treatment

System analysis of the Wastewater Treatment Plant Bramsche

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EXPECT PERFORMANCE

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LET'S TALK

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International reference: WWTP Bramsche

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Profile

- WWTP Bramsche: year of construction 1962
- 50.000 p.e
- 50% municipal and 50% industrial wastewater
- 2018: Conversion from surface aeration system to fine bubble aeration system
- Funding program for better energy efficiency and reduction of CO_2

Aeration basin of WWTP Bramsche

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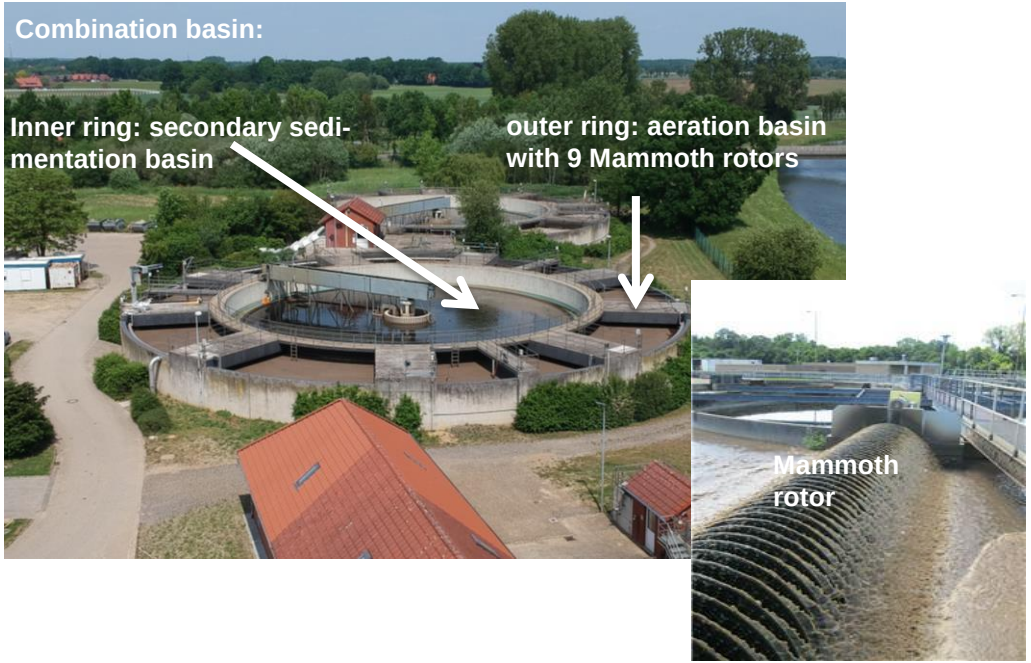
Former mode of operation:

- Tank depth: 5 m
- Tank volume: 2 x 4300 m³/ tank
- Intermittent operation with
  nine surface rotors per aeration tank
- All rotors ran simultaneously
  (20h/7days)



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Initial situation

- Old surface aeration system (> 30 years)
- High energy costs
- Bad oxygenation, 5 m tank depth
- Spare parts difficult to obtain
- Rotor break down, no redundancy available and therefore lower oxygen input
- 20% increasing of industrial pollution load!!!

Conversion to fine bubble aeration system

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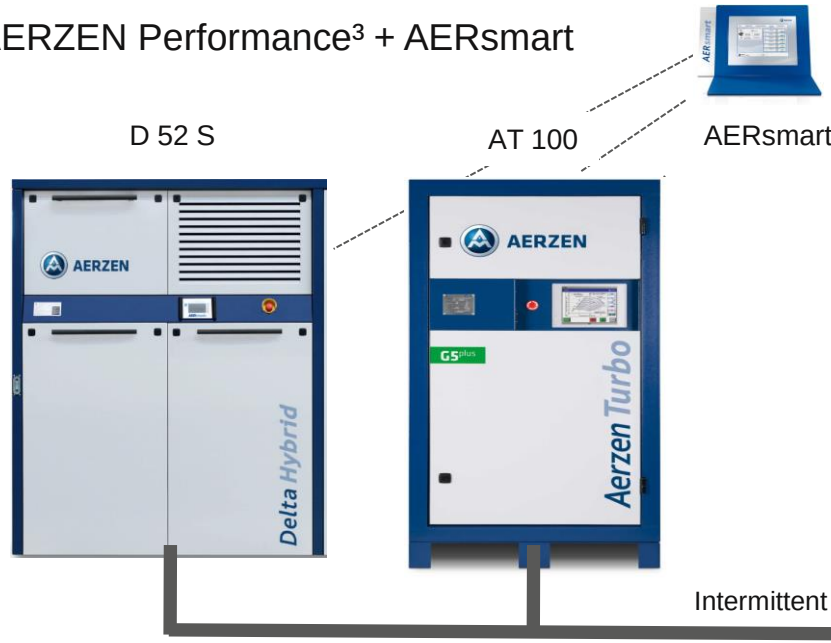
New mode of operation:

AERZEN Performance³ + AERsmart



Aeration tank

RMU aeration plates

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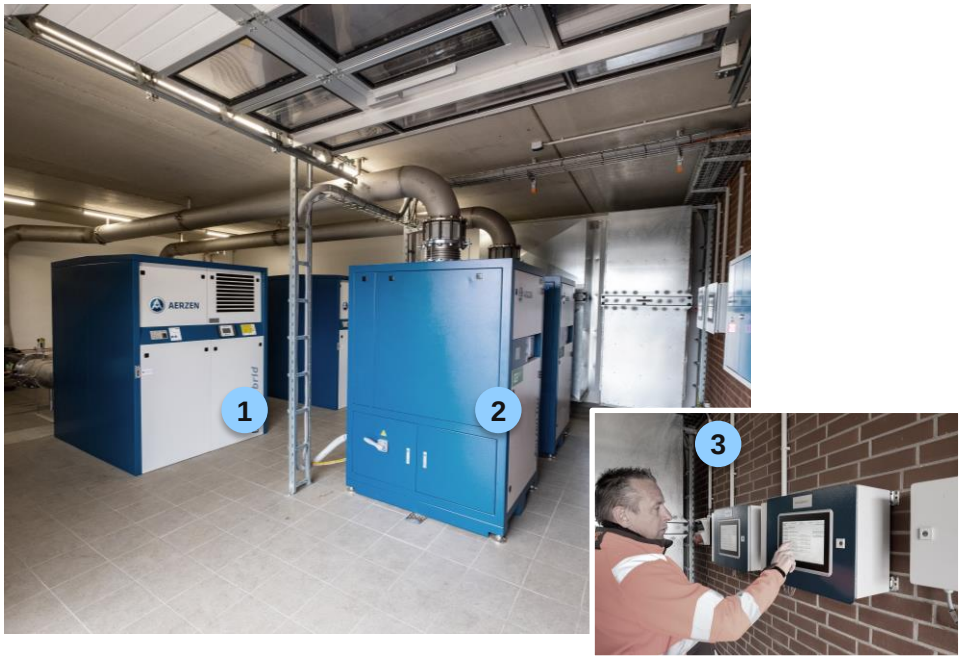
New compressor room:

Performance³ installation:

1. Delta Hybrid D52 S
   (for low load and high load operation)
2. Aerzen Turbo AT 100-0.8S G5plus
   (for basic load and high load operation)
3. AERsmart: AERZEN Energy Manager



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System integration

All machines are equipped with frequency converter

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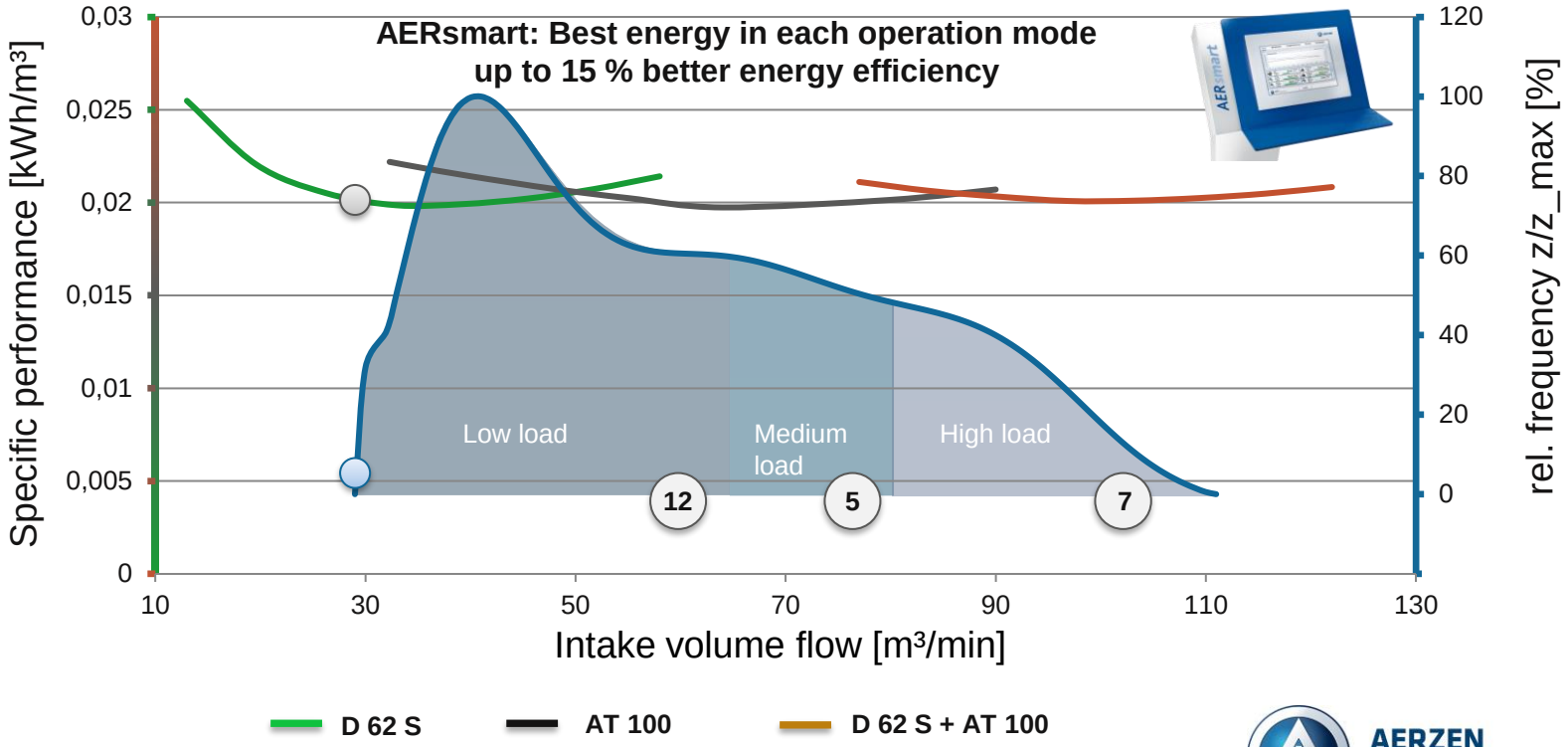

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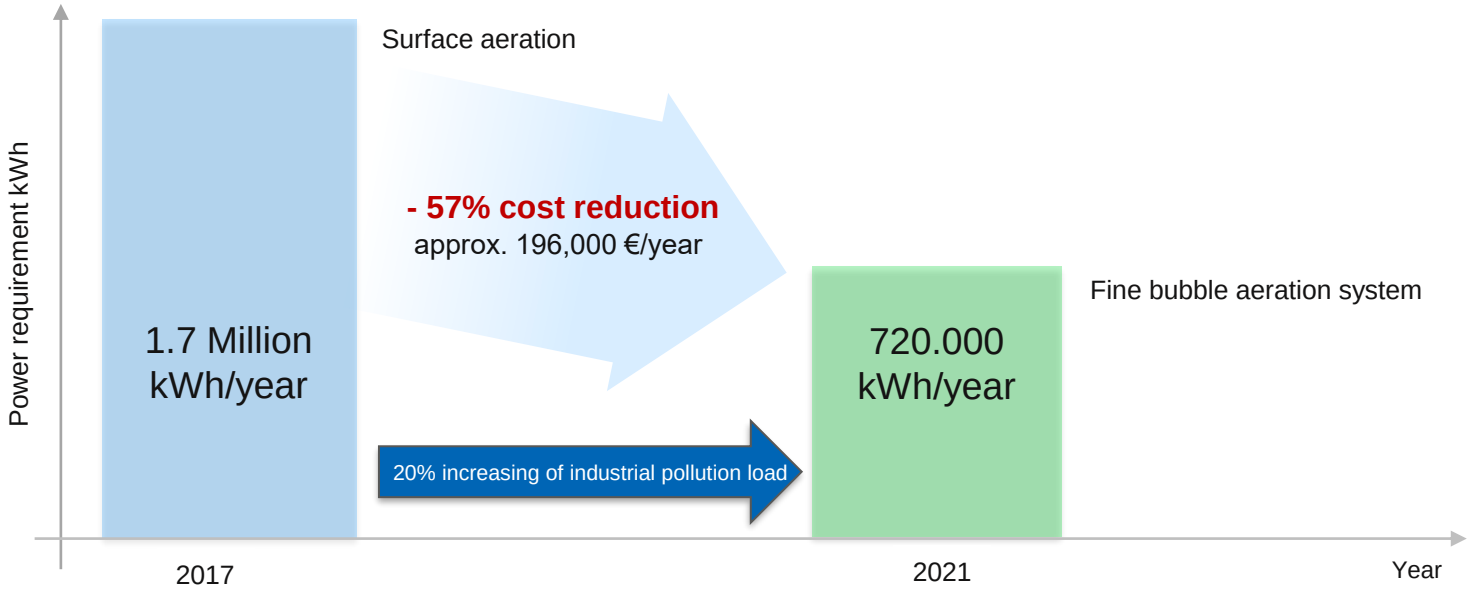
Energy saving potential aeration tank: Old operation vs. new operation



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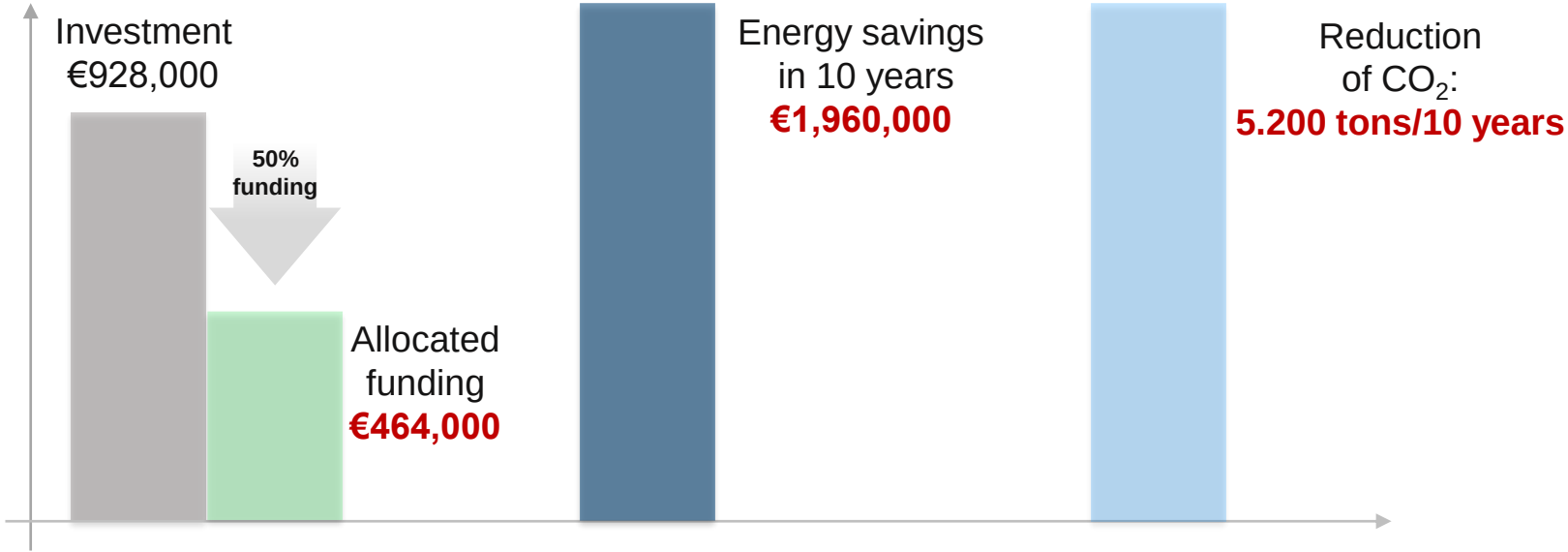
Customer benefits



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Aerzen system competence in more than 100.000 plants

Movie Liebenwalde

Winner of German ENSI Award 2021: (Energetic System Intelligence)

References of Egypt

Outfitter for New Capitol Cairo (24 machines)

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