



Focus: Dockyards



# MOBILE WASTEWATER TREATMENT AND SLUDGE DEWATERING SYSTEM

Flexible and resource-saving recycling of water

Complete solution directly on site

Largely water self-sufficient operation

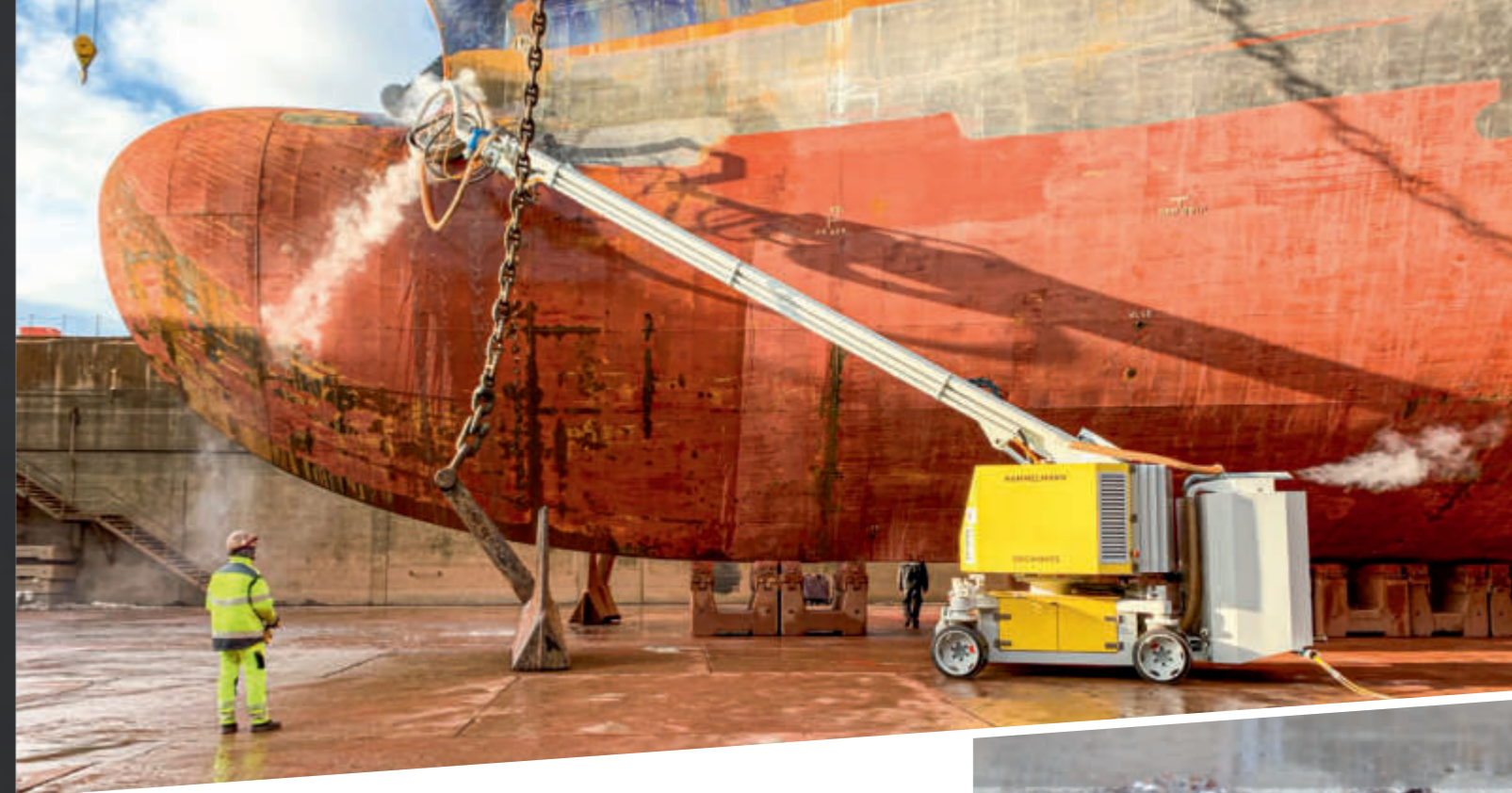
Efficient sludge separation

Low logistics / disposal costs

Conservation of resources

Compact sludge management

# MOBILE WASTEWATER TREATMENT



## THE CONCEPT OF OUR MOBILE WASTEWATER TREATMENT SYSTEM

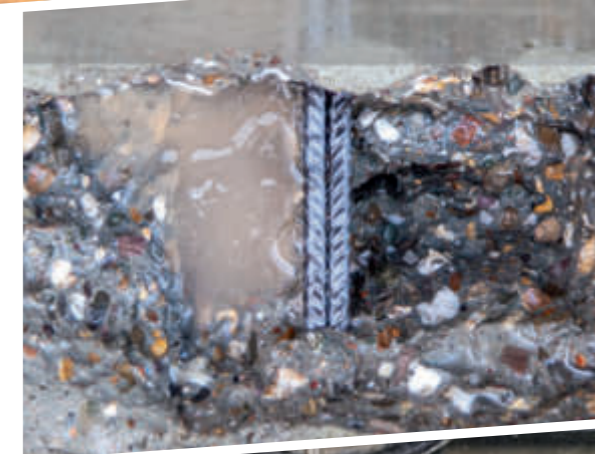
The mobile system is integrated in a 20 foot container and is able to filter up to 200 l/min. of polluted process wastewater, that can instantly be re-used on spot as clear water.

## THE COMPACT CONSTRUCTION ALLOWS 100% MOBILITY

It only takes few steps to get the fully automatic wastewater treatment system up and running, on every construction site, in all climate zones around the world.

Even wastewater that is difficult to filter can be treated in a single operation. About 5-10% of the wastewater is eliminated as liquid sludge and 90-95% is fed back into the work process with a pure water quality of less than 1  $\mu\text{m}$  particle size and made available to the high-pressure pump.

- THE FUNCTIONAL SEQUENCES OF THE CONTAINER FILTRATION SYSTEM ARE FULLY AUTOMATED
- THE PH-VALUE IS MONITORED PERMANENTLY AND REGULATED IF REQUIRED
- THE MOBILE WASTEWATER TREATMENT SYSTEMS ARE MADE IN AUSTRIA AND PRODUCED BY SPECIALISTS



ENVIRONMENTALLY  
FRIENDLY



WATER  
EFFICIENT

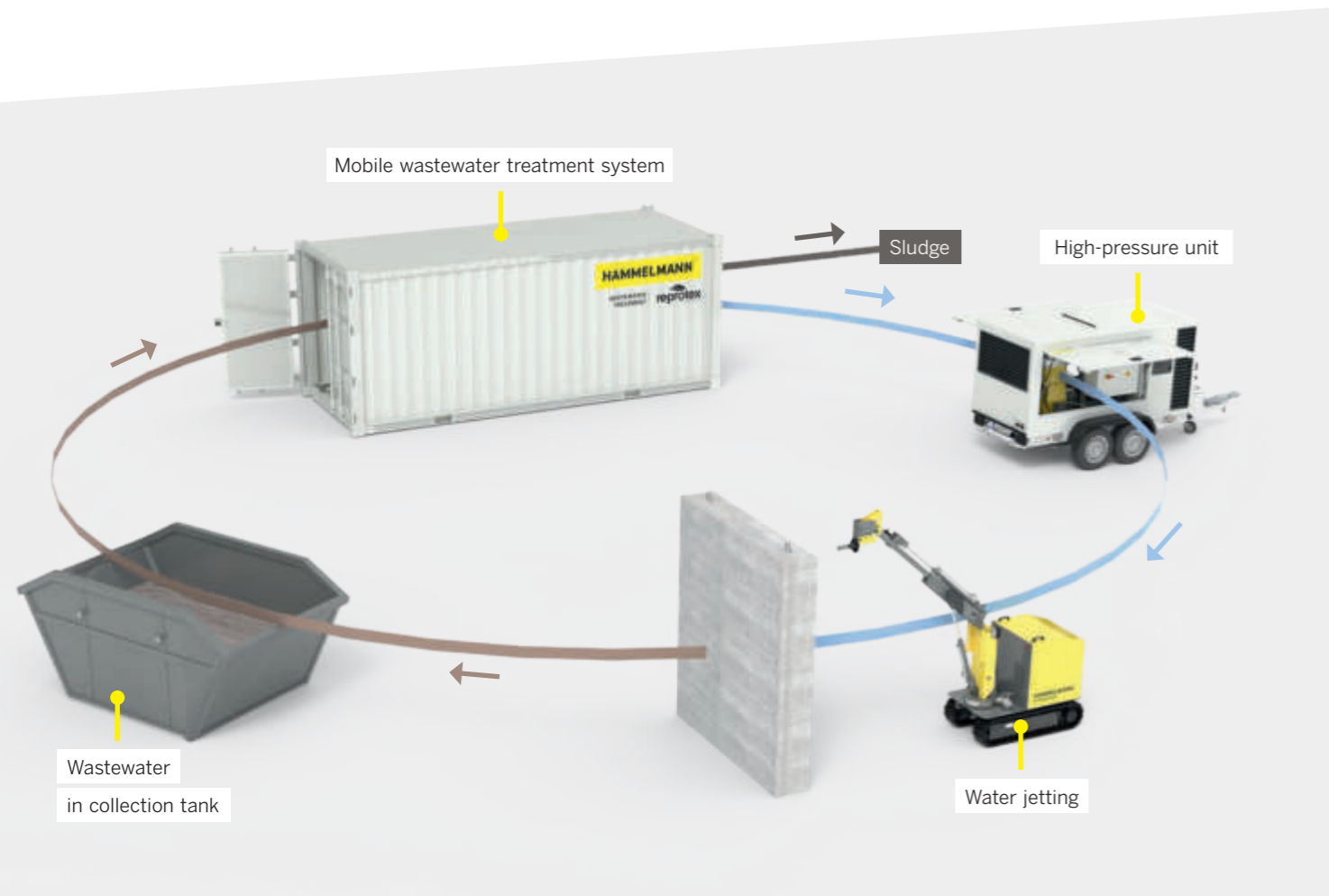




## THE CONCEPT OF OUR MOBILE WASTEWATER TREATMENT SYSTEM

The mobile wastewater treatment system is based on a chemically-physically method, that is able to filter particles out of the wastewater which arise in the operating process. To do so, floccing agents are added to the polluted wastewater which results in a chemical precipitation and is followed by flocculation. Those phases are split through sedimentation. The sludge is pumped to the outside. The pre-cleared water is also pumped outside by passing various fine filtration units at a final particle size of less than 1µm.

After this treatment it can be re-used or discharged as clear water. The plant operates as an interface independent from the high-pressure system between the collected wastewater and the treated clear water.

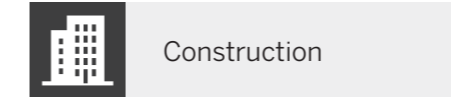


## VERSATILE AND FLEXIBLE APPLICATION OPTIONS

The options to use the mobile wastewater treatment system are broad. In many industries when working with water as a working fluid, the water can not be re-used after one cycle, as it becomes too polluted during the working process.

Especially with high-pressure applications, this is no longer possible due to the required water quality. But also in areas with lower pressure and as washing water, only clear water can be used. The water quality achieved when using the mobile water treatment enables it to be reused and has a positive effect on the profitability and ecological balance of the entire process.

## THE MAIN AREAS OF APPLICATION



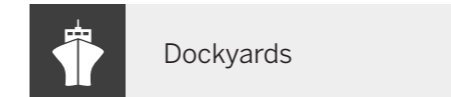
Construction

For example: building renovation, sewer rehabilitation, demolition, dismantling, etc.



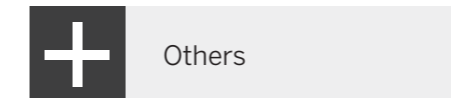
Tunnels / Streets

For example: bridge renovation, tunnel cleaning (road, train), tunnel renovation, improvement of grip, demarcation, etc.



Dockyards

For example: cleaning, stripping and washing, off-shore, surfacing, etc.



Others

For example: tank refurbishment, pollutant remediation, penstock remediation, etc.



## TECHNICAL DETAILS

20' LC Container (insulated)	Weight (empty)	Flow rate	Filter rate	Power supply
6 m x 2,4 m x 2,6 m	~ 5000 kg	up to 200 l/min (infinitely variable)	up to 1 µm (nominal)	400 V, 50 Hz, 16 A

## CHARACTERISTICS

Procedure	pH value neutralisation	Recording	Control	Remote maintenance /- access
Chemically -Physically	CO <sub>2</sub>	pH-value, turbidity, flow rate	Fully automated	3G/4G



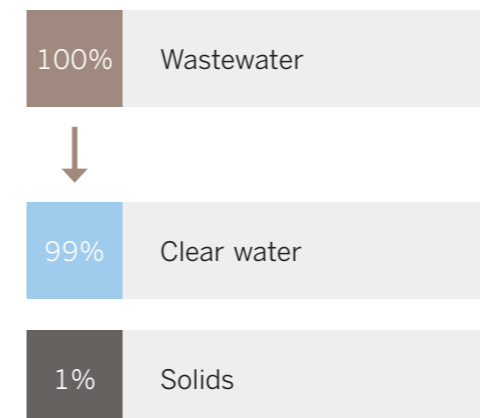
# MOBILE SLUDGE DEWATERING



## THE ADDITIONAL, MOBILE SLUDGE DEWATERING SYSTEM

The mobile sludge dewatering is a compact and fully automated solution to thicken up to 12m<sup>3</sup>/h of liquid sludge and then dispose of it.

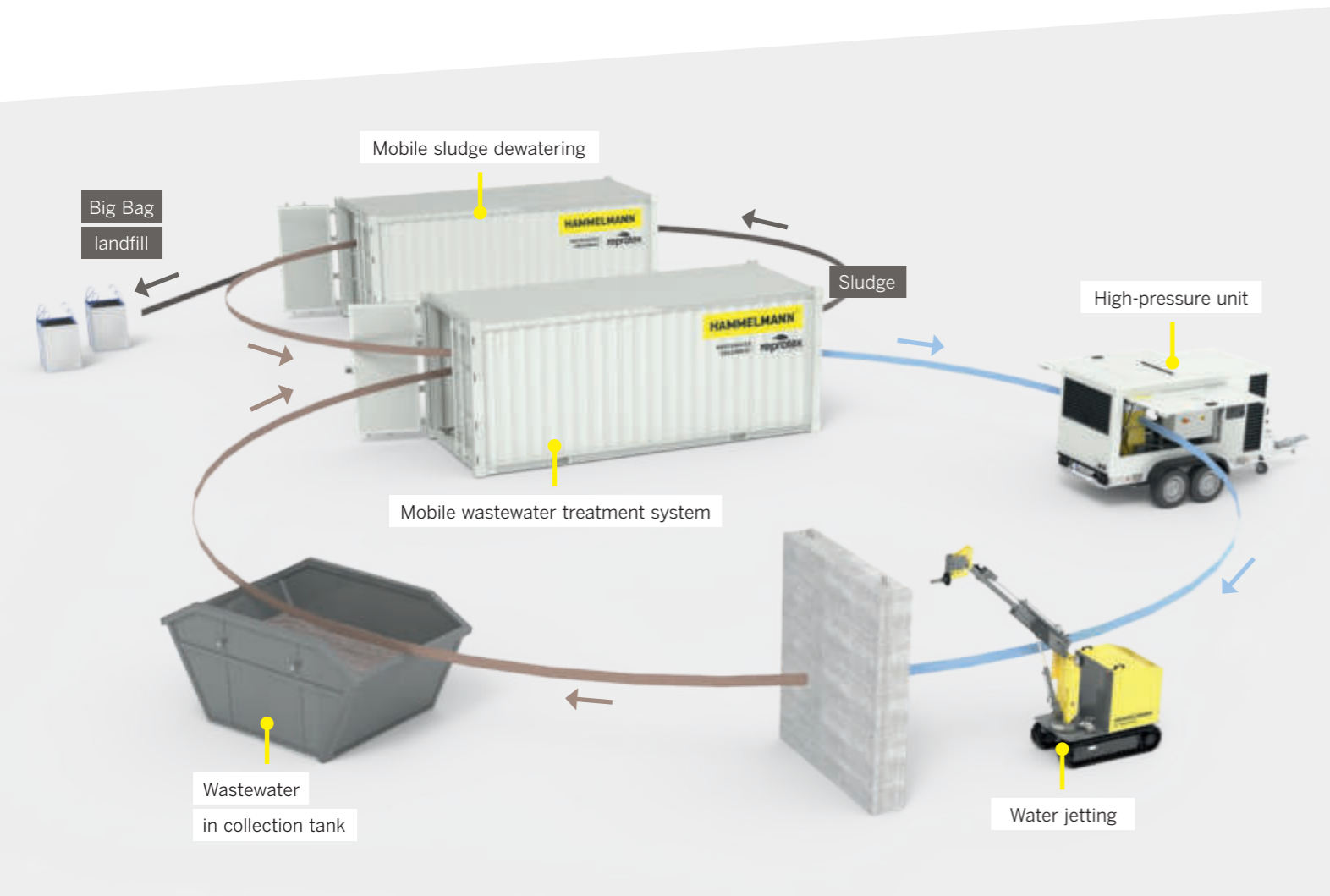
The system, installed in a 20' container, separates the solids and residual water from the liquid sludge. The result is a compact sludge in landfillable/incineratable form, which can be easily disposed of using a Big Bag. The plant is an ideal supplement to the mobile wastewater treatment system, in which industrial wastewater, mainly from high-pressure removal, is cleaned in a combined and fully automatic process and separated into reusable clear water and sludge.






## THE CONCEPT OF OUR MOBILE SLUDGE DEWATERING SYSTEM


The discharged liquid sludge is pumped directly into the sludge dewatering system and applied to an inclined bed filter. The sludge is dewatered via an individually selectable filter fleece and automatically conveyed into a big bag. Depending on the fill level in the filtrate cup, the filtrate water is automatically fed to the water treatment system.




## THE MAIN AREAS OF APPLICATION

 Construction


For example: building renovation, sewer rehabilitation, demolition, dismantling, etc.

 Tunnels / Streets

For example: bridge renovation, tunnel cleaning (road, train), tunnel renovation, improvement of grip, demarcation, etc.

 Dockyards

For example: cleaning, stripping and washing, off-shore, surfacing, etc.

 Others

For example: tank refurbishment, pollutant remediation, penstock remediation, etc.



## WHEN DOES A SLUDGE DEWATERING SYSTEM MAKE SENSE?

The possible uses of sludge dewatering in combination with the mobile wastewater treatment plant are diverse. The greatest benefit is in applications with large volumes of wastewater and sludge. With the sludge dewatering system it is possible to reduce the liquid sludge by up to 90%. In applications with high levels of pollutant contamination in the wastewater and thus in the sludge, the use of the sludge dewatering system reduces the disposal costs to a minimum.

## COMPACT SYSTEM CONFIGURATION

The mobile sludge dewatering container offers additional space for the storage and transport of various resources (flocculants, additives) and other equipment of the wastewater treatment plant. A holder for the transport-safe storage of an IBC for flocculants is also installed in the container. Equipment required for the operation of the filtration system, such as hoses and pumps, can be safely stored in storage areas.

## TECHNICAL DETAILS

20' LC Container	Weight (empty)	Flow rate	Power supply
6 m x 2,4 m x 2,6 m	~ 2000 kg	up to 12 m <sup>3</sup> /h	400 V, 50 Hz, 2 kW

## CHARACTERISTICS

Operation	Product	Sludge consistency	Sludge discharge
Fully automated	Sludge	Compact	Big Bag



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Hammelmann has been a successful manufacturer of high-pressure systems for over 70 years, which are used for cleaning and cutting purposes as well as in production processes. With over 500 employees in the Hammelmann Group, in Oelde and the subsidiaries in the USA, Australia, Spain, China, France and Switzerland as well as 40 other agencies, we are a company that operates worldwide.

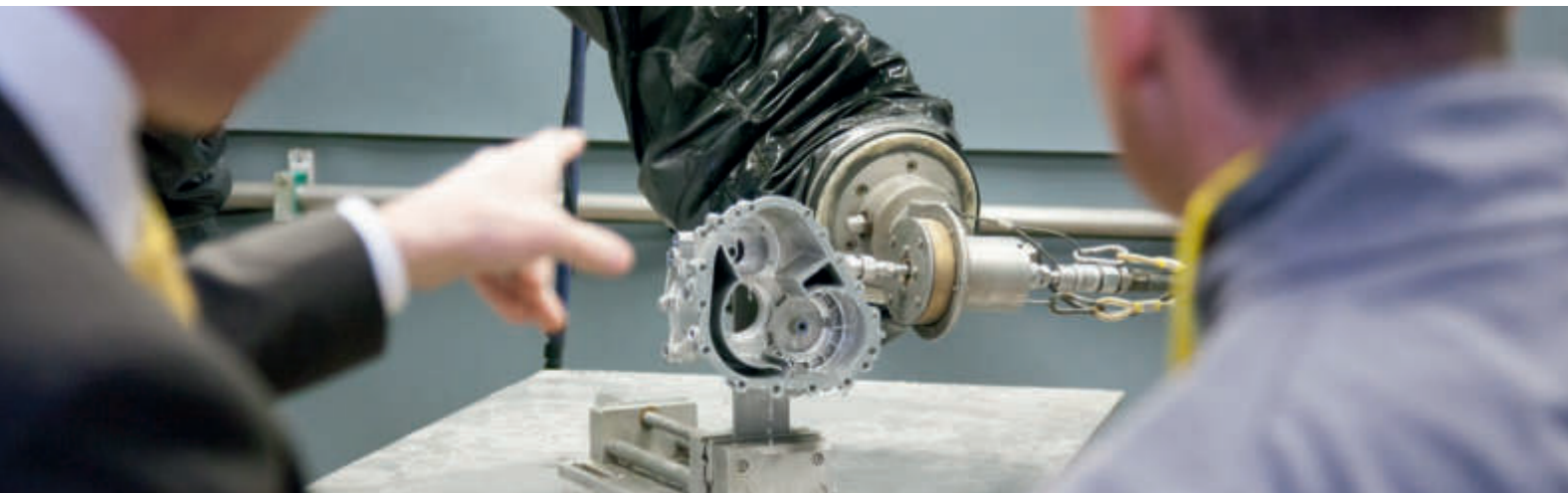
**STATE-OF-THE-ART TECHNOLOGY CENTER**

For you and for our own R&D we run extensive tests in our modern Technology Center to see how and where water jet technology can be used in an economical, beneficial and ecological way. This is where modern technology and our innovative spirit go hand in hand to test product developments, new ideas, and specific customer requests in a practical setting and to put them through their paces.

Product quality and customer satisfaction are most important to Hammelmann. For this reason, products are not only tested under ideal conditions and then sold, but put to the test under extreme conditions.

In order to simulate the toughest and most demanding conditions possible at your site, we have a number of tanks and containers, concrete and metal walls, pipes, lines and components that we prepare and then process accordingly. The extensive tests can be carried out indoors with the help of automated robots and systems, or outdoors.

If desired, simulations can also be developed in cooperation with you. Together we will examine possible solutions for your particular application and provide you with fully documented test protocols and reproducible results. We are looking forward to your challenge.



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## CERTIFICATES

- ISO 9001:2015
- ISO 14001:2015
- ISO 45001:2018
- ISO 50001:2018
- Achilles Certificate
- ASME Certificate
- SIR Certificate
- Others



### The free Hammelmann app

For iOS, Android and your browser

**Water Jetting Calculator:** [hammelmann.com/app](http://hammelmann.com/app)

Hammelmann GmbH  
Carl-Zeiss-Straße 6-8  
D-59302 Oelde

☎ (0) 25 22 / 76 - 0  
✉ [mail@hammelmann.de](mailto:mail@hammelmann.de)  
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