Technology that makes its mark

Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit

Export grüner und nachhaltiger UMWELTSCHUTZ made in Germany Umweltinfrastruktur

Technische Universität Berlin

› Our technology. Your success.
Pumps ▪ Valves ▪ Service

German Water Partnership

p2mberlin 20 Jahre

KSB

The cycle of solutions:
smart water technology by KSB

The cycle of solutions

Contents

1. Water technology by KSB
2. Water applications
3. Waste water applications
4. Special solutions
5. Energy efficiency & Automation
6. Engineering & Services

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Locations worldwide

Production company

Sales company/Service centre

Near you: It’s where we are, worldwide

- Over 16,000 employees
- 74 companies
- 160 Service centres

We have manufacturing sites in 21 countries, backed up by a close-knit sales and service network. So wherever our customers work, we are just round the corner.

Expertise in water

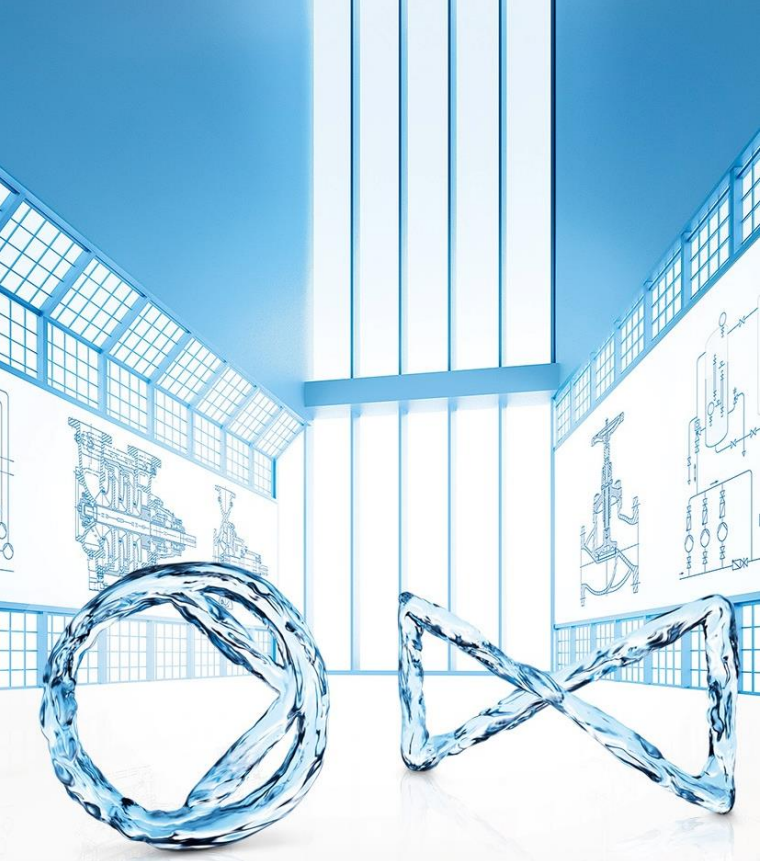
A responsible approach to water as a precious resource has always been one of KSB‘s core competencies.

Our 140 years of experience and expertise in the areas of planning, consultancy, research and development make us your first port of call.

The cycle of solutions

As a global supplier of all-in solutions, KSB is able to offer a range of pumps, valves and services that cover **the entire water cycle:**

- Water extraction
- Water treatment
- Water transport
- Drainage
- Waste water transport
- Waste water treatment



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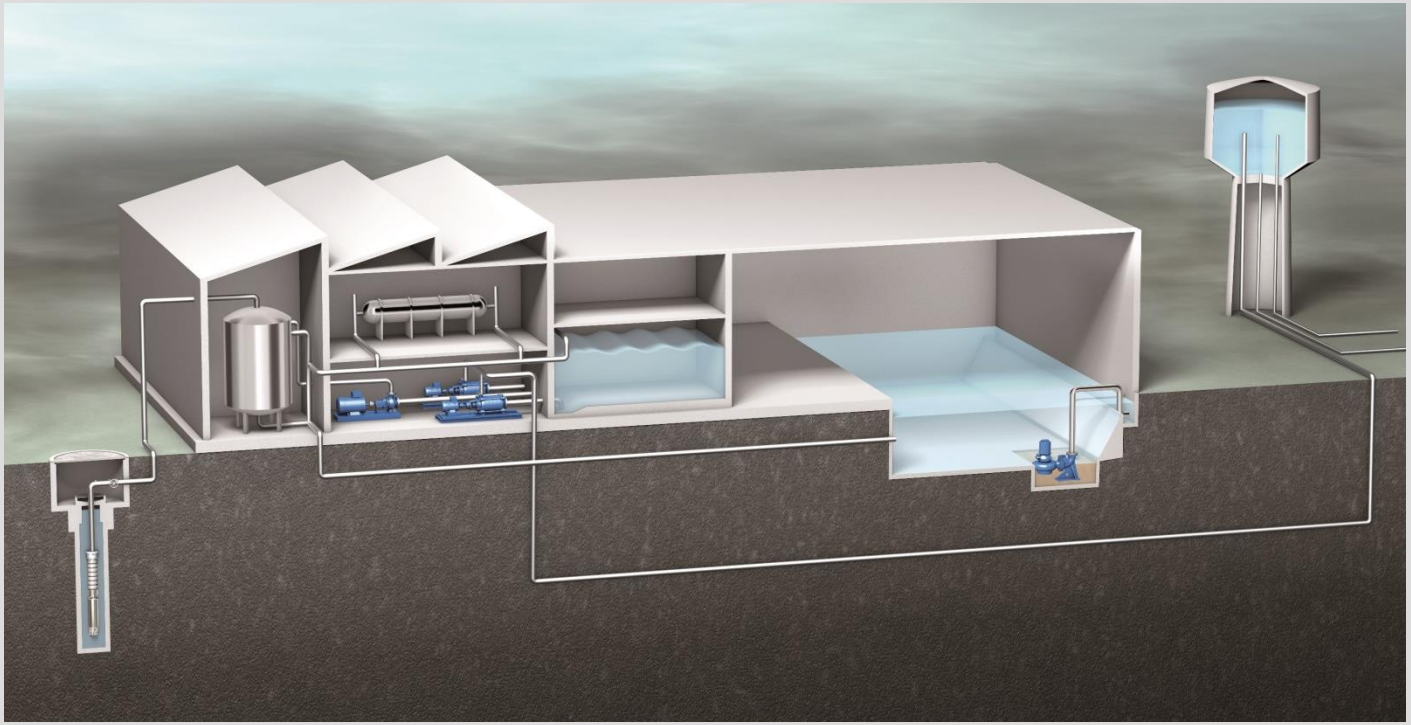

Water treatment

KSB pumps in water treatment

- Well chamber
  - Water extracted by UPA pumps
- Waterworks
  - Etabloc/Etanorm as backwash pumps for filter vessels
  - Multitec pumps treated water in supply network
- Settling tank
  - Deposited solids pumped by KRT to ww treatment tank

Water treatment

SingSpring seawater desalination plant

- One of the biggest facilities in Asia produces 136,000 m³ of drinking water a day via reverse osmosis process
- 4 pumps from KRT K range for raw water intake
- 10 variable speed Omega pumps transport prefiltered seawater
- 10 HGM-RO high-pressure units force 708 m³ of seawater through osmosis membranes

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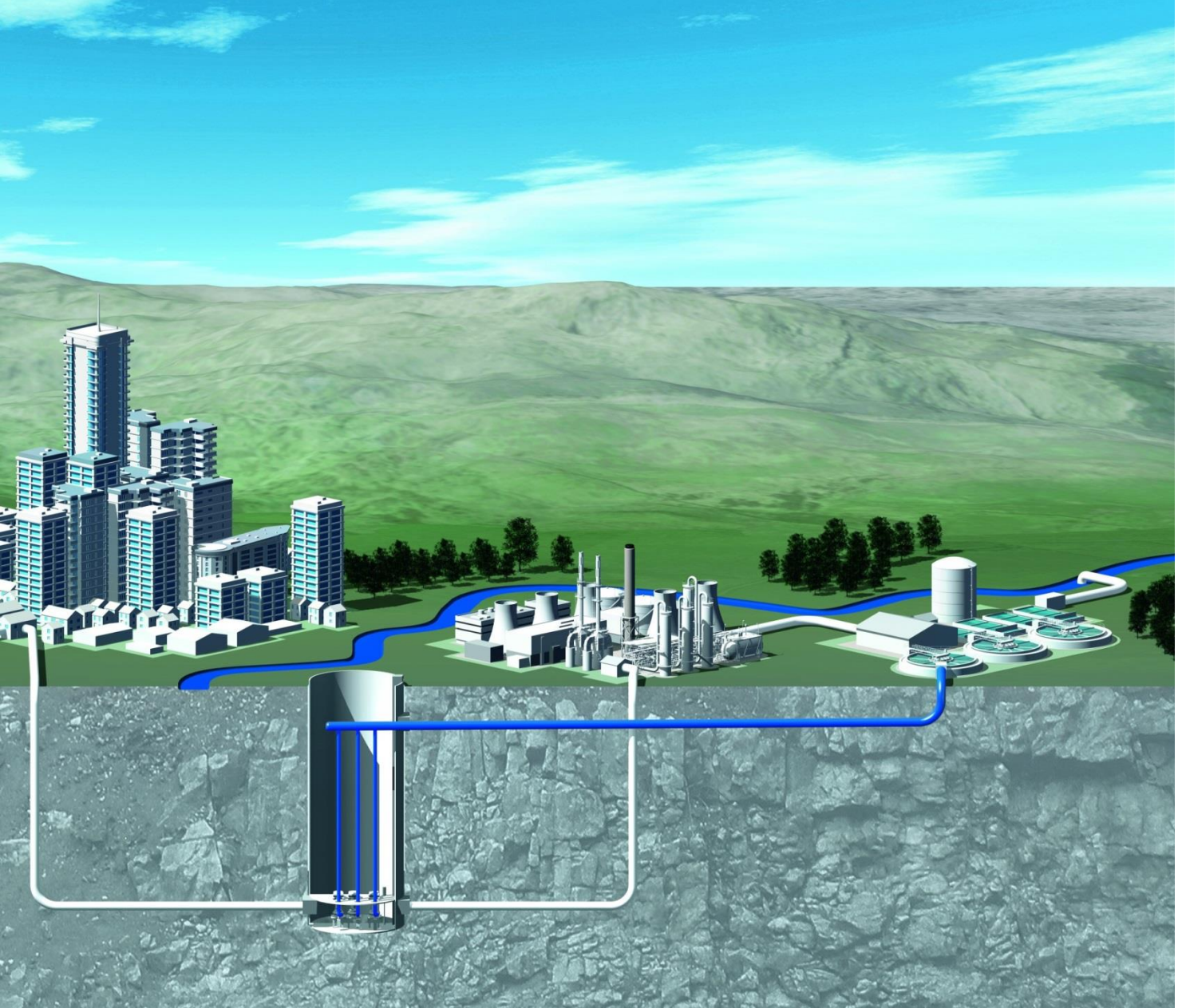
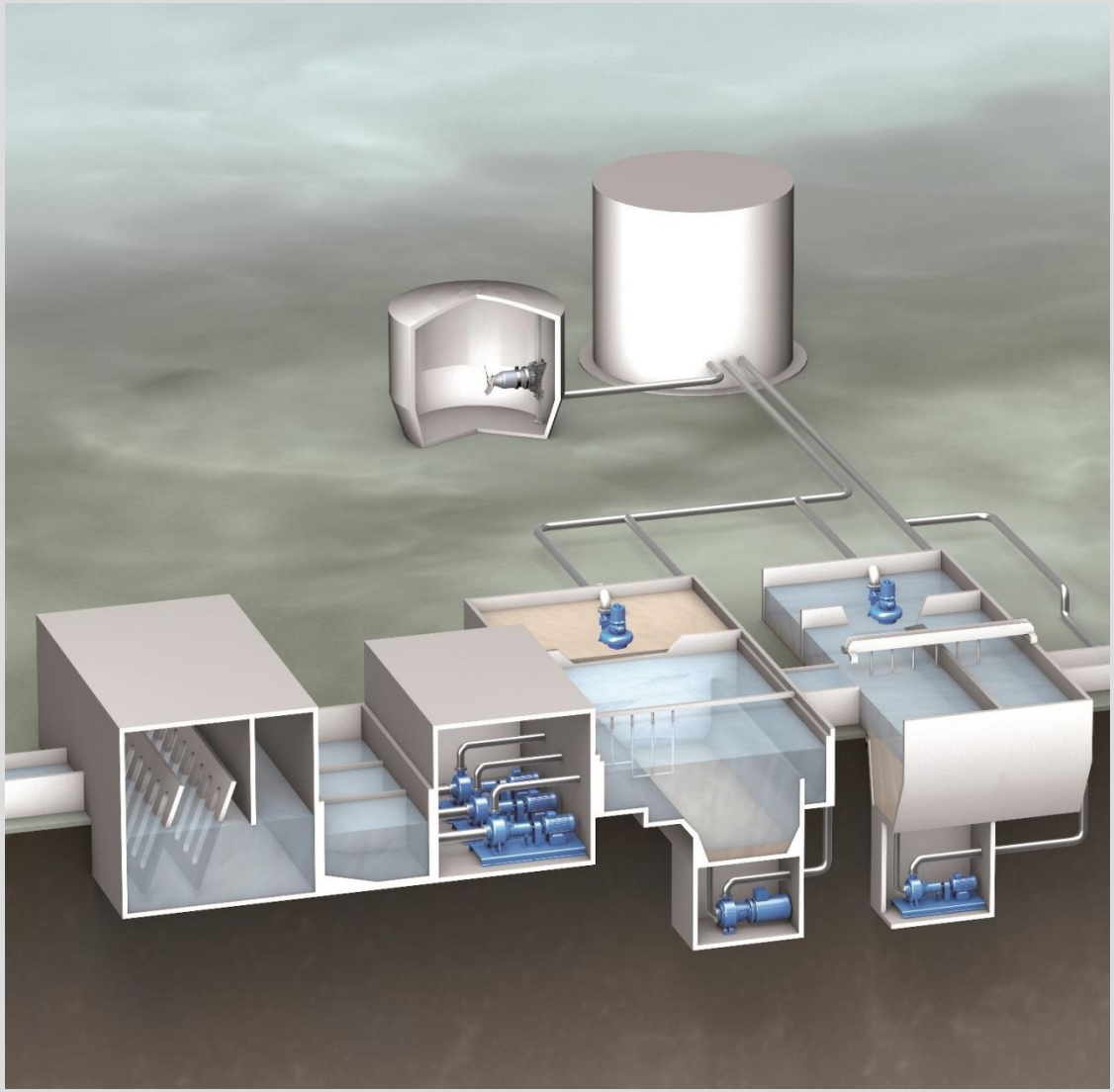


Waste water applications

KSB pumps help in the transport and cleaning of waste water. Sewage treatment processes use dry-installed and wet-installed pumps, as well as mixers and agitators.

Applications:

- Drainage
- Waste water transport
- Waste water treatment



Waste water treatment

Primary treatment

Pump applications:

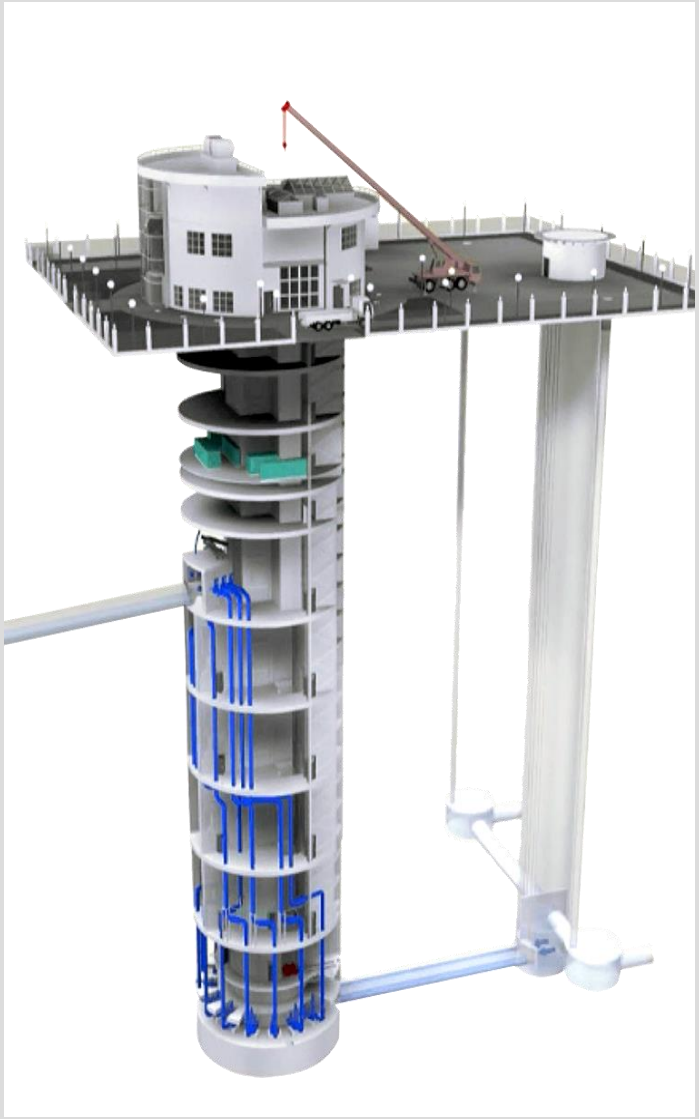
- Intake pumps
- Water-sand mixture
- Floating substances, grease, oil
- Primary sludge
- Wash water

Waste water treatment

Secondary & sludge treatment

Pump applications:

- Activated sludge homogenisation
- Activated sludge return and recirculation
- Return sludge pumps
- Sludge pumps
- Sludge water pumps
- Service water booster sets
- Hot water recirculation pumps
- Fire-fighting sets



Waste water transport

URS 422 in St. Petersburg

- Deepest waste water pumping station in Europe with a depth of 92 m
- Average flow rate of 600,000 m³ per day
- 12 dry installed pumps from Amarex KRT K 400-710 range, with a nominal power of 580 kW each

Waste water transport

Lee Tunnel, London

- One of Britain‘s largest waste water and sewage treatment projects
- Tunnel prevents an untreated mix of stormwater and sewage from entering the Thames during heavy rainfall
- At a depth of more than 80 metres four giant SPV pumps with 2.2 m impellers and 52 t each ensure reliable waste water transport

The biggest waste water treatment plant in Asia receives 2 million m³ of sewage daily.

Waste Water Treatment

Bailongang plant, Shanghai

- 241 submersible propeller pumps of the Amacan series
- 65 submersibles of the KRT series
- 6 dry-installed volute casing pumps of the SPN series and
- 6 dry-installed axial flow pumps of the ZL series

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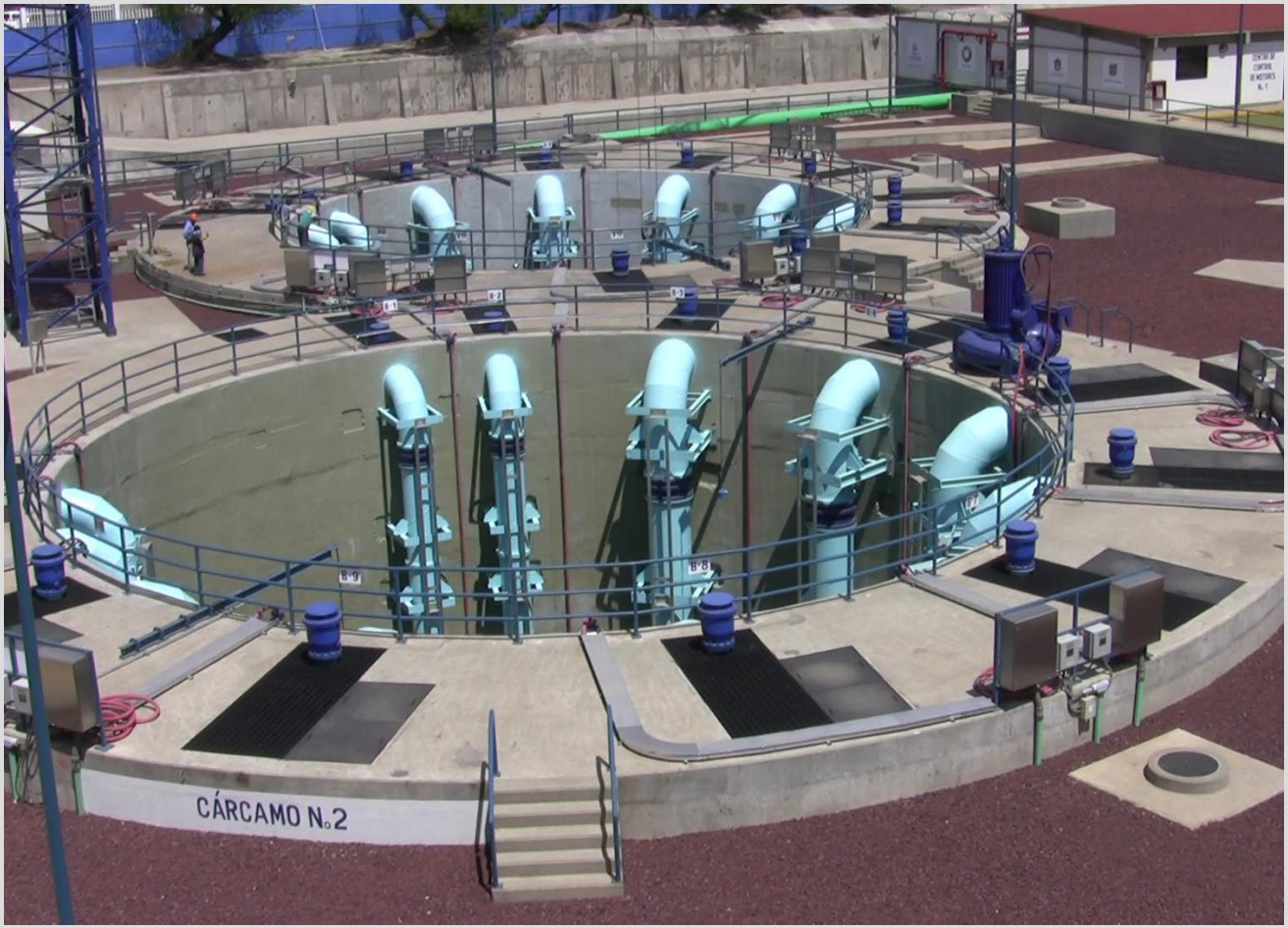
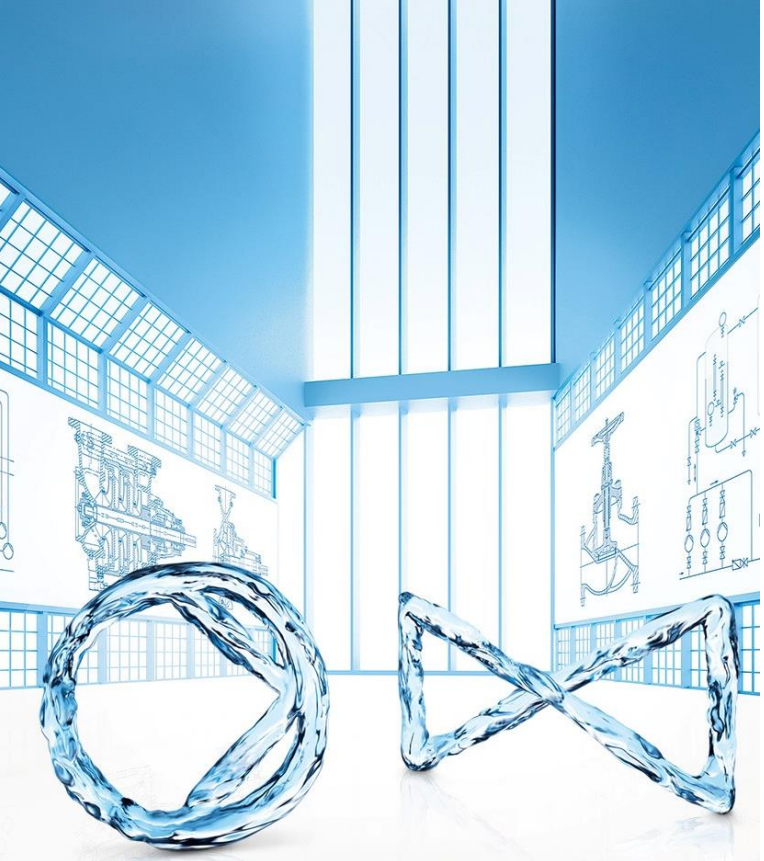


Flood control

La Caldera pump station, Mexico

The La Caldera pump station with its combined sewer system drains and removes stormwater as well as waste water from the affected area of Mexico City and the surrounding region.

The heart of this system is the waste water pumping station, consisting of 24 number submersible motor pumps which combine to a total flow rate of 40 m^3/s and an installed power of 14 MW.



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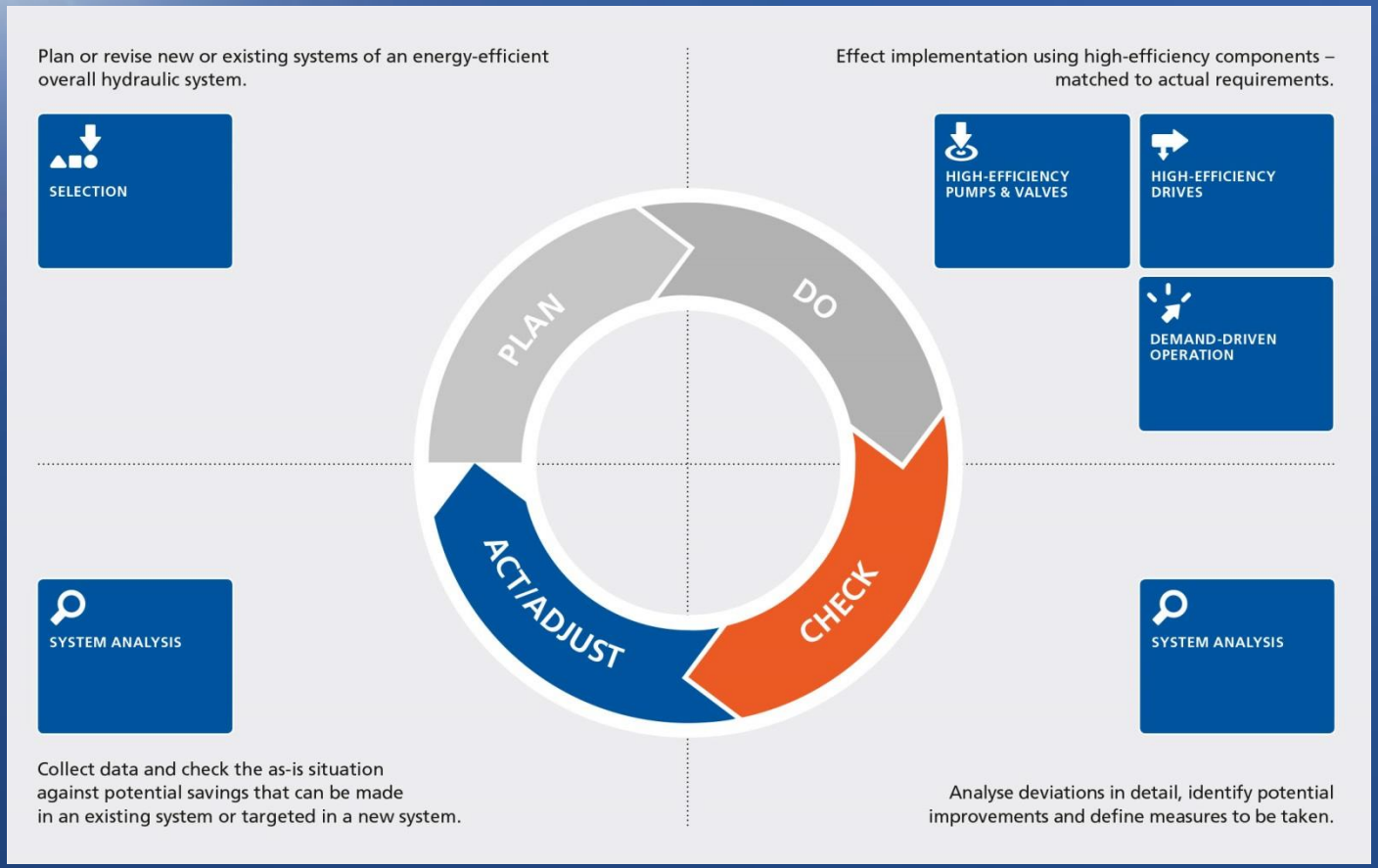
FluidFuture® – Energy Efficiency by KSB

- FluidFuture® is KSB's comprehensive energy efficiency concept.
- We examine not only single components but **the entire hydraulic system**
- The aim is to enhance the **overall efficiency** of your system.
- To make that reality, we've developed **five modules**



FluidFuture®

The underlying idea

- A good way of recognising and using savings potentials sooner rather than later is a systematic approach based on an energy management system to EN 16001 / ISO 50001.
- These standards follow the so-called PDCA (Plan–Do–Check–Act) cycle for which FluidFuture® is an ideal match.

Automation

PumpMeter

- Transparency in pump operation
- Ensures the availability of your pump
- Identifies saving potentials
- Saves time, energy, and money

The new PumpDrive

High-efficiency unit – PumpDrive in combination with KSB SuPremE® motor & PumpMeter

Automation

PumpDrive

Always running at the best efficiency point with the new PumpDrive

- Power input continually matched to actual demand
- Waste water specific automation functions (e.g. incipient clogging detected on basis of flow velocity)

KSB Guard – The smart monitoring solution

1. The solution at a glance
2. Advantages, benefits and functions
3. Products & Services
   - Overview
   - **KSB Guard for dry-installed pumps**
   - KSB Guard for submersible pumps and mixers
   - KSB Guard monitoring service
   - KSB Guard data interface
4. KSB Guard and other services
5. References & practical examples
6. Competition

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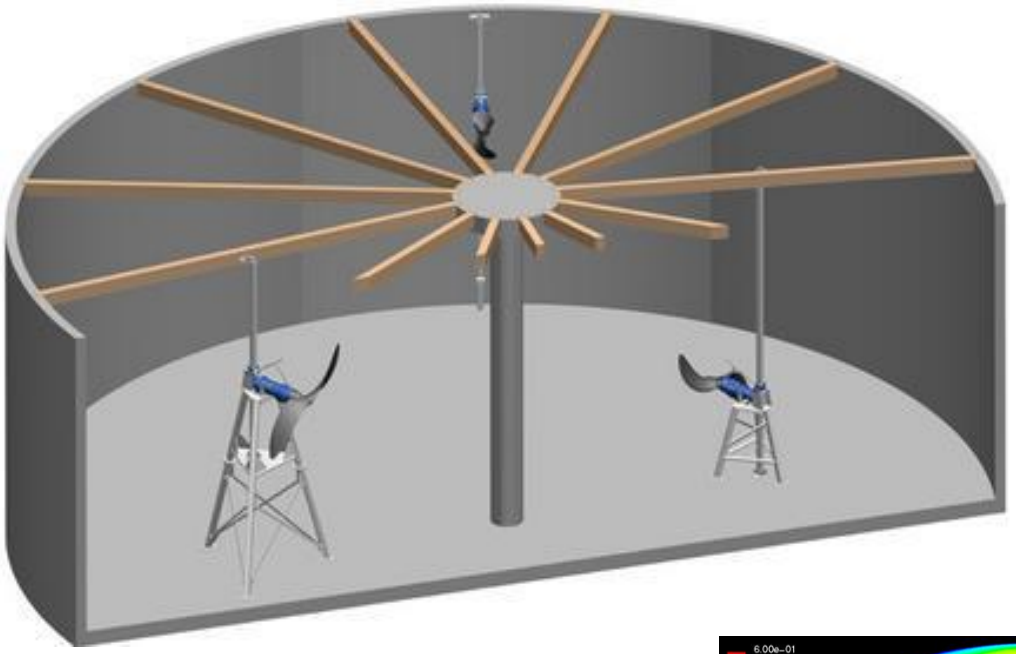
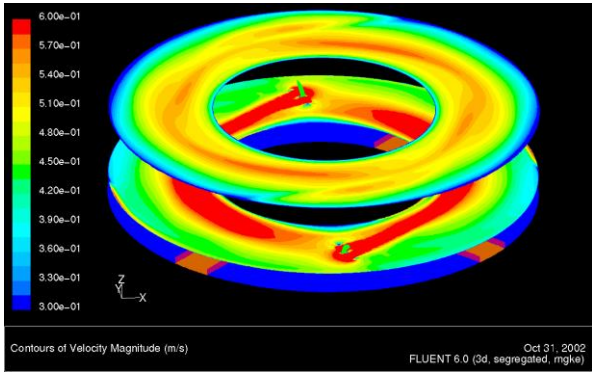
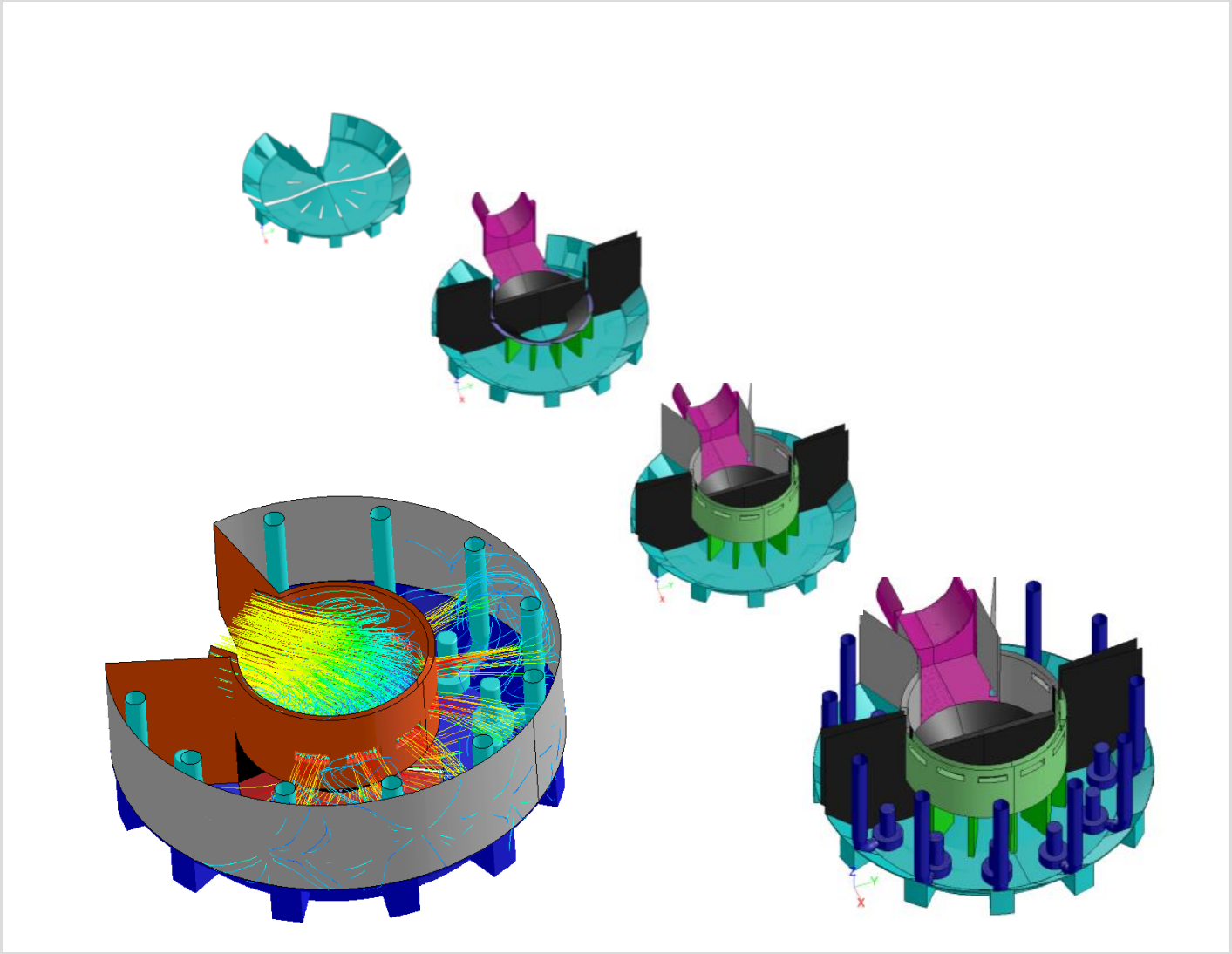




Engineering & Services

Amaprop submersible mixers

- Optimum energy balance thanks to Amaprop submersible mixers positioning
- Low-speed Amaprop submersible mixers from KSB are employed in the biogas process to ensure energy-efficient, reliable operation.



Engineering & Services

Computer simulation

Using computer simulation methods, KSB gains detailed knowledge of the complex flow processes – and uses this knowledge to improve design.

And it can also implement customized solutions in a very short time.

Engineering & Services

Tools

- Pump Selection
- Pump Configuration
- Sales Documentation
- Part Community
- Drawings 2D & 3D

Thank you for your attention!

Contact and Copyright

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