Stadt Aachen   Stadt Aalen   Stadtwerke Aalen   Stadtwerke Abensberg   Adams Bau GmbH   ZVWV Adelburggruppe   Aggerverband   Stadt Ahaus   Gemeinde Aidlingen   Air Products GmbH   Alfa Laval Mid Europe GmbH   Stadt Allendorf-Lumda   Stadt Alpirsbach   Abwasserzweckverband Altensteig   Altbrod GmbH & Co. KG   Altmühltaler Mineralbrunnen GmbH   Aluminiumwerke Unna AG   Gemeinde Anröchte   Stadt Arnsberg   Zweckverband Ammertal-Schönbuchgruppe   Stadt Amstetten (A)   AOI Abwasserverband Obere Iller   ARS Anlagen- und Rohrsysteme GmbH   Gemeinde Asbach   Stadt Aschaffenburg   Stadt Attendorn   ARA Rhein AG   Stadt Augsburg   aquatune-Dr. Gebhardt & Co GmbH   AWS Abwasser Wasser und Service GmbH   Markt Babenhausen   Stadt Bad Aibling (A)   Stadt Bad Arolsen   Stadt Baden-Baden   Stadt Bad Camberg   Stadt Bad Hersfeld   Gemeinde Bad Karlshafen   Abwasserverband Bad König   Stadt Bad Ditzenbach   Stadt Bad Homburg   Stadt Bad Kreuznach   Stadt Bad Langensalza   Stadt Bad Mergentheim   Stadt Bad Oeynhausen   Stadt Bad Reichenhall   Stadt Bad Salzuflen   Stadt Bad Sassendorf   Gemeinde Bad Überkingen   Stadtwerke Bad Bramstedt   Stadt Bad Urach   Stadt Bad Waldsee   Stadt Bad Wörishofen   Stadt Bad Wünnenberg   Stadt Bamberg   Kanton Basel-Landschaft   Stadt Bayreuth   Stadtwerke Bergen   Stadt Bergheim   Stadtwerke Bergheim   Stadt Bergisch Gladbach   Stadt Bergkamen   Gemeinde Berglen   Berkataler Wassertechnik GmbH   Bergisch-Rheinischer Wasserverband   Berliner Wasserbetriebe   Gemeinde Bestwig   Stadtwerke Beverungen   Stadt Bielefeld   Gemeinde Bietigheim   Big Dutchman International GmbH   Bilfinger Berger AG   Mesto Bilovec (CZ)   Gemeinde Birkenfeld   Landratsamt Böblingen   Stadtwerke Bobingen   Stadt Bocholt   Stadt Bochum   Gemeinde Bönen   Boehringer Ingelheim Pharma GmbH   Stadt Bonn   Gemeinde Borchen   Stadtwerke Borken   Boie GmbH & Co. KG   Robert Bosch GmbH   Eugen Boss GmbH & Co. KG   Stadt Braunschweig   Hansestadt Bremen   Verbandsgemeinde Brohltal   Stadt Brilon   Brück GmbH & Co. KG   Gemeinde Buchloe   Burger Pumpen GmbH   Stadt Büren   Stadt Burgau   Stadtwerke Burghausen   Markt Burgheim   Kernkraftwerk Brunsbüttel GmbH & Co.   Gemeinde Calw   CASCADES GmbH   Käserei Champignon Hofmeister GmbH & Co. KG   Stadtwerke Chemnitz   Mesto Cacovec (HR)   Stadt Coesfeld   Cite Colmar (F)   Gemeinde Crottendorf   Daimler AG   Stadt Darmstadt   Stadt Delbrück   Wasserzweckverband Denkendorf   Gemeinde Denzlingen   Stadt Detmold   Stadt Dillenburg   Markt Dirlewang   Stadt Donauwörth   Stadt Dormagen   Stadt Dornhan   Stadt Dorsten   Stadt Dortmund   Stadt Dreieich   Stadt Drensteinfurt   Stadt Dresden   Duchow Lüftungstechnik   Stadt Duisburg   Stadtwerke Düren GmbH   Stadt Düsseldorf   Abwasserverband Edermünde   Eibmarkt GmbH   Eifel-Rur Wasserverband   Eisele GmbH   Stadt Elfringen-Kirchen   ECO Bau Krumbach GmbH   Edtmayer d.o.o. (HR)   E.u.G. Lange GmbH & Co. KG   Earth Tech   Zweckverband Hochwasserschutz Elsenz-Schwarzbach   Elpatec GmbH   Elektro Brandenburg/Havel GmbH   Stadt Emmerich   Emschergenossenschaft   Stadtwerke Emsdetten   Stadt Emsdetten   Stadt Elmshorn   Emsland Frischgeflügel GmbH   ENNI Energie Umwelt Niederrhein GmbH   Stadt Ennepetal   Stadt Ennigerloh   EnviDan Service A/S (DK)   E.ON Kraftwerke GmbH   E.ON Benelux N.V.   Stadt Erftstadt   ESA Elektrotechnik Service Automatisierung GmbH   EST Elektro-Systemtechnik GmbH   Kreisstadt Erbach   Stadt Erkrath   Abwasserverband Erlenbach   Gemeinde Erwitte   Gemeinde Eslohe   Stadtwerke Essen AG   Stadt Esslingen   Stadt Euskirchen   Fechtelkord & Eggersmann GmbH   Gemeinde Feldatal   Fetscher Abwassertechnik   Stadt Filderstadt   Stadt Flensburg   Fischer Elektrotechnik GmbH   Markt Fischach   Gemeinde Forbach   Ford-Werke AG   Abwasserverband Frankenberg   Biomasseverwertungsgesellschaft Waldeck-Frankenberg   Stadt Frechen   Wasserzweckverband Freiberg   Gemeinde Freinsheim   Stadtwerke Freudenberg   Stadt Freudenstadt   Stadtwerke Friedberg   Abwasserverband Fulda   Gemeinde Fuldabrück   Stadt Fürth   Gemeinde Gablingen   Markt Garmisch-Partenkirchen   Stadt Geilenkirchen   Stadt Geldern   Gelsenwasser AG   Geo-Infometric GmbH   Stadtwerke Georgsmarienhütte   Gemeinde Geseke   Stadt Gersthofen   Gesa Elektrotechnik GmbH   Stadt Gießen   Gemeinde Gilserberg   Stadt Gladbeck   Gemeinde Görisried   Markt Goldbach   Gemeinde Gomaringen   Gontermann Peipers GmbH   Stadt Graz   Stadt Grevenbroich   Gemeinde Grömbach   Stadtwerke Gronau   Markt Großheubach   Stadt Gudensberg   Stadt Gütersloh   Heizungsbau Gütting   Stadt Hachenburg   Stadt Hagen   Stadt Halle   Hansestadt Hamburg   Stadt Hameln   Stadt Hamm   by Hammerfest (NO)   Stadt Hanau   Stadt Hannover   Flughafen Hannover   Gemeinde Hartheim   Stadtwerke Hattingen   Stadt Hattingen   Stadt Hechingen   Heitkamp & Hülscher GmbH & Co. KG   Heldele GmbH   Stadt Heidenheim   Stadtwerke Hemer   Gemeinde Hemhofen   Pumpenfabrik Herborner   Stadt Herford   Stadt Herne   Stadt Herzogenaurach   Heckmann GmbH & Co. KG   Gemeinde Heek   Heil Otto GmbH & Co. KG   Abwasserverband Hessisch-Lichtenau   Gemeinde Hemhofen   HFC Hankook Filter Co. (KR)   H & F Industry Data GmbH   Stadt Hildesheim   Stadt Höxter   Hochtief Construction AG   Gemeinde Hofbieber   Stadt Hofgeismar   Hochsauerlandwasser GmbH   Stadt Hollfeld   Hofmockel Elektro GmbH & Co.   Stadtwerke Horn- Bad Meinberg   Abfallentsorgungsbetrieb des Hochsauerlandkreises   Gemeinde Hornberg   Stadt Horstmar   HST Hydrosystémy s.r.o. (CZ)   Hrvatske vode (HR)   HST-WKS Hydro-Systemtechnik GmbH   Stadt Hüfingen   Stadt Ibbenbüren   Stadt Ichenhausen   IKB Innsbrucker Kommunalbetriebe AG (A)   Infraserv GmbH & Co. Höchst KG   Stadt Iserlohn   Stadtwerke Ismaning   Gemeinde Issum   Abwasserverband Ittertal   Jacob Metallwerke GmbH   Gemeinde Jesberg   Stadt Jülich   Stadt Jungingen   Jung Pumpen GmbH & Co.   Gemeinde Kalletal   Stadt Kandern   Kappenberger + Braun E-Tech GmbH & Co. KG   Stadt Kamen   Regierungspräsidium Karlsruhe   Stadt Karlsruhe   Stadt Kaufbeuren   Stadt Kassel   Abwasserverband Kempten (Allgäu)   Stadt Kempten (Allgäu)   Kiefl Elektrotechnik   Hansestadt Kiel   Kirchner GmbH, Innsbruck (A)   Kreis-Kleve-Abfallwirtschaftsgesellschaft mbH   by Kolding (DK)   Stadt Lippstadt   Stadtwerke Leinfelden-Echterdingen   Gemeinde Kirchhaslach   Stadt Köln   Mesto Komorany (CZ)   Stadt Konstanz   Stadt Krefeld   KRONPRINZ GmbH   Knebel Baugesellschaft mbH

Networking – for efficient processes

Networking is clearly the mega-trend over the coming years. This applies to automobiles, to our working life and leisure activities. Our surroundings are becoming smarter. Intelligently networked machines and installations are supporting us more than ever before. Optimised interlinking of the individual components within a complete system is the key to achieving maximum efficiency. Data is converted to useful information, which when combined in a transparent and clever manner create a massive leap forward in knowledge.

This applies particularly to the water and energy industries which through networking can achieve major improvements in efficiency. For this reason HST systems are networked at every level. The members of our teams are from a range of disciplines and cooperate to ensure that by use of IT and automation our machinery and installations are intelligently planned, controlled and combined. We have proven this in the over 10.000 successful projects we have carried out. HST is driven by the philosophy of making maximum

usage of networking and has now optimised installations, process techniques and key technologies which are ideally suited to the technical operating equipment of special plant and installations. HST not only offers the most suitable products, but also takes on the running of the complete project implementation and subsequent service tasks. At the end there is a tailored solution which is not only the most economical one but is easy to oversee.

Dipl.-Ing. Martin Frigger
Managing Director

Dipl.-Ing. MBA Werner Bücker
Managing Director

Dipl.-Ing. Richard Ernst
Managing Director

Dipl.-Ing. Thomas Grünig
Managing Director
International Sales

Systematically better

Water is a precious resource. It is the basic component for humankind and for nature. Because of this the supply and disposal have taken on a worldwide key role in securing peace, growth and prosperity. With our creative and solutions oriented engineering development, HST plays an active role in designing environmental protection systems.

Our fundamental conviction for the future is the benefit of networking. By using IT and automation, we create integrated communications between intelligent machines and plant in order to be able to control them in an intelligent manner on a large scale. As water is an excellent energy storage medium, we have, of course developed methods of using hydropower and the energy from wastewater.

Our responsibilities do not cease with delivery of the product but we give our customers the certainty that they have received a real solution. Last but not least, we consider it to be our mission to understand complex problems and make them easier to solve. This is how we measure success.

Central circle:
SYSTEM TECHNOLOGY

Inner ring segments:
- PRODUCTS
- PARTNERS
- SERVICE

Outer ring and labels:
- A solution with a system
- Machines & systems
- Water
- Networking
- IT & automation
- Energy
- Individual & OEM manufacturing
- Infrastructure
- Networking
- A solution with a system
- Assembly & commissioning
- Training
- Assistance & support
- A solution with a system
- Networking
- Networking
- A solution with a system

Performance
that runs smoothly

For „intelligent "systems to work it is essential that all component parts fit seamlessly into each other. To do this it is necessary to identify the inter connections and think laterally. For this to succeed one must know every detail of the system. Ideally the system should have been developed in house. For this reason HST offers not only the networking (IT and automation) but also the networked parts (machinery and plant) as well as the maintenance and servicing. During the last 30 years and based on our experience with over 8,500 projects one thing has become clear. Only the sum of the parts in an installation produces a maximum of value.

Personal responsibility

The core of our performance success is the system technology which we have perfected. Depending on the requirements, we then implement a tailored solution as a single unit. This applies to product, project and service supply. This ranges from resource saving heat exchangers to a smart control technology and on to the equipment for storm water stations. Our services do not end with the sales of a product or the completion and handover of a project. We feel personally responsible and want to ensure the continued success of our customers. For this reason it is natural that we include operation, inspection maintenance, and repairs in our offer.

HST service competence

Everything is networked. We have positioned our projects, products and services around our core service concept „system technology". By this means we cover all the demands which our customers make of us. Satisfaction and perfection as we see it.

Admittedly we cannot do everything. But what we can do in our market segment we do exceptionally well. Better than nearly all of the rest. Put our technicians and engineers to the test.

Customers we serve and provide tailor-made solutions

- Municipalities, associations, operators
- Engineering offices and consultants
- Government bodies and institutions
- Contracting companies
- Plant and system manufacturers

Always thinking of solutions: HST-CEO Martin Frigger

„We think further"

Interview with HST Managing Director Martin Frigger on the strategic networking of the company with regard to products and projects in conjunction with economical and scientific solutions.

How does HST network products and projects?

Frigger: HST networks plant and machinery with IT and automation. Our plant and machinery receive their "intelligence" by web based networking and a very fine sensor technology. By this means they automatically supply important information and impulses to the user. I remember a report a few years ago when it was stated that a refrigerator was being developed which would automatically order goods on line when these were running low. This was dismissed at the time as being "cloud in the sky". HST is now way beyond this. We create smart networked plants and systems, which, on the basis of solid and diverse data collection, contribute noticeably to a reduction in costs and assist the conservation of scarce resources. However Networking at HST is not limited to information technology. At HST mechanical engineers, electrical engineers, process engineers and IT specialists work in a multi discipline manner. Comprehensive solutions cannot always be optimally conceived and implemented using only our own products or services. In addition, we must take into considera-

tion the large number of interfaces needed to ensure the total functionality of the system. For this reason, in conjunction with own products, we also use other products which are available in the market. In the final analysis we want to provide our customers with a tailored solution. That is our priority – products from a number of sources but all in one package. In HST the customer has not only a competent partner but also has access to the know how of the entire segment.

We call that project realisation or complete solutions. In addition, a large number of our products were developed in the course of solving problems. In the final analysis it is the solution that counts whether it is product, project or service based.

Many companies economize on R & D expenditure. You do not agree with this why?

Frigger: As solution providers we have a duty to be innovative. We are continually looking for good new ideas. Ultimately we are of the opinion that only by differentiation and continuous development and im-

provement of our products that we will be able to provide added value for our customers. If we want to consolidate this process we must ensure that we have and hold this know how in our company.

On the other hand you work closely with universities, research institutes and development projects. Is this not a contradiction?

Frigger: In no way, by working closely with universities and research bodies, as well cooperation with national and international development projects we can gain new knowledge which will be of advantage to our customers and can flow seamlessly and quickly into practice. We have our sensors extended flexibly in all directions which is positive for our employees. They are true lateral thinkers. In some case we even obtain inspiration for new ideas from areas of life which, at first glance, have nothing to do with engineering. By this means one can learn a lot when developing and finding solutions. Creative solutions only arise when one departs from conventional thinking.

Products

Applications
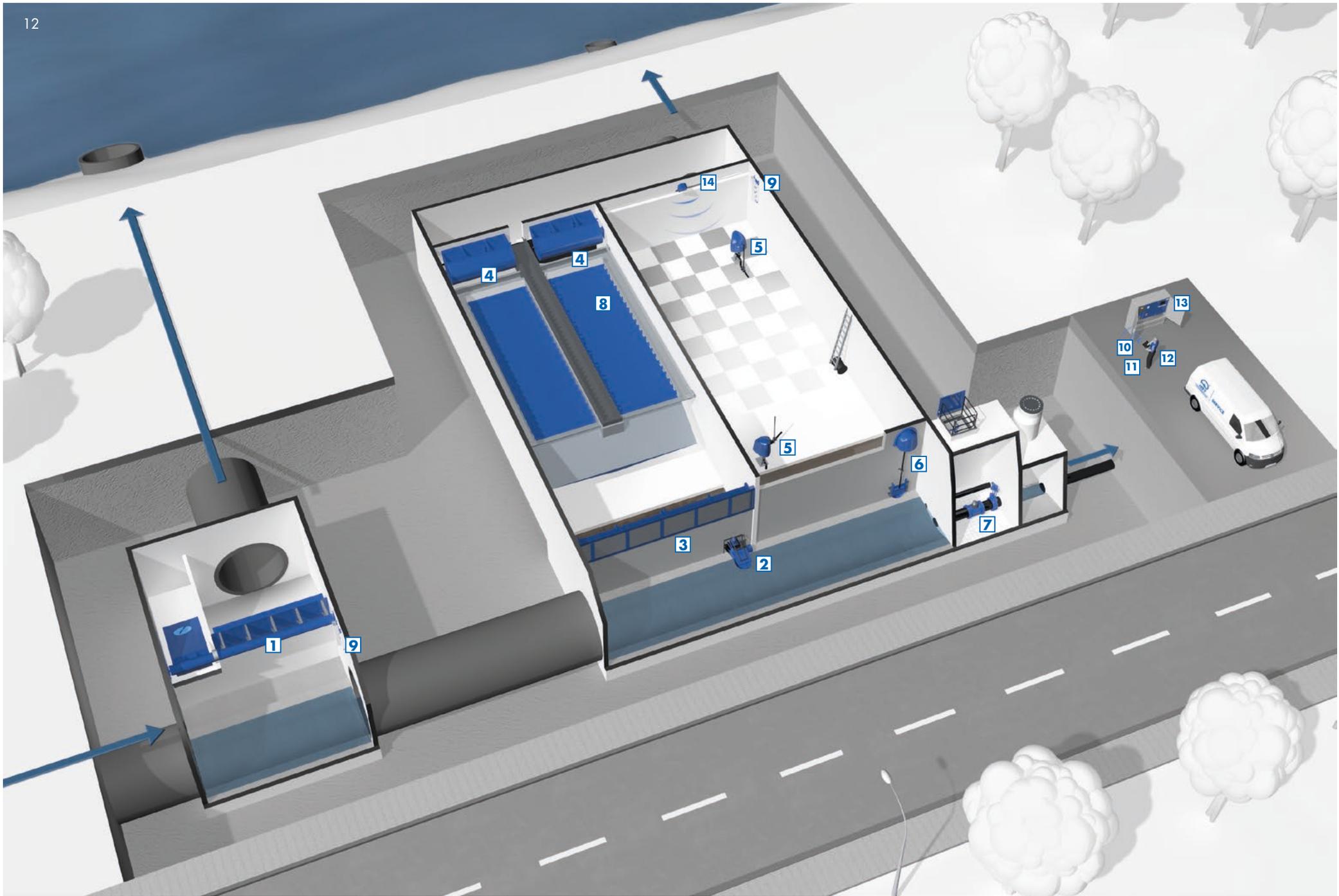
Structures for CSO reduction

Systems and solutions for: Storm water retention basins and deep storage tunnels

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ASA-Weir
Page 33

9	10	11	12	13	14
SensoMatic-EMA Page 92	**KANiO**® Page 60	**SCADA** V10 Page 72	**SCADA**.web Page 82	**Tele**Matic Page 88	TeleCam

Prognosis

Extreme weather events with heavy rainfall are frequent features of climate change. Housing development and paving of green spaces are increasing the run off volume entering the sewer networks, often beyond their capacities. The polluted excess water either causes flooding of urban areas or it is released directly into local waters, known as combined sewer overflow (CSO). Both scenarios cause severe threats to public health and to aquatic life in our rivers and lakes. We consider these kinds of CSOs as unacceptable in a modern society. To prevent this, it is necessary to build either storm water retention basins or deep storage tunnels.

Our Solution

At HST intelligent storm water and CSO management means network of smart HST products linked by HST process control technology SCADA to other objects in the urban water- and sewage infrastructure. The products supplied by HST ensure the optimum usage of storage volume, best BOD reduction as well as the removing of sediments from basins and in deep storage tunnels. This results in the most cost effective and reliable operation of the entire infrastructure. All equipment complies with the current standard of the German Water Association (DWA) and is state of the art technology concerning efficiency and safety requirements.

The Details

The layout of HST storm water and CSO storage facilities can be divided into the functions: Overflow control and management, cleaning devices, process monitoring. Modern storm water storage facilities are provided with an integrated process technology. The HST-ASA-Weir technology allows the management of CSO storage tunnels in conjunction with the entire sewer system. The multi-functional, vertical lifting weir creates additional storage volume by cascading. It controls flow and water levels and allows programmable flushing sequences. Expertise combined with innovative technologies make HST a valuable partner for CSO technologies and solutions.
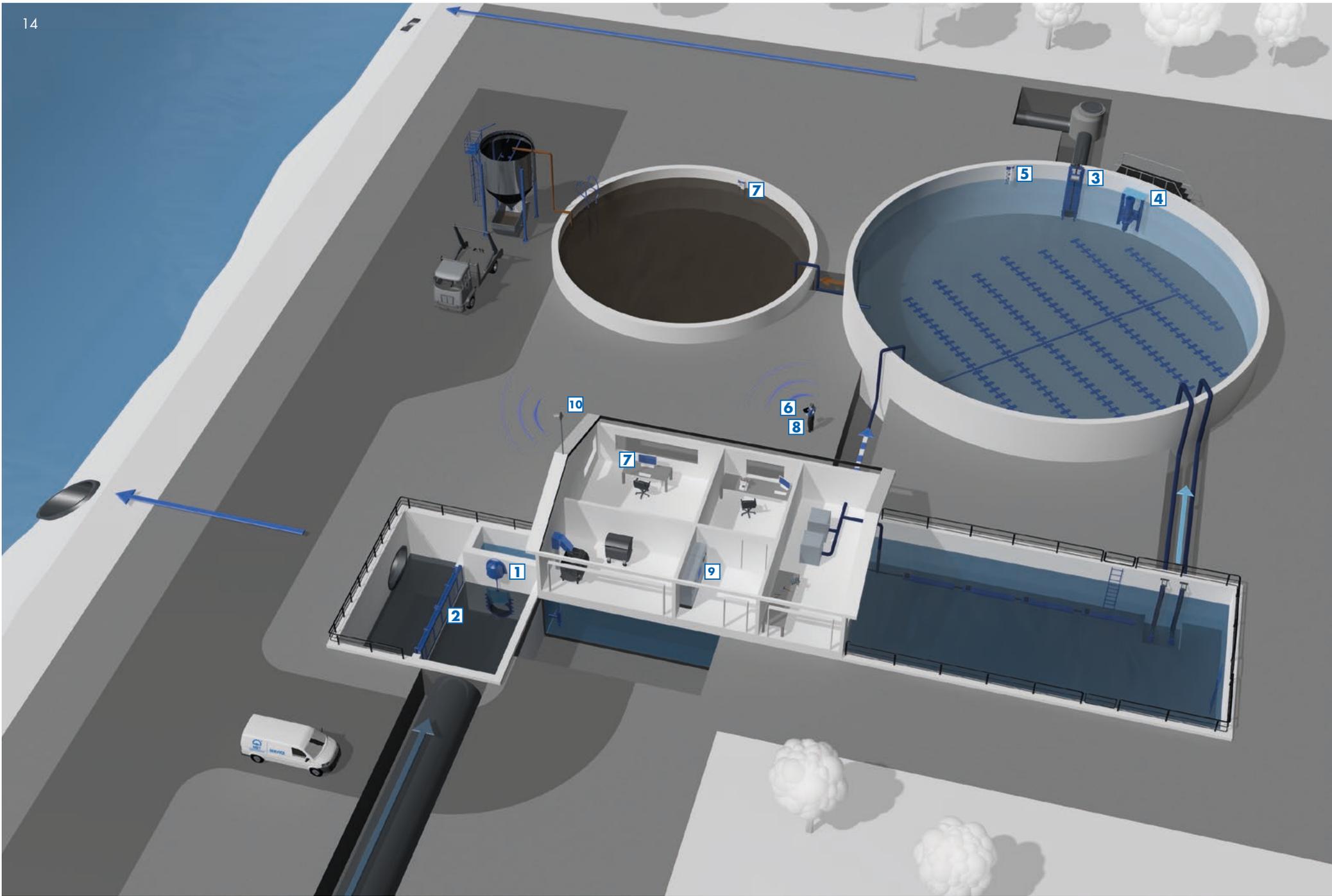
SBR-Treatment Plants

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HydroMat-E
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2
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HydroScum-SLIDE/P
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Prognosis

Municipal treatment plants constitute a large part of the energy usage in a municipality. In order to save costs it is essential to achieve a measurable improvement in resource usage. The higher standards for effluent quality of the treated waste water discharge together with demographic changes affect the planning of new installations and the, refurbishment or upgrade of municipal treatment plants. The daily fluctuations in the inflow rate of the waste water means that simple flow-through plants are not the solution. For this reason more and more SBR plants are being used for aerobic treatment plants.

Our Solution

HST products and systems for SBR treatment plants have been designed so that each constituent components works in conjunction with the other elements to ensure a reliable and efficient solution. A particular role in the treated liquid process is played by a treated liquid extraction option and by treated water decanters. SBR treatment plants are fully automatic so high level of process reliability and stability is achieved. The optimisation of the process control by the HST automation and process control technology allows a reduction in the process volume and machinery size.

The Details

All processes and conditions in the SBR treatment plant are continually monitored so that at any time an accurate overview of the process can be made. The IT systems supplied by HST can provide, on request, information on any deviations and can initiate all necessary inputs to control the treatment process. The use of settling additives can be eliminated or reduced thanks to better Bio-P-elements. This leads to reduced operating costs and better protection of the environment. We have combined the various components of an SBR plant to a fully functioning composite unit.
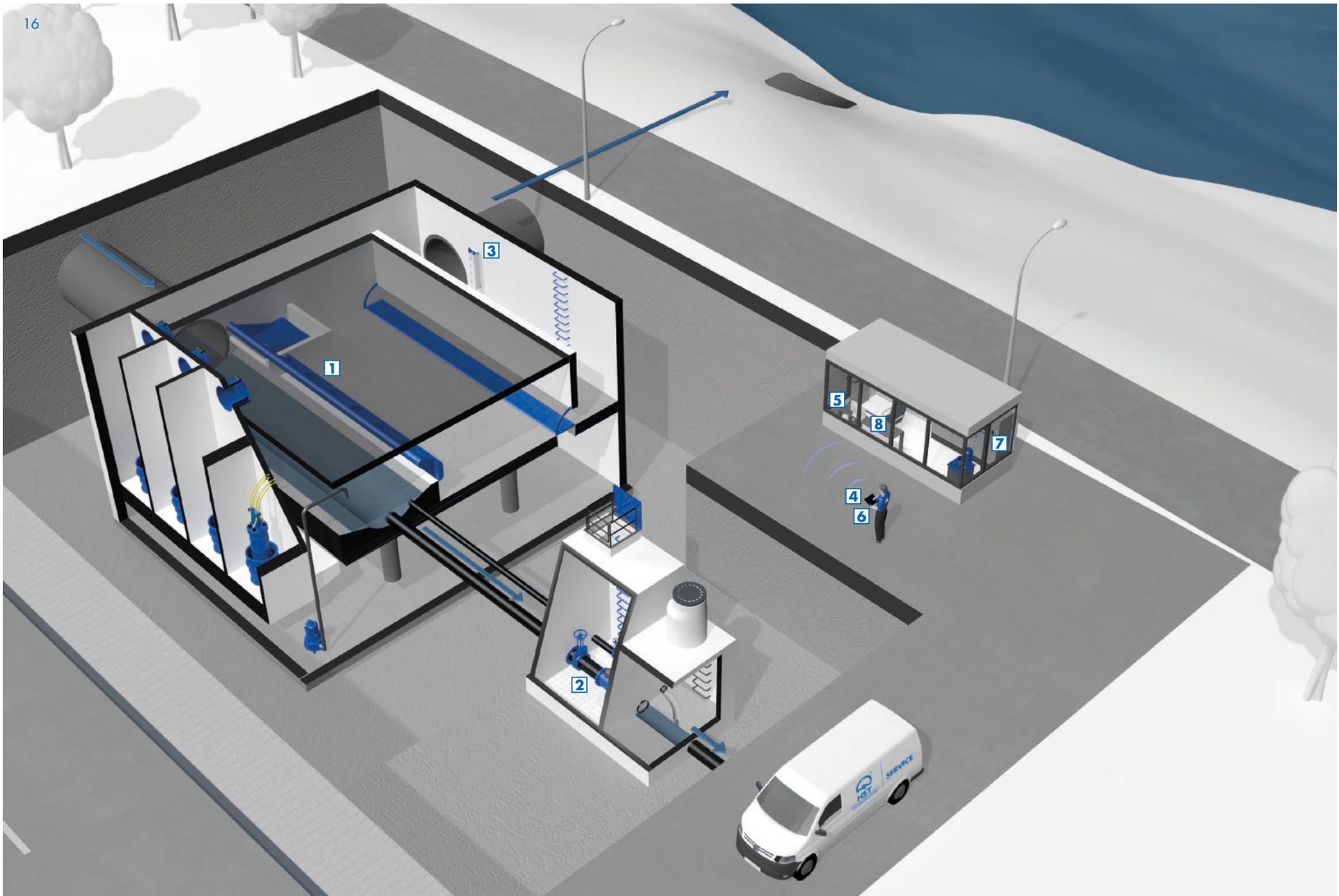
Stormwater Pumping Stations

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Prognosis

According to IPCC and other experts extreme weather events and very high levels of rainfall will be more frequent features of climate change. This increases the risk of flooding and the potential for subsequent damage. Depending on the local topography it may be necessary to protect residential areas from the effects of flooding by building storm water retention tanks or by the provision of storm water or combined sewer pumping systems to pump into the receiving water. This will ensure that predetermined high water levels are not exceeded. Otherwise there is the danger of back up and possible collapse of the sewer or channel system.

Our Solution

As far back as 20 years ago HST was providing polder storm water holding tanks and storm water pumping stations with smart control equipment. This type of construction and equipment has proven itself over the years and has been technically further developed and refined. In combination with accurate rainfall forecasts the user has now the possibility to operate the storm water protection plant in a reliable and secure manner. All the processes involved are controlled by the HST automation and process control technology.

The Details

ASK-Weirs are used to ensure maximum utilisation of the available storm water retention capacity. By this means the operating times for the retention can be reduced. In addition the storm water pump sizes can be reduced. Moveable 2-way flaps in conjunction with discharge tube mounted submersible pumps allow the construction of storm water pumping stations on a smaller surface area. This means that sump structures for shut-off or diversion valves or dual relief lines are not necessary. The control and monitoring function is carried out by the process control system SCADA V10 in conjunction with rainfall data from NiRA.web. Maintenance and upkeep is organised by KANiO®.
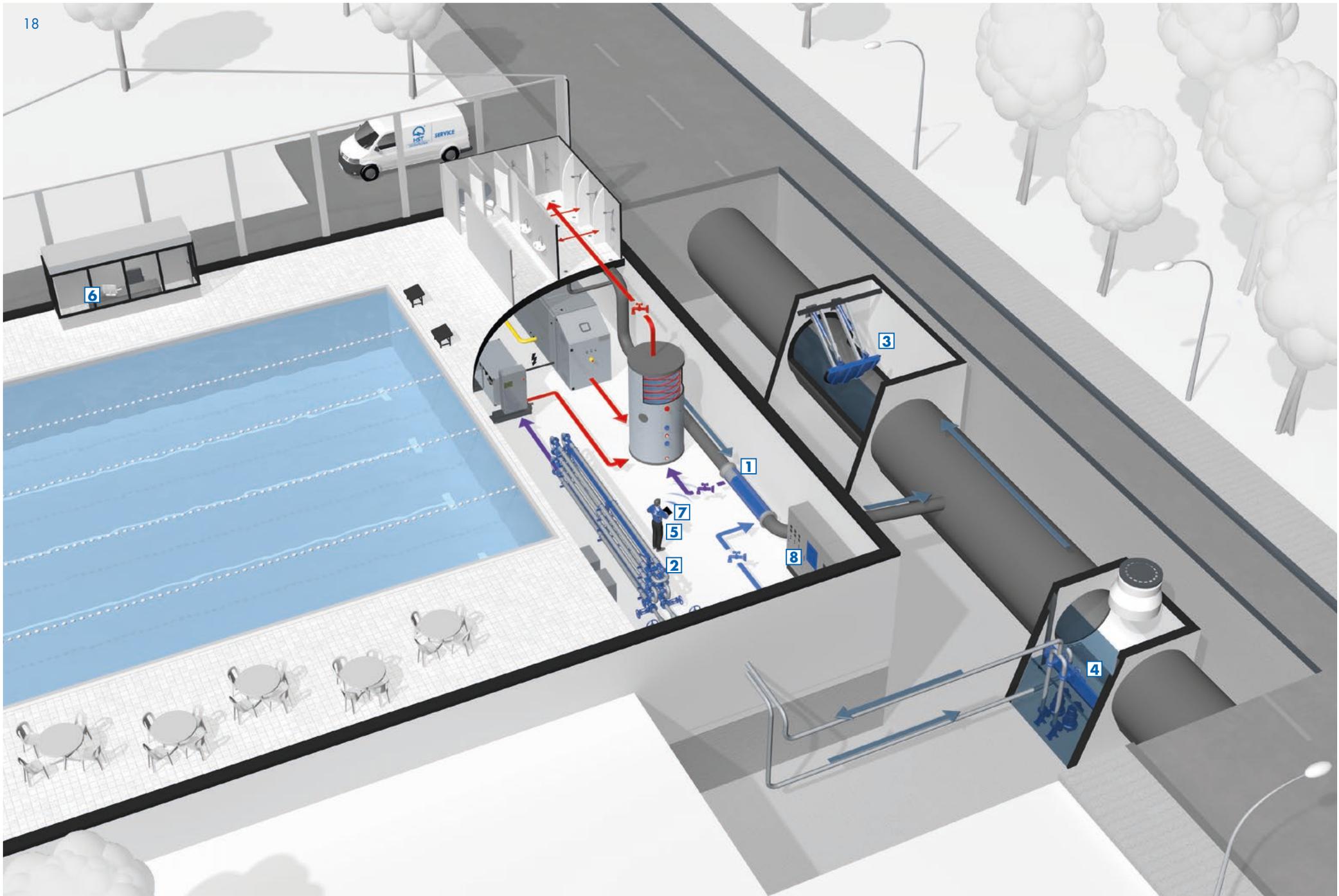
Heat from Sewage

1 Pure flux P
Page 50

2 Pure flux P2
Page 51

3 AWS-Flush Sluice
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4 STW/V Scum Baffle

5 KANiO®
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Prognosis

Energy prices will continue to rise. This increased cost pressure together with the need to reduce carbon emissions require new methods for handling resources and recovery of the available energy. The options for heat recovery from sewage is now being examined by the experts. The potential is huge. By making use of the heat which can be extracted from sewage about 10% of the buildings In Germany could be heated. Sewage supply is reliable, available and contains heat energy which has already been paid for. The technology required exists already. Swimming pools for example could make use of this heat energy.

Our Solution

HST designs and manufactures not only the basic components for energy recovery in the form of efficient heat exchangers but also provides complete smart-networked sewage heat recovery systems with the required extraction valves, heat pumps and system components for energy recovery in facilities such as swimming pools. The central data collection and evaluation is carried out by TeleMatic. SCADA V10 / SCADA. web is used for monitoring, analysis and balancing. The operation software KANiO® supports the organisation of maintenance function and digital plant documentation.

The Details

The use of the heat exchanger Pure Flux F means that heat can be recovered from sewage even in buildings with limited space availability. The Pure Flux P2 heat exchanger is suitable for high heat performance and for cascading. With regard to energy recovery from sludge, the HST sludge recuperating unit in modular form provides a simple and efficient process. For energy recovery from existing sewage pipes we offer the heat exchanger Pure Flux P.

Flexible through standardisation

HST is a specialist for system solutions with its own products: from the purely mechanical or automated weir to system waste water treatment plants, from the station technology to the complete control technology and the superordinate operations management system for installations in the infrastructure. The use of standards in HST products and systems and the simultaneous openness and flexibility for other intelligent systems within the system technology are a significant unique selling point and guarantee investment security and supplier-independence for all of the solutions.

In short: HST is a product manufacturer with the know-how for systems and plant construction.

ASK-Weir

ASA-Weir

SK-Weir

RSK/Twin-Flap Valve*

RSK/P-Flap Valve

STW/R Scum Baffle*

STW/V Scum Baffle*

HSR-Screen

Electronic quantities evaluation*

AWS-Flush Bucket

AWS-Flush Gate

AWS-Flush Sluice

Segment-Weir*

Fish-Velly and Torsion -Flap Gate/Weir*

Lock-Gate*

AWS-Jet Cleaner

HydroMat-E

HydroMat-Q

HydroMat-HQ

SBR Unit/ System

DAF-Compact

LS-Lamella Separator

HydroKlar-SLIDE

HydroKlar-FLOAT*

HydroScum-SLIDE/P

HydroScum-FLAP*

Pure flux P

Pure flux P2

SensoMatic-EMA

KANiO®

smartKANiO

SCADA V10

SCADA.web

smartSCADA

TeleMatic

*on request

Convincing with quality

System excellence is only possible if the quality of the individual components is outstanding. Products from HST must fulfil very high standards of design, security and functionality. It is common that an innovation, be it a machine, plant or software, is subjected to years of intense research, development and testing before being released onto the market. Even then HST does not stop working. Once installed our technicians and engineers observe very closely how the product behaves in the market. Feedback from customers is treated seriously and acts as an important seismograph in order to optimise our product.

Our commitment to quality

Within the framework of our internal quality management we have developed performance standards at HST by which we demonstrate to our customers our unrelenting commitment is quality. This is an important and transparent decision factor for our customers. The high number of repeat customers who have been purchasing our products over a number of years is an endorsement of our strategy in this regard. We are one of the relatively few companies in our sector who place a high value on in-house development. This makes HST a supplier of equipment, engineering and technology with a mature advanced system.

SMART Machines

SMART machines are what we call machines which are equipped with special automation intelligence as well as smartSCADA und smartKANiO®. These machines possess special functions and characteristics. They are fitted with integrated security systems which go beyond the requirements of the machinery guidelines.

HST service brand

ENERGY EFFICIENCY

HST products can run either without the input of external energy or are equipped with IT and automation with process intelligence which uses a minimum of external energy.

MATERIAL EFFICIENCY

Raw materials are scarce and getting more expensive. For this reason HST uses well thought out designs and production methods in order to ensure maximum efficiency in production.

DATA EFFICIENCY

HST systems evaluate the accumulated data and the relevant information so they are tailored to the needs of the customer. This means that the customer gets the information needed.

SECURE QUALITY

System failures and the loss of data are expensive. HST software products ensure maximum availability and the security of the data.

SMART USABILITY

Complex processes made simple to manage. This challenge, in particular, has been taken up and implemented by the software products of HST.

STANDARDS & FLEXIBILITY

Guaranteed flexibility by the use of standardised and open IT modules and solutions. HST products can be interfaced with other systems and networks.

Products

Machines & Systems

ASK-Weir

USE

- Dams and flood retention reservoirs
- Storm water tanks/sewer reservoirs
- Hydropower plants
- Water treatment plants
- Polders
- Receiving waters

PRODUCT DESCRIPTION

The ASK-Weir is used to keep the water level precisely constant without external energy and during backwater conditions. This way, it is possible to forego flooding levels when dams overflow and reliably activate reservoir volumes. Due to the purely upper water-dependent regulation function, ASK-Weirs are also implemented in backwater conditions and for flood protection. ASK-Weirs also reliably hold back floating matter. The safest solution when it comes to relieving strain.

YOUR ADVANTAGES

- Precisely constant water level = constant reservoir target for volume activation, even in case of backwater
- No external energy for the drive and regulation is required
- Holding back of floating and suspended matter
- Small, compact structures
- Maximum operational safety

ASA-Weir

SMART Machine

YOUR ADVANTAGES

- Activation of reservoir volumes
- Generation of flushing waves
- Flood protection
- Reduction of structural dimensions
- Network connection to cascades
- Safety even in cases of power failure
- Adjustable operation levels

USE

- Sewer reservoirs
- Storm water tank
- Coastal protection/ dykes
- Separating structures
- Polders
- Seals
- Locks

PRODUCT DESCRIPTION

ASA-Weirs serve primarily as cascade dams, flushing weirs and relief weirs. They activate reservoir volumes, generate hydropeaking and make a variable overflow edge to separating structures and relief dams. Technically, the ASA-Weirs are XXL hydraulically-driven, pressure-sealed sliders manufactured with the highest level of precision.

SK-Weir

USE

- Storm water retention tanks
- Overflow structures in combined sewer channels (CSO)
- Large water reservoirs
- Hydropower plants

PRODUCT DESCRIPTION

The SK-Weirs are designed to control- and maintain a pre-set water level upstream of the weir. Thus allowing full usage of all available storage, while not adversely affecting the overflow weir capacity.

In the standard version the weir is controlled by means of an electro. If an operation without external power is required, the weir can be controlled by counterweights or springs made of stainless steel ESK-Weirs usually are installed in areas where varying water quantities need to be discharged at from a constant upstream target levels.

YOUR ADVANTAGES

- Energy reservoir even in case of a power failure movable
- Constant & easily adjustable operating level
- Easy to retrofit into existing structures
- Long live span stainless steel construction
- Available without external power
- Adjustable target levels
- Option: Flood version bi–directional (4-way) sealing
- Can be combined with HSR-Screen
- Optional: with integrated tele control and operational data recording

Option: without external energy

FSK-Weir with spring barrel

ESK-Weir with hydraulic drive

GSK-Weir controled by wight

HydroMat-M

RSK/P-Flap Valve

USE

- Sewage systems
- Outlets/overflows
- Storm water tank
- Separating structures
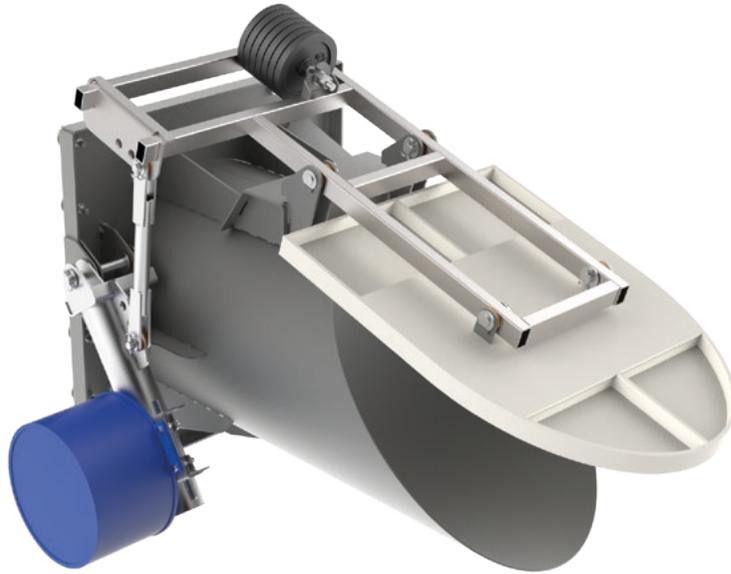
PRODUCT DESCRIPTION

Floater-supported RSK/P-Flap Valves reliably protect against backwater and flooding. Using adjustable weighted lever mechanics in combination with a floater, opening and closing times can be precisely set. The flap gates are available in nominal widths DN 250 to DN 2500 in both rectangular and circular formats.

YOUR ADVANTAGES

- Safe opening and closing
- Level control using floaters
- Round and rectangular versions
- Large nominal widths series

HSR-Screen

SMART Machine

USE

- Combined sewer channels
- Any kind of overflow structure (CSO)
- Storm water retention tanks
- Pre-treatment for soil filters
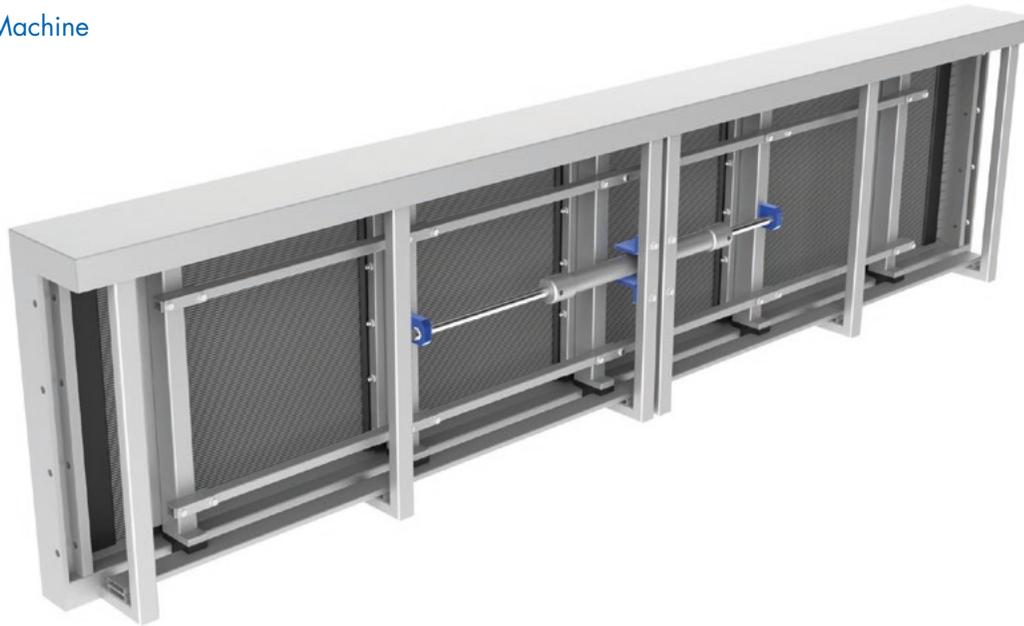
PRODUCT DESCRIPTION

The HSR-Screen is a state of the art overflow bar screen installed in all kinds of overflow structures of combined sewer channels (CSO). It is a full automatically operating system to retain floating debris and solids inside the sewer channel, preventing them of being released into the receiving waters without treatment. Therefore the HSR-Screen contributes significantly to a reduction of BOD being released into our natural waters during emergency overflows. The HSR high-performance screen is a horizontal bar screen with an automated cleaning system.

YOUR ADVANTAGES

- "Bullet shaped" bars reduce hydraulic losses resulting in a reduction of the upstream water level
- Fully automatic cleaning device for safe operation
- Automatic message send to service team in case of a malfunction
- Stainless steel construction
- Optional: integrated tele control and operation data recording

AWS-Flush Bucket

YOUR ADVANTAGES

- Lowest maintenance
- Uses available water source, incl. stormwater
- Easy to retrofit into existing structures
- Stainless steel construction
- Low operation noise
- Standardized sizes from 200 l/m to 2500 l/m
- Overall lengths up to 10 m per one unit

USE

- Storm water retention tank
- Sewer reservoirs

PRODUCT DESCRIPTION

The most operationally cost-effective and most commonly installed solution for cleaning reservoirs. The AWS-Flush Bucket which is installed outside of the medium (storm water, drainage water etc.), removes deposits without external energy and extremely effectively due to a strong flushing wave. The form of the AWS-Flush Bucket constructed on the basis of FEM-models is characterised by an optimal torque curve and material usage rate with a low net weight and is the most modern construction on the market.

AWS-Flush Gate

USE

- Storm water tank
- Sewer reservoirs

PRODUCT DESCRIPTION

AWS Flushing Gates are effective systems to remove sedimentation in storm water tanks and canals. The AWS-Flush Gate operates fully automatically through level sensors. It is installed in the sewage structures using that retained water for flushing the bottom of the basin during damming. By opening the gate after damming, a strong flushing wave is created on the bottom, safely flushes the sedimentation into a collector trench located at the end of the flushing lane.

YOUR ADVANTAGES

- Longest flushing wave
- Double acting cylinders as a standard
- No fresh water supply required
- Easy to retrofit Into existing structures
- Stainless steel- or high quality composite material
- Safe locking/opening system using oil pressure
- Monitoring system to indicate malfunctions

AWS-Flush Sluice

SMART Machine

YOUR ADVANTAGES

- Easy to retrofit into existing channels
- Flushing at dry weather condition
- No disturbance of the sewer operation during installation.
- Automatic indication of malfunctions
- No flushing chamber required
- Activation of additional retention volume
- Opens automatically at power failure.

USE

- Combined sewer systems
- Sewer systems
- Stormwater collector channels

PRODUCT DESCRIPTION

The AWS-Flush Sluice is used for a preventive cleaning of critical section of sewer- and combined sewer collector channels of small- and medium sizes.
The AWS-Flush Sluice is installed without obstructing the flow path. By activating the impound shield of the device it impounds the upstream water. A sudden opening of the impound shield generates a strong flushing wave, moving the sedimentation and debris downstream to less critical areas. The individual programmed flushing algorithm ensures a preventive cleaning of the sewer, even at dry weather condition. Hence the hydraulic performance of the sewer lines are increased as well as unpleasant odours are avoided.

AWS-Jet Cleaner   SMART Machine with IntelliGrid

PRODUCT DESCRIPTION

The AWS-Jet Cleaner is an automatically acting current generator for energy-optimised cleaning of storm water tanks and sewage storage spaces. A powerful pump with injector set generates a water-air mixture as propulsion and cleaning jet. The HST software HydroMatic is used for the energy-efficient control of the flushing process. The AWS pivoting stream jet is equipped with a pivoting injector set and thus allows for a large flushing radius. An energy efficient flushing and a good flushing result are also a matter of course even with very different tank geometry.

SMART Machine-Funktion IntelliGrid

IntelliGrid automation allows for results-oriented flushing of storm water tanks. The AWS-Jet Cleaner receives feedback about the results of the work performed and can learn how to flush the tank with the lowest possible expenditures. This method represents the first tank flushing system with real result monitoring and process efficiency. The collection of the flushing results is done via a contamination screen for the bottom of the tank. Location and intensity of deposits can be determined by manually entering it into the automation control panel or automatically using an optical camera (optional).

Display of the AWS stream jet control unit, HydroMatic with IntelliGrid
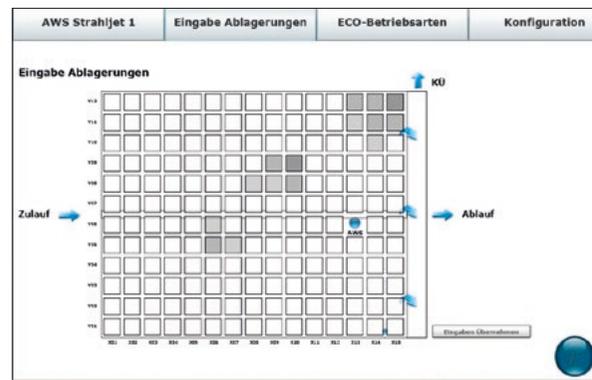
YOUR ADVANTAGES

- Energy efficient operation
- Optical contamination recognition
- Easy to retrofit
- With IntelliGrid automation: process and
- Energy-optimised flushing intelligence
- Aeration of retained water during storage

with TeleCam

USE

- Stormwater holding tanks
- Channel storage units
- Treatment plants
- Ponds
- Process water treatment

HydroMat-E

SMART Machine with IntelliFlow

SMART machine function IntelliFlow

IntelliFlow automation allows for the control and self-calibration of drainage controls and drainage regulation. The HydroMat product or system series with IntelliFlow have software for evaluating reference and comparison sizes. This way, the correct amount always flows and determined drainage values are secure data.

PRODUCT DESCRIPTION

The most economic drainage regulation, electronically adjustable – ideal for the exchange of mechanical throttle devices. The HydroMat-E- drainage regulators are electrically driven, fill-level-controlled water volumes or water level regulator. The respectively intended control tasks can be parameterised in a user-friendly way using the corresponding HydroMatics system software from the TeleMatic family.

YOUR ADVANTAGES

- Fully automated drainage control and regulation function
- Transfer monitoring and flushing control
- Adjustable Q/H functions
- Flushing automation
- Fully floodable during operation
- All nominal widths and bottom forms available

USE

- Dam systems
- Storm water tank
- Sewer reservoirs
- Water treatment plants
- Pumping stations

HydroMat-M
Option: with mechanical regulator

HydroMat-Q

SMART Machine with IntelliFlow
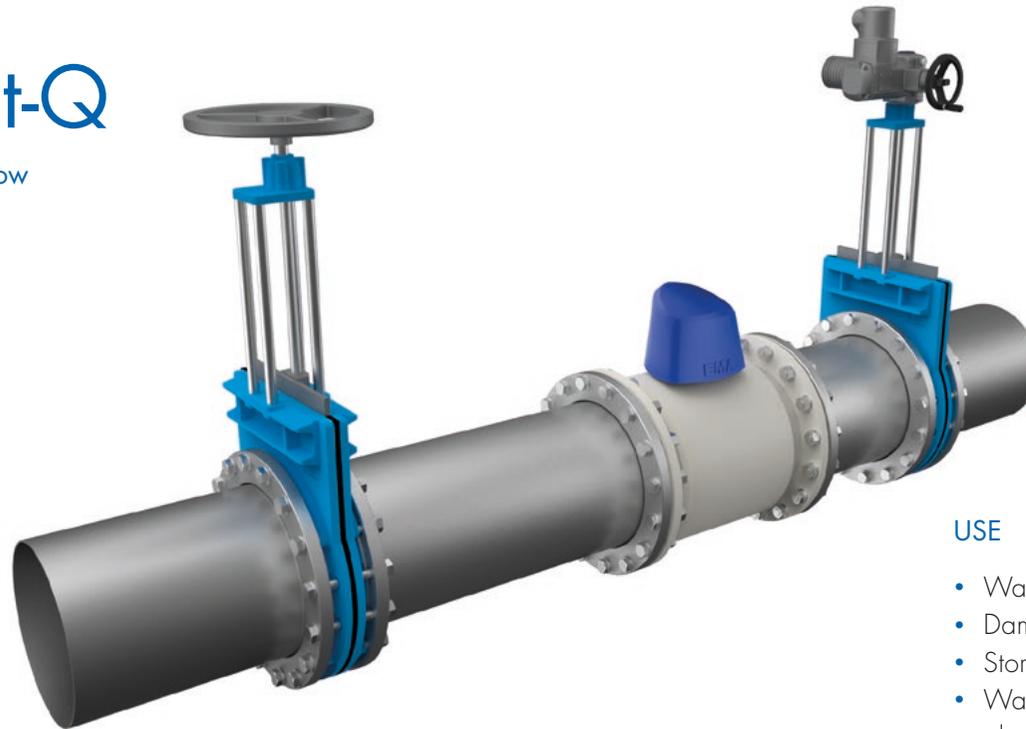
USE

- Water treatment
- Dam systems
- Storm water tank
- Water treatment plants
- Pumping stations

PRODUCT DESCRIPTION

The HydroMat Q drainage regulation systems, culverted and non-culverted, are equipped with the newest regulation and control-related components. In addition to the precise measuring and regulation of the volume, the automation and system software allows for continual recording of all operating data and a self-calibration function.

YOUR ADVANTAGES

- Automatic self-monitoring and calibration function
- Continuous Delta event operating data recording
- Systemic type series with modular construction
- Complete and partial filling versions
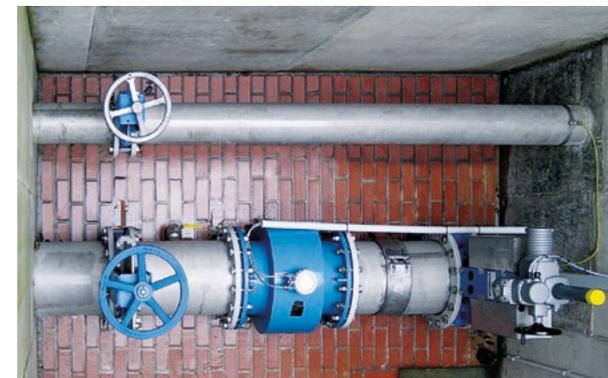
HydroMat-HQ

SMART Machine with IntelliFlow

USE

- Dam systems
- Storm water holding tanks
- Sewer reservoirs
- Treatment plants
- Pumping stations
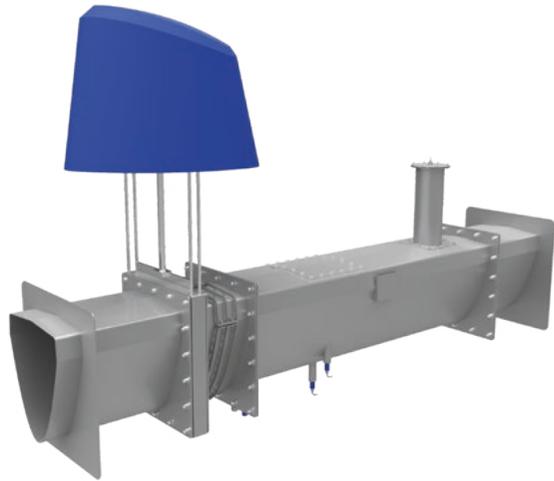
PRODUCT DESCRIPTION

The stationary flow measurement system HydroMat-HQ can measure flow to MID accuracy by the use of high resolution sensor technology. In combination with pneumatic discharge regulation, a precise drainage flow is guaranteed. Alongside precise volume measurement and regulation the Automation- und System software IntelliFlow allows the continuous recording of all operating data, the evaluation of reference and comparison values and also incorporates a self-calibration function. This ensures precision flow measurement without back up occurring.

YOUR ADVANTAGES

- Measurement of very low volumes (dry weather channel)
- MID accuracy by the use of high resolution sensor technology (ultrasonic-running time and Doppler)
- Low hydraulic losses (measurement without back up)
- Calibrated measuring track with accuracy certificate
- Easy to maintain (easy to dismantle with open top or maintenance cover)
- Easy visual checking with measuring rod.is possible

Dissolved Air Flotation

SMART Machine

USE

- Water treatment plants
- Landfill leachate treatment
- Dairy farms/slaughterhouses
- Process water treatment
- Solid/liquid separation

PRODUCT DESCRIPTION

In the flotation, the sludge flocs, grease or emulsion-containing substances are transported to the surface of the water by introducing micro-fine air bubbles. The use of a suitable auxiliary material for creating macroflocs in combination with the correct air bubble size leads to the best possible level of elimination. The pressure relief flotation ensures an optimal air bubble creation with a very high level of elimination, the know-how of the HST engineers guarantees the selection of suitable auxiliary materials and corresponding process efficiency.

YOUR ADVANTAGES

- Automation with integrated telecontrol and operation data recording
- Special pressure relief system for creating the optimal air bubble size
- Very high elimination level due to special know-how combinations from chemical and process technology
- Systemic construction
- HydroMatic process automation
- SMART machine functionality
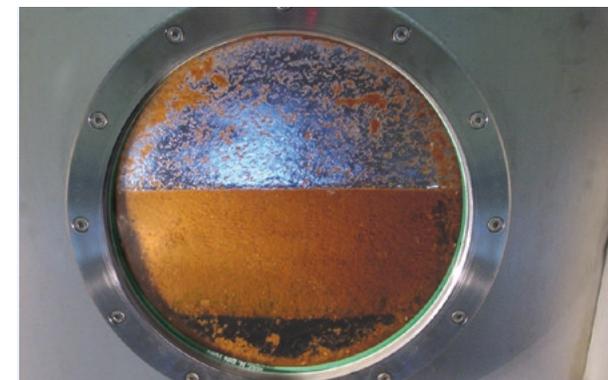
SBR-Unit/System

SMART Machine/System/Plant
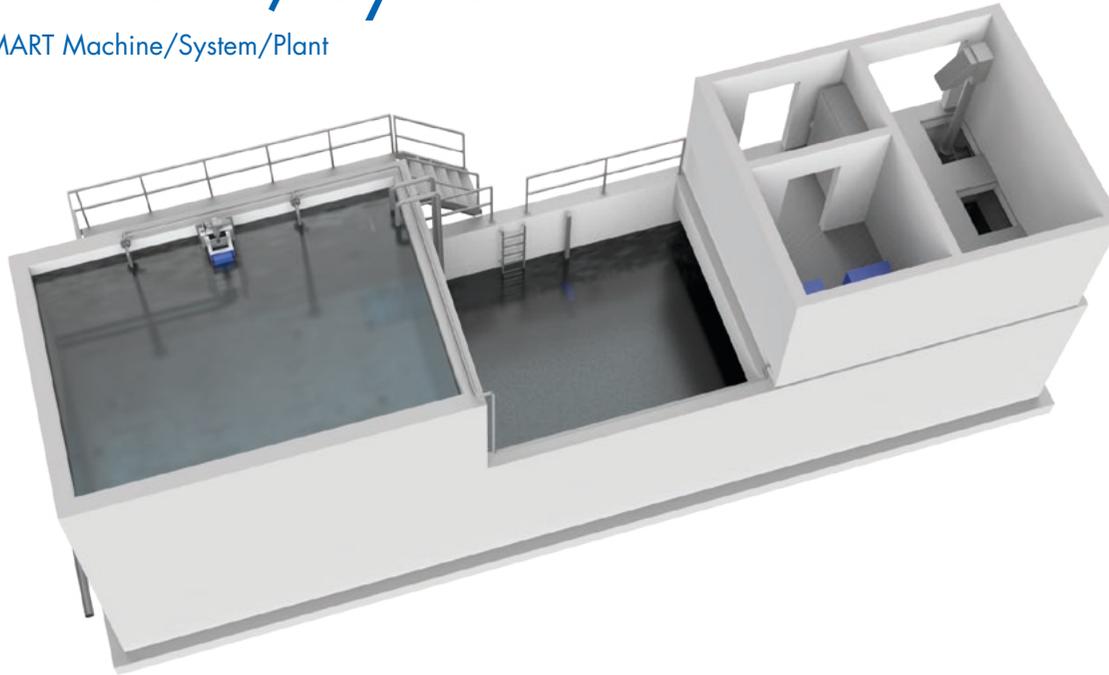
USE

- Municipal waste water treatment
- Industrial treatment plants

PRODUCT DESCRIPTION

SBR-Units/systems from HST are graduated, standardised turnkey solutions consisting of the significant process components for SBR System technology. You can obtain the equipment which is networked using automation technology and IT from us. Everything is of course equipped with the most modern process automation and operating control technology developed in-house.

YOUR ADVANTAGES

- Dynamic cycle control/highly efficient operating modes
- Compact, rational and quick construction
- Operationally ready solutions from one provider
- Quality and safety through standardisation and preproduction
- Low surface consumption
- SMART Plant

Lamella separators

YOUR ADVANTAGES

- Space and cost saving when compared with conventional tanks and containers
- Very low operating and maintenance costs
- Space saving sedimentation process as the settling surface is many times larger.
- Optimum operation with high output

USE

- Storage channels for storm water tanks
- Municipal and industrial waste water treatment plants
- Treatment of process water and sewage
- Preparation of potable water and industrial or service water

PRODUCT DESCRIPTION

Typically, HST lamella separators are installed in stormwater retention tanks and wastewater treatment plants. Sediments and sludge are efficiently separated from the stormwater and combined sewage water. The solid particles in the liquid settle on the sloped lamellas and slide along the smooth surface towards the floor. The solids settle on the floor below the lamellas and can be removed for disposal by means of a water jet after the tank has been emptied. Thanks to the even inflow distribution to each plate an optimum operation with high output is guaranteed. By installing lamella separators in, for example, storm water tanks an improvement in efficiency is achieved because the area for settlement is considerably increased. The layout of lamella separators is designed to suit the specific application so that optimum customisation and maximum flexibility is guaranteed.

HydroKlar-SLIDE

SMART Machine

YOUR ADVANTAGES

- Horizontal extraction via weir edge in combination with control actuator
- Baffle against floating sludge output
- Sludge weir against activation sludge entry
- No movable pipe connections
- Direct maintenance access thanks to wall installation
- Systematic type construction range in modular construction
- HydroMatic control
- When using opacity measurement, reduction of the decantation phase and thus an increase in process reserves

USE

- Clean water extraction in new systems or existing SBR systems
- Filtrate water extraction
- Process water extraction

PRODUCT DESCRIPTION

The „System Hydro-Klar" clean water discharge equipment can be implemented in a variety of ways in both water supply systems and in wastewater treatment plants. In SBR water treatment plants, they are used for separating clean water during the SBR process. The automatic and optionally opacity measurement-regulated system conducts the clean water to the receiving water in a process-controlled manner (according to time and volume). By selecting the maximum extraction quantity, the reserves for the flushing process can be significantly increased. Using the supplied HydroMatic control the regulation of the outflow quantity is adjusted based on the current water level.

The Hydro-Klar-Slide design is suitable for both small and large tank geometries thanks to its compact construction. Due to the installation of the clean water extraction equipment on the tank wall, direct operation and maintenance access are guaranteed and can be observed without limitations at any time. Movable pipe connections are not required.

HydroKlar-SLIDE/P

HydroScum-SLIDE/P

USE

- Municipal and industrial water treatment plants
- Process water treatment plants
- Ponds
- Emergency tanks

PRODUCT DESCRIPTION

The „System HydroScum" series has extraction devices equipped with pumps for floating matter or bacteria sludges on water surfaces. Thread-like bacteria that float easily influence the biological process e.g. in the form of bulking sludge and floating sludge. Using efficient, automatic separation of the bulking and floating sludge from the surface of aeration and post-treatment tanks, the activated sludge production is stabilised and thus the biological degradation process is optimised. The sedimentation process in post-treatment is significantly improved by the removal of bacteria that floats easily.

YOUR ADVANTAGES

- Extensive absorption of bulking and floating sludgefrom the surface
- Automatic selection via sensor-controlled, adjustable skim opening
- Crown bracket = simple installation on wall or crown brackets, thus ideal for retrofitting

HydroScum-Slide/P products are HST-WKS licensed products.

HydroScum-SLIDE/P+
Adjustable pump type

Pure flux P

SMART Machine

YOUR ADVANTAGES

- Functional integration in pipes
- Large nominal diameters are possible
- Implementation in norm components
- Rational and precise due to laser cutting
- Lowest operating and maintenance costs

USE

- Pumping stations, in particular with water-cooled motors
- Drainage regulators in the storm water tanks
- Process water systems
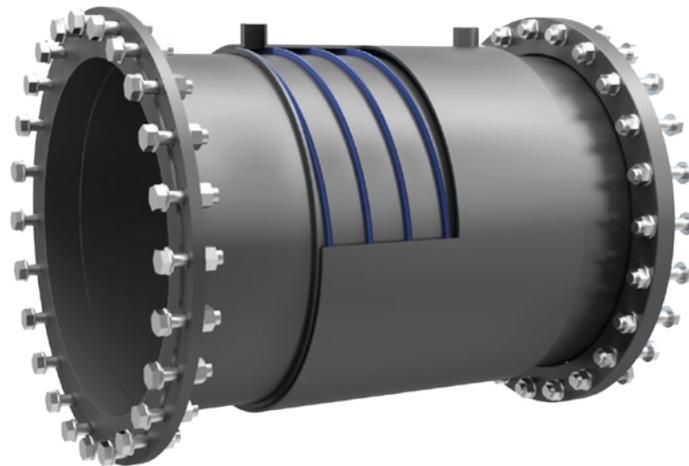
PRODUCT DESCRIPTION

Tubular heat exchangers with an externally mounted radial spiral on the pipe cladding for the intermediate circuit are an ideal heat exchanging function supplement for SOWIESO pipes. Heat exchangers based on this principle are also suitable for large nominal diameters and retrofitting or integrating into existing pipelines. Use the Pure Flux P exchanger for heating and dehumidifying your plant e.g. in pump stations and controlled drainage systems in storm water tanks. Or save on technology and energy for cooling your diesel motors in flood pumping stations – alternately use the cool transport current. With our measuring devices, you will get the ideal configuration.

Pure flux P2

SMART Machine

YOUR ADVANTAGES

- Innovative system design
- Production-optimised design
- Large surface with a compact design
- Dry installation
- Flushing and zip mode

USE

- Pumping stations/pressure pipes
- Swimming pools
- Industrial plants
- Laundries/industrial kitchens
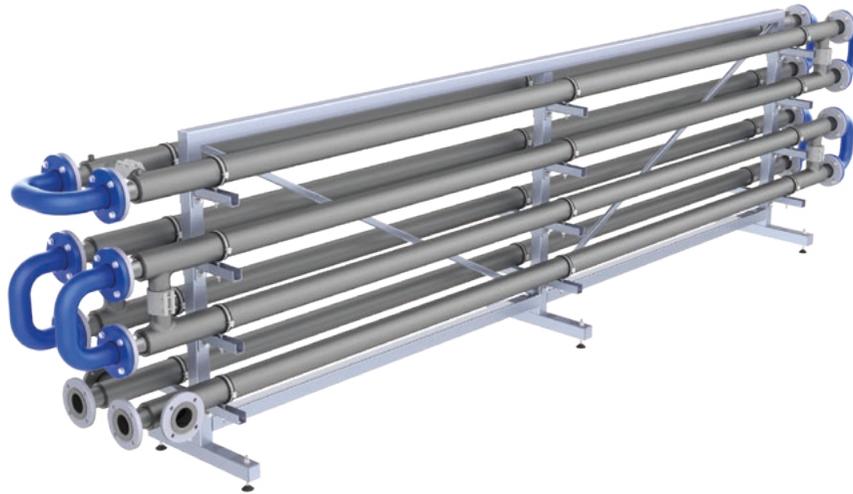
PRODUCT DESCRIPTION

The efficient system for waste water heat utilisation: Waste water, with its high temperatures, offers an ideal heat source for heat pumps and is not an inferior alternative energy source to geothermal or ground water utilisation. With the help of the system design-developed heat exchanger, the heat is extracted from the waste water which was introduced anyway by its previous utilisation.

Pure flux P2 tubular heat exchangers are suitable for high thermal output and cascading. The heat exchanger has flushing and zip devices and is thus also suitable for greasy and sewage film-generating mediums.

Products

IT & Automation
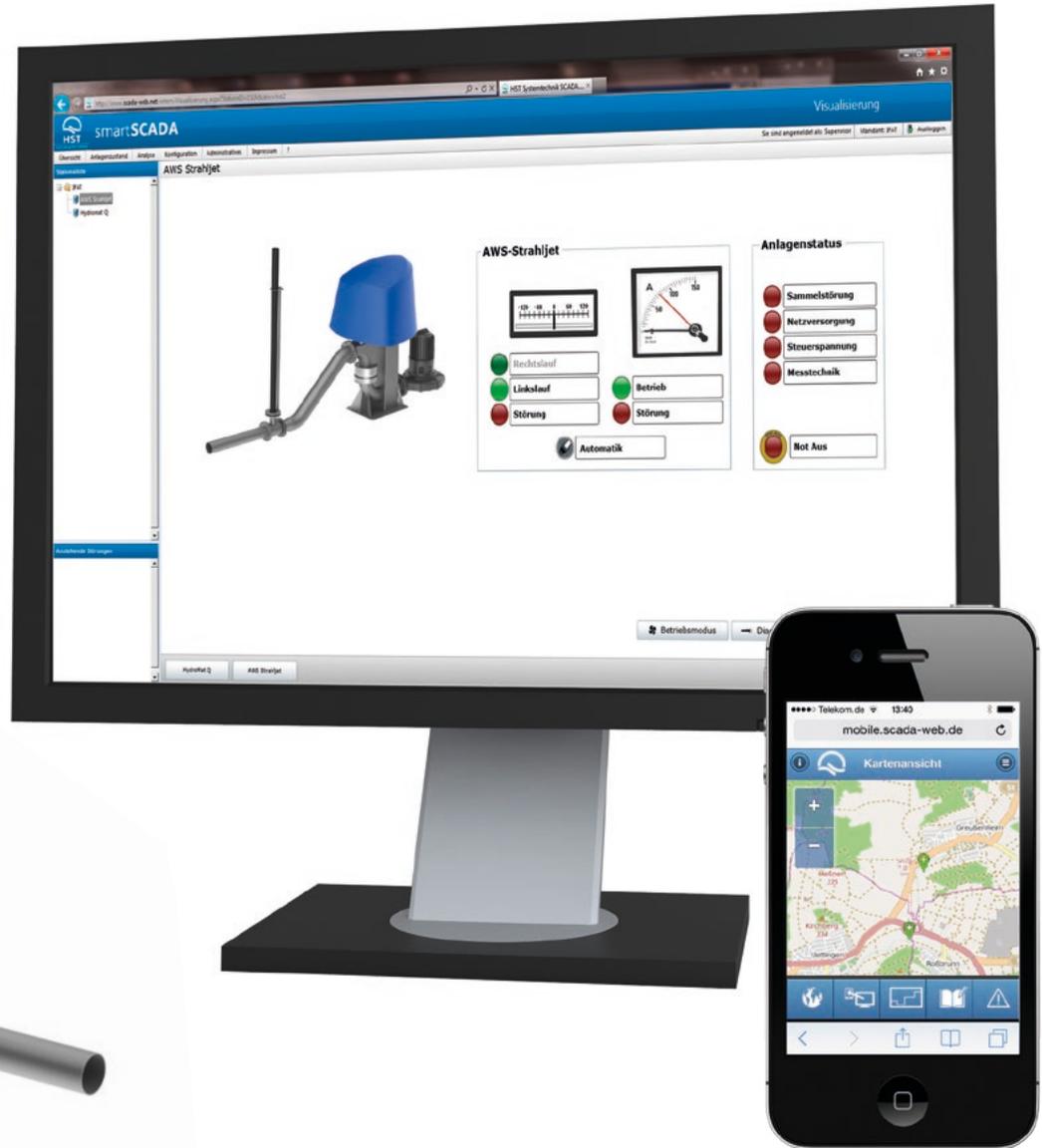
IT & Automation

Process data a treasure of inestimable value

Each unit and machine is like a complex organism. Within it processes and procedures are taking place which are only understandable if the diagnostic data required is available. The first stage is to make a list of all the important data. It is essential to collect quality data in order to ensure that it is both useful and relevant. Finally the analysis of this data should give a comprehensive overview of the process landscape and contribute to the optimisation of the process.

Managing the flood of data

The quantity of data collected in the water industry and energy industry is increasing dramatically. It is important to design products that can be networked and communicate with each other by the use of standard technologies. It is only by this means that the flood of data can be managed.

Networking – the key to success

It is for this reason that HST has introduced a complete range of advanced software products in the area of IT and Automation. This allows to control even complex processes in an easy way and hence to ensure optimized resource utilization. This provides a good precondition for the effective management of both supply and disposal facilities. For example HST can access precipitation data from meteorological platforms. This allows operators of flood water protection installations to predict what is coming their way. This is also very useful in agriculture. The collection and transmission of process and machine data as well as its evaluation has always been a part of HST's IT solutions. In the SCADA and Asset management and Maintanance system fields HST is already today a leader in web based solutions. We will continue our progress along this path. By introducing the Delta-Event-Method we

have already proven our efficiency when gathering data. We are now expanding this offer and making it even more user friendly by using the DATA EFFICIENCY principle so that the customer only receives the information needed to deal with the situation on hand.

Smart solutions for dynamic processes

System technology, as we understand it at HST, combines product, software and project realisation in an optimised manner so that we achieve efficiency and diversity simultaneously with security and availability. We succeed in this by using smarter interconnections of plant and machinery. This enables us to manage complex processes.in a reliable and repeatable way. By this means processes are designed in an optimised technical and economical manner.

IT from HST:
Smart solutions for dynamic processes

The IT solutions supplied by HST stand out by providing innovative and practically relevant solutions. The high quality of our products is only archieved because all our IT specialists, civil engineers, process technicians and customers work closely together. The engineers in our R&D departments ensure the continued development of our product range. New demands from the users of our products are collected and realised. When doing this we take particular care that the compatibility of our systems is not compromised. For example product data from plant installed at the start of 1990s can still be used despite the many technical advances incorporated into the current models.

Delta-Event-Archiving

If the foundation is not correct than the house should not be built. The same applies to IT. The quality of the data is the most important foundation on which to build analysis and optimisation. For this reason HST has adopted the Delta-Event- Method as the most efficient recording procedure available in the market. Delta-Event stores data at the precise moment that a value change occurs and does not work with a static time period. In sewage networks it is particularly important to react to dynamic changes. The collection of data in a traditional matrix archive supplies excessive amounts of data in dry weather and when an event occurs it is not accurate enough. Dynamic processes require a dynamic system. We call that DATA EFFICIENCY.

Visualisation in a new dimension

The HST visualisation systems can show more than processes. HST visualisation systems are intuitively operated and designed ergonomically. Complex processes can be presented in 3D format and operated using intuitive gestures. Innovative technologies such as multi touch screen operation in combination with 3D presentations are already standard technology at HST. We call that SMART USABILITY.
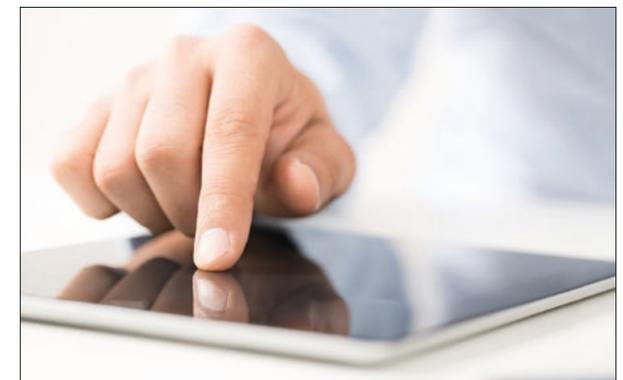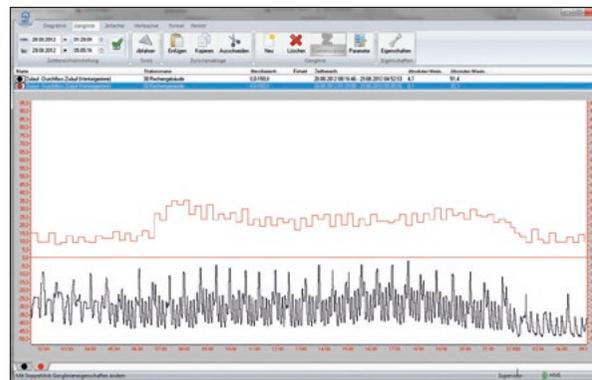
Secure data management

The data collected is valuable and forms the basis for analysis and optimisation. For this reason HST makes use of market leading technologies in the area of data bank systems. HST products use the Microsoft SQL server or the Oracle data bank system. This ensure a high performance, availability and a high security level. We call that SECURE QUALITY.

We make use of modern standards

Open and flexible. Our IT systems are characterised by the use of open and flexible standards. Interfaces to leading GIS systems are naturally possible as well as connection to ERP systems (e.g. SAP) or to automation systems. The modern web products supplied by HST are platform independent and only need an internet browser. We call that STANDARDS AND FLEXIBILITY.
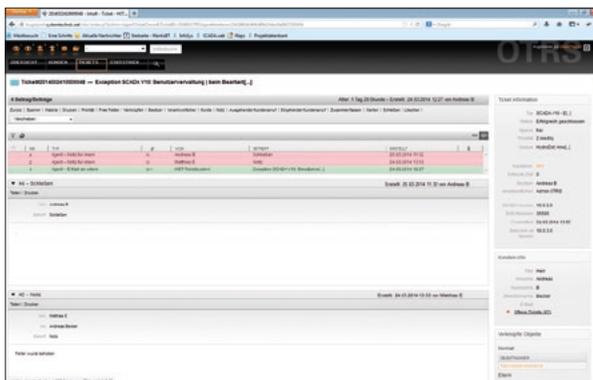
Scaleable and available

The HST products are freely scaleable and thus can be adapted to suit the size of the machine, plant or organisation. The bandwidth of IT systems covers the range from simple position systems or networks right up to redundant hot-standby and cluster systems.

HST partner networks

The installation of our solutions can call on the services of a highly motivated, experienced and well trained team. In addition HST has built up a network of highly qualified partners who can commission installations plus support and service the customers wherever they are. Our partners have received education and product trainings. They are highly qualified and certified as HST solution partners.

Operation management level

KANiO®

Process control level

SCADA

Automatic control

TeleMatic

Field level

TeleCam   **NiRA.web**®   **Senso**Matic
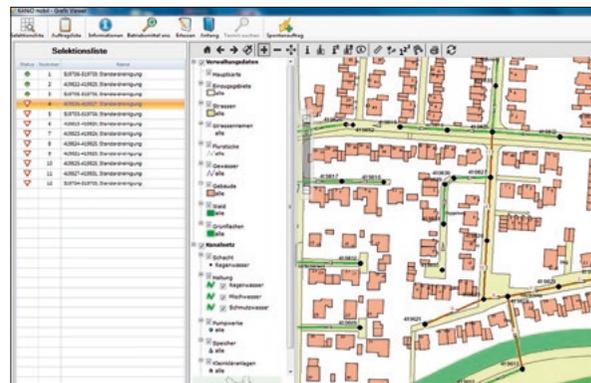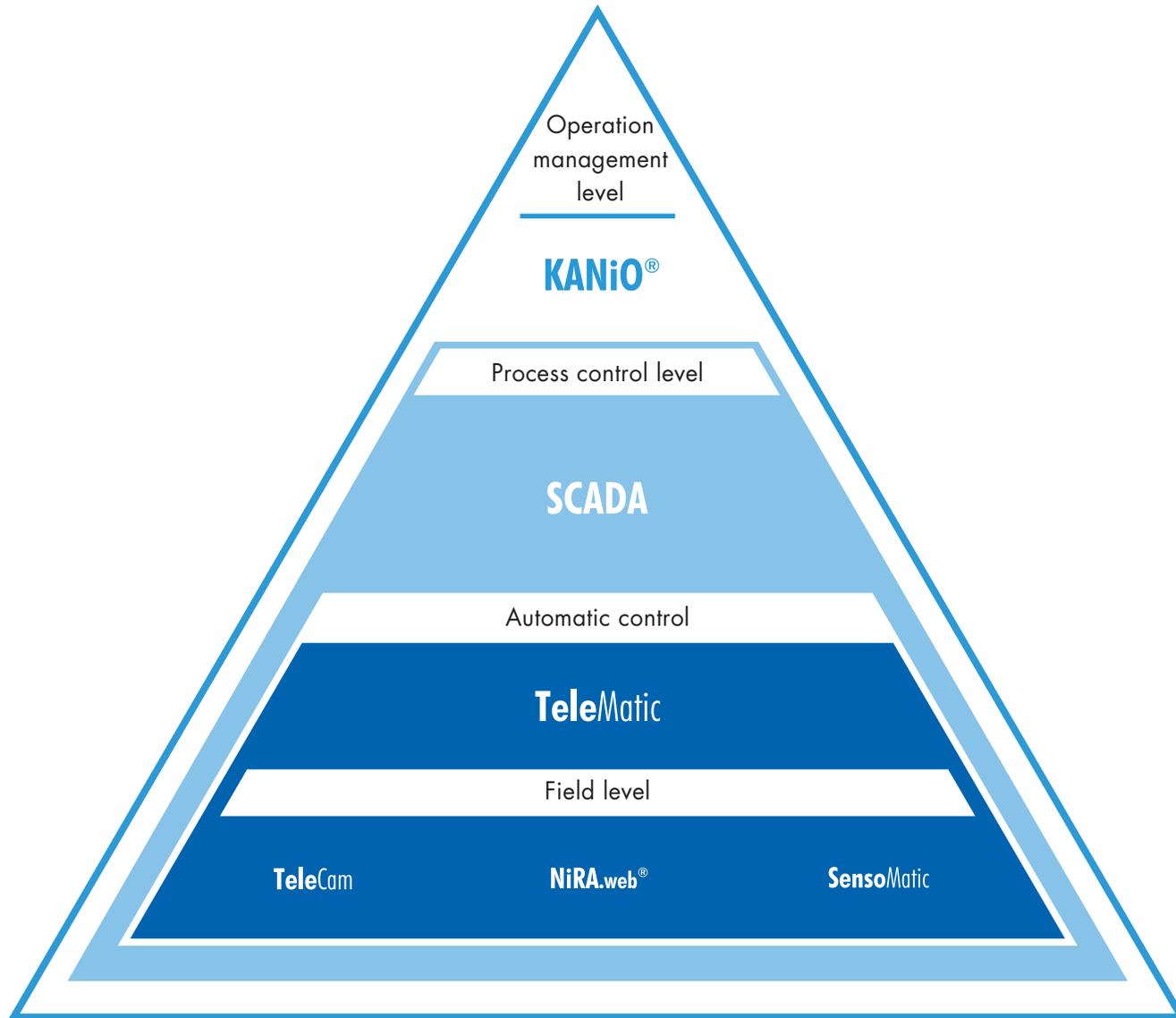
Cleverly networked at all levels

The automation pyramid gives an overview of the information exchange from the field level into the operational management level. HST stands for comprehensive and complete solutions. For this reason we have developed product solutions which can communicate via standard interface connections with other products.

Operational management level

The operation organisation takes place at the operational management level. Maintenance, planning and control are essential tasks of the operation. KANiO® has been developed specifically for this operation and provides interface points into established ERP systems such as SAP or Microsoft Navision.

Process control level

The task of operation and monitoring of the process takes place at the process control level. At this interface between operator and process (HMI Human Machine Interface) the strengths of the SCADA systems developed by HST become obvious. Interactive operation and efficient data collection makes use of the Delta-Event.

Automatic control

The TeleMatic system is a symbol for innovative solutions in the field of automation technology. The use of PC based automation platforms offers enormous advantages especially in conjunction with modern internet based communication technologies such as LTE and DSL.

Field level

At the field level HST not only uses the classical sensors and actuators plus a variety of field bus systems for networking. We also use visual sensors, (Tele-Cam), intelligent overall available rainfall and naturally the Theme complex Condition Monitoring are current Theme Fields of HST.

KANiO® – For strong organisational units

PRODUCT DESCRIPTION

By using KANiO® technical operations can be run more efficiently and more economically. This applies not only to preparation- and planning process but also to documentation. It is a matter of course that with the aid of KANIO® (version KANIO® 4.0) the complete maintenance planning and quality assurance as well as the compliance with legal requirements can be achieved. Standard application modules allow the usage in a large variety of organisations such as, for example, river and channel management, treatment plants, gas, water and electricity operations.

YOUR ADVANTAGES

- Market leading operation system in the water industry
- Further applications in gas and electricity plants and in general industry
- Integration into GIS, PLS and ERP systems
- Standard application modules with special functions such as wash down operations in channel management.
- Mobile applications

USE

- Operation and maintenance of water, transport and lighting networks as well as general infrastructure
- Maintenance organisation and industrial operations
- Real estate, building and plant maintenance

HST YouTube Channel:
www.youtube.com/user/HSTSystemtechnik
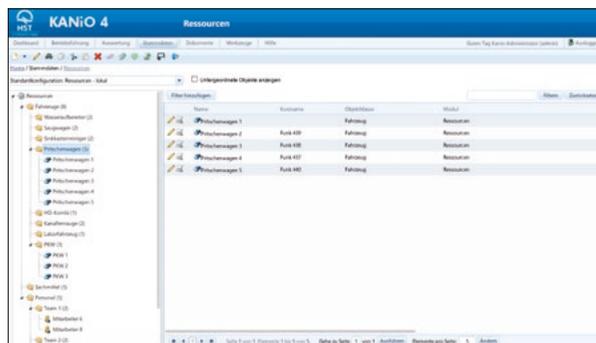
Resource management
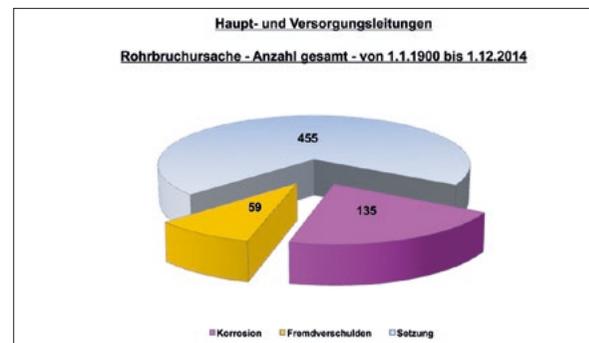
Reporting

Order administration

Application modules

WATER – Impeccable hygienic requirements must be met

Drinking water must comply with the highest requirements and fulfil all standards. This demands that the working procedures within the plant function perfectly. In addition to the water procurement, treatment, processing and storage the distribution of the drinking water is also a focus of interest. All these procedures require a reliable framework. The use of KANiO® ensures that the monitoring, needs based maintenance and where applicable process optimisation is correctly carried out. In addition KANiO® facilitates the optimised documentation of these processes and results and compliance with legal laws.

SEWER NETWORK – operation in a forward thinking manner

Sewers for collection of domestic and industrial waste water must be continually checked and monitored to protect on a long term basis the heavy investments made in the construction and refurbishment of the network. KANIO® is an ideal planning tool to support the many tasks involved in the running of a sewer network. KANIO® also ensures compliance with DIN or other national monitoring regulations. The graphic viewer which is part of KANiO® and can be used either fixed or mobile is particularly useful for effective planning and operating. The users can also use the graphic tool, which is directly coupled to GIS for orientation.
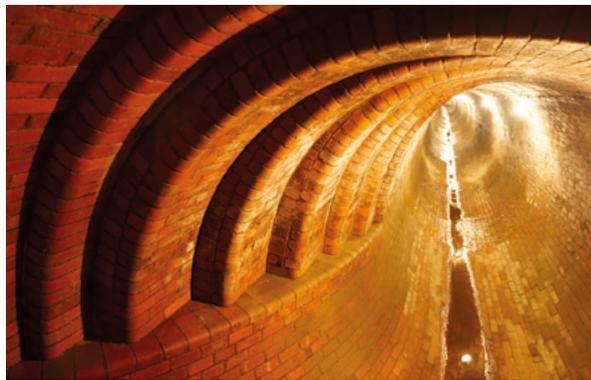
TREATMENT PLANTS – represented structurally

Treatment plants, whether large or small, have a large quantity of technical equipment installed. The KANiO® application module "treatment plant" can provide a structured illustration of the equipment installed in the plant together with the important operating and technical data of each item. Based on equipment information and functions KANiO®, thanks to its standardised function programs, can plan all maintenance work required for the proper running of the plant. The stored data together with plant documentation is stored in KANiO® and is available for evaluation and representation of the data figures required. In addition stock management and equipment identification can be included in the process.

KANiO® – Modular and flexible

KANiO® – Modular solution

When KANiO® was being developed it was deliberately conceived as a modular and open system. This makes it possible for the user to dimension and tailor it specifically to the size of his operation and to his individual requirements. For any kind of operation you can think of the most suitable configuration and the most appropriate degree of complexity can be provided. By this means the module ranges represent the criteria of the operating system. Each module range has one or more modules assigned to it. The modules are the functioning building blocks of the system and can be individually licensed.

Management

For the management of the company KANiO® has all essential modules or functions for effective organisation of the daily operation of the plant. The user gets a quick overview of all relevant outstanding tasks, regular tours and planning timetables.

Assets

The system configuration takes place within the module "assets". This includes the administration of materials, functions and resources. The data is administered from this central location in the system. By means of existing interfaces, for example, to GIS, plant and networks data is transferred into the module "operating assets" Personnel and vehicle changes can be initiated by the module "resources".

Evaluation

Within the area "Evaluation" it is possible, by simple requests or by comprehensive reports to get information on the status of individual units or complete networks. Pre-constituted filter enquiries or report templates can provide important and pertinent information. The templates can be adapted or modified by the user himself or new drafts can be made. This allows maximum flexibility independent of the manufacturer.

Documents

Within the area of „Documents" the user can access the document managing system of KANiO®. Documents can be stored either directly with the individual units of plant or at a higher level to the works itself. By means of interfacing the documents can be opened directly and then can be modified by personnel authorised to do this. KANiO® facilitates the integration of individual documents or complete document structures. In addition this module allows the access to external document management systems.

Tools

Within the module area "tools" you have the possibility to integrate additional modules. These can be KANiO® internal tools (e.g. KANiO® Dialog designer) as well as external tools (Excel, Word, Outlook, AutoCAD etc.) This allow the user to access his most used applications directly from KANiO®.

Favourites

You can store the KANiO® modules that you use the most under KANiO® favourites. This means that the user has direct access to the application area used most and the relevant KANiO® modules. This leads to more efficient working.

KANiO® Module description

ASSET MANAGEMENT

The situation with regard to all assets can be seen at a glance. With the help of asset management and the various modules (gas, water, electricity etc.) the entire network which is being managed is illustrated. One can access all the significant data which is needed to run the system. The data for individual units such as pipeline cross section, house connections, hydrants, tanks etc. can be displayed.

ACTIVITY MANAGEMENT

KANiO® allows you to assess and organise all types of activities within your system. Thanks to the intuitive operation of KANiO® this is quickly carried out and ensures optimum process management. Using this module the KANiO® system organises all activities which must be carried out. They can be revised and newly defined in this module.

RESOURCE MANAGEMENT

By means of the resource management module all resources can be organised and with the required information provided e.g. qualifications and properties. We consider resources to be made up of items such as vehicles personnel and materials.

Graphics connection

Activities

Resources

KANiO® Module description

TASK MANAGEMENT

By using the task management module you can collate the individual orders in the manner that they should be processed by the relevant employees. This is done by combining one or more completion dates into orders. At the same time you have an overview over all orders which already been entered. You can list the orders divided into current order status (e.g. archived/open/confirmed) or by calendar week. Other representations of order administration which are project specific can be arranged.
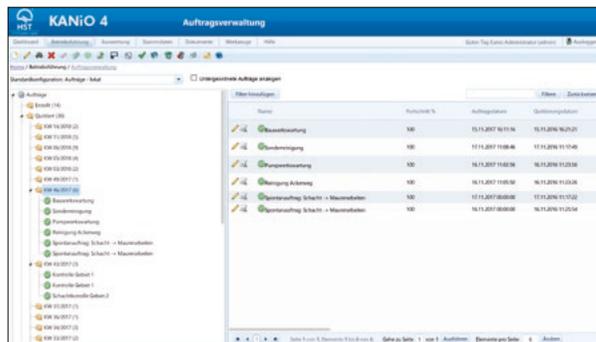
REPORTING

You want an individualised analysis which in a simplified manner gives you an overview each of fields such as resources, resource groups, areas etc.. By using the KANiO® result module the user is quickly able to obtain the required information from the plant. By means of the integrated export function this data can be extracted in csv format for further analysis. In addition it is possible to prepare graphic and tabular reports by using an integrated report generator.

Order tree
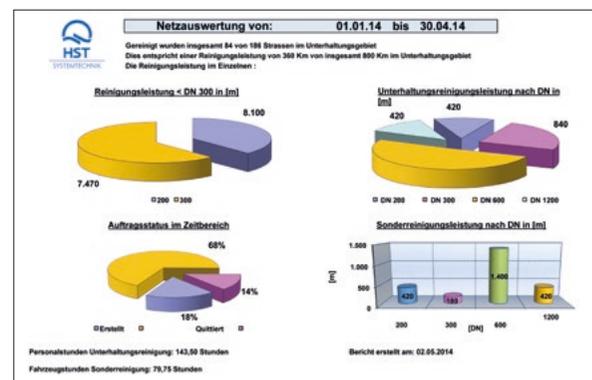
Network analysis

KANiO® Mobile – efficient order processing

PRODUCT DESCRIPTION

With KANiO® it is possible to process and document orders on site efficiently and with quality. The fully integrated geo information viewer offers an optimum information and makes navigation easier. When developing the mobile solution we laid special value on ergonomic handling and an intuitive operating procedure.

The operating surface is a completely touch pad design and provided with large operating elements in order that inputs can be made on site in an easy and fault free manner.

FUNCTIONS

- Collection of faults and complaints
- Complete documentation accessible on site e.g. operating manuals
- Manual or automatic time recording
- Synchronisation via LAN/WLAN
- Supports Bluetooth transponder readers
- Identification of items via transponder, bar code or GPS position.
- GPS connection to navigation
- Sewer cleaning depending on flow direction

Checking pipe network
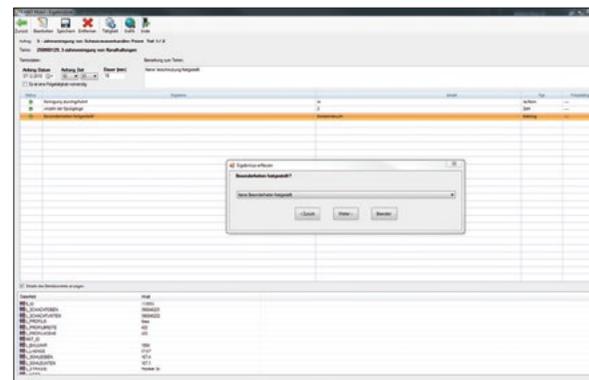
Compilation
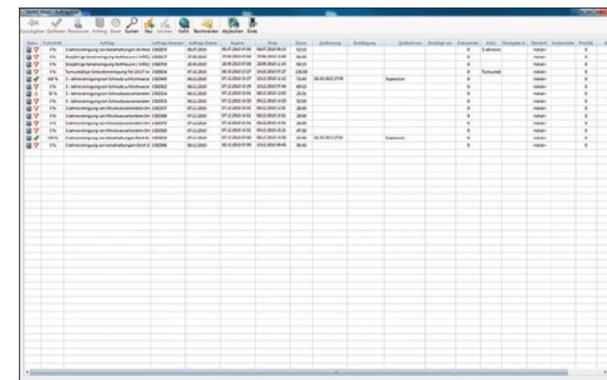
Order list
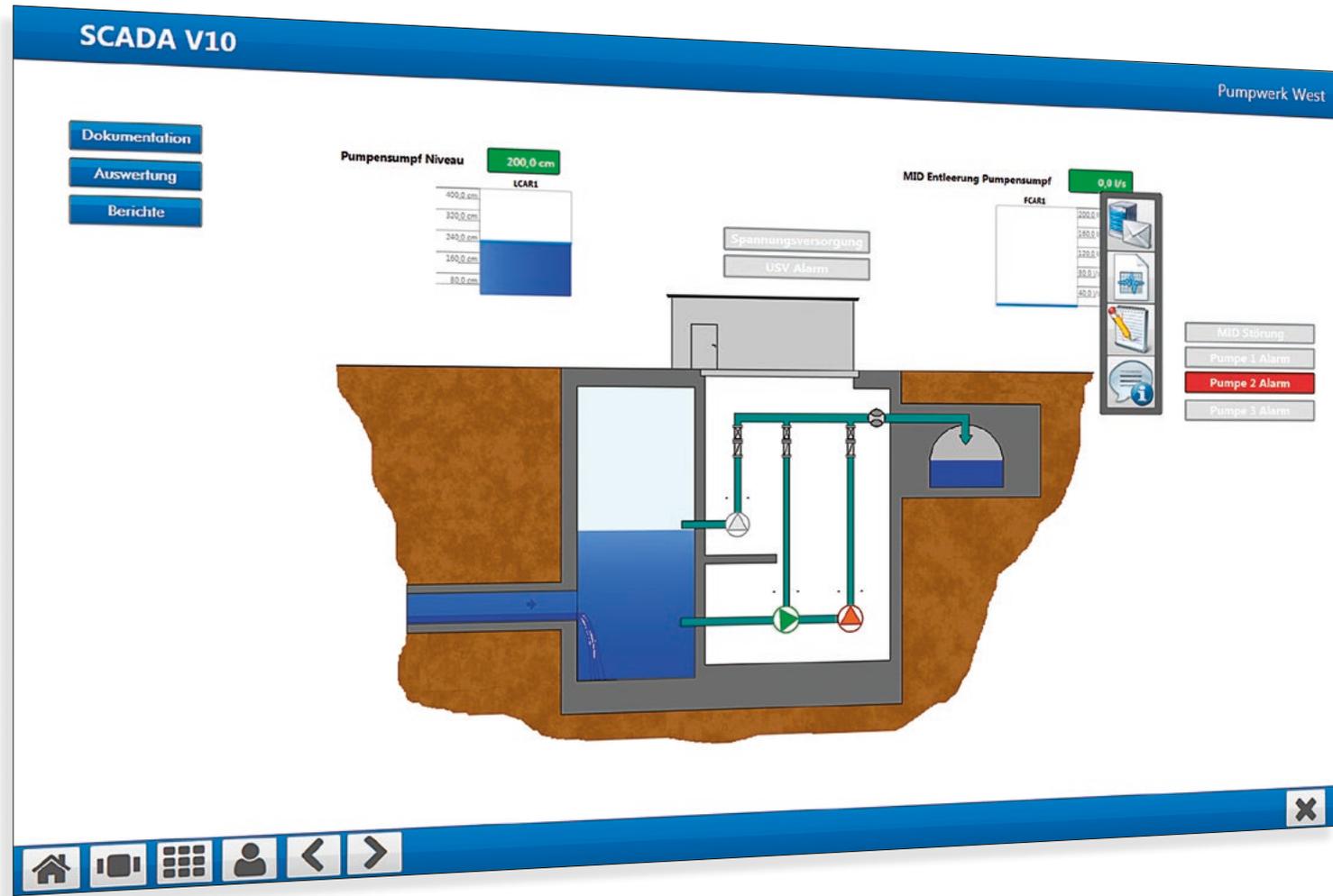
SCADA V10 – The perfect introduction

PRODUCT DESCRIPTION

The user friendly SCADA system SCADA V10 monitors and documents the processes on centralised and decentralised plants. The highly integrated SCADA package visually displays all via modern multi-touch capable display. This allows for optimal graphic analysis and contains a complete alarm management system. Alongside the legal ordinances the basis of the logging system contains the technical bulletins and official reporting standards instructions of the authorities in each country. SCADA V10 is the innovative open SCADA system from a single source. SCADA.web is a comprehensive complete solution which covers all aspects of a modern online SCADA system.
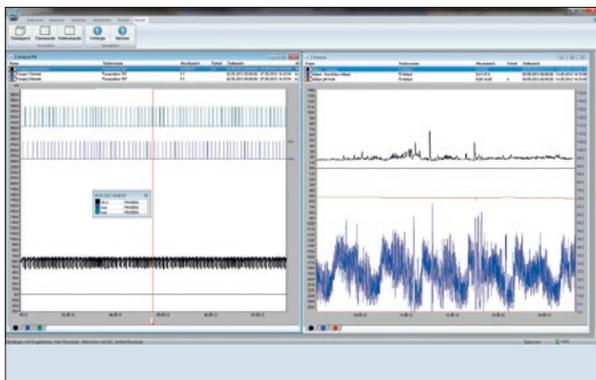
YOUR ADVANTAGES

- Complete modern SCADA package
- Delta-Event-Plus archiving
- Scalable and open
- Multi user capable authorisation system
- High performance Microsoft SQL server
- High availability (Cluster/Hot standby redundancy)

USE

- SCADA solution in water, energy and waste management
- Waterworks, processing plants, treatment plants, Landfills
- Biogas plants, wind and water power plants
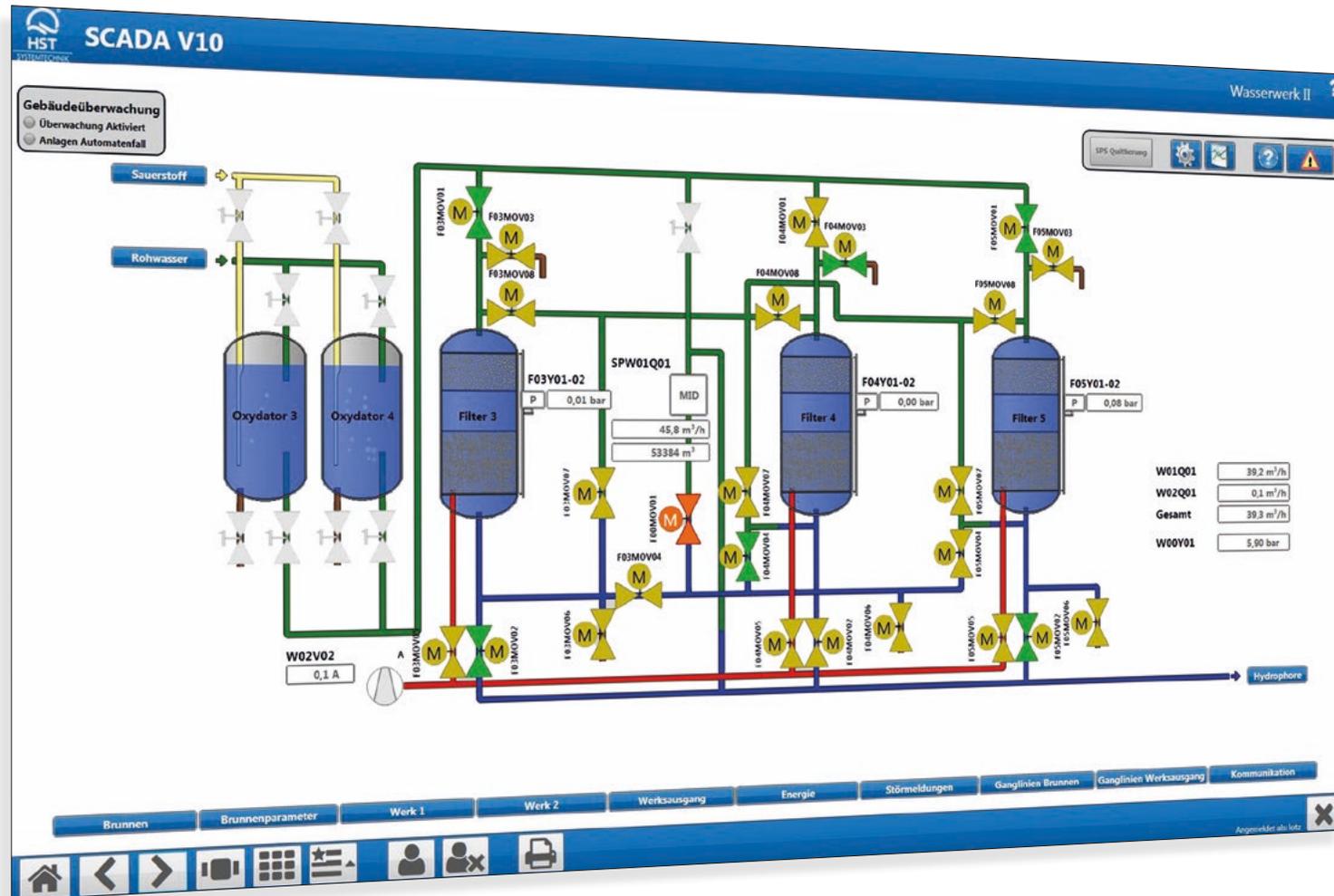
SCADA Systems

Process data – added value by networking

Each unit and machine is like a complex organism. Within it processes and procedures are taking place which are only understandable if the diagnostic data required is available. The first stage is to make a list of all the important data. It is essential to collect quality data in order to ensure that it is both useful and relevant. Finally the analysis of this data should give a comprehensive overview of the process landscape and contribute to the optimisation of the process. In addition to usage of the delta event system for optimum data recording suitable analysis tools are needed to optimise the process. The analysis tools developed by HST have been designed specifically for the water and energy industries. This is confirmed by the numerous positive feedbacks from the area of civil engineering, and process technology. Because of this they like to use the HST solutions in their projects.

SCADA systems – developed by expert in the field

Thanks to the consistent branch concentration and continuous innovative development the SCADA systems form HST are unique. The intense dialog of the development teams with our engineers, process technicians and development teams ensure that our SCADA system is based on practical experience. This is why the archiving procedure Delta-Event first introduced with our HydroDat V5.3 has now become the gold standard in the branch.

Usability – The operator is king

One of the greatest challenges facing the IT developers is to make complex functions and inter relations simple and capable of intuitive operation. This challenge has been taken up with enthusiasm by our software designers. Software products from HST are designed using modern development tools and in accordance with current UI-Guidelines.

For every application the matching system

The SCADA family from HST consists of multi-level SCADA capable of being run on Microsoft Windows which can be scaled from a single position system to a high availability Fail-Over-Cluster and the internet based Cloud solution SCADA.web. Independently of which solution best suits your requirement software products from HST can be acquired on license or rented as a service for an agreed running period.

Smart solutions – always online

Nowadays access to the internet is almost universally available. This quickly growing technology offers enormous advantages especially with regard to monitoring of technical plant. This means that nowadays by simple and economical means technical plant can be monitored via the internet. Access to practically all information is permanently possible online from any location on the earth. This trend will become even stronger as even today using the key phrase "Internet of Things" (IoT) fixed installed plant and machinery are part of the internet and report independently any changes which occur.

Target group SCADA Systems

Wastewater treatment plants

For monitoring and documentation in treatment plants SCADA from HST provides a specific analysis and evaluation tool. In addition to graphic analysis different types of operational log books are included for protocol recording. Through networking with meteorological portals precipitation can be forecast and planned into the operational management system.

Sewer network

Because HST is the market leader in the equipment of storm water holding tanks and possesses particular knowhow the monitoring of special structures in the sewer network has a special place in the HST system. By using our delta-event-procedure and a targeted and accurate archiving of process data and a clever networking system rainfall events can be forecast in a timely manner. The sewer network can then be suitably pre-programmed.

Water Supply

The availability of the SCADA network is especially significant in the water supply system. The supply of drinking water of high quality must be continuously monitored. SCADA V10 has an effective function for monitoring broken pipes and accurately locates leakages.

Flood protection / transverse structures

SCADA systems which are used for flood protection need only be operated if an event occurs. This results in special demands on the usability of the system. Information must be available in an unambiguous and understandable manner. Additional information on inflow levels and rainfall forecasts are available in SCADA V10 online from meteorological platform. When monitoring transverse structures safety is the first priority. This aim is achieved by using highly available software solutions and by means of a clearly structured operator guide. SCADA systems from HST are available as redundantly configured Hot-Standby systems or as Fail-Over-Cluster.
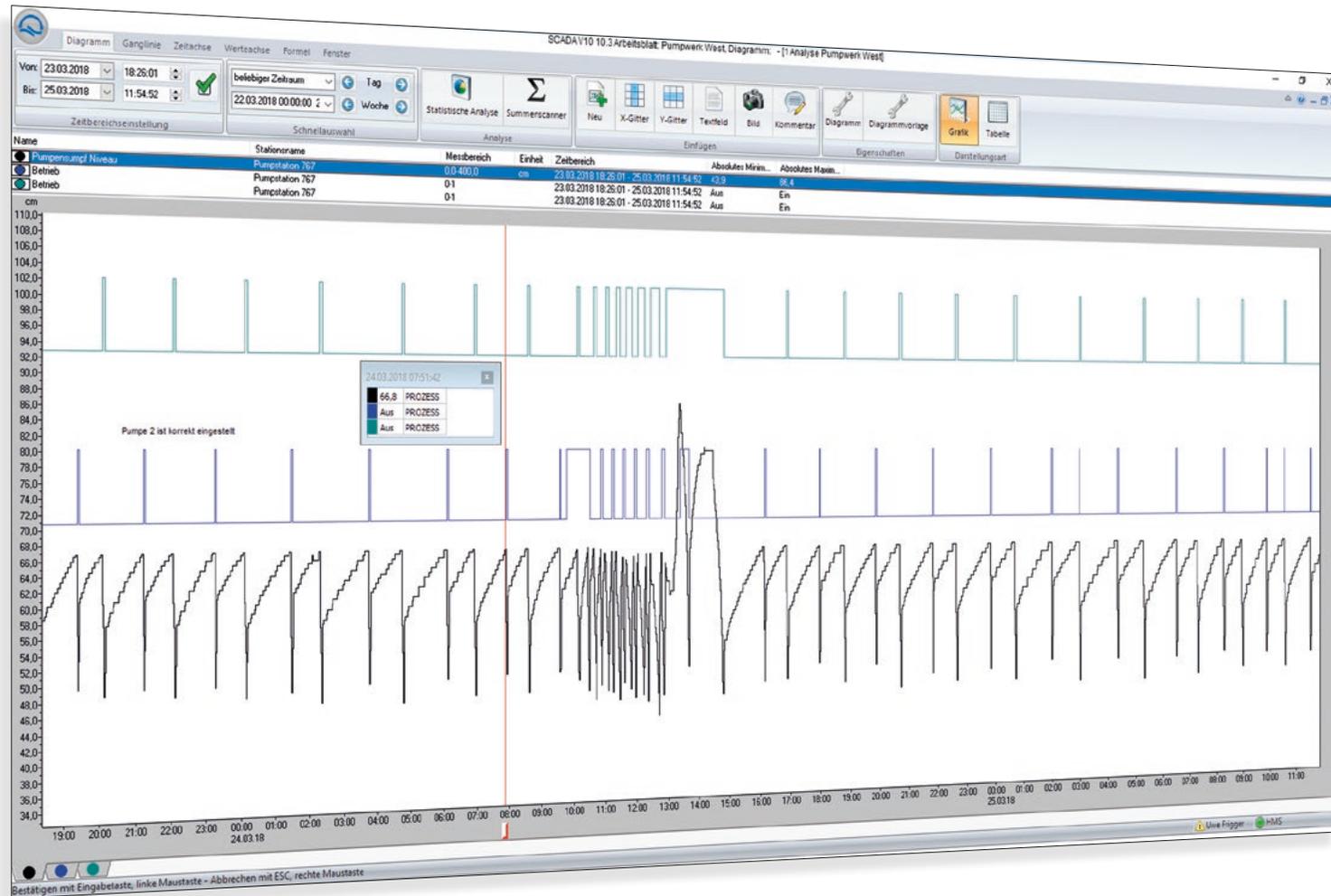
SCADA V10 Module description

ANALYSIS AND OPTIMISATION

The representation of the process in the form of hydrographic visualisation is ideally suited to an initial analysis. However, in addition to this, it is required that different process data is interlinked in order to evaluate these in relation to each other. SCADA V10 offers here a highly functional graphic evaluation. The operator interface is ergonomically designed. Important and frequently used functions are quickly and easily accessed. All time ranges can be freely adjusted. The aggregate value scanner displays by means of a mouse click running times of equipment and the throughput quantities in the selected time zone. Comprehensive, simple and efficient – the graphic evaluation system in SCADA V10.

REPORTS AND PROTOCOLS

In addition to the graphic analysis of the processes all process data can be presented in the form of reports and protocols. For protocol preparation in treatment plants you can choose between a log book layout according to local legal requirements In addition there are protocol libraries for water supply, energy supply and storm water protection available. The integrated link to Microsoft Excel allows the preparation of project specific protocols. By this means a direct dialog from Excel to the system configuration and to the archive system can be made.

RESULT PROTOCOLS FOR STORM WATER TANKS

There are more than 50,000 storm water tanks and storage sewers in Germany. As part of the self-monitoring for the protection of waterways the quantities of water released must be measured and documented. For protocol preparation of inlet storage and release volumes in storm water tanks HST has developed a special protocol. The protocol system for storm water tanks can be freely configured by the user. The calculation of the release volumes takes place fundamentally on the basis of the raw data collected.

Representation of the graphs as a bargraph diagram

M260 – Evaluation peak usage

Graphics appendix to event protocol

SCADA V10 Module description

PROTOCOLS FOR RAINFALL QUANTITIES

The evaluation of rainfall volumes is an important basis for all water industry planning, sewer dimensioning, high water level warnings, for agriculture and forestry as well as for tourism. It is important to have a suitable process for assessment of rainfall data. In order to correctly evaluate the situation it is essential have a reliable data base. SCADA V10 stores rainfall data using a special process and offers comprehensive reporting for documentation and evaluation. In addition to the graphic representation in the form of rainfall volume summation curves yearly, monthly and daily event reports are available which allow the classification of the rainfall figures on the basis of regional KOSTRA tables.
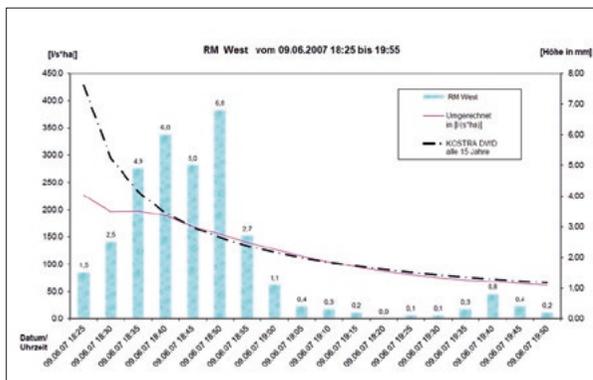
ALARM MANAGEMENT

Alarm management and the optimum support of the emergency services is an important component of the SCADA system. For this reason the alarm management is fully integrated into SCADA V10 and not coupled as a separate product. The advantages are clear. A doubled parameter system is not needed as all data is held in the SCADA V10 database. The operation used the same system throughout. The free configuration of the alarm system allow the use of a range of different alarm concepts. The emergency services can be informed by a variety of means such as SMS, email, or voice message systems. They can directly intervene using a mobile unit.
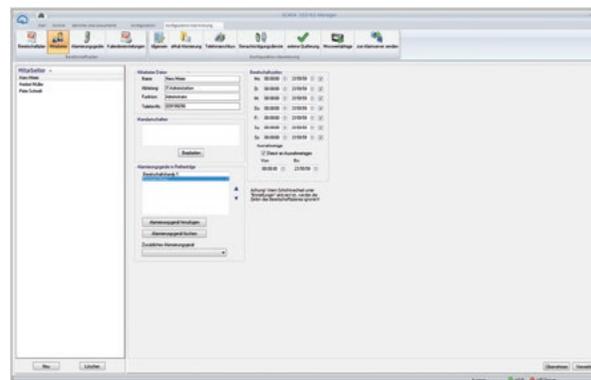
VISUALISATION OF THE PROCESSES

The visualisation of the process is frequently the centre point of a process control system. SCADA V10 is a fully integrated SCADA system and not just a visualisation which has beenhis extended with add-on products. This is particularly noticeable in the range of integration possibilities. This means that the visualisation can be used to directly control the logbook the configuration etc.. On the other hand the relevant process display can be called up. The process is always in the forefront and unnecessary operating elements are dispensed with. The operation takes place intuitively and in context. In order to have optimum presentation on different media the visualisation can be scaled as required. In addition operation by means of counter action and 3D illustration is supported.

Rainfall evaluation

Configuration of the staff

Picture editor

SCADA.web Limitless plant monitoring on the web

PRODUCT DESCRIPTION

SCADA.web is more than a visualisation on the web. SCADA.web contains a graphical evaluation for the historical data and an integrated report feature via which the fully automatic reports can be generated. A particular feature is the automatic despatch of reports. You can automatically receive ready generated reports in PDF format by email. Simple and comfortable – SCADA.web.

.

YOUR ADVANTAGES

- Integrated report generation
- Automatic report despatch by email
- Graphical graph analysis
- Storage of evaluation catalogues

USE

- Optimisation of processes
- Diagnosis of faults
- General reporting
- Proof of self-monitoring

Monthly report special structures

Archive data

Smart mobility
The app for SCADA systems

It is particularly important for on call staff to be informed promptly about faults in order to be able react immediately. SCADA systems from HST offer a range of solutions for external access. One of these is access via notebook or desktop computer. To the central SCADA system. The HST-Web-Navigator allows unrestricted use of the central SCADA system by means of an internet connection. As an alternative, there is the SCADA app available. This app is available for the platforms iOS (iPhone/iPad), for Android (smartphones/tablets) or also for Windows phones. The app offer online access to the process, the access to graphs as also the option of remote operation. Naturally in this app all activated alarms will be shown.
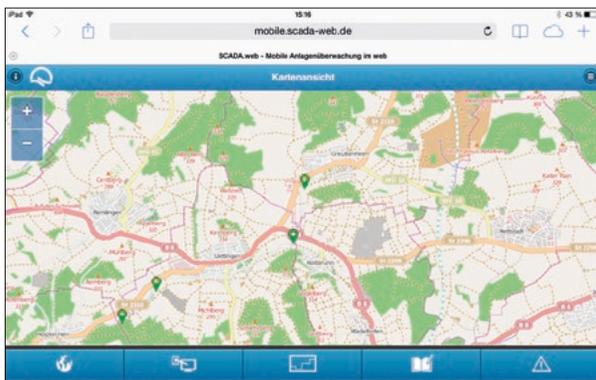
Overview map SCADA App
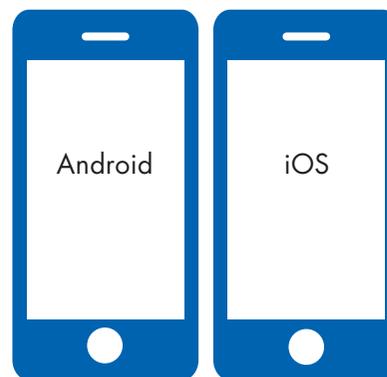
Supported operating systems

smart**KANiO** – for machines
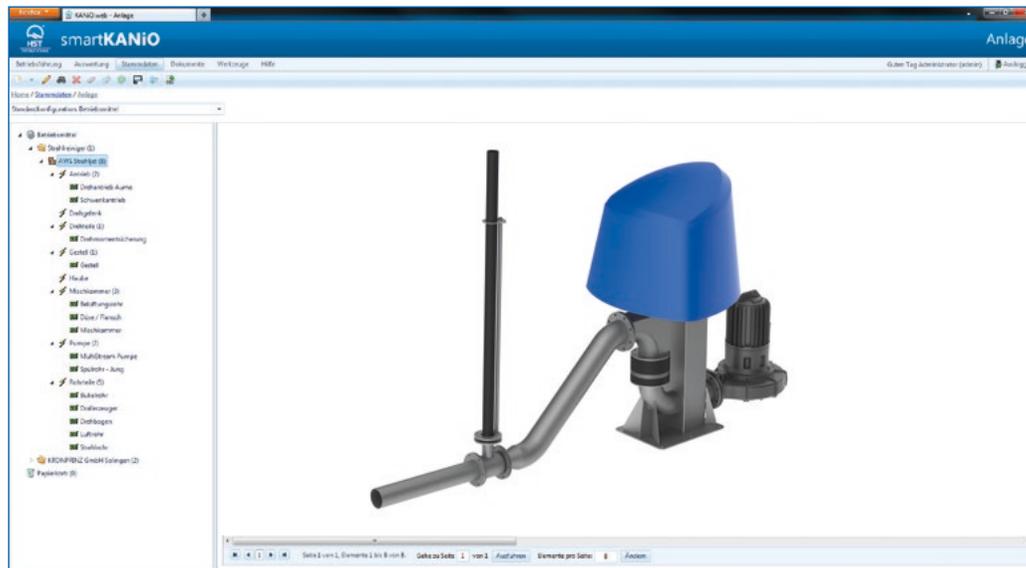
PRODUCT DESCRIPTION

SmartKANiO is the easy to use maintenance tool for all machines. By means of the web access feature all machine data is displayed divided into subassemblies or individual components together with the relevant machine documentation. In addition the maintenance tasks which are due can be seen and a reminder by email sent automatically if wanted.

USE

- Machine technology with Sensorik and Aktorik
- Screens
- Pumps
- AWS spray jets
- Mixers
- Decanters
- Blowers
- Central heating systems & power stations
- Presses

YOUR ADVANTAGES

- Provision of the machine documentation
- Email function for maintenance planning
- Machine structure

smart**SCADA** – for machines
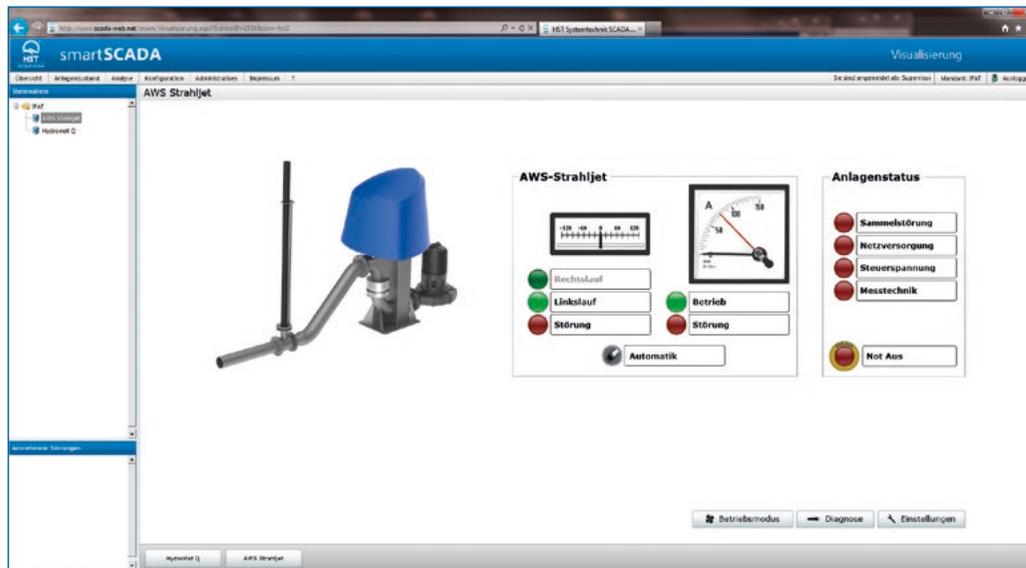
PRODUCT DESCRIPTION

SmartSCADA is an integrated monitoring solution for machines and is already integrated in HST products. It allows for transparency and the assessment of operating and fault data, remote access and control intervention. The configuration and use is simple and clear thanks to web technology and the design. Evaluation and reports are available at a click. smartSCADA is DATA EFFICIENCY – You get the information you need!

USE

- Machine technology with sensors and actuators
- Screens
- Pumps
- Jets
- Agitators
- Decanters
- Bellows
- BHKW's
- Presses

YOUR ADVANTAGES

- Complete SCADA functionality
- Web technology
- Condition monitoring function
- IP networking

TeleMatic Remote operation system

PC BASED

PC based process monitoring and control systems combine innovative remote operating concepts and proven industry standards with the reliability of the PLC world in one system. Application or branch specific solutions are easy to realise.

HIGHLIGHTS

The open and highly modular TeleMatic system ensures complete data acquisition and monitoring of decentralised equipment. The data acquisition and archiving takes place remanently and event orientated to the Delta-Event-Standard. By means of a comprehensive and flexible input/output system and powerful CPUs the automation can take place in parallel for machines, processes and plants.

PLATFORM NEUTRAL

HST TeleMatic software is based on standard hardware components from manufacturers Beckhoff and Siemens. Choose the hardware platform which is most suitable for your application.

Beckhoff based HST-TeleMatic SMART-220
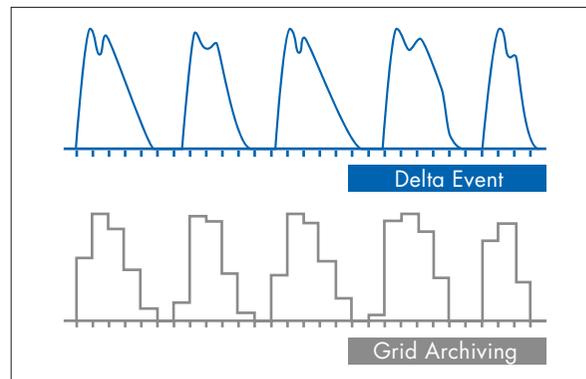
Delta event archiving in comparison with grid archiving
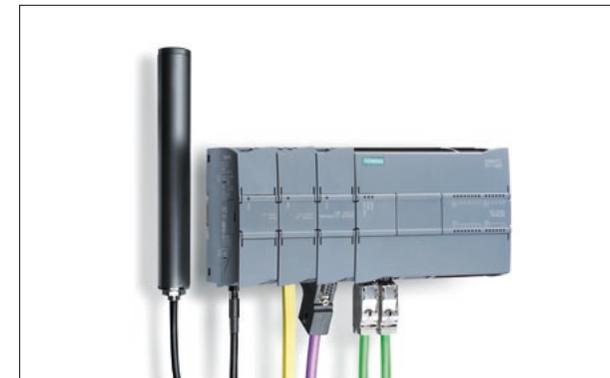
Siemens SIMATIC S7-1200 with TeleMatic-Software

TeleMatic Interfaces

COMMUNICATION

HST TeleMatic uses the TCP/IP protocol for transfer of data. This is the standard protocol for communications via the internet and intranet. The TCP/IP communication carries on into the programmable controller. All TCP/IP based transfer media can be used. This ensures maximum flexibility in connections with decentralised plants with reference to availability and bandwidth. The use of up to date VPN technology ensures safety and reliability. At the same time the communication connection for other services can be used such as, for example, remote programming or connection via a webcam to a visual monitoring unit.

FIELDBUS

A particular characteristic of HST TeleMatic is its high flexibility when connecting with existing control technology and fieldbus devices. You can choose any of the common fieldbuses or interfaces such as Profinet, Profibus, Modbus, MPI, RK512, AS511 or ADS. M-Bus (Metering Bus) allows data acquisition for heat, water electricity and gas meters.

CONNECTION TO SCADA SYSTEMS

For connection to SCADA systems the industrial communication standards OPC classic and OPC UA are used. All process data is available on the OPC server with time stamp from the TeleMatic controller accurate to one second. By this means the time sequence of operating conditions can be followed without any gaps.

SCADA
OPC UA OPC CLASSIC

COMMUNICATION
GPRS EDGE UMTS LTE DSL LAN

TeleMatic

FIELDBUS
PROFINET PROFIBUS MODBUS
M-BUS MPI AS511 ADS
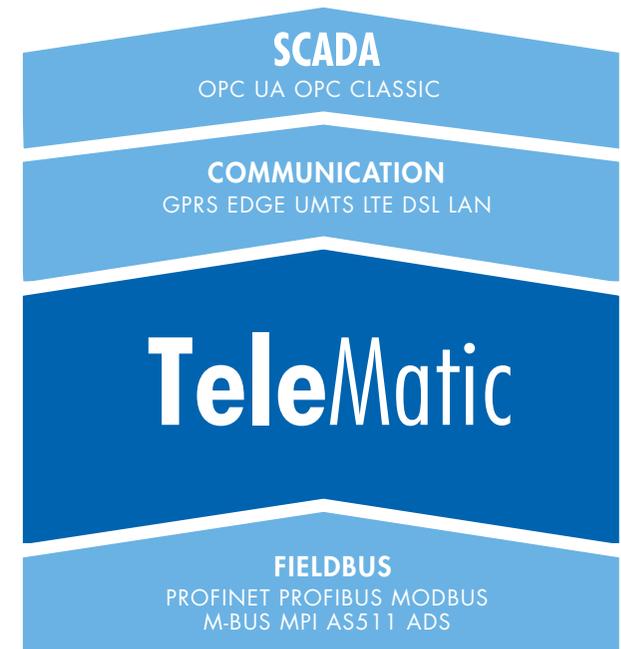
Interfaces

TeleMatic Software

TELEMATIC MANAGER

TeleMatic manager is the software on the central side for connection to the TeleMatic stations.

The TeleMatic manager uses the most modern Microsoft technologies (.NET). This ensures secure and reliable operating on current hardware with Microsoft operating systems on both 32 bit or 64 bit operating systems. An easy operator interface allows the access to the data on all connected TeleMatic stations. All process values are visible and allow a diagnosis without previous parameterisation of the data in the SCADA system.

TELEMATIC STANDARD

TeleMatic standard is the software for the acquisition of process data, for archiving, transfer and alarming. All data is transferred and archived as result oriented data using the Delta-Event-Procedure. A volume optimised protocol based on the TCP/IP protocol allows, especially in the case of GPRS communication connection, a reduced usage of data volumes and thus a reduction in operating costs. The use of standard hardware components ensures the security of the investment. The commissioning takes place in a simple and intuitive manner using TeleMatic web as the web interface of TeleMatic standard. The TeleMatic web is used both to configure the station and to view all configured process data. This means that a data point test is possible without the need to access the central control station. A voltage dropout resistant archive store ensures data security for up to 6 months. In the case of a communication interruption archives are automatically transferred to the control centre. Control tasks can be carried out parallel to the data transfer using the IEC61131-3 in a separate user program. .

TeleMatic Manager – Configuration

TeleMatic.web – Presentation of process data

TeleMatic in practice

SensoMatic-EMA

PRODUCT DESCRIPTION

The system EMA (electronic volume evaluation) offers an optimum solution for precise collection and evaluation of overflow quantities which has been released via fixed weir thresholds. The EMA system consists of the following components:

EMA panel variable mechanical construction with E scale optics for recording, protection and precise adjustment of the sensors.

EMA sensors high precision continuous measurement recording and additional level set-points for calibration

EMA controller High resolution collection and archiving of measurement data using the Delta-Event-Process with verification and calibration functions.

EMA evaluation operator friendly data evaluation with graphic analysis tool and logging based on Microsoft Excel.

EMA measuring profile structured measuring profile to equalise structural height difference and for improvement in accuracy.

YOUR ADVANTAGES

- Calibration and reference points via digital height benchmarks
- Maintenance friendly access and precise adjustment of the sensors.
- Very precise measurement of the flood height
- Long term archiving of raw and calculated values e.g. on a CF card.
- High level of precision due to structured measuring profile.
- Operator friendly eval uation
- Reporting system based on Excel in accordance with the official specifications.
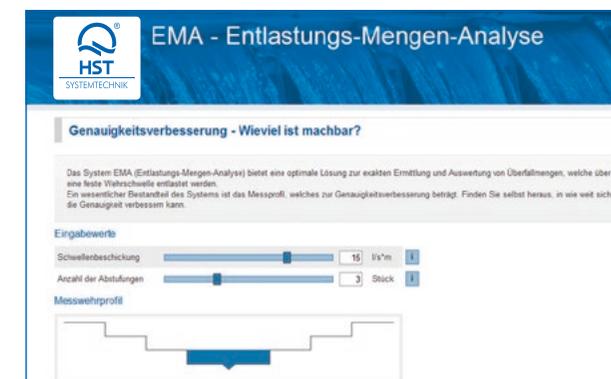
Products

Individual & OEM Manufacturing
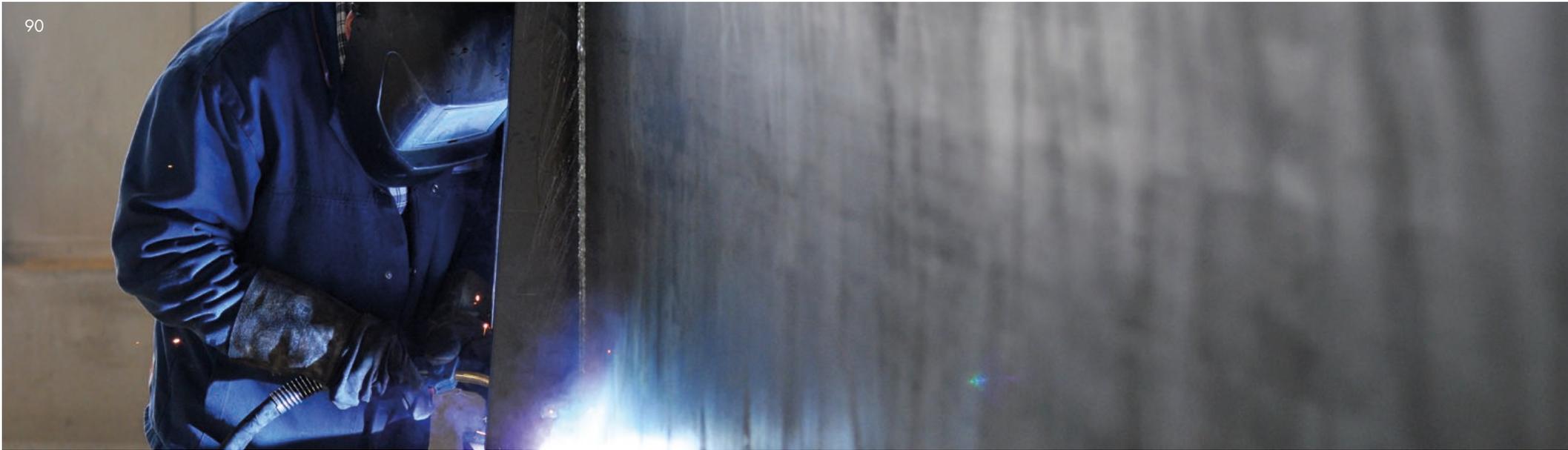
Material for innovation
It derives from inner values

More than ever before are efficient and quality-oriented production methods basic requirements to gain access to the market. For this, construction and production concepts as well as quality management need to be perfectly interlinked.

Therefore HST developed for its own production of individual engineered products and serial products a basic / modular building kit. Those construction- as well as production processes enable for the ideal coordination of individual procedures. From the first

drawings over to the work preparation, the component manufacturing operations, the installation up to the systematic function tests and handover to the customer, is every single step controlled with the help of intelligent monitoring systems and continuously documented.

Due to the fact that standardised preliminary work is outsourced too long-time and much specialised partners, it is ensured, that during each production stage the latest manufacturing methods are being used and that those meet the quality requirements of HST.

The result is the efficient use of resources in all areas, as well as a consistent standard of quality on the highest level for all products which leave the production line in Ramsbeck or in Meschede.

To implement this concept, HST has invested heavily in its own production for machines & plants in Ramsbeck and the production for EMSR- Technology on the new premises in Meschede

Flexible manufacturing
Individual requirements realised by flexible production

Each project is different and requires, alongside standard elements, relevant individualised solutions. These become even more numerous the more specialised the project. In order to ensure an economical cost effective series production when faced with this multi-faceted and complex task for the benefit of our customers we have developed a modern organisation structure in our work sequences. At HST we have restructured our manufacture to a flexible task force which is self-organised, sets its own priorities and came integrate modifications seamlessly into the production process. Preliminary work is undertaken by HST partners who are similarly organised into this work flow system. Just like in an airport terminal building incoming orders are displayed on huge overview boards with all necessary information so that each person can see at any time the status of a of a particular process. Maximum transparency and team oriented production processes create a group intelligence and the required sense of responsibility.
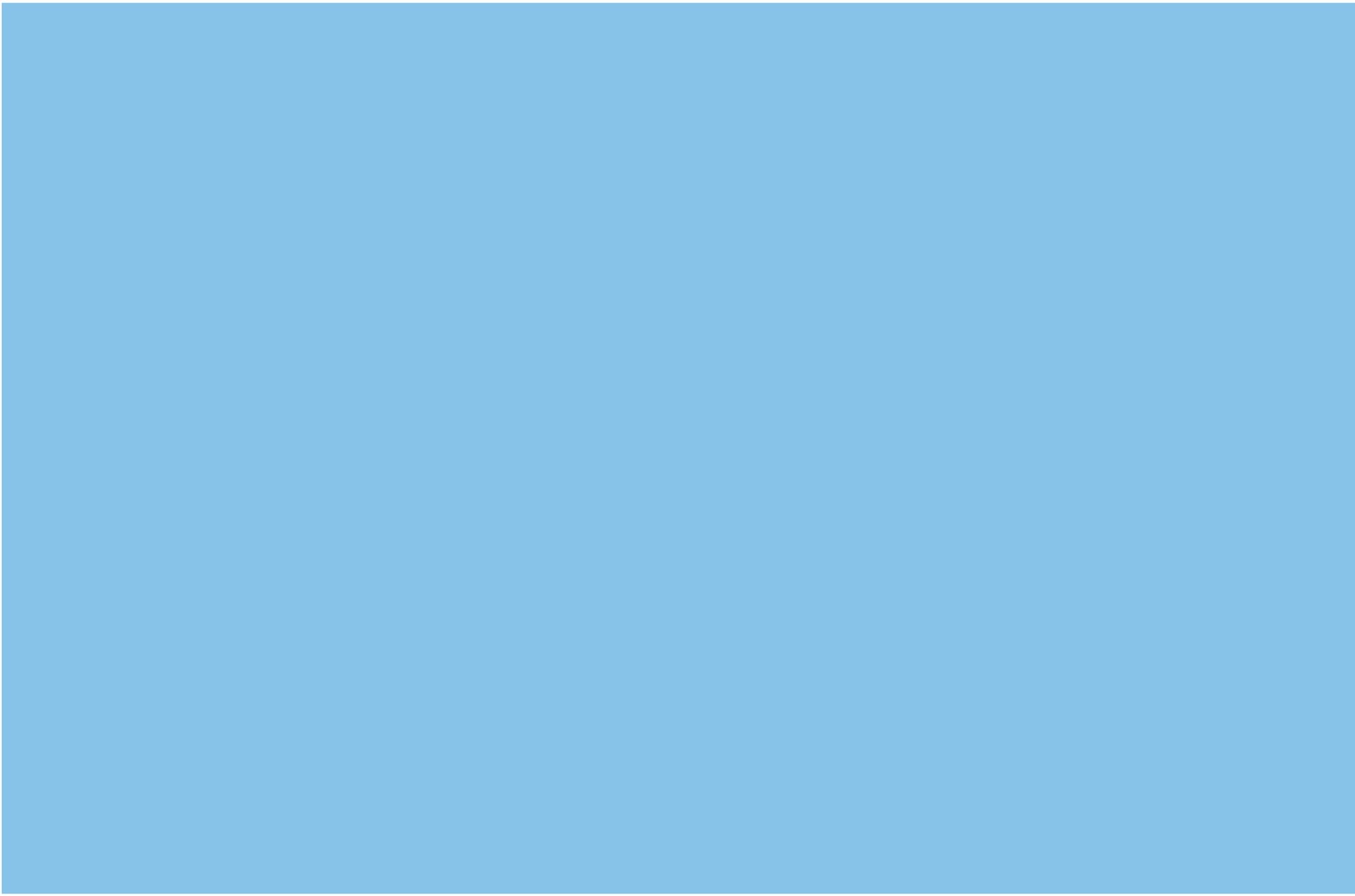
Projects

Effective storm water protection needed
Intelligently networked plant and machinery

The number of catastrophes is continually increasing. Climate change can no longer be denied. In Germany in recent years the river Rhine with its numerous tributaries has severely affected by very high river levels. It is absolutely essential that the dykes, which were built originally when conditions were very different must be refurbished to meet the new circumstances. Within the scope of the extensive refurbishment project of Rhein_Winterdeiche at Trebur (near Darmstadt in Hessen, Germany) the complete mechanical and electrical equipment for a newly built pumping station and sluice structures was provided by HST. The monitoring of the technical equipment and plant is carried out by the HST remote operating portal SCADA.web. This means that here the long term archiving without compression of the data makes use of the Delta-Event-Process. Information losses are therefore avoided. The archived data is stored in an SQL data bank. If there is a fault signal from a machine this is reported directly to the smart phones or tablets of the service technician using smart SCADA.

Storm water protection
Monitored and controlled from the City Hall

In the Bavarian (Germany) municipality of Görisried HST has installed one of the most modern storm water holding tanks (15m high and 110m long). The storm water release takes place via two float controlled weirs (ASK-Weirs) in the holding wall which automatically and without any input of external energy open when the storage target level is reached. These weirs do not require any external energy input. This means that should an event occur there is a maximum of operating security. In addition optimum usage is made of the storage volume. The entire technical outfitting of the tank was carried out by HST in the second half of 2011. All functions, equipment activation and condition reporting are carried out by the HST control system SCADA V10 (HydroDat/SCADA.web) which monitors, reports and in the case of a fault occurring sends a signal to the on-call staff responsible. The internet based portal SCADA.web allows access to the plant from the city hall or from any other computer with internet access. The local precipitation documentation is provided by the HST meteorological portal. The planning started in June 2009 and construction began a year later. The plant was completed and handed over in October 2011.

Imprint

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Images:

P. 83, illustration lower right with kind permission of Siemens AG

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www.wilddesign.de

smile. Visuelle Kommunikation, Essen
www.designsmile.de

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HST
SYSTEMTECHNIK

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