WORLDWIDE EXPERTS IN WATER TREATMENT

Electronics and semiconductor industry
Metal processing and galvanizing
Surface treatment
Automotive industry & suppliers
Energy generation

OVIVO DEUTSCHLAND GMBH

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Ovivo Deutschland GmbH was founded in 1955 as Goema GmbH. With our head office in Stuttgart Weilimdorf, Ovivo Deutschland GmbH is a leading manufacturer of installations for preparation and treatment of water, waste-water and process water.

Ovivo Deutschland GmbH supplies system solutions for supply and disposal installations as well as closed-loop circulation of process solutions and process waters - from the individual components up to the customer-specific turn-key installation. As a competent partner with comprehensive knowledge of processes, we incorporate our Ovivo technology in the respective customer-specific production.

Ovivo Deutschland GmbH operates worldwide in connection with the Ovivo group as well as with partners.
Without water, the industrial processing of metal products would not be possible. Water heats, cools, lubricates and conditions. It is a solvent that transports substances and impurities.

We are engaged in continuous research and development to increase for our customers the efficiency, the recycling of valuable substances, the improvement of waste water quality, reduction of pollution, minimization of pollution in waste water from production and a reduction of the operating costs. In the surface treatment, for example the automotive industry, waste water treatment is indispensable in order to remove unwanted substances from the wastewater or to reuse as rinse water.

**OUR COMPETENCE - YOUR ADVANTAGE**

**OUR COMPETENCES AT A GLANCE:**
- Development of new process technologies
- Production-integrated wastewater reduction processes
- Energy efficient solutions
- Water reclaim technologies
- Modular “plug-and-play” process water treatment systems
- State-of-the-art turn-key plants
- Zero-liquid-discharge treatment solutions
- Service
- Consumables and spare parts
Ovivo Deutschland holds a leading position as system partner for all installation and process solutions in the domain of water management thanks to consequent customer orientation, qualified and motivated employees as well as a complete offer of efficient process technologies and services. We take care of the complete engineering, planning, assembly and commissioning of individual installations as well as the project management for turnkey systems.

With our comprehensive service, maintenance and training measures, we offer all necessary services to our customers, even during running installation operation. Our own laboratory and technical installations for research and development allow us to continuously increase the benefit to our customers in terms of efficiency, quality and investment security. Ovivo Deutschland has successfully implemented branch-specific customized solutions in many industrial branches and disposes of specific know-how in the following domains:

- Circuit board technology
- Electrical & electronics industry
- Photovoltaic industry
- Automotive industry
- Galvanic industry
- Aluminium industry
- Steel industry
- Energy industry
- Waste disposal & recycling industry
- Food industry
- Chemical industry
- Textile industry

A modular component system allows the individual configuration of supply and waste systems in order to satisfy the highest requirements in terms of economy and environmental protection.

With comprehensive measures for planning, assembly, commissioning, maintenance as well as training, we take the load off our customers in each project phase through a highly qualified project management so they are able to concentrate on “the most important” - their production!
ION-EXCHANGER TECHNOLOGY
OVIVO®-IONEX

a) Fresh water preparation

When supplying sensitive processes with water, e.g. preparation of process baths or rinsing steps, faults may occur due to materials contained within the freshwater.

Installations for softening freshwater use cation-exchangers to remove hardness sources in exchange with sodium ions. The soft water thereby generated loses its potential for lime precipitation.

Desalination

For many processes, it is necessary to remove all salts from the freshwater. For this, ion exchanger technologies may also be used. In a sequence of cation and anion exchangers, almost all salt forming ions are removed from aqueous solutions. If a higher quality is strived for, the cation and anion exchanger is followed by a mixed-bed ion exchanger.

b) Recycling processes

Recirculation plant for rinsing water (Surface technology)

Multi-step rinsing technologies are planned for processes with high requirements towards surface purity of parts. An example for minimization of waste-water volumes is the combination of low flow pre-rinsing with a high flow recirculation rinsing that is cleaned from abducted salts by circulation via an ion-exchange system.

We use various recycling technologies to prolong the life of process solutions and to remove disturbing elements from processes.

Examples for recycling applications with ion exchangers:

- Removal of metals from acid etching
- Removal of Iron/Chrome-III from electrolytes during chrome-plating
- Aluminium removal from anodizing baths by retardation
- Removal of aluminium from phosphoric acid and process solutions
- Regeneration of passivations

THE WIDE SPECTRUM OF OVIVO INSTALLATIONS
WE OFFER ALL APPROPRIATE SYSTEM COMPONENTS AND PROCESS TECHNOLOGIES FOR THE STATED DOMAINS, SUCH AS FOR EXAMPLE:
MEMBRANE TECHNOLOGY OVIVO®-SEP

a) Fresh water
More and more membrane technologies are used as a complement or alternative to conventional water treatment methods:

- Ultra-/Micro-filtration installations for removal of particles from surface waters
- Reverse osmosis for desalination, also with downstream electrode ionization, depending on the quality requirement.

b) Recycling
OVIVO®-SEP-Membrane installations are already frequently used by our customers for recycling processes:

- Ultra-/Micro-filtration installations for separation of cooling lubricants or recuperation of degreasing solutions containing tensides
- Reverse osmosis installations for recycling of rinsing waters
- Water recycling in WAFER-technology

c) Waste-water
There are several possibilities for the use of membrane installations in the waste-water sector:

- Separation of solids through micro-filtration e.g. using a high efficient, robust SiC-membranes
- Separation of biomass in MBR processes
- Separation of organic components for protection of reverse osmosis plants in waste-water free installations

THERMAL SEPARATION TECHNOLOGY OVIVO®-THERM

Concentration processes are an increasing application in recycling and waste-water technology. Either to reduce the waste-water volume for disposal or to concentrate cleaned rinsing water back to process bath concentrations.

a) Recycling technology
Special vacuum evaporator installations are used as a gentle concentration process for sensitive fluids. For example for:

- Concentration of chromic acid rinsing waters after cleaning and returning to the process bath (up to 300 g/l CrO₃)
- Concentration of alkaline, even cyanidic electrolytes
- Concentration after ion exchangers for waste-water cleaning and reclaim of precious metals by external regeneration

b) Waste-water
After detailed laboratory or technology analysis, customer-specific applications will be developed e.g. for:

- Waste-water evaporation for volume reduction in case of requirement for external waste-water disposal
- Evaporation of concentrates from ultrafiltration of oil-water-mixtures for further use.
- In combination with other processes for zero-liquid-discharge requirements (ZLD) to minimize the disposal costs for the concentrates
INNOVATIVE OVIVO TECHNOLOGIES

a) Physical-chemical waste-water treatment

We supply fully automated installations for detoxification, neutralisation and flocculation of rinsing waters, used process solutions, regenerates from ion exchangers or concentrates from membrane processes incl. sludge treatment and limit value assurance.

- Stand- or batch-treatment
- Continuous neutralisation
- Sludge dewatering
- Final filtration and final purifying plants

b) Recycling of valuable substances

Electrolysis cells are used in order to reclaim reusable materials from metal-ion-containing solutions, e.g. for gold, silver, copper and nickel.

c) Waste-water treatment by oxidation

The anodic or UV-oxidation of waste-water ingredients (e.g. cyanide or complexing agents) simplifies or allows the treatment.

d) Energy recuperation from waste-water

With the background of sinking product prices due to market globalisation and simultaneously rising costs for raw materials and energy, it is necessary to find and implement cost-saving potentials. A contribution towards this is the optimal use of energy. Thus, significant savings may be achieved e.g. through heat recuperation from hot process baths through combination of heat exchangers and heat pumps. Ovivo has successfully planned and delivered such systems over years.
INNOVATIVE OVIVO TECHNOLOGY

BIOLOGICAL PROCESSES OVIVO®-BIO

Biological processes can be used in waste-water treatment as well as independent cleaning processes or as a partial components of a multistage installation concept. Biological processes have a significant advantage with the increase of pollution, dirt and waste-water load, and the heterogeneity of waste-water with respect to other waste-water treatment processes.

We offer the following technical process solutions:

• Fixed-bed processes
• Conventional activated sludge processes
• Batch processes as SBR (Sequence Batch Reactor)
• MBR (Membrane bio-reactors)
• Carbon (COD-) -decomposition (aerobic or anaerobic), also with bio-gas recuperation
• Nitrification
• Denitrification

PROCESS COMBINATIONS

All stated processes can be combined in a customer-specific manner in order to solve complex problems thanks to our special know-how. Here, there are several implemented installation combinations that can be adjusted to the customer requirements under view of the legal directives, space requirements, energy and water costs.

Examples:

• Physical-chemical treatment combined with biological post-treatment for compliance with discharge limits for inorganic and organic harmful substances.
• Ultra-filtration for separation of mineral oils in combination with an evaporation of the UF concentrates in order to minimize residual materials.
• Closed-loop circulation combined with physical-chemical treatment and a biological post-treatment for ecological and economical process water preparation.
• For waste-water-free process technology (ZLD = Zero Liquid Discharge), customer- and site specific combinations such as intelligent physical-chemical pretreatment, desalination by reverse osmosis and evaporation of the concentrates can be offered.

MEASUREMENT AND CONTROL TECHNOLOGY

We supply our installations with the most modern switching installations and operator interfaces for automation and monitoring. These fulfil the high requirements towards operational security, reliability as well as operating comfort and data security.

These include:

• Process visualization
• PLC programming
• Software service
• Switching systems
YOUR ADVANTAGE - OUR INNOVATION CENTRE FOR TECHNOLOGY AND DEVELOPMENT

For more than 30 years, we have helped our customers in solving the problems of tomorrow today, thanks to significant development and optimization of new processes with innovative environment technologies. We also develop and optimize processes and installations for your application scenario in the scope of customer-specific laboratory and technical center studies. Use the comprehensive know-how of our development department in combination with our testing and pilot installations. We can develop the optimal solution for your process thanks to our wide spectrum.

For example:

- Membrane installations with organic and ceramic membranes
- Evaporation installations
- Ion-exchanger installations
- Bio-reactors
- Electrolysis cells
- Innovative filtration installations
- UV-Oxidation installations
- Installations for testing of physical-chemical treatments in combination with membrane / or biological processes on site.
- Mobile laboratory and pilot installations in containers for planning studies

We also analyze your ion exchange resins as well as your water and wastewater.
SUCCESSFUL IN MANY BRANCHES THROUGH COMPETENCE & SERVICE

Ovivo has a leading position as a system partner for all installations and process solutions in the domain of water management through consistent customer-orientation. We offer all necessary services such as:

- Consulting
- System audits
- Problem solutions
- Planning
- Professional project management
- Technical and chemical service including laboratory testing
- Chemical dosing solutions
- Value engineering
OVIVO – SERVICE CENTER
WE OFFER:

PLANNING AND IMPLEMENTATION
We support you during planning and execution of refurbishment, installation extensions and new system installations.

CONSULTING AND SUPPORT
To fulfill your requirements we provide consulting based on more than 60 year experience in water treatment. We will support you in the safe operation of your water treatment system considering

• Process steps or process improvements
• Installation maintenance
• Usage and potential savings of materials
• Usage of dosing chemicals.

SPARE PARTS AND CONSUMER MATERIALS
You can source spare parts and consumer materials for your water treatment system from us. We can also analyze your process and recommend appropriate materials for

• Vessels,
• Coatings,
• Piping or
• Armatures, etc.

We also supply dosing chemicals, replacement and installation services.

Please contact us!

COMMISSIONING AND INSTALLATION AUDITS
We support you during commissioning of your water treatment plant. Also we audit your plant to evaluate your process and the condition of all installed components.

OPERATION AND MAINTENANCE OF WATER TREATMENT PLANT
We are able to operate and maintain your water treatment system. For this, we offer short-, medium- and long-term maintenance and supervision agreements.

CHEMICALS
• Flocculants and equipment,
• Dosing chemicals of all types
• Cleaning chemicals for all processes

TROUBLESHOOTING
In case of malfunction or failure of a component, we immediately step in, providing an emergency repair and emergency operation.

GUARANTEE AND WARRANTY
If however, a guarantee or warranty case still arises, we will handle it as fast as possible for you.

DOCUMENTATION
We create and review your installation documentation, also in accordance with FDA and GMP standards if required. We also design and review all installation schematics in AutoCAD.