



# EMO

ENVIRONMENT BY TECHNOLOGY



**Global solutions**  
for water and sludge treatment

# A MAJOR INTERNATIONAL PLAYER



## A LEADER AS PART OF A GROUP

**EMO is integrated within the SEMOSIA Group and is established within a global network of international industrial companies who represent the environmental sector.**

Pilot within the Group, EMO can rely on technical and commercial synergies of each one of its members : 200 members with complementary know-how.

EMO, by its membership of Group SEMOSIA, confirms its commitment near our customers: a reliable and qualified partner on the international sector of the environment.

## EXPERTISE WORLDWIDE

**EMO has been established since 1985 and has increased in presence worldwide within 5 continents.**

By honing the skills and resources, EMO has managed to become a key company worldwide and is represented by agents and distributors in a network of businesses. This enables EMO to be closer to our customers to give the high quality of service and satisfaction to their requirements that they seek.

# OUR CAPABILITIES IN ENVIRONMENTAL SERVICES

## TREATING YOUR SLUDGE AND YOUR WATER OUR COMPANY PLEDGE

With the help of the expertise and the knowledge of our team members, we aim to respond to all of your wastewater, drinking water, and industrial water, whatever industry you are based.

We are able to provide comprehensive support and to determine **the tailored technology and processes required to fit your local environmental needs.**

## OUR PARTNERSHIP AND OUR COMMITMENTS TO YOU

As an international economic player we work hard to strive to achieve sustainability through the quality of our equipment and the quality of our services and bespoke solutions to you.

You can trust us. We are here and present to **preserve the future in the environment.** Our vision is to find the right balance between the economy, ecology and society.

### RESPECTING THE ENVIRONMENT

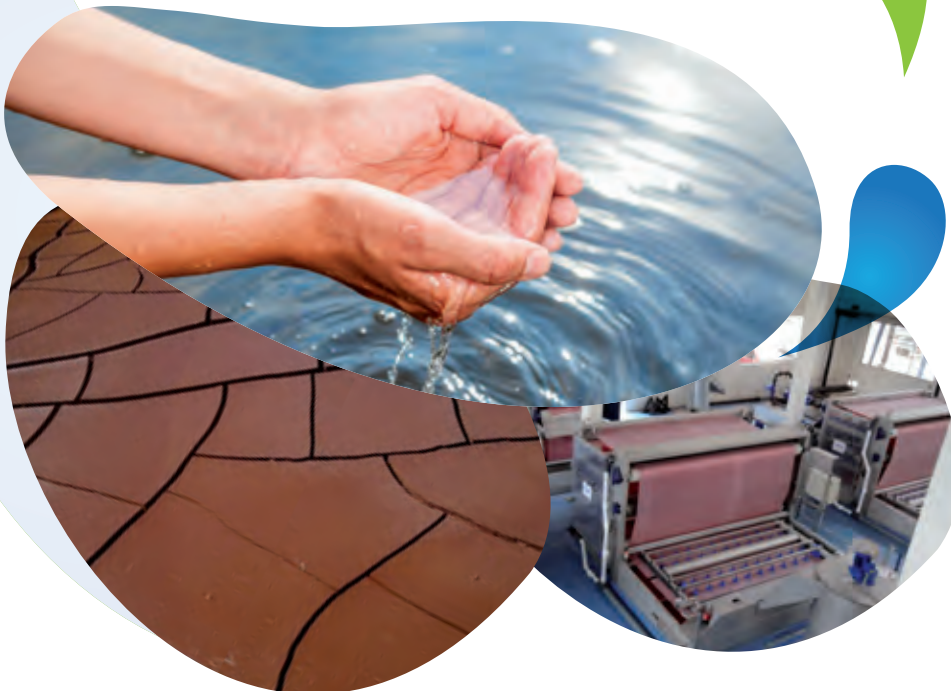
Our job is **to protect the world around us** by providing appropriate and adapted environmental solutions. A good knowledge of the norms and standards in place along with the understanding of the issues to be treated, make EMO a confident choice for environmental solutions.

### ECONOMIC PROGRESS

Every day we strive to better our performance to meet your requirements and also the needs of your own customers and end users. **Our primary commitment is the best results to you through providing effective resources.**

### COMPANY DEVELOPMENT

Whether we are corresponding with an employee, a partner, our suppliers or our customers, we ensure to be courteous and **to be respectful to all whether male, female and their culture and country of origin.**



# OUR SPECIALIST SKILLS

## TREATING WASTEWATER

With public health being a top priority, wastewater treatment aims to provide and maintain the environmental balance of clean water for the well being of the populations according to the quality norms and regulations in place.

The teams at EMO are able to offer you their know-how to provide you with a solution by giving their advice and to mobilize the best equipment and techniques tailored to treat sewerage specific to your nature and environment and we are able to offer this service in the four corners of the world.

- PRIVATE AND PUBLIC SANITATION
- PRE-TREATMENT
- SLUDGE AND SAND TREATMENT
- TERTIARY FILTRATION



## TREATING DRINKING WATER

With its long experience in dealing with simple and complex wastewater problems, EMO has become a key reference for systems to treat drinking water.

Our team of engineers and technicians work closely with you to find out relevant **solutions to technical problems regarding sanitation** requirements.

- PRE-TREATMENT
- FILTRATION
- SLUDGE TREATMENT



## TREATING IN INDUSTRIAL SITES

On site we are faced with many production processes and with large volumes of water consumed by the factory industries. EMO has the experience and can work with you regardless of the problems met.

We are strictly orientated to your goals and your budget requirements. Our experts can guarantee the product performance giving you peace of mind. We understand **the importance of your industry tools** and devices and we propose the treatment solutions specifically adapted to your equipment, processes and your business domain.

### OUR INDUSTRIAL EXPERTISE:

FOOD - STEEL - TEXTILE - PAPER - CHEMISTRY  
- PHARMACEUTICAL - MINING - OIL & GAS ...





# OUR KNOW-HOW

## UNDERSTANDING YOUR NEEDS

**EMO offers you our team of professionals to accompany you throughout the time of your project. This is from the start of the research into your needs to installation and start-up of your equipment.**

Our Technical commercial sales consultants and Technical project coordinators will assure that your project is kept on track **and meets your requirements at each stage of development.**

**We have the ability and the awareness of current affairs and issues** and are able to engage ourselves with you to promise efficiency and performance to enable you to stay reassured.

We are present throughout the world and we work directly with the end user or indirectly through our partners, agents and distribution network. In all cases you **will always be dealing with an EMO professional who will be listening and identifying your needs.**

*The professionals who remain **at your service throughout your project** from start to finish*



## ANALYZING YOUR NEEDS

EMO has the experience and integrated with that an in house laboratory which gives the best asset to respond to your treatment issues and your particular sludge waste. EMO remains active and dynamic in research programs and the changing standards in regulations for sludge and water treatment. EMO can define the optimum choice.

The EMO laboratory guarantees the precise and **specific case study** for the sludge and water treatment necessary for each particular project:

- **The characteristics of waste and sludge from your :**  
dry matter, organic matter, microscopic bacteria observations and particle size, etc.,
- **The choice of reactants for your installation:**  
coagulant, flocculant and dosage.
- **The treatment tests best for you:**  
decantation, flotation, thickening, dewatering, filtration, etc.

By putting your trust in our hands, we can allow you the choice of solutions from the test evaluations from each type of equipment that we offer: gravity belt thickeners, belt filter presses, plate filter presses, sludge dryer, etc.

Our teams are also able to perform on site tests to give the expertise to respond to your problems directly.



***Our product power:***  
*a dedicated in house laboratory*

# OUR KNOW-HOW

## DESIGNING SYSTEMS ADAPTED FOR YOU

EMO offers you the technical design knowledge and expertise to choose the best equipment for your installation.

### THE R&D DEPARTMENT

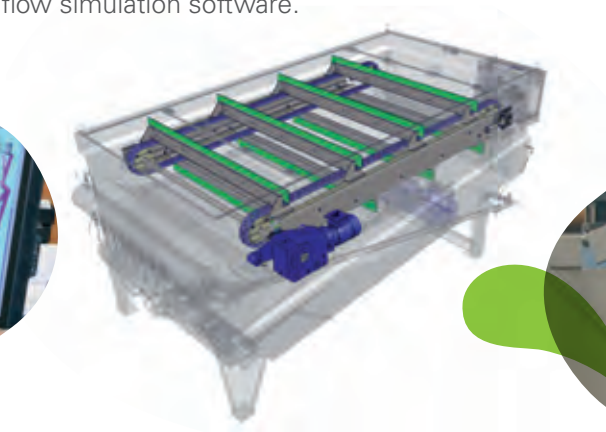
Our R&D cell not only holds the technical intelligence for the equipment but also develops permanent **new solutions for wastewater and sludge treatment**. In addition, the team also reviews existing equipment **to improve design features**, reduce energy consumption and chemical products

### THE PROJECT RESEARCH DEPARTMENT

**Our designers** draw the equipment to be implemented into the production drawings. This is then sent on to the production center. **An additional team of designers** are able to superimpose the **drawings in 3D** into your project installation drawings. Each design team member has the most advanced design tools to optimize your project installation: Solidworks 3D simulation to measure the strength and resistance of the products along with the hydraulic flow simulation software.

### THE AUTOMATION AND ELECTRICAL DEPARTMENT

EMO has a dedicated team **of electrical and automation department of engineers** in their possession. This is to compliment **the full process control** and the knowledge of our equipment totally in house. The electrical schematics and programs for the PLC are created internally while EMO uses the components from market leading manufacturers: SCHNEIDER, SIEMENS, ALLEN BRADLEY, ROCKWELL ...





## CONSTRUCTING QUALITY AND RELIABLE EQUIPMENT FOR YOU

EMO uses hand built and machining techniques for the manufacturing of our machines. This is advantageous as it enables to keep an optimum quality and allow us to respect our completion deadlines.

Our experts are **consistently trained in the developments of technical processes**. They are implemented to keep true core abilities of product building:

- BOILER AND INDUSTRIAL SHEET METAL MANUFACTURING
- PLASTIC BOILER MANUFACTURING
- MECHANIC, PNEUMATIC, HYDRAULIC
- ELECTRICAL, AUTOMATION

*Over 10 000 m<sup>2</sup> of production facilities*





# OUR KNOW-HOW

## IMPLEMENTING OUR TECHNOLOGY FOR YOU

Once the equipment is finalized in our factory workshop, we assure that the equipment is shipped and installed exactly to your specific requirements.

### LOGISTICS

#### The packing and conditioning

We call in the authorized specialist agents to pack and condition your equipment effectively to meet your requirements while **respecting the standards and norms in place** (container anchoring and loading, slatted crates, maritime crates, etc).

#### Transport

National or international, we consider **the best mode of transport suitable** for the project (road, air, or sea). We can also organize special convoys for wider and higher transportations.

### INSTALLATION

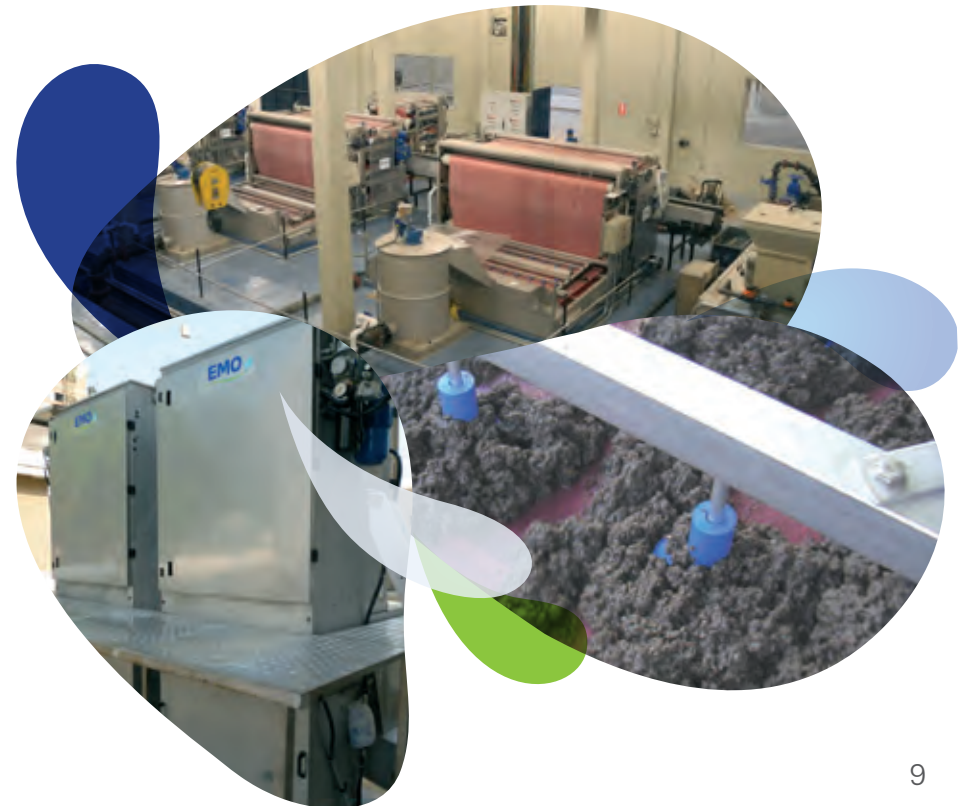
The unloading and assembly operations can be performed or supervised by **our commissioning technicians to hand** over to you a turnkey project installation.

### START-UP AND OPERATION

We work with the onsite operators to optimize the performance of the installation by correctly verifying and controlling all equipment with them.

### OUR AFTER-SALES CARE

EMO also offers a team of after sales care experts who strive to satisfy your needs **wherever you are in the world**.



# THEY PLACED THEIR TRUST IN US

## OUR PROMISE:

### CONTINUOUS CUSTOMER CARE AND DEVELOPMENT

Since EMO was created we have been able to identify and to provide solutions for various industrial or municipal sludge and wastewater installations which have also been very problematic and quite often complex environments all over the world. Whatever the need, EMO has always managed to bring the required result to their customer, and we strive to keep this the same for the future.

#### WASTEWATER

Riyad, Athens, Bucharest,  
Tel Aviv, Manila, Algiers,  
Durban, Santiago de Chile ...



#### DRINKING WATER

France, Romania, Mexico,  
China, Greece, Iraq ...



#### INDUSTRIES

Danone®, Coca-Cola®,  
Carlsberg®, Cargill®,  
Solvay®, App®, Nestlé®



*More than  
**5 000** installations  
in the world.*

# DRINKING WATER

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Whatever the origin of raw water : ground water, river, dam, lake, sea, ... EMO is able to offer you a wide range of solutions : decanters, lamellar flotation units, filtration and dewatering equipment.





# DRINKING WATER

## 1 PRETREATMENT

Filtration that also provides protection at the same time. This is essential to ensure the effective pretreatment of drinkable water. The EMO screens are specially designed to provide protection to lifting and pumping stations. Our large range of vertical and inclined screens can be adapted to fit any site. They are designed to lift and extract branches, leaves, plastic, etc. from water that is treated for drinkable water.

- CHAIN BAR SCREEN
- CABLE BAR SCREEN
- PERFORATED PLATE SCREEN
- CENTER FLOW SCREEN
- THROUGH FLOW SCREEN



## 2 PHYSICOCHEMICAL TREATMENT

Fine particles as well as certain soluble pollutants called «Floc» that are normally difficult to decanter naturally or do not settle are treated by a separator which is a decanter type or a dissolved air flotation unit.

- KAPA SETTLER
- ALPHA DAF
- DELTA DAF
- GAMMA DAF



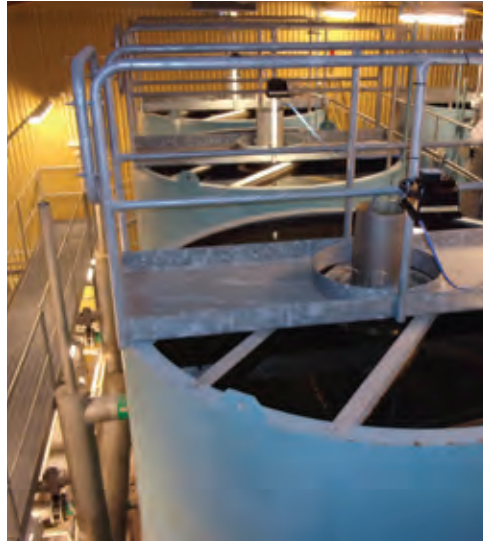


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## FILTRATION

**This is the essential stage before disinfection.** The filtration process removes the suspended residual solids.

- SAND FILTER

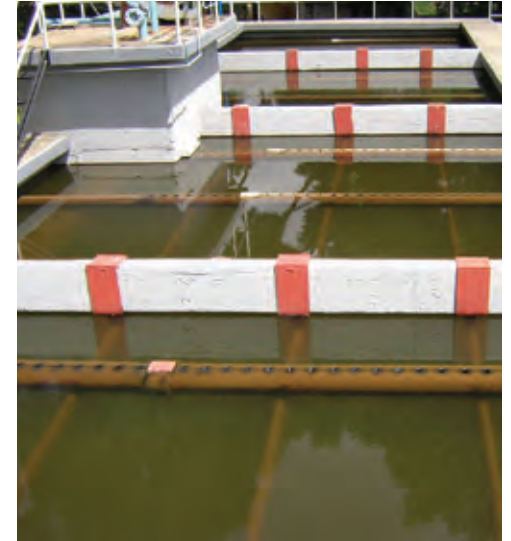


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## DISINFECTION

There are multiple choices of disinfecting but the right process needs to be implemented. The following criteria needs to be determined: efficiency of pathogenic micro organisms with a lack of unwanted by-products after use needs to be addressed. Also this process must remain non contaminable to humans and the aquatic environment. It has to remain easy to use and available at a low cost.

- CHLORINATION
- OZONATION



## 5

## SLUDGE TREATMENT

We offer a full range of equipment and we have an in house laboratory able to offer you a tailored technical process allowing us **to provide the best solution to treat your wastewater and sludge with confidence.**

## THICKENING / DEWATERING

These processes are the two main objectives to increase dryness (dry matter content). This is where the physical condition of sludge changes from a liquid form into a more solid form like a paste.

## STABILIZATION / SANITATION

Depending on the use of the sludge, different complimentary treatments are performed to reduce the water content in the sludge and to stabilize or sanitize the organic matter and if necessary destroying the pathogenic micro-organism.

- DRYING
- LIMING
- COMPOSTING

## CONVEYING / STOCKING

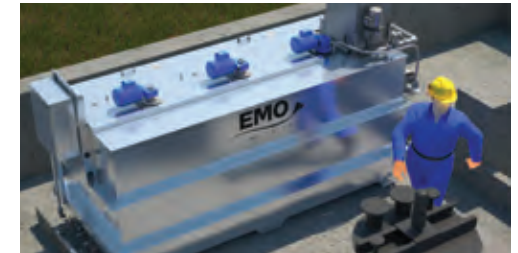
Sewerage, sludge or drinking water treatment facilities use conveyors to transport the sludge and waste to a storage container or to another device.

- SCREW CONVEYOR
- BELT CONVEYOR
- SCREW COMPACTOR

## SLUDGE CONDITIONING

This is an essential part to enable the sludge to be dewatered mechanically by using different types of equipment.

- POLYMER PREPARATION PLANT
- FLOCCULATOR
- SLUDGE CONDITIONNING REACTOR





# WASTEWATER

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EMO equips wastewater treatment plants with **high tech solutions** in pretreatment, sand treatment, tertiary treatment processes, and sludge filtration treatment.



# WASTEWATER

## 1 SCREENING

The two basic important elements for this part of the screening and wastewater treatment process are as follows: screening and protecting.

A complete range of bar screens are designed to:

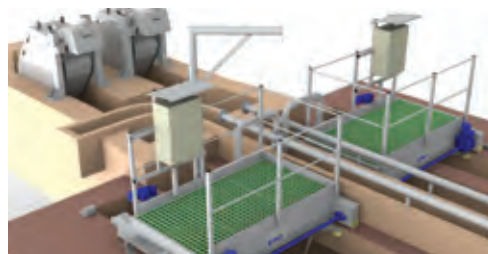
- Protect the equipment.
- Reduce the water pollution rate.
- FINE OR COARSE
- VERTICAL OR INCLINED
- CHAIN, CABLE OR BAND SCREEN TYPE
- STEPTYPE SCREEN
- ROTARY DRUM SCREEN
- STATIC GRIT SCREEN



## 2 SAND / GREASE REMOVAL

The operating principle : by passing water in basins where the flow rate is reduced in speed for the sand to settle while the grease rises. Air is injected into the tanks with micro bubbles which accelerates the grease to rise to the surface and be scraped of by surface scrapers while the sand is recovered back to the pumping station.

- GRIT / GREASE REMOVAL BRIDGE
- SAND CLASSIFIER
- SAND WASHER



## 3 SEWERAGE NETWORK CLEANING

We have fully automated systems available **to separate liquids and solids.** In the preprocessing phase of sewer cleaning by trucks or by the sewerage network grids, we have the solutions to offer you.

- SCREENING
- WASHING
- SIEVING



## 4 AERATION

The activated **sludge process is the most commonly used currently to make safe biological waste efficiently** with this wastewater treatment method.

- SURFACE AERATION
- SUBMERGED AERATION WITH FINE BUBBLE SYSTEMS

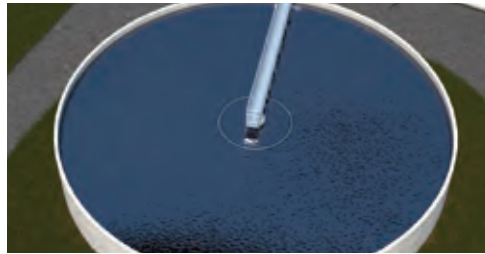




## 5 CLARIFICATION

This technology is used **in treating urban or industrial waste water.**

- SCRAPER BRIDGE
- BASINS FROM 6 TO 50 METERS IN DIAMETER



## 6 TERTIARY TREATMENT

The aim of the tertiary treatment is **to eliminate the undesirable matters such as suspended solids to improve the water quality purified** for its rejection in the natural environment or its re-use.

- DISC FILTERS
- SAND FILTERS

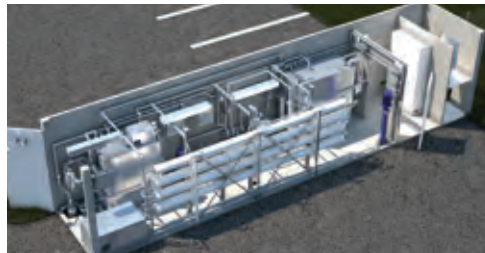


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## QUATERNARY TREATMENT

**This is to reduce the spread of pollutants that can emerge** (antibiotics, pesticides, hormones, carcinogens, etc) to protect public health and biodiversity of aquatic environments.

- REVERSE OSMOSIS
- FILTRATION BY ACTIVATED CARBON



## 8

## SLUDGE TREATMENT

A complete range of equipment and a laboratory for testing to achieve **the best bespoke solution customized to treat the sludge** from the exact installation with confidence.

- CONDITIONING
- THICKENING, DEWATERING
- STABILIZATION, SANITATION





# EMO

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EMO has many references in all types of industry : food, slaughterhouse, brewery, steel, textile, paper, chemistry, pharmaceutical, mining , oil & gas, ... thanks to adapted equipment.

## 1 FOOD INDUSTRY

EMO closely works with a well renowned mustard maker and as part of their expansion program required to improve and update their sewerage treatment plant. We determined the following equipment for their site:

- A 500  $\mu$  rotary screen at the entrance of the treatment works designed for a capacity to handle 25 m<sup>3</sup>/h.
- A rotary screen at the entrance of the treatment works.
- A DAF flotation unit for the physico-chemical pretreatment of effluent of a downstream biological treatment works.



## 2 CHEMISTRY

EMO is able **to provide solutions for chemical and pharmaceutical sites.**

To give you an example, a belt filter press Omega 1150 is installed in one of the most important chemical industries in France. The wastewater that is generated by the PVC production processes are treated by flotation. The thickened sludge is then dewatered by a plate filter press with automatic plate shifting and automatic cake release system.



# INDUSTRIAL SITES

## 3 METALLURGY

EMO can also provide **sludge treatment solutions from workshop and metal processing industries.** Wastewater from the rinsing of the stainless steel and the pickling from the acid baths is treated by adding lime and a flocculant that can precipitate the metals and fluorides. The thickened sludge is then dewatered by a plate filter press with automatic plate shifting and automatic cake release system.



## 4 PAPER INDUSTRY

EMO is involved with the separation of **fibers in the waste generated by the paper production processes.** This treatment is made with the flotation unit(s) which are especially selected and designed for this particular process and to handle a flowrate up to 650 m<sup>3</sup>/h.



## 5 TEXTILE INDUSTRY

The performance required in a textile factory plant in Surat in India **has been beyond expectations** for the two combined belt filter presses and gravity belt thickener as they are installed in a very complex fabric printing production process. The treatment works is an SBR station with cascading aeration and limed sludge beds which allow for dewatering with low polymer consumption which guarantees a high sludge treatment rate with increased dryness.



## 6 OIL & GAS

EMO provides effluent treatment from industrial plant sites with a wide range of varied field activities of petro-chemicals: PE, PVC, fertilizers, electrical cable, painting etc. In Dammam in Saudi Arabia, the EMO combined press units demonstrate their superiority over centrifuge systems with this type of difficult and fragile sludge.





# EMO



ENVIRONMENT BY TECHNOLOGY

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