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WASTE WATER  
TREATMENT  
PLANTS

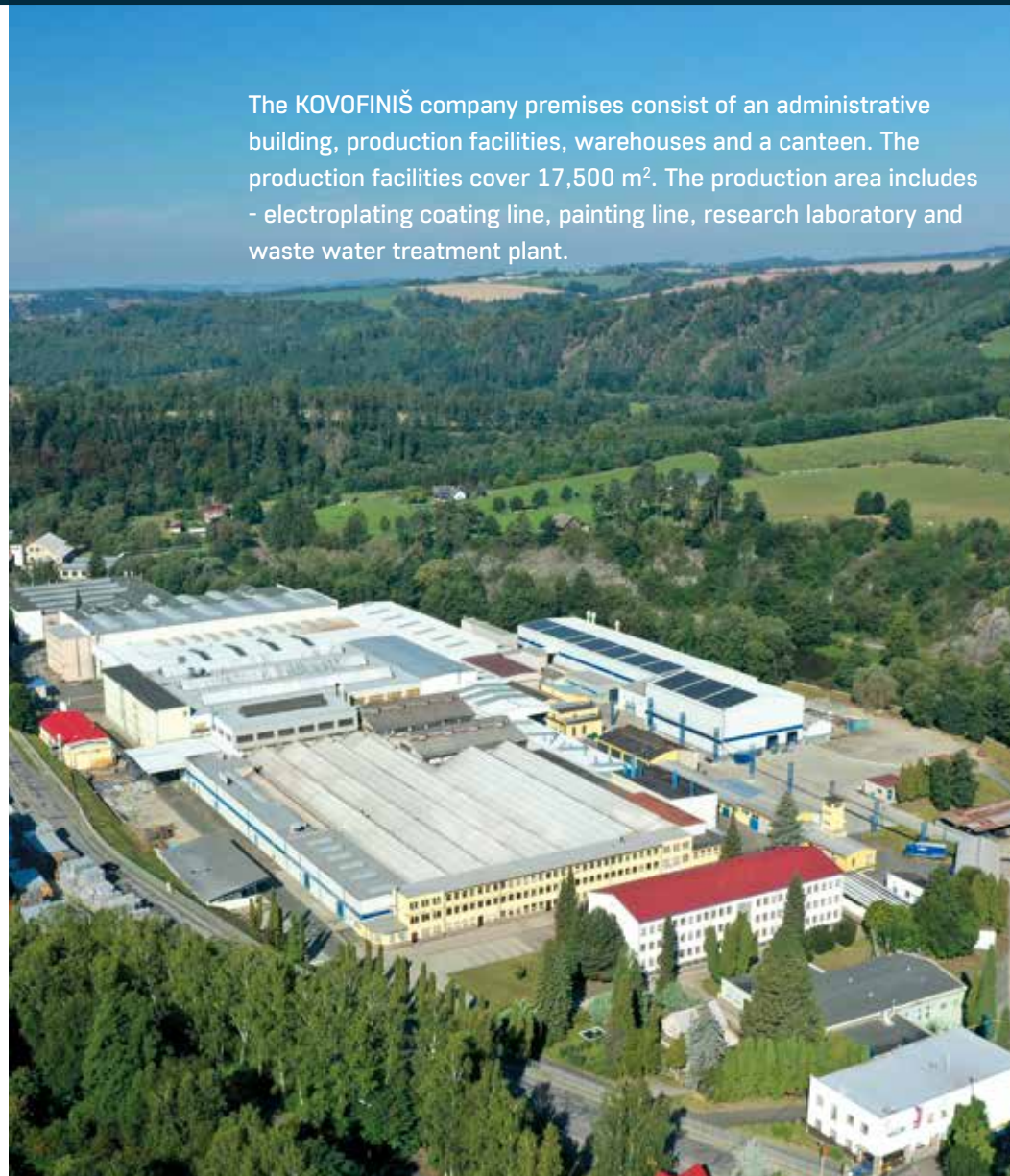
## Surface treatment equipment and waste water treatment plants producer

KOVOFINIŠ is a modern Czech company with a tradition dating back to 1951. During its existence KOVOFINIŠ has successfully implemented projects all over the world. Our company has its own technical, development and production facilities. Thanks to the continuous development of know-how, we are the leading European manufacturer of equipment for surface treatment and disposal of industrial waste water. All the equipment we supply is designed with the environment in mind and according to the customer's needs.

### Services:

- › Technology proposals
- › Project outline incl. documentation for negotiation with government and local authorities
- › Drafts for building works
- › Planning, design and efficient construction process
- › Production, delivery and installation incl. commissioning
- › Auditor's reports
- › User and service training, Participation during Test Run Operation
- › Operation and maintenance instructions incl. technical documentation
- › Service
- › Commercial - financial consulting, Technical consulting
- › Process automation systems and visualization

The KOVOFINIŠ company premises consist of an administrative building, production facilities, warehouses and a canteen. The production facilities cover 17,500 m<sup>2</sup>. The production area includes - electroplating coating line, painting line, research laboratory and waste water treatment plant.



The quality of our management is certified according to ISO 9001. The environmental management of the company is certified according to ISO 14001. We are also holders of the German WHG certificate for surface treatment and waste water treatment.

**Waste water is inseparable part of various industries. The task of any company should be to minimize its influence on environment. Increasing demands on environmental protection require use of best available technologies for waste water treatment.**

Our program „clean water in industry“ offers variety of technologies for treatment and cleaning of industrial waste water. Our waste water treatment plants clean water from electroplating, chemical and degreasing processes, electrochemical and glass industry, paintshops and others.

Our experiences from industrial application ensure accuracy of used technology. Every used technology is initially tested in our research laboratory.

Therefore, we can guarantee proposed technology, single parts production, installation and functionality of the whole waste water treatment plant as well as our after-delivery services. We are able to provide experiences of our specialists in negotiation with local and environmental administration authorities.





### Waste water treatment plant type depends on volume and characteristics of waste water

- › Batch plants
  - Lower volumes with higher degree of pollution
- › Continuous plants
  - Higher volumes with lower or less problematic pollution
- › Combination of batch and continuous type





### Waste water treatment plants using classical chemical-physical methods

- › Oxidation of cyanides, nitrites, ammonium ions, etc.
- › Reduction of hexavalent chromium, nitrites, etc.
- › Demulsification
- › Coagulation
- › Neutralizing and sulfidic precipitation
- › Flocculation
- › Sedimentation, separation and sludge dewatering





## Equipment for final separation of:

- › Solid substance residues
- › Organic substance residues
- › Selective removal of harmful ions

## Using:

- › Sand and multilayer filters
- › Adsorption on active carbon filters
- › Sorption on ion exchangers
- › Final pH adjustments





## Waste water treatment using vacuum evaporators and membrane processes for cleaning and recycling of waste water

- › Ultrafiltration units
  - Especially oily waste water, pre-filtration prior reverse osmosis
  - Ceramic or polymeric membranes
- › Reverse osmosis units
  - Waste water desalination
  - Single or multiple stage
- › Vacuum evaporators
  - Volume reduction
  - Problematic waste water treatment
  - Heat pump or mechanical vapor compression
  - Crystallization
- › UV disinfection units





## Used in case of:

- › Expensive water or waste water discharge
- › Strict limits for waste water discharge
- › Without possibility of waste water discharge

## Principles:

- › Zero discharge – partially
  - Recycling portion of waste water, reduced production of waste water
- › Zero discharge – fully
  - Recycling all waste water
  - ZERO LIQUID DISCHARGE



## With the use of:

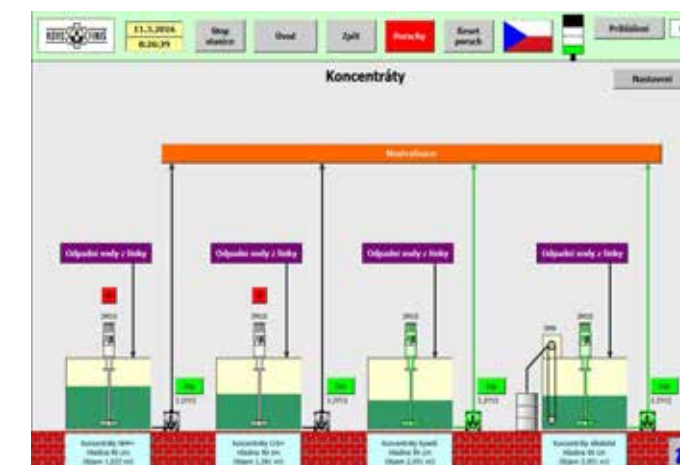
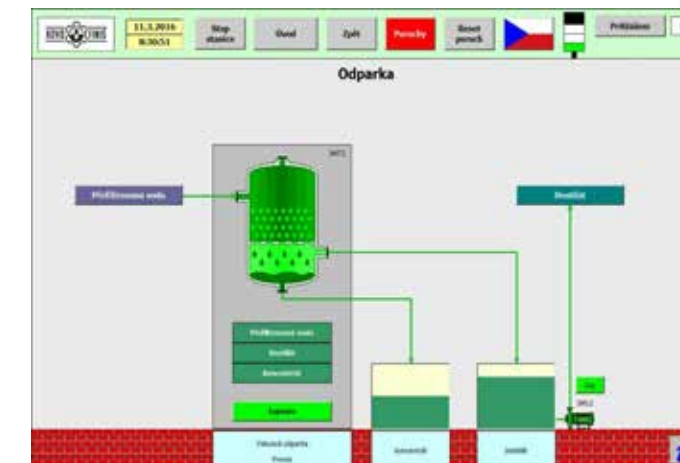
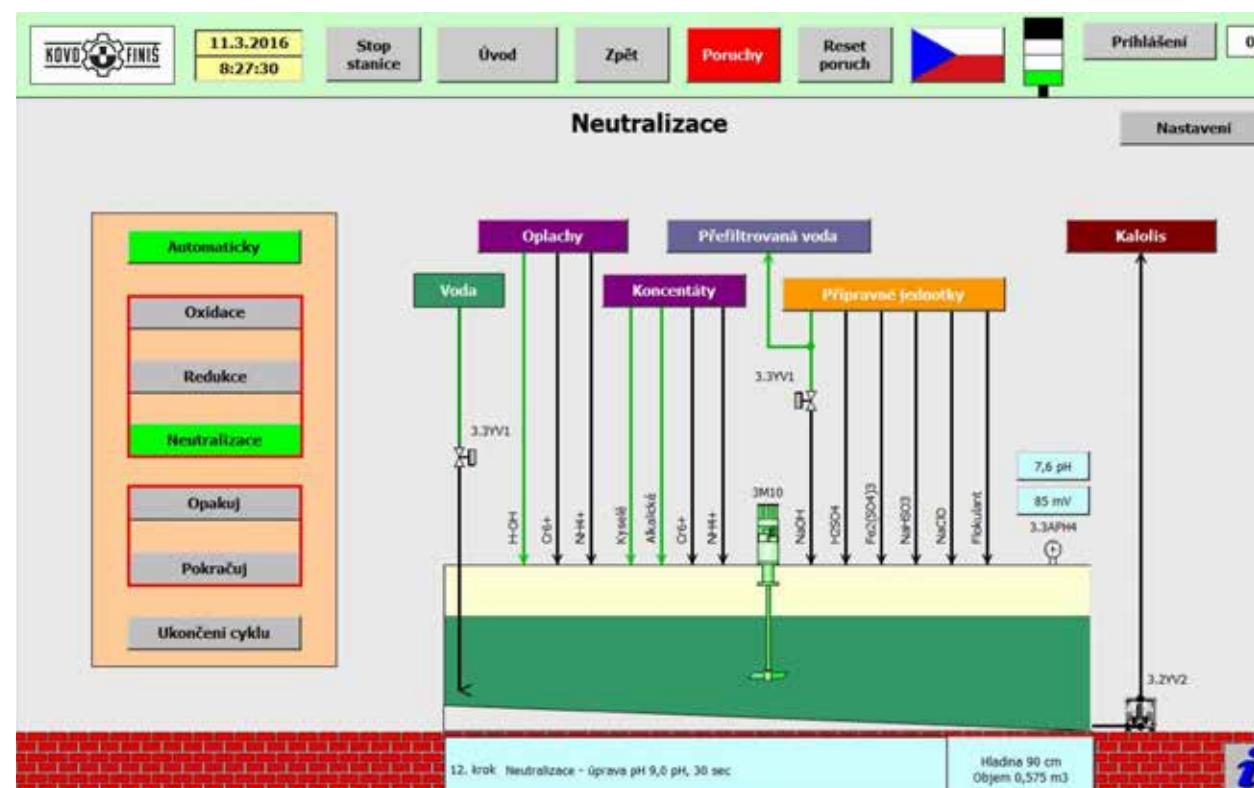
- › Waste water circulation through ion exchangers
- › Membrane processes
- › Vacuum evaporators





### Equipment for technological process control based on SIEMENS platform

- › Display of device activity on
  - PC screen
  - Touch-screen
- › Dosing settings
- › Flow control
- › Alarm signalization
- › Access control system
- › Remote access
- › Archiving
  - Records and parameter lists
  - Event records: date and time of start-ups, alarms, idleness and additive dosing
  - State records: water level in tanks, pump states, chemical residues, pH values



**We provide warranty and after-warranty service for all installed plants:**

Service includes complete care of the installed equipment and preventive maintenance inspections

- › Assistance during the production start-up
- › Regular equipment inspection to extend operation life-time
- › Service on demand including 24-hours intervention





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