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# Waste Water Treatment Plants & Solutions

ARPA Consulting

# WWTPs for Various Needs



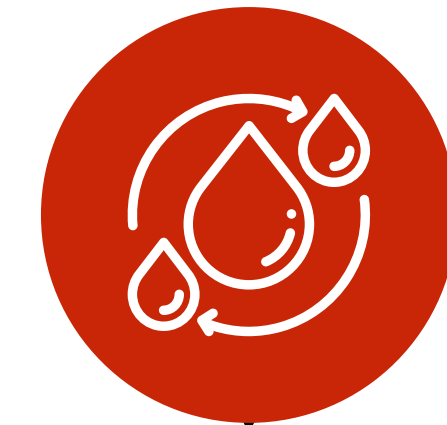
Waste water treatment is a process used to convert wastewater into an effluent that can be returned to the water cycle with minimum impact on the environment, or directly reused. The latter is called water reclamation because treated wastewater can then be used for other purposes.



In summary, wastewater treatment process is one of the most important environmental conservation processes that should be encouraged worldwide.



Most wastewater treatment plants treat wastewater from homes and business places. Industrial plant, refineries and manufacturing plants wastewater is usually treated at the onsite facilities.



WWTP facilities are designed to ensure that the wastewater is treated before it can be released to the local environment. Some of the water is used for cooling the machines within the plants and treated again. They try to ensure that nothing is lost. It illegal for disposing untreated wastewater into rivers, lakes, oceans or into the environment and if found culpable one can be prosecuted.

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# Principles & Advantages



- Protect ecological health of the receiving environment
- Minimize environmental impacts
- Recycle and recover valuable components of water
- Protect public health of humans that come into contact with effluent
- Nutrient recovery
- Odor control
- Avoid spread of waterborne diseases
- Support water cost saving (treated water could be used for irrigation purposes)

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# WWTPs for Various Needs

- Municipal WWTPs
- Container type WWTPs
- Package WWTPs
- Medical & pharmacies liquid wastes
- Industrial use (oil, chemicals)
- Food & Beverage WWTPs
- Leachate WWTPs (waste & landfills)
- Sanitary needs
- Potable water treatment



# What do we do?



Experience in turnkey WWTP projects



Project Management



Feasibility & Design



Equipment Provision and Delivery



Installation



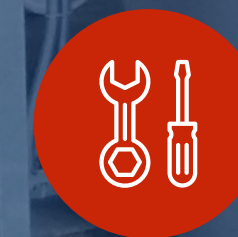
Construction Supervision



Construction



Inspection & Testing



Repair & Rehabilitation



Operation & Maintenance

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# Technologies we work with

- Aeration systems
- Sand and grease disposal
- Removal of sediments
- OXIWORKS & OXIRISE
- Filtration (membrane, sand, filter, carousel)
- UV treatment & radiation
- HDPE lining
- Ozone treatment
- Odor treatment
- Portable systems
- SCADA systems etc.



# WWTP Sample Projects



- National Waste Water Supply and Sanitation Project:  
Construction of Waste Water Treatment Plant and Related Structures Shamakhi city (World Bank)
- Years: 2013-2017
- Volume: 10 000 m<sup>3</sup>/day

- Type: Municipal
- Technology: Aeration systems, Removal of sediments, Filtration (membrane, sand, filter, carousel)
- SCADA systems etc.
- Equipment: Germany (Bioworks)

# WWTP Sample Projects



- National Waste Water Supply and Sanitation Project: Construction of Waste Water Treatment Plant for Nakhchivan city (ADB funded)
- Years: 2014 - 2018
- Volume: 30 000 m<sup>3</sup>/day

- Type: Municipal
- Technology: Aeration systems, Removal of sediments, Filtration (membrane, sand, filter, carousel)
- SCADA systems etc, MBR Systems
- Equipment: Germany Bioworks - Pantair



# WWTP Sample Projects



- National Waste Water Supply and Sanitation Project:  
Construction of Waste Water Treatment Plant at Shahbuz city, Nakhchivan Autonomy Republic
- Years: 2017 - 2018
- Volume: 2 800 m<sup>3</sup>/day

- Type: Municipal
- Technology: Aeration systems, Removal of sediments, Filtration (membrane, sand, filter, carousel)
- SCADA systems etc
- Equipment: Germany

# WWTP Sample Projects



- Consultancy Services for Preparation of Technical Specifications for Purifier for 100-beds Hospitals in Sheki and Agdash Districts, Evaluation of Bid Proposals, Supervision and Design for Accompanying Civil Works (World Bank funded)

- Years: 2013
- Volume: 100 m<sup>3</sup>/day
- Type: Medical, Package
- Technology: Aeration systems
- Equipment: Provided by Mavi Engineering Consultancy Co.

# WWTP Sample Projects



- Inspection of WWTP in Port of Baku in Alat, repair works for WWTP in Port of Baku in Alat

Operation and Maintenance of WWTP in Port of Baku in Alat

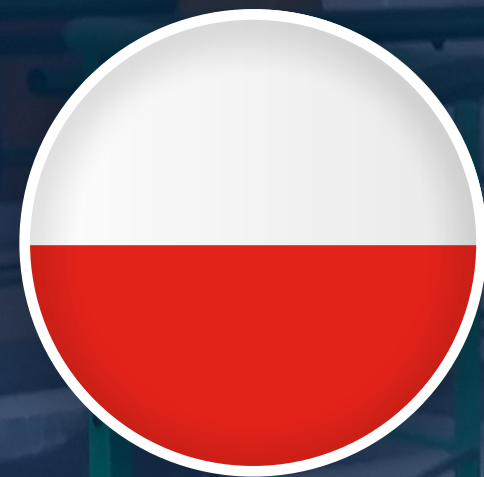
- Years: 2014
- Volume: 500 m<sup>3</sup>/day
- Type: Modular design Miracell
- Technology: Rotating Biological Contactor (RBC)
- Equipment: Turkey

# Partners



## Germany

- Bioworks
- ATB Water GmbH



## Poland

- Frukko
- Wte-Polska



## Turkey

- Miranda
- Arges



## Czech Republic

- TOPOL



## Slovakia

- Roto



## Slovenia

- Esot



## Russia

- Mediana

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**Thank you for attention**