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Rehabilitation and Upgrade

of Existing Water Plants





MENA WATER FZC

P.O. Box: 120881, D3-11, SAIF Zone

Sharjah, United Arab Emirates

Tel.: +971 6 5575507

Fax: +971 6 5575508

E-Mail: info@mena-water.com

www.mena-water.com

MENA WATER GmbH

Industriepark Erasbach A1

92334 Berching

Germany

Tel.: +49 8462 201 390

Fax: +49 8462 201 239

E-Mail: info@mena-water.de

www.mena-water.de

Member of German Water Partnership

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TECHNOLOGY
WASTE WATER Solutions

We Renew all Water Plants

More information, downloads and current news

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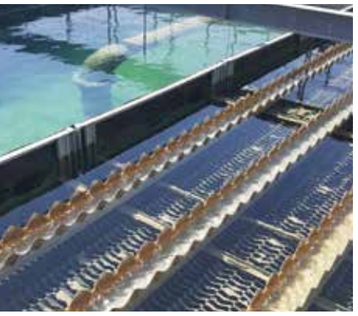


Renewal of Existing Water Plants

Infrastructure is the backbone of every civilization and among this the drinking water and wastewater is an essential topic.

Many towns are fast growing and the water plants previously situated at the town borders will be found now in a dense populated area. After a long time of operation neither the quality nor the quantity of the treatment can be achieved any more. Respond to this growing demand is limited due to the lack of site space. But the networks are designed with this plant locations and building new plants at the town extensions needs a new network architecture and new infrastructure. This task will be costly and time consuming. MENA-Water is supporting its clients to find advanced solutions by upgrading and rehabilitating of existing, outdated plants.

We offer Concepts for all Existing Treatment Plants

- Drinking Water Plants
- Municipal Sewage Plants
- Industrial Effluent Plants

Concepts for Upgrade and Rehabilitation

Our specialists study the individual requirements and develop concepts to use the old plant locations, renovate and renew the treatment facilities by using new effective technologies and thus help to extend the plant upto double of the original capacity.

To ensure reliable water supply to the town our experienced project managers develop the work schedule along with the process experts and operaters.

Basic Advantages

- Use of the existing infrastructure
- Installation during operation
- Quick realization
- No additional space requirement

Operation & Control Improvement

An important aspect is the improvement of operation and plant control. We implement online monitoring systems based on SCADA to support the operation staff with process data and visible plant control.

Improvement

- Renovating civil structure
- Modernize technology
- Improve effluent quality
- Reduce operation and maintenance costs
- Remote monitoring


Before Rehabilitation


After Rehabilitation

Some References of MENA-Water

Khartoum North Potable Water Plant Rehabilitation & Upgrade

This plant situated at central place of the Sudanese metropole Khartoum supplies millions of people. Build in 1950, after extension in several stages the plant reached its limit due to no more available space and outdated technology.

MENA-Water evaluated the situation and made a concept for rehabilitation and upgrade during operation of the plant. While still supplying the town, the capacity could be doubled to 300,000 m^3/d being now the second biggest river water plant in Africa.

Project Scope

- Centralized intake
- New gravity lines
- Installation of lamella settlers
- Upgrade of 36 sand filters
- Construction of new low-lift station

Adama Drinking Water Treatment Plant Upgrade & Optimization

Adama is the capital of the Ethiopian Region Oromia. In the years the town was growing very fast due to the economical grow of the country. The existing drinking water plant could not match to supply the rising population.

MENA-Water did a complete renovation for the plant and with a new pre-treatment, adding lamellas to the settler and a new pumping station the capacity could be increased from 24,480 m^3/d up to 48,000 m^3/d. The plant was in full operation during the upgrade works.

Project Scope

- Intake Pumps
- Distribution, flocculation and settling
- Sand Filters
- Disinfection
- Water supply with pump station

Al Ain Poultry Slaughterhouses Upgrade of ETP

MENA-Water built the most modern effluent treatment plant based on the MBR technology for one of the leading producer of chicken meat in UAE, and a pioneer in environmental protection "Al Ain Poultry Farm". The project was to redesign and upgrade the existing effluent treatment plant enabling it to treat highly contaminated wastewater from the chicken slaughterhouse with a new capacity of 400 m^3/d instead of 240 m^3/d. The old plant was using conventional technologies and not able to reach the discharge limits.

MENA-Water redesigned, and upgraded the existing plant not only to achieve the discharge limits, but to re-use the treated water for irrigation.

The complete assessment of the existing plant, re-design, construction and commissioning, was completed within 8 months. The complete plant is operated now by PLC and monitored through a SCADA system.

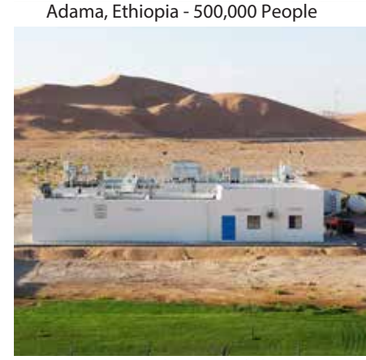
Treatment Process Used

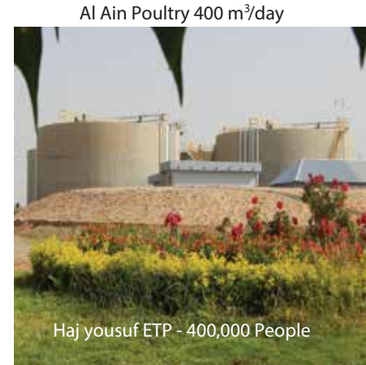
- Screw screen
- Fine screen
- Micro screen
- Dissolved air floatation
- Biological treatment
- Membrane (MBR) filtration
- Belt Filter Press
- Instrumentations
- PLC/HMI Control panel with distance monitoring


Sudan, Khartoum - 4000,000 People


Egypt, Giza - 2000,000 People


Adama, Ethiopia - 500,000 People


Al Ain Poultry 400 m^3/day


Haj yousuf ETP - 400,000 People