

One City, One Operator Wastewater management for the City of Istanbul, Türkiye

In safe hands:
24/7 MANAGEMENT OF
THE WASTEWATER FROM
16 MILLION PEOPLE ON
TWO CONTINENTS.

Managing a
network
of 124 units

In total
5,200,000 m³
wastewater/day

64 PS
51 WWTPs
9 Pre-treatment
Plants

The Istanbul Water and Sewerage Administration (ISKI) has commissioned the WABAG specialists with the wastewater management of the entire Asian and European districts of the city with their population of some 16 million people. They entrusted WABAG with the management of all of the city's pre-treatment plants, wastewater treatment plants and pumping stations located on two continents and have secured the professional support and maintenance of its complex wastewater infrastructure for a period of

two years. Every day, a total of 4.2 million m³ of municipal wastewater pass through the mechanical treatment phases at nine partly enormous, pre-treatment facilities, as well as a further 51 biological plants with a total capacity of 880,000 m³/d. Thereof, three large-scale, central WWTPs at Tuzla, Pasaköy and Ataköy with capacities of between 250,000 and 400,000 m³/d are treating the bulk of the city's wastewater and are based on the sustainable design incorporating anaerobic sludge treatment and the use of

the biogas produced in co-generation plants for energy production. In addition, 64 wastewater pumping stations (2,300,000 m³/d) have to be serviced.

A challenging assignment: 124 locations, 5,200,000 m³/d of municipal wastewater on two continents.



sustainable solutions. for a better life.

In safe hands: Wastewater management for the city of Istanbul

Ensuring professional and efficient day-to-day wastewater management.

A network of 124 facilities comprised of large to compact wastewater treatment plants and pumping stations has to be administered around the clock in order to ensure smooth and environmentally compatible wastewater disposal.

A team of local employees numbering over 700 has carried out the multifarious tasks linked to the daily operation, servicing and maintenance of the plants.

Client

Istanbul Water and Sewerage Administration (ISKI)

Type of contract

Operation & Maintenance, Outsourcing

Start O&M

September 1, 2014

O&M period:

24 months

Type of plants/ Capacities:

64 Pumping Stations:
2,300,000 m³/d

9 Pre-treatment plants:
4,200,000 m³/d

51 Mechanical/biological
wastewater treatment plants:
880,000 m³/d

Assuming plant operation:

- Analysis
- Integration and training of the available specialist personnel
- Introduction of quality management systems
- Guarantee adherence to all legal requirements

Reliable day-to-day operation and plant maintenance includes:

- HR management
- Provision of energy, chemicals, spare parts
- Disposal of residual products
- Reporting
- Monitoring of water or effluent quality

Assuming Social Responsibility:

Human Resources Management:

- Recruitment & Employment
- Wage and salary payment
- Training
- Adherence to national social standards
- Transportation
- Daily food service



Ataköy WWTP,
400,000 m³/d incl.
anaerobic sludge
treatment and biogas
utilisation. Co-generation:
9,200 kW

Protecting the environment

A highly responsible assignment - maintaining a network of 124 units on two continents:

Pre-Treatment Plants		
Mechanical Treatment	No.	Capacity
Asia	5	2,200,000 m ³ /d
Europe	4	2,000,000 m ³ /d

Biological Wastewater Treatment Plants		
	No.	Capacity
Asia	27	460,000 m ³ /d
Europe	24	420,000 m ³ /d

Pumping Stations		
	No.	Capacity
Asia	20	1,000,000 m ³ /d
Europe	44	1,300,000 m ³ /d

WABAG not only provided plant operation but also improvements in plant performance and plant efficiency, consulting for re-investments (rehabilitation, upgrade, new investments) and the realisation of the projects as well as development through R&D projects.

Sustainable wastewater treatment through energy-neutral plant designs.

Three main wastewater treatment plants clean the bulk of the city's wastewater volume based on energy-optimized designs:

Tuzla WWTP:	250,000 m ³ /d	Co-generation: 2x4,600 kW
Pasaköy WWTP:	200,000 m ³ /d	Co-generation: 4,600 kW
Ataköy WWTP:	400,000 m ³ /d	Co-generation: 9,200 kW

These large facilities are also equipped with energy-efficient sludge treatment systems, whereby the biogas originating from anaerobic stabilisation in digesters is turned into electricity in combined heat and power units. 23 MWe of eco-energy is thus generated, which for example would be sufficient to supply the electricity needs of a town in Turkey with a population of around 300,000.

Technical cooperation: Technologies under joint further development

As an international systems supplier WABAG can offer comprehensive experience in tandem with high levels of technological competence and the latest developments derived from its own research activities. This guarantees both the optimisation of client plants and their equipping in readiness for future demands. R&D of this type has also taken place in Istanbul. Three pilot plants have been installed and provided fresh results for innovative technologies and enhanced used water treatment efficiency for the city.



Küçükçekmece
Wastewater Pre-
Treatment Plant
354,000 m³/d



WABAG - The partner for cost-efficient outsourcing:

The City of Istanbul has secured the professional support and maintenance of its complex wastewater infrastructure by an expert company providing:

- Comprehensive technology and services portfolio.
- Long-term, international experience of our experts. WABAG offers experience as plant operator in every water treatment segment and in differing regions across Europe, Africa, the Near and Middle East, and Asia.
- Extensive, technological competence of the international WABAG Group. The provision of support throughout the entire Life-cycle.
- Proven process know-how, as well as an understanding of entire plant systems.
- In-house R&D centres in Austria and India.

Good reasons for selecting WABAG as a partner.

- Fixed operating costs throughout the duration of the contract
- A reduction in personnel and operating costs
- Secured high levels of plant availability
- Guaranteed optimum water quality
- Optimised operating procedures through commercial and technical competence
- Guarantee of strict adherence to all statutory requirements
- Precise contractual regulation of obligations for a defined period of time
- Training and integration of the available specialist personnel
- Expert consulting during investment decisions and access to the results from WABAG's research centres
- Plant modernisation in line with the state-of-the-art technologies.

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