



BUDAPEST WATERWORKS

WORLD WIDE
WATER SOLUTIONS



WE TAKE PART IN
DEVELOPING THE WORLD



ENGINEERING



CONSULTING



SCADA



NON-REVENUE
WATER



TECHNICAL
AUDIT



ABOUT OUR COMPANY



Pump house in Káposztásmegyer then.

Waterworks of Budapest is a major water utility service provider in the Central European regions in terms of its size and service quality.

Over recent centuries, our Company has paid and is continuing to pay today particular attention to conducting its operations using the most sophisticated technologies and devices of the time. In 1868, the year of our foundation, the first waterworks were already in operation in Pest, and a few decades later, in 1904, we commissioned **Europe's most sophisticated pump house** in Káposztásmegyer. In 1980, we built **Hungary's largest water reservoir** with a total capacity of 80 000 m³ inside Gellért Hill, and eighteen years later, we opened the world's only **asymmetrical water tower**.

Our plants once filled with the noise of steam machines have been replaced by modern, automated facilities with cleanliness that of laboratories by now. During nearly a century and a half, we built and commissioned water towers, pump houses, pump stations and wells one after the other.

In addition to supplying potable water, our Company operates Budapest's Central Waste Water Treatment Plant as well, which is currently Central Europe's most sophisticated waste water treatment facility.

As a modern utility service provider that respects traditions, we feel obliged to exploit our specialist knowledge not only in Budapest but throughout the world with success.

Our outstanding international achievements include our contracts concluded with Sri Lanka's National Water Supply and Drainage Board enabling us to manage the full-scale upgrading and capacity expansion of the water treatment plants supplying potable water to its capital, Colombo as general contractor.



Pump house in Káposztásmegyer now.

OUR INTERNATIONAL SOLUTIONS



The best solutions always come from those aligned with, tailored to the particular location – in line with this philosophy of ours, in the course of our assignments, we select the technology most suitable for local circumstances at all times; thus, we are able to offer our customers good value for the money without any concealed costs.

We aim to improve our partners operation and security of supply, efficient financial management, revenues and number of satisfied customers through **the most sophisticated technological and company management solutions.**



WATER QUALITY



ENSURING WATER QUALITY CONFORMING TO STANDARDS

Treated water supplied by service providers into their networks do not always happen to be of potable water quality – mainly in terms of microbiological considerations. Relying on the natural process of bank filtration and our many years of experiences in well construction, **we assist in seeking the optimum solution for water quality improvement.**

WATER QUALITY CONTROL

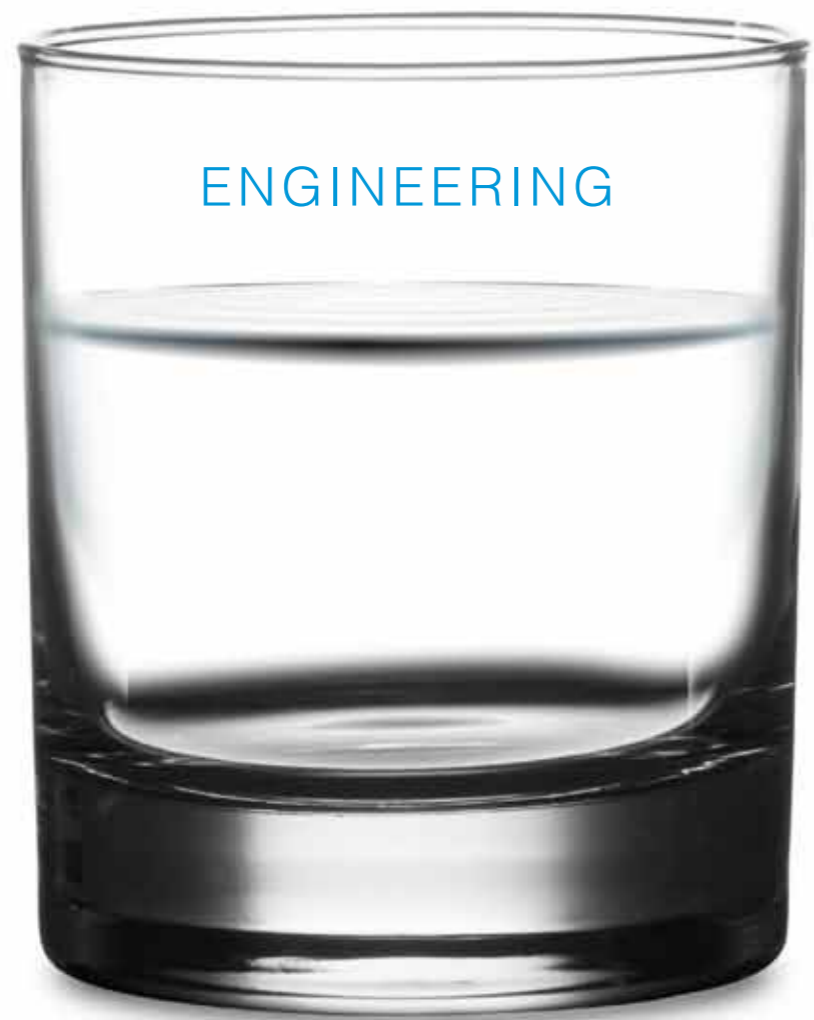
Quality of supplied water is inspected by the authorities in most countries; a careful operator, however, will not settle for this much in order to ensure an ongoing supply of clean and healthy potable water. Our accredited laboratory provides a substantial background for **establishing and improving efficient water quality control.**

Through our well prepared professionals and relying on our service experience we offer solutions for elaboration of laboratory sampling programmes, for training staff for measuring techniques and methods, for identification of technical and human resource needs of start-up laboratories, for establishment of laboratory information systems as well as for the accredited examination of drinking water and bathing water.

MOBILE WATER TREATMENT SYSTEMS

In case of an extraordinary potable water shortage caused by malfunction, water resource contamination or tsunami for that matter, quick and easy to install mobile water treatment and water packaging systems offer a solution for supplying the population with healthy potable water.

Our Company has been developing, manufacturing and applying such systems for many years, a common feature of which is their capability to **produce and package potable water from live water of any degree of contamination** owing to our unrivalled engineering specialist knowledge and technology embodied therein.



NETWORK RECONSTRUCTION PLANNING

Utility networks represent substantial assets. Since their majority operates underground, and thus no information may be obtained directly as to their condition; therefore, maintenance thereof calls for detailed and accurate planning. We have a **planning tool based on fuzzy logic** when it comes to network reconstruction planning, which may be used to **offer a better foundation for the work of network engineers.**

PIPE RECONSTRUCTION TECHNOLOGIES (NO-DIG) WITHOUT THE NEED FOR TRENCHING

The so-called no-dig technology enables the replacement of various pipelines without trenching. In the course of its application, road pavements do not need to be removed in the entire length of the pipe to be replaced, only manholes need to be made about every 80 to 90 metres; thus, **reducing traffic restrictions, removal and restoration costs, and reconstruction times significantly.** Our Company has renewed its pipes in the length of nearly 50,000 metres since 2004 using no-dig pipe-laying technologies.

ESTABLISHMENT OF GEOGRAPHIC INFORMATION SYSTEM (GIS)

In the water utility sector, maps have solely served registration purposes for many decades. Owing to the fact that digital technology and GIS systems are becoming more and more widespread, however, such maps may fulfil ever-increasing operational tasks today. Our Company **assists in GIS planning and establishment** relying on its many years of operational experiences.





ESTABLISHMENT OF WORKFLOW MONITORING AND OPERATION SYSTEMS

Significant cost savings may be attained through more efficient organisation of network tasks. Work performed under electronic worksheet monitoring **renders processes more transparent and controllable, and improves network fault statistics.**



TECHNOLOGICAL PROCESS CONTROL (SCADA)

An optimal operation of pump stations, water treatment plants, water reservoirs may not be envisaged today without the use of process control systems. What represents a challenge in establishing process control systems is primarily not the selection and procurement of the technology but the laying down of the principles of the controlling technique. Our twenty years of experiences gained in this field **mainly supports the implementation of efficient energy consumption.**

WASTE WATER COLLECTION AND WASTE WATER TREATMENT

Today, it is virtually impossible to picture the stressing of our environment with untreated communal waste waters. With the constantly growing population of our planet, this could even lead to emergence of global epidemics and catastrophes. Using our experiences in Hungary, we help in handling problematic situations and in **improving waste water treatment capacity both quantitatively and qualitatively.**





REDUCING RATIO OF NON-REVENUE WATER

Reducing the ratio of non-revenue water (NRW) is key to efficient water management, and thus is a strategic priority for our Company. The ratio of non-revenue water within our service area is around 16% owing to the optimisation of operation, to technological and customer service developments, and to our records system of outstanding accuracy.

ESTABLISHING WATER-METERING STRATEGY, CALCULATION OF WATER PRODUCTION-CONSUMPTION BALANCE

It is a worldwide trend that water service providers must manage their financing solely from the counter-value of their services, i.e. from water fees collected. To do this with success, awareness of water losses is indispensable, because the right decisions may only be made on the basis of this awareness. A good water-metering strategy and components quantified in the water production-consumption balance **help in improving the efficiency of water management**.

INTRODUCING REPORTING SYSTEMS, IDENTIFICATION OF PERFORMANCE INDICATORS

A water service provider is only able to operate efficiently if its business processes are well thought through. Our Company employs **the general principle "Starts to improve if metered"**, for which we use the indicator system adaptable **according to IWA (International Water Association) recommendations**.

SETTING UP SOPHISTICATED CUSTOMER SERVICE SYSTEMS

It is a fundamental principle for a modern, 21st century water service provider to focus its operations on the consumer. However, to have customers satisfied with the services it renders, it is not sufficient solely to supply water of appropriate quality. In addition thereto, its customers **must be serviced with quick and efficient administration, accurate invoicing and fair information**.

WORK FORCE MANAGEMENT

The Work Force Management programme focuses on efficiency improvement in networks jobs and work force management as well as in repair and troubleshooting activities including the improvement of the standards of the centralized call centre, the optimization of resource management of repairmen, and support of the itemized corporate cost management with a general aim to reduce the costs of network operations. It has a modular set-up, which can be easily adopted to different utility demands. Its modules can be integrated in the corporate IT architecture, resulting in close cooperation with corporate management systems (SAP), network information systems (GIS), vehicle tracking systems and operation control systems (SCADA). With the help of the programme the work force management processes are simplified, it facilitates shorter lead times leading to higher efficiency, more economical utilization of resources and accurate cost settlements.



OUR MAJOR REFERENCES

SRI LANKA

Our company concluded an agreement with the National Water Supply and Drainage Board of Sri Lanka on the reconstruction works of two water treatment plants, Labugama and Kalatuwawa financed by the Tied Aid Loan Programme.

For Labugama, the assignment covers the complete reconstruction and capacity enlargement of the plant from a daily capacity of 71,000 m³ to 90,000 m³. The daily capacity of the Labugama plant will be increased from 60,000 m³ to 90,000 m³.

AZERBAIJAN

Relying on the expertise of the professionals of Budapest Waterworks AZERSU Public Limited company implemented and introduced the electronic work force management system. After having fulfilled the assignment successfully, the two companies concluded an agreement for designing two water reservoirs and supervision of the construction works of the project. The value of the project is 39 million Eur. In the meantime, the two companies also signed a contract for the implementation and quality assurance of IT development project as well as for the establishment of the 10-year-long IT strategy of the state waterworks with the involvement of the Hungarian Water Cluster. The total value of the contracts exceed 2 million EUR.

RUSSIA

Within the frameworks of the memorandum of understanding concluded with Nizhegorodsky Vodokanal (Nizhny Novgorod) in the spring of 2006 the complete technical, financial and business activities of the public utility was audited. We summarized our remarks and suggestions in an action catalogue, specifying their priorities and impacts on the company's life and success, and the prerequisites and time span of feasibility. Furthermore, we listed those areas, where we see opportunities for further cooperation.

CHINA (FENGXIAN WATERWORKS, SHANGHAI)

Our company concluded an agreement with Shanghai Waterworks Fengxian Water Company on October 27th 2012 to carry out an efficiency improving audit (water production, network operation, customer service activities and water quality), which activity was performed at high quality at the satisfaction of the Chinese partner.

IAWD –WORLD BANK

In 2014 together with local and international partners we won the tender for consulting services, capacity building and targeted interventions to achieve commercial efficiency and business planning in water announced by IAWD (financed by World bank). The tender's budget was 200 000 EUR.

SIGNED MEMORANDUMS OF UNDERSTANDING (MOU)

- Hanoi Potable Water Service Provider Single Limited Liability Company (HAWACOM), Vietnam, Hanoi (2013)
- Municipality of Ohrid, Macedonia, Ohrid (2013)
- Tirana Water Utility Company (UKT), Albania, Tirana (2013)
- Istanbul Water and Sewerage Administration (ISKI), Turkey, Izmir, Istanbul (2013)
- Urumchi Water Industry Company, China, Urumchi (2014)
- Belgrade Waterworks and Sewerage, Serbia (2014)
- TEL AVIV - Mekorot Water Company Group LTD, ISRAEL (2014)
- TEL AVIV - NETAFIM LTD. LIMITED, ISRAEL (2014)
- ANKARA - The Prime Ministry, Disaster And Emergency Management Presidency Of Turkey, (2015.)





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