We value our waters.

BDL
Environmental Consulting Ltd.

ABOUT US

We value our waters.

BDL Environmental Ltd. is committed to offer its partners personalized, systematic solutions in all aspects of the water industry.

We conduct our activities with special devotion to professionalism and environmental protection in the fields of drinking water purification, wastewater treatment, storm water management and environmental remediation.

We are present from the beginning of solving environmental issues: from the technological and environmental assessment, through the determination of development directions, the preparation of investment concepts and tender plans, classic civil engineering designing, until trial operation.

The engineering and business knowledge and broad experience of our staff and partners covers the full technical fields related to design (technology, civil engineering, control engineering and automation), and the complex financial and economic knowledge associated with water utility services, investment planning and implementations.

Due to our diverse professional activities, we consider both technical, ecological, and economical aspects to find the most sustainable alternatives, to support our clients in optimal decision making.

Over the past decades we have contributed significantly to the development and protection of the aquatic environment in Hungary and in the neighboring countries, as well as the improvement and expansion of the Hungarian water utility services.

Our colleagues in the different segments of the water industry possess an outstanding **professional and innovative knowledge,** which have been known and recognized in many parts of the world. **Our CEO, Mr. Károly Kovács** is the President of the **European Water Association (EWA**), **the Hungarian Water Cluster** and Vice President of the Eurasian **ASEM Water** Academic Development Committee.

As a member of the **Hungarian Water Cluster**, with 24 other corporate members, we can rely on the expertise and resources of more than 2000 colleagues.

Thanks to our continuous growth now we are working together with private and public clients, partners, institutions in and outside Europe.

Technical and Economic consultancy

We apply system approach to the problems threatening our waters, and focus on the complexity and comprehensiveness of their management. We not only consider economic aspects, our development solutions take into account the environmental values of the ecosystem, its characteristics, so that we can provide unique, customer-specific solutions.
In accordance with the European requirements we apply in the design process the method of Dynamic Cost Comparison (DCC) developed with our active contribution, in order to prepare well-established professional decisions through applying the economic principles of cost-efficiency and sustainability related to development of waterworks in practice.

The DCC Guidelines provides an efficient way to perform option analysis for the various technical solutions, in order to improve the cost efficiency and sustainability of the water utility developments, as well as to improve the decision-making process.

The DCC method is completely consistent with the domestic and EU legislations and methodological recommendations, its calculation process as well as the presentation of the results is schematic, so the results can be easily understood, it is transparent and straightforward for engineers, economists and policy-makers alike.

Besides economical consultancy, we regularly organize trainings and seminars, we are lecturers in demand at major universities. We deliver presentations at national and international conferences on the best practices of asset management, Life Cycle Costing (LCC) approach and Dynamic Cost Comparison (DCC) to achieve sustainable and professional long term utility management.

We also provide technical evaluation activities; by systematic assessment, we can provide complex suggestions to improve the effectiveness of existing facilities, and to decrease operational cost and ecological footprint.
BDL provides you sound professional basis to make optimal decisions considering both technological and economic aspects.

Civil engineering:

One of our main activities is classical civil engineering-design and implementation; within that we specialize in the design and implementation of water utilities.

We carry out the planning and development of the networks point-like, plant -like facilities. Furthermore, we often participate in the expansion, modification and reconstruction of existing networks and facilities.

Our Projects include the whole range of:

- Drinking and domestic water purification (extraction, purification and preparation)
- Municipal and industrial wastewater treatment
- Storm water management
- Environmental remediation

Full range of engineering, construction and investment preparatory tasks:

- Technical Condition and Environmental Assessment (eco-audit)
- Concept design
- Conceptual authorization
- Management of licensing processes
- Preparation of tender documents
- Detailed design, construction plans
- Coordination implementation (production, transport, technical supervision)
- Test operation documentation and supervision (management, remote control and supervision)

With the experience of more than hundred operating facilities BDL offers you the complete professional design palette.

Utility Asset Evaluation and Reconstruction Planning

The sustainable maintenance of the water utilities is in the context of asset management, and the coverage for this is provided by the depreciation of the assets.
The evaluation of the water utilities is the basis for a predictable operation. The structured utility asset database, established as a result of the utility asset evaluation process, with this operators, municipalities, utility owners are given an objective view of the value of the utility assets, their real economic and technical state. Based on these the operators and owners are capable of efficient and a sustainable asset management and better operational decision-making.

Developed by our Utility Asset Evaluation department, the multi-faceted, Integrated Utilities Assessment Database (TIKA) software received, in 2012, the Eco -Aqua Trade award from the Hungarian Water Utility Association, which counts among its members a 170 water utility provider, several water industrial companies and educational institutions.

Due to our multi-faceted integrated utility asset evaluation methodology, it is possible to create sustainable and responsible bases for asset management and to optimize the utility service tariffs.

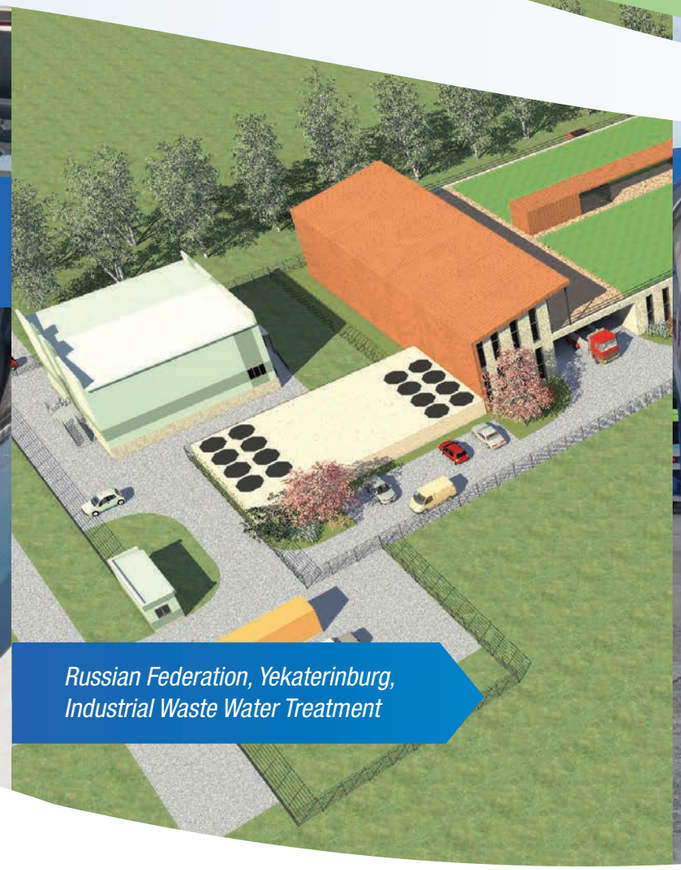
Multi-faceted integrated utility assessment levels:

0. Geodetic survey, creation of utility base maps
1. Public utility registry, digitizing public utility maps
2. Identifying, defining Object Groups, establishing the asset inventory
3. Assessment of Technical Condition
4. Assessment of depreciation indicators
5. Calculation of replacement costs
6. Determination of asset value – utility evaluation
7. Consultancy with regards to the asset management and water utility tariffs

02

Main References

Vietnam, Quang Binh
Drinking Water Purification



Russian Federation, Yekaterinburg,
Industrial Waste Water Treatment

Hungary, Budapest Airport,
Storm Water Management

Vietnam, Quang Binh, Drinking Water Purification

BDL Ltd. was contributing to the design and development of the water treatment plant, the raw water pumping station, and the water supply network, in order to improve living conditions of more than 100.000 people. The project consists of a 22 000 m^3/day capacity surface water intake point with required screens and pumping station, built on the bank of Rao Nan River. The water intake station serves an already operating 10 000 m^3/day capacity water treatment plant, and a 12 000 m^3/day capacity water treatment plant, to be built in the second phase of the project.

Iraq, Al-Dour – Salah Aldeen, Communal Wastewater Treatment

BDL was responsible for creating the conceptual authorization, and trial operation plans of a communal wastewater treatment plant in the city of Al-Dour, with a capacity of 9 308 m^3/d capacity, 46 542 PE. To handle both the present and midterm hydraulic and biological load, an optimal three line solution was chosen. Activated sludge process was designed with simultaneous denitrification. Besides the mechanical treatment, the organic content removal and tertiary treatment, the sludge treatment was also designed.

Hungary, Budapest Airport, Storm Water Management

During our partnership with BA the stormwater treatment of the airport's runways, taxiways, other traffic and technical areas, paved walkways, roads, parking areas with polluted river channels was developed, and an accident emergency system was created. Upon determining the technical content, state of the art, weather-resistant, durable materials with longevity were selected, with a further advantage of favorable construction costs. In order to clean the contaminated stormwater nearly thirty open trench ENVIA TRP sludge and oil separation equipment were installed, with a total of 5,800 l/s cleaning capacity.

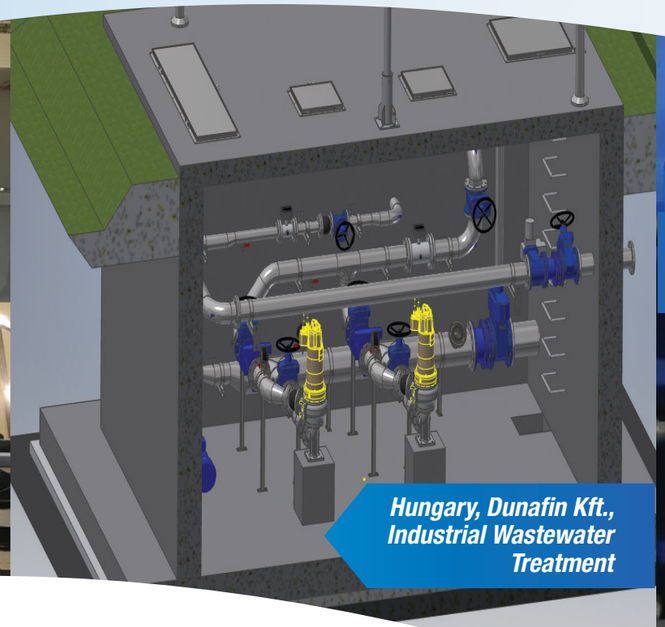
Russian Federation, Yekaterinburg, Industrial Wastewater Treatment

For the future expansion of the quickly developing residential area, the management of its increased wastewater flow is essential. The general 4-5000 m^3/day flow was estimated to increase to a 15 000 m^3/day on the long term. The plant load maximum after the expansion will be 100 000 PE. The treated water will either be placed into a sensitive aquatic recipient and/or will be recycled in a thermal power plant. The development of a solution for the aeration technology, adjusted to the local conditions (-35°C in winter and in summer +32°C air temperature), the reclamation of the thermal energy from the treated water, and the fully-enclosed indoor design were among some of the responsibilities of our experts.

To fulfill the strict effluent limitations, the technology was designed with four technology lines - based on the following main technological steps:

- Mechanical cleaning (mechanical grid, sand and grease trap)
- Biological treatment (MBR system, with an extra carbon source administration option)
- Third cleaning stage (RO)

Hungary, Sopronhorpács Pet Food Hungaria Ltd, Industrial Waste Water Treatment



Hungary, Dunafin Kft., Industrial Wastewater Treatment

Hungary, Simontornya, Environmental Remediation

Hungary, Sopronhorpács Pet Food Hungaria Ltd, Industrial Waste Water Treatment

BDL designed the capacity expansion of pet food manufacturer, where the treatment and purification of 100m^3/day of industrial waste should happen. During the development the flotation equipment was designed to separate floating and undissolved materials in water or process fluids. The use of high quality, corrosion resistant materials is space efficient, the construction time was minimal, it is easy to operate, the collection and delivery of deposited materials is automated, and in order to achieve the optimal slurry deposition the water height is adjustable. The laboratory measurements during the trial period verified the degree of purification.

Hungary, Dunafin Kft., Industrial Waset Water Treatment

The management of the Dunafin paper manufacturer company decided to implement a new industrial wastewater treatment plant with the hidraulical capacity of 5600 m3/d. The design was carried out with cooperation of the technology supplier MConsult GmbH. The raw water gets through a rough screen and a buffer. After pH adjustment the water flows to a flotation unit. The warm wastewater is cooled down with the aid of a heat exchanger and the mechanically treated wastewater arrives to a biological basin equipped with surface aeration system. The suspended solids and the cleaned water are separated in a sedimentation basin. The cleaned water will be led to the Danube, and the excess sludge will be ready for composting after dehydration with a belt press. The authorization plan has been delivered, and the detailed construction planning is underway.

Hungary, Asset Evaluation

We have evaluated a total of 24 300 kilometers of water supply network and over 22 400 kilometers of sewer network, together with the technological and other “point like” facilities, for 1868 settlements, so far. The created database contains the digital utility mapping file for each settlement and sector, and is suited to support the implementation of sustainable utility asset

Hungary, Reconstruction Planning

We have created the complete replacement plans for the full service area of 5 Hungarian regional waterworks of the most significant water utility service providers, including 165 settlements’ complete water utility system. The future reconstruction needs for all state-owned water utility systems were organized into a unified structure, enabling professional replacement planning.

Hungary, Budapest, Dynamic Cost Comparison

The evaluation of the possible ways of providing industrial water from the North Pest Wastewater Treatment Plant - carried out on the basis of the Guidelines of Dynamic Cost Comparison (DCC). Client: Budapest Sewage Works Ltd.

Bulgaria, Sofia, Seminar

Provision of a one-day long seminar at Water Sofia 2016, with the title: Dynamic Cost Comparison (DCC) for Life Cycle Cost (LCC) calculation and selection of the most cost-efficient solutions in water supply and sanitation. With the participation of more than 70 experts, representing design companies, consultancies, suppliers as well as the public administration, ministries and authorities of the water utility sector.

Hungary, Simontornya, Environmental Remediation

During a leather factory’s 150 years of operation, large amount and high concentration of various pollutants have been accumulated in the groundwater. After a series of laboratory measurements and experiments our company carried out a complex groundwater treatment and purification method, and delivered the detailed construction plans. We took part in the construction phase, and supervised the operation. Thanks to the more than 150.000 m3 cleaned groundwater, locals can live in a safer environment, and the nearby drinking water source is no longer endangered.

CLOSING

03

Dedicating our activities for the protection of the environment, aiming to design and preserve a liveable and pure nature, we offer solutions in the field of sustainable and integrated water management.

We have selected our most important, and interesting references out of several hundred. In case you cannot find what you were looking for among these, please do not hesitate to contact us at: info@bdl.hu

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We value our waters.
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Cooperation with professional organizations

European Water Association
www.ewa-online.eu

ASEM Water Scientific and Development Committee
www.asemwater.org

Germanian Water Association
www.dwa.de

Hungarian Water Cluster
www.vizipariklaszter.hu

Utility Asset Evaluation Cluster
www.kozmuvagyon.hu

Hungarian Water Association
www.maszesz.hu

Hungarian Water Utility Association
www.maviz.org

Hungarian Chamber of Engineers
www.mmk.hu

Hungarian Hydrological Society
www.hidrologia.hu

Association of Environmental Enterprises
www.kszgysz.hu

Business Council for Sustainable Development in Hungary
www.bcsdh.hu

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