Shaping our world

Water

With more than 100 years of experience, Tractebel provides high level engineering solutions to public and private organisations for the implementation and operation of large infrastructures in the field of Hydropower, Water Resources, Water Supply and Sanitation.

Tractebel carries out its mission on the world market, with its diversity of cultures, languages and climate conditions, by listening to and understanding every one of its Customers and Partners.

Developing, planning, designing and supervising the construction of water projects require multi-disciplinary engineering skills. Our specialists have acquired their know-how and expertise over several decades of extensive experience of implementing all sizes of projects around the world.

Our consultancy and engineering services encompass the entire life cycle of a project from conceptual or early planning studies through construction and commissioning of schemes up to operation support and rehabilitation. It includes not only state-of-the-art engineering services but also advisory services to accompany the development of your project.

Tractebel, your water engineering & advisory partner.

### Areas of Expertise

- **Water Resources and Climate Change**
  - Climate change resilience and adaptation
  - Sustainable river basin development
  - Hydrology and floods
  - River hydraulics
  - Sediment management
  - Irrigation

- **Hydraulic Infrastructures**
  - Waterways, locks and ship lifts
  - Dams
  - Geotechnics and underground works
  - Water transfers and pumping stations

- **Hydropower**
  - Large hydropower projects
  - Micro and small hydropower projects
  - Pumped storage plants
  - Hydro and electromechanical equipment

- **Coasts, Ports and Marine Facilities**
  - Hydrometeorological hazards
  - Coastal erosion and estuarine flood management
  - Ports and terminals
  - Dredging consultancy

- **Water Supply and Sanitation**
  - Water and wastewater treatment plants
  - Desalination
  - Water distribution networks
  - Wastewater collection & stormwater drainage
  - Effluent re-use

- **Digital Services**
  - Hydro-informatics and numerical modelling
  - Digital platforms for monitoring and forecasting
  - Industrial cybersecurity

- **Environmental and Social Consultancy**

- **Economic, Financial and Transaction Advisory**

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<tr>
<th>water turnover</th>
<th>projects in more than</th>
<th>ongoing water projects</th>
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<tbody>
<tr>
<td>€140M</td>
<td>100 countries</td>
<td></td>
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<tr>
<td>700 water experts worldwide</td>
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tractebel-engie.com
Home to five of the world’s leading water engineering companies, Tractebel is a global player in the sector. Combining the skills of these unique companies makes Tractebel your truly reliable partner for realising any of your water projects, wherever they are.

OUR ORGANISATION

SELECTED REFERENCES

Drought Modelling, Hydrological and flood protection dykes to protect the city, Belgium, 2011 - 2014

Advisory services for operation and maintenance
Risk management
Infrastructure safety assessment and surveillance
Rehabilitation and upgrading
Digital platforms for monitoring

STRATEGY & PLANNING

- Master plan
- Resource mapping
- Market analysis
- Institutional, regulatory and policy advisory

PROJECT PREPARATION

- Pre-feasibility and feasibility
- Due diligence and risk analysis
- Environmental and social impact assessment and mitigation plan
- Economic and financial analysis
- Project structuring and private sector participation

PROJECT IMPLEMENTATION

- Project and contract management
- Tender documents and assistance to contracting
- Construction design
- Construction supervision and design review
- Equipment manufacturing quality control and assistance to commissioning
- Capacity building programmes

OPERATION

- Advisory services for operation and maintenance
- Risk management
- Infrastructure safety assessment and surveillance
- Rehabilitation and upgrading
- Digital platforms for monitoring

TRANSACTION

- Technical assistance
- Financial modelling and advisory
- Assistance to contractual and commercial negotiations
- Assistance to permitting and licensing

Water Resources & Climate Change

Nepal, flood hazard project of 25 major river basins, pre-feasibility studies with climate change scenarios, 2015-2016
Belgium, quantifying and mapping of drought as impact of climate change, 1.3 million ha hydrologic drought modelling, 2018-2019

Kyrgyz Republic, Toktogul rehabilitation, 1,200 MW, assistance during tendering process, design review and site supervision, since 2016
Morocco, Abdeloumennou pumped storage, 390 MW, construction design review and assistance for site supervision, 2010-2015

Coasts, Ports & Marine Facilities

West Africa, coastal areas management programme, disaster risk reduction and climate change adaptation measures for coastal erosion and flooding, 2016-2017
Uruguay, Montevideo LNG terminal, owner’s engineer, site supervision, design of the marine infrastructure and dredging, detailed design breakwater & scour protection, environmental management, 2011-2012
Singapore, TUAS terminal scour protection, design of scour protection for a new quay wall including physical modelling and CFD modelling for propeller induced forces, 2015-2017

Water Supply & Sanitation

Qatar, water security mega reservoirs, implementation of the world’s largest water reservoirs, 475 km of main transmission pipelines, since 2013
Colombia, wastewater treatment plant Medelin, 432,000 m³/d, design and advisory during construction, 2010-2018
Uganda, waste water treatment plant Kampala and sewerage system, 45,000 m³/d, design and construction supervision, 2010-2018
China, Bayanaoer, 100,000 m³/d waste water treatment plant and reclamation plant, 2011-2014

Desalination

Saudi Arabia, 8 sea water reverse-osmosis plants for SWCC, 220,000 m³/day, owner’s engineer since 2019
Tunisia, 6 brackish water plants, 32,500 m³/day, design review, tendering and construction supervision, 2017-2022

Digital Services

EcoPAM: Ecological Pro-Active Management tool, is an online tool to forecast the impact of dredging plumes on sensitive areas, 2012-2019
Colombia, operational decision support platform for the Rio Bogota, platform to evaluate and adopt future qualitatively and quantitatively water planning strategies, 2015-2017

Environment & Social Consultancy

Brazil, Belo Monte HPP, Environmental Impact Assessment Studies (EIA/EIAR) and Basic Environmental Plan, 2009-2016
Malawi and Tanzania, Songwe river basin development programme, strategic environmental and social assessment, specific ESIs and RAPs, 2013-2015

Economic, Financial & Transaction Advisory

Senegal, concession contract and tariff framework for the Senegal River water resource availability, update of legal, regulatory and tariff framework for water provision, 2018-2019
Guinea, Souapiti HPP transaction services, contractual advisory for developing the 450 MW greenfield project, 2016-2018