alter

Science and technology based
environment friendly and efficient solutions...












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Company Profile

ALTER is an independent consultancy firm providing science and technology based solutions for multidisciplinary projects.

Since its foundation in 1975 in Ankara, Turkey, ALTER has grown from a design office dealing with projects of limited budgets to a firm giving multi disciplinary engineering and consulting services to complex and large - scale projects within the fields of water, environment, rural development, renewable energy, transportation, buildings and disaster risk mitigation. We completed successfully more than 450 projects in Turkey and overseas and became one of the leading engineering and consultancy firms in Turkey.

We comply with the requirements of international quality norms and standards. We obey strictly to rules of environmental and social safety and public health.

Our main office is in Ankara, whilst having permanent offices in İstanbul, İzmir Eskişehir, Muğla and Bodrum and also branch offices in Bosnia, Ukranie, Uzbekistan, Kazakihstan and Pakistan.

Independence

ALTER is an independent consulting firm. It has no manufacturing or contracting interest. Absolute obedience to this rule maintains our credibility towards our customers.

Knowledge Management

Since 1975 we have managed a large volume of projects within diverse fields of engineering. Accumulation and development of knowledge and sharing it at institutional level has gained prime importance in our management concept. Conveyance of this understanding to our customers, partners and suppliers adds value to our consulting services.

Sustainable Development

Our understanding of sustainable development is "- to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs" as it is stated in Our Common Future, a report published in 1987 as part of preparations for RIO meeting.

Project Approach

We handle projects varying in value from a few thousand to several million Euros. Irrespective of size and complexity, each project receives the same precise and cost-effective approach.

Our Service Areas

Water and Environment
- Water resource development
- River basin management
- Flood risk management
- Climate adaptation
- Drought management
- Water supply
- Dams, diversion weirs and water intake structures
- Water and wastewater treatment plants
- Non-revenue water reduction
- Solid waste management

Rural Development
- Rural development planning
- Agriculture and land use planning
- Soil protection
- Water and land resources development planning
- Water supply and sanitation
- Irrigation and drainage
- River banks rehabilitation
- Flood management

Renewable Energy
- Dams and Hydropower plants (HPPs)
- River type power plants
- Micro power stations on water supply gravity mains
- Micro power stations on effluent discharge of wastewater plants
- Biomass energy plants

Transportation
- State highways and motorways
- Railways
- Light rail systems
- Airports

Buildings
- Mass housing projects
- Public buildings
- Structural and earthquake engineering
- Energy efficiency

Disaster Risk Management
- Hazard vulnerability studies and microzonation
- Structural risk assessment
- Building retrofitting design
- Flood mitigation
- Municipal infrastructures emergency operation plans

Information Management Systems
- Geographical information systems (GIS)
- Management information systems (MIS)
- Supervisory Control and Data Acquisition (SCADA)

Our services

Planning

- Analysis and assessment
- Master plans
- Conceptual design
- Feasibility studies
- Environmental and social impact assessment

Surveys and investigations

- Topographical surveys
- Geological Surveys
- Geotechnical investigations
- Hydrgeological studies

Design and Tendering

- Engineering design
- Bill of Quantities (BoQs) and cost estimation
- Technical specifications
- Tender document
- Assistance for tendering

Project Development

- Needs assessment
- Market analysis
- Resource analysis
- Conceptual design
- Risk assessment- legal and institutional recommendations

Active Project Management

- *PROJECT PREPARATION*
  Conceptual planning and project identification
- *PROJECT IMPLEMANTATION*
  Supervision,evaluation and time control for monitoring time, cost and resources
- *OPERATION AND MAINTENANCE*
  Cost effective and safe opertaions

Construction Supervision

- Work planning
- Design review
- Construction supervision
- Manufacturers test and certification
- Reporting and payment schedules
- Take over certificates
- Final project evaluation report

We are aware that water is scarce, precious and essential for all livings on our planet, and therefore it deserves to be handled carefully. We emphasize on managing its resources effectively, bettering its quality at source, assuring its quality throughout its conveyance, storage and distribution, thus maintaining the required quality at the user's end.

Besides water quality assurance, we give importance to reduce its loss within the supply systems. It is estimated that more than 50% of water supplied through networks is unaccounted and contribution of physical losses is around 30%. We are very much conscious about the fact that if necessary concern to water losses is not provided and optimization techniques for leakage control are not applied at planning and design stages, then monitoring and control of losses become so difficult and expensive that optimistic attempts for loss reduction during operations are usually ineffective. Thus, we offer wide range of services, taking due care of loss reduction.

It is estimated that 3 billion people do not have access to sufficient drinking water on our planet. Water resources are limited also in Turkey.

We emphasize on integrated water resources management (IWRM) for efficient and sustainable supply of water. We are developing computerized modeling techniques to increase our effectiveness in managing water resources.

Municipal Water Utilities

Pakistan-Punjab Urban Development Projects
'PRF-02 - Operation, Design and Business Model Project'

Operational Design Business Model (ODBM) Project, financed by Asian Development Bank, is carried out in seven different cities in the Punjab Province of Pakistan. The Project scope covers evaluating the drinking water (DW), wastewater (WW) and solid waste (SW) infrastructures, and identifying investment needs; technical and commercial development of DW, WW and SW enterprises and ensuring their sustainability with a holistic approach; transition of the municipal bodies to private companies and establishment of new ones under PPP concession tenders to enable the most feasible operation.

Municipal Water Utilities

Mapping and Hydraulic Modeling of Bodrum Water Supply Network and Preparation of Final Designs for Emergency Action Plans

The Project was carried out in Bodrum, serving more than 1,5million inhabitants. Project scope covers, mapping of 800 km water network, converting it to GIS, establishing pressure zones and carrying out hydraulic modeling of the entire network. The objective is to decrease the water loss in the network, establishing DMA's, and making "non-revenue reduction plan" for the whole network. Construction supervision was also given to the establishment of pilot DMA's.

Municipal Water Utilites

Project Preparation and Consultancy Services for Water Supply System and Service Facilities in Various Catchment Areas in Istanbul

After the new legislation extending jurisdiction areas of Greater Cities like Istanbul, the water and sewerage administrations started to bring service to these new areas. Istanbul Metropolitan Municipality prepared a new urban development plan covering the new development areas as well as the built environment. A new planning was needed for water supply system that could cope with this new development, serving 30million inhabitants. Aim of the project was to form water resources management for year 2055 preparing final designs for short term investments. The study also covered design and construction supervision of 21 deep wells.

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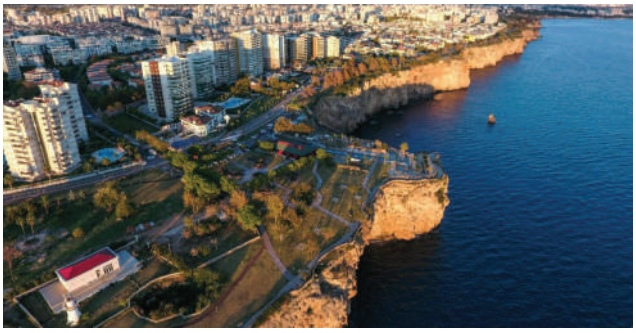
Municipal Water Utilites

Antalya Water and Wastewater Project

Financed by the WorldBank, "Antalya Water and Wastewater" covered preparation of final designs, review of existing design, preparation of bidding documents and construction supervision. The project consisted of 4 works components. The components covered construction of 100 km water network, 130 km sewer network and 20 deep wells.



Municipal Water Utilities

Technical Assistance and Supervision for Akçaabat Water and Wastewater Project

The purpose of the Project contracted by IPA (funded by EU) was to find out solutions to Akçaabat Municipality's water and waste water problems. Scope of works covered rehabilitation of existing water supply and waste water systems, water/ wastewater treatment plants and assessment of sea outfall. Preparation of design and tender documents were provided, followed by construction supervision for all components in accordance with FIDIC Red and FIDIC Yellow Book.
The project also contained consultancy services for capacity building of water utility department of Akçaabat Municipality.

Municipal Water Utilites

Technical Assistance and Supervision for Erdemli Water and Wastewater Project

EU Financed Project coveres, rehabilitation and improvement of existing water supply system, including approximately 30km replacement of transmission and network pipes, extension of sewer system of approximately 40 km and sea outfall, extension of storm water collection system of approximately 12km and procurement of equipment and software for improvement of the maintenance, operation and management of the wastewater, stormwater and drinking water systems. Preparation of design and tender documents for water investments, construction supervision both for water and wastewater components were done in accordance with FIDIC Red Book.

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River Basin Management

Preparation of Master Plan Report for Integrated River Basin Management for Water Supply to İstanbul, Kocaeli, Sakarya, Yalova, Düzce, Kırklareli and Tekirdağ

Objective of the study was to estimate the water demand for seven provinces including Istanbul up to year 2060 and by assessing the ground water and surface water potential of the water basins which can be used for water supply to these provinces to prepare a master plan covering technical, economical, environmental and legal aspects of proposed water supply scenarios. This study covers a population of 30 million people living in an area of 35.000m^2 and with a water demand of 3.000.000.000 m^3/year

River Basin Management

Consultancy Services for Preparation of Büyük Menderes Basin Master Plan

The works carried out for 26.010 hectar area and 2.5 million inhabitants with a target year 2067 covers drinking and industrial water needs determination, meeting the needs for potable water and irrigation through possibilities of energy production, analysis for dams, regulators, tunnels , wells, galleries, irrigation, drainage and overflow plants in order to prevent flood damages and proposing the construction for the ones which are found appropriate for construction in terms of environmental and economical aspects. All energy production alternatives were prepared for all the structures in the region.

Dams

Tahtaköprü Dam

The works carried out for 26.010 hectar area and 2.5 million inhabitants with a target year 2067 covers drinking and industrial water needs determination, meeting the needs for potable water and irrigation through possibilities of energy production, analysis for dams, regulators, tunnels , wells, galleries, irrigation, drainage and overflow plants in order to prevent flood damages and proposing the construction for the ones which are found appropriate for construction in terms of environmental and economical aspects. All energy production alternatives were prepared for all the structures in the region.

Alter's distinction and leading role is due to its ability to provide an integrated engineering approach for non- revenue water reduction. Alter provides holistic solutions based on requirements of Water and Sewerage Administrations. Any attempt for non-revenue water reduction is bound to fail if accurate maps of underground facilities are not available. Alter's ability to identify underground utilities using non-destructive methods is one of the reasons for Administrations' preference to work with Alter. Alter provides cost effective solutions for pressure zoning, establishment of District Metering Areas (DMAs), flow measurements and hydraulic modelling of the system. It is our common practice to integrate SCADA system for operations and Management Information Systems (MIS) for system management.

Since its foundation, Alter has played in Turkey a pioneering role for “Water Loss Reduction”. Our teams being in close collaboration with academics, are steadily increasing their expertise by incorporating new methods and applications. Alter’s experts convey their knowledge and skills gained from field applications to Water and Sewerage Administrations though Water Loss Forums in Turkey for which Alter acts as both sponsor and speaker.

Non-Revenue Water Reduction

Consultancy Service Project for Mapping the Domestic Water Network and Creating Hydraulic Model of Gaziantep

Within the scope of the project; 3000 km of domestic water distribution network has been mapped with trenchless technologies and transferred to GIS environment, the city has been divided into 250 measurable sub-regions by determining pressure zones, hydraulic model of distribution network system has been created according to the calibrated hydraulic model, physical loss - leakage studies have been done.

Non-Revenue Water Reduction

Eskişehir Urban Development Project Component 3 - Water Services Project for Reducing Non-Income Water and Increasing Operational Capacity

Within the scope of the project; 1250 km of domestic water distribution network has been mapped with trenchless technologies, the city has been divided into 40 measurable sub-regions by determining pressure zones, hydraulic model of distribution network system has been created according to the calibrated hydraulic model, physical loss - leakage studies have been done, preliminary designs of SCADA system and tender documents were prepared, development studies of domestic water treatment plant have been carried out, tender and construction supervision services have been provided.

Non-Revenue Water Reduction

Consultancy Service Project for Mapping the Current Domestic Water Networks, Creating and Planning Hydraulic Models, and Making Emergency Action Plan of Bodrum District

Within the scope of the project; 1400 km of domestic water infrastructure within the boundaries of Bodrum district has been detected with trenchless technologies and transferred to GIS environment, Master Plan studies have been carried out within the scope of Bodrum Peninsula for the entire domestic water infrastructure, physical loss-leakage studies have been carried out in 6 pilot areas by hydraulic model and measurable sub-region studies, 300 km of emergency domestic water improvement projects have been prepared.

We integrate knowledge and expertise of highly specialized team of multidisciplinary experts such as agronomists, anthropologists, biologists, economists, environmental experts, geologists, hydrologists, planners and engineers.

Our philosophy:

- To perceive each assignment as part of a total programme management for sustainable development.
- To be aware that the natural resources are limited and need be managed efficiently.
- To give prime importance to waste reducing and energy saving technologies.

The environment is complex and any interference without due diligence will have adverse effects to its natural phenomena

Our key approach to any engineering project is to be environment friendly and energy efficient so that the project can participate in a sustainable development. We design in a climate adaptive manner taking into consideration increasing risks of drought and flooding.

Municipal Infrastructures

Sivas Water Supply and Sanitation Project

Existing water and sewerage services were not sufficient in Sivas. False connections of wastewater sewers and stormwater drains caused unhygienic flooding of sewerage system There was no treatment plant and the collected wastewater was being discharged directly to Kizilirmak. This Project, co financed by EIB and KfW, aimed at (1) rehabilitation of existing water supply system, (2) separation of false wastewater connections to stormwater drainage sewers and constructing a new stormwater network and (3) construction of a wastewater treatment plant for 405.000 PE.

Wastewater Treatment Plants

Design of Stormwater Drainage and Wastewater Networks and Wastewater Treatment Plants within Service Area of Istanbul Water and Sewerage Administration General Directorate (ISKI)

This Project covered design of biological WWTPs with Nitrogen and Phosphor removal at 6 different locations varying in capacity from 60.000 to 2.500.000 PE, short sea outfall at 4 different locations and 75 kms of river rehabilitation Works. Environmental Impact Assessment Reports for the WWTPs and Project Introduction Reports for Environmental Impacts for the sea outfalls were prepared.

Drought Management

Preparation of Drought Management Plan for Gediz and Greater Menderes Basins

The project aims to identify the potential drought risks for Gediz and Greater Menderes basins covering a total area more than 40.000 sq.kms, and to define the measures needed to reduce adverse effects. Mitigation measures are defined for periods covering before, during and after drought occurences.

A team of higly specialised multidisciplinary experts are working together with academics to prepare models to be used for different dought scenarios. Risks and mitigation measures for each sector are defined separately.

Since early 1950s Turkey has experienced rapid growth of urban centres due to migration, and mega cities and metropols emerged, creating thousands and millions of marginal people living in poverty. Today more than 75 percent of the population live in urban areas.

Rural communities must be developed and minor towns in rural areas must emerge so that migration to urban centres can decrease. Development needs resources and resources are limited. Effective resource management is a must. Effective resource management requires multi disciplinary inputs. Our services include agricultural and land-use planning, integrated water resources planning, water supply and sanitation, irrigation and drainage.

According to a recent report prepared by UN Food and Agriculture Organization (FAO) 35 countries do not have access to sufficient food and 24 of them are in Africa.

We are providing expert solutions for integrated land and water resource management necessary for sustainable rural development.

Irrigation and Drainage

Hatay/Amik - Afrin Irrigation Project

Amik-Afrin Plain is close to Syrian border in south eastern Turkey. Adverse effects of global warming lowered water level at Asi River and plain's ground water. Available water for irrigation within the system dropped to critical levels. Therefore construction of project components such as Karasu derivation canal, Karasu and Davutlar water intake structures (regulators) and Asi I and Asi II pump stations were planned. ALTER was contracted by State Hydraullic Works to prepare detailed engineering design of all canals and water structures.

Irrigation and Drainage

Preparation of Eskişehir Irrigation Rehabilitation Project

The project aimed at defining the measures needed to rehabilitate the existing irrigation scheme which was constructed according to " Porsuk Eskişehir Project Planning Report". Water is supplied to the existing irrigation scheme from Porsuk Dam. Pressurized pipes for high and medium working pressures are used to replace the irrigation canals which are currently under operation for water transmission and distribution. Future water demand for different uses such as drinking, irrigation and industry are considered within the 17.000 hectars area of the irrigation scheme.

Water Supply and Sanitation

Şanlıurfa / Edene Group Water Supply Project

This project was a component of the well known Southeastern Development Project (GAP). The Project was contracted to ALTER by General Directorate of Rural Services (GDRS). Water supply project covered 300 villages scattered in approximaPhoney 300,000 hectars area in Harran Plain situated to the southeast of Şanlıurfa. Water was taken from the well known Urfa Tunnels conveying water from Atatürk Dam and distributed to the villages through 700 km of transmission mains and 600 km of distribution network.

It is known that most of the energy generated today is dependent on fuel fossils, adversely effecting sustainable development. We emphasize on securing the supply of energy in an environment friendly manner.

We offer service in all aspects of energy including, renewables: wind, bioenergy, gas, biomass, nuclear and solar. We are specialized on micro hydro power plants installed on transmission pipes of municipal water supply systems and on sewers of effluent discharge of wastewater treatment plants.

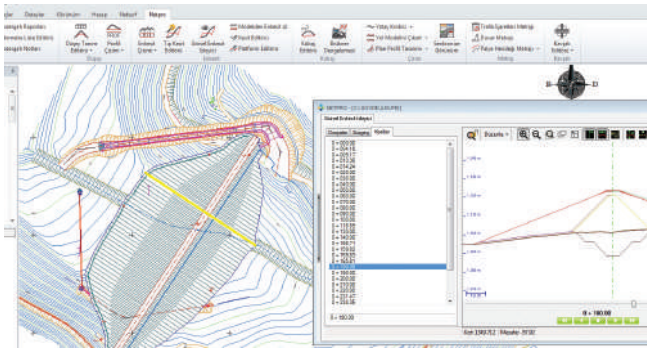
It is known that energy consumption of a community is a good indicator of its level of development. Energy needs of our developing world are ever increasing.

We believe that the use of fuel fossils for power generation must decrease. We emphasize on increasing environment safety and decreasing cost in all phases of our energy projects.

Dams and Hydro Power Plants

Feasibility study for İyisu, Kestanelik and Çankaya Dams and HPPs

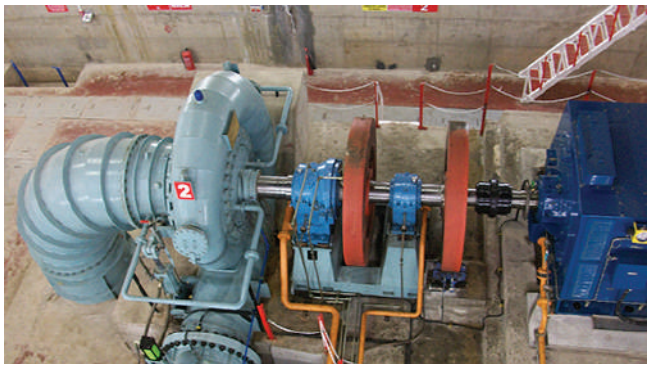
Planning, preliminary engineering design services and feasibility study for three successive dams and hydropower plants to be built on Arakli River were contracted to ALTER by Electrical Works Study Administration (EIEI). Aim of the study was to determine optimal use of Arakli River between 0 and 560 m altitudes for power generation. Water supply for irrigation of down stream lands was also studied. HPP characteristics of the dams were: Çankaya Dam and HPP for 29 MW, Dam and HPP for 13 MW and Iyisu Dam and HPP for 13 MW.



Energy Feasibility Studies

Denizli Water Supply Master Plan and Feasibility Study

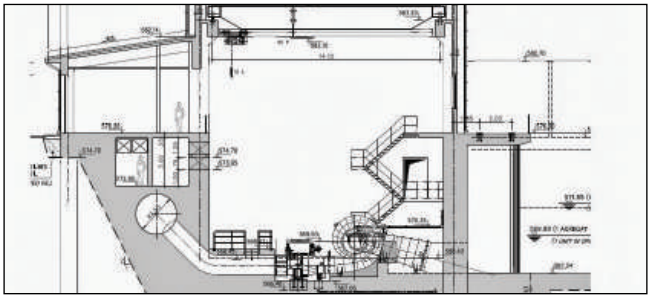
This water supply master plan and feasibility study was tendered by State Hydraullic Works to provide domestic and industrial water for Denizli and 15 municipalities adjacent to Denizli. An integrated approach was used for allocation of water resources within jurisdiction area of Denizli Province for drinking water supply, irrigation and power generation. On the transmission line between the dam and the treatment plant a small HPP with 2 MW capacity was also planned.



Consultancy Services for Micro Power Stations

Small Scale HPP Consulting for Municipalities

In compliance with the environmental legislation, municipalities establish Water Treatment Plants and Wastewater Treatment Plants. However, treatment plants bring high energy costs for municipalities. In order to lower this financial burden, technological progress now enables to generate electricity from the head loss at the outlet of treatment plants. With these small scale hydropower plants, municipalities have potential to meet their energy demand and they become autoproducers.



Since 1980s Transport Engineering has been one of our main fields. We took part in numerous projects for transport planning, traffic studies, urban transport systems, roads, highways, railroads and airports.

Transportation Engineering has been one of our main business segments since the 1980s. We took part in many projects for transportation planning, traffic studies, urban transportation systems, highways, railways and airports.

Traffic studies and traffic engineering often work on large-scale and complex projects.

Harmonization with urban and regional development plans is inevitable. Decision makers need expert' judgments.

We attach importance to travel demand management and strengthening existing operating systems before adding new capacities to improve existing transportation networks.

More than half of the world's population lives today in urban areas. Transport sector gets its share from this change. The new approach is to design and create with "easiness of mobility"

We prioritize demand management and rehabilitation of existing capacities instead of creating new capacities.

Roads and Highways

Trabzon City Crossing, Kanuni Boulevard Investigation and Engineering Service Procurement

The Project covers the distance starting at Akyazı Crossroad of Black Sea Coastal Road and finishing at Çağlayan Crossroad of Trabzon-Gümüşhane State Road. The Project contains 22 overcrossings, 17 tunnels, 8 of which are double-tubular making up 6.8 km and 1 single-tubular with 441 m length, and 55 bridges with a total length of 7,888 m. With Kanuni Boulevard, traffic flow at Trabzon city crossing will be seperated from Black Sea Coastal Road so that the speed of transit traffic will be increased.

Railways

Samsun – İskenderun Railway Feasibility Study

Railways play an important role in our transport system. First railway construction started in 1856 in Turkey, 31 years after start of railway construction in the World. Samsun-İskenderun Railway study was contracted to ALTER by General Directorate for Construction of State Railways, Harbours and Airports. The total length of the track route was app 1,100 km, connecting Black Sea to Mediterrenean, making this project to have longest route surveyed in Turkey within one contract.

Airports

Çardak (Denizli) Airport Detailed Design Services

Cardak Airport is app 60 kms to the West of Denizli. Airport was planned for 2,2 million passengers per year. The contracting authority was General Directorate for Construction of State Railways, Harbours and Airports. Our services covered detailed design for taxiroute and apron, roads and parking areas, water distribution and stormwater drainage, wastewater collection, firefighting system and 6,7 km highway connecting the airport to Ankara-Denizli Junction.

buildings

We have been focusing mainly on structural, seismic, mechanical and electrical engineering design of the buildings. We have designed a large volume of different buildings with high construction area such as hospitals and schools.

We have also specific experience in developing low cost housing schemes. Some of our recent assignments included planning and design of housing complexes including social facilities for lower income groups.

Due to rapid urbanization more than half of our living time passess in closed environment such as offices or homes.

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Housing

Niğde Urban Transformation Project

Poor living conditions and lack of proper infrastructures caused problems in a 70 hectars area situated at the central part of Niğde. The Municipality of Niğde invited ALTER to initiate an urban transformation project for the area.
We have planned housing units together with social and commercial facilities.

Public Buildings

Consultancy Services for Feasibility Study and Technical Assistance for Retrofitting of Selected Hospitals in Istanbul

Because of its geographically seismic prone location, Istanbul is one of the cities in Turkey which is most vulnerable to natural disasters, particularly earthquakes. Istanbul Seismic Risk Mitigation and Emergency Preparedness Project (ISMEP) was initiated by the Republic of Turkey and International Bank of Reconstruction and Development (IBRD). The project is implemented by the Istanbul Provincial Administration (ISPA) through Istanbul Project Coordination Unit (IPCU).
The project covered preparation of design and design review for 15 hospitals in accordance with 2007 earthquake code. The total area of the designed hospitals was nearly 200.000 m^2.

Public Buildings

Border Guards Headquarter Building at Al Gurayyat

Project management assistance was provided for the contractor building Border Guards General Directorate Building in Gurayyat, a town on the border between S.Arabia and Jordan. The scope of Works included 44,000 sqm of building construction, infrastructures such as roads, parking areas, water, electricity, Phoneecommunication utilities, stormwater drainage and landscaping.

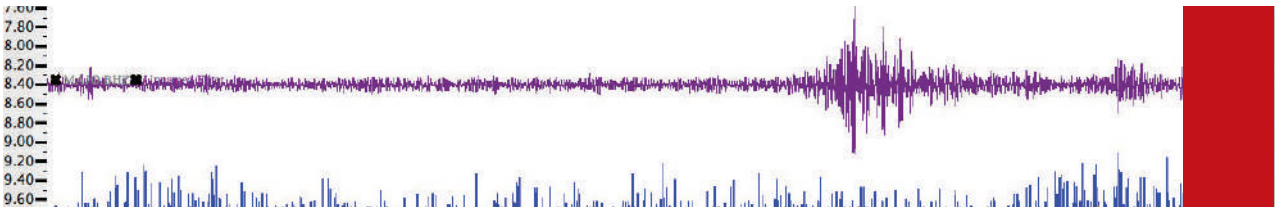
disaster risk mitigation

Turkey has been experiencing in recent years natural multi hazards caused by earthquakes, floods and landslides. Besides direct damages to life and property, indirect effects such as work stoppage, decrease in production and recovery costs have adversely affected the country's economy.

We provide multidisciplinary services to support governments, regioanal and local authorities, communities and private sector in implementing new technologies and methods for disaster risk management.

In close cooperation with our universities and foreign partners we apply modelling techniques in our " vulnerability studies and micro zonation" for multi hazards and provide innovative solutions for retrofitting of buildings.

Due to multi hazards complex nature, our experts work together with individual experts in earth sciences, experts in social sciences, planners, engineers, economists and GIS specialists who have extensive experience, institutes and research centers who have remarkable expertise to implement latest technologies for disaster mitigation.



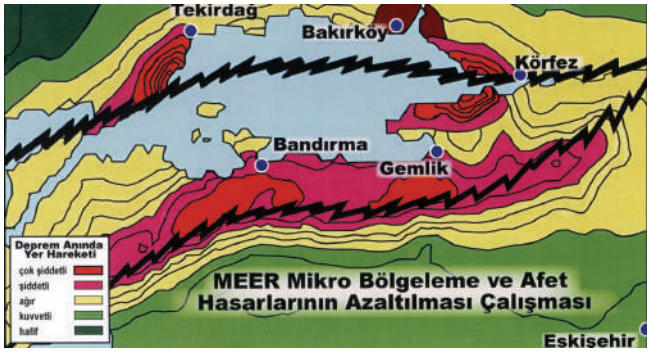
1999 Marmara Earthquake, measuring 7,4 on the Richter scale, caused damage to life and property- 20,000 people died and an estimated 200,000 people were left homeless. Living environment and cultural heritage were attacked severely. Turkey experiences floods causing damage to life and property continuously and totalling to magnitutes equalling to that of Marmara Earthquake.

We recommend that all development plans for disaster prone areas to be based on risk maps to be prepared as a result of multi hazard vulnerability studies and micro zonation.

Hazard Vulnerability Studies and Microzonation

MEER Project

Government of Turkey with the loans received from the World Bank initiated Marmara Earthquake Emergency Recovery Project (MEER). Prime Ministry Project Implementation Unit was established to coordinate this Project. PIU tendered the Project called Microzonation and Hazard Vulnerability Studies for Disaster Risk Mitigation in Pilot Municipalities. Hazard vulnerability studies were carried out, microzonation and contingency plans were prepared and strategies for disaster mitigation was defined against multi hazards such as earthquakes, natural land slides, floods and tsunami.



Building Retrofitting

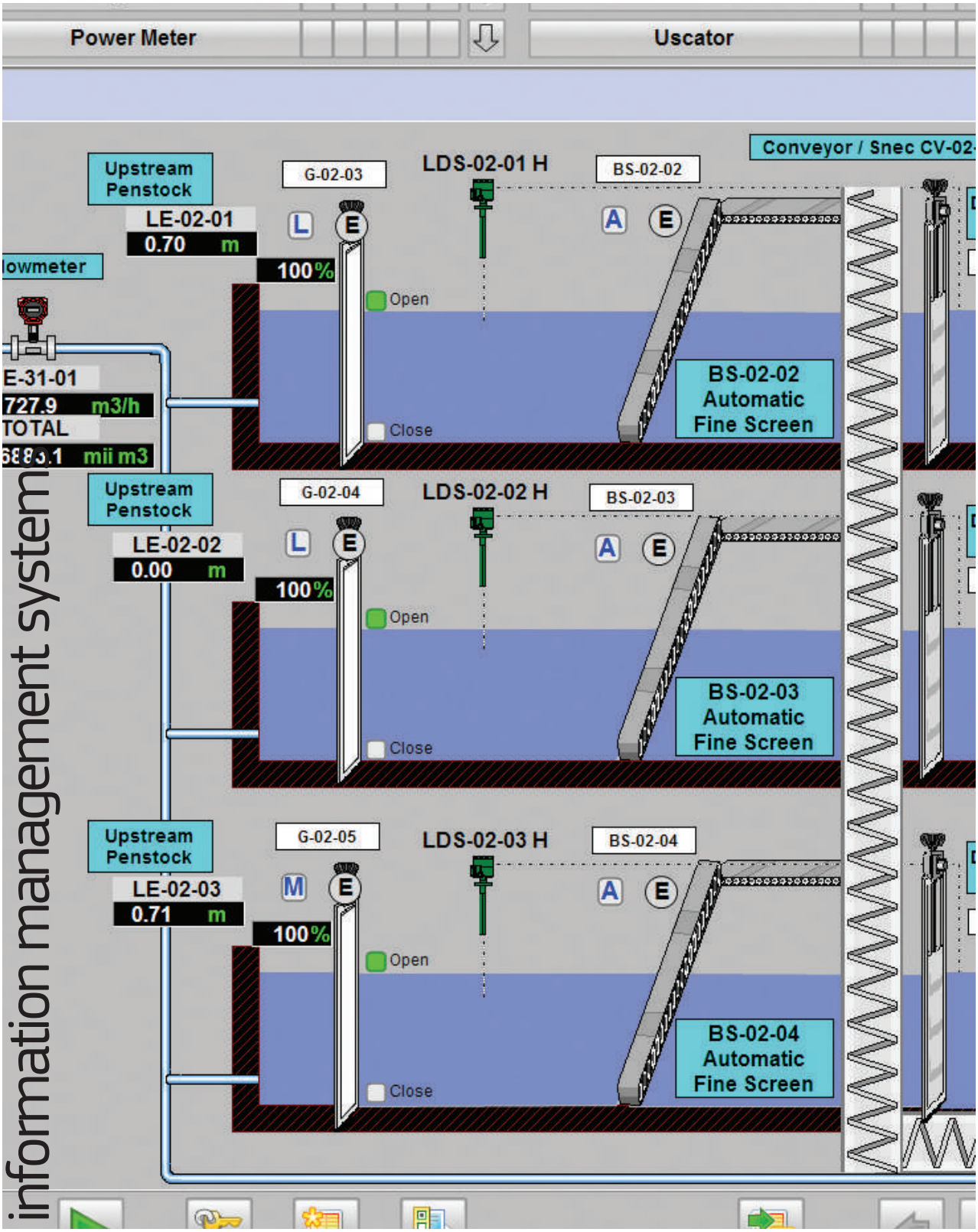
Consultancy Services for Retrofitting of Selected Public Buildings in İstanbul

İstanbul Special Administration Project Coordination Unit (IPCU) started the Project named İstanbul Seismic Risk Mitigation and Emergency Preparadness Project (ISMEP) with loans received from World Bank and EIB. Scope of Works covered by ALTER tincluded (1) Technical Assistance and Feasibility Study for 13 hospitals with a total building area of 240.000 sqm, and (2) Design Revision and Construction Supervision for 136 schools with a total building area of 450.000 sqm.

Flood Mitigation and River Bed Rehabilitation

Technical assistance for preparation of Flood Risk Management Plan for Bosnia and Herzegovina

EU financed project's aim is to support the implementation of the Action Plan for Flood Protection and Water Management and thus increase capacities of key stakeholders of Bosnia Herzegovina to manage flood risk in terms of prevention, protection and preparedness to respond to potential hazards, all in relation to the EU integration process. Project scope also covers assessment of legal, institutional, financial arrangements of the water sector, particularly related to flood protection, determination of flood risk management objectives in BiH, definition of framework and options for flood risk management.



Geographical Information Systems (GIS)
We perform our planning and engineering works in GIS environment. For data collection, data storage and data processing GIS applications are utilized.

SCADA
As part of our water and wastewater management services, we have developed skills to aid operators in using computerized monitoring technics for their systems.

Management Information Systems (MIS)
We assess the need of Water Administrations for Management Information Systems (MIS) for network database, customer database, repairs database, meter readings and billings, as well as leakage management and hydraulic modelling.

We have integrated information systems (GIS/MIS/SCADA) into our services.

- To ensure time and cost effective high quality
- To provide computerized on-line management systems to our customers
- To make formatted data and information readily available for desicion makers

Geographical Information Systems (GIS)

Bursa Water and Sanitation Project

Financed by IBRD, the objective of the study was to establish a hydraulic modeling for the whole distribution network of Bursa, nearly 3.200km, serving more than 2 million inhabitants.
Scope of works covered design of DMA's including link to existing SCADA system, tendering of flow meters, system appurtenances and installation works and SCADA system extension. Reduction measures of unaccounted for water were also examined

SCADA

Kayseri Water Supply Project, Rehabilitation of Pump Stations and Extension of existing SCADA System

Pump stations on three deep wells at Egribucak well field, six 6 deep wells at Karpuzatan well field and seven deep wells at Keykubat well field, one terminal reservoir and main pump stations were rehabilitated. Generator sets were installed. Pump stations and reservoirs were equipped with flow and pressure measurement devices and together with the operating valves linked to SCADA system. Existing SCADA system was extended.

Management Information Systems (MIS)

Eskişehir Municipality Urban Development Project: Leakage Management, Hydraulic Network Modeling and Management Information System

Within this study with the aim of increasing the management capacity and service quality of Water and Sewerage General Directorate (ESKI) and minimizing water losses, an MIS was introduced. Out of 133 performance indicators used by International Water Association (IWA) 33 indicators were chosen in categories for (1) Personnel, (2) Physical investments, (3) Service Efficiency and Quality, and (4) Financial indicators.

Head Office

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