

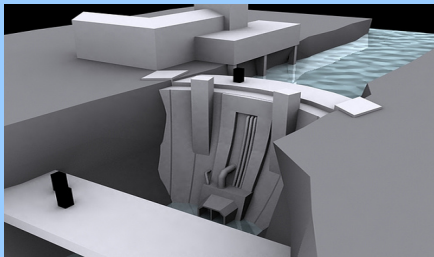
## Key services in modelling include:

### *Environmental, Fluvial & Coastal*

- 1D, 2D and 3D river and coastal modelling
- catchment Flood Management Plans
- coastal zone management
- developer flood risk assessments
- environmental impact assessments
- environmental modelling
- estuary modelling for impact analysis and sedimentation processes
- hydropower modelling

### *Water & Wastewater*

- 2D and 3D Scheme visualisations
- conceptual and transfer function rainfall runoff models
- dams and reservoirs supply modelling
- demand assessment and minimum night flow analysis
- distribution zone studies
- DMA / PMA design, audit and Implementation
- drainage area assessments
- feasibility and design support for capital schemes
- hydraulic and serviceability analysis
- hydraulic investigation



Esrekkaya Dam in Turkey, 2003 (Reservoir Surface Area at Full Supply Level: 1 870 ha, Volume of Concrete: 223 000 m<sup>3</sup>/s, Spillway Design Flood: 3 900 m<sup>3</sup>/s) Designed and modeled by Gentek, (ref, 186-DW), Modeling works done by MicroStation V

To facilitate our services Gentek owns a large number of licensed copies of key network modelling software such as StruMap, InfoWorks WS and Synergee.

In addition, we have developed innovative procedures to expedite routine tasks. For example, our Calibration Assistant Tool (CAT) produces a thematic plan comparing model results and field test data for a whole model area, enabling rapid visual appreciation of the calibration errors and hotspots.

We also own a full range of equipment for undertaking all sizes of field tests ranging from local small scale DG2 investigations, to large tests covering major city pressure zones. These tests focus on obtaining adequate and accurate flow and pressure data.

## Introduction

Gentek have a diverse team of experts able to offer services in modeling for infrastructure development, water and wastewater networks, fluvial and coastal processes as well as visualization and geographic information systems (GIS) for a wide range of applications. Gentek is a major user of geographic information technology and we have won awards based on our expertise in this area. GIS has been successfully applied by Gentek in many market sectors, including:

- utilities
- communications
- transportation
- property
- environmental
- heritage

We have a dedicated team of highly qualified and experienced geospatial consultants with expertise in all aspects of the built, social and natural environment. Our consultants have an extensive and diverse range of skills, including data management and analysis, implementation, application development, land and aerial surveying, photogrammetry and project management.

Our team offers a full range of services, specifically targeted at improving the operational performance and efficiency of water supply and distribution networks as well as modelling groundwater and sewerage networks.

Similarly, our rivers and coastal experts are renowned for their solution-driven approach towards the complex nature of flood defence schemes as well as using innovative techniques for modelling fluvial and coastal processes for a range of applications. We offer a comprehensive range of services, from master planning to feasibility studies to design and implementation.

## Outputs we deliver

### Modeling:

Gentek is well-equipped to provide the entire range of professional services required for successful operation of water & wastewater networks, drainage, leakage, flood risk, coastal and fluvial processes assessment, control and management. The breadth and depth of experience contained within our team enables us to deliver the right solutions to our clients anywhere in the world.

By keeping up to date with the latest techniques and software, we provide modern solutions to increasingly complex issues. We use a variety of the latest mathematical models to forecast network, coastal and fluvial processes. Gentek offers a full range of skills for irrigation modeling studies, drawing on in-house expertise from both, scientists and engineers, to provide in-depth capability.

Similarly, hydrological and hydraulic flood modelling studies provide inputs to the design of river and coastal defences, and to flood risk assessments linked to development planning and control.