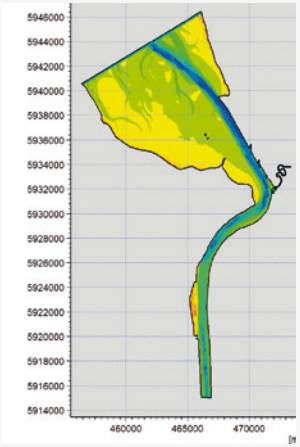
Selected projects

- Baldeneysee – Measures to reduce Elodea growth: Construction of a three-dimensional numerical model, investigation of optimized measures to increase the flow and sediment transport with the aim of reducing algae growth

- Restoration of a Pier in the Geeste Estuary: Analysis of flow velocities and sediment transport in a three-dimensional model, investigation of the planned geometry of the port access and optimization of the planning with focus on sediment transport



About DMT

DMT Group has its headquarters in Essen, Germany. Since its foundation DMT has evolved from a purely geological consulting firm to consulting services for all kinds of civil engineering issues. Water management issues and environmental protection are an important part of our portfolio.

DMT has an interdisciplinary team of international experts with various fields of expertise, including geology, hydrogeology, mining, geophysics, geotechnics, engineering, environmental sciences, hydrology, water management, GIS, modelling and project management.

The DMT Group currently employs around 1,000 specialists in over 30 locations. The DMT Group offers independent services in the fields of exploration, engineering, consulting and geotechnics with a focus on raw materials, safety and infrastructure. Measuring instruments, metrological product development and industrial testing solutions are also part of DMT's portfolio.

DMT is a member of TÜV NORD GROUP.

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2018 | 2019 INNOVATIVE THROUGH RESEARCH Awarded by the Stifterverband

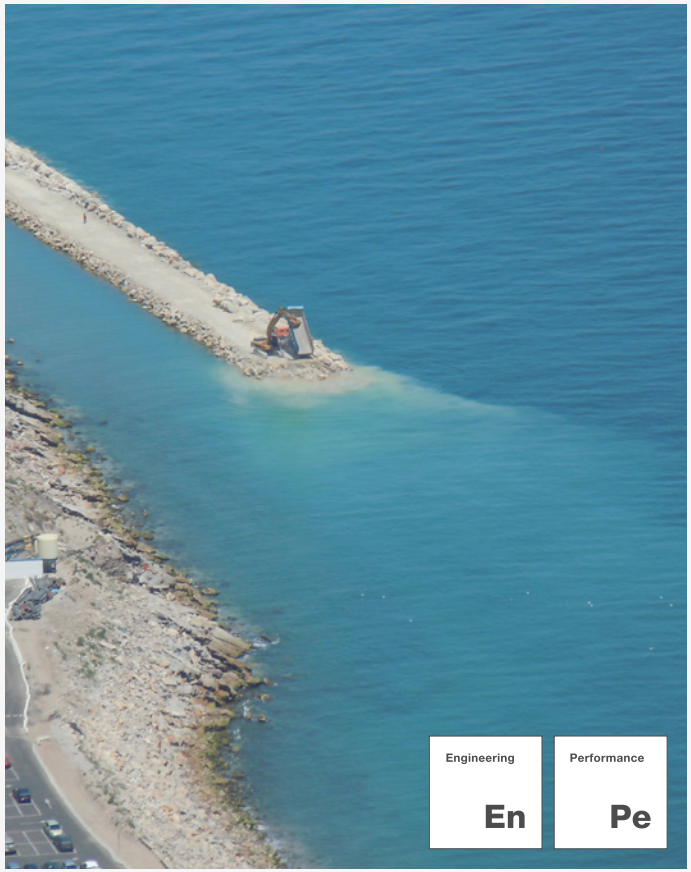
Engineering Performance

Civil & Mining Engineering

DMT

Sediment, substance and heat transport

Simulation, consulting and planning



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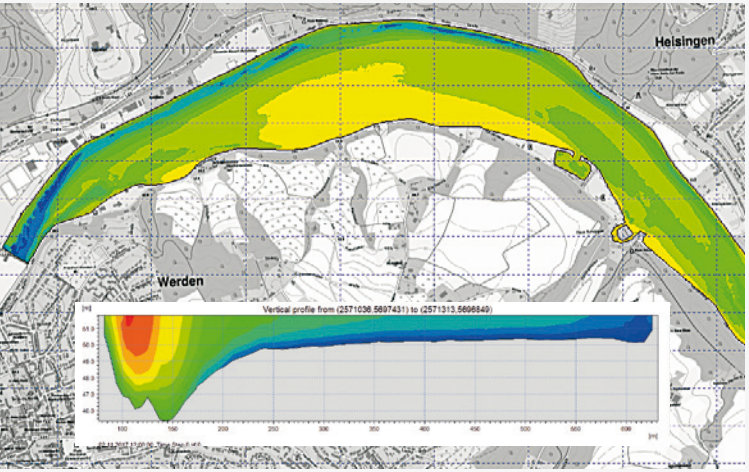
Sediment, mass and heat transport
Civil & Mining Engineering



Sediment, mass and heat transport

The transport of substances and heat in surface waters can be permanently changed by construction and development activities in the water body. In general, complex situations arise in the water body which require a high level of technical competence to assess the effects of the changes.

Typical areas of application are:

- Sediment management in river basins and reservoirs
- Sediment management in port and coastal areas
- Assessment of the impact of local changes in water bodies (e.g. due to construction measures) on mass and heat transport
- Consideration of the structural and water quality of water bodies
- Recirculation studies for substances and heat
- Determination of bedload transport, e.g. during heavy rainfall events

Solutions

Due to its high level of expertise and the use of numerical models, DMT analyses both the hydraulic situation and the prevailing transport mechanisms. This analysis generally allows optimisation of the planning and cost savings.

DMT supplies partial or complete solutions for the planning, forecasting and execution of water management projects with a focus on transport.

Tools

Depending on the task, different transport models are used in the projects.

DMT has access to a large number of well-known and renowned numerical models such as MIKE and HEC-RAS.

Services

- Model based investigations
- Monitoring and project management
- Feasibility, preliminary and detailed design studies with cost estimates

With the following focus:

- Simulation of transport processes in coastal areas and river basins
- Assessment and evaluation of erosion and sedimentation processes
- Hazard analysis for the laying of flow paths during heavy rainfall events
- Development of heat capacity plans
- Sediment transfer in natural rivers
- Substance dispersion forecast for accidental substance flow into water bodies