

3rd BRIDGE ON BOSPHORUS RIVER

Engineering Structures

Jan. 2013 - Jan. 2014



TURKEY - Istanbul

Client

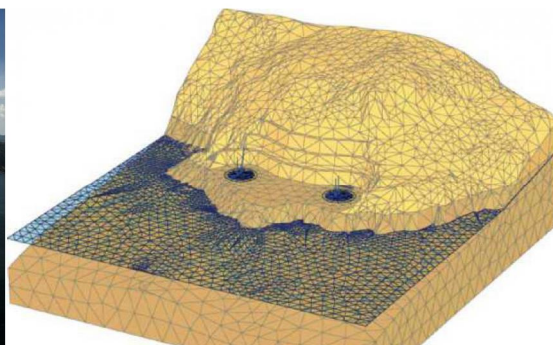
ICTAS - ASTALDI

Amount of services

110 000 €

Mission type

Consulting expertise audit



Description of the project

The third bridge on the Bosphorus river is a cable-stayed suspension bridge with a single span of 1400 m linking the European and Asian shores of Istanbul (Turkey). Built by the Turkish Italian consortium İctas-Astaldi, its design was assigned to T-Engénierie in collaboration with Michel Virlojeux.

Key features

- Independent engineer

Description of the mission

TERRASOL is currently carrying out the checking of the foundations design for SETEC TPI (Independent Checker for the project). As the first phase of this work focuses on design analysis, TERRASOL has also provided its advices for project optimization, with the checking of the stability of the rock foundations, using 3D finite element calculations.

Constructed in a particularly demanding seismic context, the bridge lays on both shores on a rocky formation composed of andesite and conglomerates. Each end of the bridge is composed of :

- A 15 meters deep anchor block ;
- A block comprising 2 m deep shear keys enabling anchoring of the cable ;
- 4 piers ;
- 2 shafts (20 m in diameter and 20 m deep) to anchor the 320 m high pylons.

These pylons will exert considerable forces in the construction phase, under the effect of the wind and during the installation of the deck, and in the final phase, under the effect of deck tipping and seismic actions.