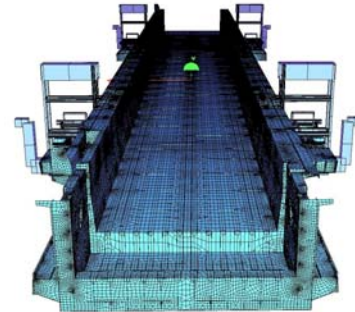


Location	Waterway Berlin-Stettin, Deutschland
Client	Schüssler-Plan Ingenieurgesellschaft mbH
Date	2009
Services	Structural Analysis

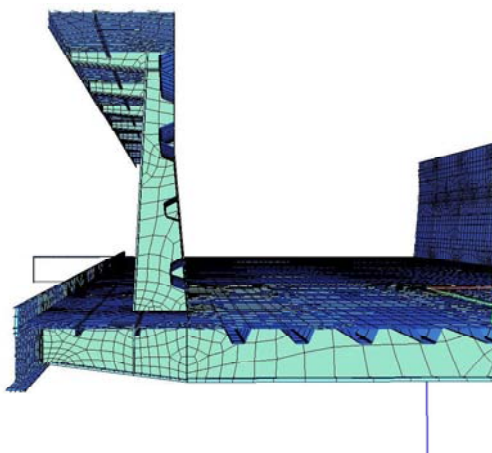


Description

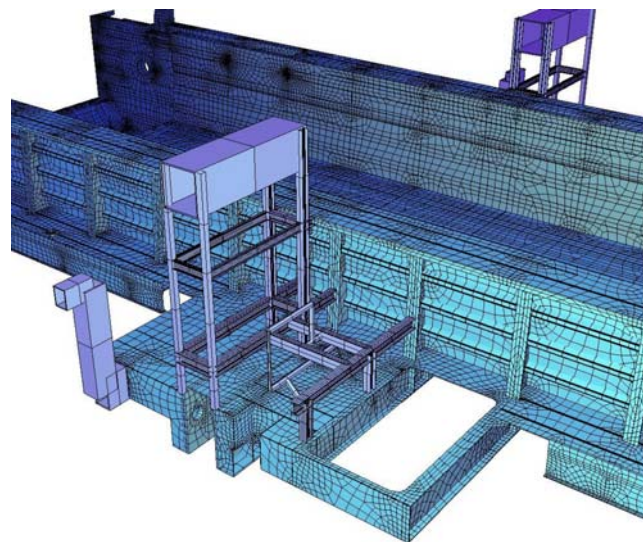
The design of a new ship lift near Niederfinow required the structural analysis of a steel trough with a usable length of 105m and an average internal water level of 4m.

The trough cross-section is stiffened by longitudinal stringers and transversal cross-beams. All cross-beams are connected at their ends by a longitudinal girder which in turn is attached to the counterweight cables. At axis 6/14 a safety mechanism is connected that transfers out-of-balance forces to the concrete pylons.

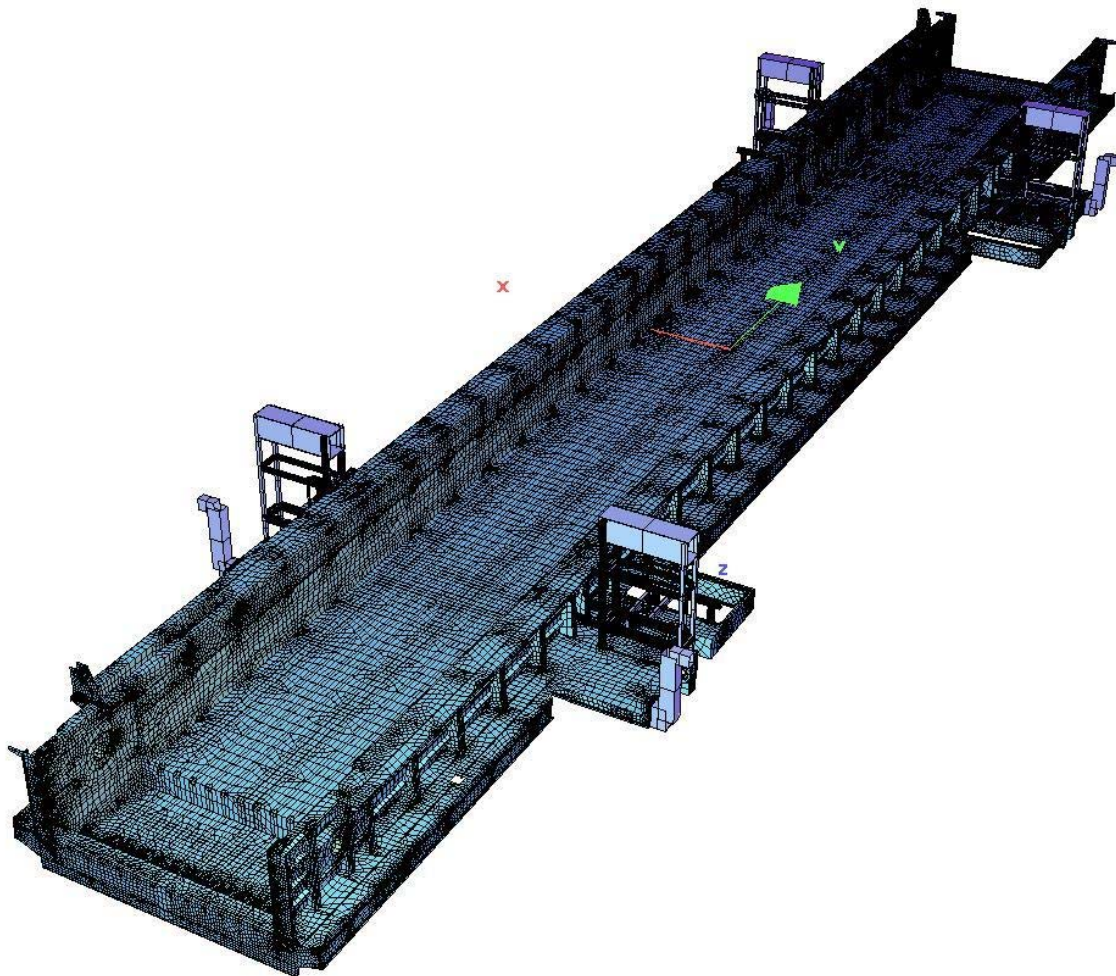
A structural analysis was performed that included all relevant load cases. Displacements had to be kept within tight limits in order to ensure smooth operation of the lifting mechanisms and water gates. The structural model was built in 3D from shell elements using SOFiSTiK software.



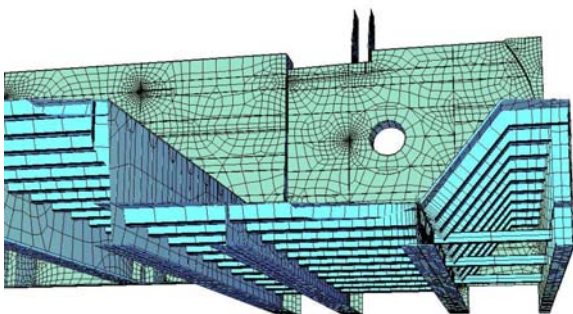
Typical cross-section.



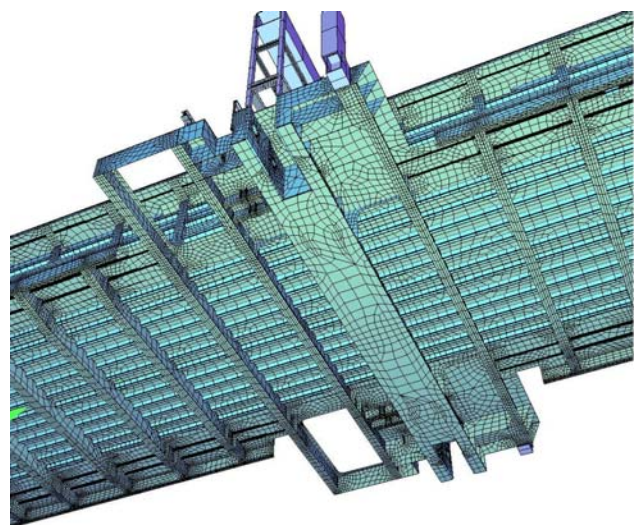
Mountings and drive.



3-D model.



Cross-beam.



Typical cut through a water gate.