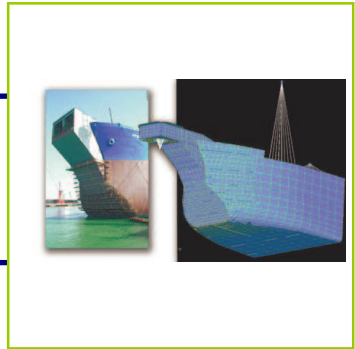
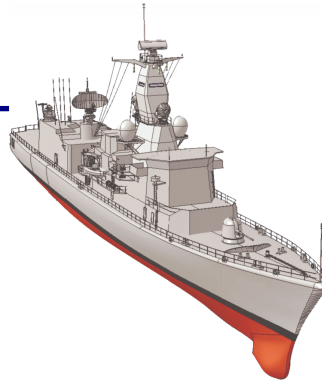


Optimization of radar tower section

OFFSHORE / MARITIME

Optimization of a web-frame in a radar tower of a Dutch Navy frigate.

A new radar tower for an M-frigate of the Dutch Navy was designed by the Department of Defense. An internal web-frame section reduces stress peaks and increases stiffness of the mast, using 2D topology optimization. A new design was made for the web frame, with minimum compliance and minimum weight. In consultation with the customer, this resulted in a simple design, which is up to 20% lighter than the original design and increased the stiffness contribution to the mast.



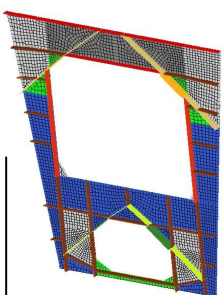
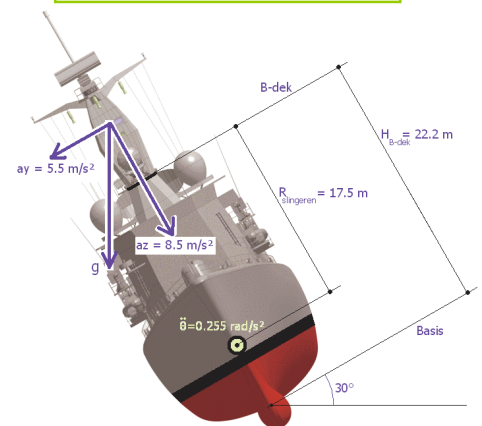
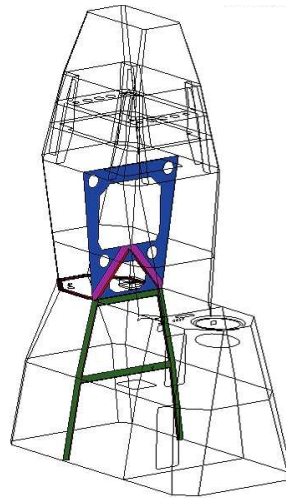
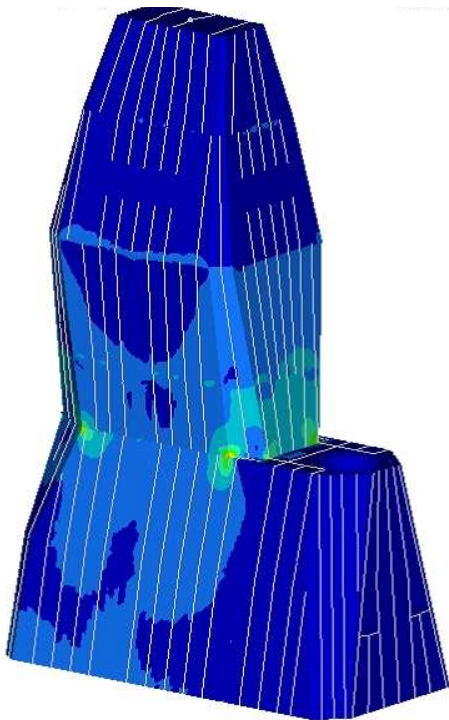
YEAR
2010

CLIENT
Ministerie van Defensie

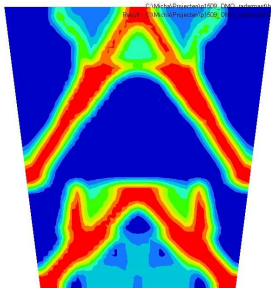
MATERIAL
Steel

SOFTWARE
HyperMesh, OptiStruct & Hyperview

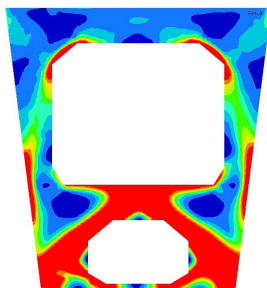
ANALYSES
Linear Static Analysis and Topology Optimisation



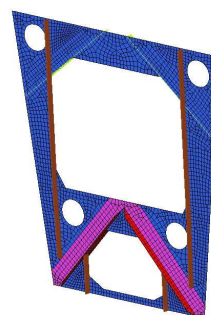
Original frame design



OptiStruct topology for full frame



OptiStruct topology for window



Optimized frame design 400 kg

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