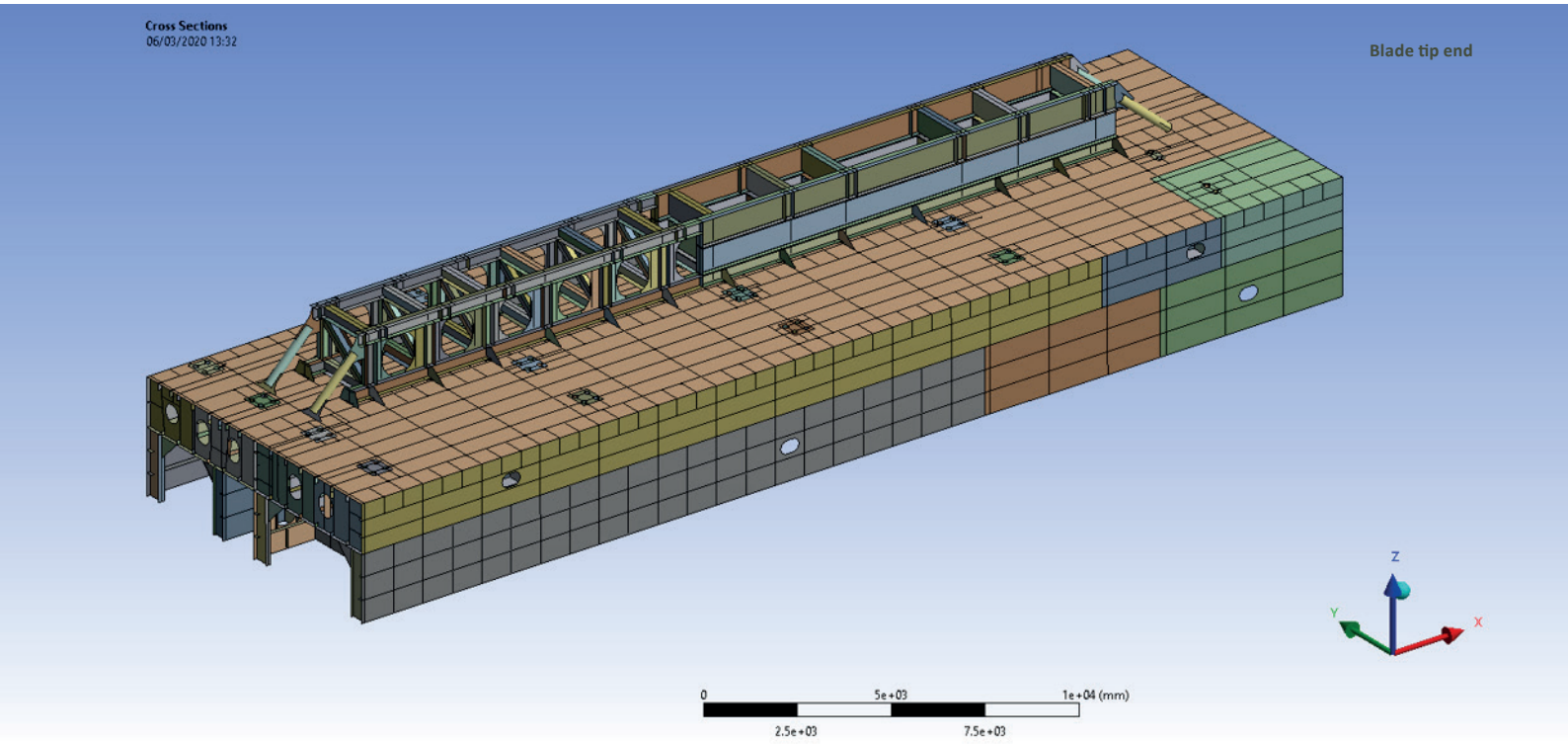
MULTI . engineering



Sea-fastening and deck integration analysis for wind turbine blade and nacelle transportation

8 wind turbine blades and 4 nacelles needed to be shipped for offshore installation on different locations. Together with other wind turbine parts, the blades and nacelles were placed on the main deck of an offshore installation vessel.

SPECIFICATIONS AND CHALLENGES

MULTI.engineering was invited to perform a strength assessment of the sea-fastening of the wind turbine blades and nacelles. The blades were positioned on the several levels stack and put on the grillage with the relevant stoppers. The nacelles were stored on board by using stoppers that are welded to the main deck.

CLIENT

Jan De Nul, contractor active in dredging, land reclamation, pipe laying, salvage and installation projects.

- Approx. 6,875 employees.
- Active in 38 countries.
- Family owned.

SCOPE

Hand calculations and FEA strength assessment of the stoppers and surrounding main deck structure of the wind turbine blades and nacelles sea-fastening.

SERVICES PROVIDED

- Manual strength assessment
- FEM calculations

NO ENGINEERS, NO FUTURE !

RESULT

Stoppers, surrounding main deck structure and welds were checked by “hand calculations” for shear-, bending- and buckling strength at the first design stage. As a second step, the entire nacelle frame and surrounding main deck structure were assessed and optimized by means of Finite Element Analysis.

ADDED-VALUE MULTI.ENGINEERING

With the experience and flexibility of MULTI. engineering, Jan De Nul was able to finalize this challenging task within the required timeframe and with high efficiency in terms of structural optimization.

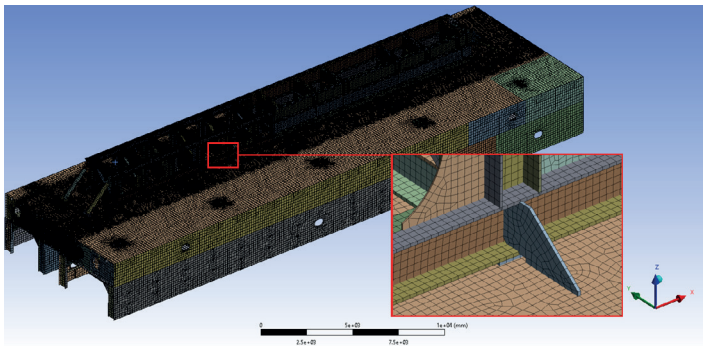
“The task was quite straight forward. However, the proposed solution for the required structural modifications was challenging as it had to comply to some additional requirements from class. This challenge was dealt with successfully within the agreed timeframe.”

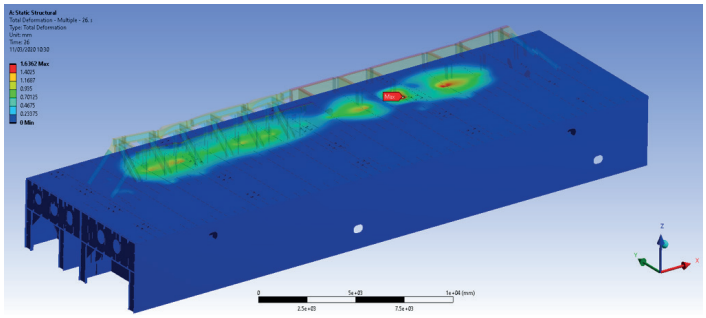
– client Jan De Nul

“The project results were much appreciated by the client`s team. Based on this outcome new projects were assigned to MULTI.engineering. This confirms the excellent performance by the MULTI engineers.”

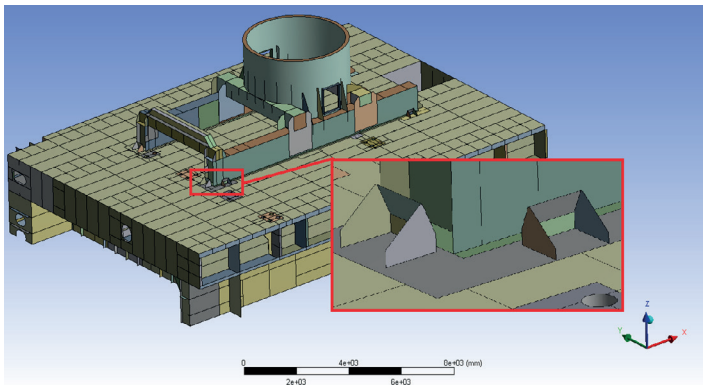
– Project expert MULTI.engineering

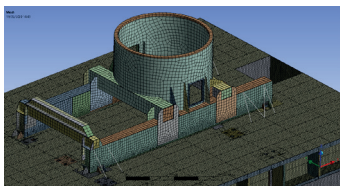
Blade tip end

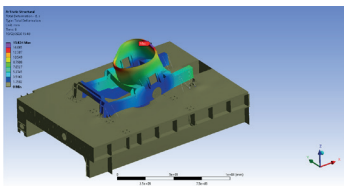




Nacelle







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MULTI.engineering is an engineering company. We support customers’ success by offering flexible engineering solutions. We have Offices in Temse (BE), Vlissingen (NL), Zwijndrecht (NL), Delft (NL) and Komarno (SK).
Working with us is always a great experience!

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