

# Detailed scale models

## Polymer Additive Manufacturing produces intricate exhibition model

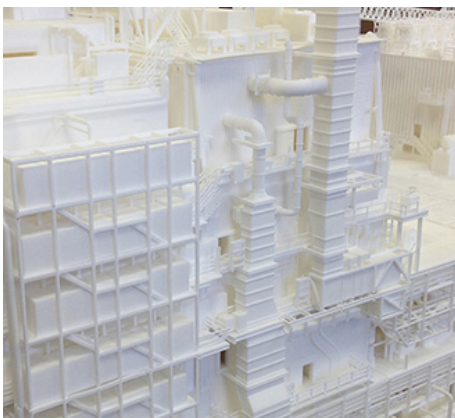


**DET NORSKE**

Norwegian company Det Norske commissioned us to produce a 1:100 Polymer scale model of the Ivar Aasen oil rig platform to be used as the centre piece of their exhibition stand at the Offshore Northern Seas annual show held in Stavanger, Norway.

“Our in-house CAD team spent 40+ hours modifying the design to get the best results from the AM build process”

The model consists of the leg structure known as the ‘jacket’ and platform deck, or ‘topsides’ as it’s referred to, as well as a helideck and control room. The seven decks cover a total area of 3,300 square metres and the aluminium living quarters will contain 70 single cabins.



3T-am’s polymer additive manufacturing service was selected for two main reasons; cost and timescale. Traditional model-making would have taken a year to produce the model and cost many times more than 3D printing. Furthermore, the detail achievable with superb accuracy is unrivalled some other options which were considered, such as FDM and Stereolithography.



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The resulting model was so accurate and intricate, you could even see the toilets through open doors within the superstructure and small items like the anodes and railings were all faithfully reproduced directly from the CAD design. Due to the size of the scale model being over 8 foot in height, it had to be designed in sections and fitted together as seamlessly as possible after it had been built.

The jacket was made in 8 pieces and the topsides structure in 5 main blocks with sub-assemblies such as cranes, lifeboats, heli-deck and mast structures as separate add-ons.



The original 3D CAD files provided by the customer came through as one complete model so 3T-am's in-house CAD specialists had to segment the design into 8 pieces to enable each part to fit into the build chamber of their P390 sintering machines. Once built, the model had to be assembled and 3T-am's specialist finishers ensured the joins were as seamless as possible.

Furthermore, as the periphery pieces such as the cranes, lifeboats, heli-deck and mast structures were built as separate add-ons, they had to have additional pins added to the CAD design so that they could be assembled at the show in Norway. In total, 3T-am's in-house teams spent in excess of 40 hours modifying the CAD design and carrying out the post-assembly work.

The model is now on display at Det Norske HQ in Trondheim in their reception area.

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