

## Traditional Fishing Artisanal Workshop

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### Culture and Innovation

This structure serves as a creative space for luzzu carpenters and fishermen. It is a workshop for the construction of the luzzu and also for the weaving of traditional fishing nets.

The shape of the timber gridshell was inspired by the beautiful curves synonymous with the traditional Maltese luzzu and the hand-woven triangular fishing nets - two iconic symbols of the Maltese culture.

Its hyper shape draws the attention of passers-by from the side of the coast and also intrigues people already on the pod. It serves as an open invitation to anyone in the vicinity. This, in turn, rekindles an interest in the craft and the dying trade which was once so important to the inhabitants of Marsaxlokk.

### Structural Considerations

A process of formfinding was carried out using Grasshopper on Rhino3D to encourage the transfer of loads through axial forces and avoid large bending moments.

For structural efficiency purposes, sizing optimization was carried out by analyzing the combined percentage utilization (bending, axial and shear) of each member under the different load cases.

The 16-metre cantilever at the front of the structure resulted in a forward tilt of the structure. This introduced a significant force in the third direction at the supports which was resolved using a two way multi-gusseted pin system.

As for the substructure, the simplified I-Section Model was used to model the structure as a series of I-beams, intersecting each other. The vertical loads acting on the substructure all fall at intersections between web plates and it is assumed that the stiff deck of the pod is taking all the horizontal reactions. Since the pod is situated in a harbour, it is assumed that there will only be hydrostatic pressures acting on the structure. Fifty-two prestressed cables hold the floating structure in place.