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Client:

Jon Manoel Bonderer

Bondos Ltd International

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Overview



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Pantone 2021

-  Green Moss
-  Mikonos Blue
-  Ultimate Gray ←
-  Root Beer
-  Fire Whirl



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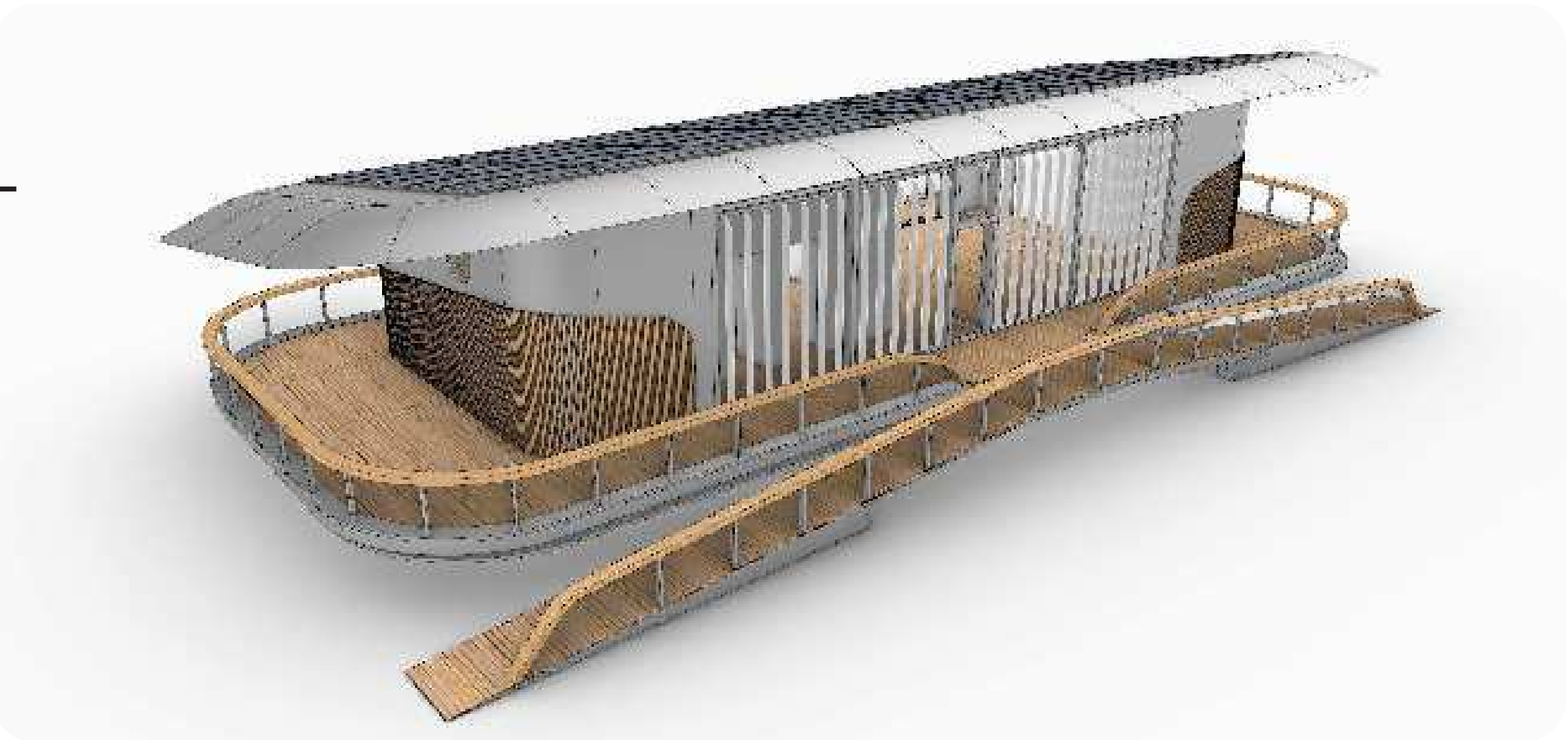
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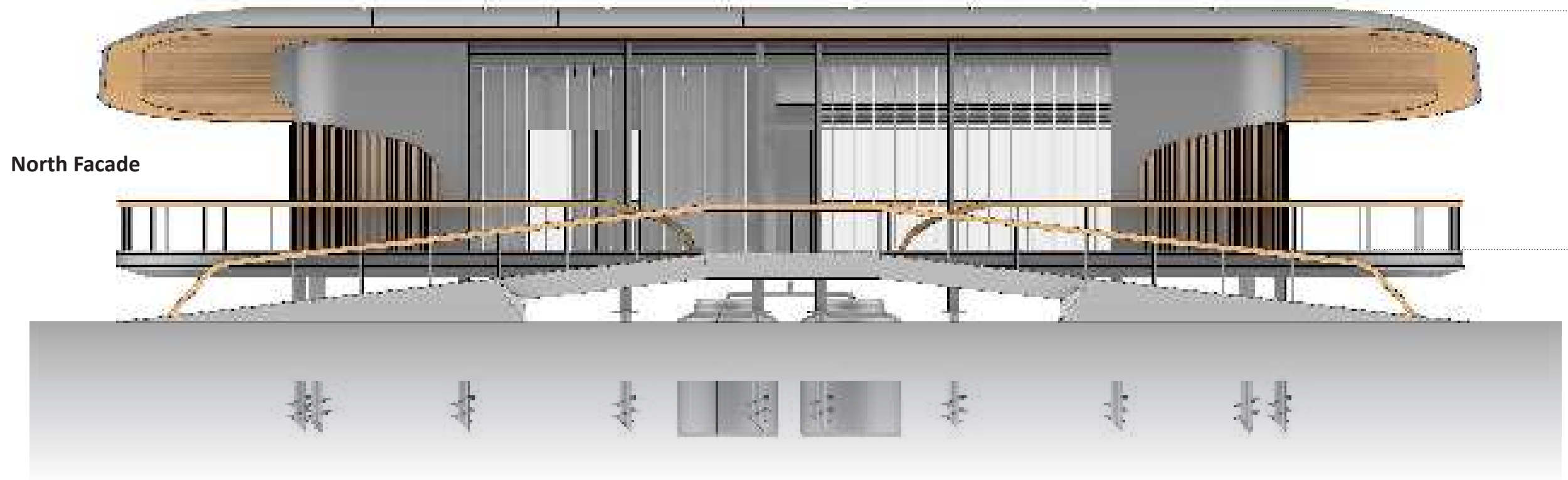
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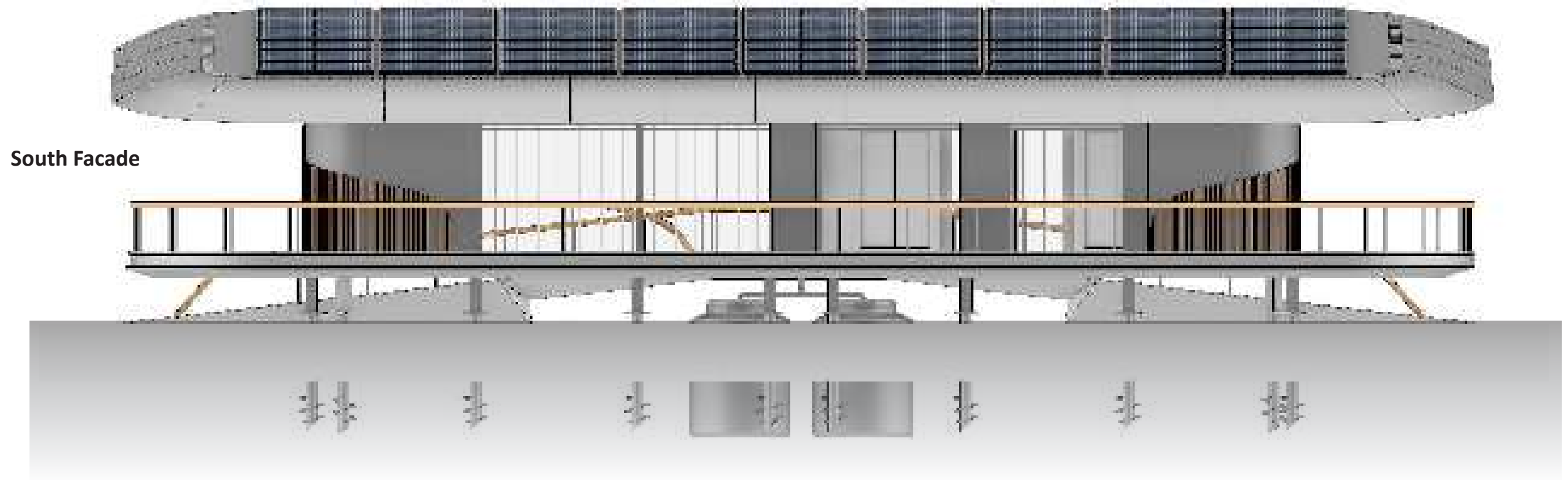


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North Facade

PV panels



South Facade

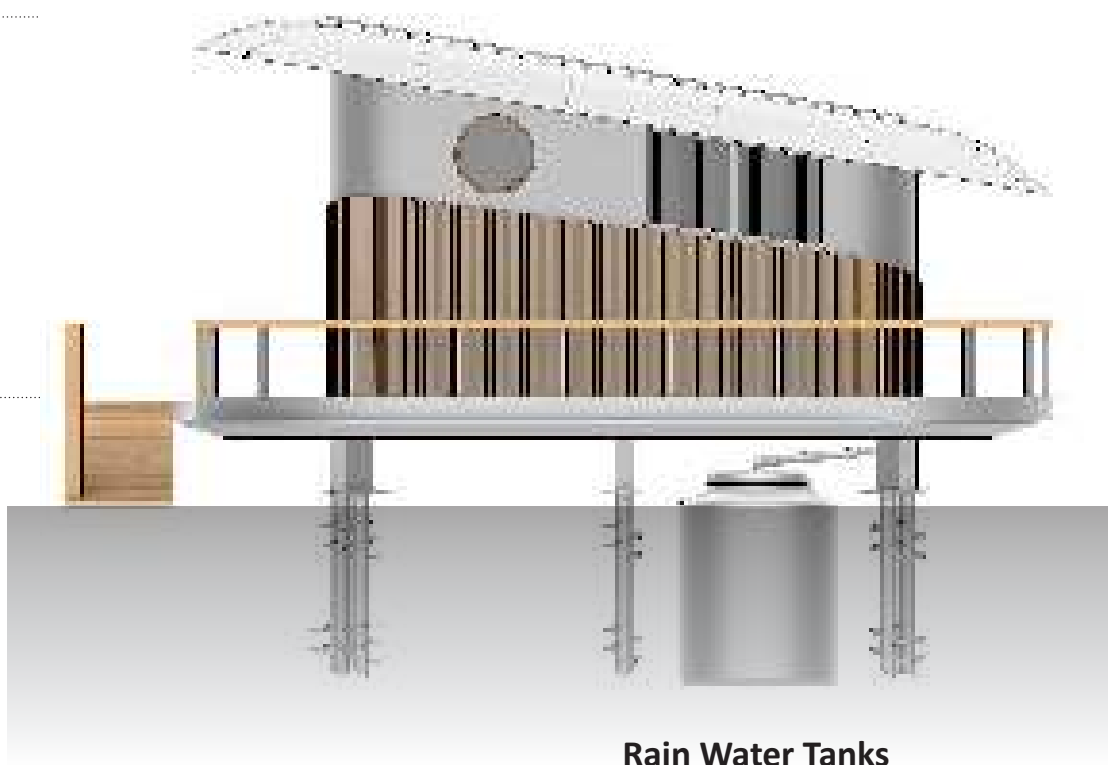
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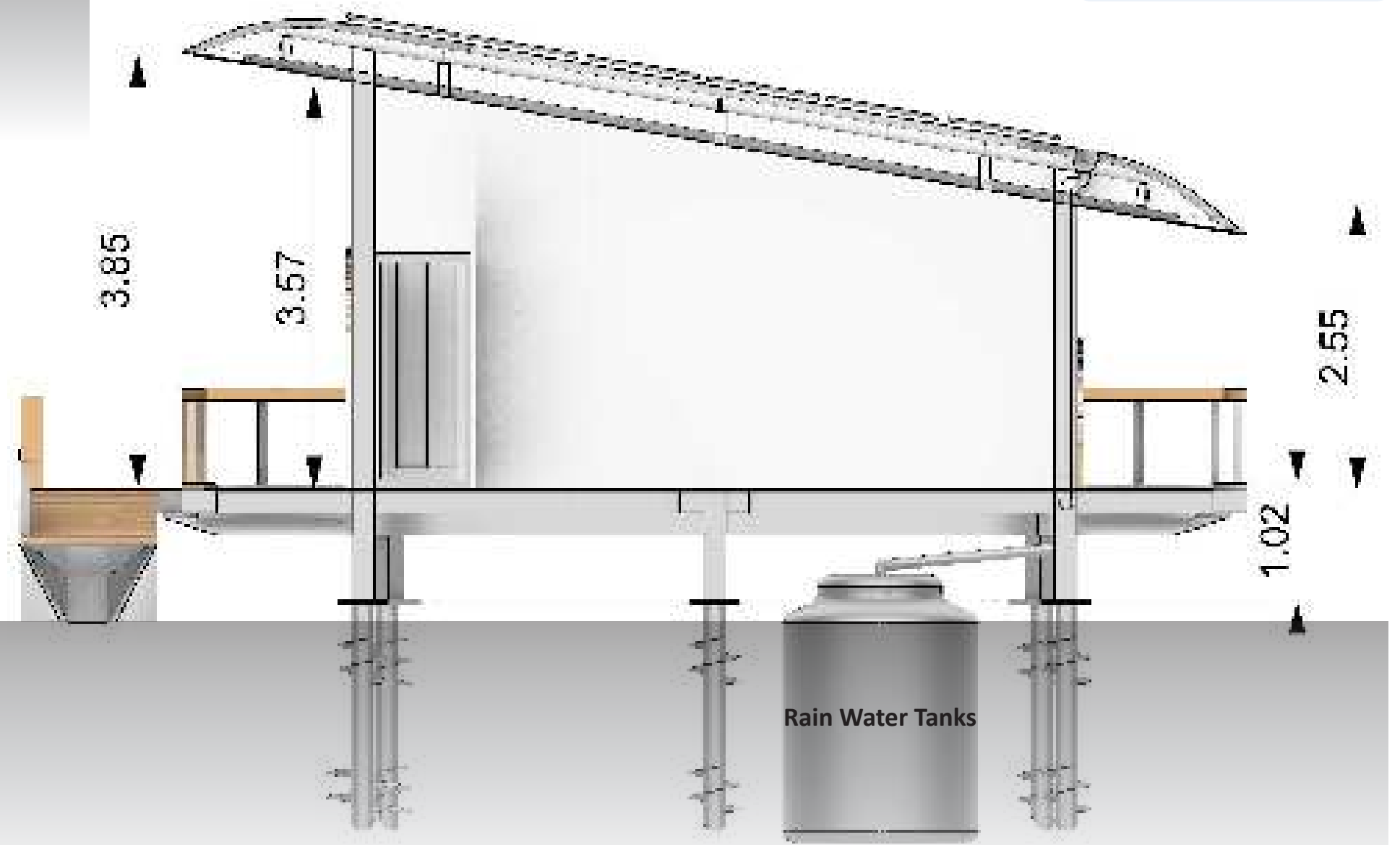
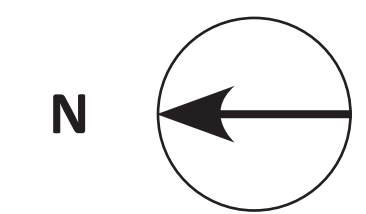
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Rain Water Tanks

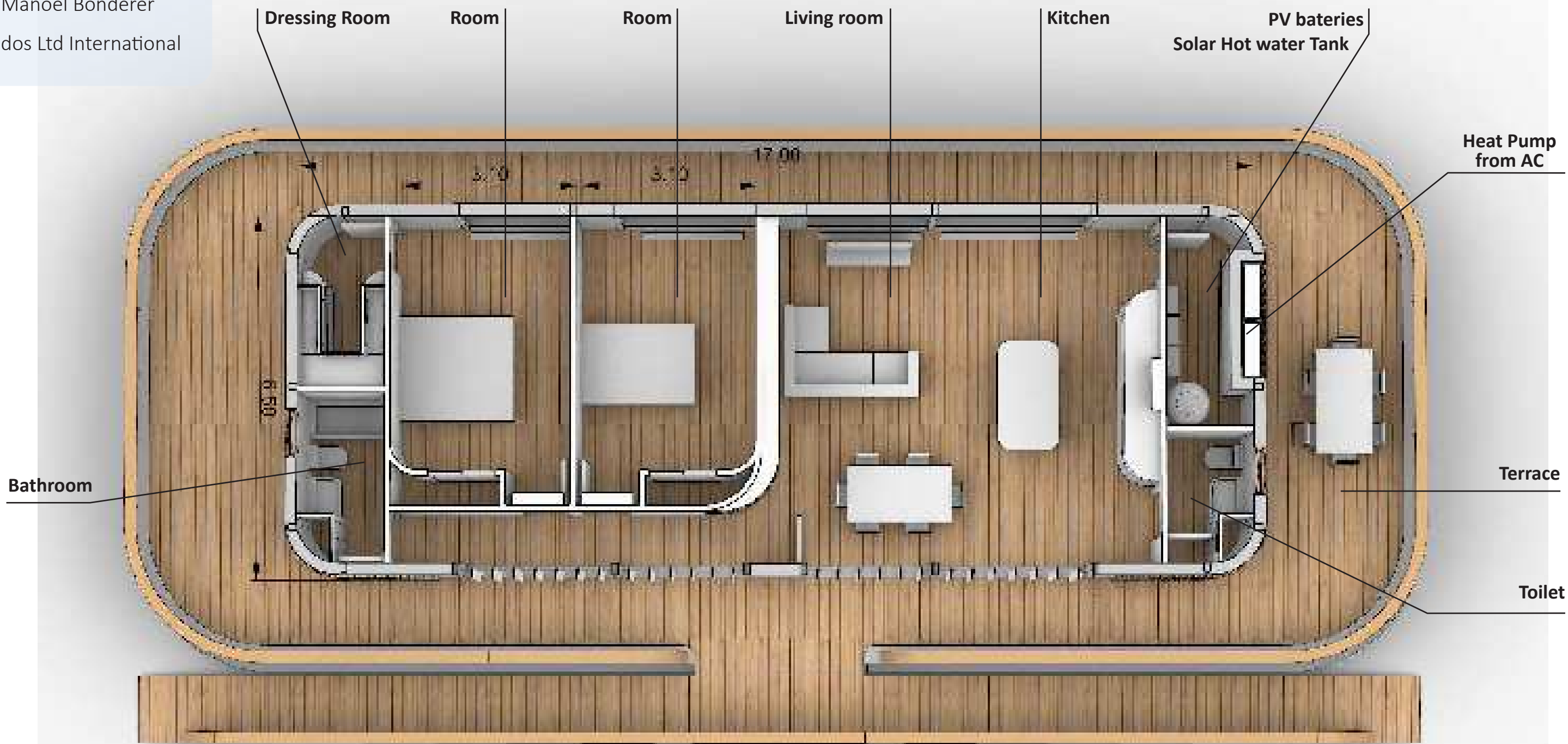


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Accesible ramp (1:10)



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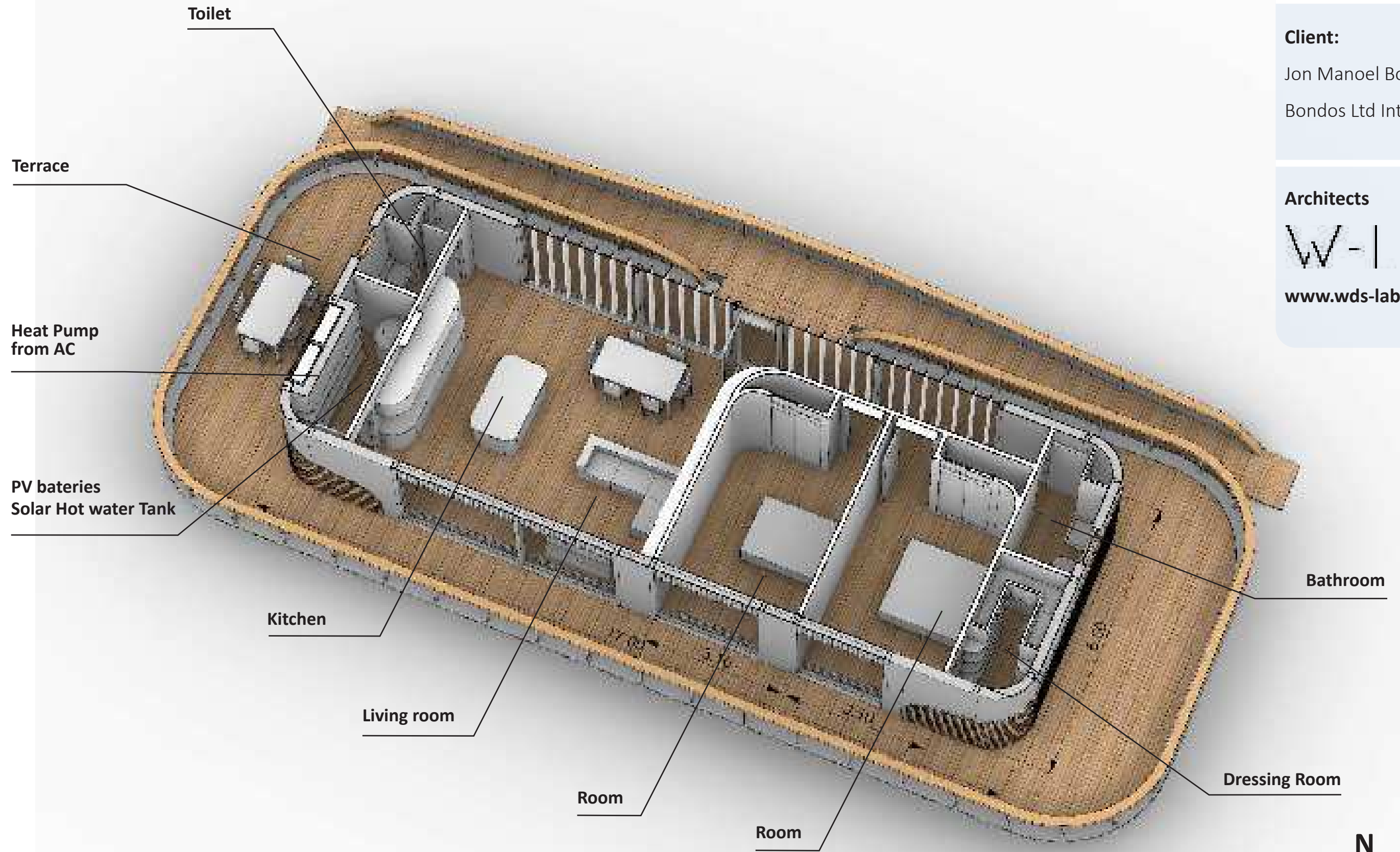
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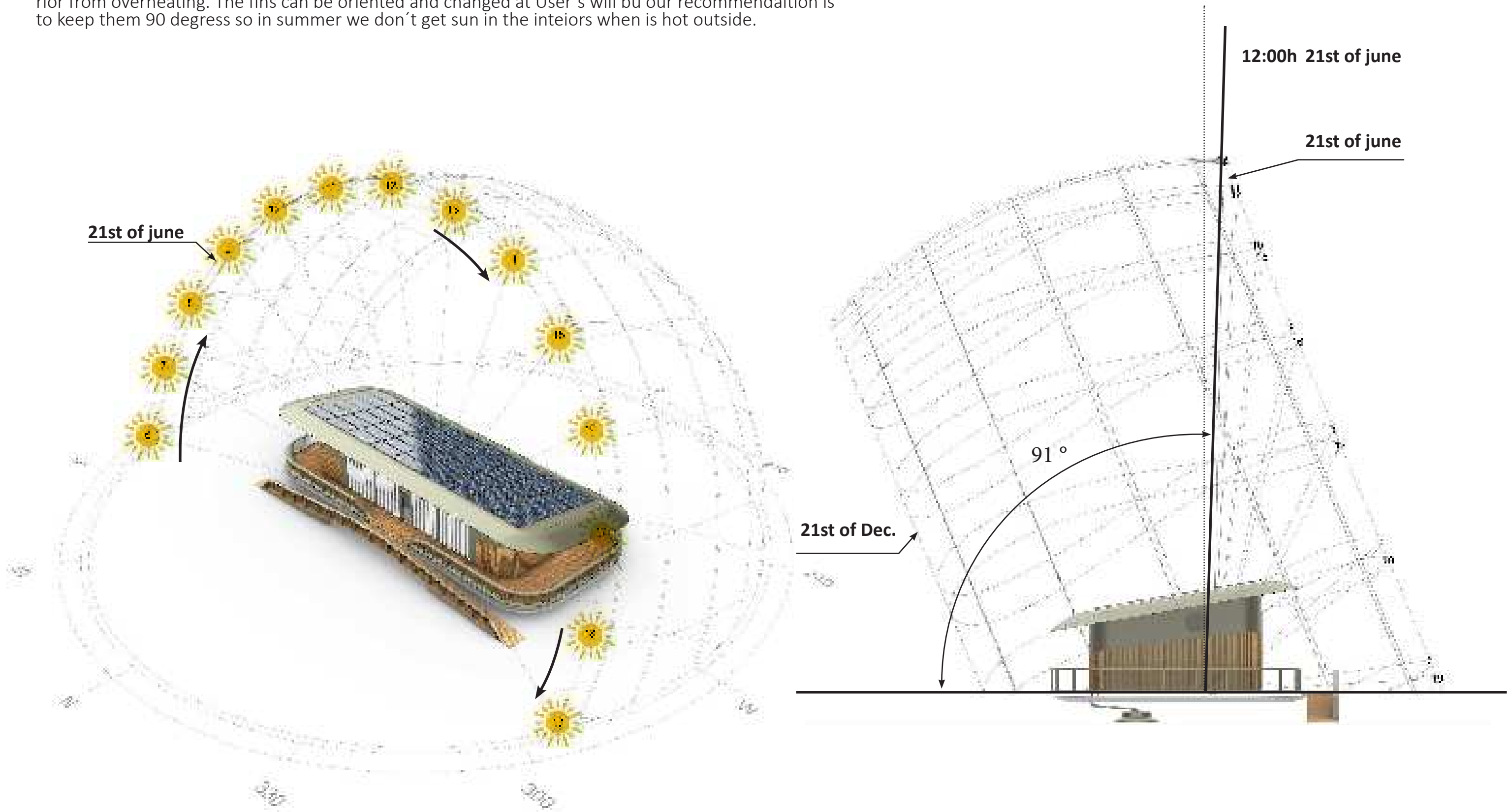


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Solar Studies

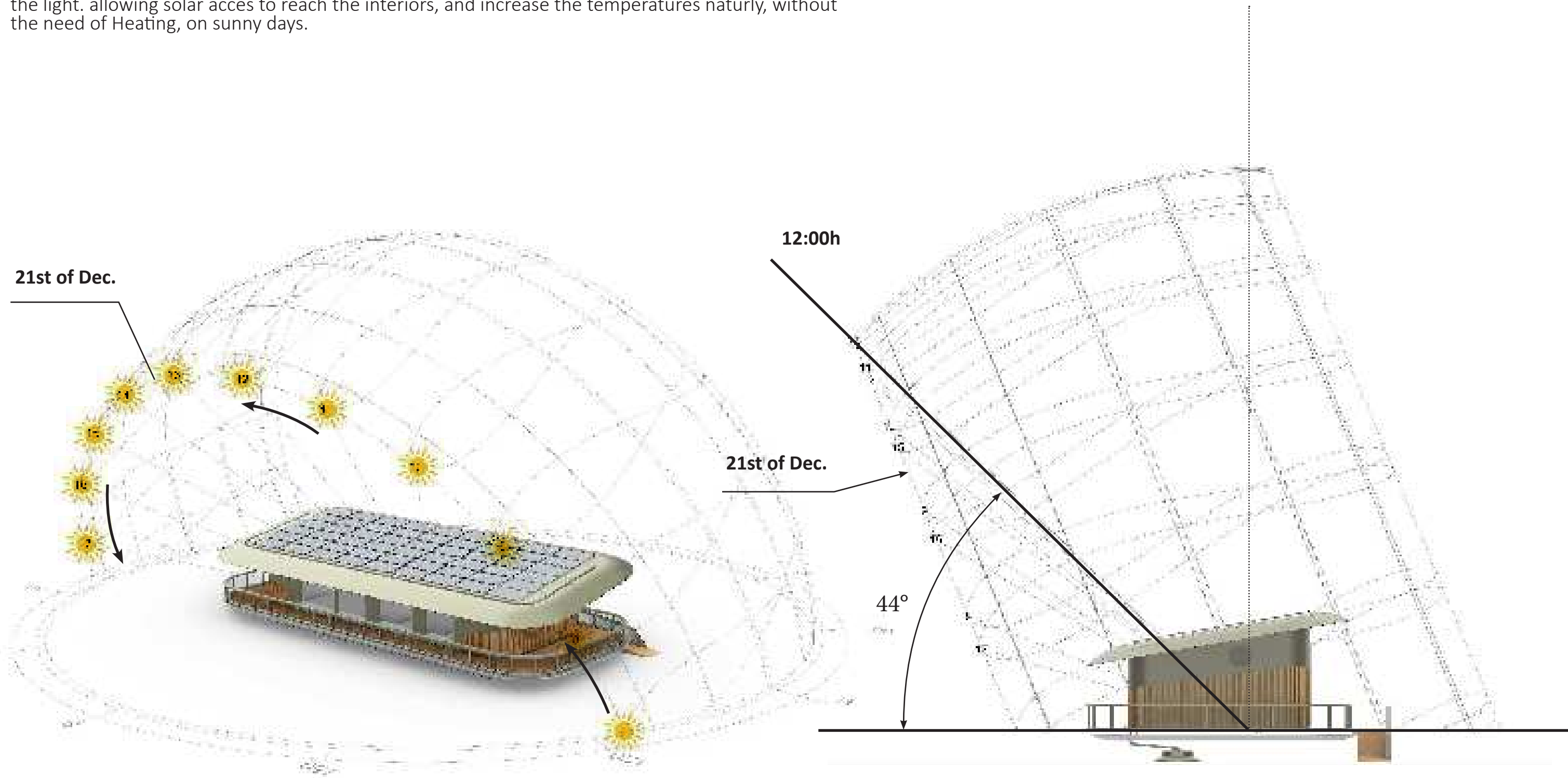
Summer Sun dynamics

In summer sun Angles are higher, there fore the overhang of the cabin and the fins, protects the interior from overheating. The fins can be oriented and changed at User's will bu our recommendaiton is to keep them 90 degress so in summer we don't get sun in the inteiors when is hot outside.



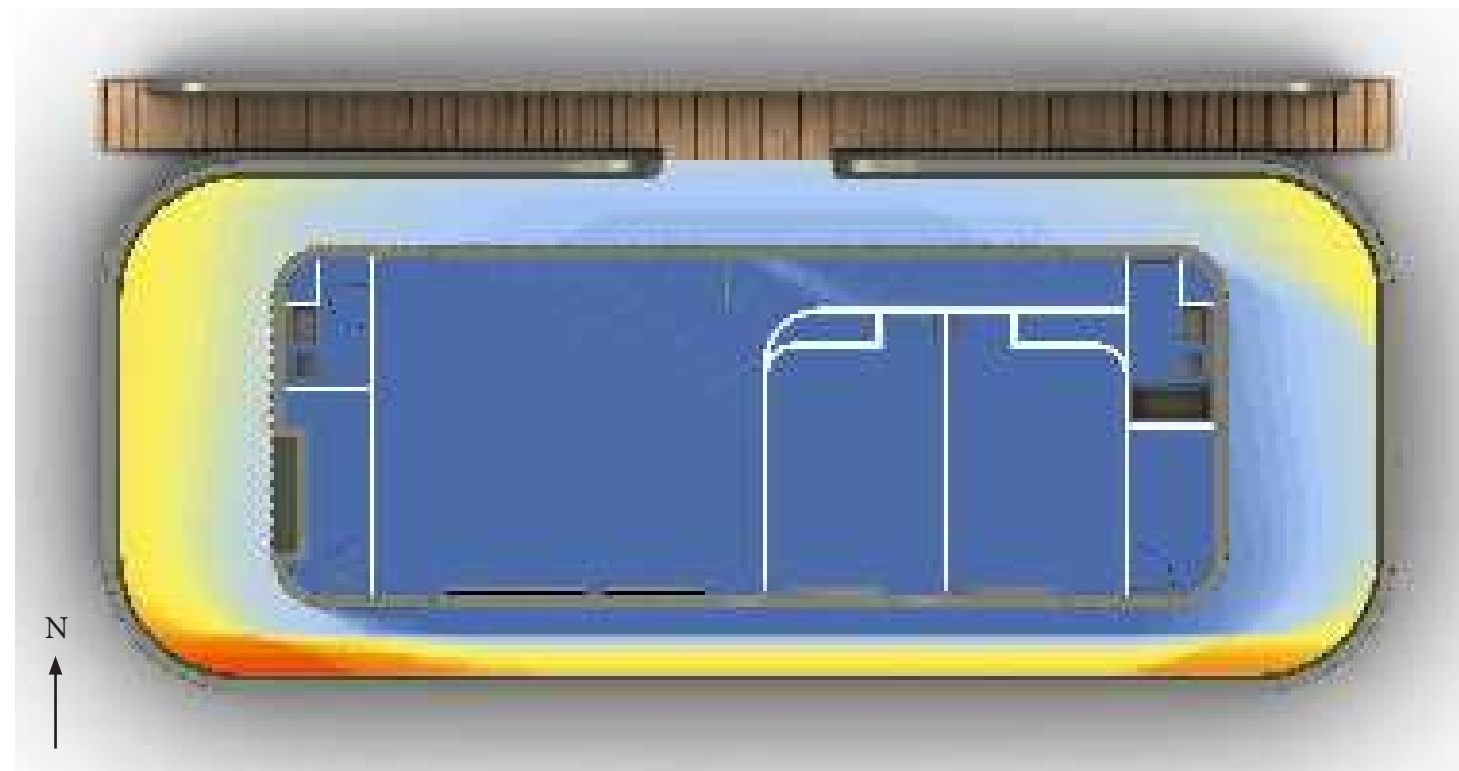
Winter Sun dynamics

In winter the sun angles are lower, therefore the overhang of the cabin and the fins, won't obstruct the light, allowing solar access to reach the interiors, and increase the temperatures naturally, without the need of Heating, on sunny days.



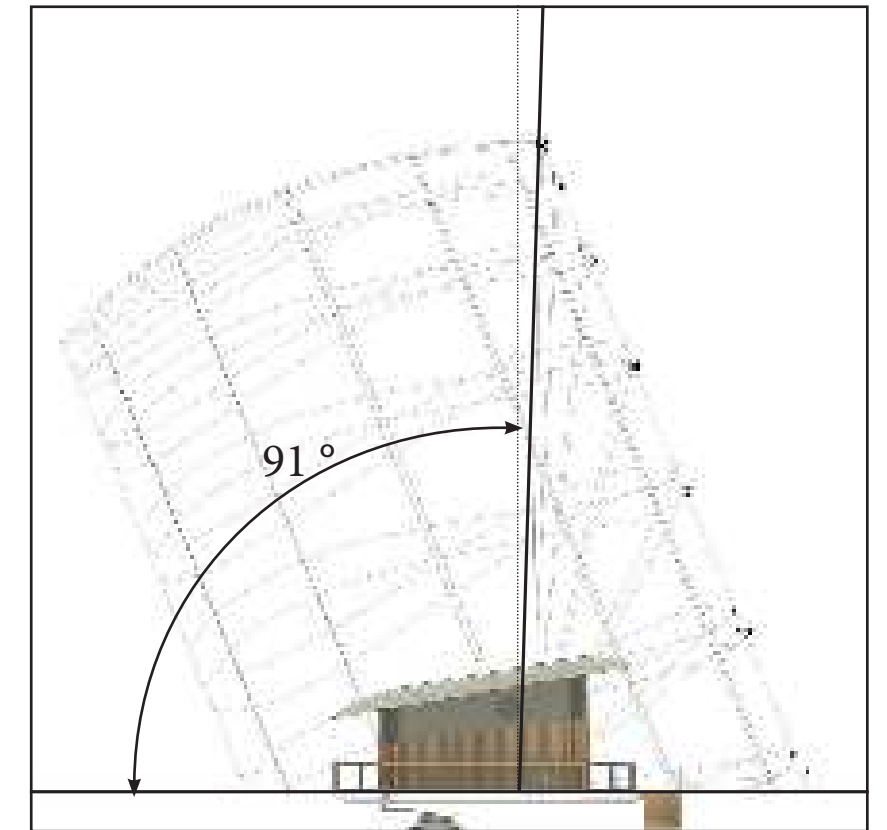
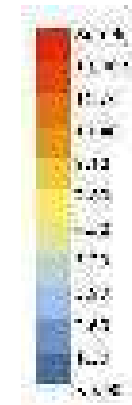
Summer indoor exposure

21st of June



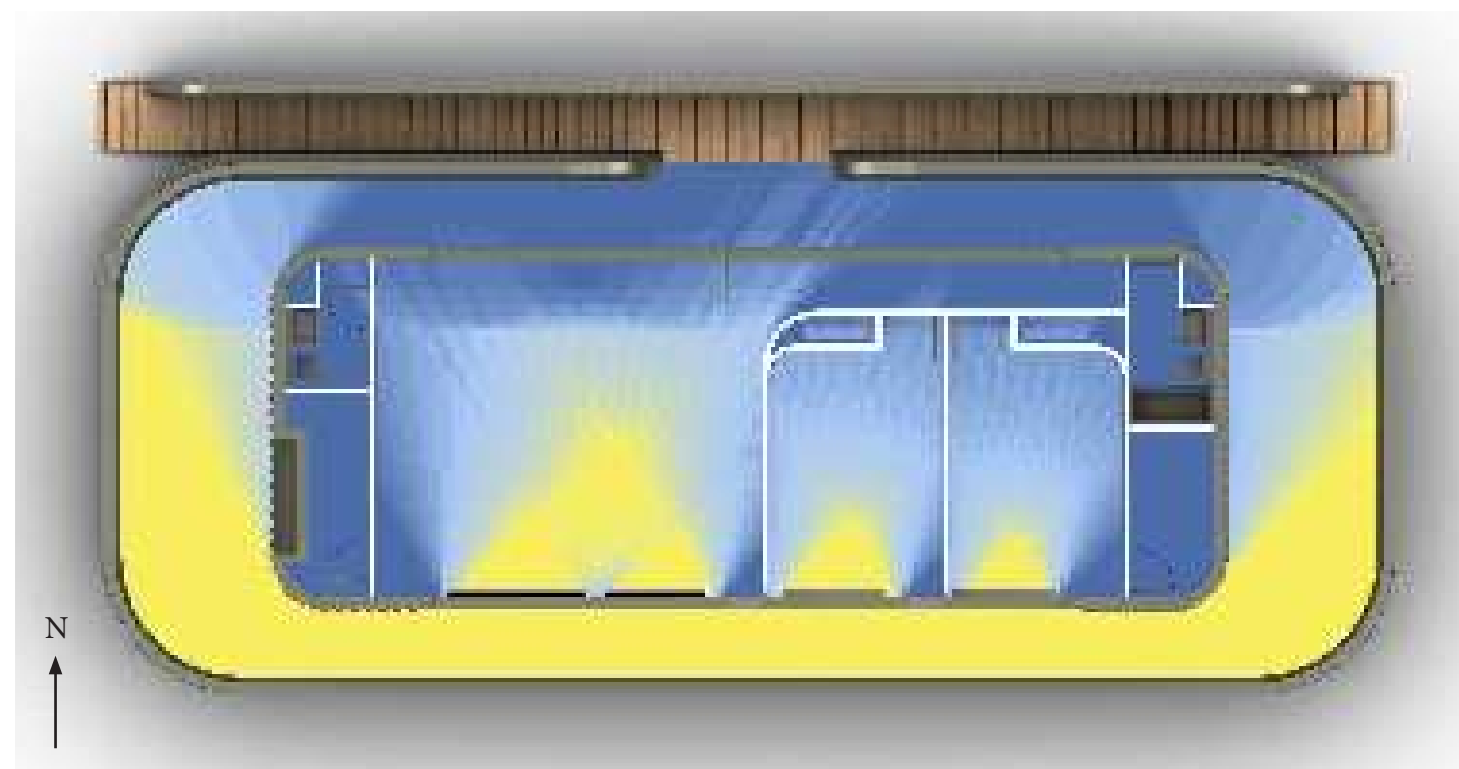
Summer protection

In summer sun Angles are higher, there fore the overhang of the cabin and the fins, protects the interior from overheating. The analysis shows that the interior is completely shaded over the Summer solstice, what is desired.



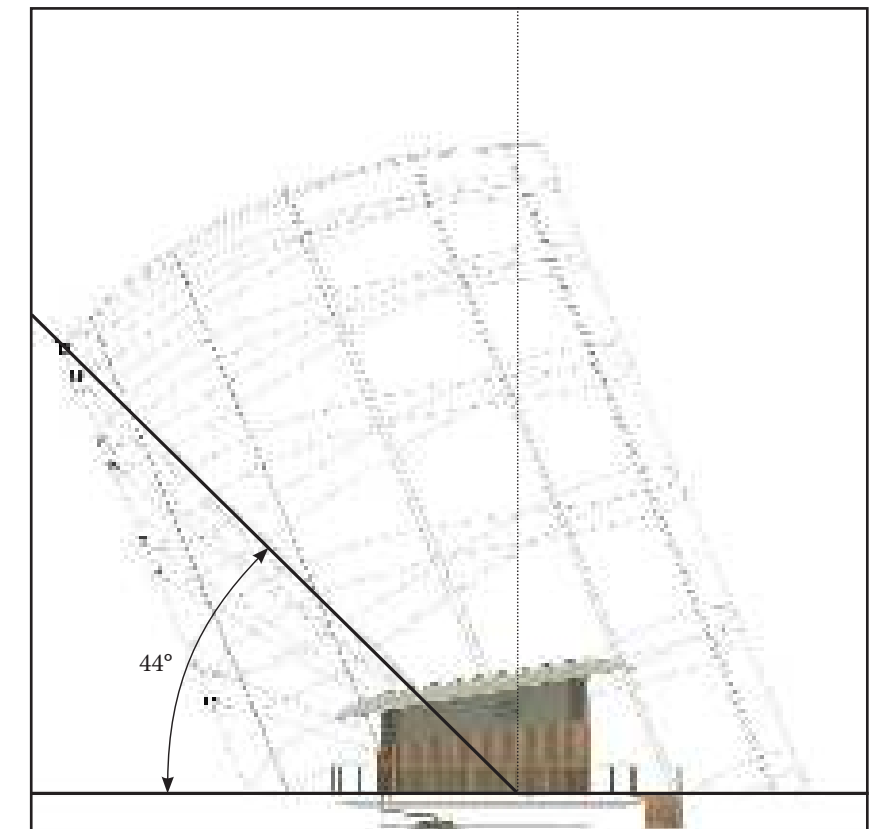
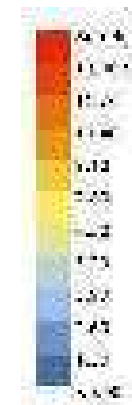
Winter indoor exposure

21st of December



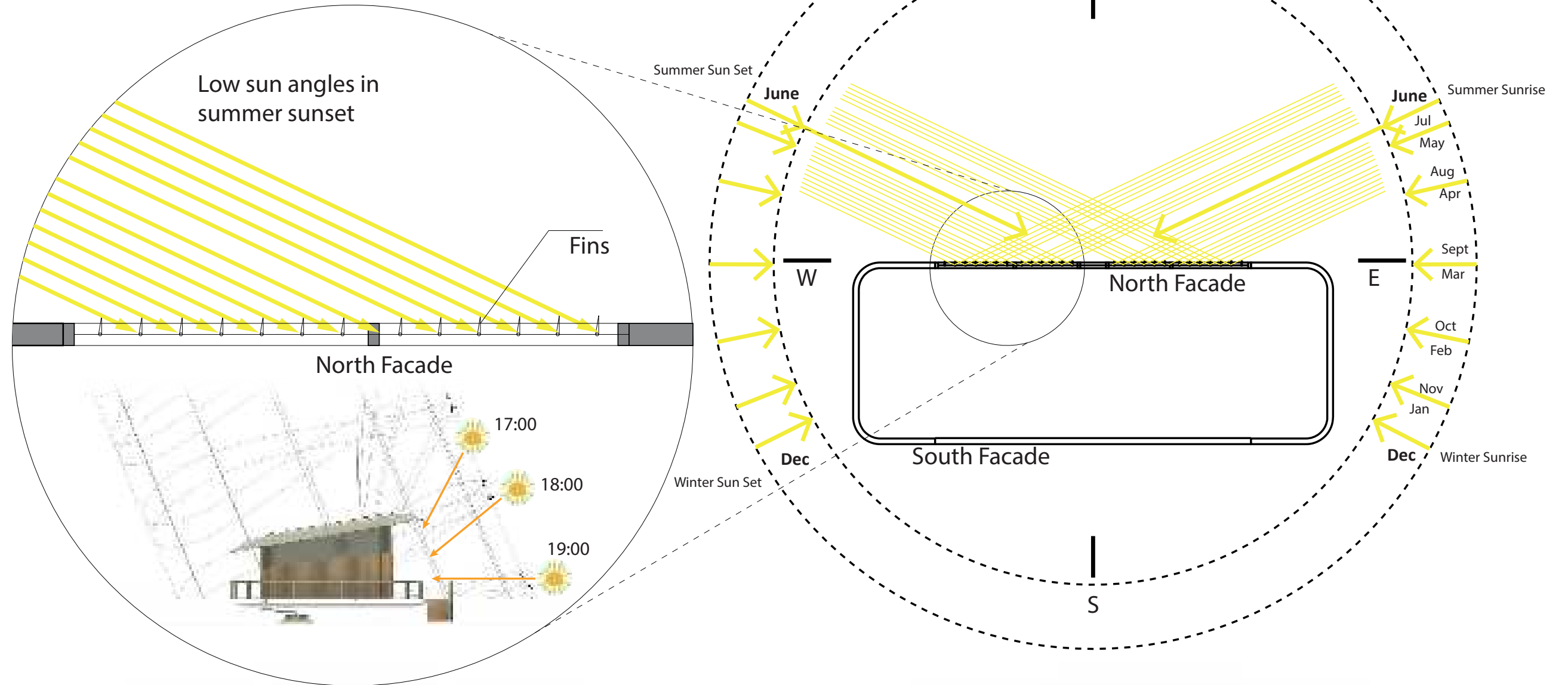
Winter Exposure

In winter the sun angles are lower, therefore the overhang of the cabin don't obstruct the sun, allowing its access. The analysis shows that the interior is exposed several hours a day on winter solstice. What is good for passive heating.



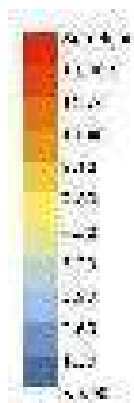
The importance of vertical fins in north façades

Full glazed façades oriented to north still receive direct sun in summer months. If we don't protect them, low sun angles from 16.30 to sunset will overheat the interiors and the glazing, increasing indoor temperatures, causing higher demand of Air conditioning. So for a full passive house we recommend solar protection in this façades.



North Facade withouth vertical fins

North Facade with vertical fins



Natural light in a typical overcast day

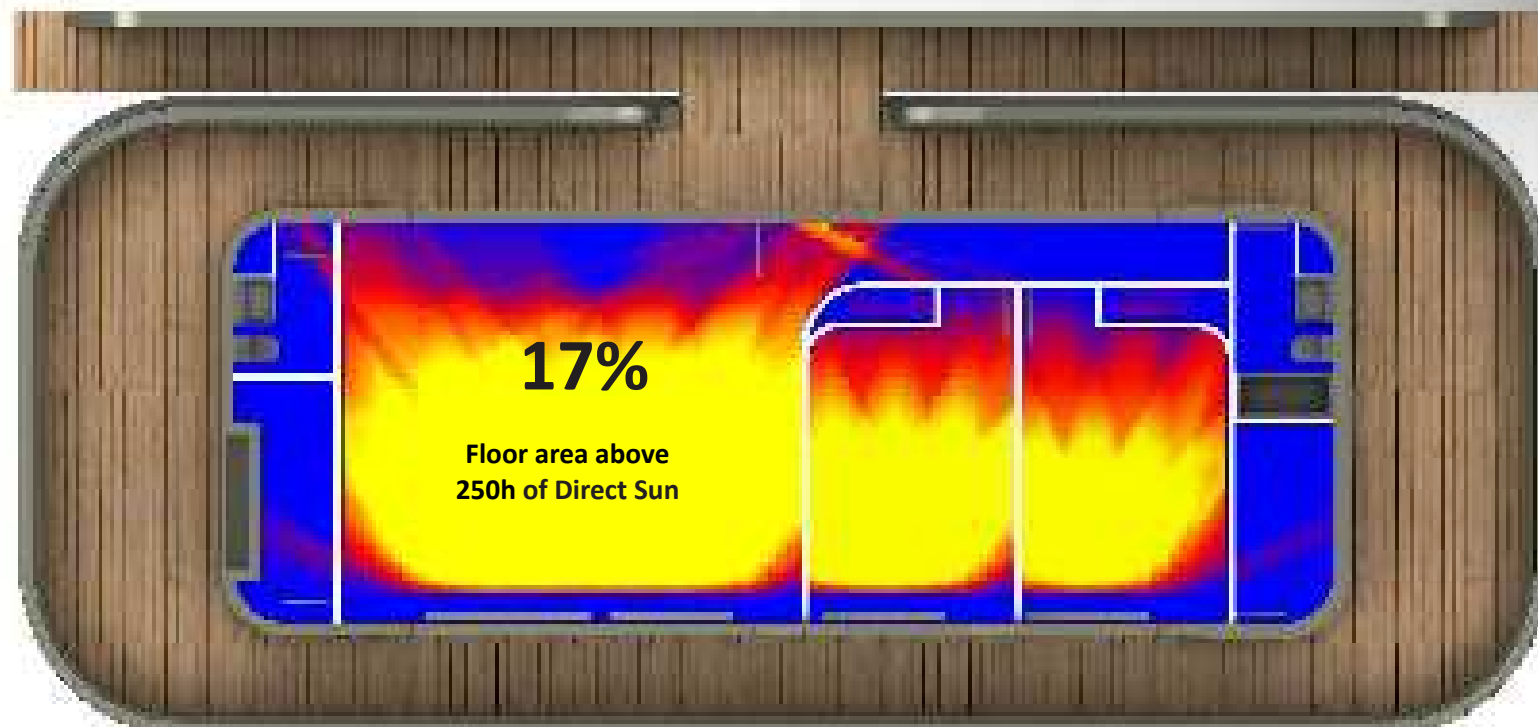
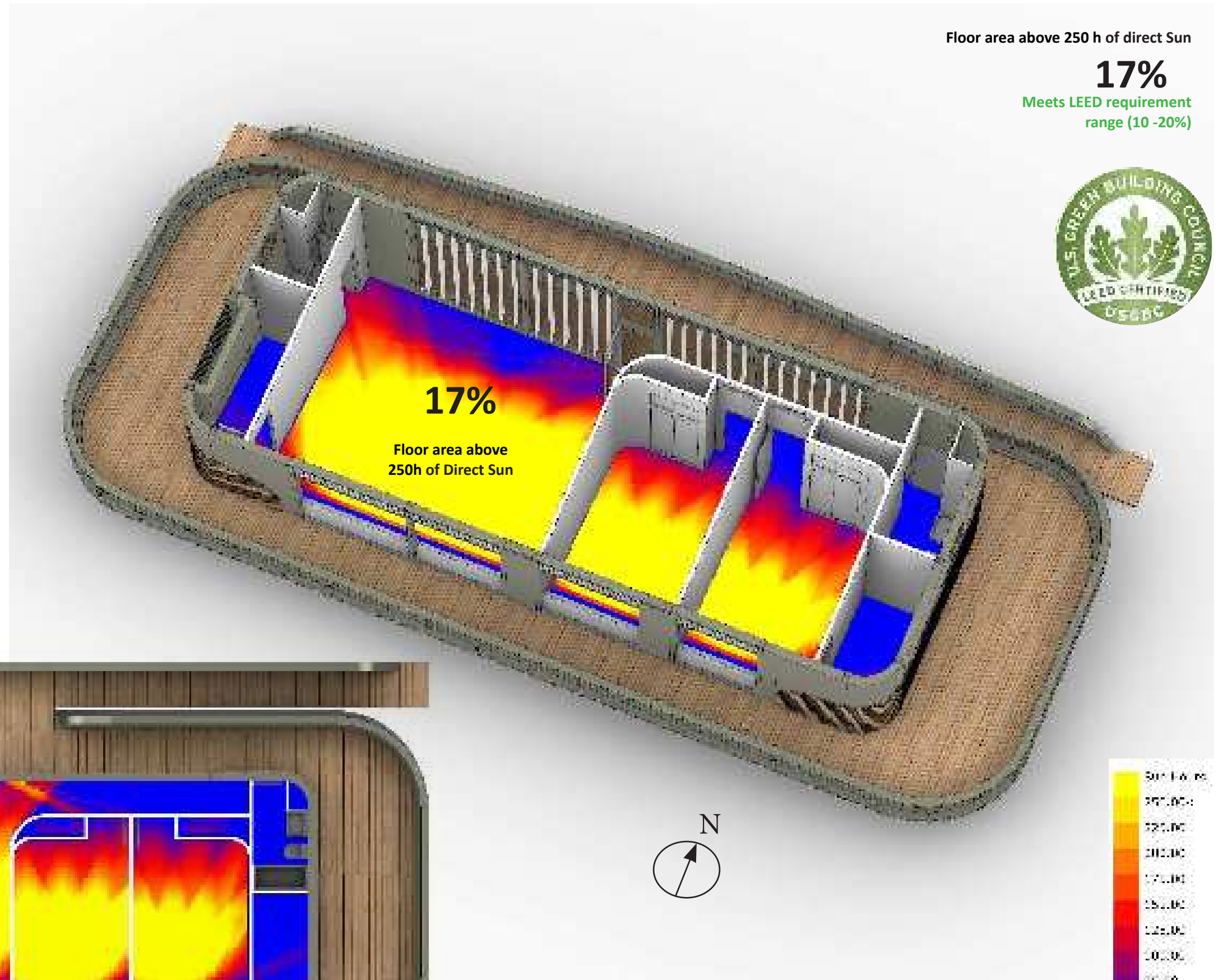


This study is meant to control the excess of Direct sunlight, to improve Thermal comfort, setting up a Max tolerable level of 250h of sun in 10 to 20% of the indoor floor area, of the regularly occupied space, from 8.00h to 18.00h. Any excess can be controlled with window shutters or roller blinds

Floor area above 250 h of direct Sun

17%

Meets LEED requirement range (10 -20%)



Natural light in a typical overcast day

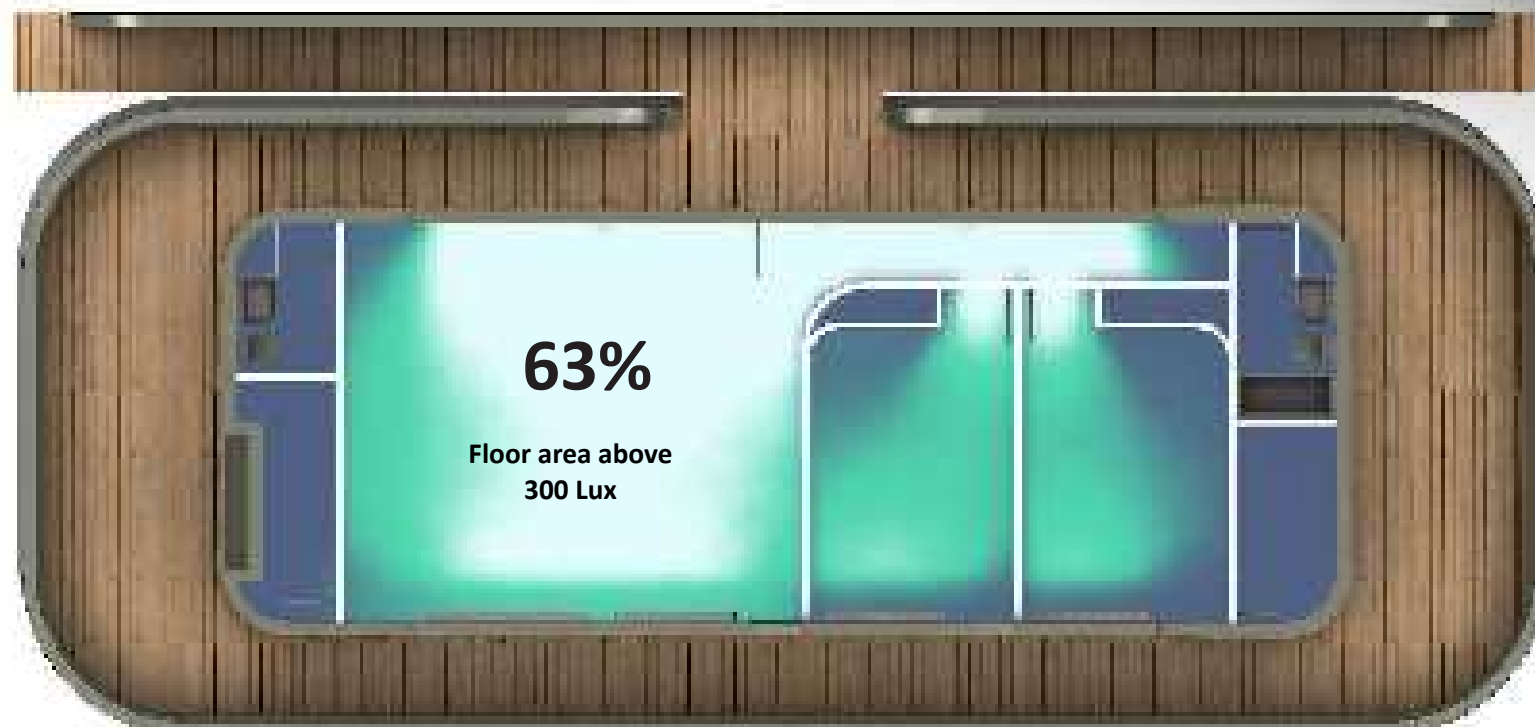
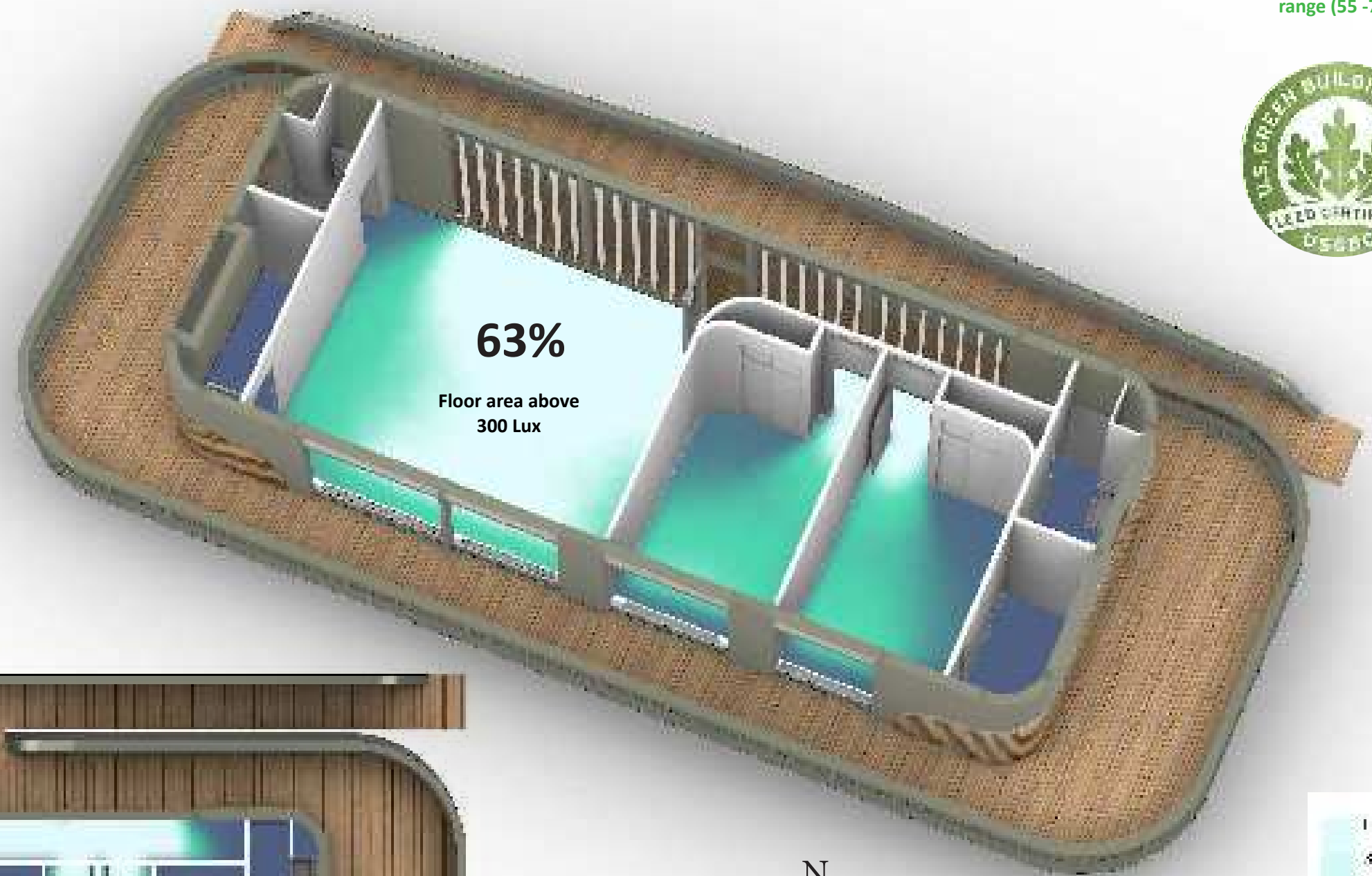


This study is meant to ensure enough daylight on a typical day with cloudy skies. Average Illuminance value of a totally covered sky in Viena is 25900 Lux. LEED certificate requires in between 55% to 75% of the regularly occupied space, to receive 300 Lux, from 8.00h to 18.00h

Floor area above 300 Lux of Natural light

63%

Meets LEED requirement range (55 -75%)



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Colour Studies

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Green Moss and timber



Mikonos Blue and timber



Root Beer and timber



Fire Whirl and timber

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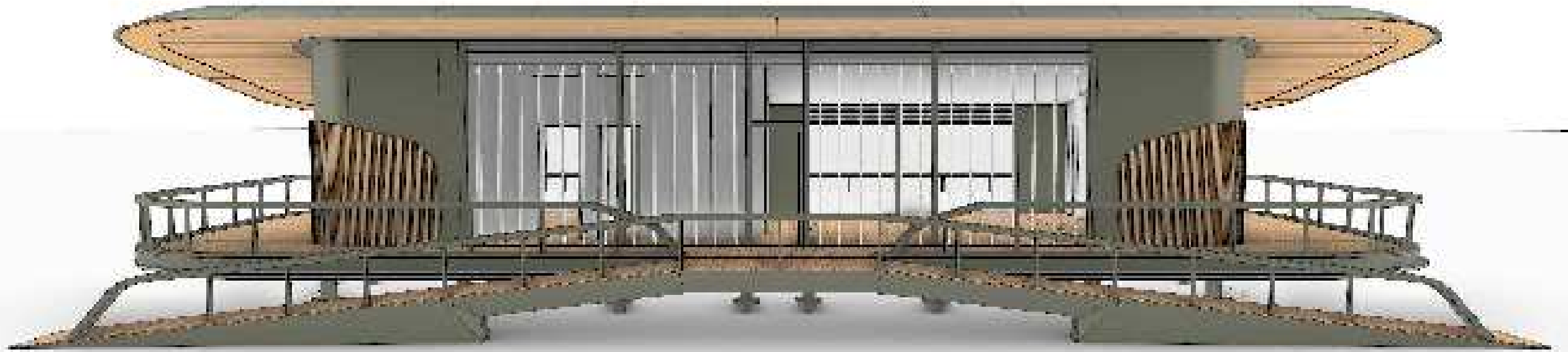
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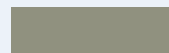
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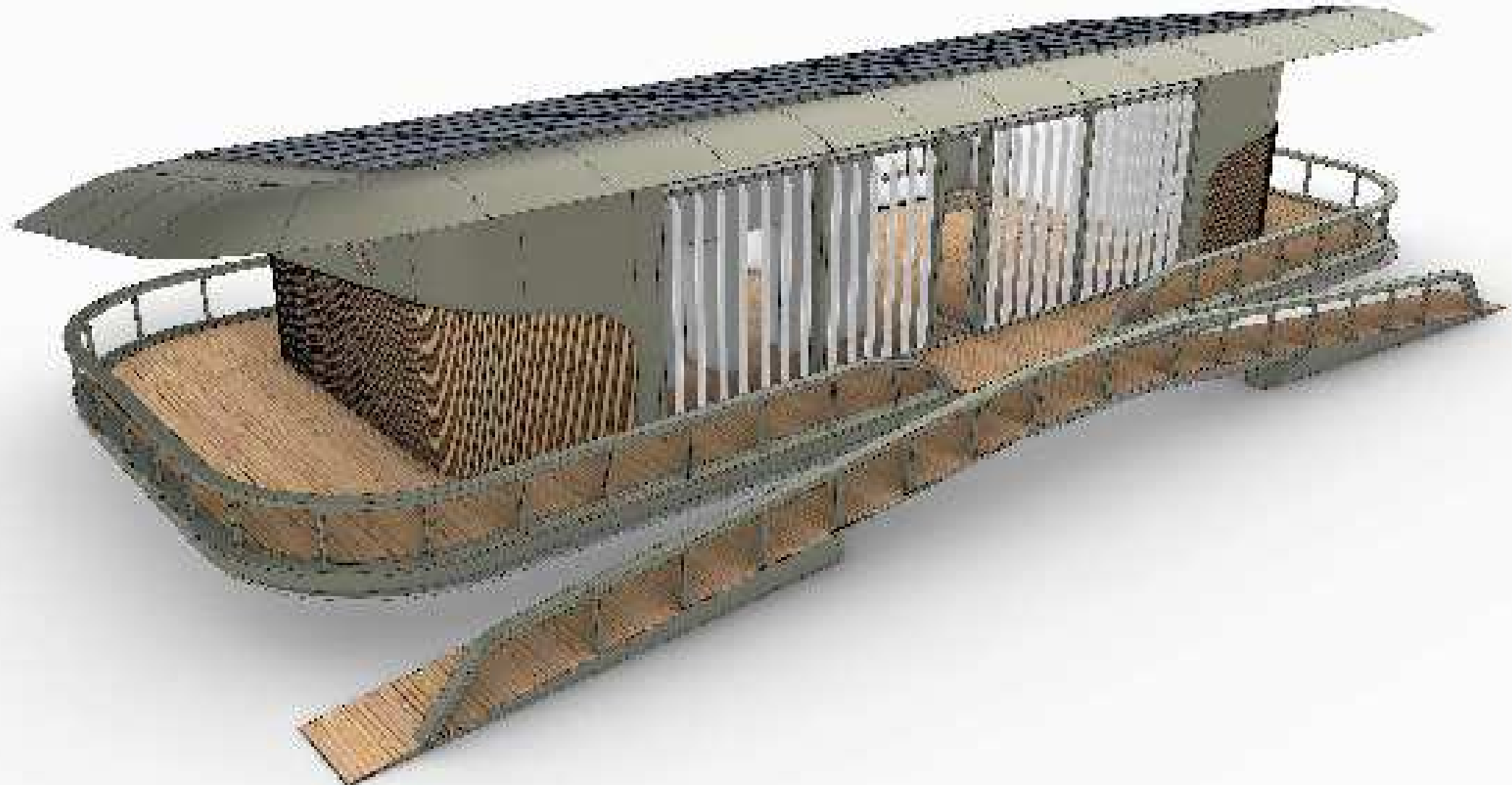
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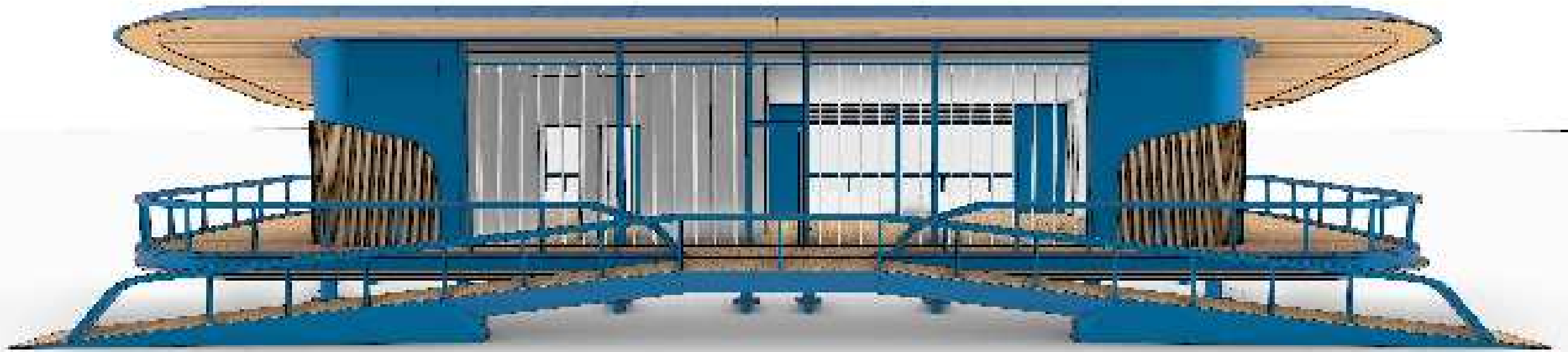
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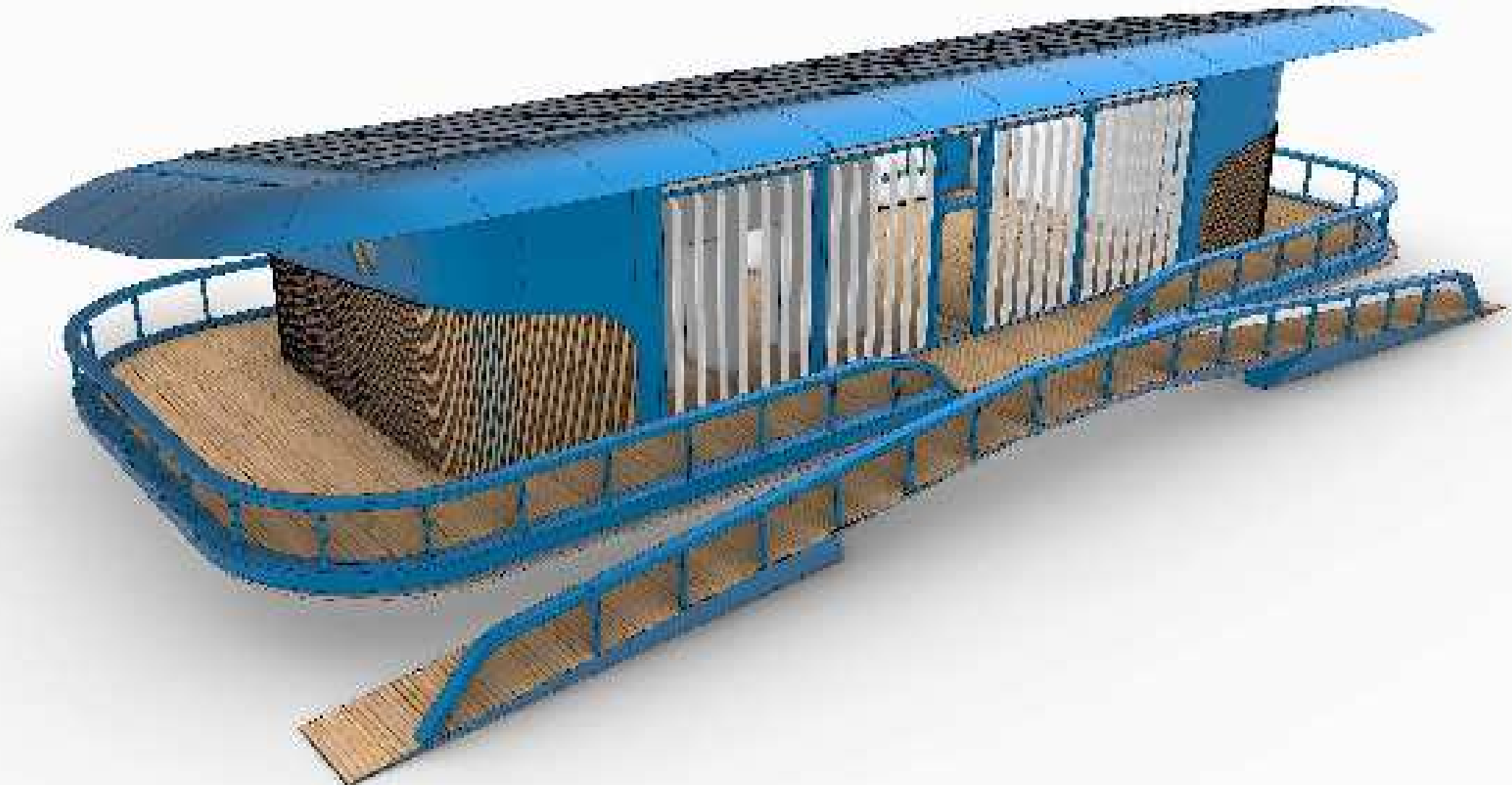
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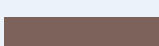
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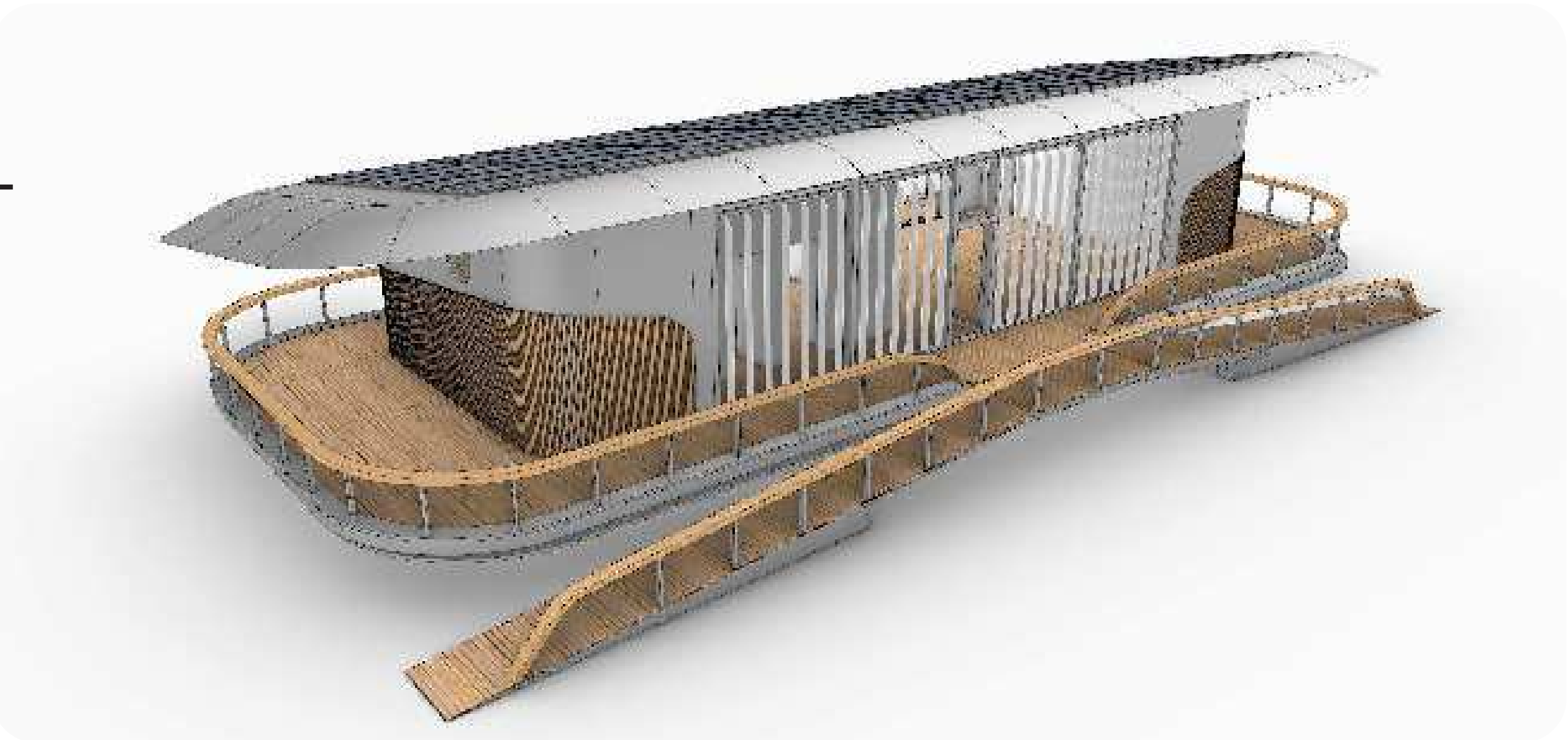
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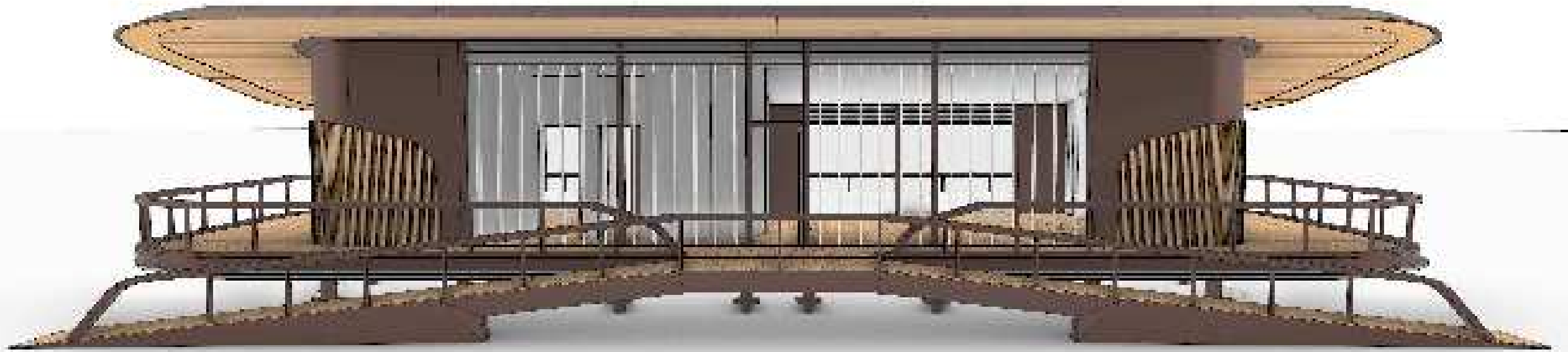
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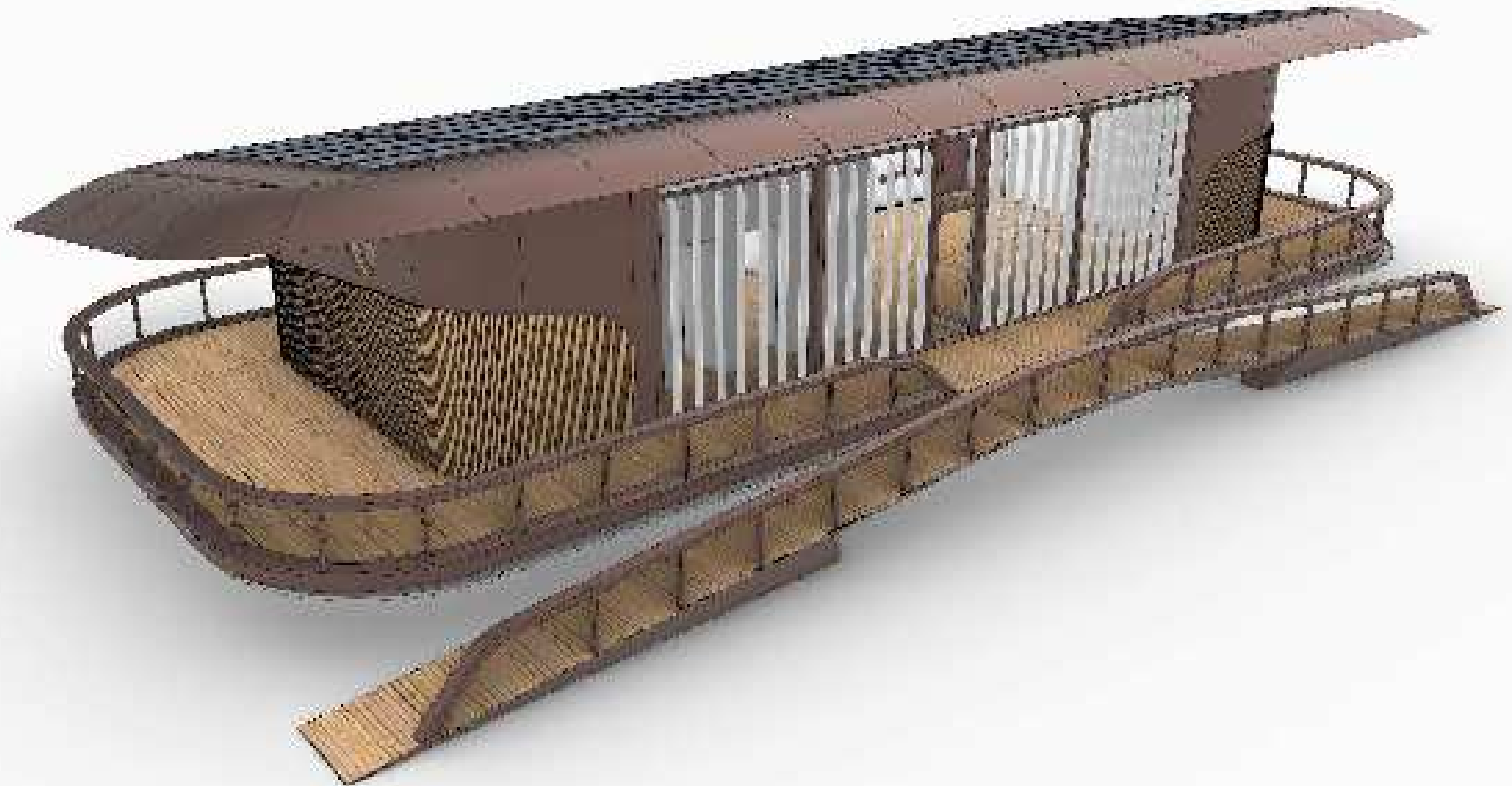
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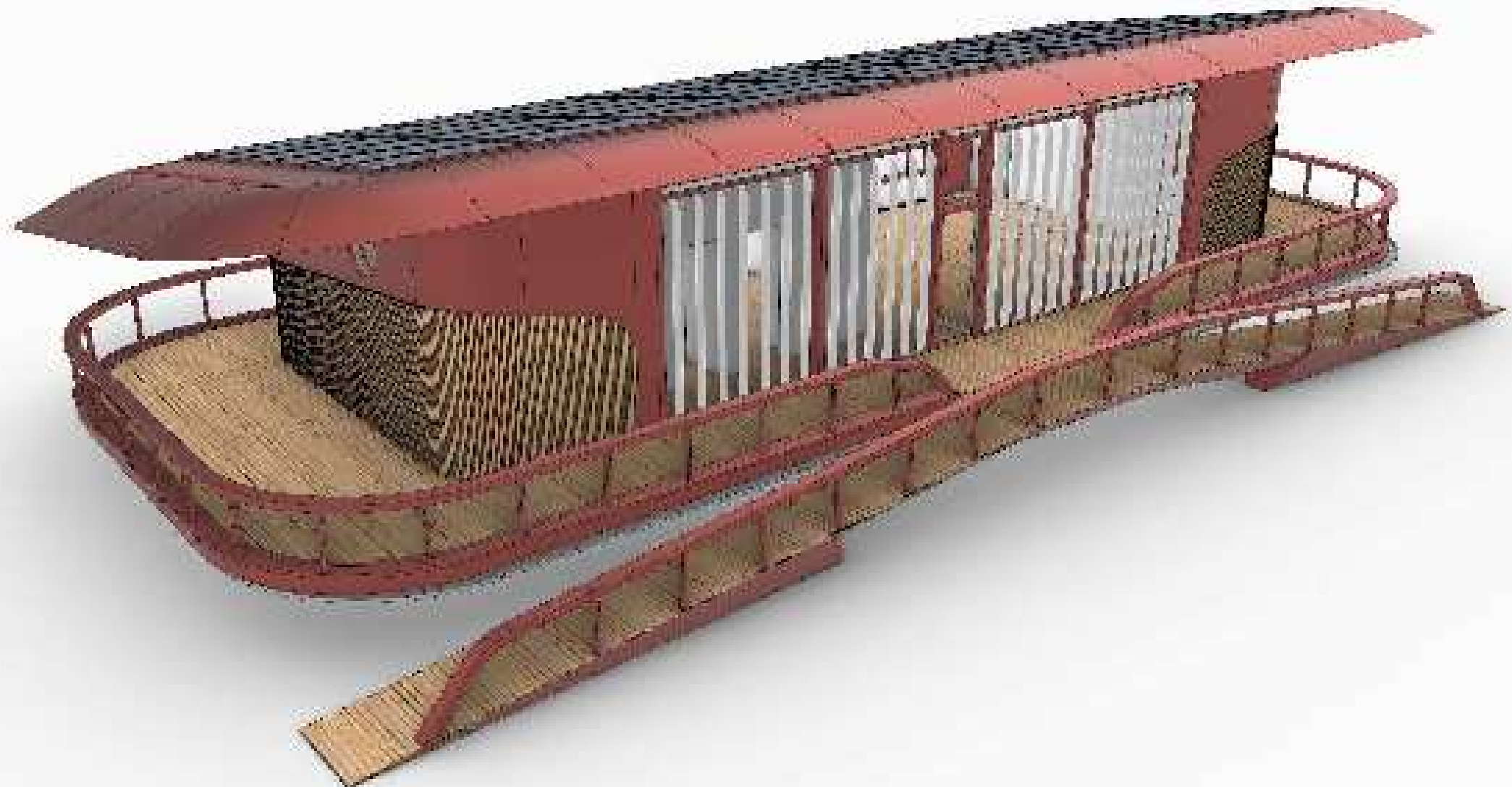
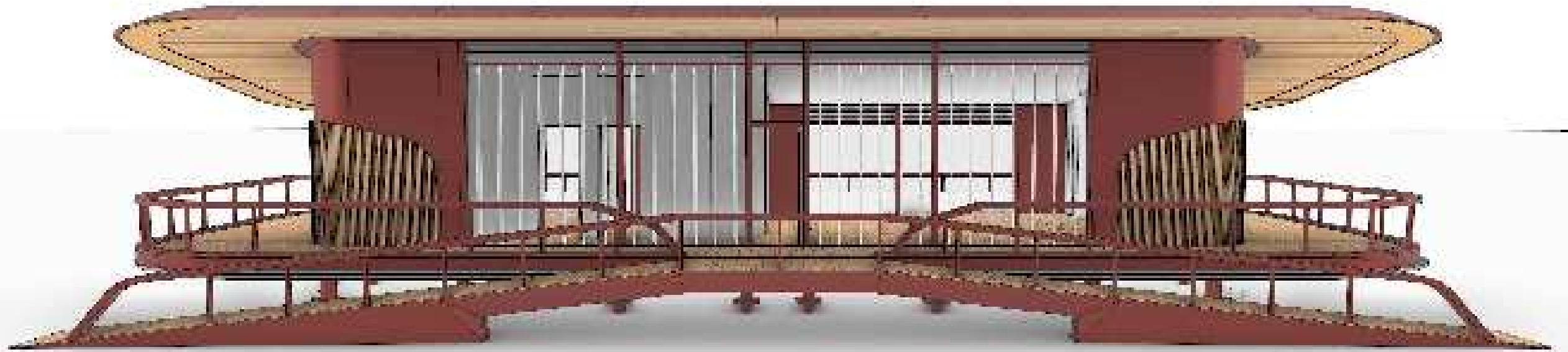
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Structure

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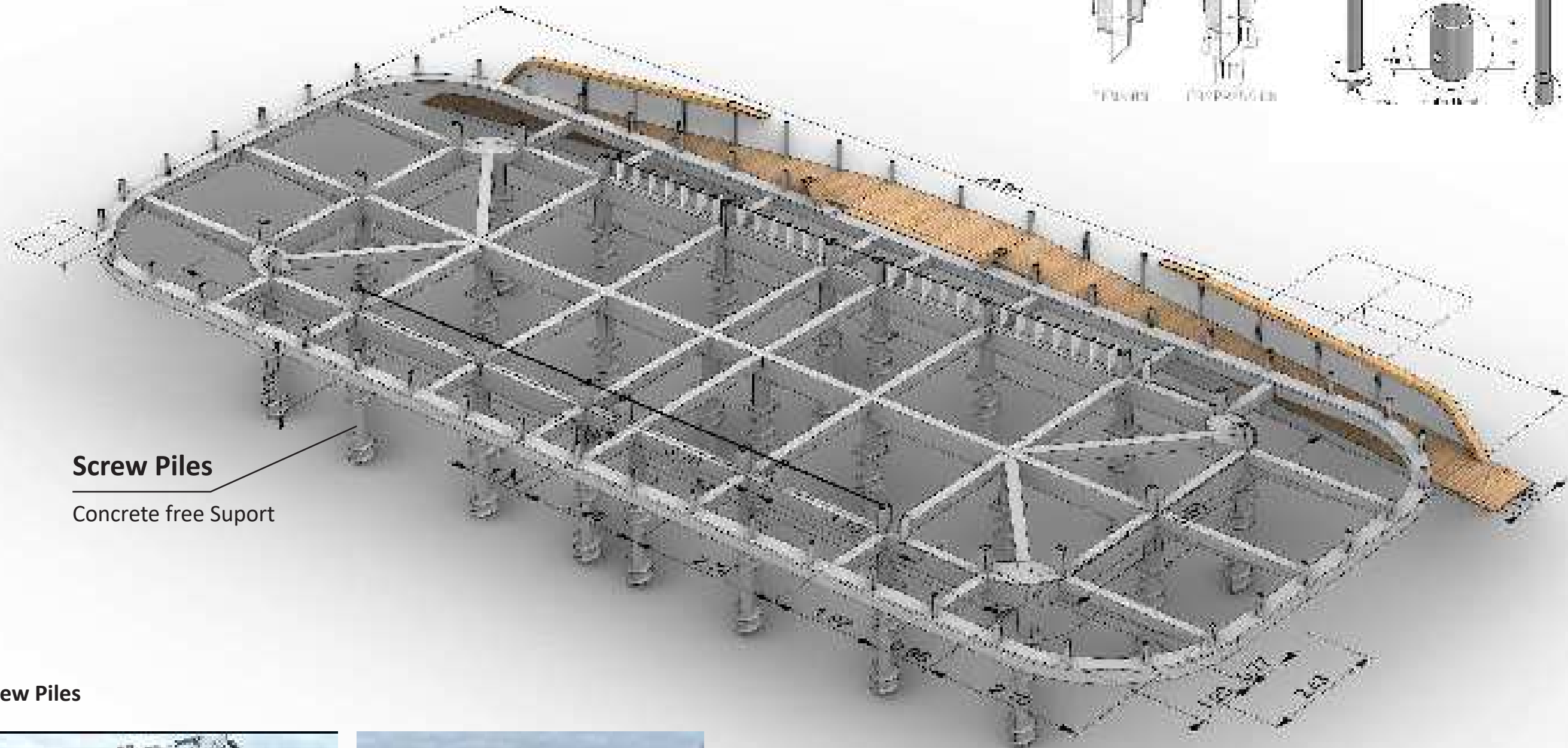
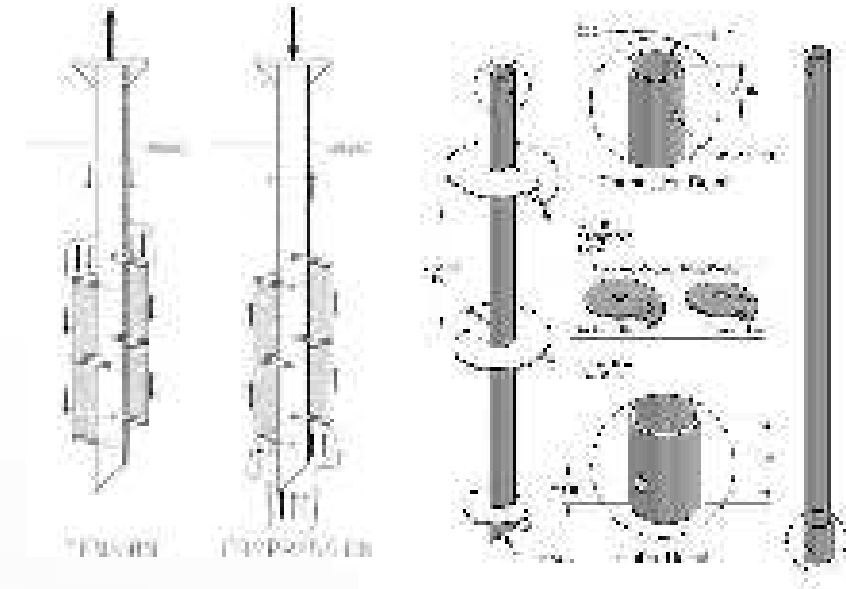
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Screw Piles

The main advantage is that they don't require concrete foundations, and can be removed after the building life cycle is over, without a major impact on the site.



Screw Piles

Concrete free Suport

Screw Piles



**Structure Preview. Not calculated.
Dimensioning will need to be agreed with
structural engineer**

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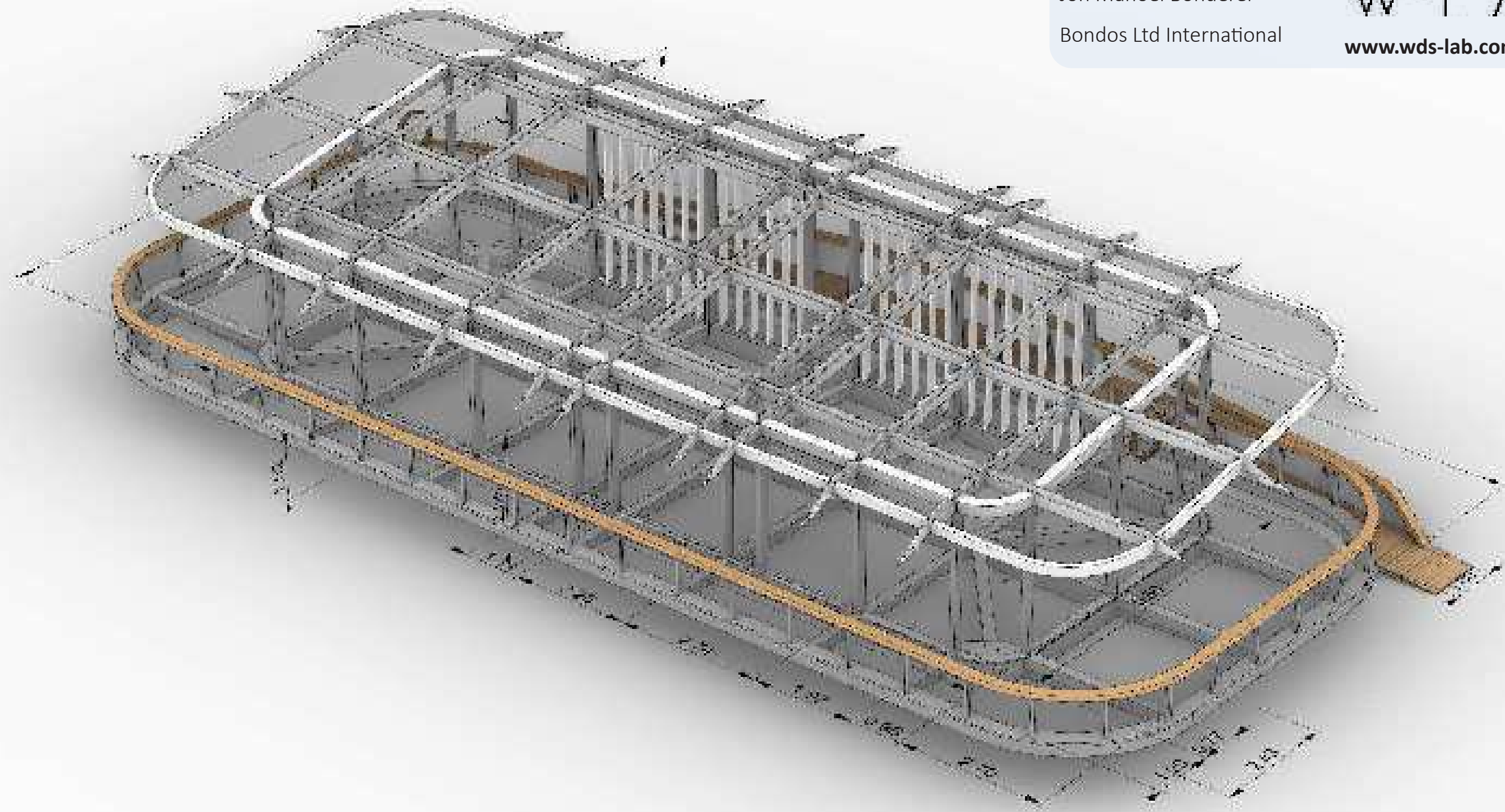
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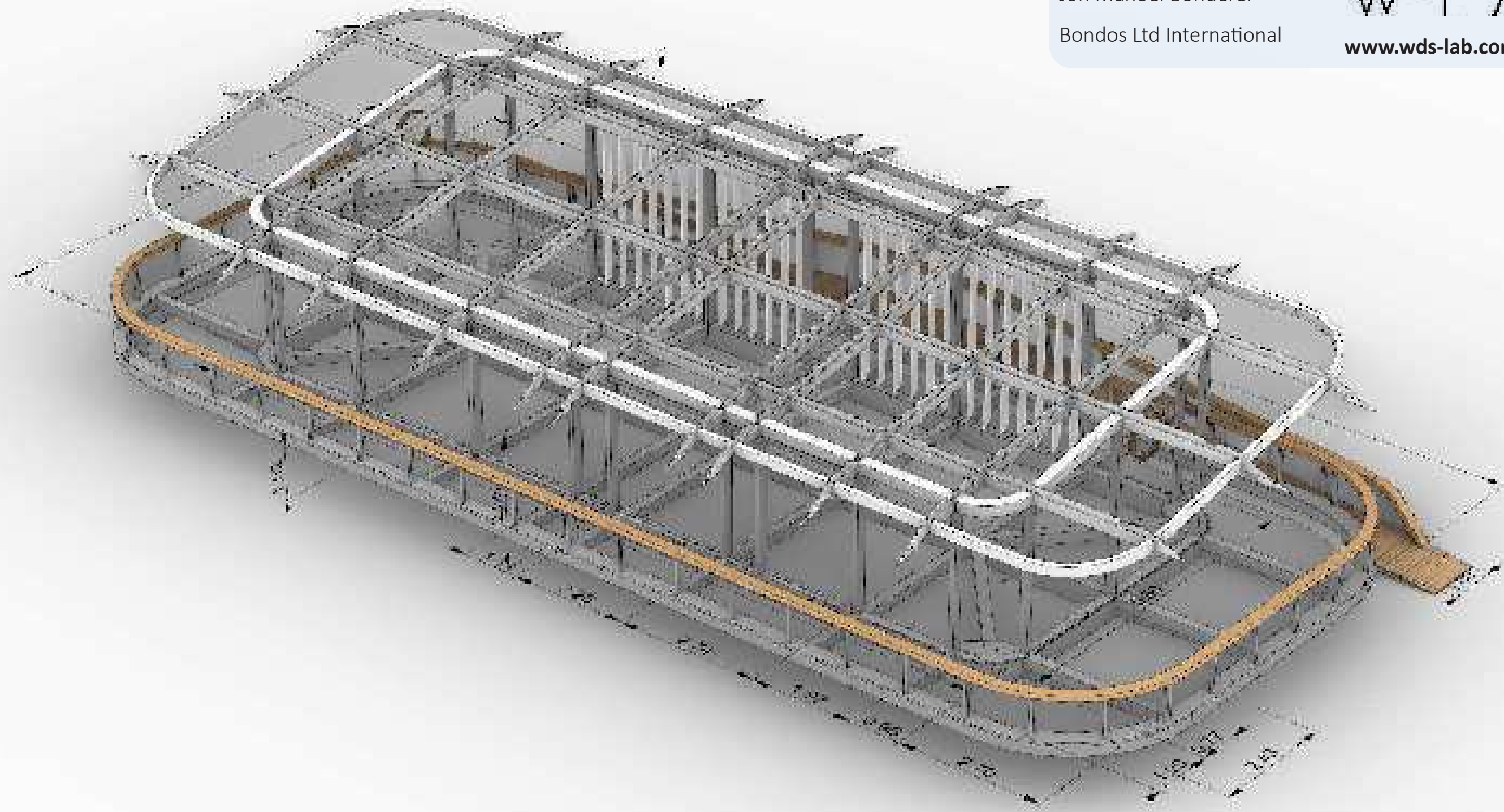
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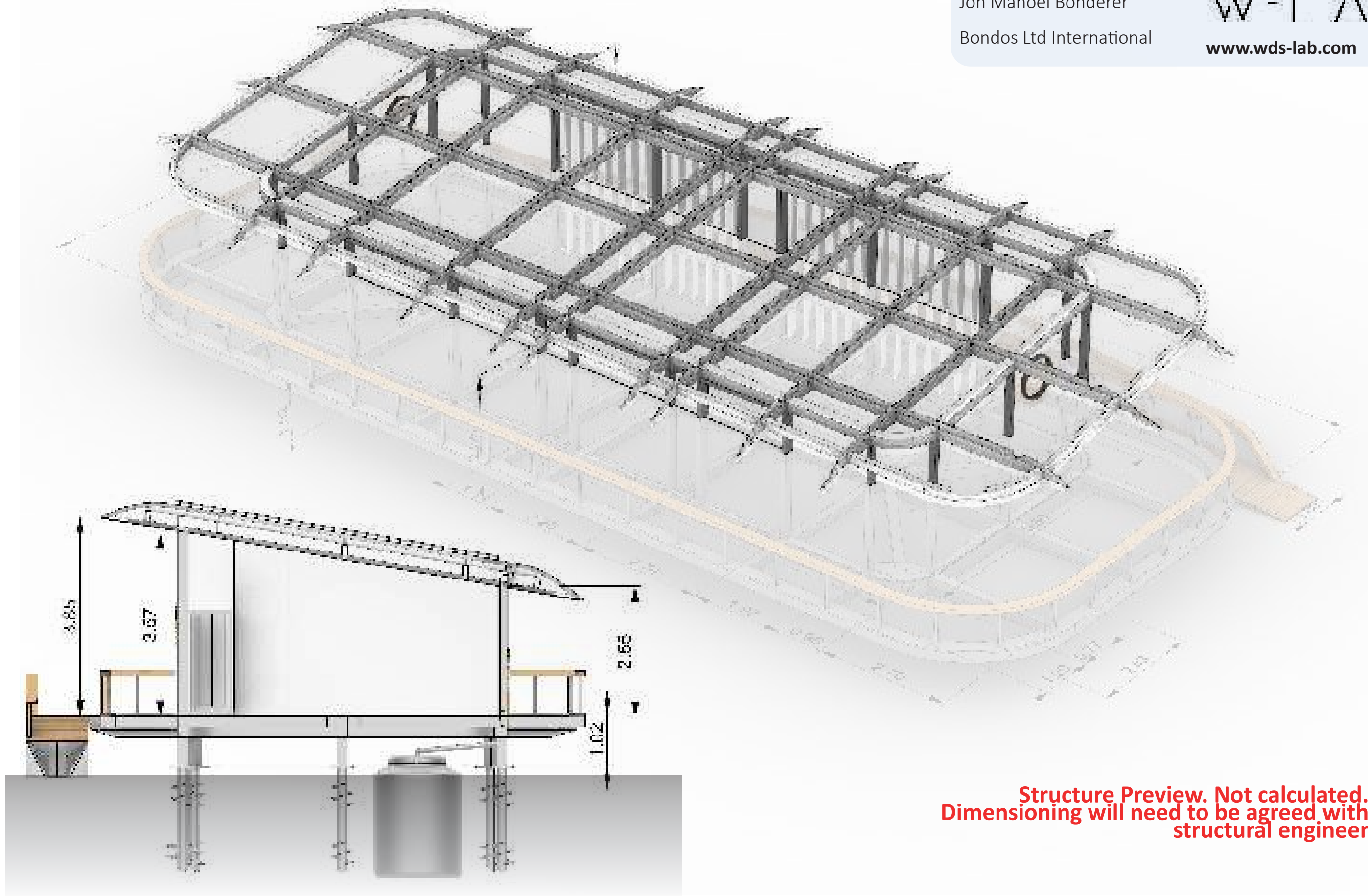
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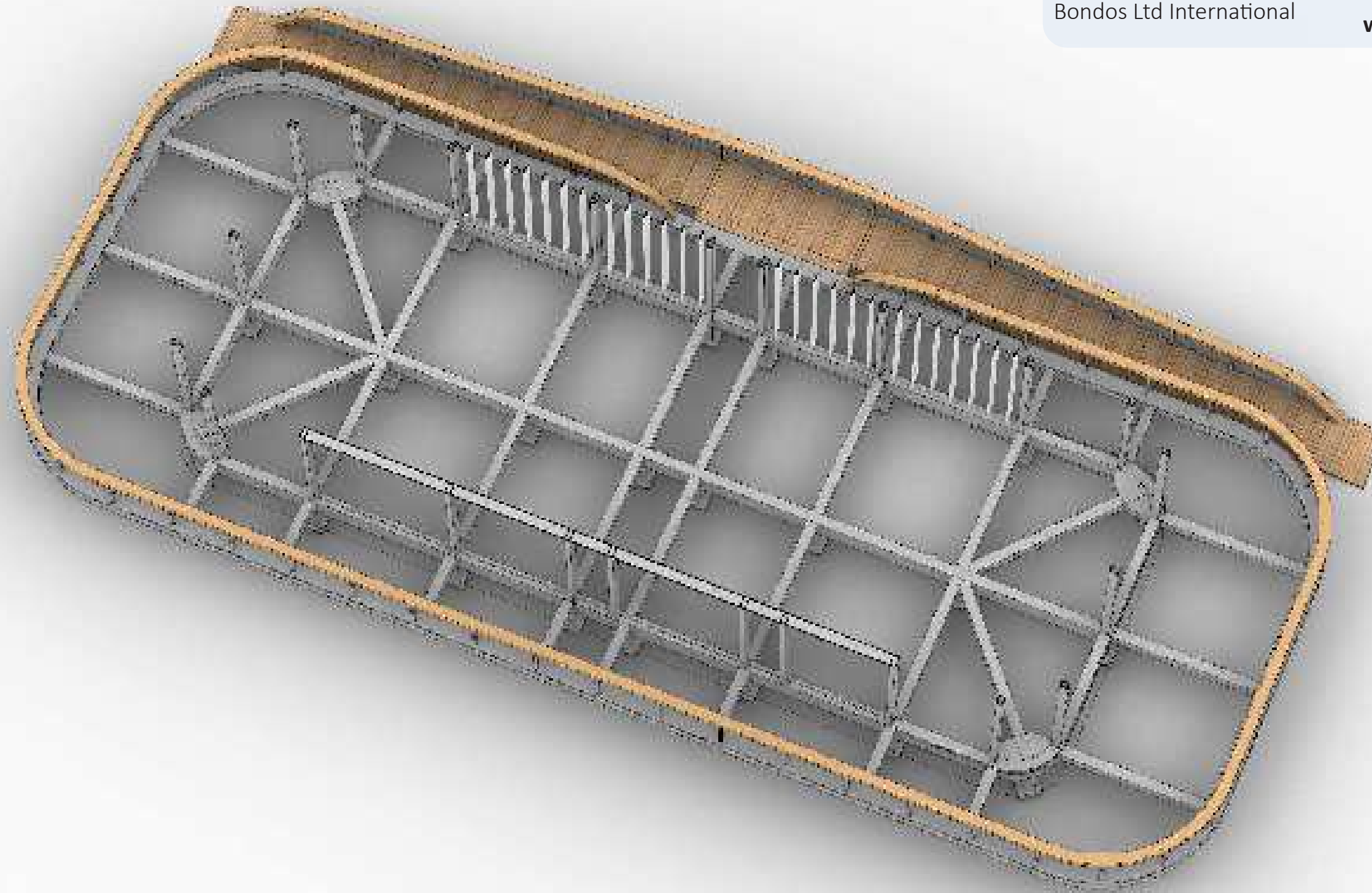
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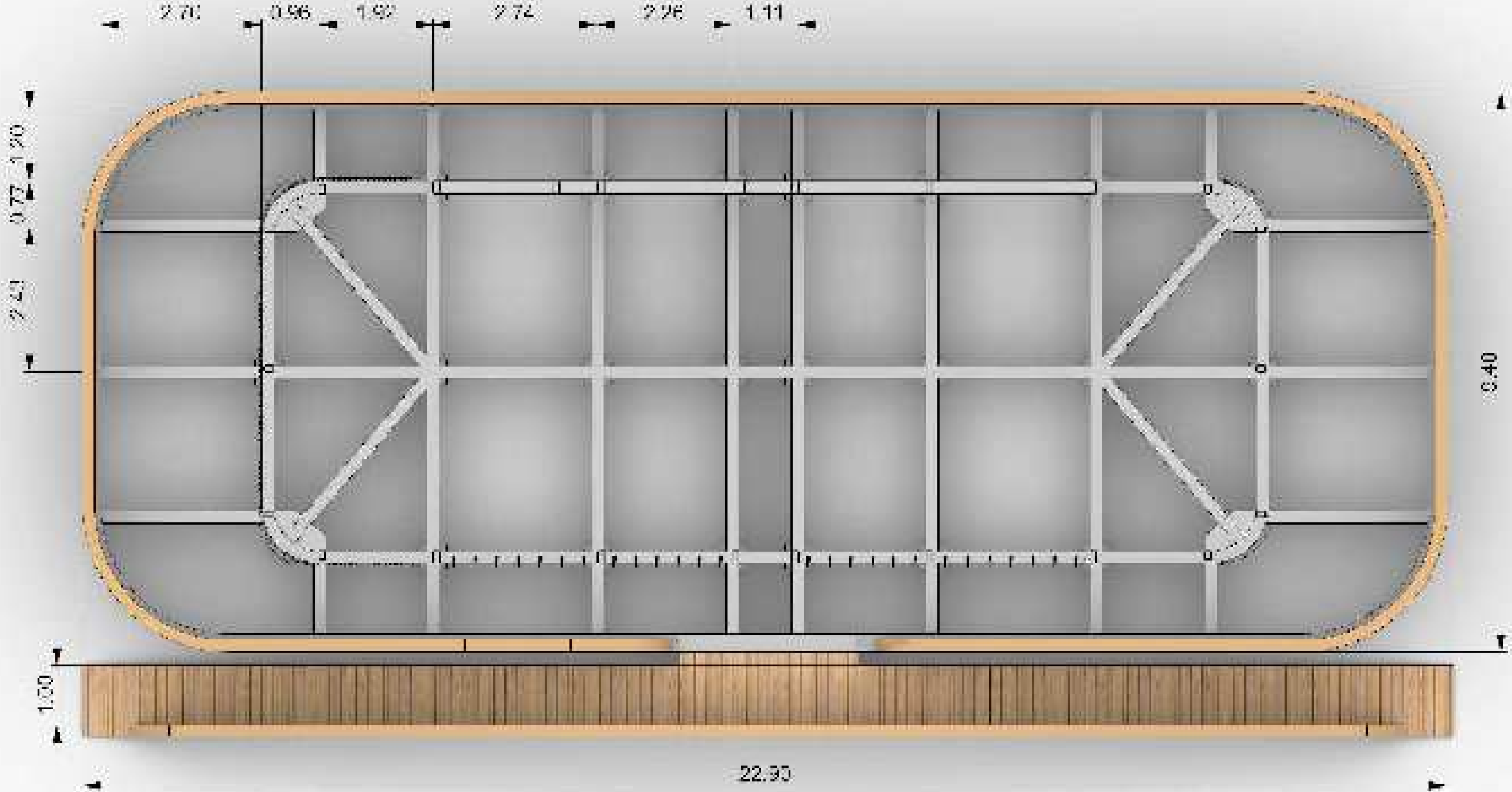
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