

SAMUDRAMANTHAN

In Association With

12th
edition



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TECHINDCARPET

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- Standardization of Boat Designs In India

Indian Institute of Technology
Kharagpur



Event Description

TechnoArch is an all new event aimed at cultivating knowledge and creativity among the budding naval architects of the nation.

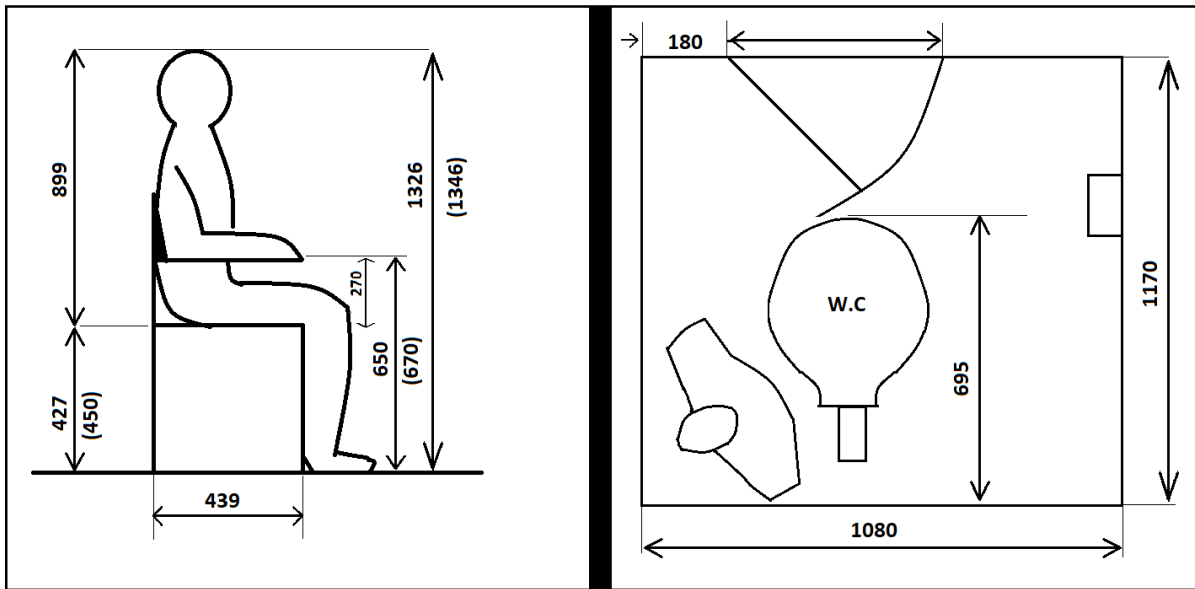
The event provides a platform to design a boat which could be further scaled up and optimized for real life applications. The best designs, however, not necessarily, would be a part of the S2i2 (Sagarmala Startup and Innovation Initiative) and would be further considered for modifications and improvisations.

Problem Statement

The basic idea behind this event is the 'Standardization of Boat Designs in India'. In order to work on the same, the participants can choose among two vessel types - namely **Inland Passenger Ferry** and **Fishing vessel** (*ocean going*). The required details are mentioned below:

Inland Passenger Ferry -

1. LOA = 30 m , Breadth = 9 m , Depth = 3.5 m. (*Small deviations within a range of $\pm 5\%$ are permitted*).
2. Participants must design the GA Plan showing the space allocation for cargo, engine room, fuel oil, fresh water, staircase, crew-accommodation, passengers (150-200) and lavatory.
3. The plan must be such that all the passengers can have a comfortable seating in the area. The specifications of seating and lavatory are provided in the picture below. (All dimensions in mm).
4. The participants must design an emergency evacuation plan along with their deck plan.
5. The number of passengers may vary with the number of facilities provided (recreational services).



Seating and Lavatory Description

Fishing Vessel -

1. LOA = 19 m , Breadth = 6 m , Depth = 3 m. (*Small deviations within a range of $\pm 5\%$ are permitted*)).
2. Participants must design the GA Plan showing the space allocation for cargo, engine room, fuel oil, crew-accommodation, fishing equipment.
3. Space allocation must be such that the owner gains the maximum profit without compromising on the safety.
4. The cargo hold shall be completely insulated. The cargo hold will be filled with ice and fish. Drain for water from melted ice has to be provided in the hold.
5. Appropriate reasons may be stated during the presentation regarding the space allocation.

Rules & Regulations

1. The maximum team size for the event is 3.
2. You need to design any one of the two mentioned types of vessels.
3. The design must not be copied from somewhere. The participants must design their boat themselves.
4. All designs must have crew accommodation pertaining to ILO recommendations.

5. If the participants wish to add or suggest some *minor* design changes/ elements to include an innovative idea but are unable to incorporate the same in the design model, they are allowed to mention the same in the presentation.
6. The presentation time is 10 minutes followed by a question and answer session. Exceeding the time limit will lead to negative marking and/or disqualification.
7. Bonus point will be granted if the design addresses the challenge of capsizing of a vessel.
8. Bonus points will be granted if a participant produces the lines plan of the vessel along with the mentioned details and the stability curves.
9. The participants must submit the presentations and the original GA Plan for evaluation.
10. The decision of the judges will be final and ruling.

