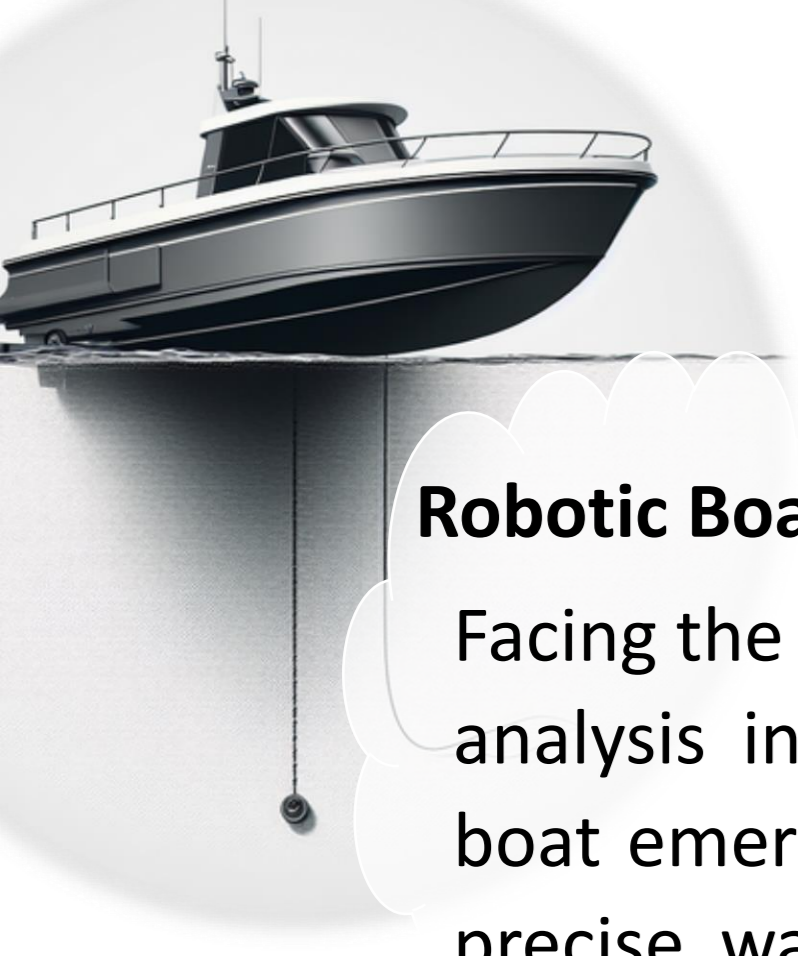




# Robotic Water Quality Lab



## Robotic Boat for Advanced Water Testing

Facing the challenge of timely and efficient water quality analysis in tough industrial environments, our robotic boat emerges as a practical solution. It delivers on-site, precise water toxicity readings, empowering decisions on safety and environmental quality.

### Deliverables:

- Autonomous, precise navigation (<0.4m)
- Customizable sensor integration for diverse maritime applications

### Quick Specs:

- Operational up to 30 mins, 600m range
- Size: 60x60x20cm, Weight: 20kg, Power: 1800W

Designed for immediate deployment, our boat offers a leap in environmental monitoring, providing actionable data to safeguard water resources.

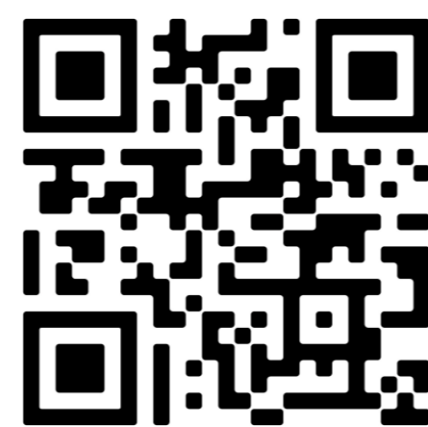
### Innovation

- On site testing
- Multipurpose
- Autonomous Navigation
- Portable lab

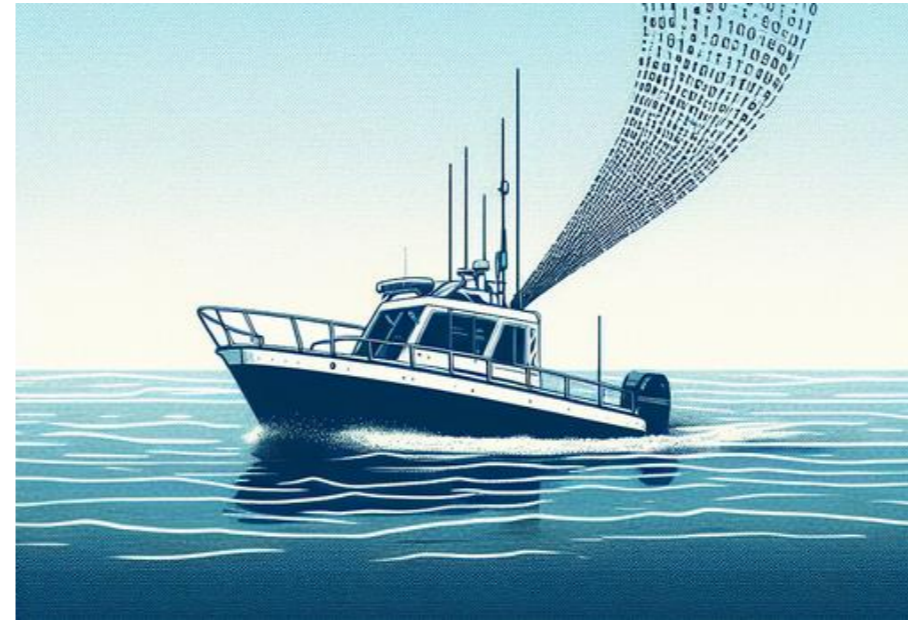
### Impact



### Watch Now



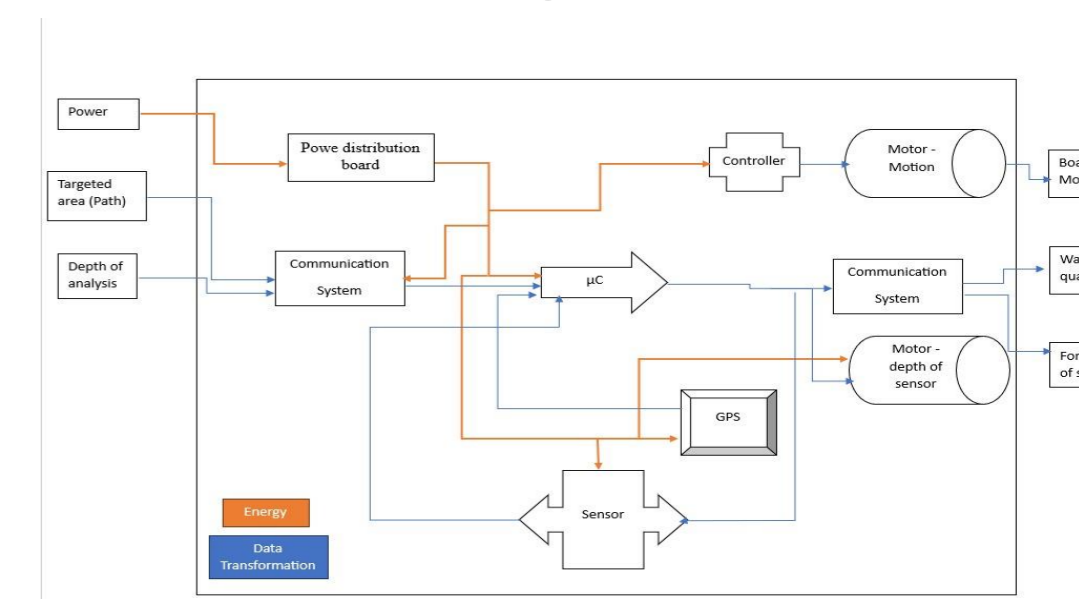
## Mission Roadmap



## Specifications

|                           |                                    |   |                                 |
|---------------------------|------------------------------------|---|---------------------------------|
| <b>Size</b><br>60x60x20cm | <b>PRECISION POSITION</b><br><0.4M | <b>DISTANCE</b><br>600 M  | <b>Operation Time</b><br>30 min |
| <b>Weight</b><br>20kg     | <b>Power</b><br>1800w              | <b>Water Quality</b><br>PH, Depth of analysis, Formation of samples |                                 |

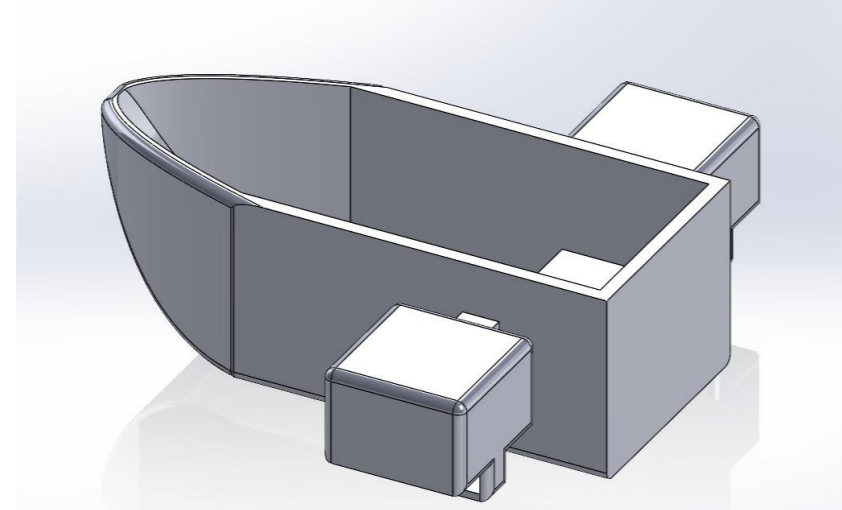
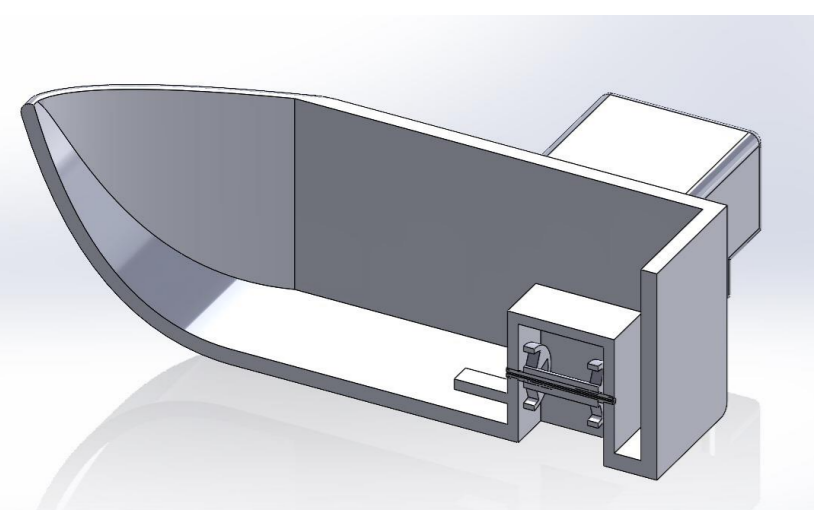
## Designs



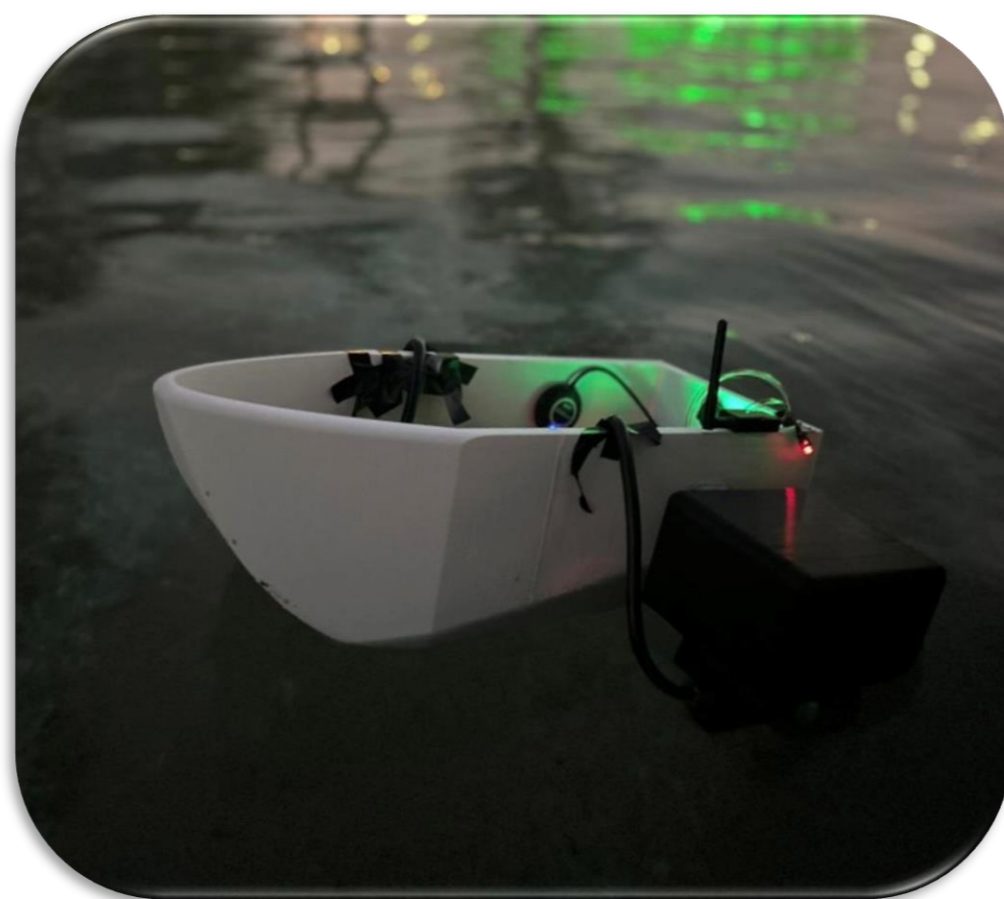
### Home Result

## Water analysis with ML model

| Loc         | Date                | PH   | Result |
|-------------|---------------------|------|--------|
| building 42 | 2023-12-09 16:17:54 | 6.94 | unsafe |
| building 42 | 2023-12-09 16:18:08 | 4.62 | unsafe |
| building 42 | 2023-12-09 16:21:36 | 8.6  | safe   |
| building 42 | 2023-12-09 18:37:12 | 6.96 | unsafe |
| building 42 | 2023-12-13 17:21:30 | 7.49 | safe   |



## Prototype



## Conclusion:

- Robotic boat: A leap in autonomous water testing.
- Proven reliability: Empowers environmental decision-making.

## Future Enhancements:

- Smart Missions: Evolving towards full autonomy.
- Solar power: Unlimited ocean endurance.
- Sample tanks: On-site to lab analysis transition

Mohammed Al Yusuf  
ME

Abdullah Alabbad  
ME

Mahmoud Sunbul  
EE

Ali Alahmed  
EE

Ahmed Baabdullah  
CS

