TITLE SLIDE

Problem Statement Title : AI INTEGRATED HYBRID MICROGRID POWERSTATION.

-sustainable Maritime transport system **“NAUVAHINI”**

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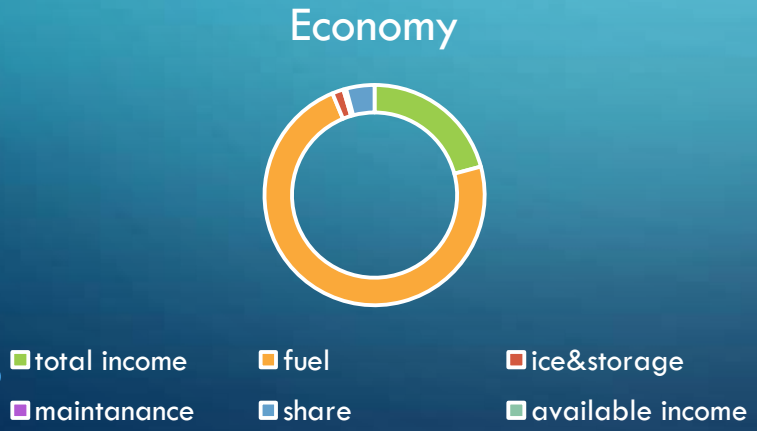
PROBLEM STATEMENT

-THE HYBRID TIDAL SOLAR FLOATING MICROGRID POWERSTATION

PROBLEMS:

- High diesel dependency in maritime transport
- Rising fuel costs reducing fishermen income
- Marine pollution & carbon emissions
- Lack of charging infrastructure for E-boats
- Irregular grid electricity in remote coastal regions



AFFECTORS:

- Diesel fuel pollution and oil leakage
- Increased carbon emissions
- High diesel costs reduce profit margins
- Income instability due to fuel price fluctuations
- Delays in fish delivery affecting quality and pricing
- Limited economic independence

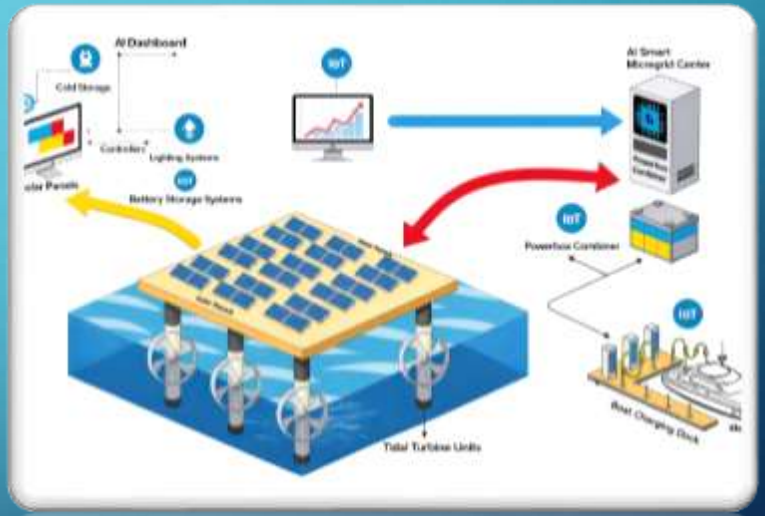
SOLUTION OVERVIEW

PROPOSED SOLUTION:

-Hybrid Floating Transport System

An AI-powered eco-friendly E-boat system using:

- Solar Energy
- Tidal Energy
- AI Navigation & Monitoring
- Smart Tracking & Safety Alerts
- Designed specially for rural coastal fishermen groups.



KEY FEATURES

BLUE ECONOMY ENERGY PLATFORM

- Ecosystem-Based Approach (Not Just a Boat Solution)
- Hybrid Solar + Tidal Integration
- Floating Microgrid Architecture
- AI-Integrated Energy Management
- Focus on Rural Livelihood Upliftment
- Scalable & Modular Design
- Sustainable Blue Economy Model

TECHNOLOGY STACK

Energy Generation Layer:

- solar PV rays
- tidal turbines

Energy Storage Layer:

- Lithium-ion battery bank
- Smart inverters

Intelligence Layer:

- AI-based demand forecasting
- Load balancing system
- IoT monitoring sensors

Application Layer:

- E-Boat charging docks
- Smart coastal energy dashboard

ARCHITECTURE &WORKFLOW

Solar + Tidal

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Power Controller

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Battery Storage

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AI Energy Manager

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Smart Charging Dock

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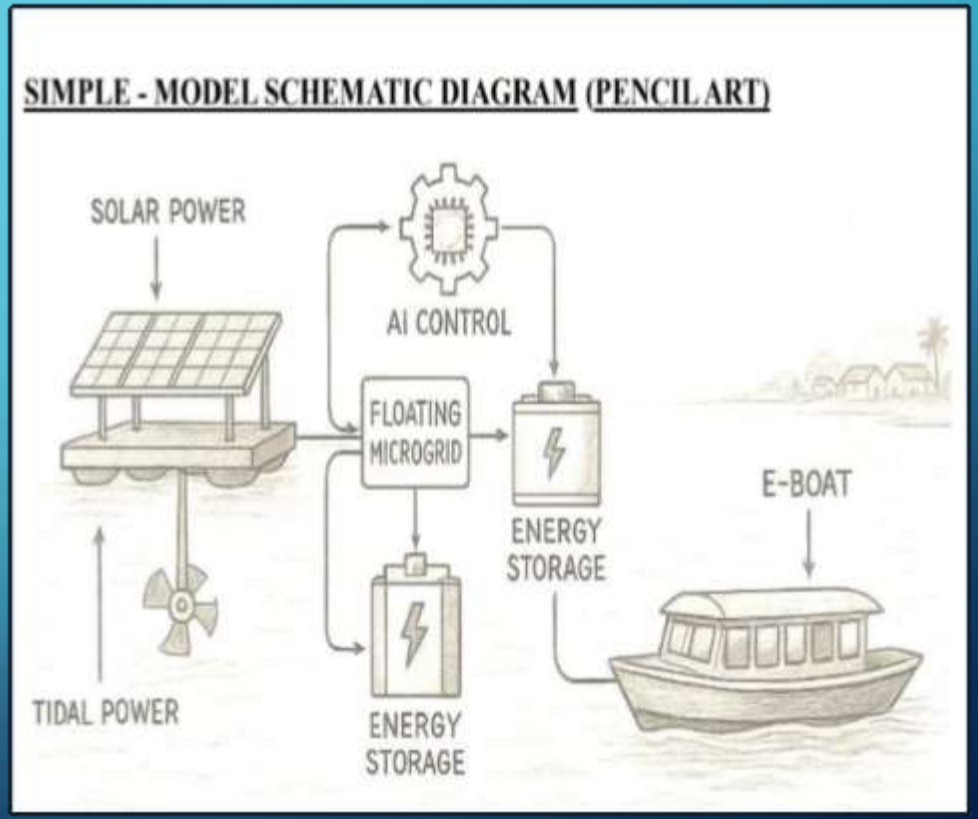
Fleet of E-Boats



DEMO

VIDEO LINK:

https://app.heygen.com/videos/nauvahini-tides-of-change-070f6b35181645c29ee469d1e8a354a5

IMPACTS

SUSTAINABLE IMPACT:

- Zero-emission maritime charging
- Uses renewable ocean energy
- Reduces fossil fuel dependence
- Promotes Blue Economy & SDGs

ECONOMIC IMPACT:

- Reduces operational cost of fishermen
- Increases income margins
- Provides affordable charging access
- Supports fisherwomen SHGs
- Strengthens rural coastal economy

INSTRUCTIONS

Operational Instructions (User View):

-How fishermen will use it:

- Boat docks at floating station
- Authentication via smart ID
- AI allocates charging slot
- Charging begins
- Payment/energy record store
- Simple user flow

Implementation Instructions (Deployment View):

-How government installs it:

- Identify coastal village cluster
- Install floating platform
- Mount solar + tidal system
- Integrate battery bank
- Activate AI monitoring system
- Begin pilot testing
- This shows real-world execution.

“THANK YOU”

-“NAUVAHINI is not just powering boats — it is powering the dreams and dignity of our coastal fishermen.”