

**SMART INDIA  
HACKATHON  
2022**

## **REAL TIME FUEL MONITOR SYSTEM**

**MINISTRY:** MINISTRY OF PORTS, SHIPPING AND WATERWAYS

**PS CODE:** AK1130

**PROBLEM STATEMENT TITLE:** SMART FUEL CONSUMPTION AND MONITORING SYSTEM FOR FISHING TRAWLER FLEET, SUPPLY BOATS, TOWING TUGS, SUPPLY BOATS AND DREDGERS ETC.,

**TEAM NAME:** SAMIDHA

**TEAM LEADER NAME:** BHAGYASREE SANAPALA







**THEME NAME:** TRANSPORTATION & LOGISTICS

**INSTITUTE CODE :** C-17961

**INSTITUTE NAME:** GAYATRI VIDYA PARISHAD COLLEGE OF  
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# INDIAN SHIPPING INDUSTRY

-  The Indian shipbuilding industry currently accounts for a mere 1% of the global shipbuilding . At present India have 27 shipyards of which 19 belong to the private sector.
-  The current cumulative shipbuilding capacity of Indian shipyards is around 0.5 million deadweight tonnage.
-  India has one of the largest merchant shipping fleets with about 1500 vessels.
-  India has 13 major ports and about 200 non-major ports covering an extensive coastline of 7517 Km.
-  The port sector has witnessed a substantial growth in cargo traffic leading to utilization levels of almost 94%.
-  The Indian ship-breaking industry has a global market share of 25 percent.

# SETBACKS IN

## Indian Shipping Industry



Tracking your fleet's progress is difficult.



Too much human intervention



No control over the fleet



Manipulation in maintaining records.



No communication medium between the port and vessel.

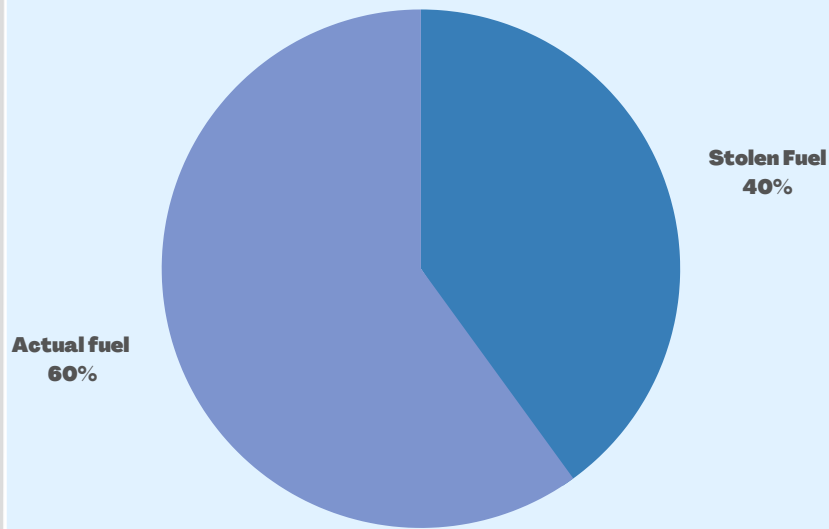


Fuel malpractices are unavoidable.



A lot of time wastage .

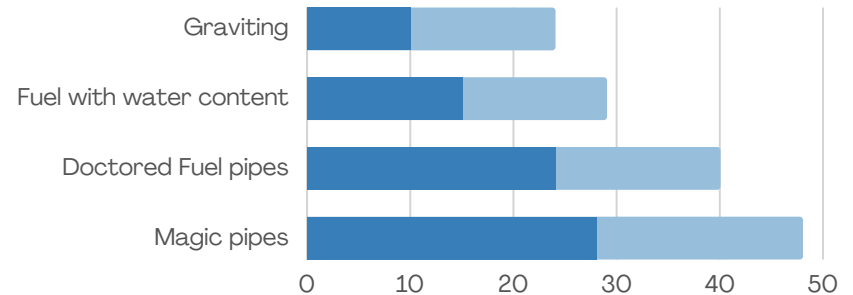
THERE'S 40% FUEL THEFT FOR EVERY  
100% FUEL BUNKERING



## Fuel Pilferage

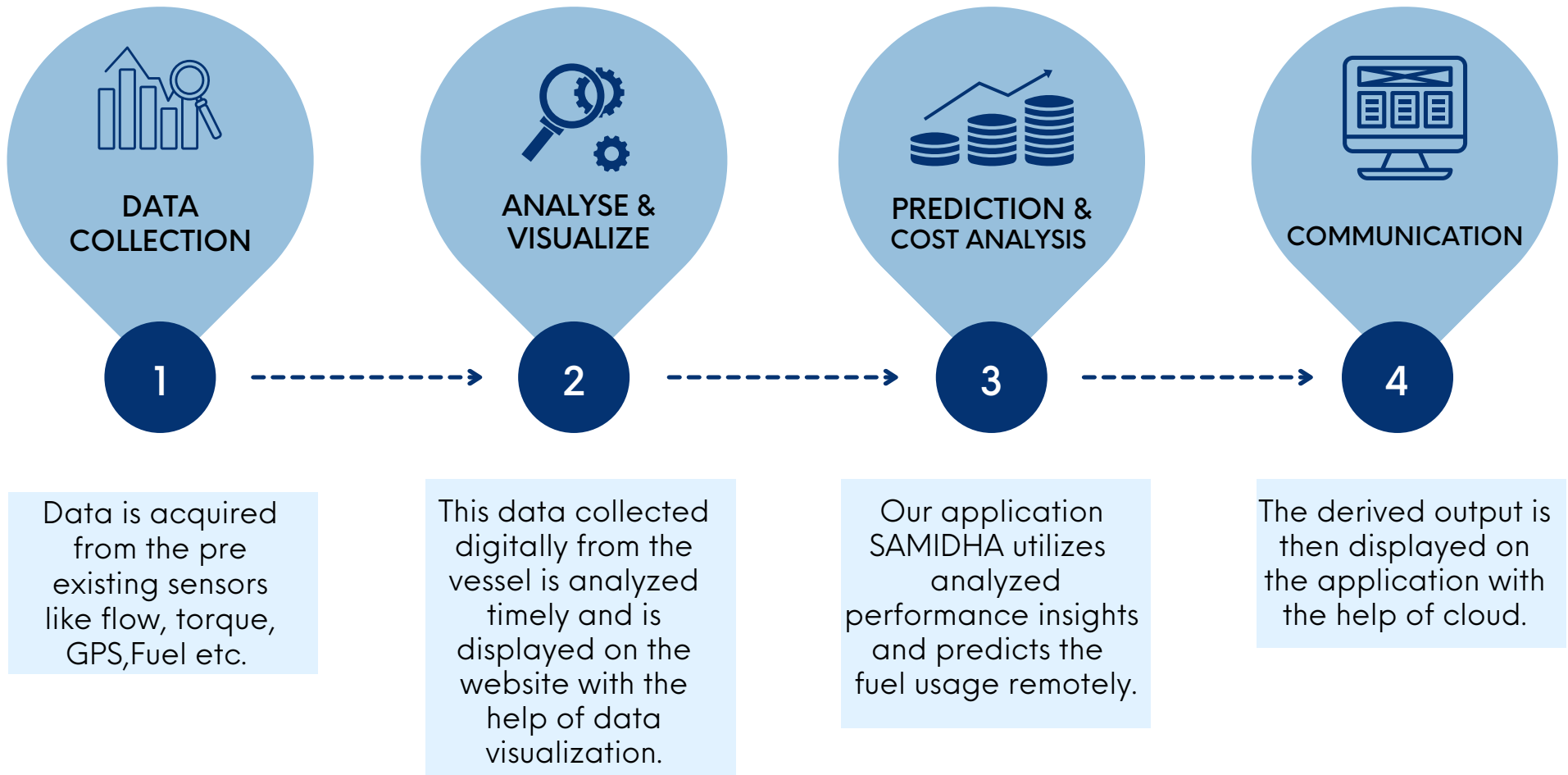
# BUNKERING MALPRACTICES Data Infographic

FUEL PILFERAGE IS A CLASSIC FORM OF MARITIME  
PIRACY.



To estimate fuel consumption and to use onboard satellite system digital remote monitoring, the data of factors like operation hours, distance travelled , quantity dredged ,ton/km of cargo handled will be used in the historical data analysis.

# How **SAMIDHA** works



# Why **SAMIDHA?**



Optimized fleet operations



Unmanned Maritime Monitoring System



Remote Real time fuel monitoring system.



Easy visualization



Handle finances and reconciliation in one place.

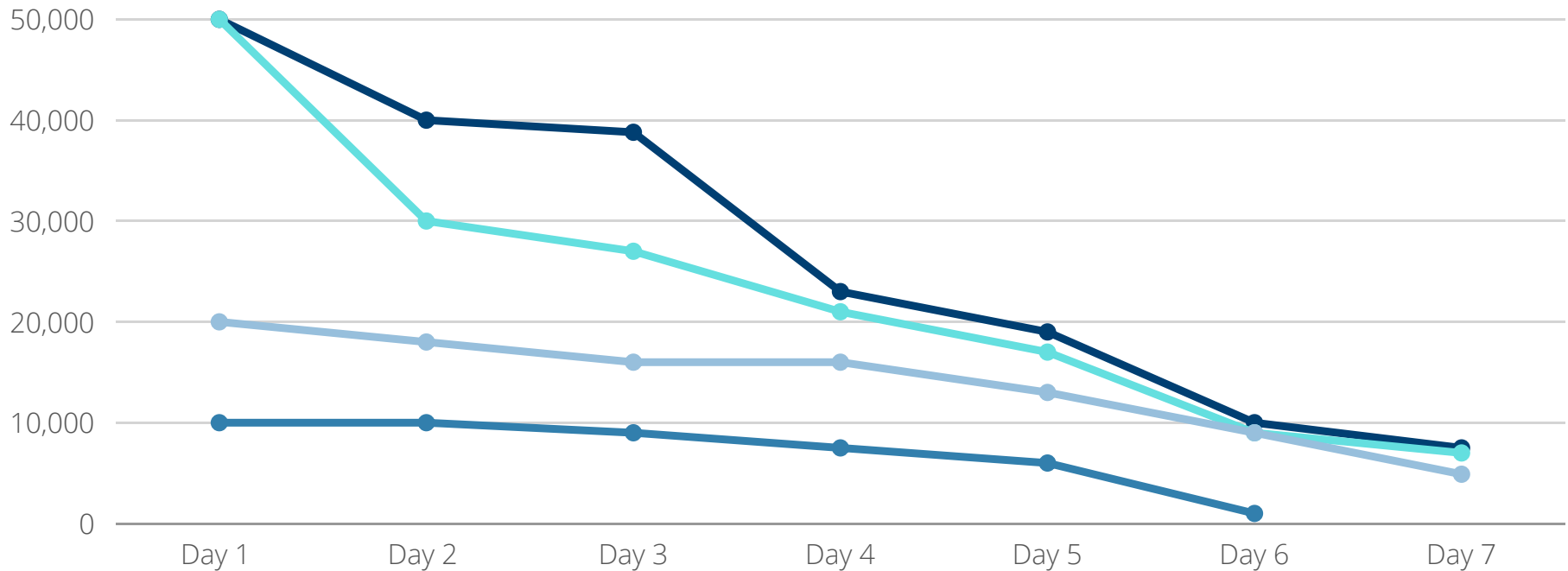


Reduce carbon emmision



Increase efficiency of main engine

# FUEL TANK MONITORING



## TANK 1

Fuel tank 1 of the vessel  
of capacity 50,000L

## TANK 2

Fuel tank 2 of the vessel  
of capacity 50,000L

## TANK 3

Fuel tank 3 of the vessel  
of capacity 20,000L

## TANK 4

Fuel tank 4 of the vessel  
of capacity 10,000L

# VESSEL OUTPUT CALCULATOR

## Dredger Calculator

FEATURES	PLAN A	PLAN B	PLAN C	PLAN D
Fuel consumed lt/hr	363	455	385	390
Power consumed kW	1554	1543	1634	1256
Total working hours	800	700	500	860
Effective working hours	490	690	380	563
required pump power kw	263	356	256	290
required cutter power kw	100	102	123	100



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# Thank You



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