

### OUTLINE



- Basic Thinking: Road to Industry 4.0 in Vessel
- Satellite Communication on the Sea
- Mobile Apps Vessel Management Systems
- Conclusion

# Basic Thinking



Predictive and automated decision making processes, with possible self adjusments and reconfiguration of the production system

Knowledge

Share and provide contestualised information

**Information** 

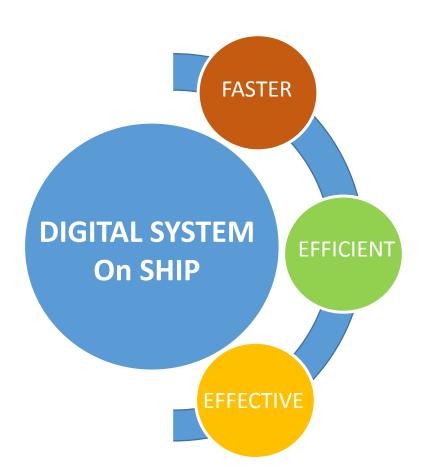
Generate information form data collection

**Connectivity** 

Connected production resources and control system

# Type of Communication in Vessel







#### **Radio Terresterial**

- Voice Only
- Free air time



#### Mobile Sattelite System (MSS)

- Voice and Data but narrow band
- Time base charging

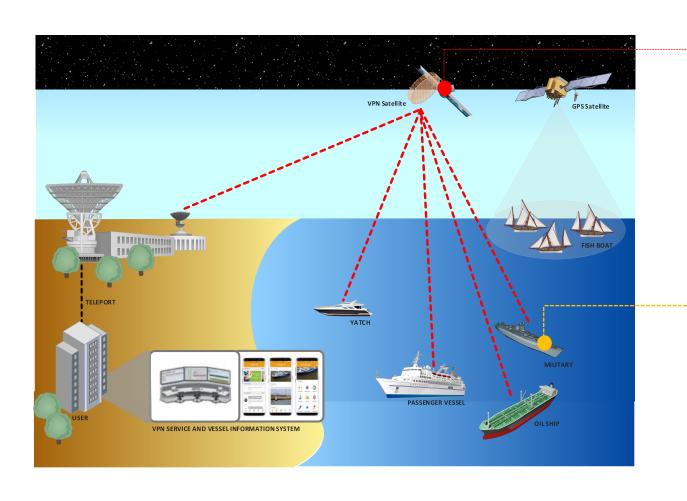


# Fixed Satellite System (FSS) Base on Gryo Antenna

Voice and Data ideal for other aplication Monthly base

# Satellite Communication on Sea





#### Space Segment

 Satellite with Ku Band Frequency

#### **Ground Segment**

- 1.2 m Stabilized Antenna
- BUC 4W until 16W
- LNB
- Modem VSAT

# Why Satellite Communication



- There are no blank spot, Satellite can cover all the world
- Narrow band, bandwidth 2 Mbps can support internet access
- With internet access ready multi services can running on top that
- Support Industry 4.0

### Benefit of Internet in Vessel



- Security and Safety
- Container Monitoring
- Crew Welfare

Communication for Passenger

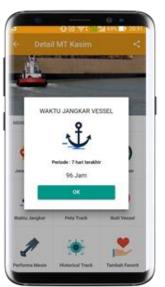
### Mobile Apps Vessel Management System

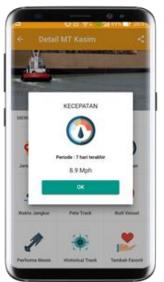








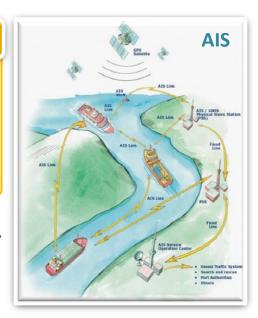




#### **Features System**

- Tracking History
- Position
- Speed Monitoring
- Bunkering

- Fuel Consumption
- Engine Running Hours
- Engine RPM
- Auxiliary Engine
- Compatible for Android Version 5.0 & IOS Version 7.0
- User Login Approval by Patrakom: Show Customer Own Vessel Only

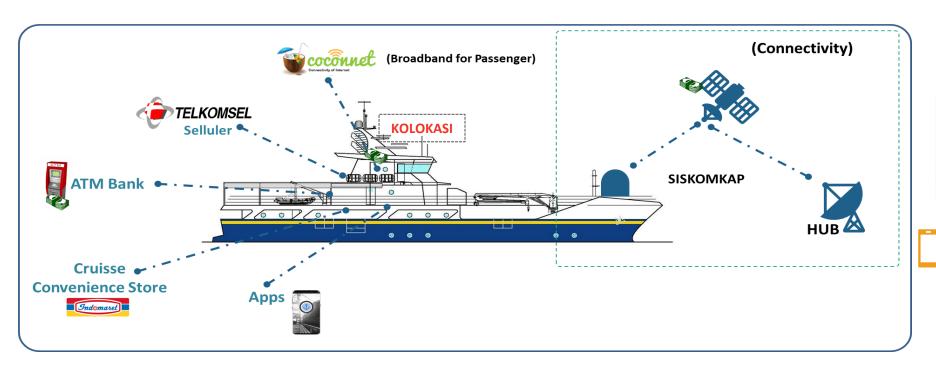


#### **Dashboard Network Monitoring System**



#### Multi Services in Vessel









Mobile Apps Vessel Information System







### **Vessel Information System**







#### **CONTENTS**

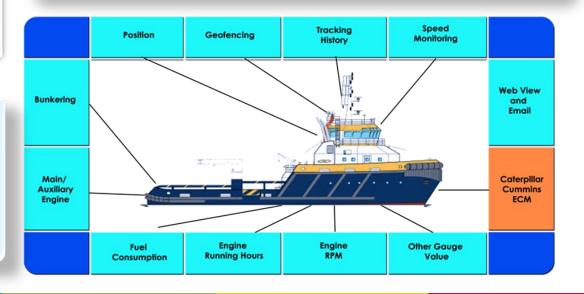
- Tracking
- Geo-Fencing
- Live & Historical Information
- Alert via Email or SMS
- Comprehensive Report
- Preventive Maintenance System

#### **FEATURES SYSTEM**

Monitoring Platform Provides Real Time Engine Information Including:

- Spead & Heading information
- Total Fuel Used
- Engine Torque
- RPM
- Engine Running Hours
- Coolant Temperature
- Throttle Position

- Engine Boost
- Engine Load
- Oil Pressure
- Exhaust Temperature
- Fuel Burn Rate
- Main Battery Voltage
- Bunkering



## **CUSTOMERS IN SERVICE**



## **OUR BENEFIT**

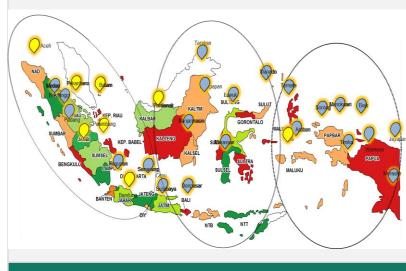
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Expert Engineer



24/7 Network Operating Control



Standby Technician

# **Thank You**



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