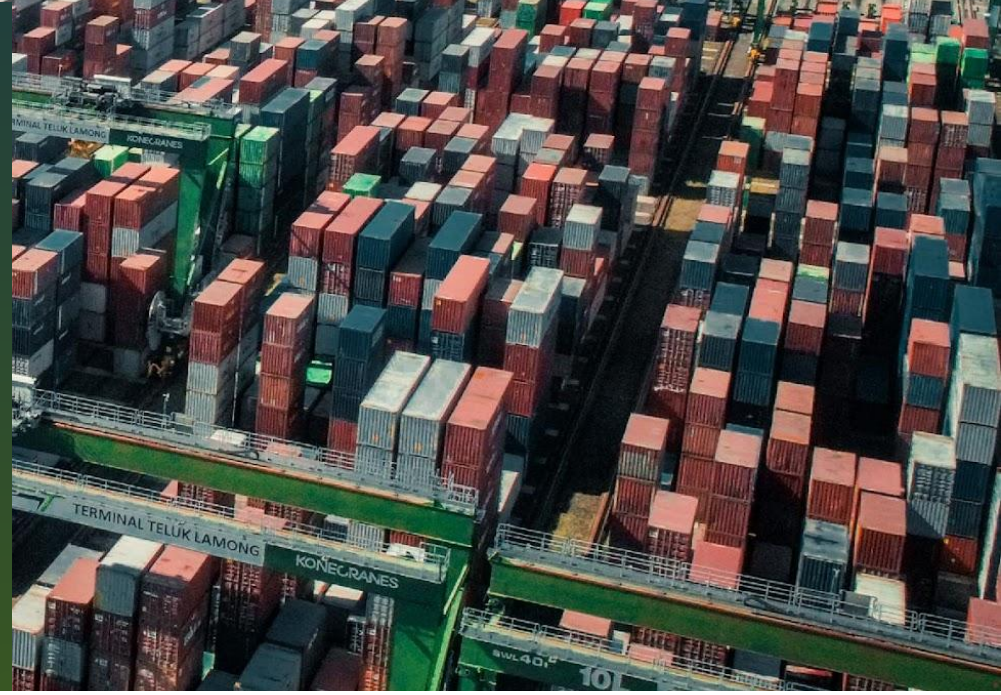


Resilient Ports

Innovating Best Practices for Environmental Protection and Disaster Management

Study Case – Port of Tanjung Perak, Surabaya

16-17th of October 2024

OUTLINE

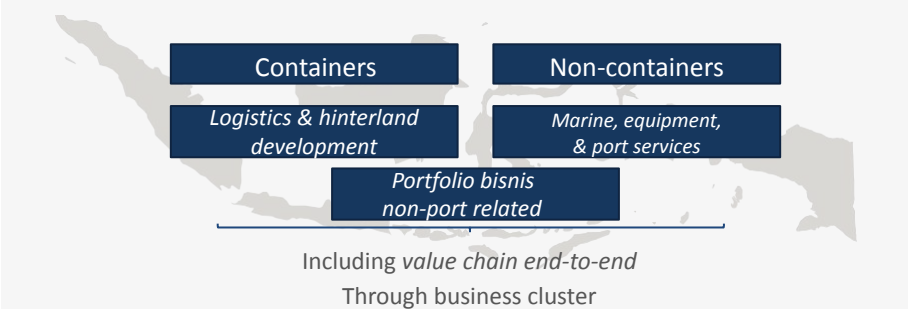
- Corporate Overview
- Environmental Protection Initiatives
- Disaster and Management Strategies

INTEGRATION BACKGROUND

Pre-Merger Post-Merger

Pre-Merger	
Less coordinated	Excess capacity in several locations, assets with sub-optimal utilization
Less efficient and unstandardised operations	Patterns of operations & services at ports in varied and with low productivity
Less optimal CAPEX and limited financing	Pelindo D/E Ratio 118%(vs. benchmark 30-60%) & lack of CAPEX capabilities in some Pelindos
Varied human capital development	HR programs between Pelindo 1-4 legacy have different curricula resulting in variations in employee productivity
Varied IT system	The IT system used varies between Pelindos, there are overlapping systems for customers

Source: Pelindo's internal study

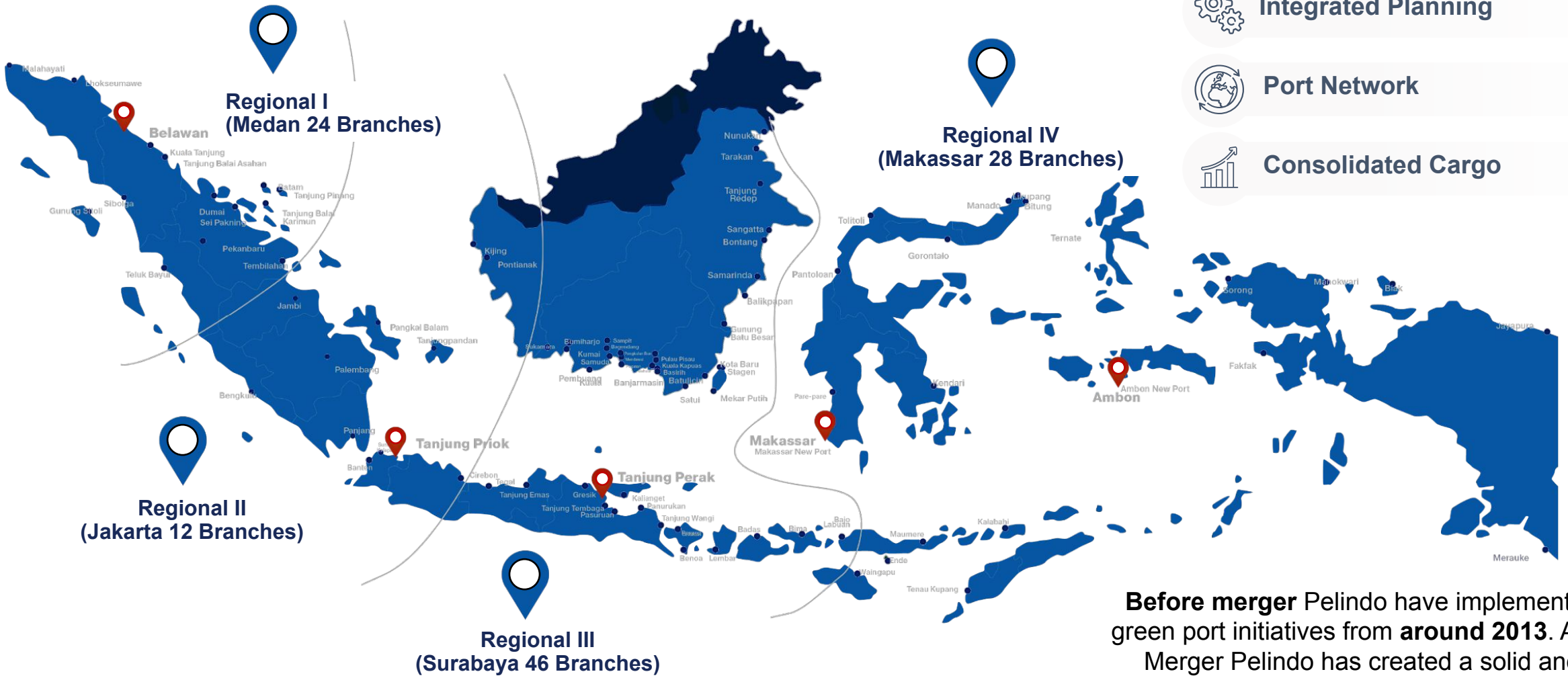


Post-Merger	
Better strategic control	Overall planning for the network, asset investment aiming to reduce logistics costs
End-to-end standardised process	Operations that are more reliable, efficient and can create better port network connectivity in all national ports
Optimum CAPEX allocation and better financial capability	To improve the condition of the balance sheet and financial position
Standardised human capital development	The existence of a standardised HC program to develop employee capabilities that have the potential to reduce productivity variances
Standardised IT system	A uniformed IT system in all terminals, offices, and port activities supporting facilities throughout Indonesia

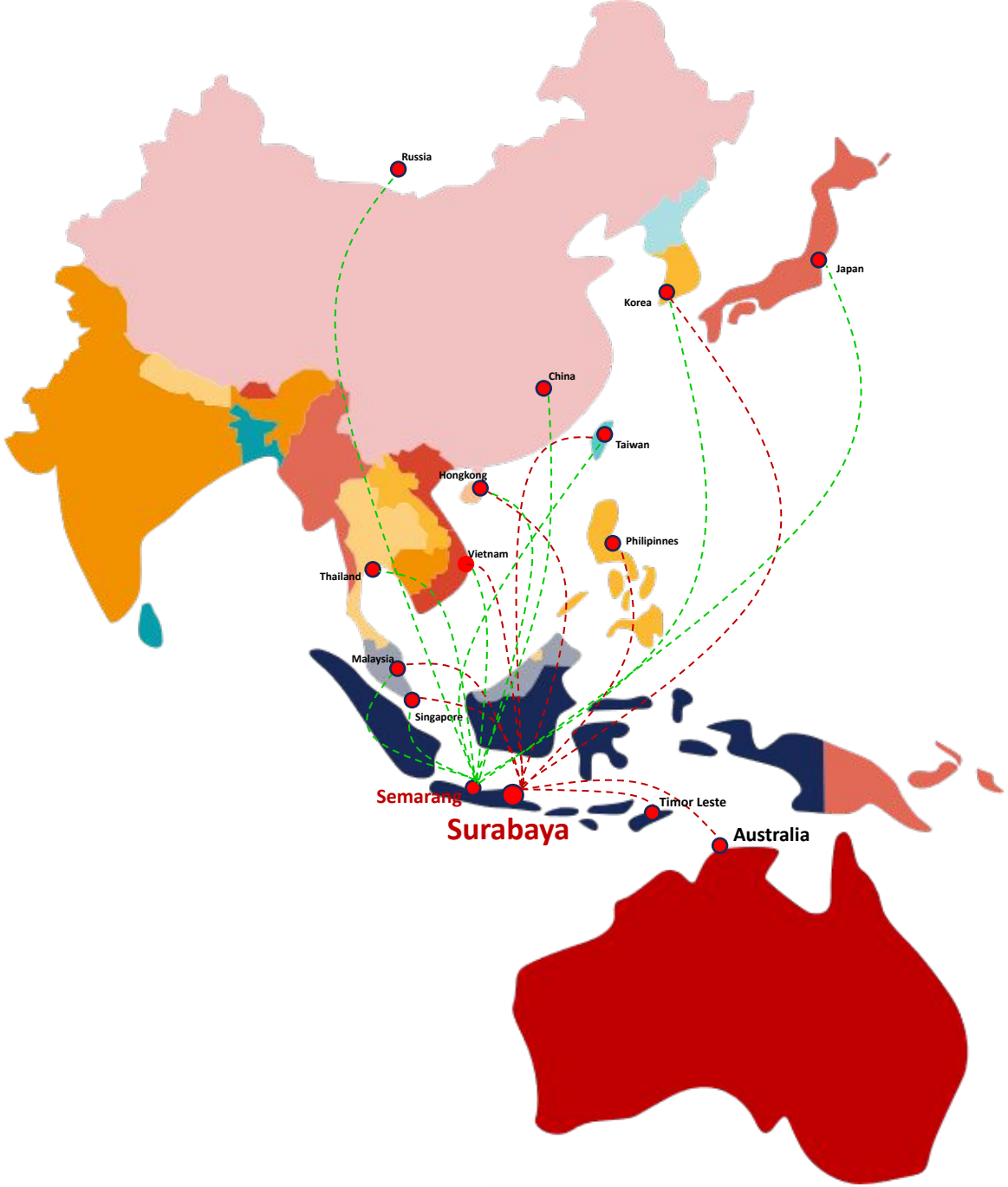
INTEGRATION BACKGROUND

*Since its Merger on 1st October, 2021, PT Pelabuhan Indonesia (Pelindo) is the only SoE for Port Service Business managing **110 commercial ports** in Indonesia.*

- **Standardized Services**
- **Integrated Planning**
- **Port Network**
- **Consolidated Cargo**



Before merger Pelindo have implemented green port initiatives from **around 2013**. After Merger Pelindo has created a solid and integrated **Green Port roadmap**



INTERNATIONAL SHIPPING ROUTES

SURABAYA

Australia, China, Korea, Vietnam, Singapore, Taiwan, Hongkong, Malaysia, Philippines, Timor Leste

SEMARANG

China, Korea, Vietnam, Singapore, Taiwan, Hongkong, Malaysia, Japan, Russia, Thailand

ENVIRONMENTAL PROTECTION INITIAVITES

INITIATIVES OF REDUCING CARBON EMISSIONS

Pelindo routine procedure

Environmental Studies

In port development it is always mandatory to carry out environmental studies

Monitoring environmental impact status

In conducting port operational activities, Pelindo always monitors environmental impacts on a regular basis..

CSR program focus on environment

Every year Pelindo includes corporate social responsibility (CSR) programs that focus on the environment, one of which is planting mangroves

Pelindo's strategic initiatives to reduce carbon emissions in pelindo's area

Conversion Diesel Engine to Electric Crane

On Shore Power Supply

Using renewable energy sources

Digitalization : Gate Operation System, Berth and Yard Operation System

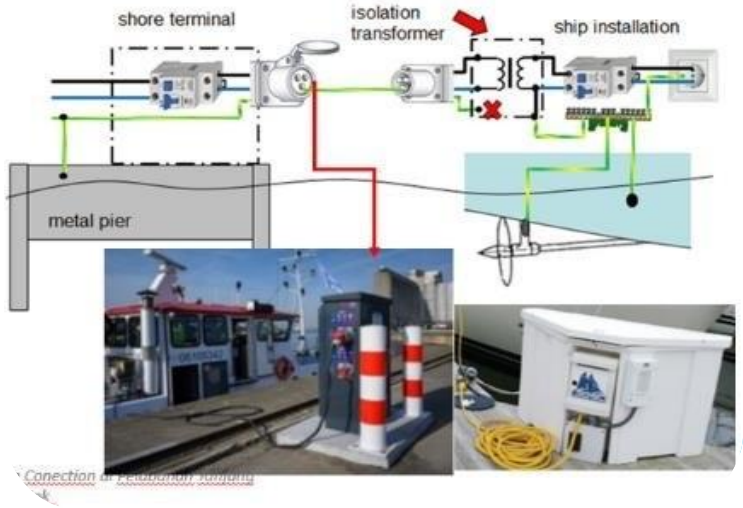
Wastewater Management, Soil Improvement & Water Conservation

Port Reception Facilities

ON SHORE POWER CONNECTIONS

Until now in Port of Tanjung Perak-Surabaya **operated 22 shore connection** points in 4 locations

Ships using Shore Connection facilities **can save 20% - 30%** compared to diesel ships



DISASTER MANAGEMENT STRATEGIES

DISASTER MANAGEMENT STRATEGIES

Risk Assessment Analysis

- Conducting regular risk assessments to identify potential threats and vulnerabilities, ensuring the port is prepared for a range of scenarios.

Emergency Response Planning

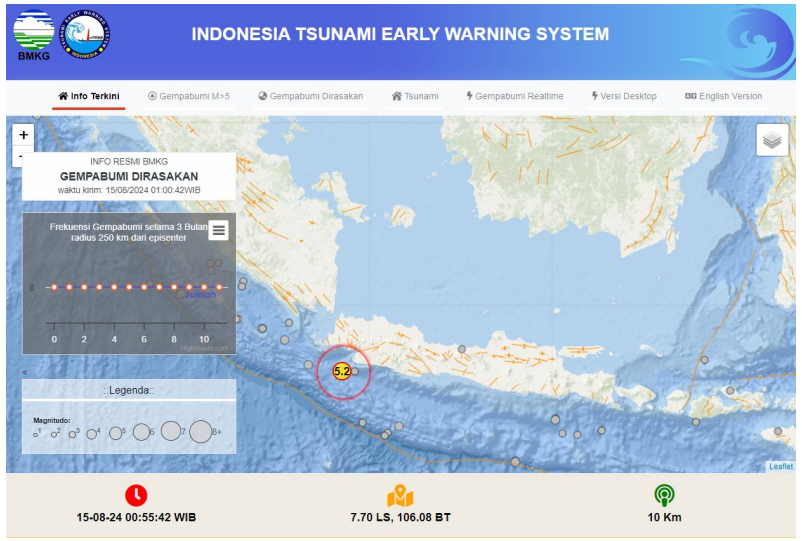
- Development of comprehensive emergency response plans that include evacuation procedures, communication protocols, and coordination with local authorities.
- Regular drills and simulations conducted to ensure staff readiness and efficiency in emergency situations.

Infrastructure Resilience

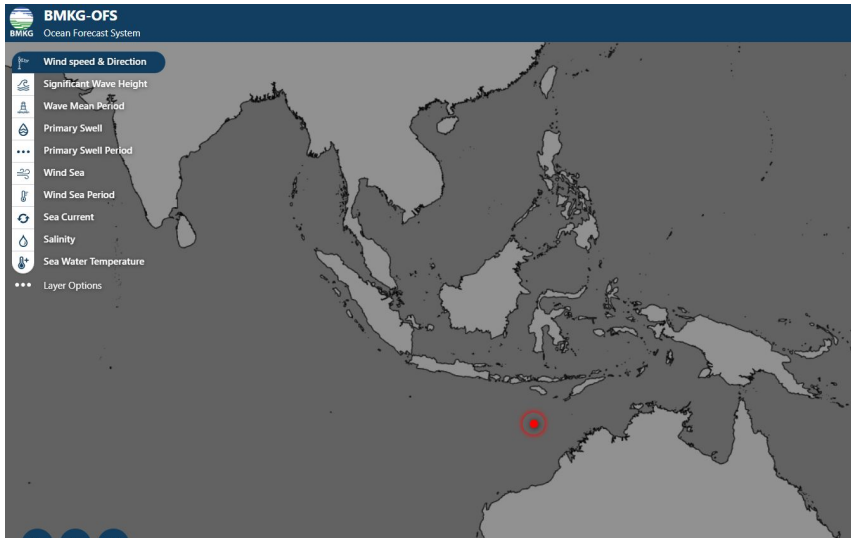
- Investment in resilient infrastructure designed to withstand natural disasters, elevated structures, and advanced drainage systems.
- Collaboration with engineers and disaster management experts to continuously improve infrastructure resilience.

DISASTER MANAGEMENT STRATEGIES

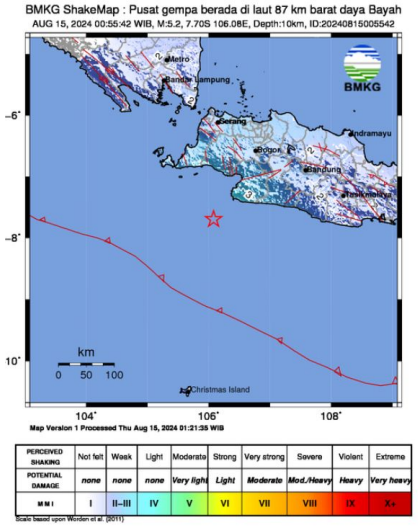
Seismic and Tsunami Monitoring by National Meteorological, Climatological, and Geophysical Agency (BMKG)



Ocean Forecast System by National Climatological, and Geophysical Agency (BMKG)



Dissemination of Warnings by Multiple Channels



Indonesia Tsunami Early Warning System (InaTEWS) is a comprehensive system that monitors seismic activity and the potential for tsunamis.

- It uses data from a network of seismic stations, buoys, tide gauges, and satellites. If a significant undersea earthquake is detected, the system can issue a tsunami warning within minutes.
- Tanjung Perak Port has been closely integrated with national and local early warning systems. This includes receiving real-time alerts from BMKG and other agencies to take immediate action in case of an imminent disaster.

Indonesia Ocean Forecast System uses a combination of observational data, numerical models, and remote sensing technologies to provide forecasts and early warnings related to oceanic and atmospheric conditions.

- Implications for Tanjung Perak Port - Surabaya :
  - Tanjung Perak Port could anticipate and prepare for ocean-related hazards. Accurate forecasts help in planning port operations, securing vessels, and safeguarding cargo during extreme weather events
  - Critical Decision-Making: The port authorities can use real-time data and forecasts to make informed decisions, such as closing the port, rerouting ships, or activating emergency response protocols during potential disaster scenarios.
  - Collaboration with BMKG: Close collaboration with BMKG ensures that the port receives timely and accurate forecasts, enabling proactive measures to minimize the impact of ocean-related disasters on port operations and infrastructure.

Warnings and alerts are disseminated through multiple channels, ensuring broad reach. These include:

- SMS Alerts: BNPB and BMKG can send SMS alerts directly to residents in affected areas.
- Broadcast Media: TV and radio stations are required to broadcast emergency warnings and instructions.
- Social Media and Apps: BMKG and BNPB use social media platforms (e.g., Twitter, Facebook) and mobile apps to provide real-time updates and warnings.
- Public Sirens: Coastal areas and communities near active volcanoes may have public sirens that sound in the event of an imminent threat, such as a tsunami or eruption.
- Local Authorities: Port of Tanjung Perak Authority units also play a role in disseminating information and ensuring that residents are aware of the warnings.

KEMENTERIAN BADAN USAHA MILIK NEGARA REPUBLIK INDONESIA

PELINDO

THANK YOU