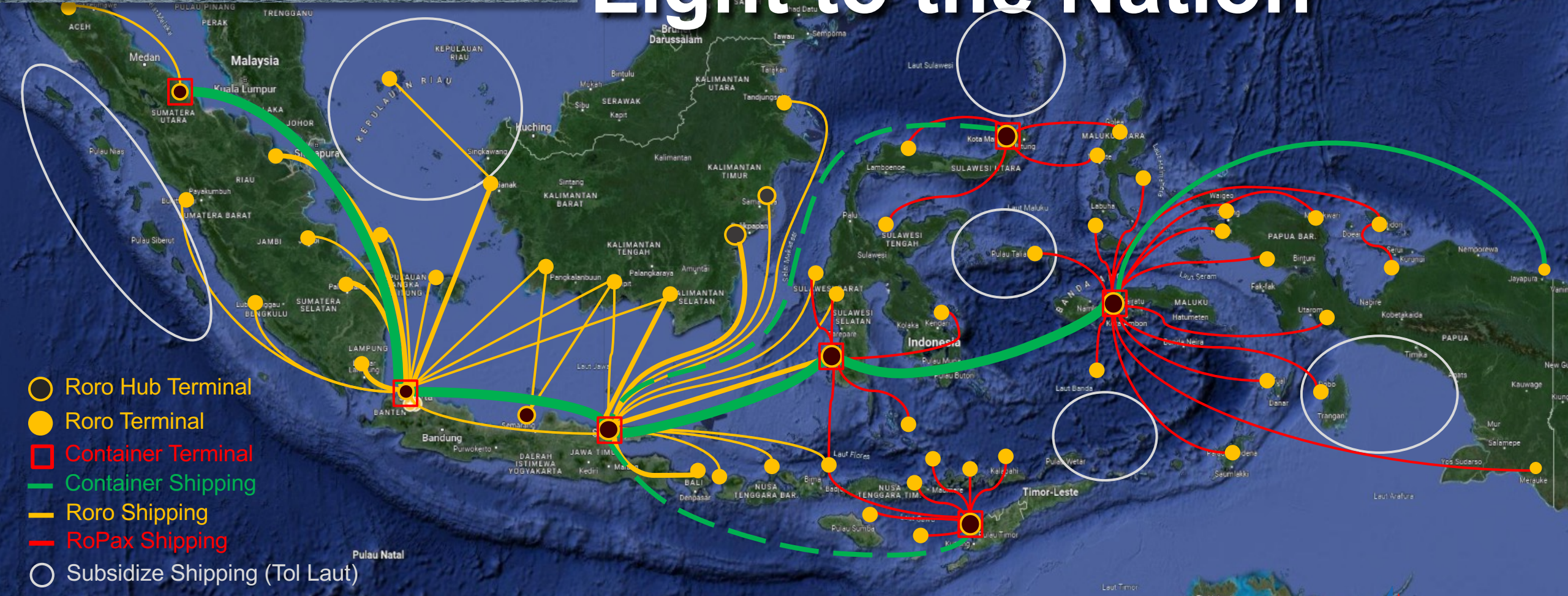




TransPORTing Light to the Nation



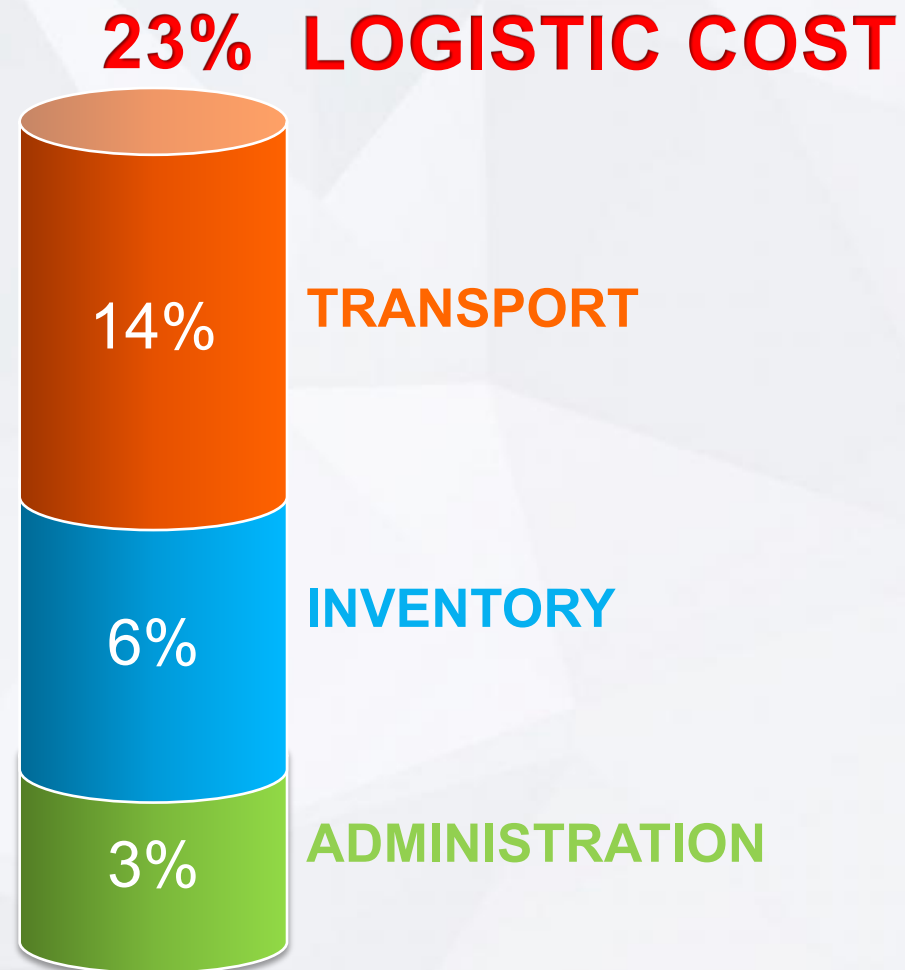
Present by **RJ. LINO**



Logistic is **“THE ORCHESTRA”**
of Supply Chain, Transportation,
Warehousing, Freight Forwarding
& Information

BACKGROUND

LOGISTIC COST TO GDP (%) OF INDONESIA IN 2023



BACKGROUND

Transportation Cost is Insignificant Part of The Retail Value



- Retail value shirt: USD 30
- Ocean transport cost: USD 0.25
- Transport cost is 0.85% of the retail price



- Retail value of flatscreen TV: USD 750
- Ocean transport cost: USD 15
- Transport cost is 2% of the retail price



- Commodity value of grain: USD 192/ton
- Ocean transport cost: USD 76/ton
- Transport cost is 40% of the value



Source: Maersk Line estimate

BACKGROUND

Domestic Sea Freight Cost is Insignificant Part
of The Retail Value of Goods

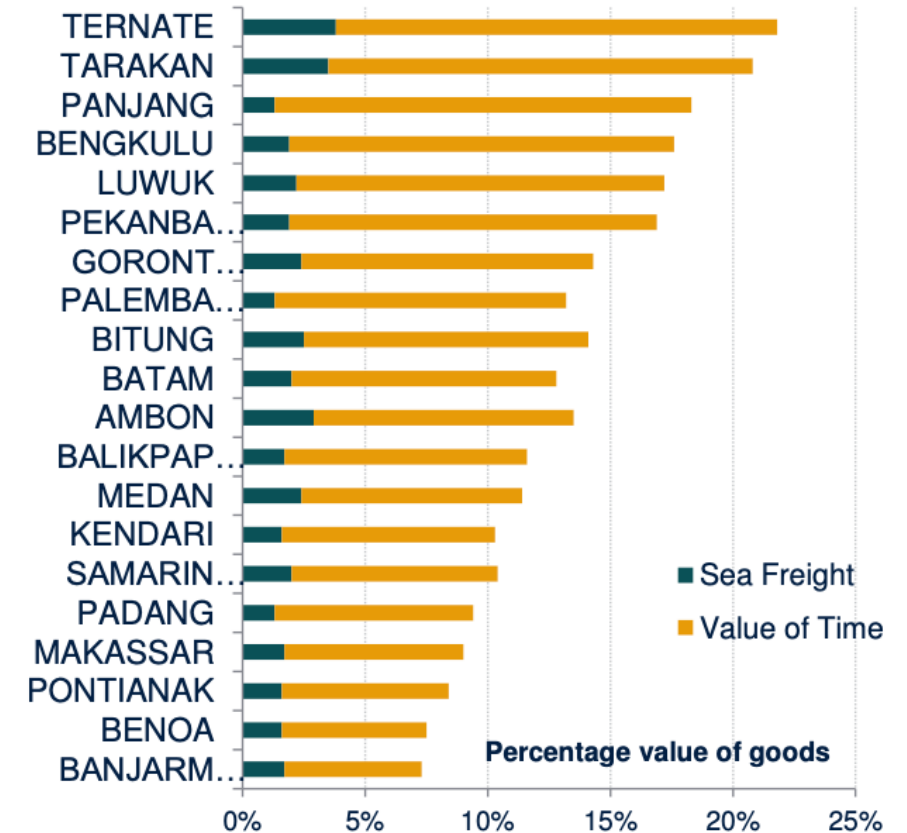
Domestic Sea Freight:
1% to 5% of The Retail Value of Goods

BACKGROUND

Reliability and Value of Time Explain Most of Total Logistics Costs in Indonesia

- The value of time throughout the maritime supply chain is the largest component of the logistics costs
- Sea freight cost only accounts for 1.5% to max 6% of the value of goods
- The value of time is typically estimated at 1% per day which is applied to lead time
- Lead time includes:
 - Shipping time
 - Time at port (unloading, unstuffing)
 - Delays accounting for the frequency of calls (e.g. missing a boat)

Logistics costs for goods shipped from the two hubs in Java (Jakarta and Surabaya)

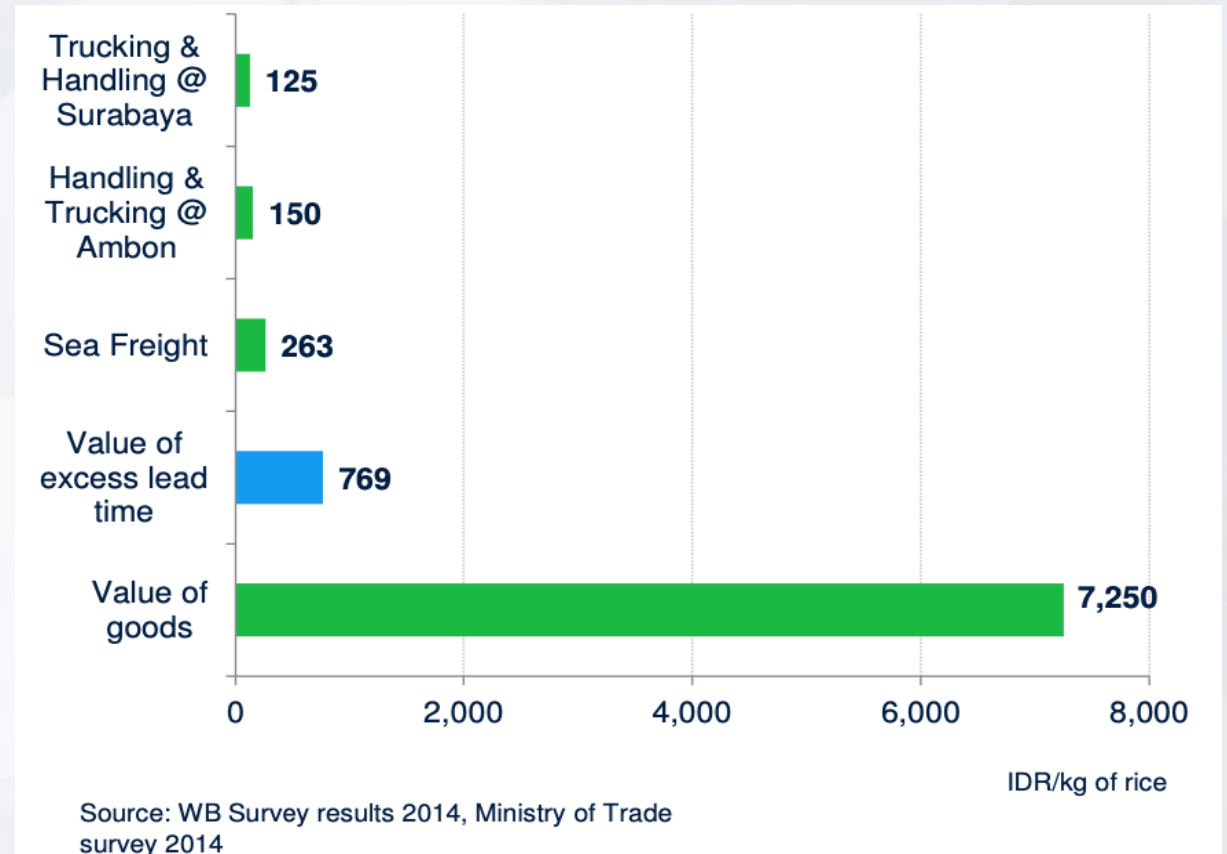


Source : World Bank 2014

BACKGROUND

The easiest cost to cut is the time component of logistics costs

- Even for a relatively low value commodity like rice, sea freight cost is not a very high (5%) in proportion to the value of 1kg of rice
- Handling and drayage costs are about the same magnitude as sea freight cost
- From a consumer perspective most of the gains would come by making the supply chain more reliable hence decreasing the time component of logistics costs



Example: Logistics cost scenario for 1 TEU of rice from Surabaya to Ambon

BACKGROUND

Logistic Center

**Logistic Center & Parks in all main
Ports and many smaller ports will
reduce value of time (inventory)**

BACKGROUND

High Price Disparity

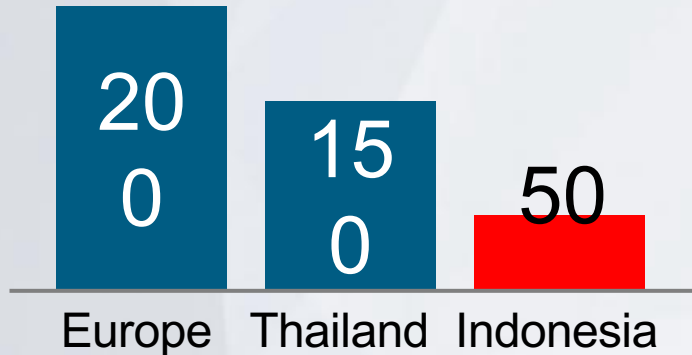
**Domestic Sea Freight is
Insignificant Part of High Price
Disparity in Indonesia**

BACKGROUND

REDUCING LOGISTIC COST IS A KEY TARGET TO SUCCEED IN TRANSFORMING INDONESIA ECONOMIC PERFORMANCE

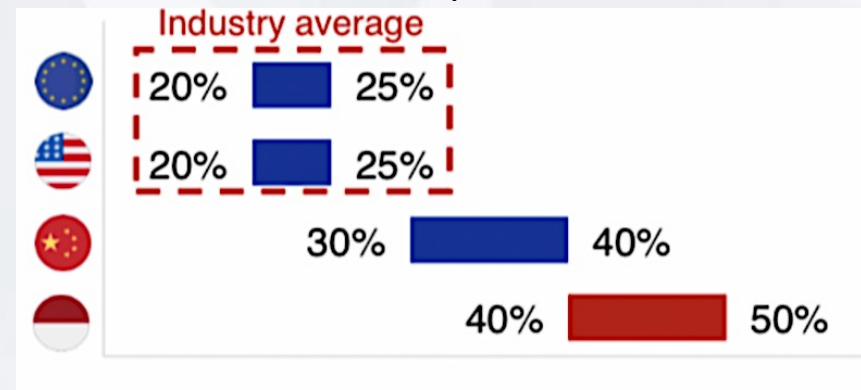
Annual Truck Use

'000 km/year



Truck Backhaul Utilization

Per trip



Truck Transport Cost

USD/Ton/Km

Vietnam	: 0,05 – 0,12
China	: 0,16 – 0,80
Malaysia	: 0,05 – 0,10
Thailand	: 0,06 – 0,12
Philippine	: 0,08 – 0,14
Indonesia	:
• Jabotabek Area	: 0,41
• Jakarta – Surabaya	: 0,15

LOW BACKHAUL TRUCK UTILIZATION and ROAD CONGESTION are some of the main causes of high trucking costs in Indonesia compared to its competing countries in ASEAN.

- China has been gradually reducing oil subsidies and moving towards market-based pricing mechanisms.
- Indonesia, Malaysia, Thailand, Philippine and Vietnam still apply oil subsidies.



RORO as a Sub Corridor Tol Laut to Reduce Domestic Logistic Cost

BACKGROUND

Tol Laut 2014

Development Scheme of Pendulum Nusantara's Main and Sub Corridor



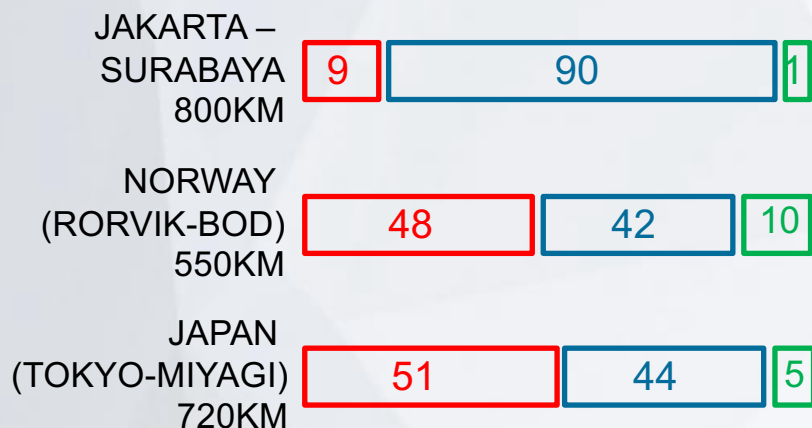
Sumber: IPC (2012)

BACKGROUND

REDUCING LOGISTIC COST IS A KEY TARGET TO SUCCEED IN TRANSFORMING INDONESIA ECONOMIC PERFORMANCE

MODE OF TRANSPORT

Sea Road Rail



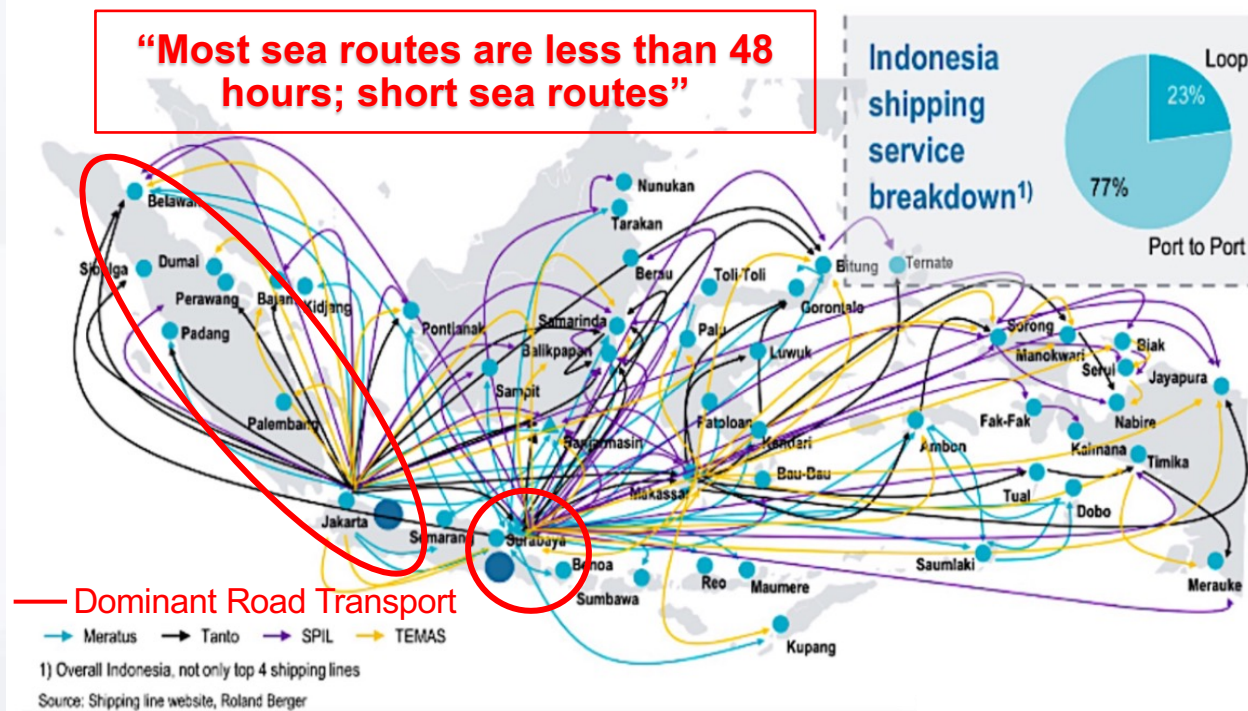
* Source : Mc Kinsey

Trucking by road is 10x more expensive (Rp/Ton/Km) than shipping costs and has other benefits:

- Reducing traffic jams
- Lower emissions
- Lower damages in transit
- Poor backhaul use rates

NETWORK OF TOP 4 DOMESTIC SHIPPING LINES

Indonesia shipping network by top 4 shipping lines



There are a lot of point to point services with only 23% of services being liner services seeking to optimize utilization

BACKGROUND

ASEAN SINGLE MARKET 2025

There is clear call to action: ASEAN Single Market 2025, will risk minimizing the role of domestic liners and manufacturing in Indonesia

ASEAN Vision for Maritime Transport targets 47 ports to improve performance and capacity of regional services



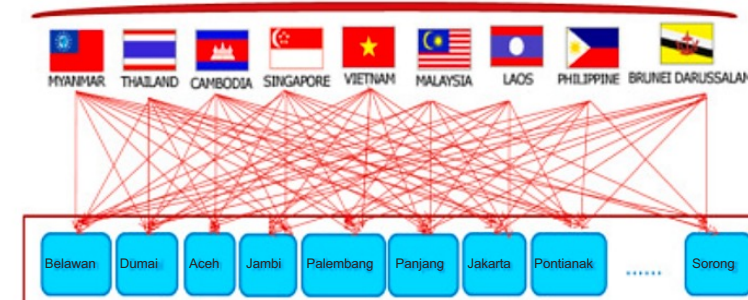
Designated Indonesia ports already have international calls and should improve international operations to comply with ASEAN 2025 vision

ASEAN single market 2025 will promote more point-to-point lanes in the region

3 main objectives are set to establish efficient and reliable routes

- Connect mainland and archipelagic Southeast Asia with efficient and reliable shipping routes
- Strengthen linkages with global and regional truck routes and domestic shipping routes
- No change to cabotage policy

Potential risk that manufacturing moves outside Indonesia and moves directly to Indonesia market via liberated secondary markets



BACKGROUND

REDUCING LOGISTIC COST IS A KEY TARGET TO SUCCEED IN TRANSFORMING INDONESIA ECONOMIC PERFORMANCE

Old Ship have high fuel consumptions, high emissions and are unsafe

PT ASDP

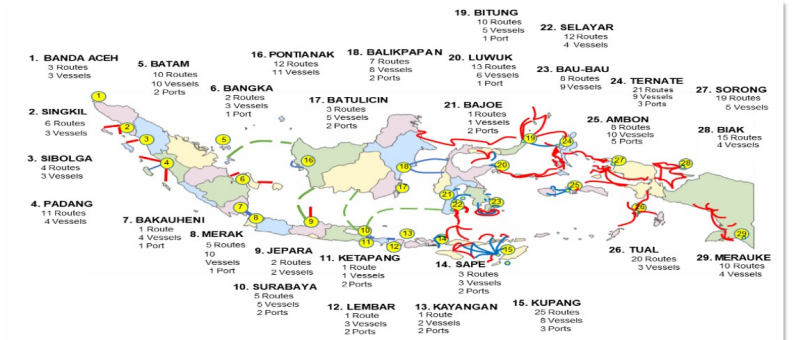
- Average ship age 30 years
- An extension of the road
- Delivers subsidised shipping through:
 - Pioneer Shipping
 - Tol Laut
- Is not designed to provide hub and spoke operations
- Limited balance sheet

Regulator: DGLT



Overview Angkutan Penyeberangan

PT ASDP Indonesia Ferry (Persero)



PT Pelni

- Average ship age 29 years
- Passenger operations enabling the integrity of Indonesia
- Competes with low-cost airlines
- Carries supporting cargo volumes in containers and limited RORO
- Delivers subsidised shipping through:
 - Pioneer Shipping
 - Tol Laut
- Has not been able to move towards hub and spoke operations
- Limited balance sheet



Regulator: DGST

BACKGROUND

REDUCING LOGISTIC COST IS A KEY TARGET TO SUCCEED IN TRANSFORMING INDONESIA ECONOMIC PERFORMANCE

- The source of container ships is the international market, those ships are more and more wanted in the international market.
- Prices are rising and availability falling.
- 50% of all domestic container handling is in Tanjung Perak and Tanjung Priok the hubs

MERATUS



TEU fleet composition (large to small)	No ships	Average Age	No ships	Average Age	No ships	Average Age	No ships	Average Age
0% – 25%	5	27	3	27	5	28	7	27
26% - 50%	7	23	9	15	8	18	13	22
51% - 75%	10	13	12	13	12	13	17	13
76% - 100%	15	15	23	16	19	23	27	32

The challenge facing the domestic container shipping lines is that their large ships are all beyond the economic life and the market for second hand tonnage and new built has moved upward drastically since Covid 19 making replacement difficult.

INADEQUATE SHIPYARDS FOR MAINTENANCE AND REPAIR INCREASE COST AND LIMIT SHIP SIZE AND TYPE

BACKGROUND

LEARNING FROM PHILIPPINE



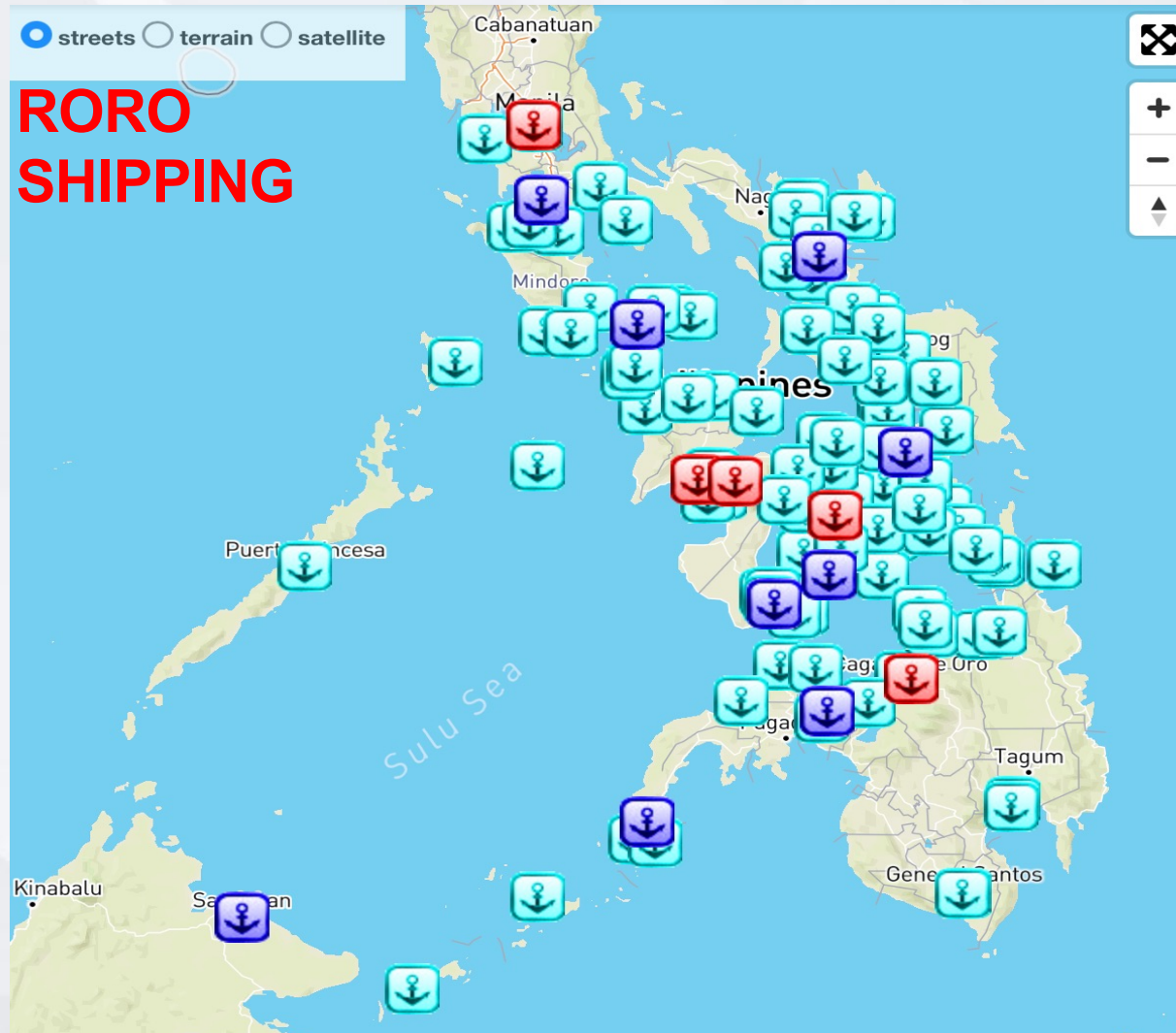
Presidential Degree 12 April 2003

"Strong Republic Nautical Highway" RORO SHIPPING

BACKGROUND

LEARNING FROM PHILIPPINE

**"Strong Republic
Nautical Highway"**



Large ports with more than
5 ferry lines



Medium ports with 3 to 5
ferry lines



Small ports with 1 or 2
connections



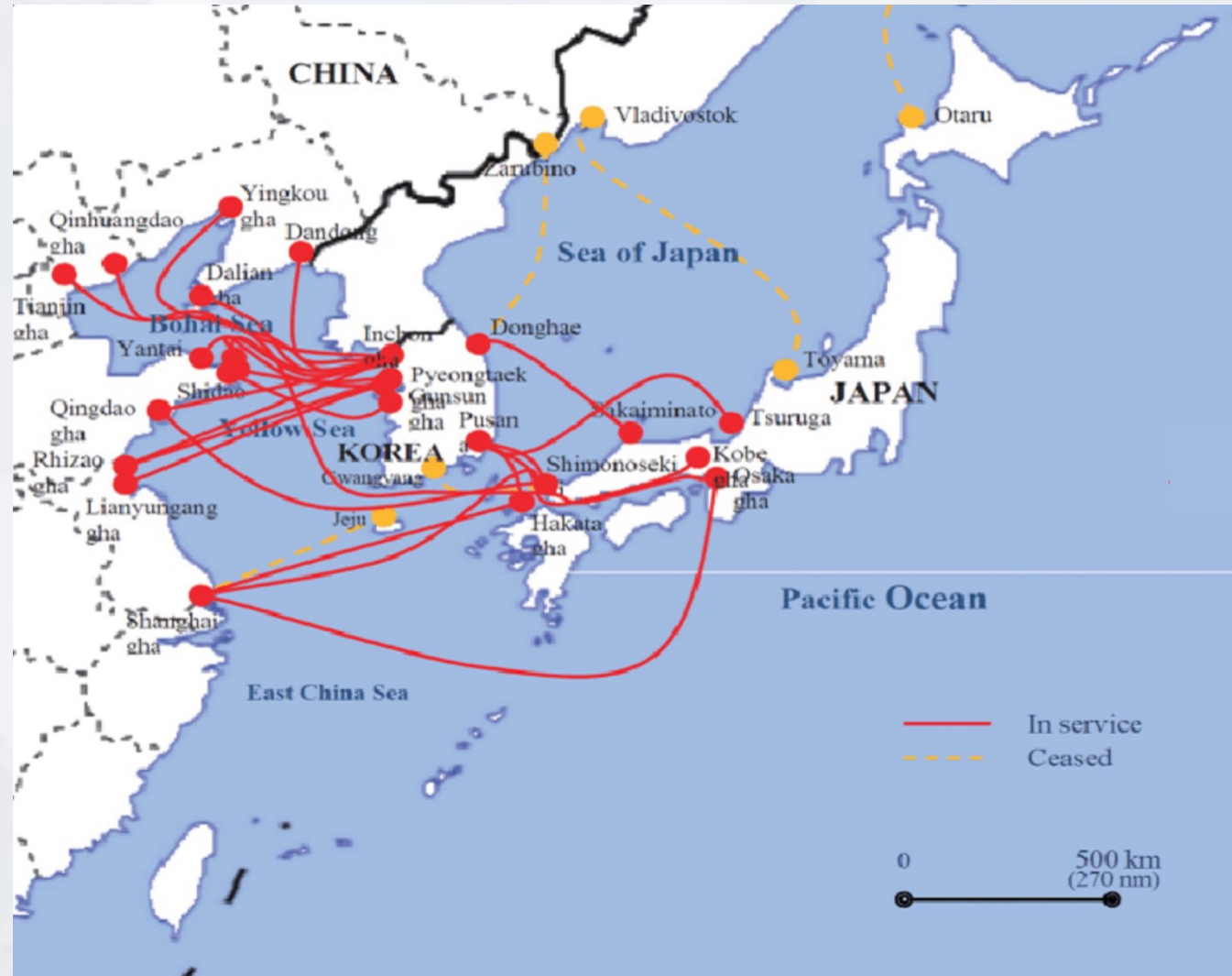
No Inter-island Container Ship



BACKGROUND

LEARNING FROM JAPAN, SOUTH KOREA & CHINA

Major ROPAX Network

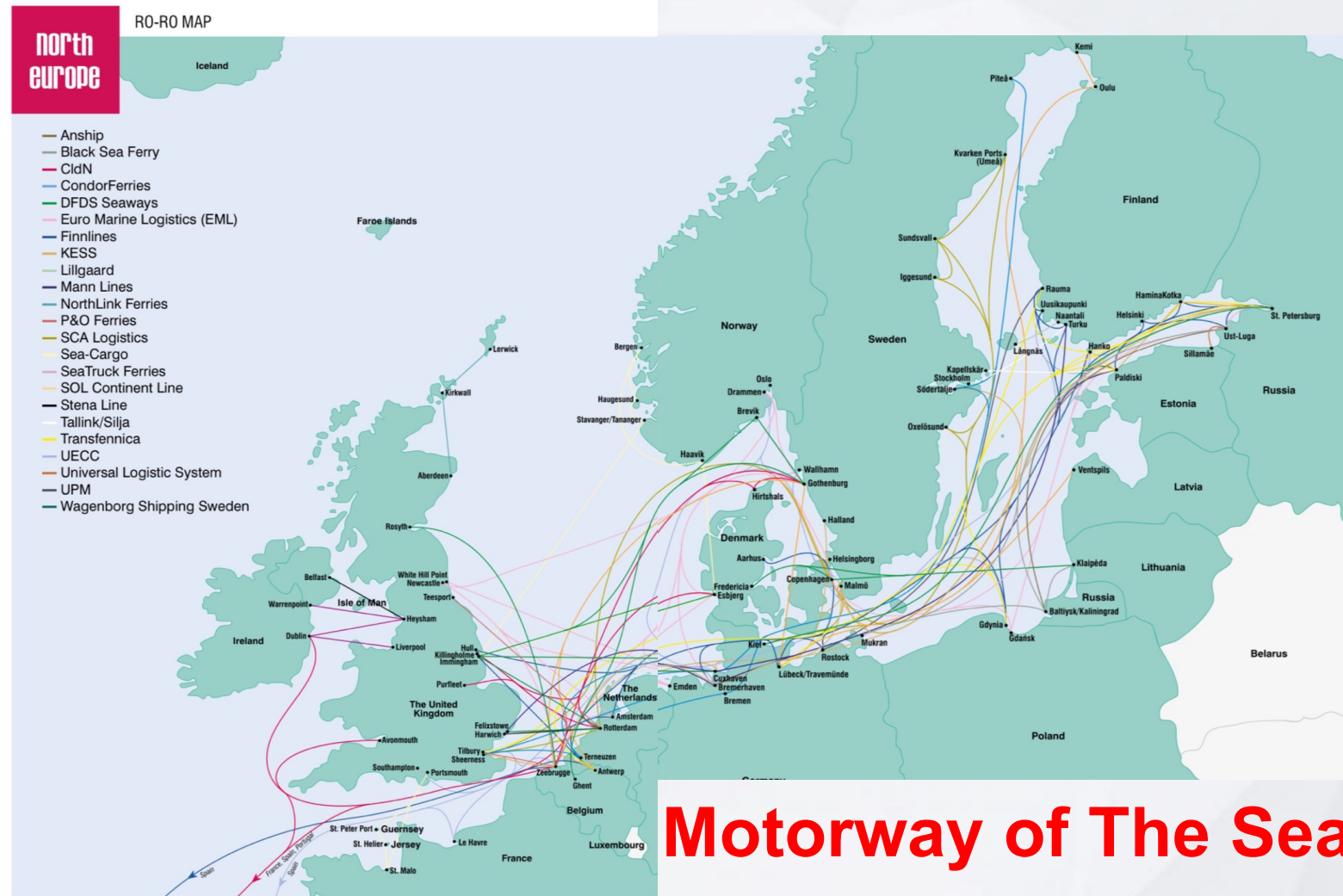


- Japan
- South Korea
- China

BACKGROUND

LEARNING FROM NORTH EUROPE & BALTIC

North Europe & Baltic RORO Network

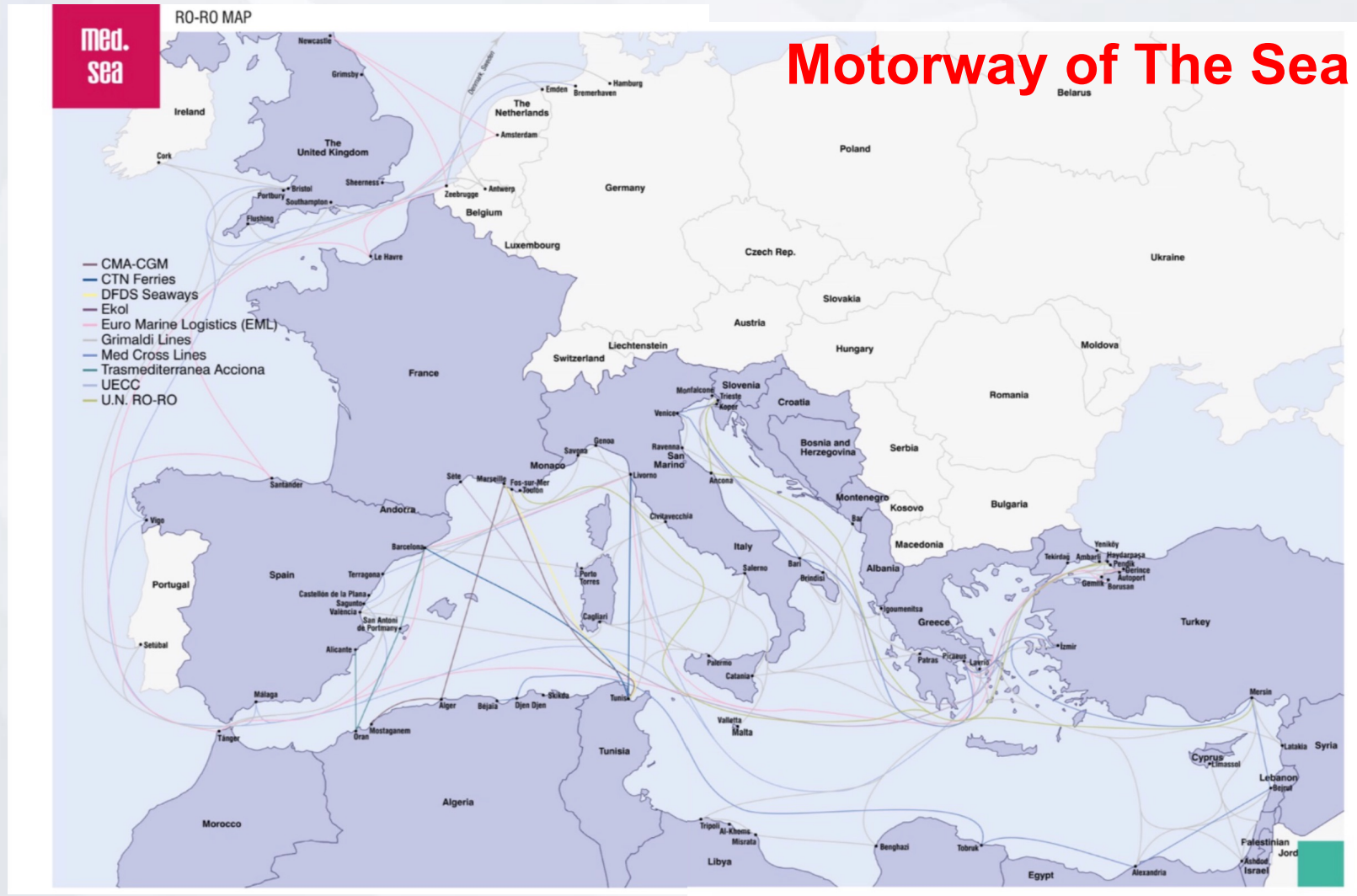


Motorway of The Sea

BACKGROUND

LEARNING FROM SOUTH EUROPE & MEDITERRANEAN

South Europe & Mediterranean RORO Network



BACKGROUND

RORO, Unaccompanied Trailers and Containers

Route times (days)	Priok	Pontianak	Belawan	Panjang	Peraik	Makassar	Banjarmasin
Tanjung Priok	0.0	1.1	2.3	0.4	1.0	2.0	1.6
Pontianak	1.1	0.0	1.7	1.2	1.3	2.1	1.4
Belawan	2.3	1.7	0.0	2.4	2.8	3.6	2.9
Panjang	0.4	1.2	2.4	0.0	1.3	2.1	1.5
Tanjung Perak	1.0	1.3	2.8	1.3	0.0	1.1	0.5
Makassar	2.0	2.1	3.6	2.1	1.1	0.0	0.5
Banjarmasin	1.6	1.4	2.9	1.5	0.5	0.5	0.0



This team took 1 hour to load the ship behind them....
With 300 trailers and containers, it takes them 1 hour to
unload the ship...

BACKGROUND

Fundamental Transport Economics

Mode	Containers	RORO	Traditional Boat
Cargo volume per trip (tons)	3,000+	500-2,000+	120-150+
Port call length (days)	8-9 hours	1 hour	5-7 days
Crew (persons)	6-9	9-11	6-9
Fuel consumption (liters per t-km)	0.0003	0.0040	0.0100
Speed (knots)	9-11	9-11	5-8
New terminals (per port)	US\$ 50 million	US\$ 10 million	US\$ 5 million
Competitive range	Over 2 days	Below 2 days	Low volumes



Most routes in Indonesia are below 2 days

BACKGROUND

Sea freight cost: Surabaya-Banjarmasin

Critical assumptions:

- Cost per day to charter (or finance the ship) -1t col.. new build rate, 2nd col. market rate
- Fuel price
- Imbalance, containers don't encourage back cargo RORO does!

All US\$	Container	Container	Container	Container	RORO	RORO	RORO	RORO
Ship Day Rate	8,000	9,000	20,000	23,000	8,000	9,000	20,000	25,000
Fuel cost per ton	600	600	600	600	600	600	600	600
Fuel Consumption	10	11	10	11	12	14	12	14
Days	365	365	365	365	365	365	365	365
Days at Sea	122	122	122	122	243	243	243	243
Containers Carried	300	500	300	500	200	300	200	300
Time in Port	24	24	24	24	4	4	4	4
Time at Sea	24	24	24	24	16	16	16	16
Time in Port	24	24	24	24	4	4	4	4
Annual carryings	36,500	60,833	36,500	60,833	73,000	109,500	73,000	109,500
Imbalance forecast	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.8
Gross cost per "TEU"	200.00	134.40	440.00	302.40	128.00	97.33	155.00	127.50



Reducing Domestic Inventory Cost

Managing domestic inventory cost is similar to managing international inventory cost but usually a subset of the options available to manage:		SOLUTION
1	Increased frequency of service (daily services)	RORO Networks
2	Service reliability (so reducing risk and therefore stockpile requirement)	RORO Networks
3	Moving international connections as close as possible to final domestic destination is important for imports and exports (eliminate transshipment)	• Makassar New Port • Bitung Port • Ambon New Hub Port • Kupang New Port
4	Direct services from origin to destination are effective, but low service volumes make transshipment a major contributor to cost reduction	Implementation Pendulum Nusantara as a Main Sea Corridor
5	There are few processes to digitise so limited benefits to be gained	Indonesia Logistic Marketplace Platform
6	Reduce dwell time on arrival (move from container to RORO)	RORO Networks
7	Eliminate lifts/modal change in “final mile” (move from containers to RORO)	RORO Networks
8	Reduce time taken to unload ship (move from containers to RORO)	RORO Networks
There are other factors:		
1	Reduce interest rate on trade finance.	-

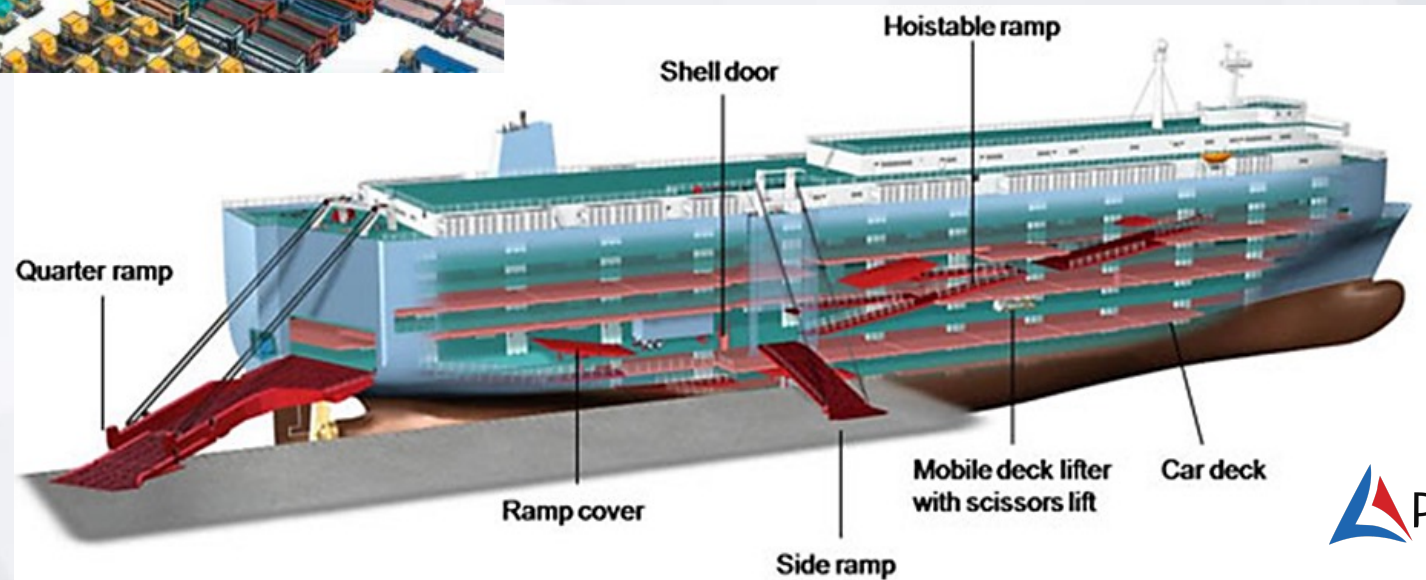
BACKGROUND

RORO Ship & RORO Terminal



BACKGROUND

RORO Ship & RORO Terminal



BACKGROUND

RORO Ship & RORO Terminal



RORO Terminal

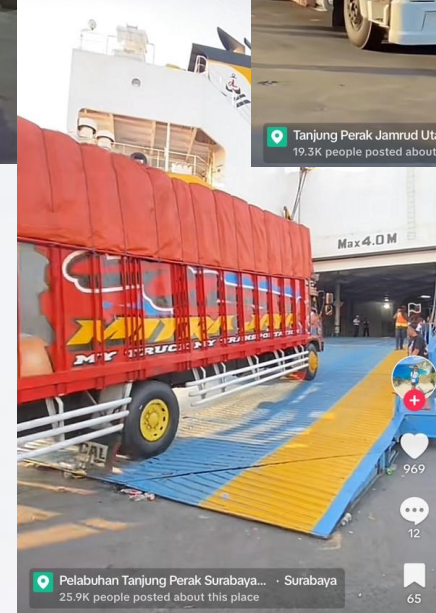
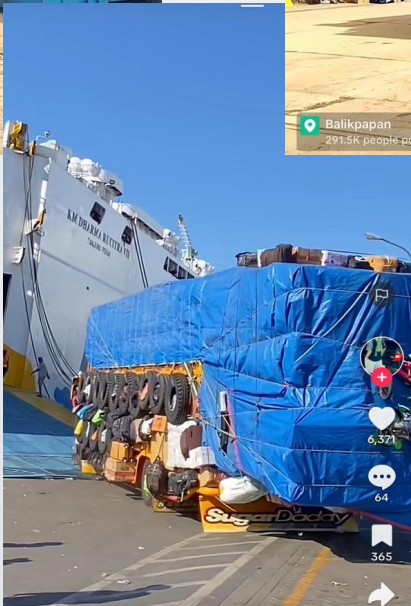
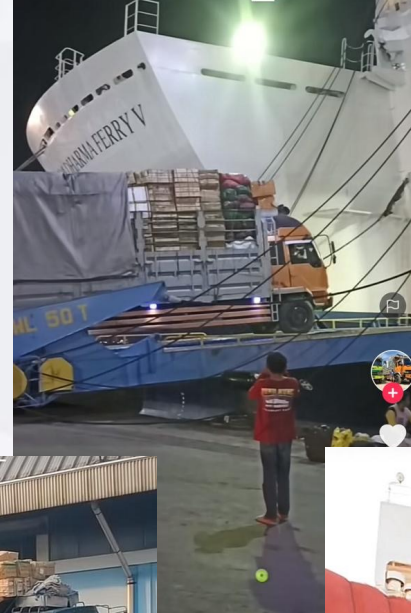
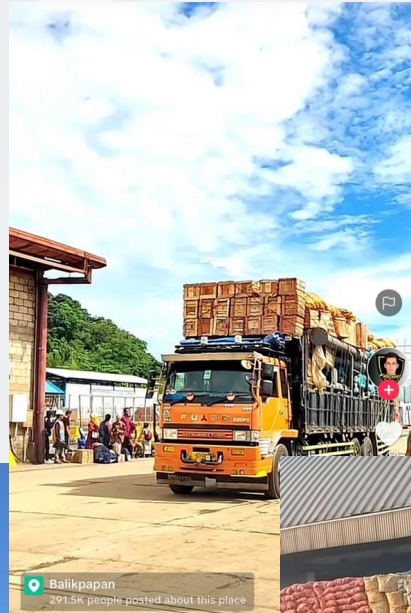


Benefit of **RORO Shipping**

- 1 SAVING INVESTMENT IN TERMINAL INFRASTRUCTURE
- 2 ELIMINATE CARGO HANDLING
- 3 REDUCE TRANSPORT COST
- 4 IMPROVE EFFICIENCY
- 5 REDUCE INVENTORY
- 6 REDUCE ADMINISTRATION COST
- 7 REDUCE OIL SUBSIDY (Jakarta-Sumatera & Surabaya-Bali)

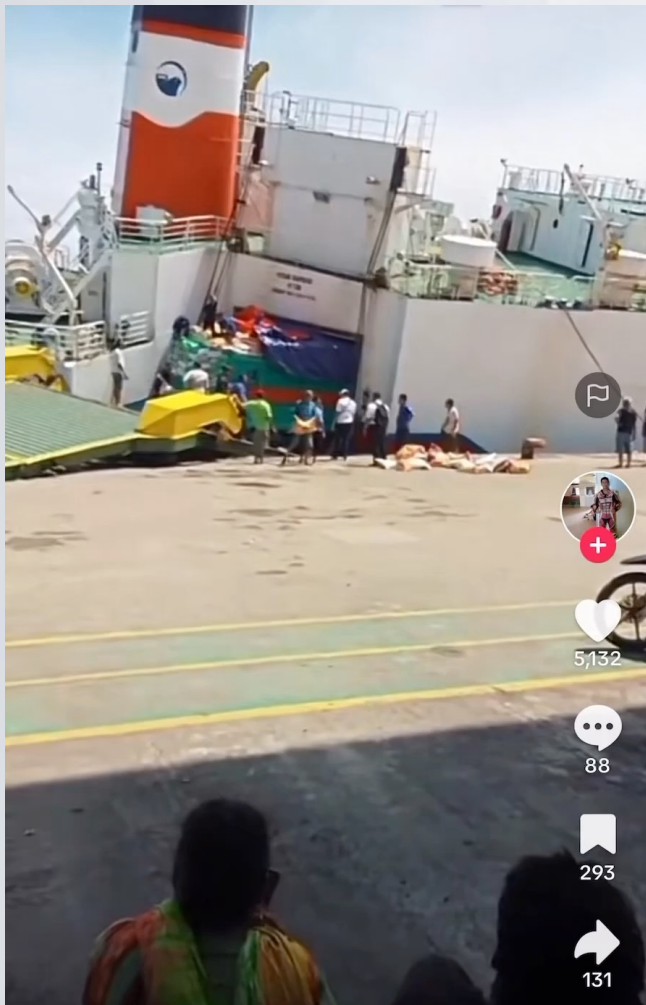


Truck Overload & Over Size





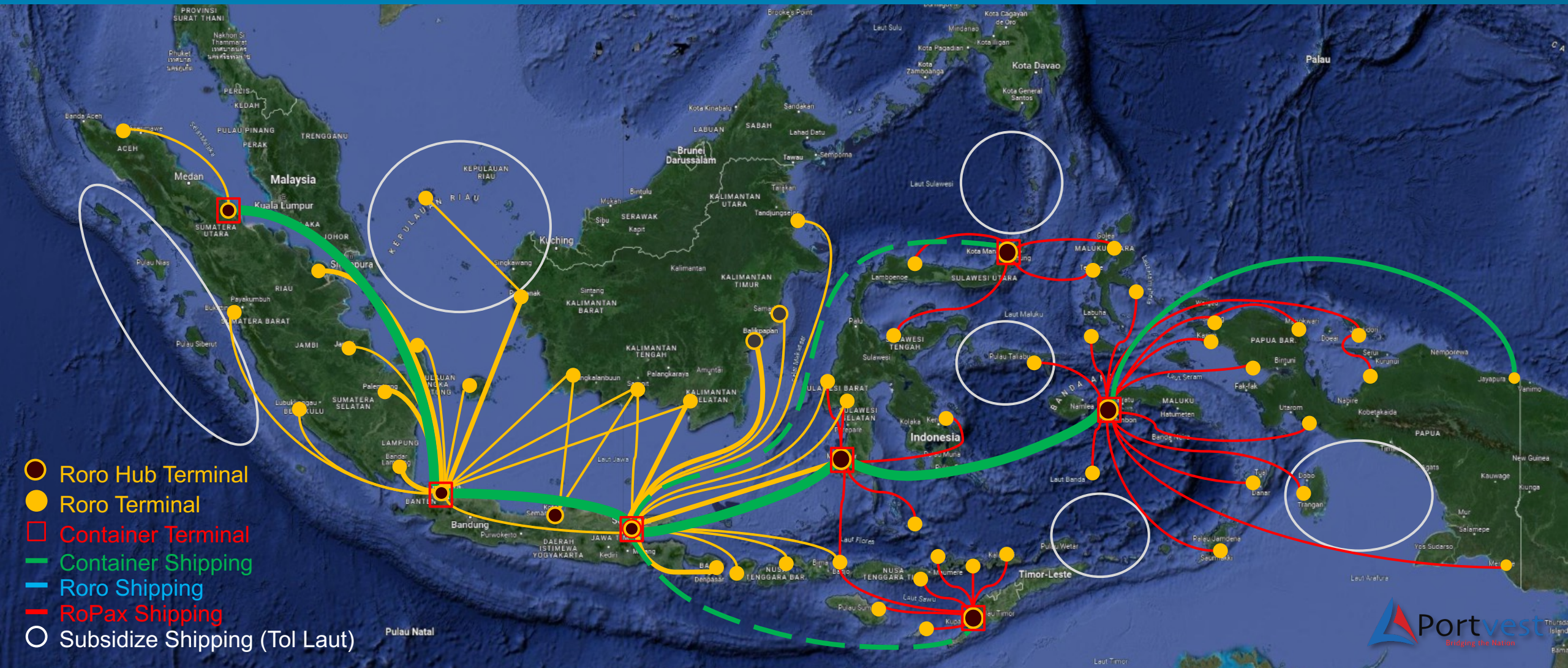
Truck Overload & Over Size





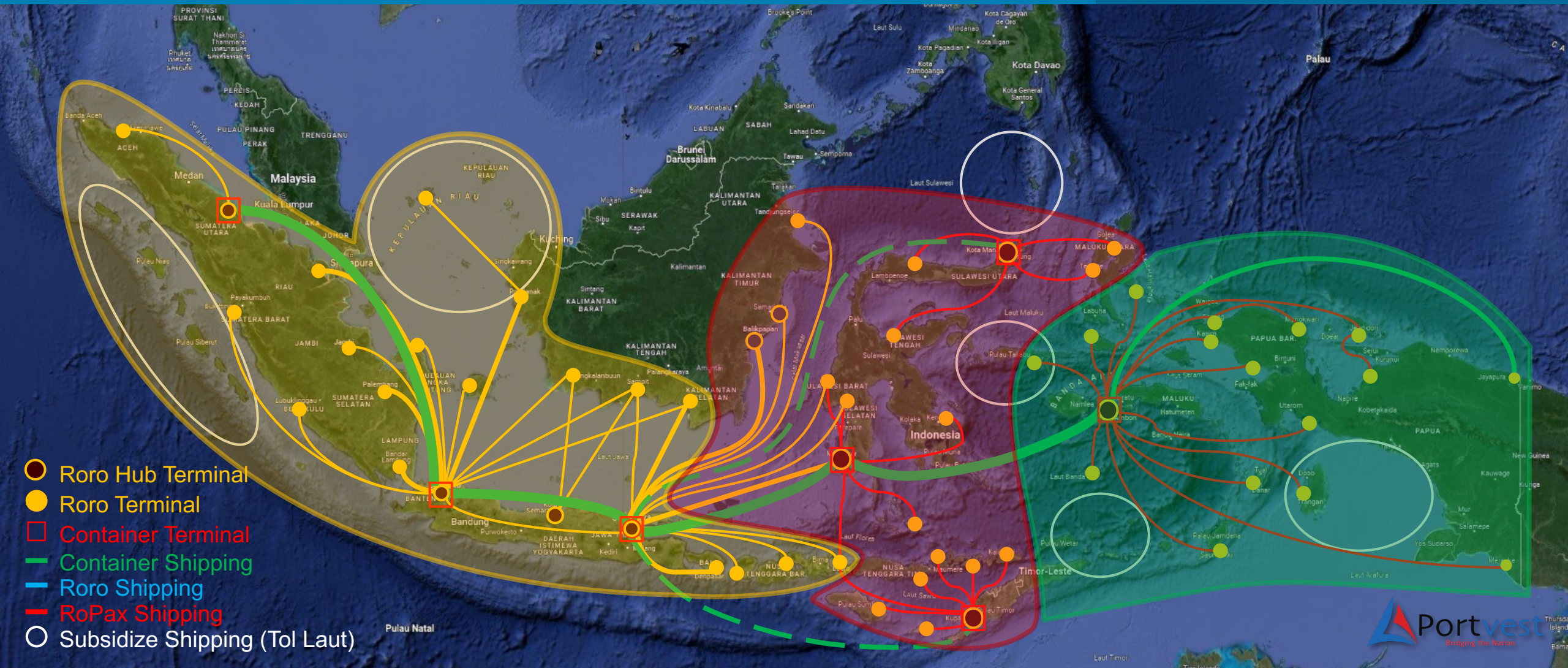
Conditions that must be prepared for the successful implementation of the RORO Network as a Sub Corridor Tol Laut

1. Establishment of a BUMN that specifically provides and operates RORO Terminals (this BUMN is not permitted to operate RORO Ships) throughout Indonesia.
2. Enforcement of oversight and oversize truck transport regulations.
3. Freedom to set RORO ship transport rates as is the case in container shipping
4. Freedom to choose routes as is the case in container shipping
5. Availability of shipyards for maintenance of RORO ships on site East, Central and West Indonesia.
6. MOT reviews all regulations concerning safety and services at the port in accordance with the latest technology.
7. MOT to reform the tariff imposed on RORO ships in accordance with international practice.
8. To speed up the implementation of the RORO Network (for the 1st 5 year) simplify the rules to import used RORO ships if they still meet technical standard of international requirements, regardless of age and origin are very necessary.
9. Ease of private sector licensing for private companies who wish to invest in RORO terminals.
10. Construction of the Ambon New Hub Port as part of the Sea Highway for Eastern Indonesia.





1st Phase 2025-2030
2nd Phase 2030-2035
3rd Phase 2035-2040





Future Domestic Distribution

Phase I Implementation of RORO Network 2025-2030:

1. Jakarta base to Sumatera would:

- *Delay any need for a second toll road from Jakarta to Merak by 20 to 25 years.*
- *Reduce emissions from traffic on the toll road by over 30%.*
- *Improve road safety on the toll road substantially.*
- *Reduce oil subsidy.*
- *Reduce transport cost.*

2. Surabaya base to Bali & Lombok would:

- *Reduce emissions from traffic on the toll road by over 20%.*
- *Improve road safety on the toll road substantially.*
- *Reduce oil subsidy.*
- *Reduce transport cost.*



Greening of Inland Waterway Transport

Tg. Priok – Bekasi – Cikampek – Patimban Canal



Manchester Ship Canal

An old canal with modern container barges

- 65 km long
- Links Liverpool and Manchester
- 160 TEU barge



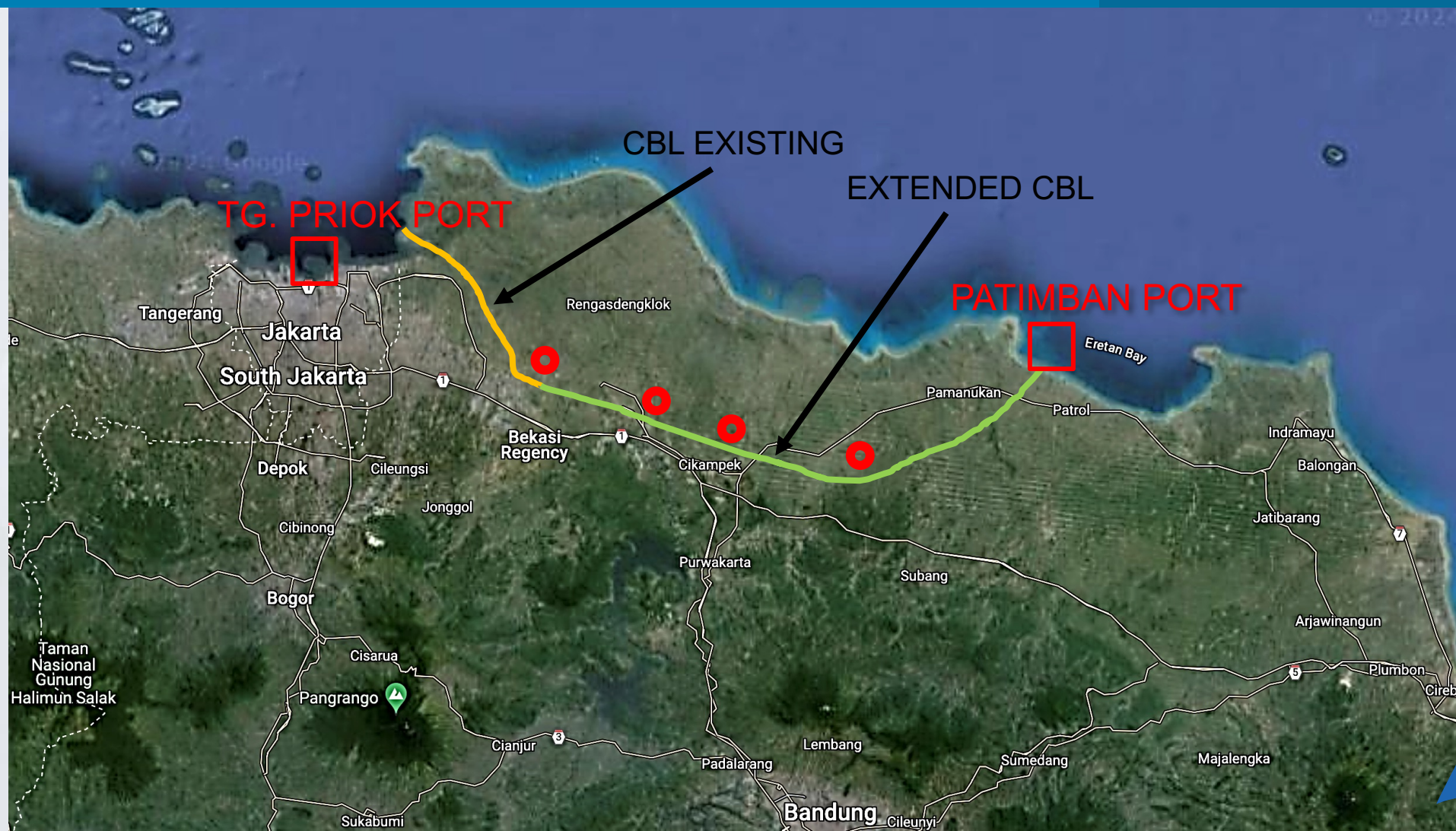




INLAND WATERWAY

TG. PRIOK - BEKASI - CIKAMPEK – PATIMBAN CANAL

● INLAND WATERWAY PORT



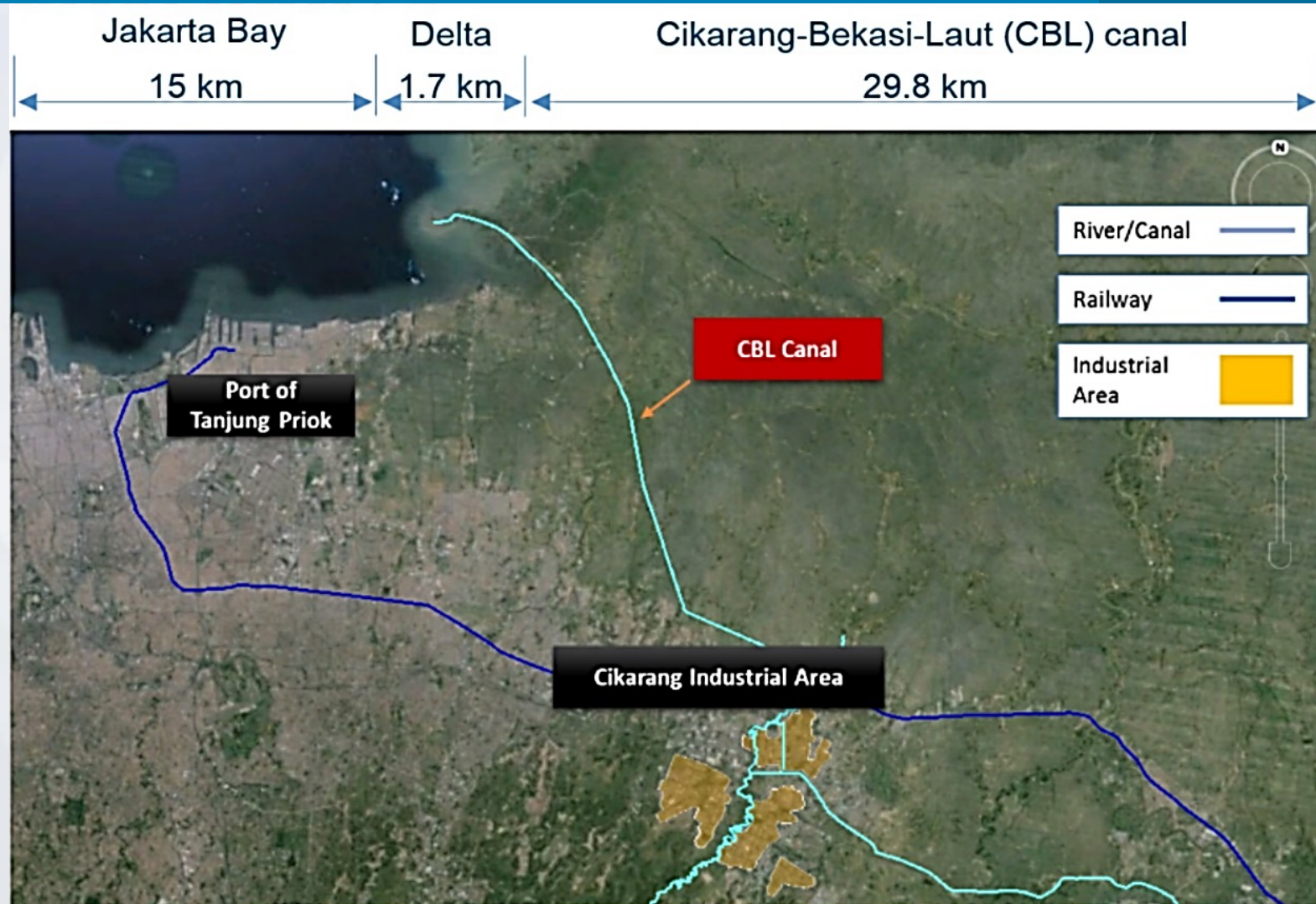


The roads link Tanjung Priok to Java





Canal Bekasi Laut (CBL) is an alternative





Conceptual CBL operation

Container shuttle loads/drop 150 TEU

- NPCT 2&3
- NPCT 1
- JICT & Koja
- Other terminals

8 hours shuttling round Tanjung Priok

Sail to canal, 18 km, 1 hour

Sail down canal, 36 km, 3 hours

3 hours unloading at inland terminals

Cycle time: 15 hours

NPCT 2&3

NPCT 1

Other
terminals

JICT &
Koja

Image © 2015 TerraMetrics
© 2015 Google

Google earth



Indicative volume forecast

Containers

- In 2014 Tanjung Priok Handled 6 million TEU
- About half of the containers handled in Tanjung Priok go to Bekasi, Cibitung area
- More containers head south and east

Coal

- Known requests 0.8 mtpa, long term contract available
- A single power station would add 5.0 to 10 mtpa

Iron Ore

- Known requests for 1.6 mtpa, long term contract available

Other cargoes that have potential

- Crude palm oil (CPO)
- Steel coils, specialty steel etc...
- Cement & Aggregates
- Petroleum products

Cargo Type	"Capacity" 50m wide
Container	5.5 m TEU/year
Bulk	65 m tons/year



What toll fee may be required?

Container Handling Charges

Canal Fee

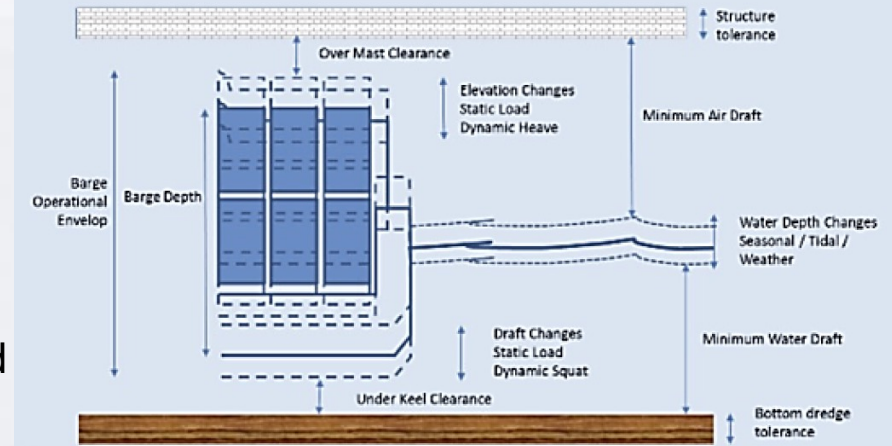
Barges Charges

Inland Terminal Handling Charges

Trucking Cost

Assumptions:

- Two-way traffic
- Dredge 24 km of canal to
 - 70 m width
 - 4.5 m depth
- Rebuild 2 bridges; air draft 7 m
- 50-year investment return period
- Annual carrying 3 million TEUs
- Build own dredger
- Operating costs:
 - Employee and Crew Salaries
 - Dredger maintenance
 - Insurance
 - Fuel



	Scenario 1	Scenario 2
CAPEX	USD 250.000.000	USD 350.000.000
Revenue/ TEUs	USD 8	USD 12
IRR	9.39%	10.58%



What will the barge freight cost?

Container Handling Charges

Canal Fee

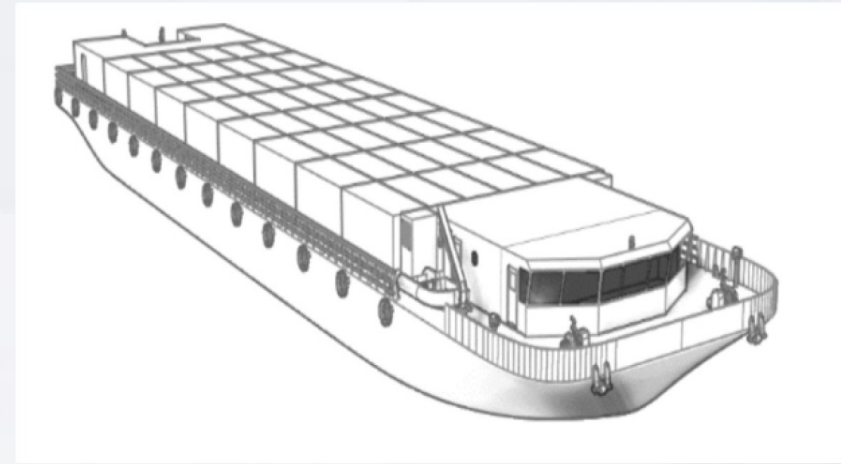
Barges Charges

Inland Terminal Handling Charges

Trucking Cost

Assumptions:

- 1 (one barge)
- Self Propelled Barge
 - 144 TEUs
 - 105,120 TEU a year
- Rebuild 2 bridges; air draft 7 m
- 25 year life
- Operating costs:
 - Crew Salaries
 - Vessel maintenance
 - Insurance
 - Fuel
 - Misc

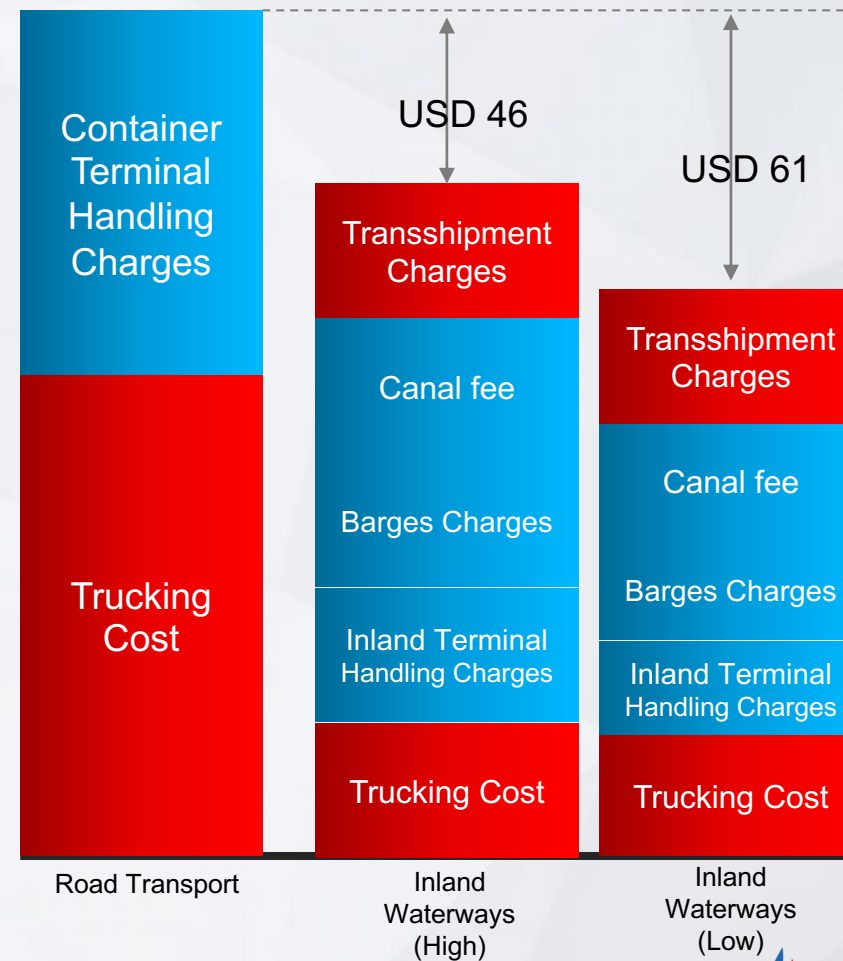


	Scenario 1	Scenario 2
CAPEX	USD 9.100.000	USD 12.000.000
Bunker saving	25%	0%
Revenue/ TEUs	USD 33	USD 38
IRR	13,49%	13,79%



A canal is cheaper than the road

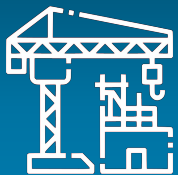
Cost Component	Road Transport	Waterway (Low)	Inland Waterway (High)
FCL Handling Charges	USD 86		
Road Transport (Tanjung Priok-Jababeka)	USD 130		
Barges Transshipment		USD 56	USD 56
Canal Fee		USD 8	USD 12
Barges Charges		USD 33	USD 38
Inland Terminal Handling Charges		USD 30	USD 32
Road Transport (Inland to Jababeka)		USD 28	USD 32
TOTAL	USD 216	USD 155	USD 170





Greening access to Tanjung Priok





Alternative Infrastructure

The containers that would use CBL are currently taken by truck to their destinations using the Jakarta-Cikampek Toll Road:

- Current traffic about 30 million PCU per year
- Current traffic 3 million trucks = 9 million PCU

Tg. Priok - Bekasi-Cikampek-Patimban Canal would:

Reduce Transport cost

Reduce oil subsidy

Reduce emissions from traffic on the toll road by over 30%

Improve road safety on the toll road substantially

Delay any need for a second toll road by 20-25 years





REDUCING LOGISTIC COST IN INTERNATIONAL TRADE

BACKGROUND

Logistic Perform Index (LPI) Ranking

Indonesia ranked 46th from 140 countries in the Logistics Performance Index (LPI) in 2018, by 2023 we had dropped to 63rd from 139 countries, making our competitive position worse

NO.	COUNTRY	RANKED	
		2018	2023
1	Indonesia	46	63
2	Philippines	60	43
3	Singapore	7	3
4	Malaysia	41	26
5	Thailand	32	34
6	Vietnam	39	38
7	China	26	20
8	Japan	5	10

BACKGROUND

Logistic Perform Index (LPI) in 2023

No.	FACTOR	INDONESIA	PHILIPINE	SINGAPORE	MALAYSIA	THAILAND	VIETNAM	CHINA	JAPAN
1	Customs	2,7	2,8	4,1	3,3	3,3	2,9	3,4	4,0
2	Infrastructure Quality	2,8	2,7	4,3	3,5	3,5	3,0	3,5	4,1
3	International Shipping	3,0	3,2	4,2	3,4	3,5	3,3	3,6	3,8
4	Logistic Quality	3,1	3,0	4,2	3,5	3,4	3,2	3,6	4,0
5	Tracking & Tracing	3,0	3,1	4,3	3,5	3,4	3,2	3,5	4,1
6	Timeliness	3,2	3,3	4,4	3,6	3,5	3,4	3,8	4,2

For almost all factors, Indonesia is the worst performer in ASEAN

BACKGROUND

ICT Logistic

Selection of quotes by customer

“Has to prepare somewhat similar document to different parties, if everything is connected, this would reduce duplication of work”

“My team spends a lot of time visiting carrier websites or calling the vendor to check the status of each shipment”

“Rates are managed via XLS or email difficult to maintain and frequently out of date”

“There is no single system that allows your team to manage all aspects of the shipment workflow and get key data about shipments when necessary”

“It is hard to find a good amount of players in the market for us to compare the prices, most are done manually which is very time consuming”

“It is a difficult situation when you want to export or import yourself but you don't know where you can access the necessary information to do the trades”

“There is always possibility that my goods are going to get stolen or damaged along the way. Which is why insuring them is a priority”

“It is hard to ensure trustworthiness of the driver. Every time I let a driver drives my truck, there is always possibility that I will lose my truck”

4 overarching pain point areas

1 Need for operational efficiency

Manual and duplication of work due to less automated business process

2 The need for integration

Lack of system integration between logistic value chain players that often leads to communication issues

3 Lack of transparency

Information in regards to logistic value chain is not accessible (on a real-time basis)

4 High execution risks

Potential incidents/setbacks that are probable to take place during the entire shipment process

NO SINGLE PLATFORM IS AVAILABLE

REDUCING INTERNATIONAL INVENTORY COST

Inventory cost is managed mainly through reducing time taken in transit so:		SOLUTION
1	Increased frequency of service (weekly fixed slot services)	NPCT 2, 3, 4 & 5, Tg. Emas New Container Terminal.
2	Service reliability (so reducing risk and therefore stockpile requirement)	World Class Operation.
3	Direct services from origin to destination (eliminate transshipment)	Deepening access channel Tg. Emas & Tg. Perak to be -14.00LWS.
4	Digitisation of processes to eliminate waiting time at ports/borders	• Stream Line overall import process. • Indonesia logistic marketplace platform.
5	Reduce dwell time on arrival (see digitisation of processes)	• Stream Line overall import process. • Indonesia logistic marketplace platform.
6	Reduce time taken to unload ship	World class operation
There are other factors:		
1	Reduce interest rate on trade finance.	



KEY PROJECTS & POLICIES **To Reduce Logistic Cost**

REDUCING LOGISTIC COST IS A KEY TARGET TO SUCCEED IN TRANSFORMING INDONESIA ECONOMIC PERFORMANCE

PORT INDUSTRY

1

▶ **INFRASTRUCTURE**

- Roro terminals all over Indonesia
- NPCT 2, 3, 4 & 5 Tg.Priok.
- Deepening access channel in Tg. Perak & Tg. Emas to be -14.00 LWS
- Tg. Emas New Container Terminal
- Ambon New Hub Port

2

▶ **PORT OPERATION**

- World Class Operation

3

▶ **REGULATION**

- Review the regulation to Promote Private Investment.
- Streamline overall Import Process to reduce dwelling time.

4

▶ **PORT TARIFFS**

- Port Tariff Reform – make domestic ports and terminals viable commercial investments

5

► **NETWORK**

- RORO & ROPAX Network for Domestic Distribution
- Implementation of Pendulum Nusantara as a main sea highway.

6

► **FLEET**

- Support Program to Replace all old ships with RORO, ROPAX & Container Ship.

7

► **DOCK YARD**

- Massive increase Dock Yard capacity.

8

▶ **SUPPORT OPERATIONS**

- Indonesia logistic marketplace platform to reduce empty backhaul leg and increase truck utilization.

9

▶ **INFRASTRUCTURE**

- Parking areas near the port and industrial area.

10

▶ **OIL SUBSIDIZE**

- Gradually reduce the oil subsidize towards market-based price mechanisms.

11

▶ **REGULATION**

- Enforcement of overweight and oversize truck transport regulation.

REDUCING LOGISTIC COST IS A KEY TARGET TO SUCCEED IN TRANSFORMING INDONESIA ECONOMIC PERFORMANCE

SUPPORTING INDUSTRIES

12

▶ **CONNECTIVITY**

- Indonesia logistic marketplace platform.

13

▶ **LOGISTIC CENTER**

- Logistic centers and parks in all main ports and many smaller ports.

14

▶ **REGULATION**

- Harmonize logistic regulation (Consistent Regulation).

15

▶ **FINANCING**

- Shipping Development Fund.

16

▶ **INLAND WATERWAY**

- Canal Tg. Priok – Cikarang – Kerawang – Cikampek – Patimban.
- Inland waterway in Sumatera, Kalimantan & Papua.

17

▶ **EDUCATION**

- Education in logistic capacity and world class quality.



Thank You