



# PATRIA maritim perka)a

ship design - ship building - marine services

*formerly known as*



**PT. PERKASA MELATI**

ISO 9001  
OHSAS 18001

**BUREAU VERITAS**  
Certification





Solution for  
your  
productivity



PATrIA Maritim Perkasa was established in Batam in 2005 under the name PT. Perkasa Melati. As a subsidiary of PT United Tractors Pandu Engineering who always give solution for stakeholders productivity, PATrIA Maritim Perkasa also have a commitment to provides solution in ship design & ship building industry and become an excelent solution partner for every stakeholders



make **Profit**  
whilst caring of  
**People** and  
**Planet**

Supported by the excellent and expertise marine engineer team, PATRiA Maritim Perkasa provides integrated and customized ship for any kind of maritime logistic to the commodity industry in the nation and also in Asia

## VISION

To be the excelent ship building soultion partner for customer's productivity

## MISSION

Provide sustainable value added in maritime industry for the stakeholders



PT. ASTRA INTERNATIONAL, Tbk



PT. UNITED TRACTORS, Tbk



PT. UNITED TRACTORS PANDU ENGINEERING

## SHIP DESIGN & BUILDING

Provide the world class ship design and technical solution to customers  
New Building of HighTech Ship, especially O,P,D,C (SV) and Rig MODU (Offshore)



## SHIP OPERATOR

Transshipment, ship operator to supply energy especially coal  
In inland waterways - shortsea



## SHIP REPAIR

Repairing Tug and Barge in Barito river and build LowTech of Ship (Tug & Barge)







Kav. 20 Dapur 12 Sei Lekop  
Sagulung – Batam  
INDONESIA  
Phone : +62-778-7367111  
Fax : +62-778-7367112

## Main Facility

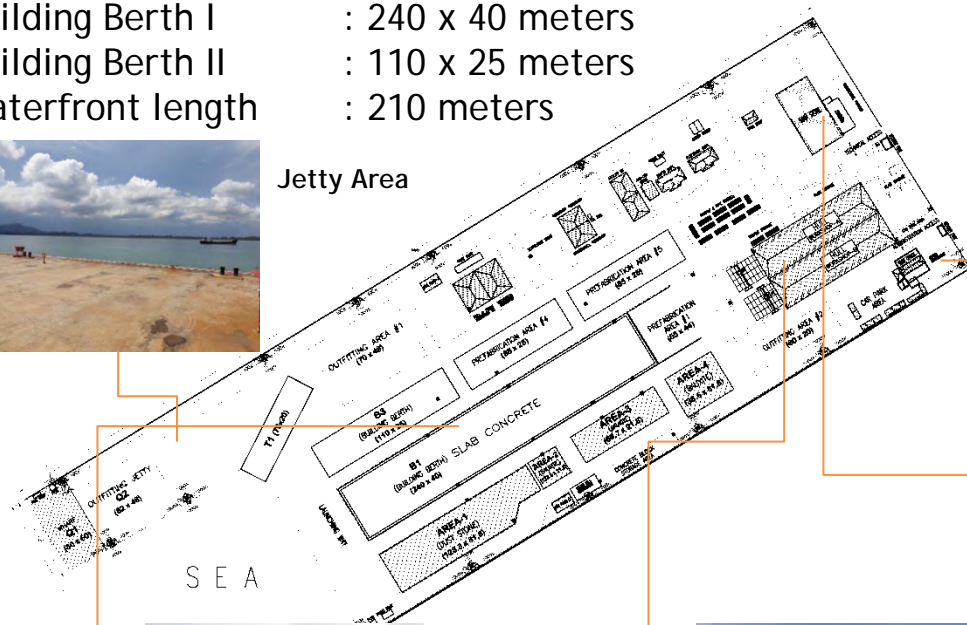
Building Berth I : 240 x 40 meters

Building Berth II : 110 x 25 meters

Waterfront length : 210 meters



Jetty Area



Head Office



Main Store



Building Berth



Workshop Fabrication Area



Material  
Preparation &  
Fabrication  
Area



Handling  
Equipment



Material  
Preparation &  
Fabrication  
Area

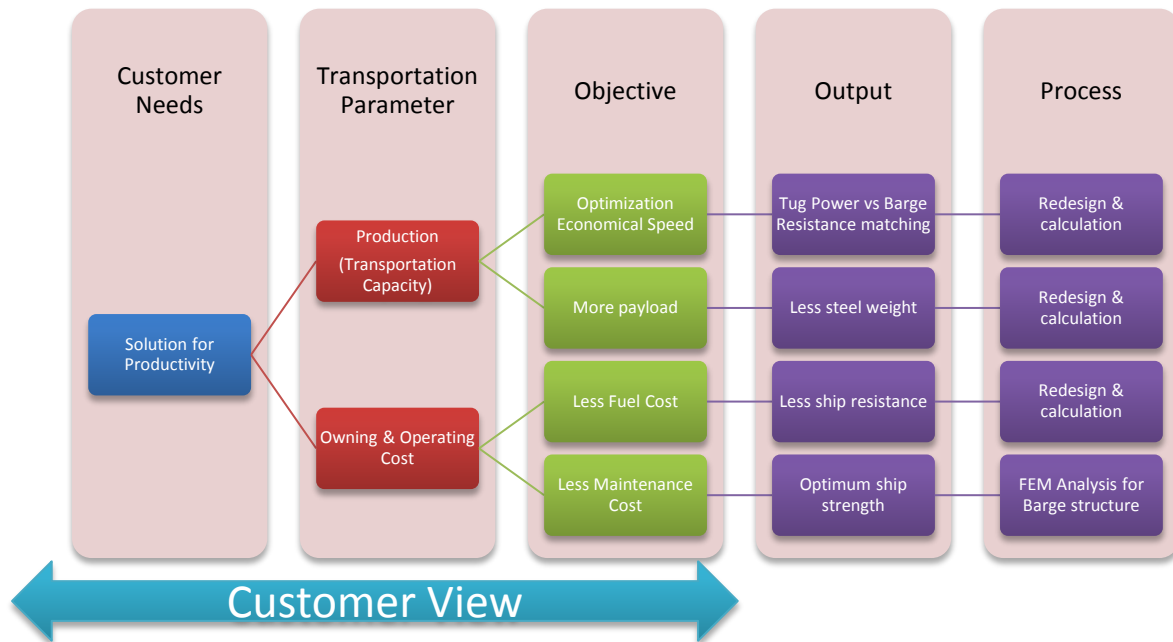


Jetty Area  
60 x 135 meter

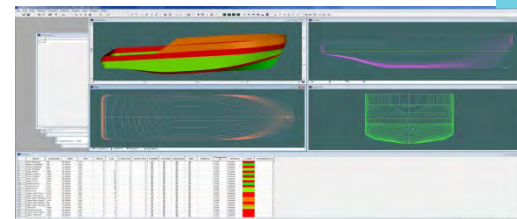
**PATRiA**  
maritim perka)a  
ship design SOLUTION



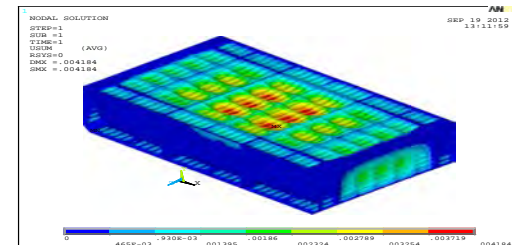
## Design Process



Customer objective is to get more revenue and less cost (better revenue-cost ratio)



Remodelling using software



Finite Element Analysis



Towing test

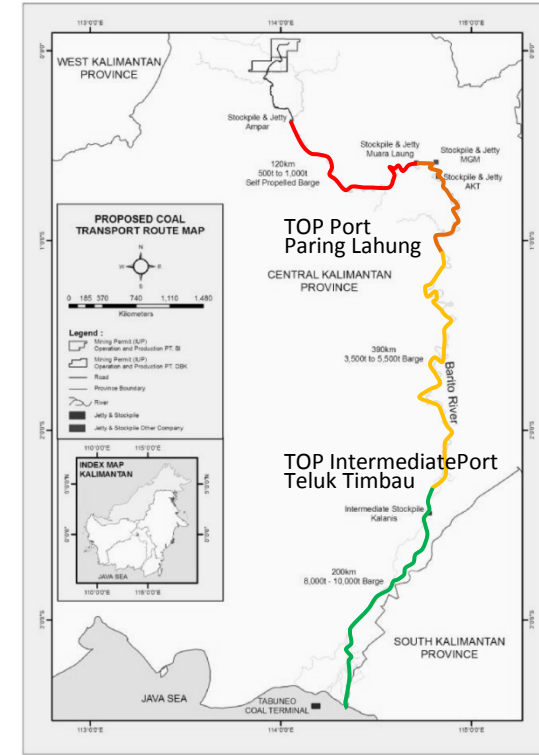
Innovative Solutions to support Customer achieve the Productivity Goals, and Improve The Barging Efficiency for a Total System Transportation, especially in inland waterways – sea.

## problem statement

Existing TOP - PML and others coal barging Operator used Conventional Tug and Barge 4000 DWT having a big problem at shallow water river especially at summer (30% off) and many kind of garbage, stones, river banks in Lines 2 (Muara Laung – Paring Lahung - Teluk Timbau), 120 nm.

## goal statement

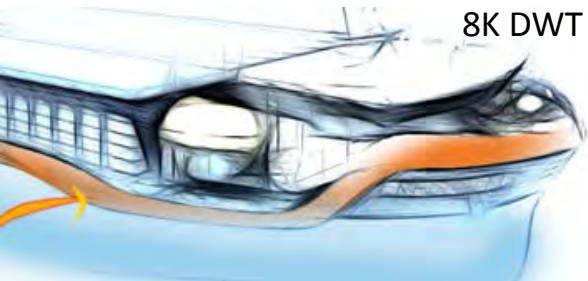
Increase up to 70 % or 1.7 GP Ratio Existing PML Barging for TOP.



- Lines 1, 15K DWT
- Lines 3, 0 DWT
- Lines 2, 4K DWT



INNOVATIVE SELF PROPELLED BARGE  
8K DWT



- High maneuverability
- Lower operating cost
- Reduce handling time in port
- High load - flexibility
- Easy to ship development
- Reduce emissions due to IMO Engine Standard
- More safety in operation and Controllable
- More comfortable and healthy operation

DECK SHIP DESIGN CONCEPT - BENEFIT

economic  
ecologic



economic - ecologic

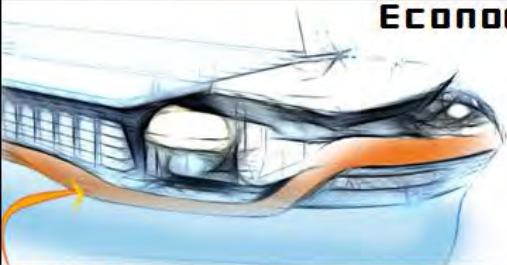
3 x Variable Efficiency Condition  
3 x 450 HP SCANIA Engine  
3 x Steerable Rudder Propeller  
Corrugated Bulkhead & Sideboard



**Economic**



**ecologic**

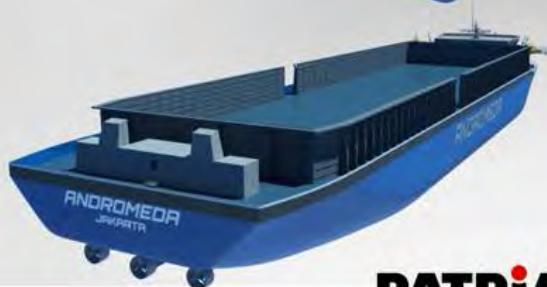
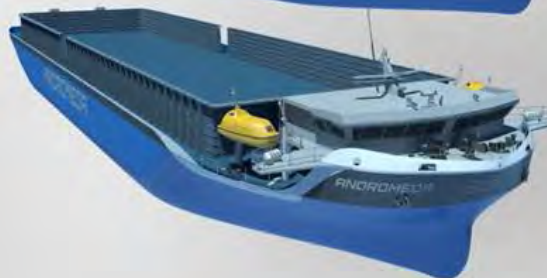


#### ■ DYNAMIC LINE

Penggunaan aksesoris garis/lines tersebut untuk menerapkan karakter perusahaan yang memiliki ciri khas garis pada corporate identity.  
Garis dinamis yang mengalir dari depan ke belakang untuk memberi kesan bentuk, dan garis lengkung di bagian depan untuk memberi kesan desain yang lebih modern.



PRINCIPAL PARTICULARS	
LENGTH O.A.	115.00 m
BEAM MLD.	25.00 m
DEPTH	6.50 m
DRAFT	4.50 m
SPEED	24.0 knots
MAX. ENGINE POWER	3 x 450 HP
CARGO CAPACITY	8000 Ton
CREWS	14 Persons



**PATRIA**



*andromeda*



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ship building SOLUTION

PROJECT NO	TYPE OF VESSEL	NAME OF VESSEL	CLASS	YEAR OF BUILT
PM013	Floating Crane	Donna Paula	BV	2006
PM014	Self Propulsion Barge	Lampan	ABS	2007
PM015	Self Propulsion Barge	Lais	ABS	2007
PM016	Self Propulsion Barge	Lebam	ABS	2007
PM017	Twin Screw Tug	Tambat	ABS	2007
PM018	Twin Screw Tug	Tahir	ABS	2007
PM019	Twin Screw Tug	Tanggon	ABS	2007
PM020	Twin Screw Tug	Teguh	ABS	2007
PM021	Twin Screw Tug	Terik	ABS	2007
PM022	Twin Screw Tug	Tulus	ABS	2007

PROJECT NO	TYPE OF VESSEL	NAME OF VESSEL	CLASS	YEAR OF BUILT
PM023	Twin Screw Tug	Tepat	ABS	2007
PM024	Twin Screw Tug	Tekad	ABS	2007
PM025	Twin Screw Tug	Tegar	ABS	2007
PM029	Floating Crane	Ibu F	BV	2007
NB-09-01	Floating Crane	Maria Laura	BV	2010
NB-09-02	Floating Crane	Miramar	BV	2010
PS200101	Deck Cargo Barge	Antares	BV	2012
PS200102	Deck Cargo Barge	Aquarius	BV	2012
PS100101	Tugboat	PATRIA 20	BV	2012
PS100102	Tugboat	PATRIA 21	BV	2012

**MV. Miramar**  
Floating Crane



**Lampan**  
Self Propelled Barge



**Antares**  
Deck Cargo Barge



**PATRIA 20**  
Tug Boat





## MV. Miramar

32 T Floating Crane

Floating crane transhipper unit to  
conduct iron ore transshipment in  
Goa, India

Capacity : 20,000 tpd

Builder

**PATRIA**  
maritim perka)a

Owner

  
LD Ports & Logistics





## Design & Specification

	PT. Patria Maritim Perkasa	Other Batam shipyard
<b>Hull Form</b>	<b>ship-shaped hull form</b> Less resistance, less tug boat power required	<b>spoon hull form</b> More resistance, more tug boat power required
<b>Cargo Capacity</b>	<b>5,500 ton</b> Optimum fleet size 270 x 72 x 18 feet	<b>5,000 ton</b> Size 270 x 70 x 16 feet
<b>Steel</b> (Plate, Profile, Pipe)	<b>Certified &amp; Class Approved</b> All material completed with mill certificate and class approved	<b>Semi Certified &amp; Class Approved</b> Not all material are certified & class approved
<b>Painting</b>	<b>Higher Spec</b> <ul style="list-style-type: none"> <li>- Completed with inner coating</li> <li>- Inspect by paint inspector started from sub-assy process</li> <li>- 3 years guarantee top coat &amp; anti fouling</li> <li>- Paint styling</li> </ul>	<b>Lower Spec</b> <ul style="list-style-type: none"> <li>- Not inner coated</li> <li>- Paint inspect just at finishing process</li> <li>- 1 year guarantee top coat &amp; anti fouling</li> <li>- No paint styling</li> </ul>
<b>Cathodic Protection</b>	<b>Aluminium Anode</b> More prevent corrotion	<b>Zinc Anode</b> Less prevent corrotion



**7 %**

Reduce tug boat fuel consumption



**10 %**

Increase cargo capacity (payload)



**10 %**

Reduce repair & maintenance cost



Production Process

	PT. Patria Maritim Perkasa	Other Batam shipyard
Manpower	<p>Qualified &amp; Certified</p> <ul style="list-style-type: none"> <li>- All welder are qualified and certified. Must have welder certificate endorsed by IACS Class. Tested by shipyard.</li> <li>- All QC are certified and qualified as welding inspector</li> </ul>	<p>Not Monitored</p> <ul style="list-style-type: none"> <li>- Some welder are not certified</li> </ul>
Welding Process	<p>Automatic Welding Machine</p> <ul style="list-style-type: none"> <li>- Less manpower</li> <li>- Higher welding quality</li> </ul>	<p>Manual</p> <ul style="list-style-type: none"> <li>- More manpower</li> <li>- More defect</li> </ul>
Inspection & Supervision	<p>Full Class &amp; QC Inspection</p> <ul style="list-style-type: none"> <li>- Class start inspect &amp; supervise from fabrication process</li> <li>- QC start inspect &amp; supervise from material delivery</li> </ul>	<p>Semi Inspection</p> <p>Class start inspect &amp; supervise from assy process</p>



**10 %**

Reduce repair & maintenance cost



Entertain Room



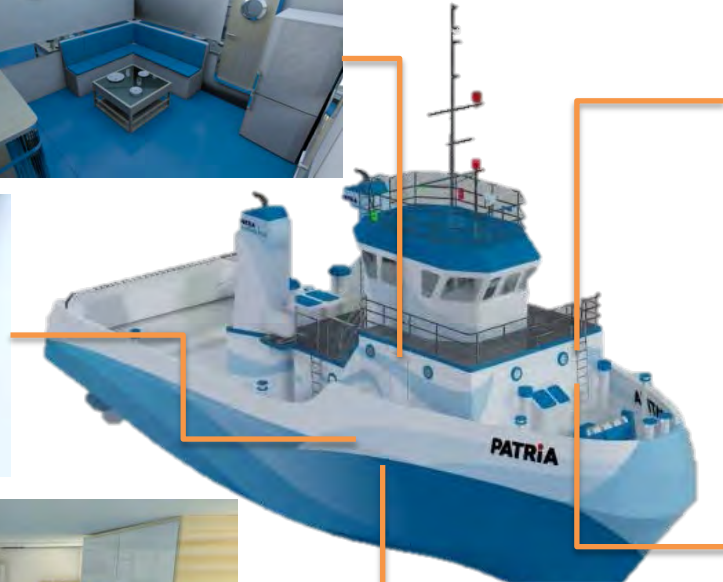
Toilet



Galley



Crew's Room



Master/C.Eng's Room



## Entertain Room



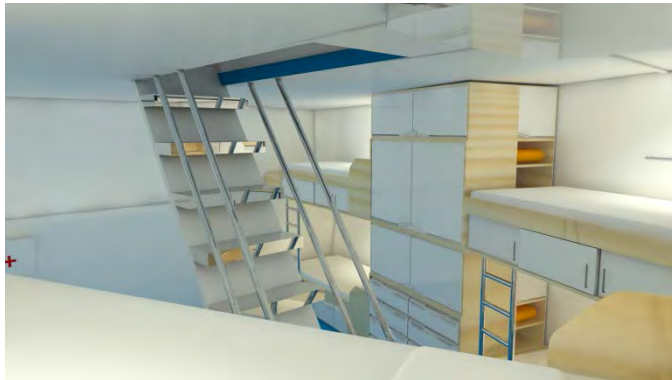
## Galley



## Master / Chief Eng. Room



## Crew's Room

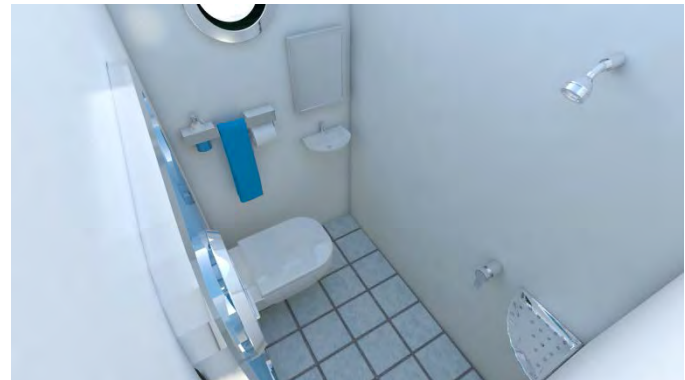
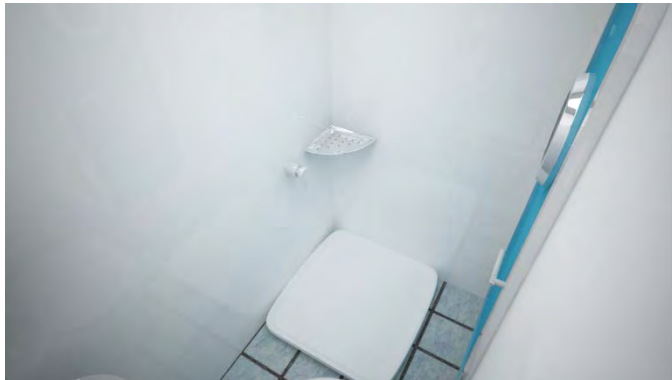




## Wheel House



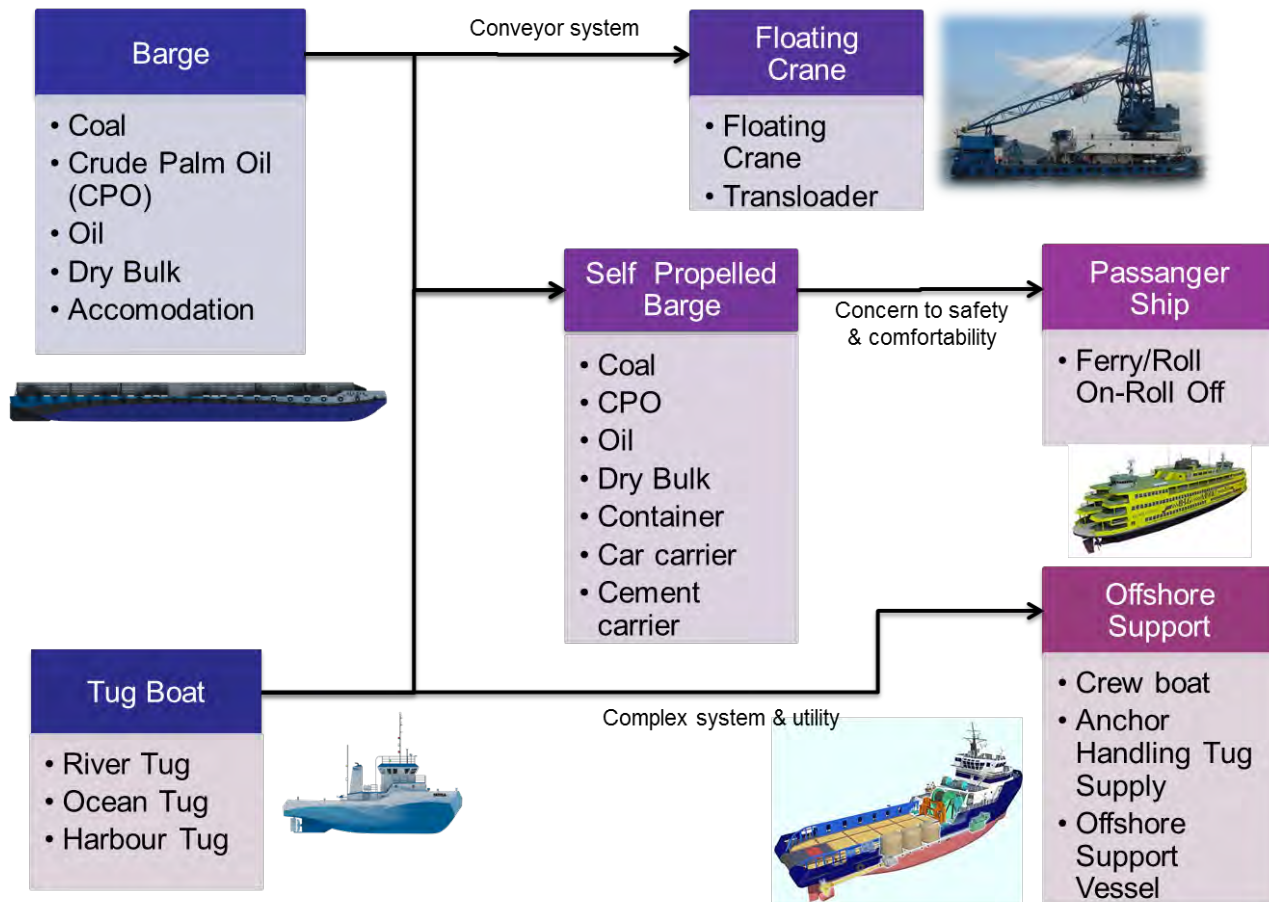
## Toilet



	<ul style="list-style-type: none"> <li>▪ CONCEPT DESIGN</li> <li>▪ CLASS RULES</li> <li>▪ GOVERNMENT REGULATION</li> <li>▪ IMO-SOLAS-MARPOL &amp; REFF</li> </ul>	<ul style="list-style-type: none"> <li>▪ ITS</li> <li>▪ LHI</li> </ul>		
FEASIBILITY STUDY	DESIGN & CALCULATION	TANK TEST	CLASSIFICATION	SHIP BUILDING
<ul style="list-style-type: none"> <li>▪ DATA COLLECTING</li> <li>▪ ANALISYS</li> </ul>	<ul style="list-style-type: none"> <li>▪ TOOLS : MANUAL FORMULATION MAXSURF CAD &amp; Others</li> <li>▪ GENERAL PART (13)</li> <li>▪ HULL CONSTRUCTION (15)</li> <li>▪ MACHINERY OUTFITTING (14)</li> <li>▪ HULL OUTFITTING (15)</li> <li>▪ ELECTRIC OUTFITTING (7)</li> </ul>	<ul style="list-style-type: none"> <li>▪ SHIP's RESISTANCE</li> <li>▪ SEAKEEPING</li> <li>▪ MANOEUVRING</li> <li>▪ CAVITATION</li> </ul>	<ul style="list-style-type: none"> <li>▪ BKI</li> <li>▪ IACS (11)</li> </ul>	<ul style="list-style-type: none"> <li>▪ YARD PLAN</li> <li>▪ DETAIL DESIGN</li> <li>▪ PRODUCTION</li> <li>▪ SEA TRIAL</li> </ul>

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maritim perka)a  
product development





# »»» Automotive Intermodal Transportation



Sea-river transport by Self Propelled Container Barge (SPCB)

Port of Tg. Priok Jakarta  
(Intermodal Node 2)



truck → ship

train → ship

Main railway network to Port of Tg. Priok

Main road network to Port of Tg. Priok

Destination 1

Palangkaraya  
(Intermodal Node 3)  
ship → truck

Destination 2

Port of Trisakti Banjarmasin  
(Intermodal Node 3)  
ship → truck

Destination 3

Port of Makassar  
(Intermodal Node 3)  
ship → truck

car stripping from container to dealer

Karawang Railway Station  
(Intermodal Node 1)



truck → train

road connector

railway connector

Origin Terminal  
Automotive Industrial Area

Origin Station









'upsized' container = 6 cars load



car stuffing to container

-  Land Terminal
-  Railway Station
-  Sea Port

	Fortuner	Innova	Avanza	Yaris	Luxio	Sirion
						
Length [mm]	4,705	4,555	4,120	3,750	4,165	3,640
Width [mm]	1,840	1,770	1,630	1,695	1,665	1,665
Height [mm]	1,850	1,745	1,695	1,520	1,915	1,545

Container Size (Internal)	20' Standard	40' Standard	40' High Cube	45' High Cube	48' High Cube	53' High Cube
Length [mm]	5,898	12,032	12,033	13,556	14,470	15,976
Width [mm]	2,352	2,352	2,352	2,352	2,505	2,505
Height [mm]	2,392	2,392	2,698	2,701	2,726	2,726



*4 unit Toyota Yaris stuffed on 40' HC Container*



*4 unit Toyota Avanza stuffed on 48' HC Container*



*3 unit Toyota Fortuner stuffed on 48' HC Container*





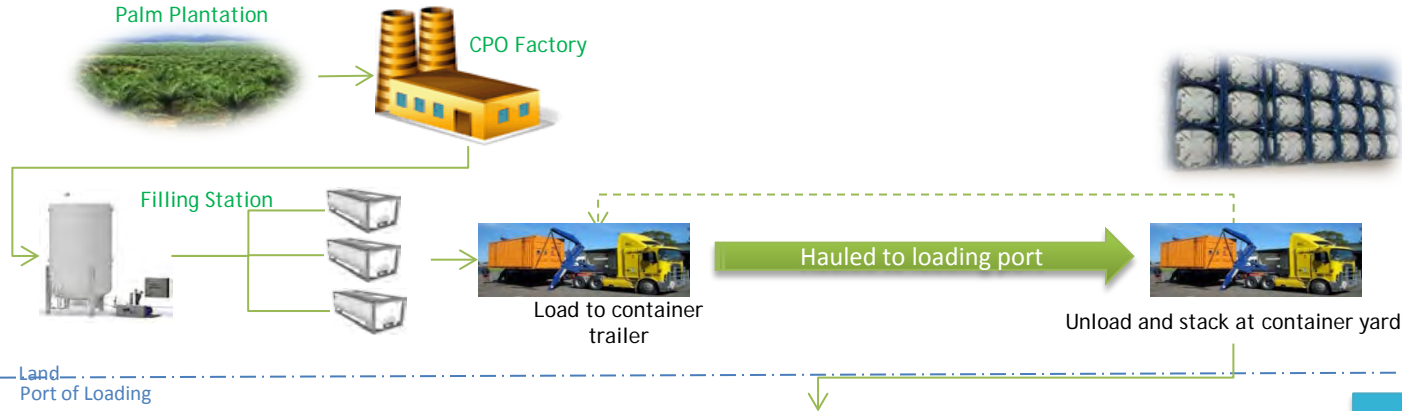
- Cars loaded on two levels to improve the utilisation
- Forward and back door for easy loading-unloading

Container		40' x 2438 mm x 10'6" Car Carrier
External Dimensions [mm]	Length	12,192
	Width	2,438
	Height	3,200
Internal Dimensions [mm]	Length	11,978
	Width	2,354
	Height	3067,5
Weight [kg]	Max. Gross	30,480
	Tare	8000
	Max. Payload	22,480
Capacity [m³]		86.5



# »»» Intermodal Transportation

## Crude Palm Oil

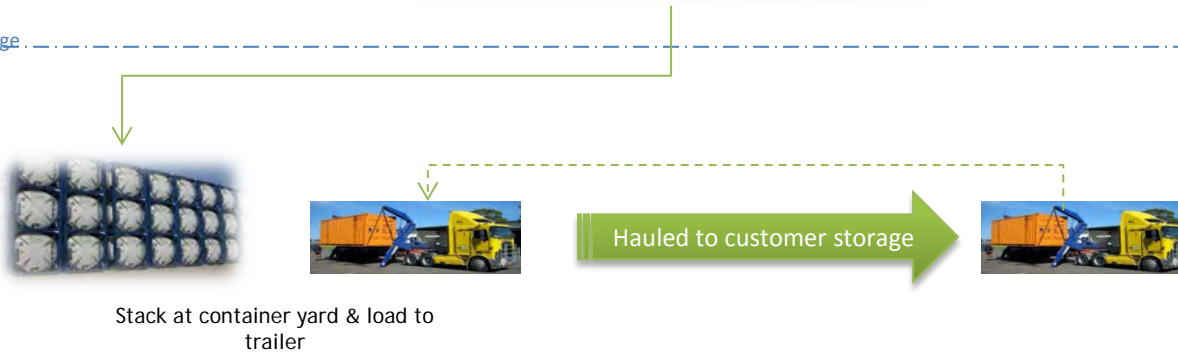


- 1 TEU = 24,000 litre CPO
- Not required big storage at CPO Factory
- High utility of road vehicle, no truck queue at port
- Adaptive to market demand fluctuative



#### Self Propelled Container Barge (SPCB) :

- Operation area at river and sea
- Suitable for shallow water area
- Better maneuvering compared with tug & barge
- Economical speed at 10 knots
- Optimum fleet size for inter-island transportation compared with container ship



# thank you