

International Logistics Business Investment Forum

Thailand : Development of ports

Korea Chamber of Commerce and Industry
Seoul, November 8th, 2017



Ministry of Oceans
and Fisheries



Mr. Komol Sribangplenoi

Managing Director, Bangkok Port
Port Authority of Thailand

Ms. Panhathai Nitilatti

Chief, Research and Development Section

Contents

Part 1 : **Thailand-South Korea Trade**

Part 2 : **Overall Thailand 4.0 and EEC
Development projects**

Part 3 : **Laem Chabang Port & Bangkok Port
Development projects**



THAILAND FACTS AND FIGURES

Thailand has the world's

31st biggest economy

11st largest agriculture output

16th largest manufacturing output

22nd biggest economies by

purchasing power

24th biggest exporter

25th largest industrial output

34th largest services output

Source: Pocket World in Figures 2016 edition

Strong Economic Fundamental 2018

- Economics growth in 2018 forecast to **+3.8%**
- Export of goods (in USD) forecast to **+5.7%**
- Import of goods (in USD) forecast to **+7.9%**

Doing Business in Thailand 2018

- Thailand strong jump in World Bank's Doing Business **2018 ranks at 26** raise from 46 (2017)



THAILAND'S TRADE REPORT 2016

Trade Value 409,994



Export 215,327 mUS\$. (+0.45%)

Import 194,668 mUS\$. (-3.9%)

Export Ranking		
1		USA 24,495 mUS\$. (+1.8%)
2		CHINA 23,810 mUS\$. (+0.3%)
3		JAPAN 20,563 mUS\$. (+2.5%)
4		HONG KONG 11,468 mUS\$. (-3.1%)
5		AUSTRALIA 54,657 mUS\$. (-0.9%)
		ASEAN (9) 54,657 mUS\$. (-0.9%)

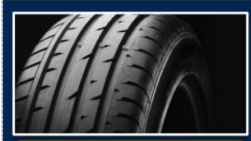
Thailand Export Product	
1	Motor cars/parts&accessories 26,273 mUS\$. (+2.7%)
2	Computers & parts 23,810 mUS\$. (+0.3%)
3	Precious stones & jewellery 14,249 mUS\$. (+29.6%)
4	Electronic integrated circuits 7,717 mUS\$. (-0.1%)
5	Polymers 7,707 mUS\$. (-6.%)

Import Ranking	
1	CHINA 42,019 mUS\$. (+2.3%)
2	JAPAN 30,678 mUS\$. (-1.8%)
3	USA 12,058 mUS\$. (-13.0%)
4	MALAYSIA 10,893 mUS\$. (-8.6%)
5	SOUTH KOREA 7,273 mUS\$. (+3.3%)
	ASEAN (9) 36,707 mUS\$. (-4.5%)

Thailand Import Product	
1	Machinery & Part 19,063 mUS\$. (-2.5%)
2	Electrical machinery & parts 16,416 mUS\$. (+3.7%)
3	Crude Oil 15,176 mUS\$. (-22.3%)
4	Chemical 13,000 mUS\$. (-0.8%)
5	Parts & accessories of Vehicle 10,605 mUS\$. (+6.0%)



2nd in HDD Exports



6th Rubber Tire Exports

Thailand Vital Role in Global Supply Chain



7th Computer Device Exports



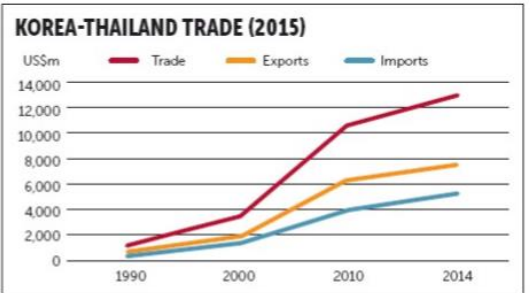
12th Automotive Production

THAILAND-SOUTH KOREA **TRADE 2016**



	Value (US\$ m)	Share (%)	Rank (2016)	Growth (% change YOY)
Total Trade (exports+imports) (US\$ million) :	11,316.78	2.76	11	1.55
Exports to South Korea (US\$ million):	4,044.14	1.88	15	-1.47
Imports from South Korea (US\$ million):	7,272.64	3.74	8	3.32
Balance of Trade with South Korea (US\$ million):	-3,228.50	-	-	-10.01

Major Thailand exports to South Korea	(US\$ million)	Major Thailand imports from South Korea	(US\$ million)
1. Electronic integrated circuits	467.0	1. Iron, steel and products	1,238.5
2. Precious stones and jewellery	253.9	2. Chemicals	791.1
3. Rubber	192.6	3. Electrical machinery and parts	655.9
4. Chemicals	157.6	4. Machinery and parts	641.7
5. Plastic	151.4	5. Electronic integrated circuits	551.5



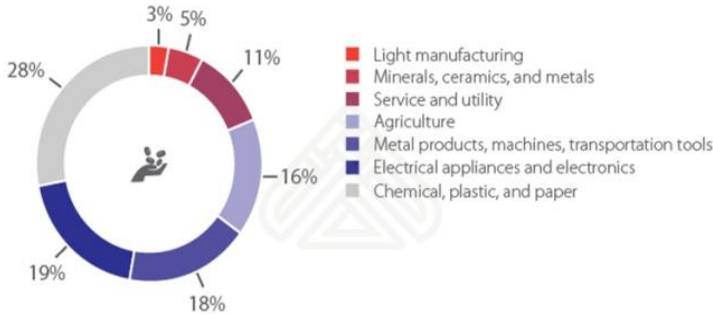
Source: Information and Communication Technology Center with Cooperation of the Customs Department

Source: 2016 Asean & Korea in figures, Asean Korea Centre POSTgraphics



FOREIGN DIRECT INVESTMENT BY COUNTRY

PERCENTAGE OF FDI INTO THAILAND BY INDUSTRY (2016)

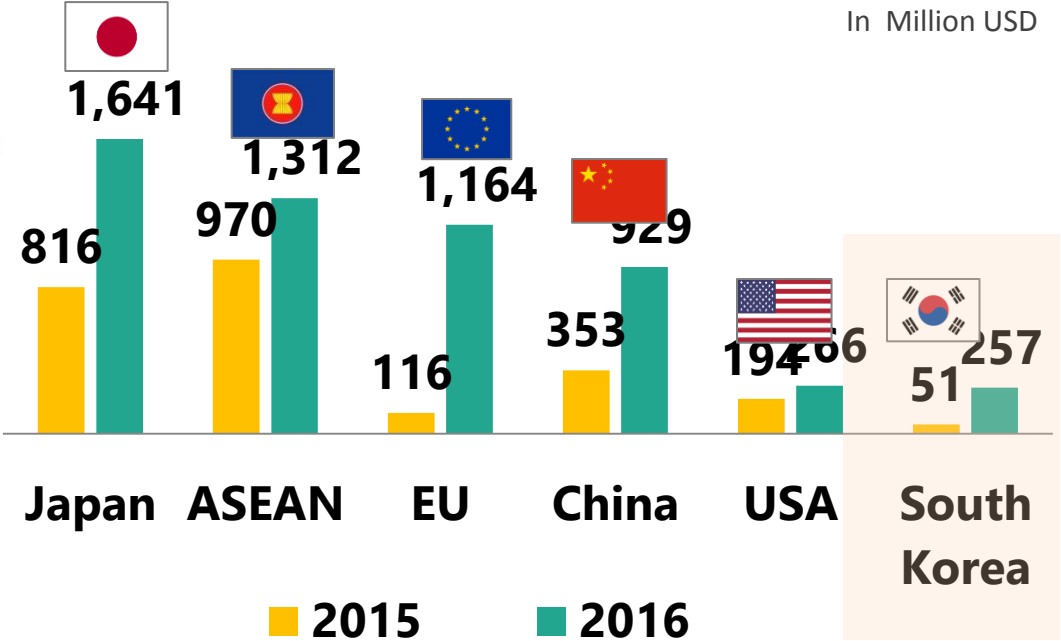


THE SECOND HOME FOR GLOBAL MNEs
Example of MNEs Thailand



Source: World Bank.

In Million USD



Source : BOI Exchange Rate (BOT, Mar 1 2017) : 1 USD = 35.00 THB

FDI Projects Apply to BOI 2017 (Jan.-Jun.)

Ranking by Investment

2015			
COUNTRY	No.	Invest.	Ranks
Total FDI	534	95,960	
Japan	163	28,459	1
Singapore	80	17,032	2
Indonesia	2	15,737	3
People Republic of China	53	12,382	4
U.S.A.	18	6,810	5
Hong Kong	26	3,796	6
Taiwan	23	2,364	7
Republic of Korea	20	1,726	8
Netherlands	11	1,499	9
Malaysia	13	1,074	10

Ranks **8th**

2015

2016			
COUNTRY	No.	Invest.	Ranks
Total FDI	900	293,281	
Japan	263	55,267	1
Singapore	105	35,993	2
People Republic of China	104	32,537	3
Netherlands	41	29,924	4
Hong Kong	35	20,110	5
Australia	27	12,071	6
Republic of Korea	35	8,998	7
Taiwan	42	6,652	8
U.S.A.	27	5,274	9
Indonesia	3	4,972	10

Ranks **7th**

2016

2017 (Jan.-June.)			
COUNTRY	No.	Invest.	Ranks
Total FDI	371	119,029	
Japan	117	65,435	1
Singapore	45	15,260	2
People Republic of China	35	7,134	3
Hong Kong	13	3,346	4
Taiwan	19	3,074	5
Republic of Korea	17	2,983	6
Switzerland	7	2,953	7
Russia	1	2,783	8
Luxembourg	2	2,487	9
United Kingdom	16	2,099	10

Ranks **6th**

2017

Thailand 4.0 and EEC Development projects

Strategic Location... Infrastructure Linkage... Excellent Atmosphere.





Combined GDP of East Asia,
ASEAN, India region*
represents 1/3 of world's GDP



Gateway to Asia - reaching
more than half of world's
population

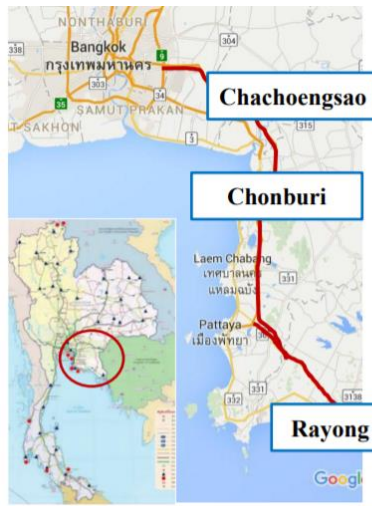


EEC will represent the largest
investment projects in ASEAN,
in terms of budget and area

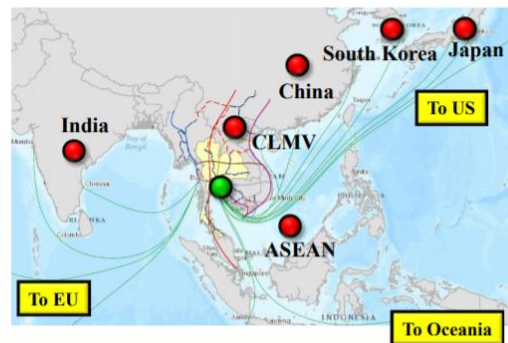


Thailand's Eastern Economic Corridor

New Growth Hub of Thailand and AEC



- 1 Strategic Location
- 2 Infrastructure Linkage
- 3 Excellent Atmosphere



EEC is the best strategic location of the region...

Regional Connectivity...

Center of East-West Economic Corridor and North-South Economic Corridor

Connect Indian Ocean with Pacific Ocean, CLMV, South China

Source : Ministry of Industry of Thailand

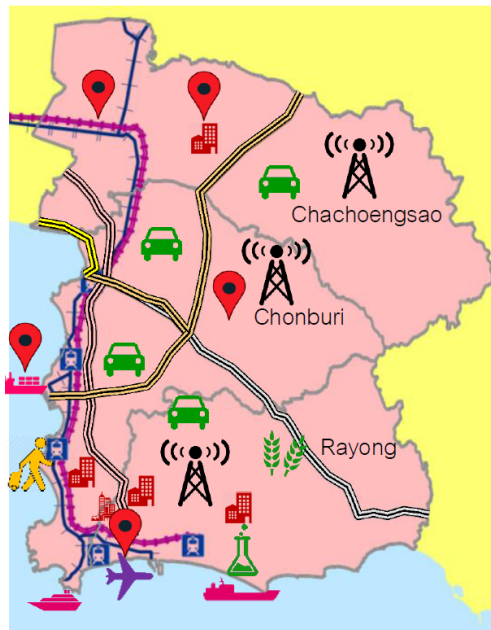


Future Development Plans to..

- ✓ Strong Connectivity
- ✓ New Infrastructures
- ✓ World-class Manufacturing & Production Base

How to?

4 Core areas ...15 Crucial Investment projects



- | | |
|----|--|
| 1 | U-Tapao airport and aircraft maintenance |
| 2 | Sattahip commercial seaport |
| 3 | Laem Chabang port phase#3 |
| 4 | Map Ta Phut port phase#3 |
| 5 | High-speed rail – east route |
| 6 | Double-track railway |
| 7 | Highways and motorway |
| 8 | Next-generation automotive (EV/AV) |
| 9 | Aviation industry, Robotics, Smart electronics |
| 10 | Advanced petrochemical and Bioeconomy |
| 11 | Medical hub |
| 12 | Tourism |
| 13 | Global Business Hub / Free Economic Zone |
| 14 | New Cities, Inclusive growth |
| 15 | Public Utilities |



+ EECi
Innovation Hub



+ Digital Infrastructure
- Digital Park
- Data Center

4 core areas will be developed... to be World-class economic zone



Target

**Combined Public and Private Investments at least
1.5 Trillion baht (AUD 55 Billion) in the first 5 years**



Source : Ministry of Industry of Thailand



Thailand's Infrastructure Development Strategy (2015-2022)

5 Key Programs: to reduce logistics and transportation costs and Improve the competitiveness of the economy

Infrastructure development programs for 2015-2022 (USD 53.4 billion*)

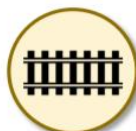
1. Expansion of the inter-city rail network
(USD 14.1 billion)

2. Highway capacity enhancement
(USD 14.9 billion)

3. Development of mass transit systems in Bangkok Metropolitan Region
(USD 21.3 billion)

4. Air transport capacity enhancement
(USD 1.4 billion)

5. Development of the maritime transport network
(USD 2.8 billion)



Railway

- Upgrade railway networks
- Increase double-track railways
- Build 1,435-meter standard gauge



Mass Transit

- Extend mass transit railway system
- Acquire 3,183 NGV buses



Road

- Expand highways to 4 or more traffic lanes
- Develop facilities along the main roads such as container yards



Water & Air

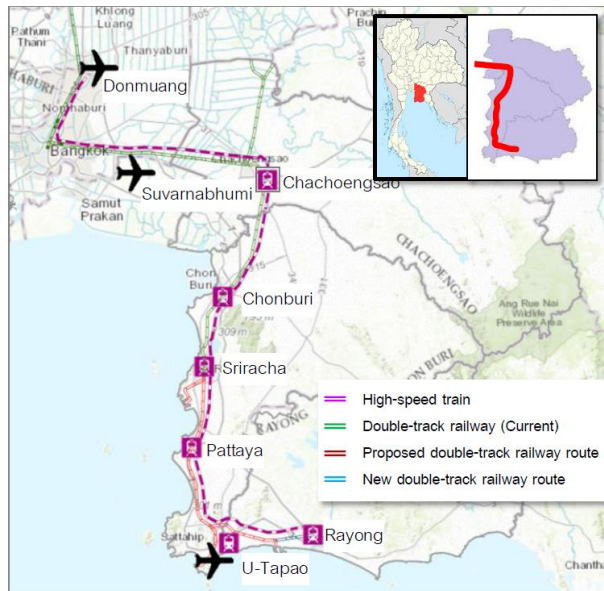
- Enhance sea ports capacity
- Enhance airport capacity
- Establish aviation industrial estates

Source : Ministry of Industry of Thailand



RAIL

- Double Track Railway (Map Ta Phut Port)
- High Speed Train (BKK – Rayong)



High-Speed Rail: Bangkok - Rayong

- Connect 3 main airports: Donmuang, Suvarnabhumi, and U-Tapao in 1 hour
- Suvarnabhumi to U-Tapao in 45 minutes
- Accommodate 110 million passengers/year

Double-track railway: Connect major ports with Industrial clusters

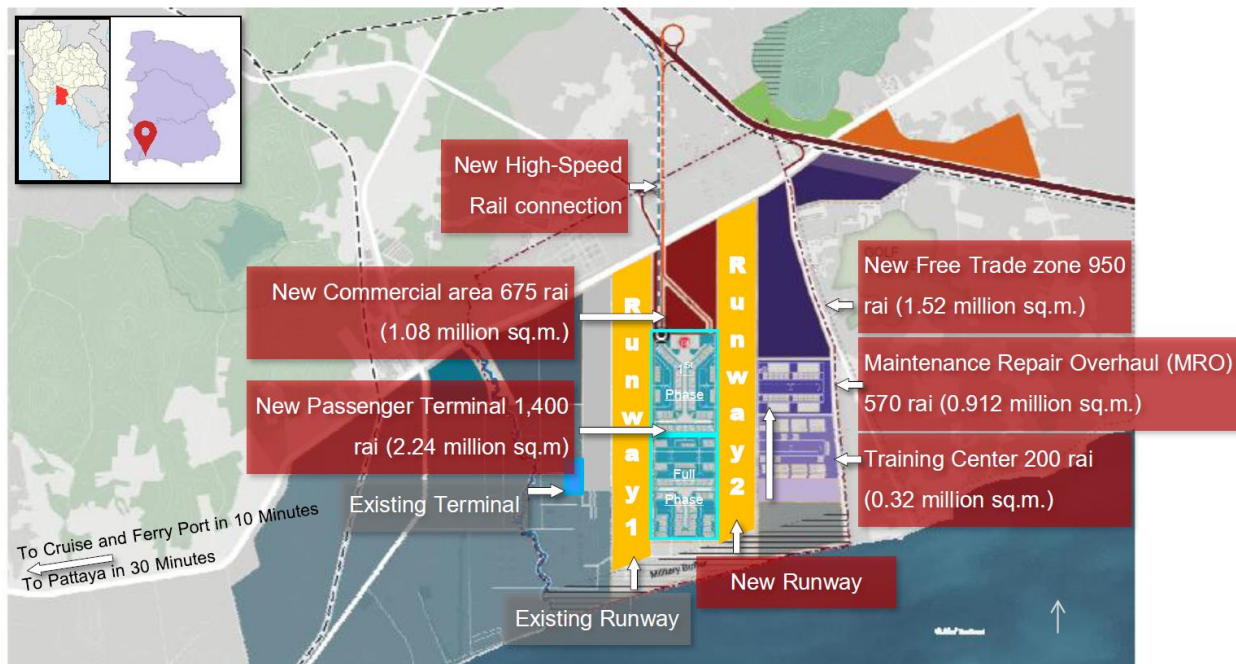
- Upgrade to double-track from Laem Chabang to Map Ta Phut seaport
- New routes..
 - Laem Chabang – Pluak Daeng – Rayong in the pipeline
 - Map Ta Phut – Rayong – Chantaburi – Trat under study

High-Speed and Double-track railways



AIR

• U-Tapao International Airport



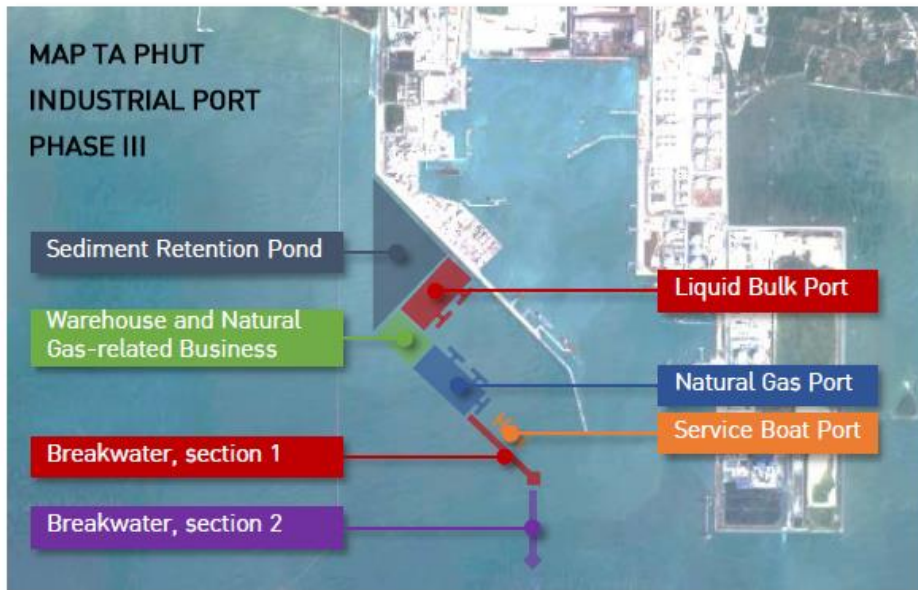
U-Tapao Airport city, 1st phase towards Aerotropolis



- Another 1,000 rai will be added to Map Ta Phut Port
- Cargo capacity will be expanded from 25 to 35 million tons/year
- Responsible agency: Industrial Estate Authority
- Budget: 10 billion baht

SEA

- Map Ta Phut industrial Port Expansion
- Laem Chabang Deep Sea Port Expansion



CHALLENGES:

Requires land reclamation and has to deal with community opposition

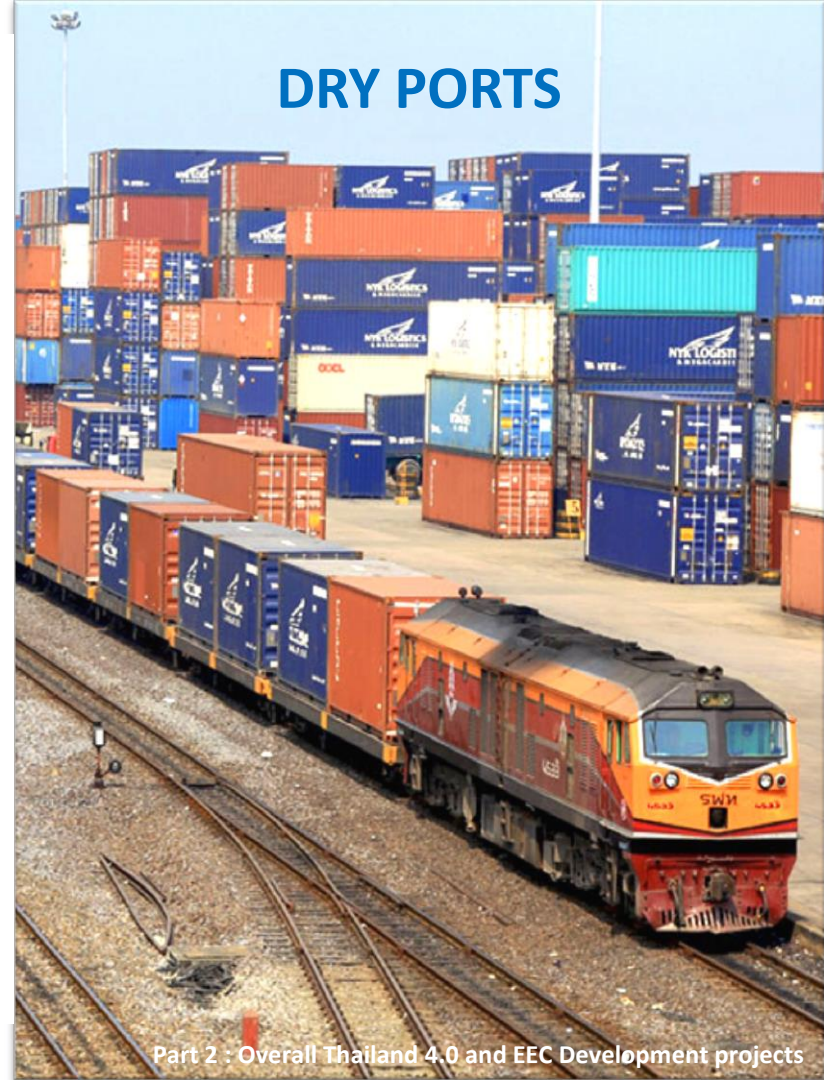
Lat Krabang Inland Container Depot (LICD)

- # **LOCATION** : 30 km. East of Bangkok by rail
118 km. from Laem Chabang Port.
- # **CAPACITY** : **1,700,000 TEUs**
Modal split of Rail: Road-30:70
- # **CURRENT OPERATION** : Module Operators as a concessionaires.
The new concession is in process.
- # **OWNERSHIP** : Concessions to private sector to manage & operate ICD. State Railway of Thailand (SRT) is the administrator of concession with Module Operators.

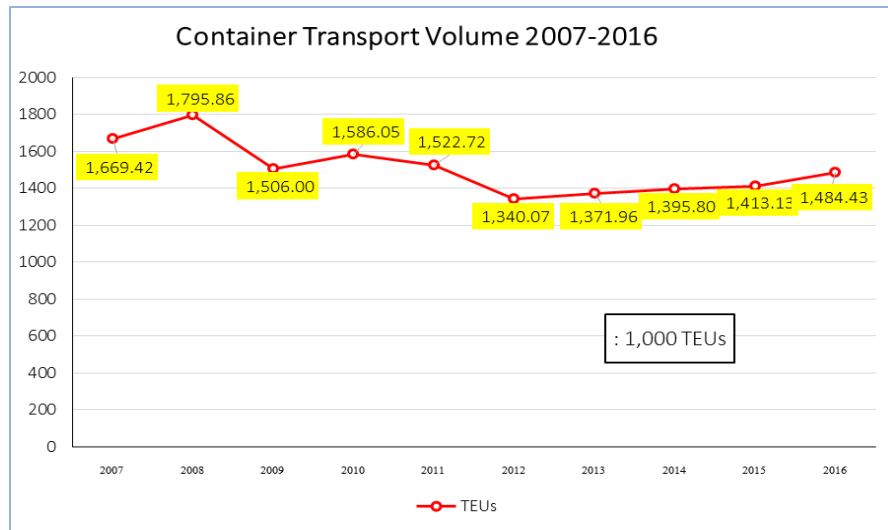
Role of Dry Ports :

- ☐ Reduce logistics costs per GDP to less than 15%
- ☐ Promote modal shift: Road to Rail/Waterway
- ☐ Relieve congestion at ports
- ☐ Improve domestic & regional freight transport efficiency

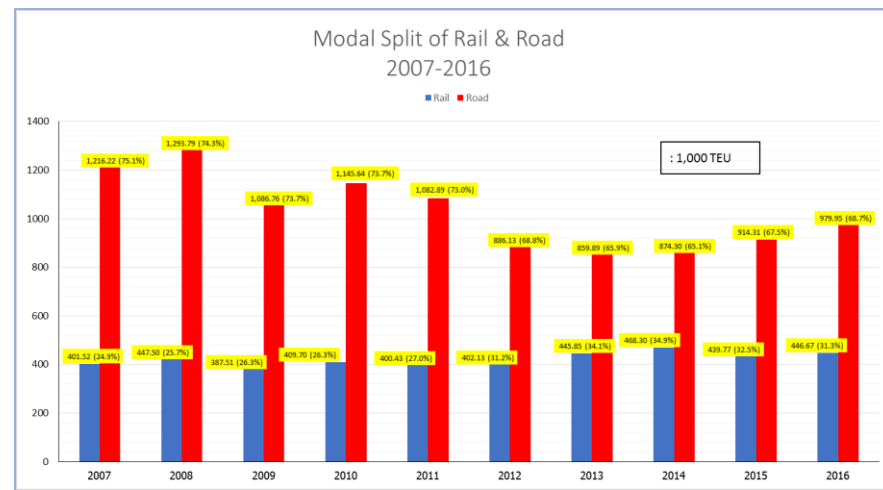
DRY PORTS



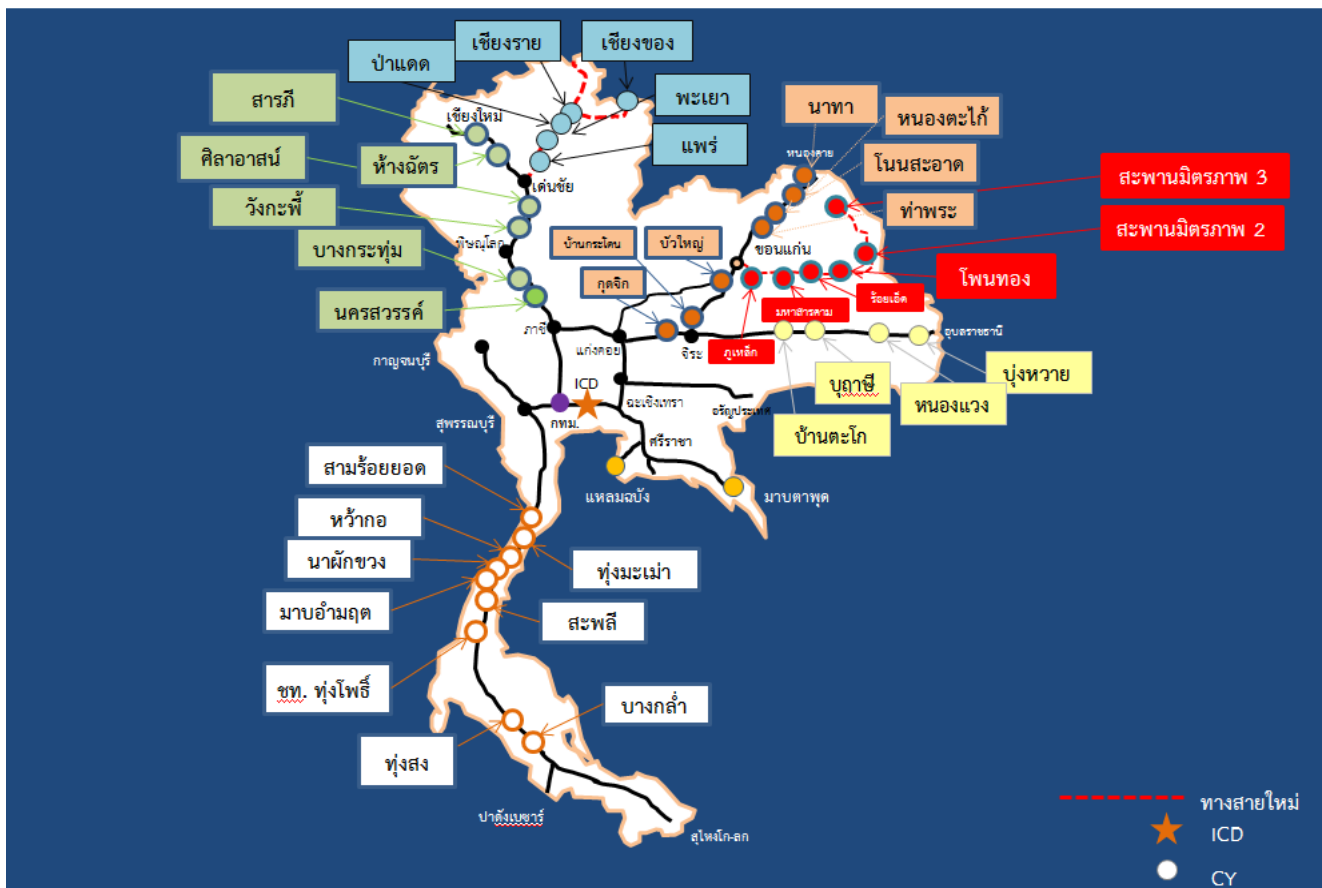
LICD Container Transport Volume 2007-2016



LICD Modal Split, Rail: Road 2007-2016



Container Yard Development Plan



Laem Chabang Port & Bangkok Port Development Projects



Port Authority of Thailand being a State Enterprise, *PAT* plays a significant role on industrial, economic and trade development of Thailand.

PAT is responsible for the managements of 5 key Ports

2 MAIN PORTS :

Bangkok Port and Laem Chabang Port

3 REGIONAL PORTS :

- ⊖ **Chiang Saen Commercial Port**
- ⊖ **Chiang Khong Port**
- ⊖ **Ranong Port**





Bangkok Port : Feeder Ship destination

Bangkok Port located in the heart of city, some limitation but its still has room to grow.

- ⊖ Located on the left side of Chao Phraya River
- ⊖ Total area 930 acres
- ⊖ West Quay : **Multipurpose terminal**
- ⊖ East Quay : **Container terminal**
- ⊖ Capacity : **1.5 million T.E.U.s**
- ⊖ Port city : **Limited of land use**
- ⊖ River Port : **Draft Restriction**

Limited maximum size of vessels

- **12,000** DWT
- **172** meters in length
- **8.2** meters in draught

Laem Chabang Port : Deep sea port, Gateway of SE.Asia

Located in eastern part of Thailand with total areas 2,500 acres.

⊖ BASIN-1

- ⊖ Capacity : **4.3 million TEUs**
- ⊖ 11 Berths : **A0-A5 and B1-B5**
- ⊖ Leased out to private companies to manage and operate

⊖ BASIN-2

- ⊖ Capacity : **6.8 million TEUs**
- ⊖ 7 Berths : **4 Quaysides ;C3,C0,C1-C2**
- ⊖ While D1-D3 expected to be operations within 2018

CAPACITY ...

Container terminal **11.1 Millions TEUs**

Ro-Ro terminal **1.95 Millions Cars**
when Basin 1 and Basin 2 are fully operated

Laem Chabang, privatized and managed by private global operators. Deep draft and main line destination, but diversion from main trade lanes.

Regional Ports



CHIANG SAEN COMMERCIAL PORT

- Situated alongside the Mekong River in the northern part of Thailand
- Comprised of 2 pontoons, which is 12 m. and 50 m. with roofed gangway of 6x30 m.
- The pontoons can accommodate 4 barges
- 2 Quayside terminal can accommodate 2 cargo ships



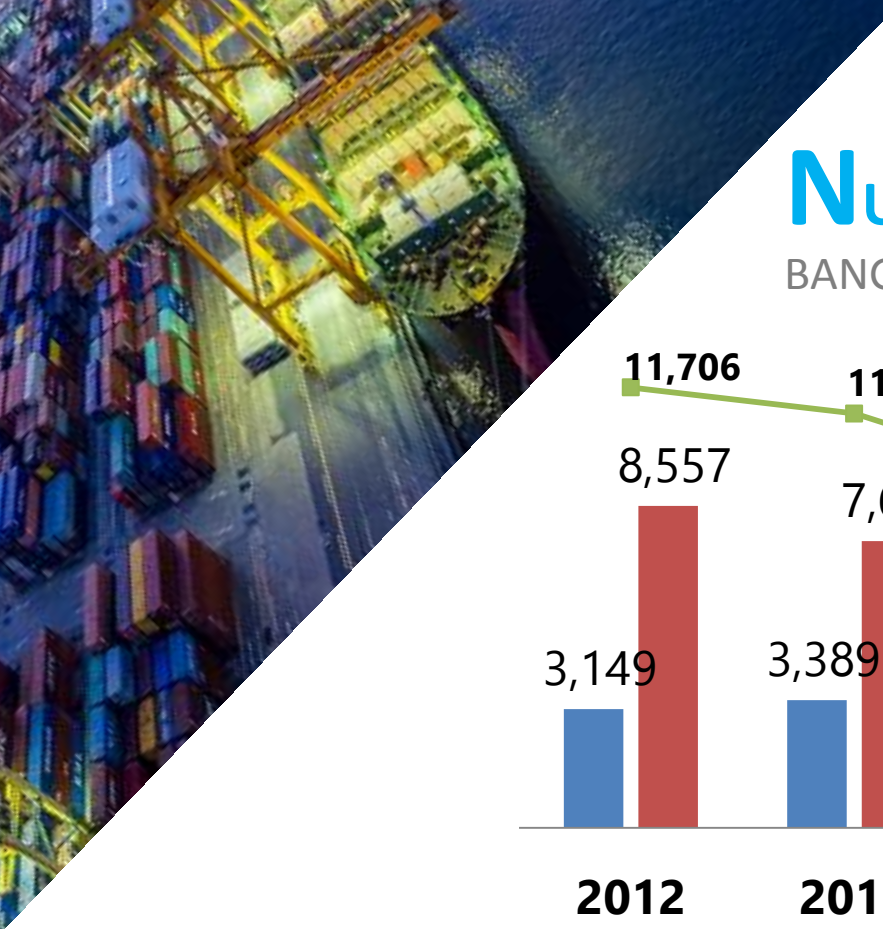
CHIANG KHONG PORT

- Adjacent to the Mekong River, opposite to Lao PDR (Houay Xai District of Bokeo Province)
- Enhancing the efficiency of import-export services and promoting border trade between Lao PDR and Thailand
- 22 x 208 m. quayside terminal
- Accommodate 3-5 motor vessels of up to 80-150 gross tonnage



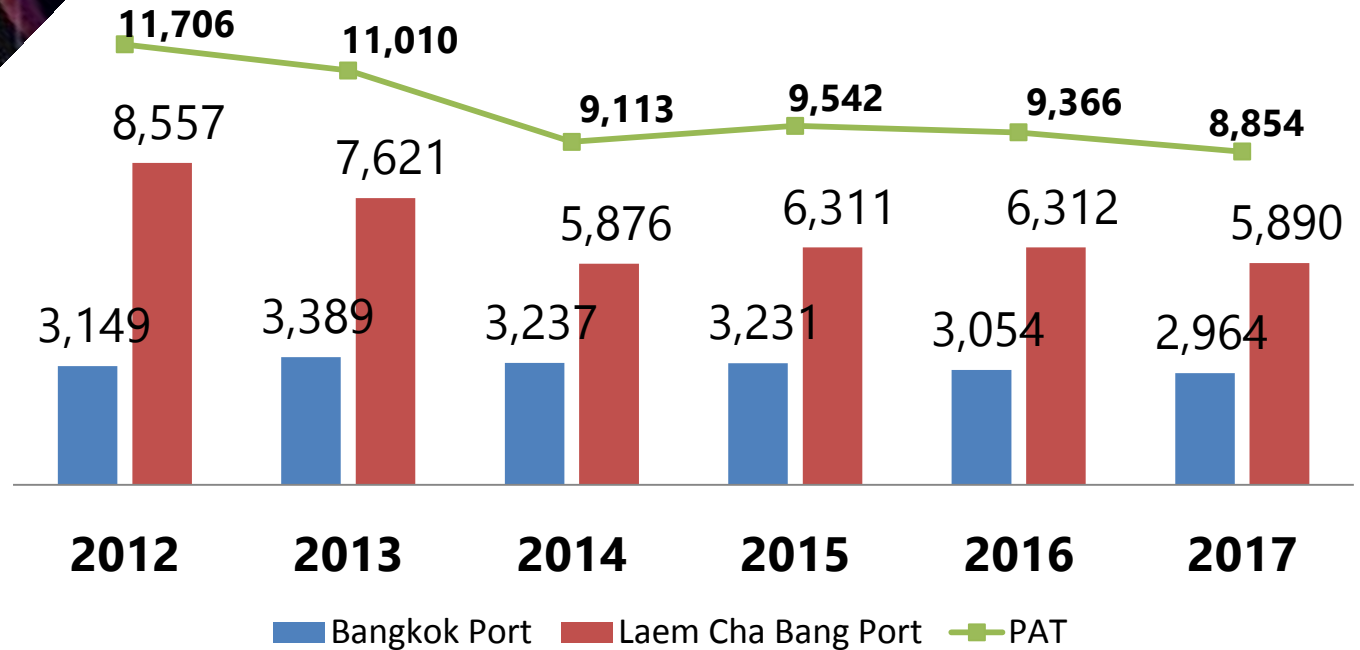
RANONG PORT

- Consist of 2 berth
- Multi purpose berth with a 26 x 134 m., Accommodate 2 barges with maximum loading of 500 gross tonnage
- The container berth with 30 x 150 m., Accommodate one cargo vessel of 12,000 DWT



NUMBER OF VEESEL

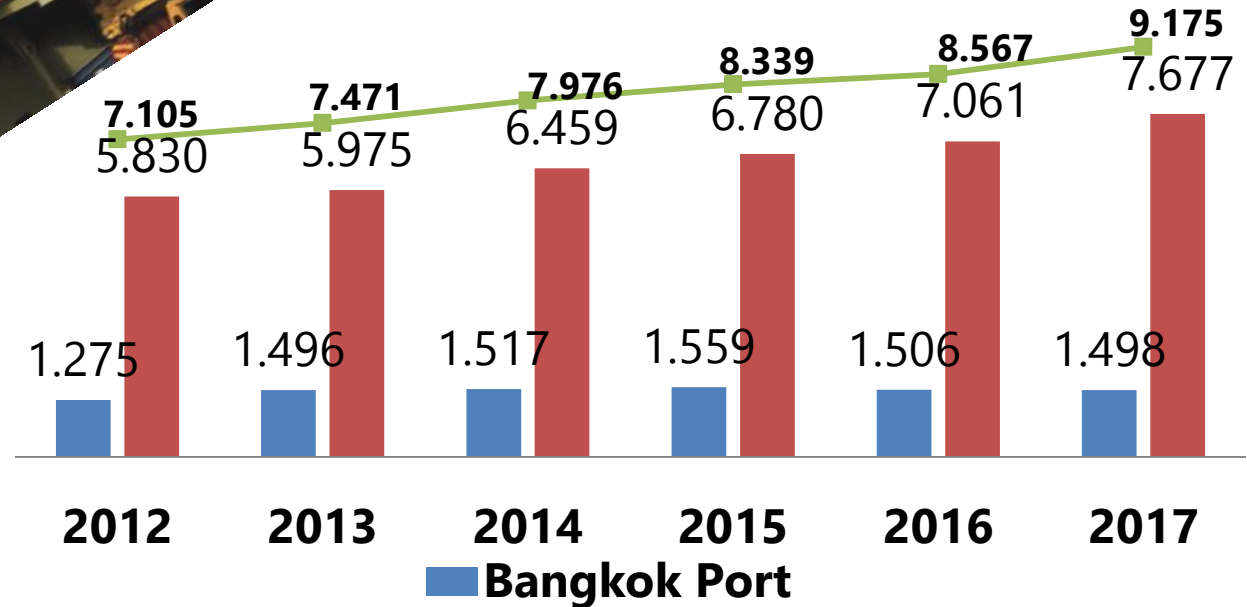
BANGKOK PORT & LAEM CHABANG PORT 2012 - 2017

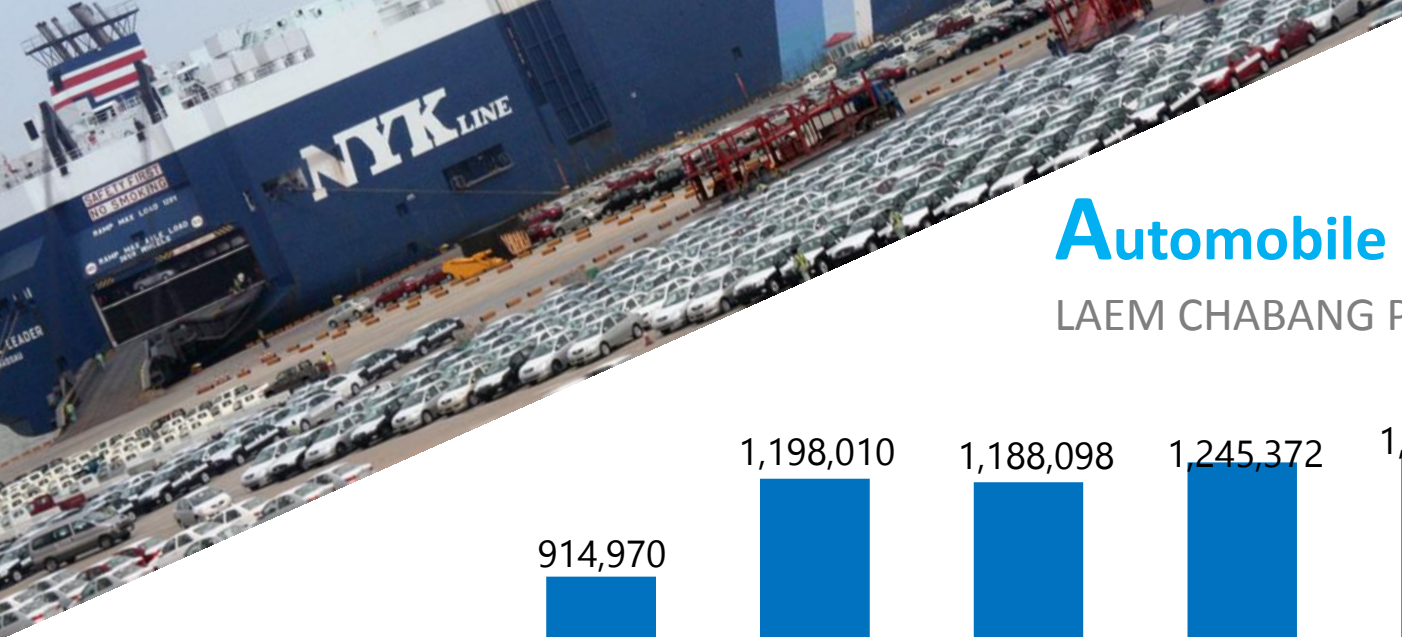


CONTAINER THROUGHPUT

BANGKOK PORT & LAEM CHABANG PORT 2012 - 2017

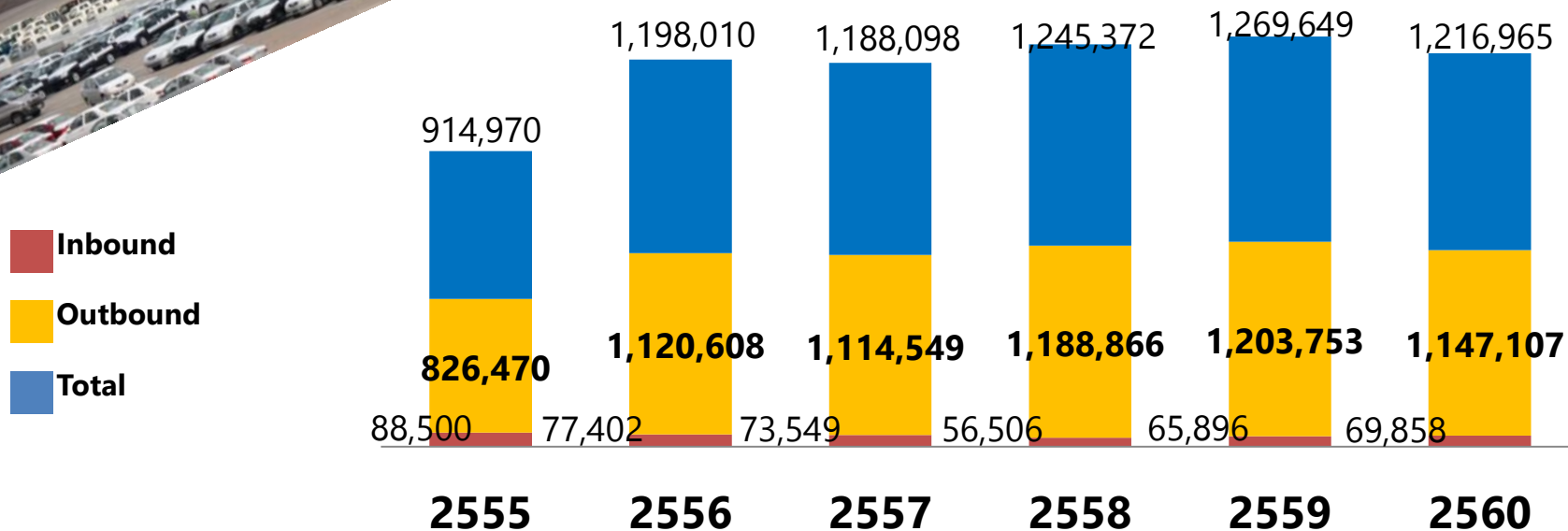
In 2017, PAT reached the **highest** number of containers **9.175 mil TEU**.





Automobile Volumes (RoRo)

LAEM CHABANG PORT 2012 - 2017



Thailand and South-Korea Shipping

- **Container Volumes in 2016 ...**



Bangkok Port to/from Busan Port >> 97,000 TEUs

Laem Chabang Port to/from Busan Port >> 127,000 TEUs

- **Shipping Service Route**

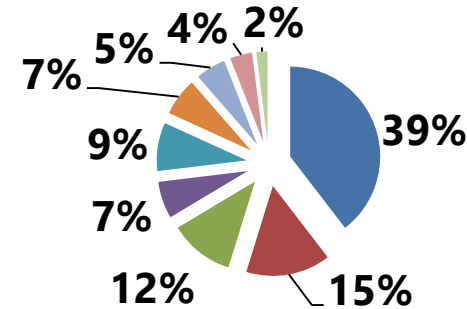
	Destination Ports	Direct	T/S		Destination Ports	Direct	T/S
Bangkok Port	.Busan	22	1	Laem Chabang Port	.Inchoen	4	-
	.Kwangyang	9	-		.Busan	3	7
	.Ulsan	8	-		.Pyeongtaek	1	-
	.Inchoen	7	-		.Daesan/Seosan	1	-
	.Gwangyang	5	-		.Ulsan	1	-
	.Pyeongtaek	2	-				

ASEAN PORT RANKING 2015

RANK		PORT	COUNTRY	TEUs.	
2015	2014			2015	2014
2	2	Singapore	Singapore	30.92	33.87
12	12	Klang	Malaysia	11.89	10.95
17	18	Tanjung Pelepas	Malaysia	9.10	8.50
27	21	Tanjung Priok	Indonesia	5.20	5.77
22	22	Laem Chabang	Thailand	6.82	6.58
26	23	Ho Chi Minh	Vietnam	5.31	6.39
35	38	Manila	Philippines	4.23	3.65
47	45	Tanjunk Perak	Indonesia	3.12	3.13
92	-	Bangkok	Thailand	1.56	1.54

MARKET SHARE IN ASEAN PORTS 2013

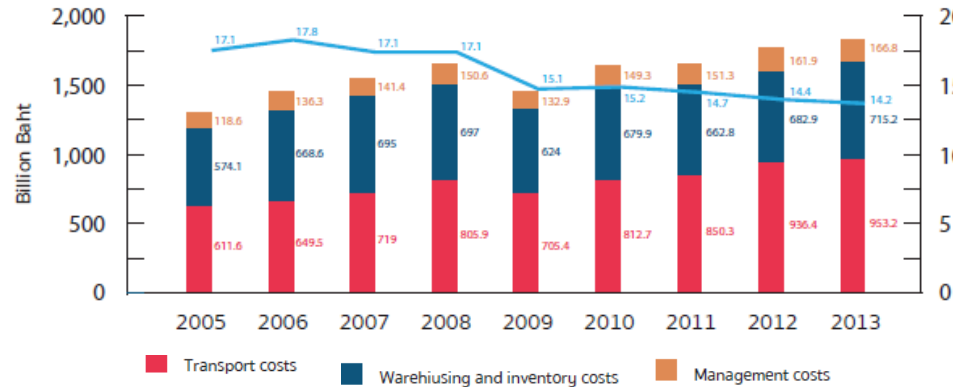
- Singapore
- Tanjung Pelepas
- Laem Chabang
- Manila
- Bangkok
- Klang
- Tanjung Priok
- Ho Chi Minh
- Tanjunk Perak





Thailand's Logistics Cost 2005-2013

- Cost of Logistics is about 14.1% of GDP (2014)
- Transport Cost is the majority of Total Logistics Cost (7.3% of GDP)

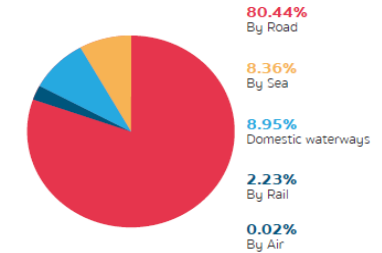


Major Logistics Enterprises in Thailand

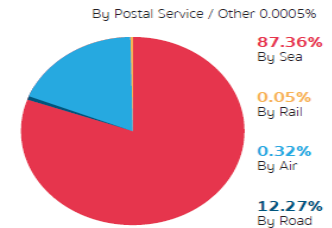
Rank	Land Transport	Water Transport	Air Transport	Warehousing	Freight Forwarder
1.	DHL	NYK	TG	DHL	DHL
2.	Siam Cement Logistics	OOCL	NIPPON	NYK	CEVA
3.	NYK	MAERSK	DHL	MAERSK	SCHEENKER
4.	CEVA	KLINE	BFF	CEVA	NYK
5.	Linfox	APL	AGILITY	NIPPON	IDS

Source: National Economic and Social Development Board (NESDB). "Upgrading Competitiveness of Thailand's Logistics 2009". August 2008.

Mode of Goods Transport: Domestic



Mode of Goods Transport: International



PAT Key challenge is.... to be hub of waterway transport and logistics linking the Thai economy to ASEAN.

expansion, better services, more efficiency and effective

Meet customer service requirements

- Flexibility in operational and expand new port services
- Port efficiently accommodate variety of vessels sizes
- Creating innovative door-to-door service

Port Performance Improvement

- Crane productivity, reliable berth windows and turnaround time
- Enhancing port capacity, modernize administrative management

Response to ASEAN Strategy in Transport Network

- Increase port network, hinterland connectivity
- Extending cooperation and business partners

Develop connectivity in transport and logistic systems

- Reaching into the hinterland

Optimize the use of assets

- Increase productivity to use of assets and utilization improvement



Main Projects at Bangkok Port

Investment programme continued in development plan

**Coastal Terminal
Development**

(Berth 20G)

**CFS
Export & Import**

Coastal Terminal Development (Berth 20 G)

Thailand mode of Transport

000 Tones

Transport Category	2009 (%)	2010 (%)	2011 (%)	2012 (%)	2013 (%)
Road	82.66	81.36	80.42	81.86	80.36
Rail	2.25	2.18	2.11	2.28	2.24
Domestic Waterway	8.11	9.32	9.28	9.12	8.99
Coastal	6.96	7.11	8.16	6.72	8.39
Aviation	0.02	0.02	0.03	0.02	0.02

Nowadays, About 80% of transportation in Thailand dominated by road

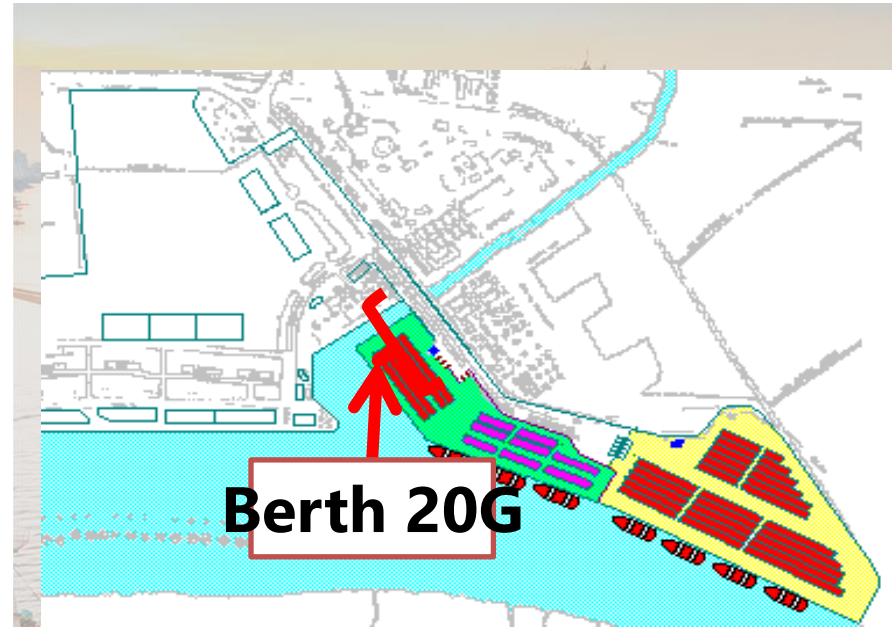
Government policy on shift mode of transport from road to waterway and rail has been launched aiming to reduce

Continue Increasing

Type	Cost (Baht/Tons/K.M.)	Volumes of ton/K.M./ liter of petrol)
Road	2.12	25.50
Rail	0.95	85.00
Waterway	0.65	217.6



Coastal Terminal Development (Berth 20 G)



Expected to operate in 2018

Capacity : 240,000 TEUs

Establishment of Exported Container Freight Station (CFS)

Exported CFS project covers 45,000 M²

Purpos

- To enhance asset utilization
- To reduce congestion and traffic around port
- To increase income in differential activities
- To satisfy customers need

Exported CFS:

- CFS building (8,400 M²)
 - 24 Dock Levelers
 - 299 box/day
 - 107,640 T.E.U.s/year
- Container yard for LCL (36,000 M²)
 - Capacity 300 T.E.U.s/GLS



Establishment of Imported Container Freight Station (CFS)

Imported CFS project cover 92,000 M²

Purpose

- To reduce process on dispatching-receiving
- To enhance asset utilization
- To reduce congestion and traffic around port
- To increase income in differential activities
- To satisfy customers need

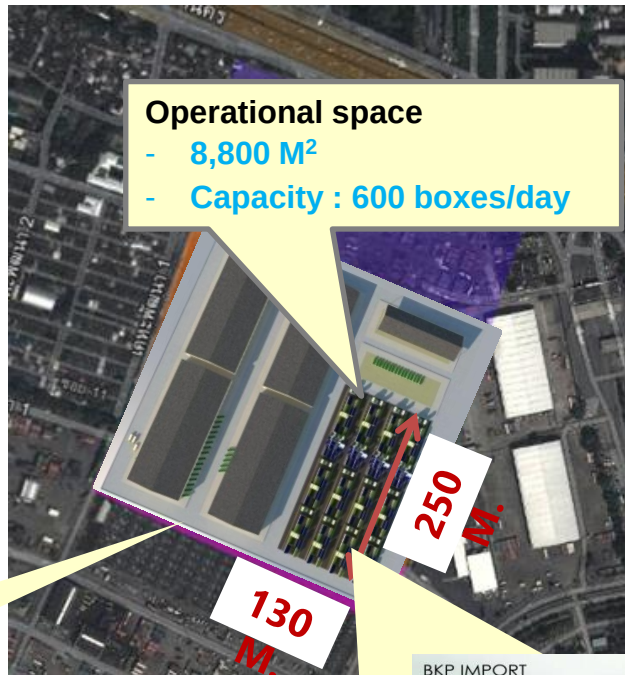
4 CFS will be constructed.

- Space of storage/ CFS -12,600 M²
- Usable space : 19,404 M²

Total space of storage of 4 CFS = 50,400 M²

Operational space

- 8,800 M²
- Capacity : 600 boxes/day



Container Yard for LCL: 32,500 M²

- 4 RTG 6+1
- 4 Tracks
- 130 × 250Meter

- Capacity : 150,000 – 200,000 T.E.U.s / Year



Main Projects at Laem Chabang Port

Laem Chabang Port New Project to Improve Logistics' Efficiency

Coastal Terminal
(Terminal A)

Single Rail
Transfer Operator
(SRTTO)

Development
Project
(Phase 3)

Coastal Terminal A Project

Purpose

- To develop the coastal terminal for serving containers transported from/to LCP by coastal ship from southern port of Thailand or barge from inland waterway.
- To reduce the logistics cost of the country in compliance with the government's policy, Ministry of Transport and Port Authority of Thailand.
- To reduce traffic congestion and offer the port users a cost-effective mode of transport.

The project is expected to be completed and start operation by 2018

Location : At the End of Basin 1

Project Area : 17.5 acres

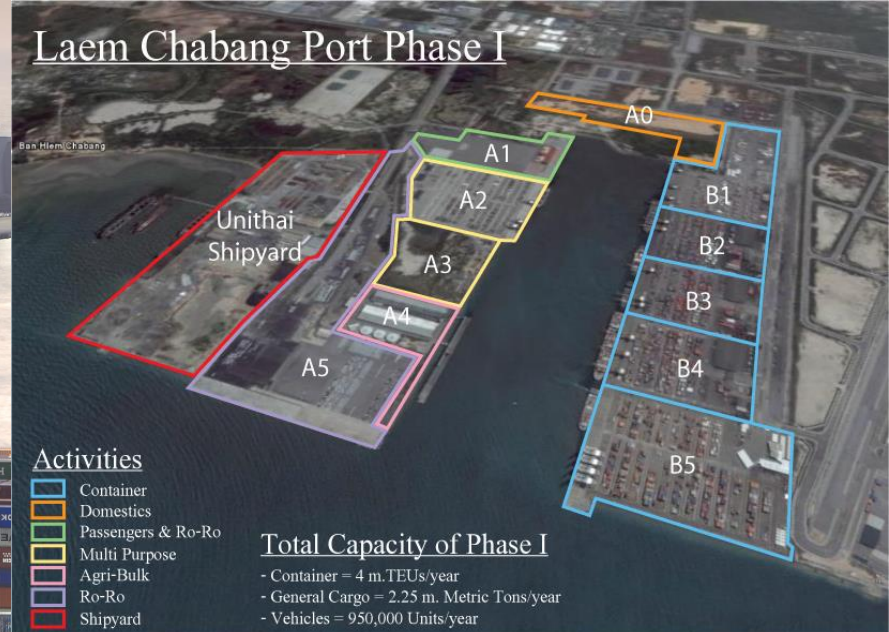
Length (Meter) : 150

Depth (Meter) : -10

Vessel Size (DWT) : 3,000

Capacity (Maximum) : 300,000 TEUs/year

Laem Chabang Port Phase I



Single Rail Transfer Operator Project



It would increase the handling capacity of rail transport in LCP from the existing of

500,000 to 2 million TEUs/year.

The project is expected to be completed and start operation by 2018

Purpose

-To develop infrastructure and necessary facilities for serving the discharging/loading containers transported by rail within the port area. The project would largely help facilitate rail transfer in the future in response to the completion of double track construction project of State Railway Authority of Thailand (SRT).

- To increase the efficiency of rail transfer in LCP, and subsequently make the operation faster and safer.

- To support the SRT's double tracking system project linking from Chachoengsao Province to Laem Chabang Railway Station.

- To reduce the logistics cost of the country in compliance with the government's policy, Ministry of Transport and Port Authority of Thailand.



- **Purpose**
- To serve the increasing throughput in the future.
- To strengthen the LCP's role as a Gateway Port of the Mekong Sub-Region.

- To serve the increasing throughput in the future.
- To strengthen the LCP's role as a Gateway Port of the Mekong Sub-Region.



Phase III Development (Basin 3)

Laem Chabang Port Project



CAPACITY increase to :
Container terminal

18 Millions TEUs

Ro-Ro terminal

2.95 Millions Cars

2011-2012

Feasibility study
and Detail Design

2019 -2023

Construction

2025

Bidding for private sectors to participate
in investing superstructures and
operating terminals

Operation Year (The First Terminal) : 2025

Q&A

Mr. Komol Sribangpleenoi
Managing Director, Bangkok Port

Ms. Panhathai Nitilatthi
Chief, R&D Section

Thank you for your attention!

any questions?
panhathai.n@gmail.com



• ท่าเรือพาณิชย์อ่าวไทย

• ท่าเรือกรุงเทพ

• ท่าเรือแหลมฉบัง

• ท่าเรือคลองเตย



พัฒนาอย่างต่อเนื่อง
สู่ความเป็นเลิศระดับโลก

Continuous
Improvement
towards
Excellence