Lach Huyen Container Terminal, Vietnam (2019/9)

ASEAN Region
in the context of
GLOBAL LOGISTICS

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Global Logistics Network Modelling and Policy: Quantification and Analysis for International Freight

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GLOBAL LOGISTICS NETWORK MODELLING AND POLICY

QUANTIFICATION AND ANALYSIS FOR INTERNATIONAL FREIGHT

EDITED BY
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CESAR DUCRUET

ELSEVIER

Logistics is "derived demand"

Derived demand is needed to accomplish the final objective (i.e. real demand). It is not the final objective itself
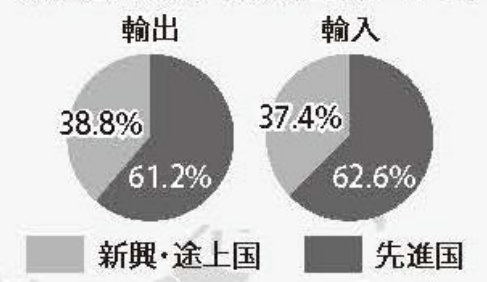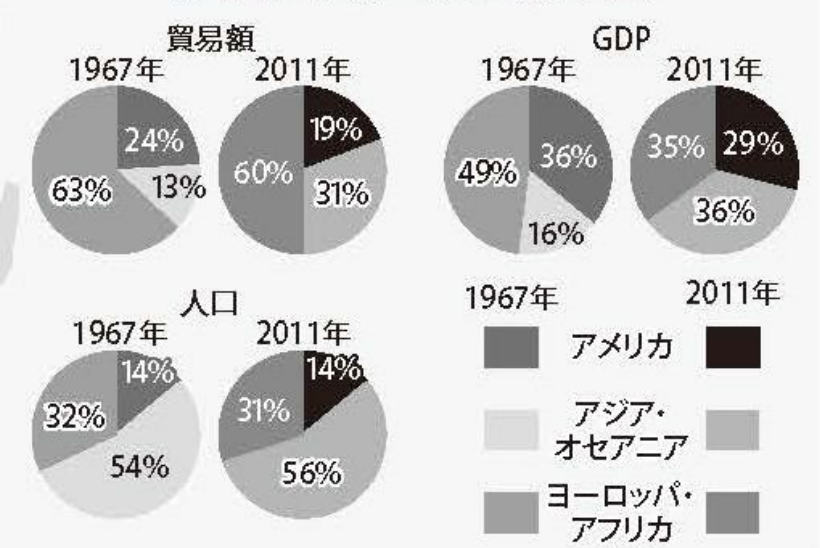
⇔   Real Demand   (Trade)

Dorling Kindersley

World Trade

貿易額上位10カ国（2017年）

米国
輸出：2位
輸入：1位

オランダ
輸出：5位
輸入：7位

英国
輸出：9位
輸入：6位

ドイツ
輸出：3位
輸入：3位

ベルギー
輸出：10位

フランス
輸出：7位
輸入：5位

イタリア
輸出：8位
輸入：9位

韓国
輸出：6位
輸入：8位

日本
輸出：4位
輸入：4位

中国
輸出：1位
輸入：2位

インド
輸入：10位

世界貿易に占める新興・途上国と
先進国の輸出入割合（2017年）

輸出
38.8%　61.2%

輸入
37.4%　62.6%

■ 新興・途上国　■ 先進国

各地域が世界に占める割合（%）

貿易額
1967年　24%　63%　13%
2011年　19%　60%　31%

GDP
1967年　36%　49%　16%
2011年　29%　35%　36%

人口
1967年　14%　32%　54%
2011年　14%　31%　56%

1967年　2011年
■ アメリカ
□ アジア・オセアニア
■ ヨーロッパ・アフリカ
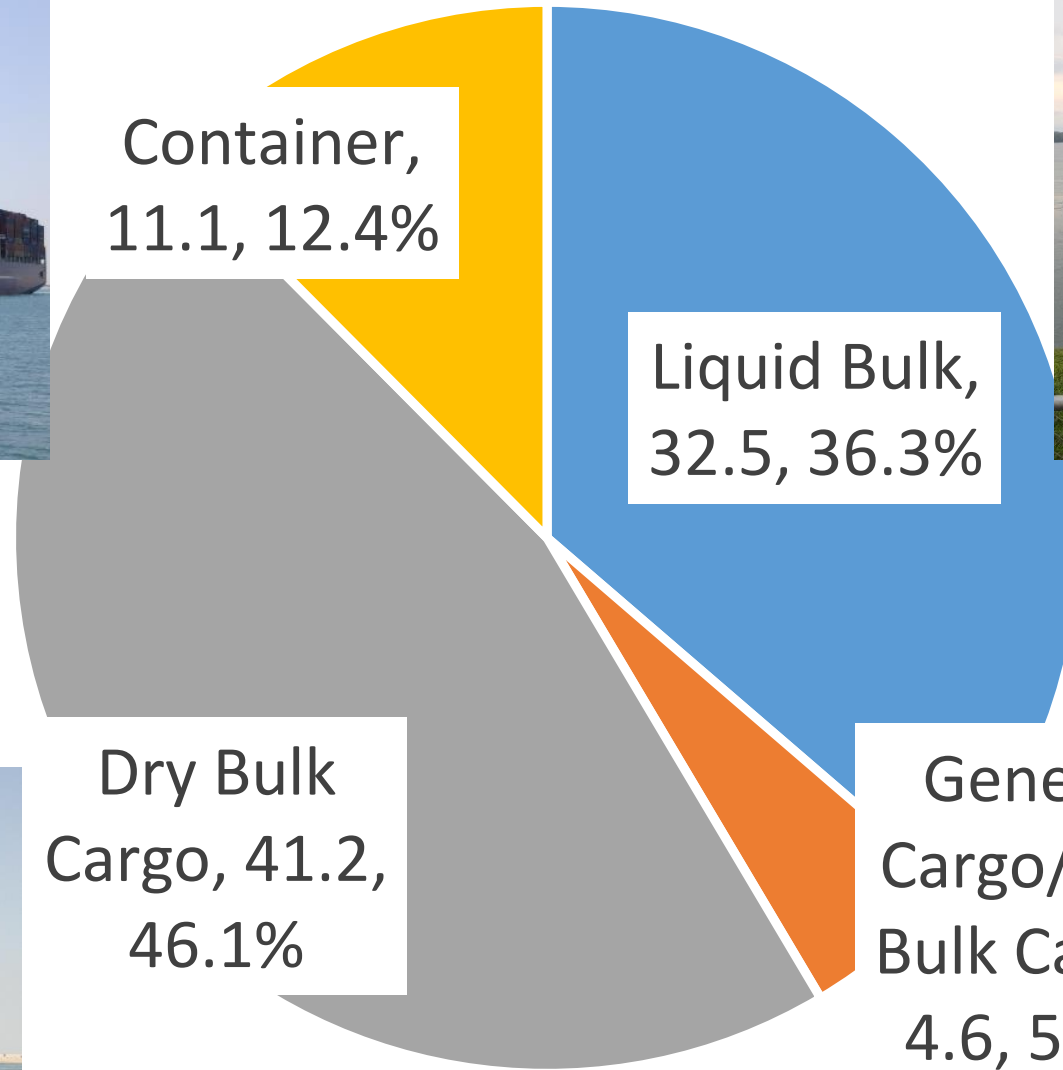
主要な貿易機関

NAFTA：北米自由貿易協定
ASEAN：東南アジア諸国連合
APEC：アジア太平洋経済協力
CAN：アンデス共同体
ECOWAS：西アフリカ諸国経済共同体
OBEC：黒海経済協力機構
GCC：湾岸協力会議
UNCTAD：国連貿易開発会議

メルコスール：南米南部共同市場
WTO：世界貿易機関
SAARC：南アジア地域協力連合
SADC：南部アフリカ開発共同体
EU：欧州連合
EAEU：ユーラシア経済連合
AMU：アラブ・マグレブ連合

Tonnage Share by Vessel Type in Global Maritime Shipping

Container, 11.1, 12.4%

Liquid Bulk, 32.5, 36.3%

Dry Bulk Cargo, 41.2, 46.1%

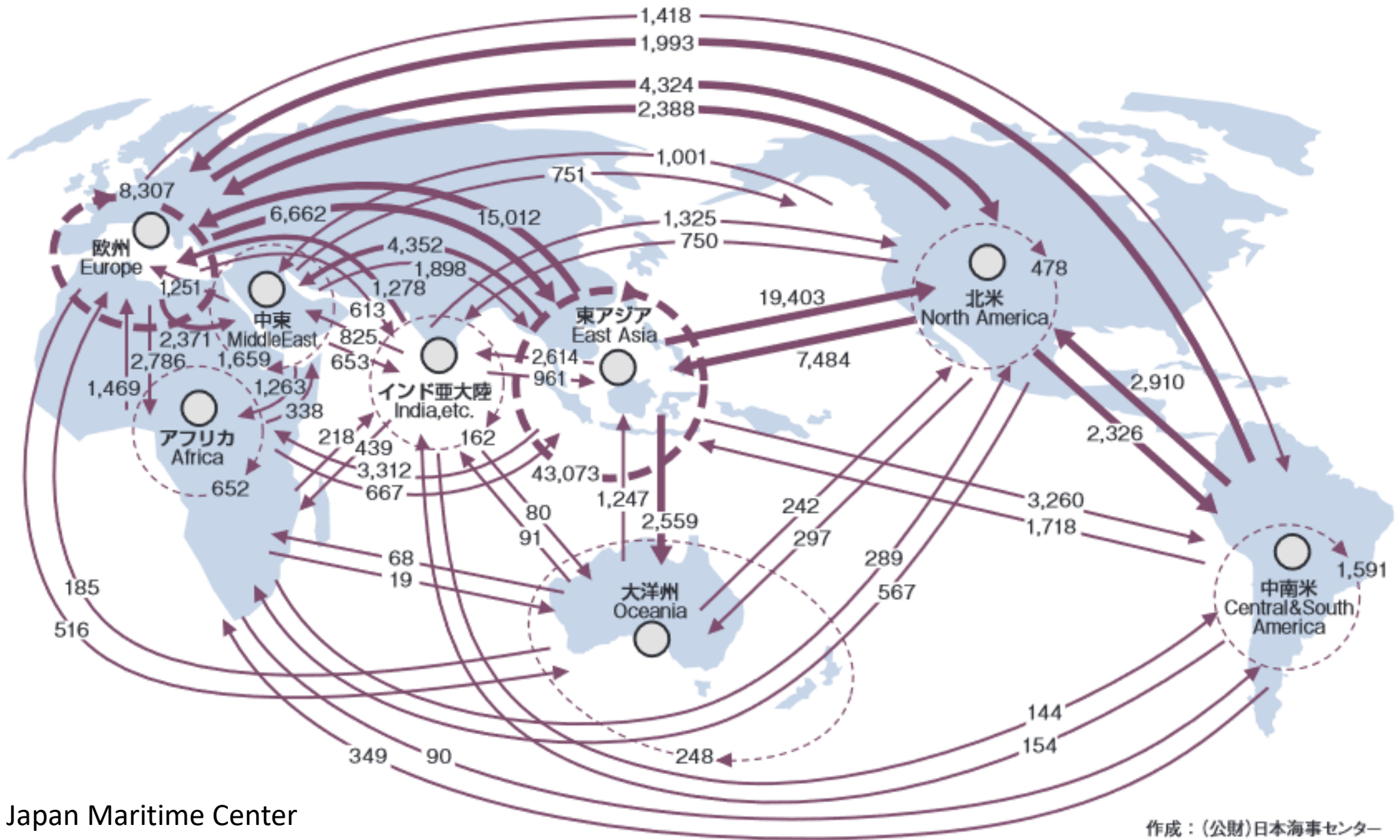General Cargo/Neo Bulk Cargo, 4.6, 5.1%

(100 million ton)

Source: GTAS Forecasting Database (S&P Global)

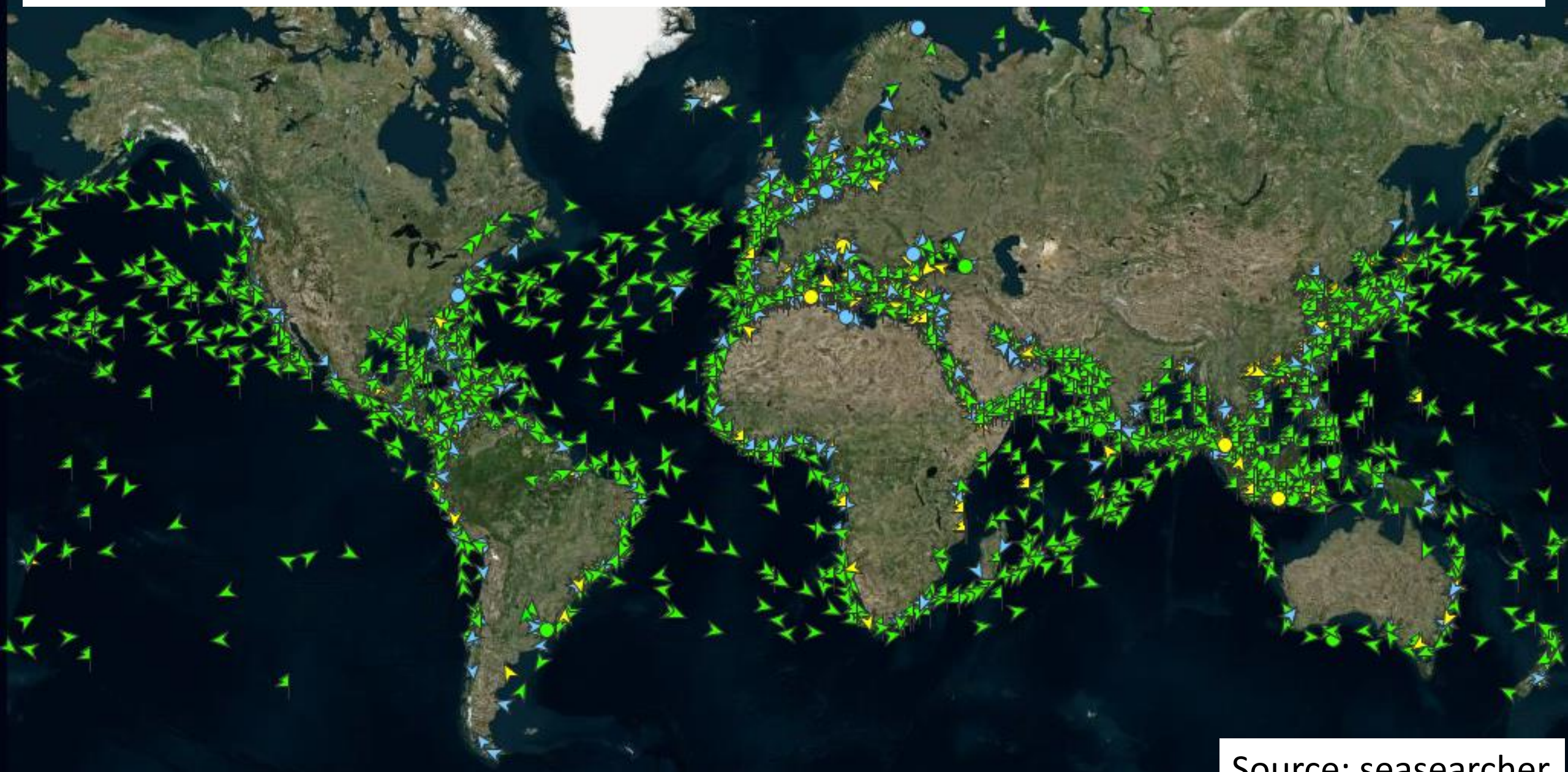World Container Estimated Movement in 2020 — Total:164,011,760 TEU 前年比0.1%減 単位：千TEU
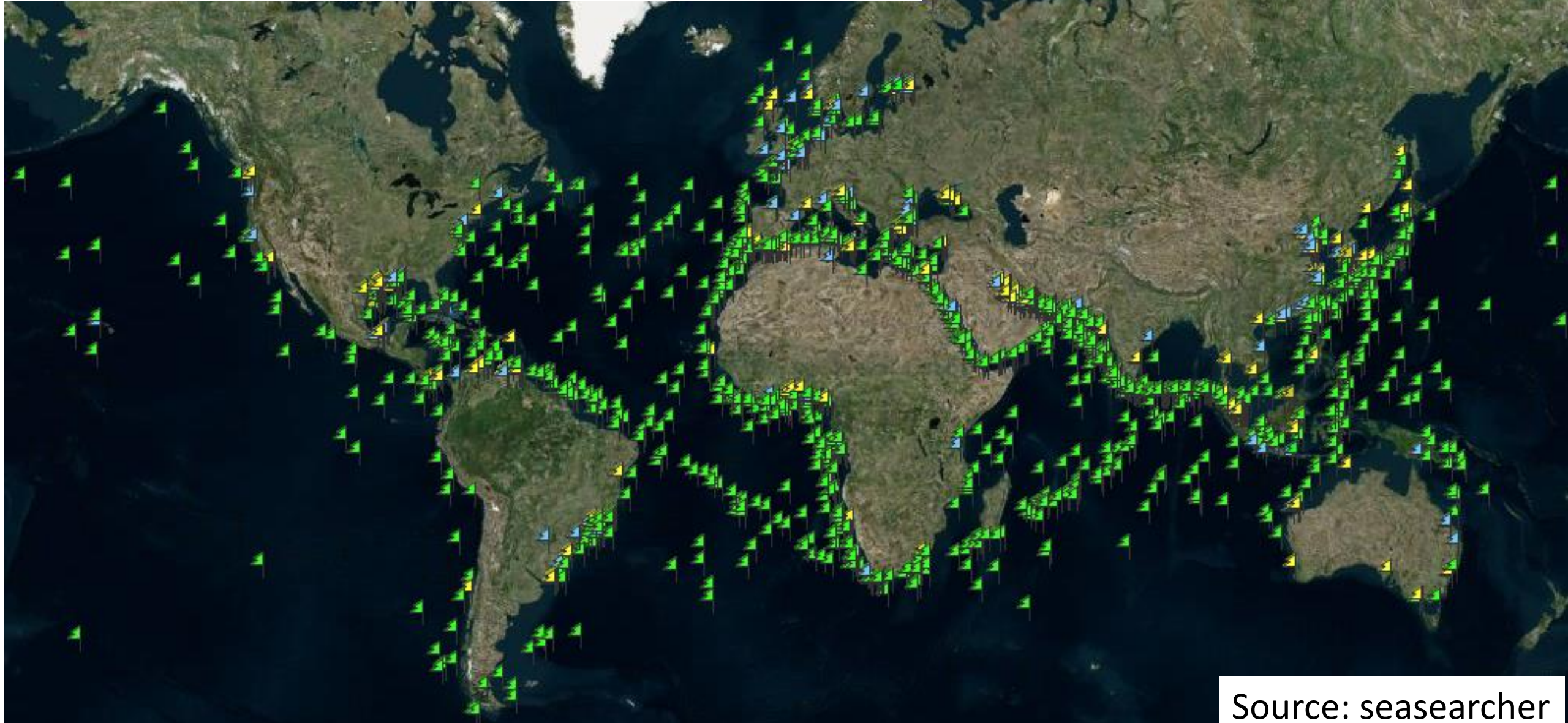
Source: Japan Maritime Center

作成：（公財）日本海事センター

6

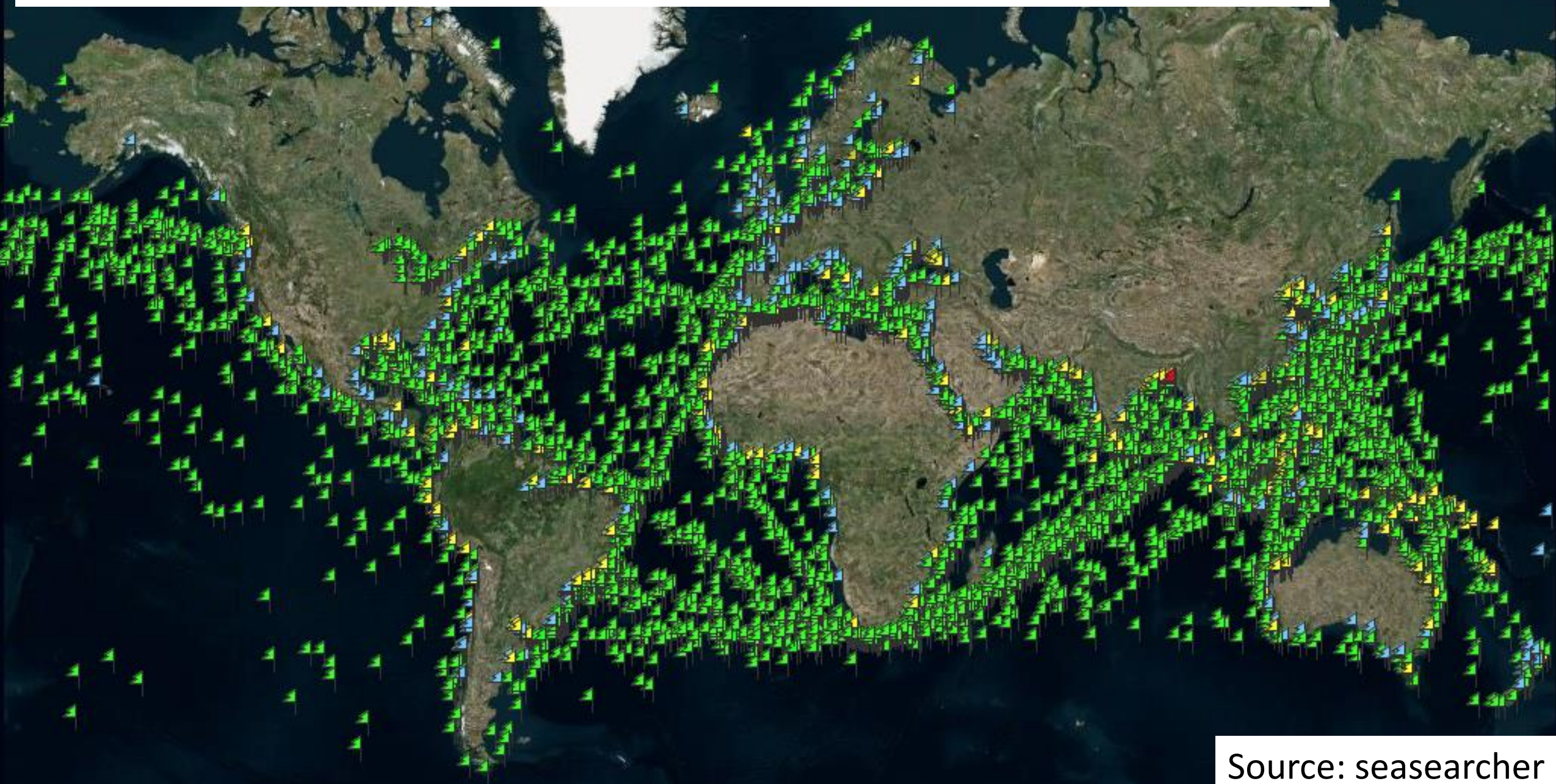Global Maritime Shipping Network (Example of Containership)

Source: seasearcher

Global Maritime Shipping Network:
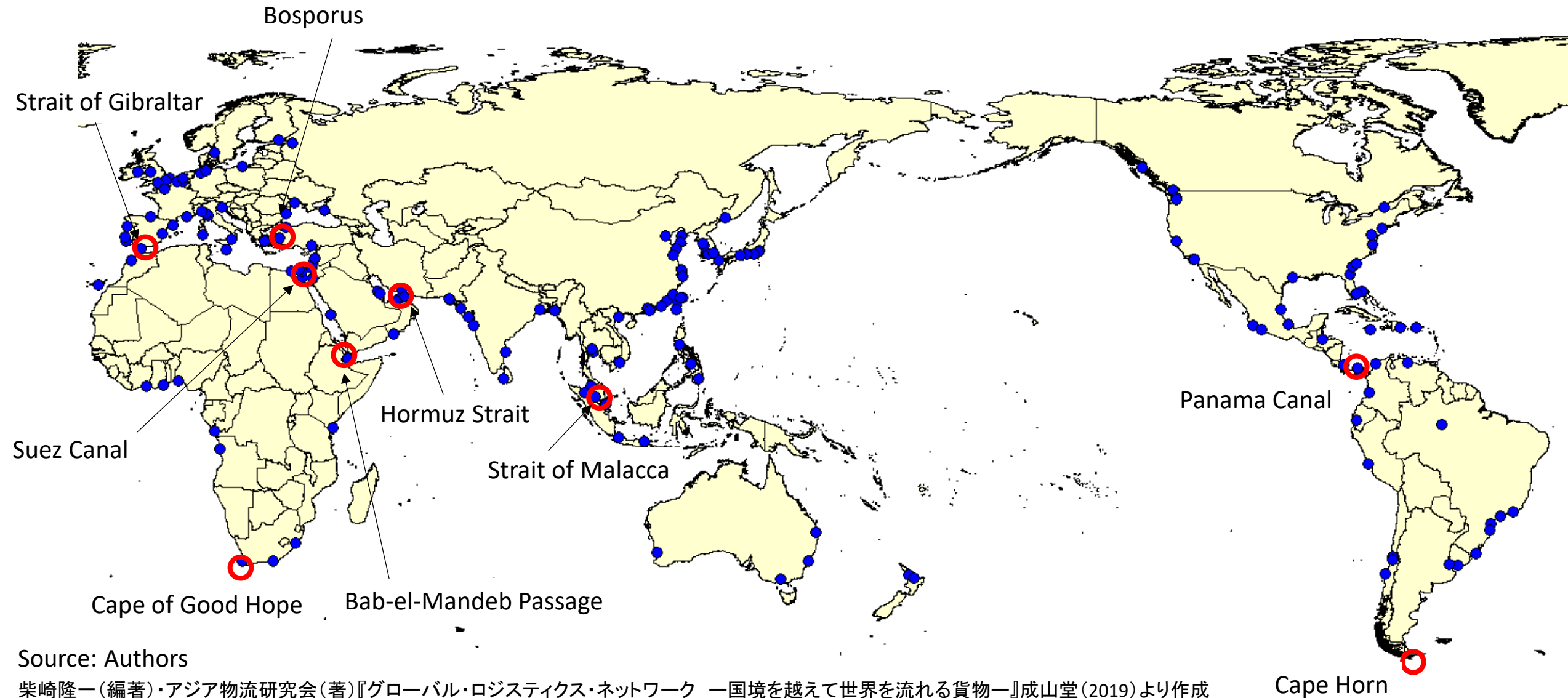2. Crude oil tanker & LNG carrier ship

Source: seasearcher

Global Maritime Shipping Network: 3. Dry bulk carrier

Source: seasearcher

Major Container Ports of the World (>500,000 TEU) and Maritime Chokepoints (stated by Admiral Fisher)

Bosporus

Strait of Gibraltar

Hormuz Strait

Suez Canal

Panama Canal

Strait of Malacca

Cape of Good Hope

Bab-el-Mandeb Passage

Cape Horn

Source: Authors

柴崎隆一（編著）・アジア物流研究会（著）『グローバル・ロジスティクス・ネットワーク　ー国境を越えて世界を流れる貨物ー』成山堂（2019）より作成

Top 20 Container Ports of the World, 2020 (in TEU Basis)

Rank	Port Name	2020 TEU
1	Shanghai	43,503,400
2	Singapore	36,870,900
3	Ningbo	28,720,000
4	Shenzhen	26,550,000
5	Guangzhou	23,505,300
6	Qingdao	22,010,000
7	Busan (South Korea)	21,824,000
8	Tianjin	18,353,100
9	Hong Kong	17,953,000
10	Rotterdam (Netherlands)	14,349,446
11	Dubai (UAE)	13,488,000
12	Klang (Malaysia)	13,244,423
13	Antwerp (Belgium)	12,031,469
14	Xiamen	11,410,000
15	Tanjung Pelepas (Malaysia)	9,800,000

Rank	Port Name	2020 TEU
16	Kaosiung (Taiwan)	9,621,662
17	Los Angeles (USA)	9,213,400
18	Hamburg (Germany)	8,540,000
19	Long Beach (USA)	8,113,300
20	Ho Chi Minh (Vietnam)	7,854,091

*Japanese Ports

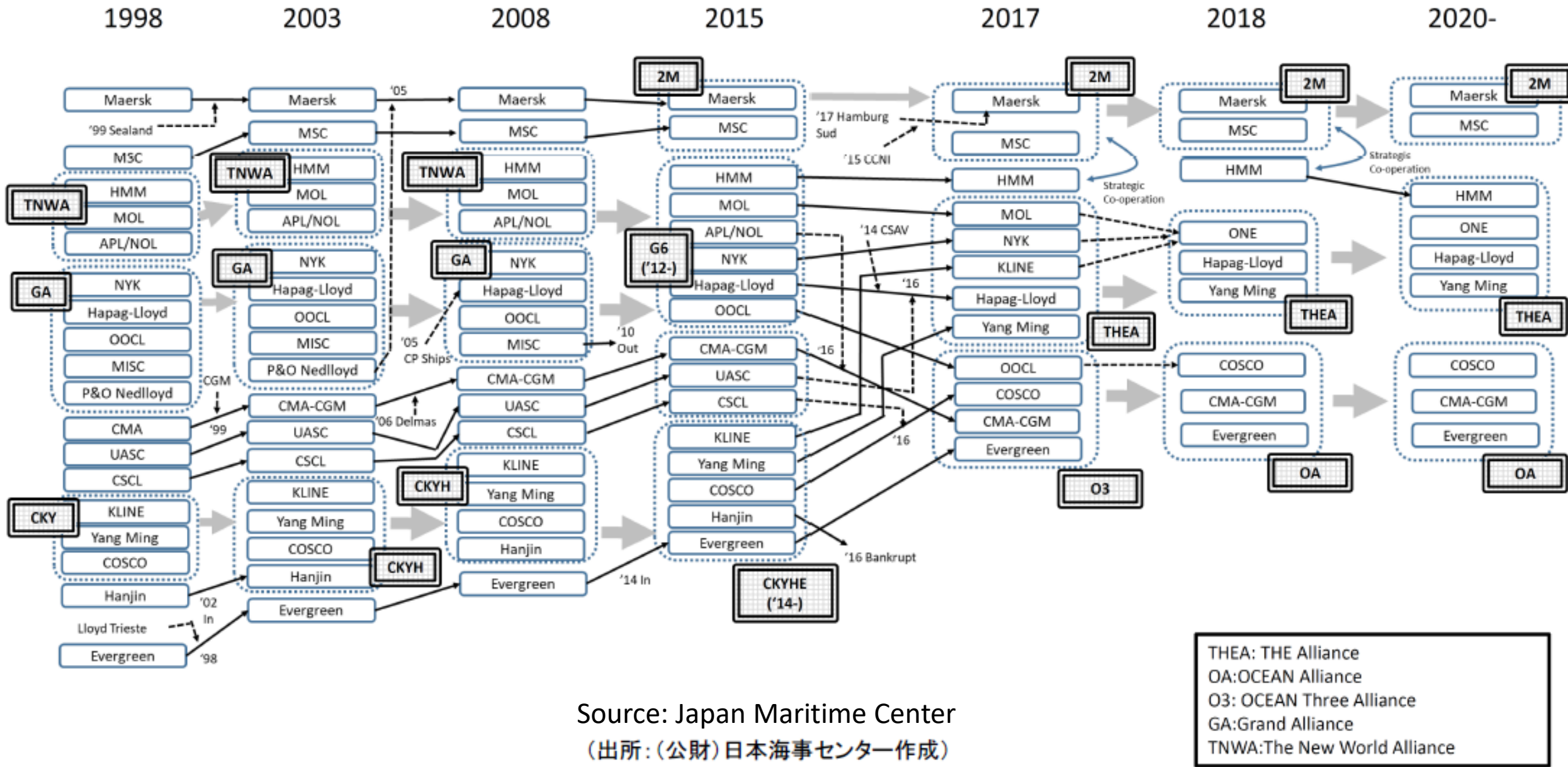| Rank	Port Name	2020 TEU
44	Tokyo	4,261,793
70	Yokohama	2,661,622
71	Kobe	2,647,066
74	Nagoya	2,471,146
75	Osaka	2,352,250

Source: Japan Port and Harbour Association

History of Enlargement of Containerships
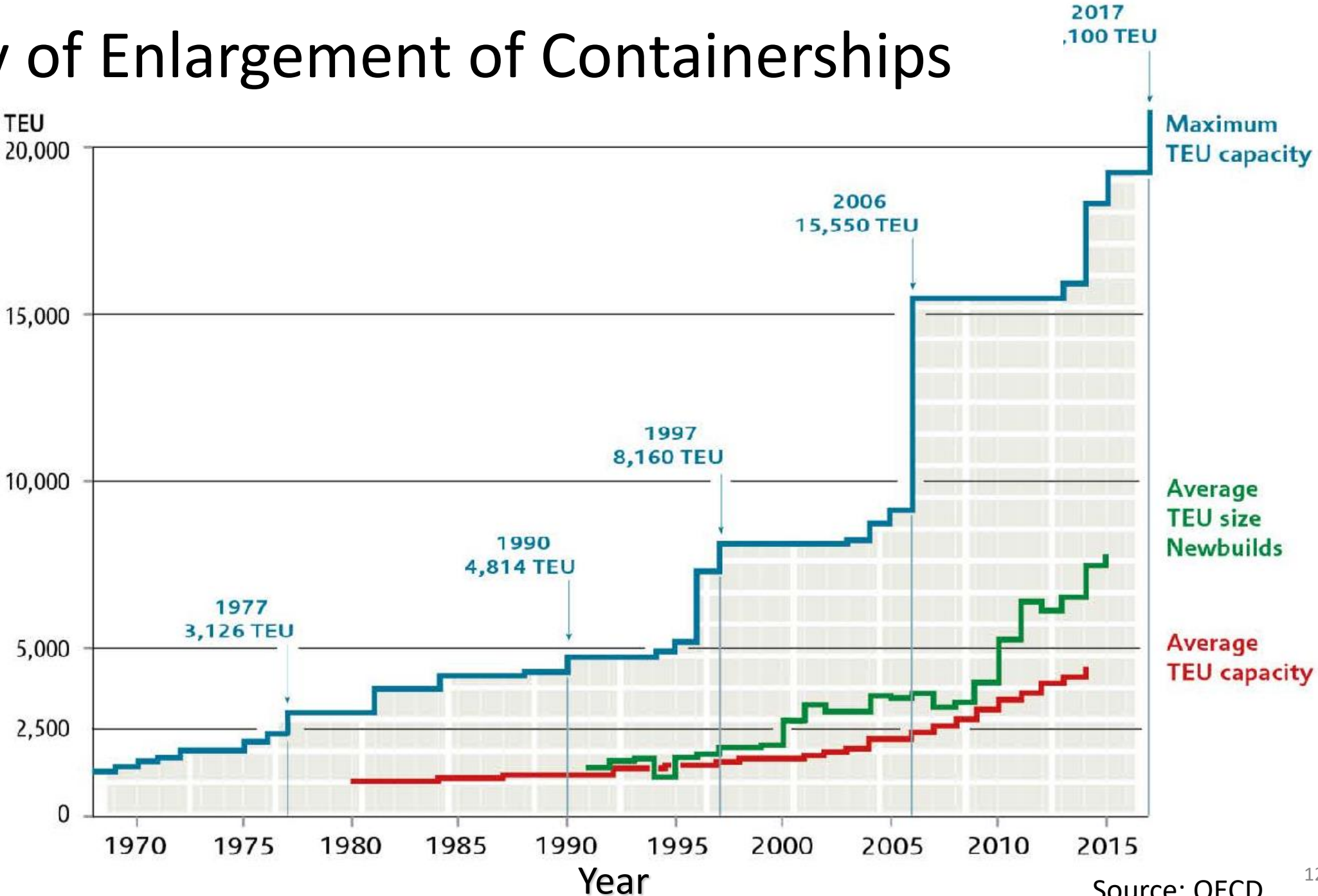
Source: OECD

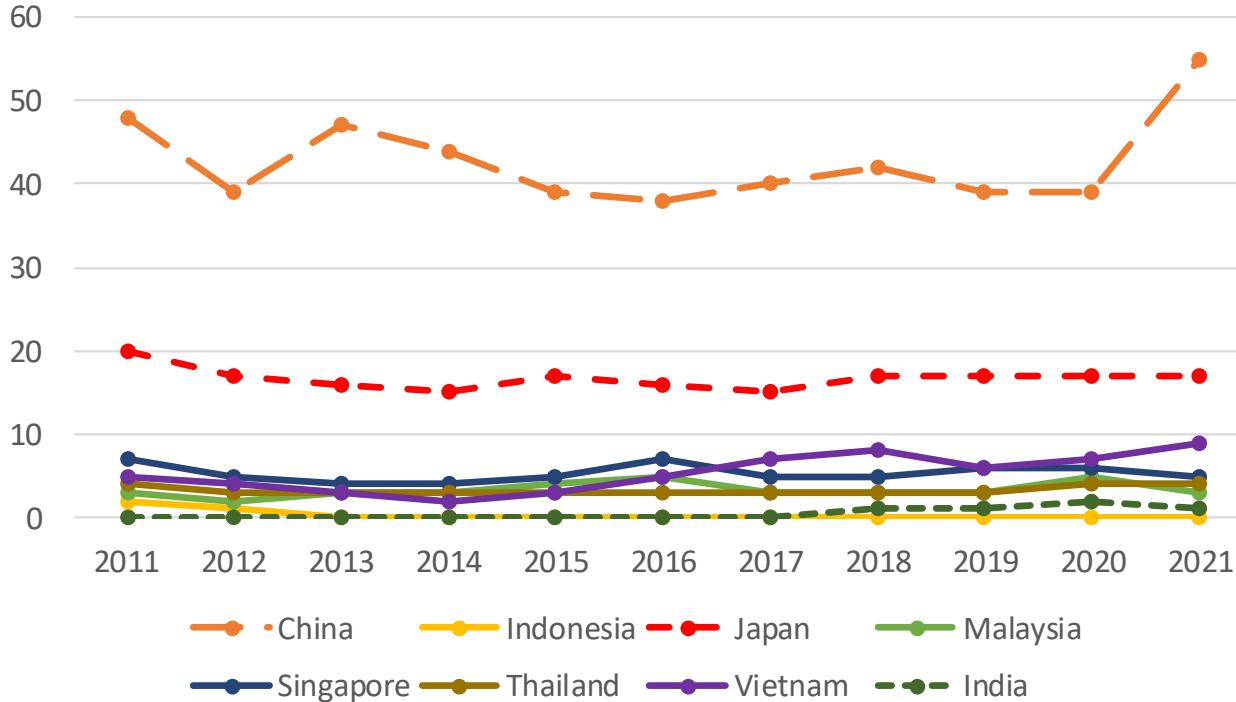# M&A and Alliance History of Global Liner Shipping Companies
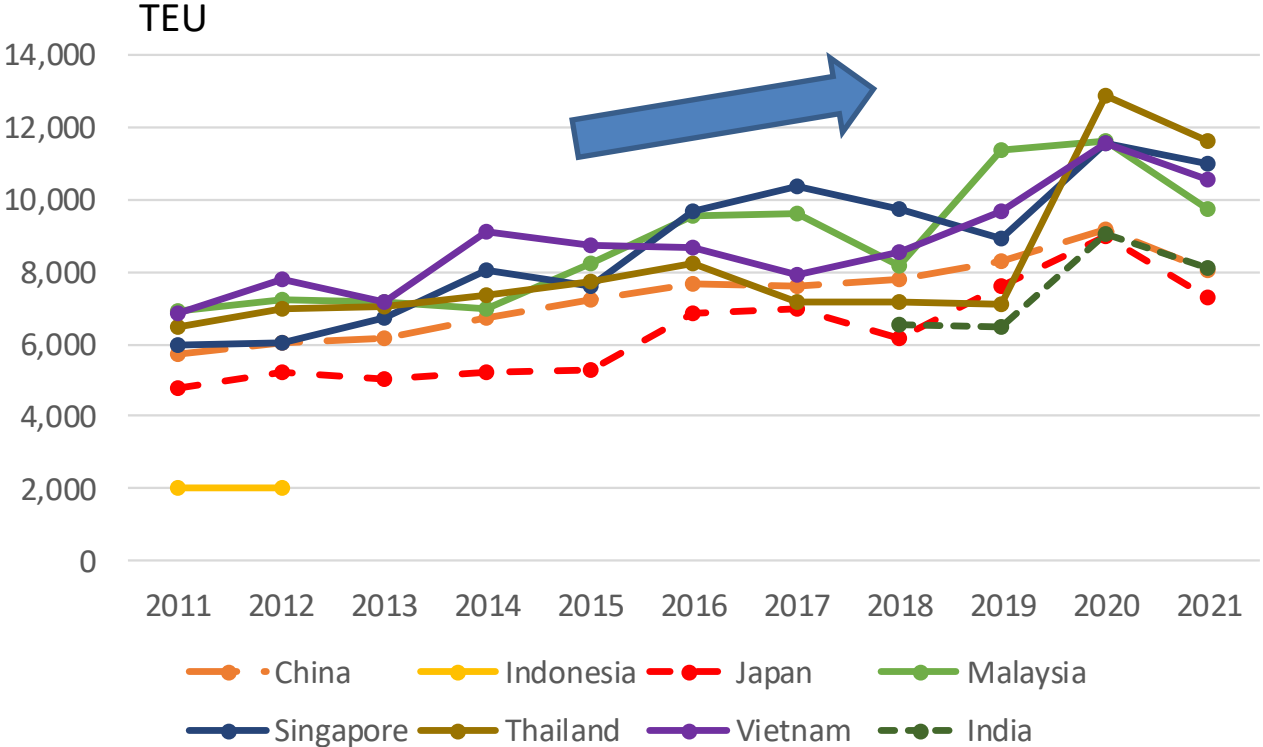

Source: Japan Maritime Center

（出所：（公財）日本海事センター作成）

THEA: THE Alliance
OA:OCEAN Alliance
O3: OCEAN Three Alliance
GA:Grand Alliance
TNWA:The New World Alliance

Number of liner services of trunk routes from each Asian country
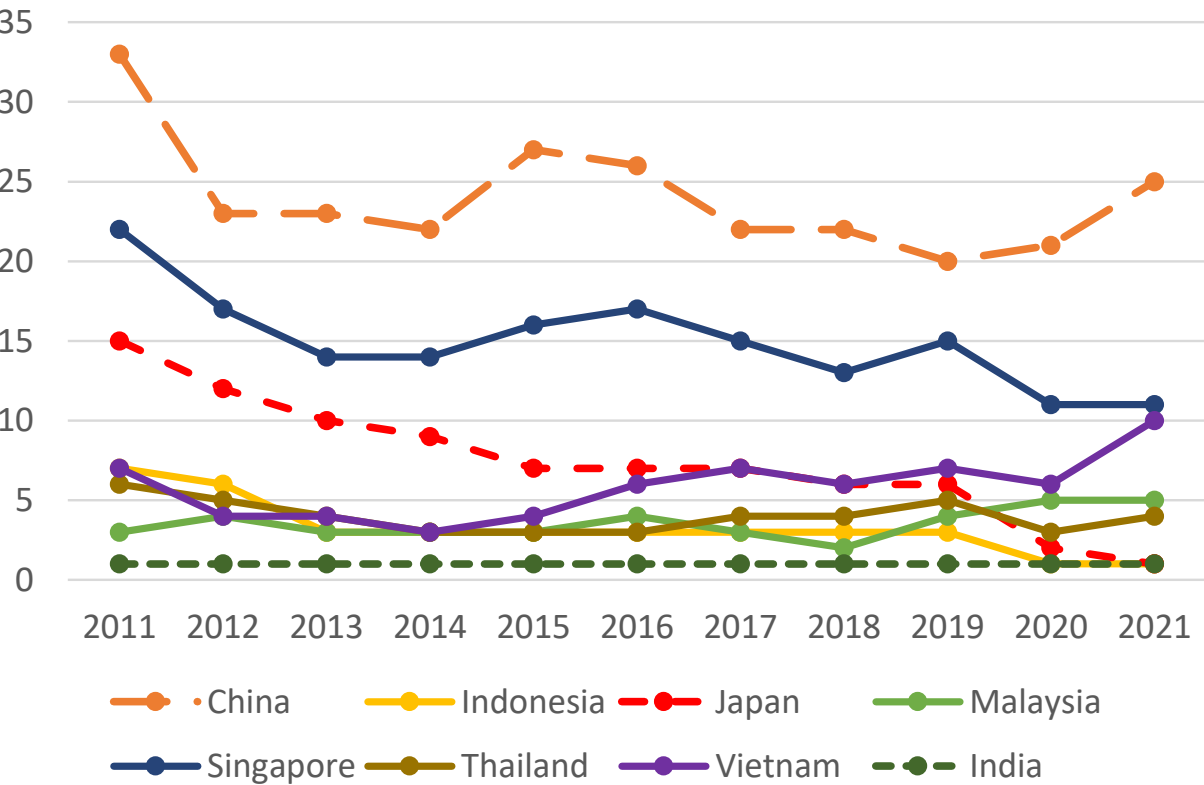
Asia - West Coast of North America

(source: Authors made from MDS Containership Databank)

Number of liner services of trunk routes from each Asian country

Asia - East Coast of North America

(source: Authors made from MDS Containership Databank)

Number of liner services of trunk routes from each Asian country
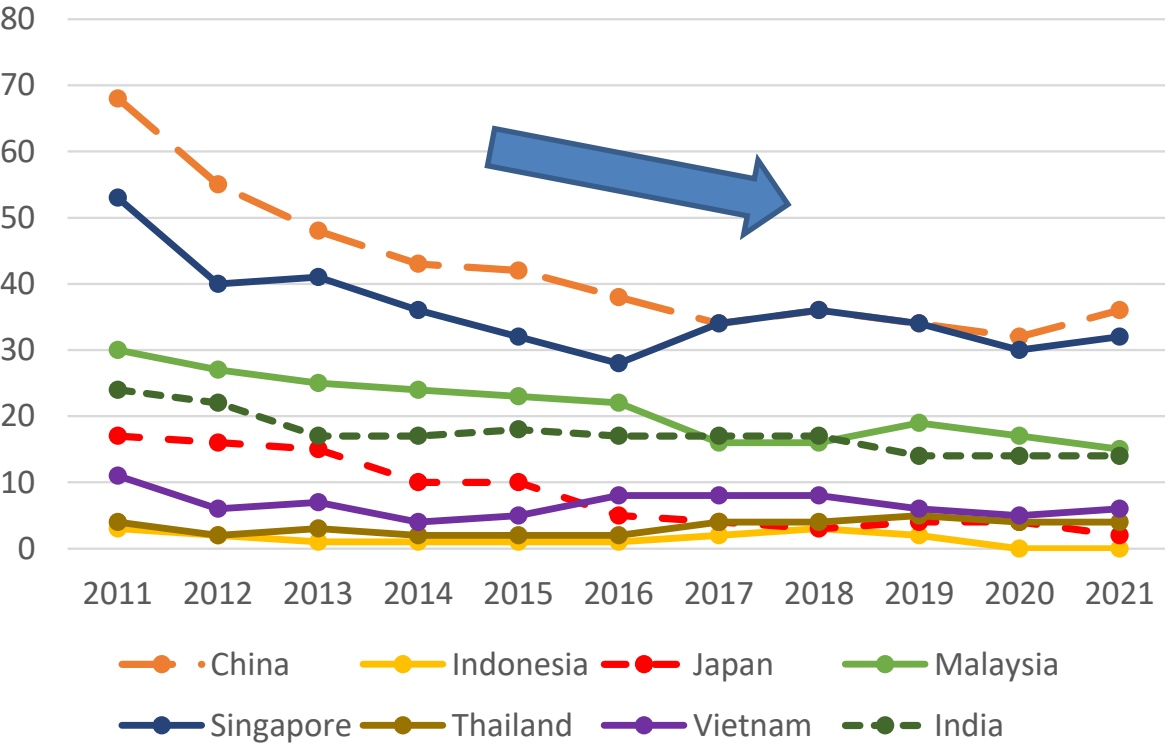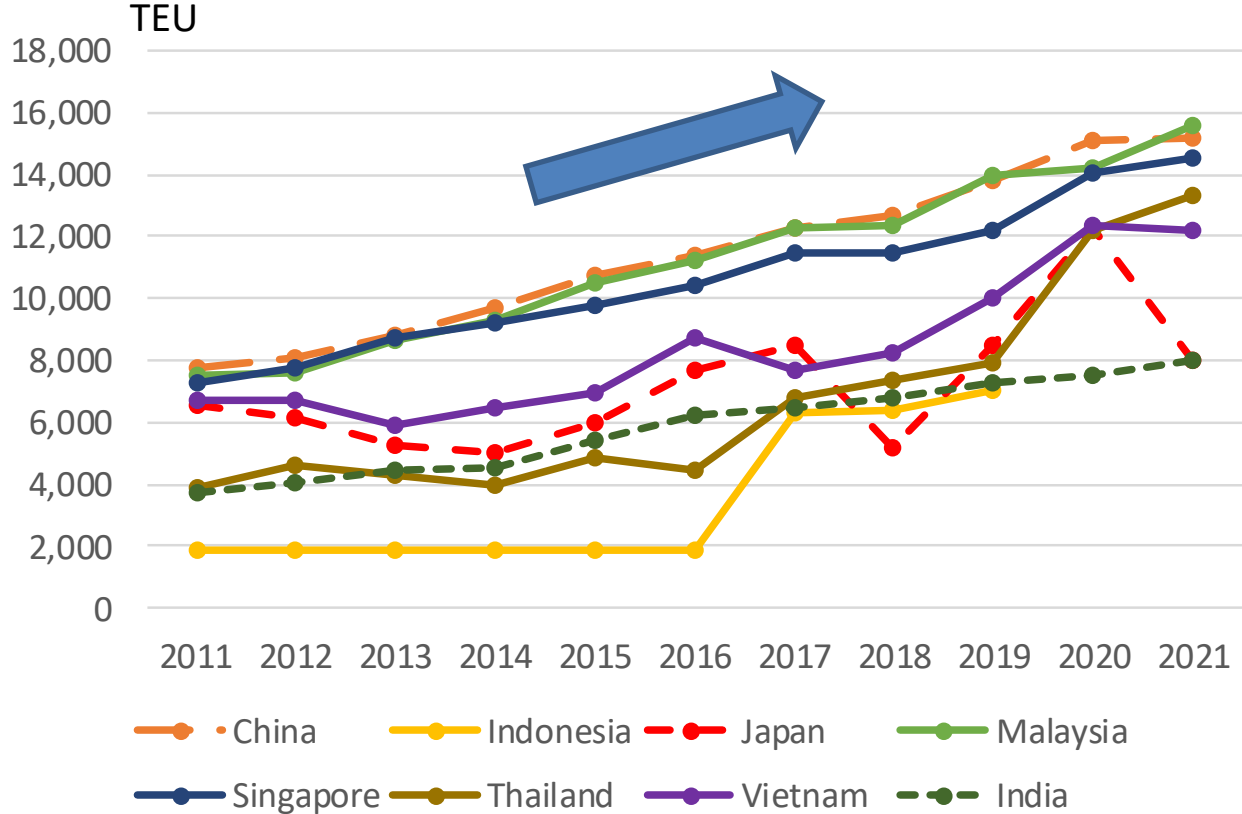
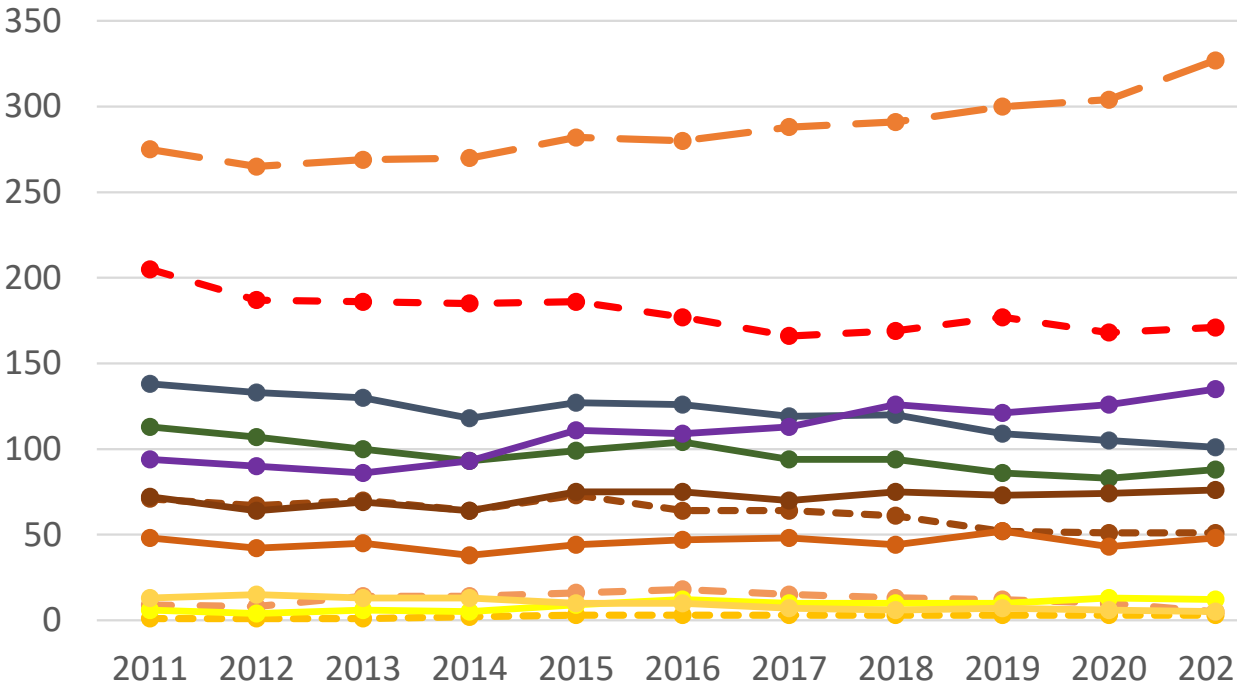## Asia - Europe and America via the Suez Canal
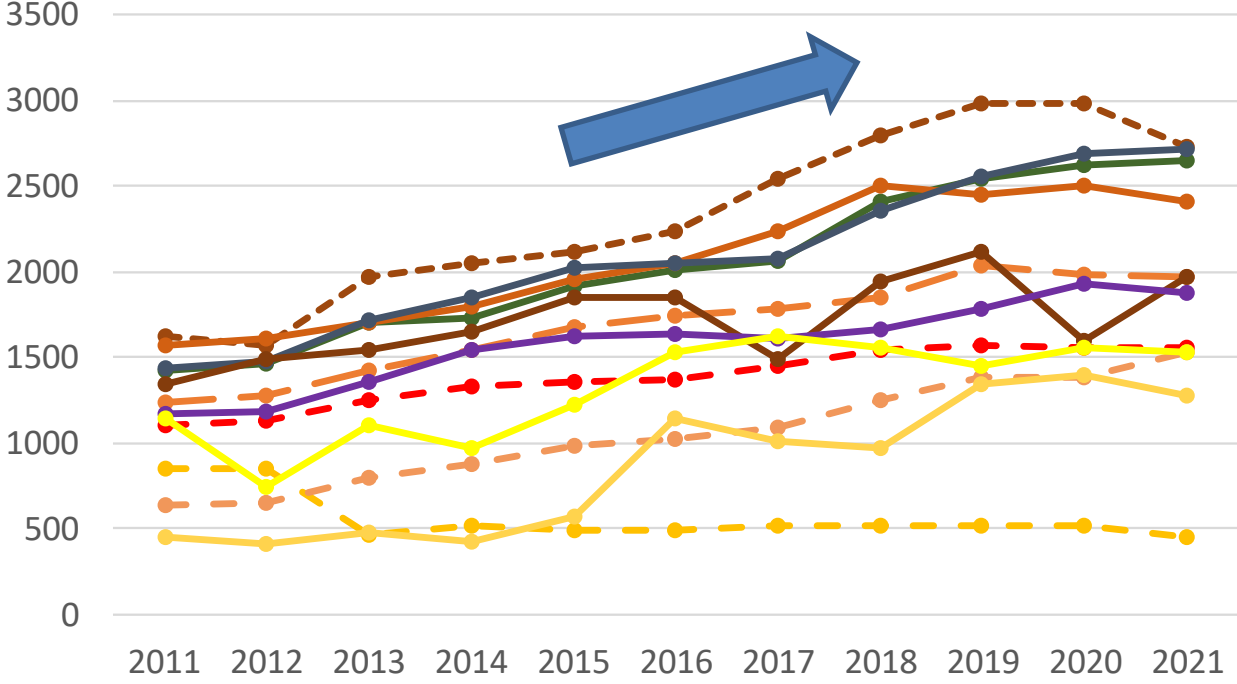

Number of Liner Services

Average Vessel Size

(source: Authors made from MDS Containership Databank)

Number and average vessel size of intra-Asian services from each Asian country

Number of Intra-Asian Services by Country

(TEU) Average Vessel Size of Intra-Asian Services by Country

Legend: China, East Timor, Indonesia, Japan, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam, Cambodia, Brunei Darussalam

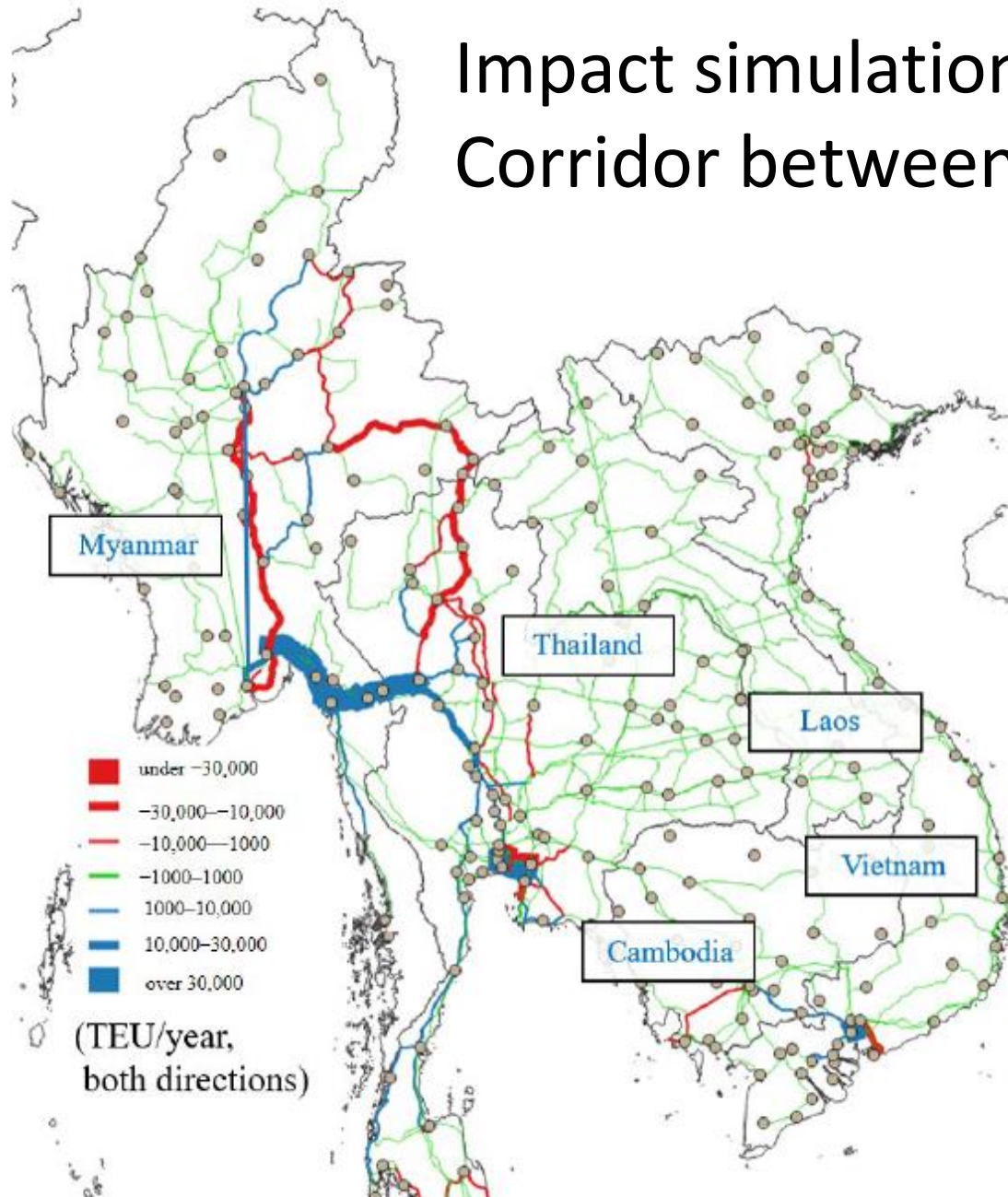# Characteristics of ASEAN Countries in terms of Global Logistics

➢ Advantages

✓ Geographies located in between giant potentially growth regions of Asia (i.e. China and South Asia)

✓ Geographies located along the trunk route of global maritime shipping

✓ Big market potential because of great population and developed economies

✓ Diversity of the region from many viewpoints (i.e. economic growth stage, geography, population, industrial structure, distribution of natural resource, etc.)
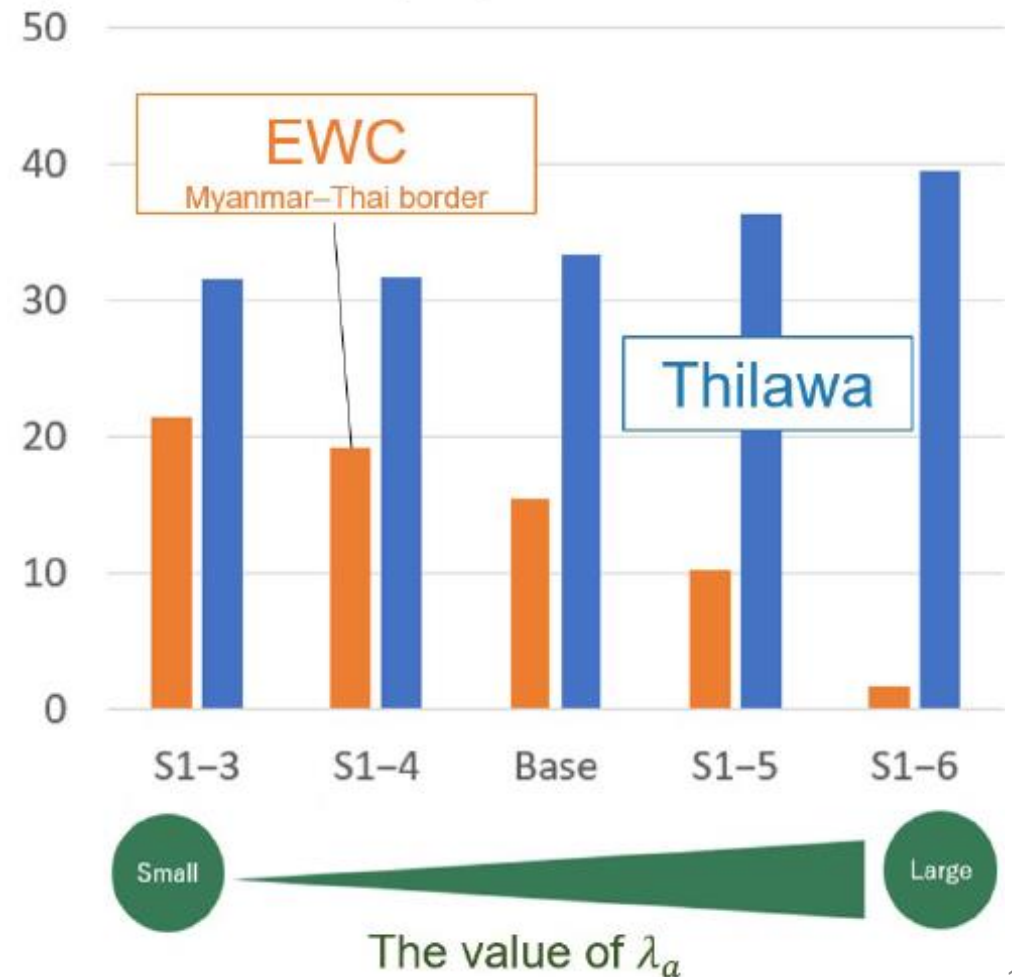
➢ Challenges

✓ Barriers in crossing national borders in the region (e.g. physical, language, cultural, …)

✓ Necessity for seamless intermodal transport system due to complex topography including land and sea

✓ Difference in economic development stage

Impact simulation on improvement of GMS East-West Corridor between Thailand and Myanmar
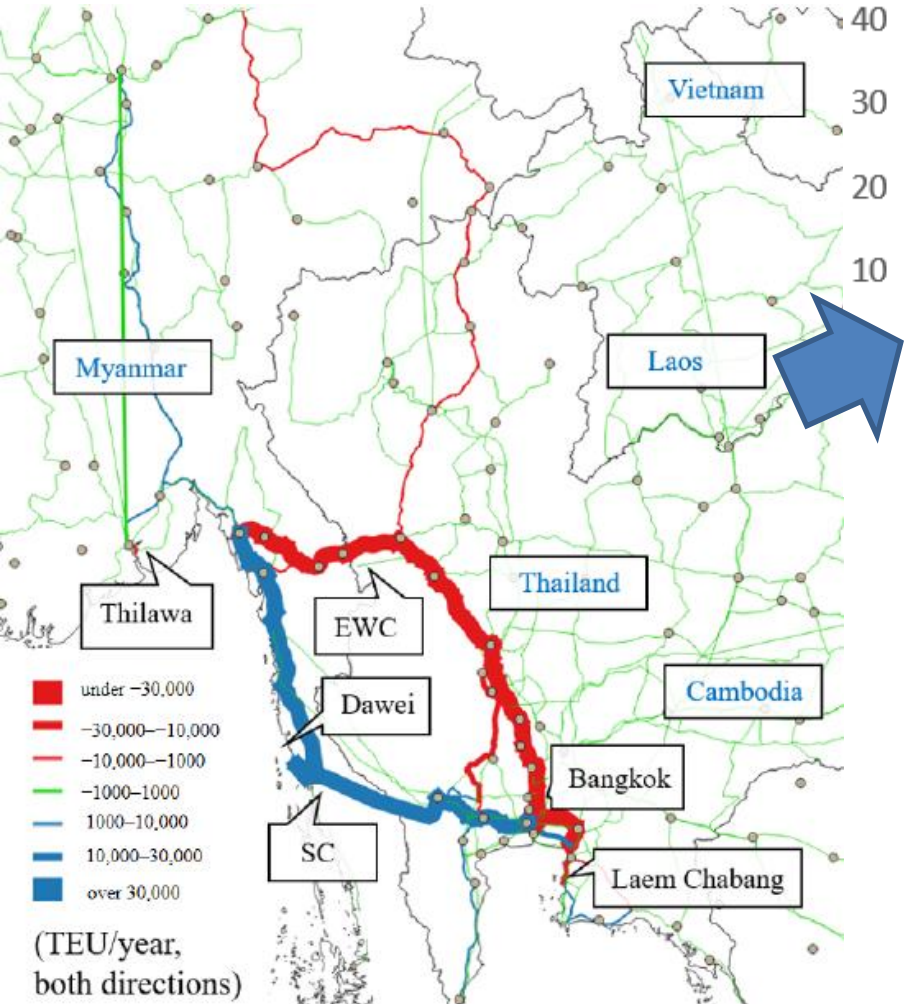
Cargo Flow/Port Throughput

Source: Yamaguchi, T., Shibasaki, R., Samizo, H., Ushirooka, H., Impact on Myanmar's logistics efficiency of the East–West and Southern Corridor development of the Greater Mekong Subregion – A global logistics intermodal network simulation, Sustainability, 13(2), 668, 2021
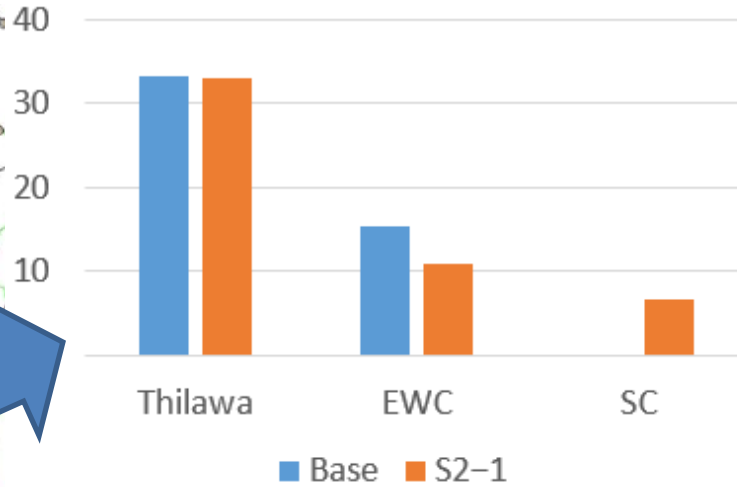
Barrier Levels at National Border

Impact simulation on development of GMS Southern Corridor between Thailand and Myanmar and Dawei Port

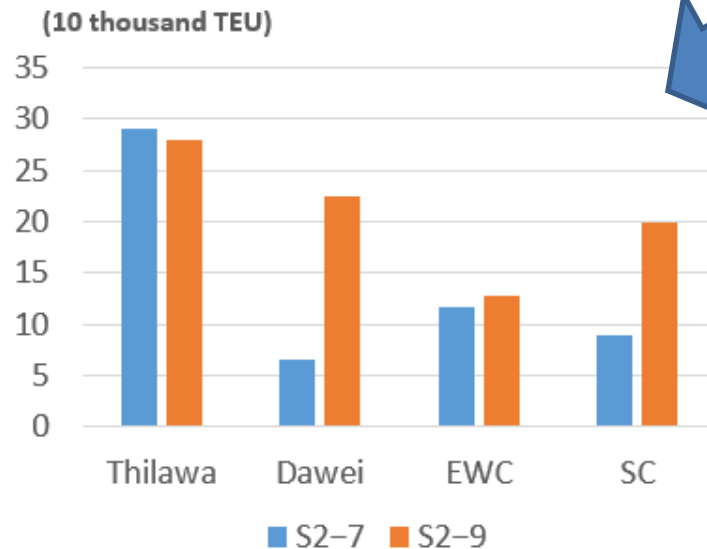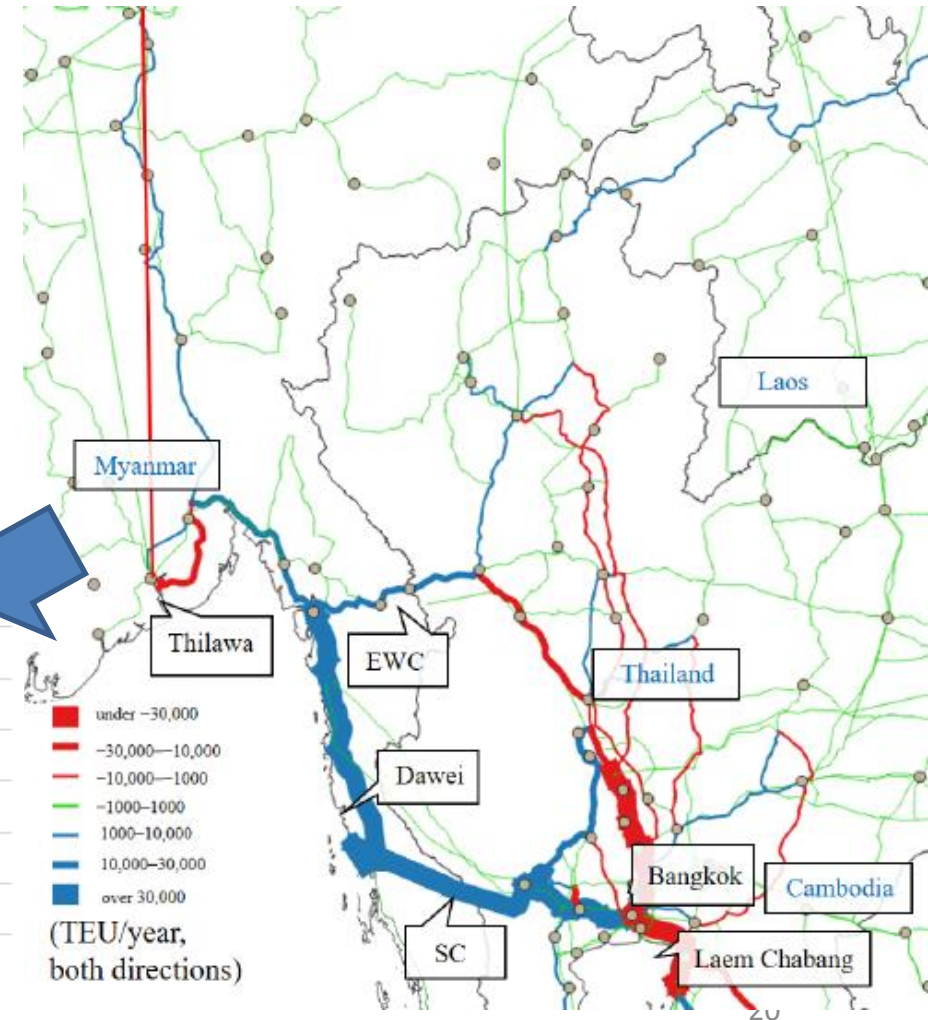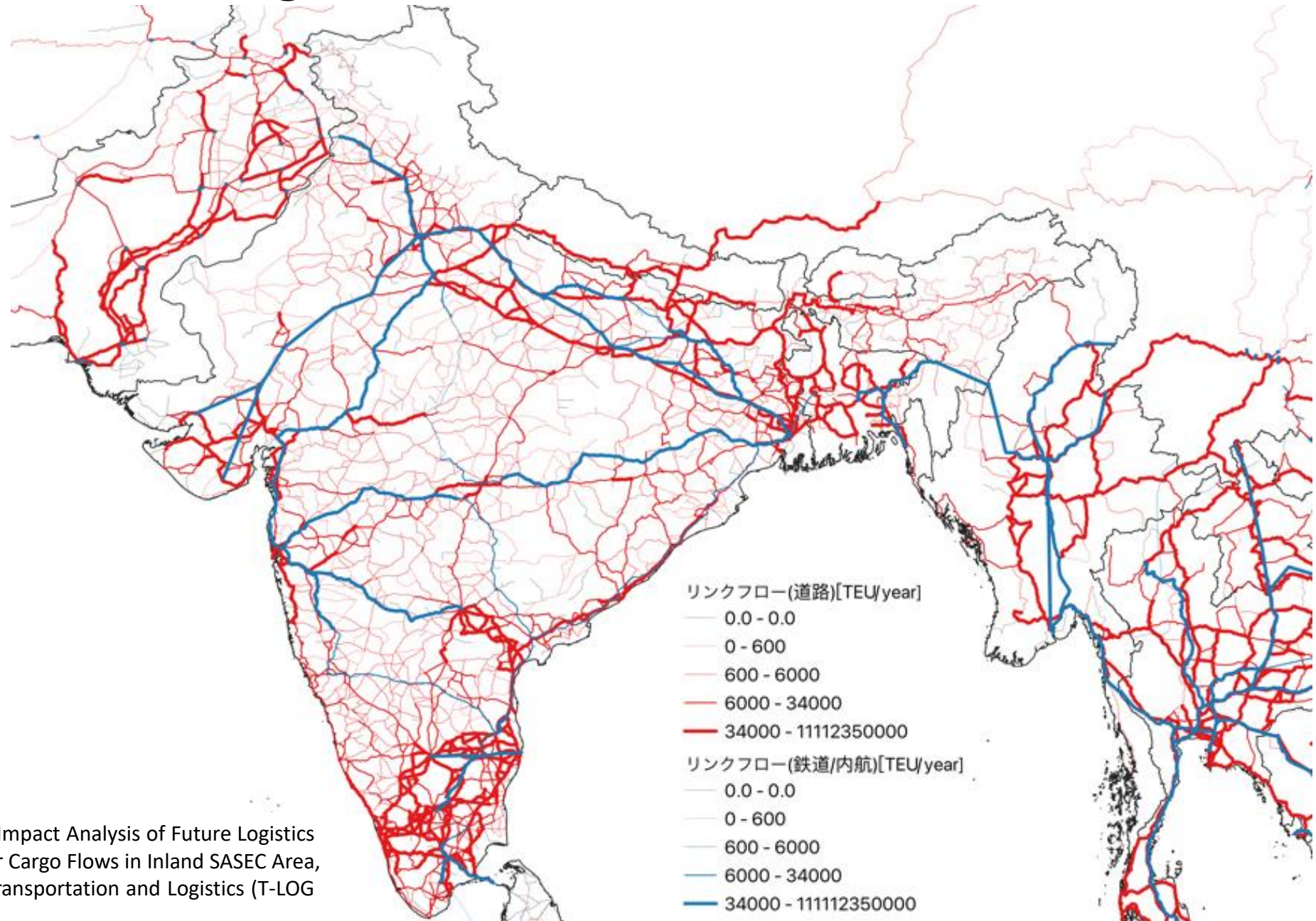**Development of Southern Corridor**

Cargo Flow/Port Throughput

Development of Dawei Port

Estimated container cargo flow in 2035 between Southeast and South Asia

リンクフロー(道路)[TEU/year]
- 0.0 - 0.0
- 0 - 600
- 600 - 6000
- 6000 - 34000
- 34000 - 11112350000

リンクフロー(鉄道/内航)[TEU/year]
- 0.0 - 0.0
- 0 - 600
- 600 - 6000
- 6000 - 34000
- 34000 - 111112350000

Source: Kawachi, K., Shibasaki, R., Impact Analysis of Future Logistics Policies on International Container Cargo Flows in Inland SASEC Area, 9th International Conference on Transportation and Logistics (T-LOG 2022), Incheon, 2022

21

Thank you
for your kind attention!