



Panama & Suez Canal: Its Alternative & Impact on BIMP-EAGA and ASEAN

21 March 2024

Presentation by:

NAZRY BINYAHYA
JP SKILLS CENTRE, JPB

AGENDA

INTRODUCTION TO AL BUKHARI GROUP

- 1) CHOKEPOINTS OF THE WORLD
- 2) WHAT HAPPENED AT PANAMA & SUEZ CANALS?
- 3) ALTERNATIVES TO THE PANAMA & SUEZ CANALS
- 4) IMPACT TO BIMP-EAGA AND ASEAN



ALBUKHARI GROUP

ALBUKHARY GROUP

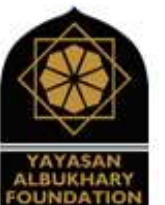


Some companies are more than 100 years old

More than 100,000 employees

Albukhary International University (AIU) is a private nonprofit education institution, a fully residential campus with state-of-the-art facilities.

8th biggest world port operator



MMC Ports

MMC's ports are the strategic gateways for national trade and commerce, vital to spurring economic growth. Within Malaysia's export-driven open economy, our ports generate tremendous value across a large number of industries, sectors and supply chains. Our ports bring the world to Malaysian shores and allow Malaysia to access international markets and emerging business opportunities in a dynamic, globalised world.



Tanjung Bruas Port Sdn Bhd



Andaman Port Sdn Bhd

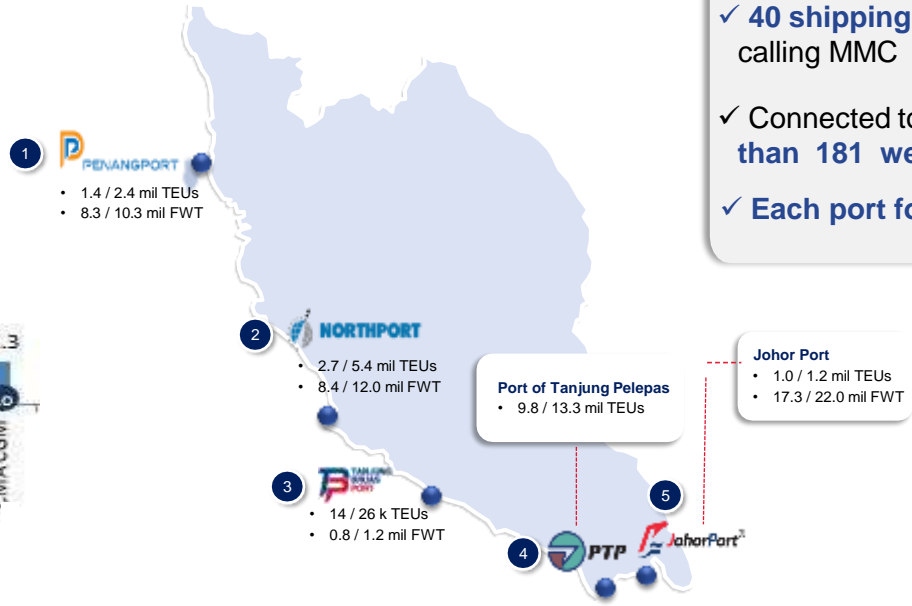
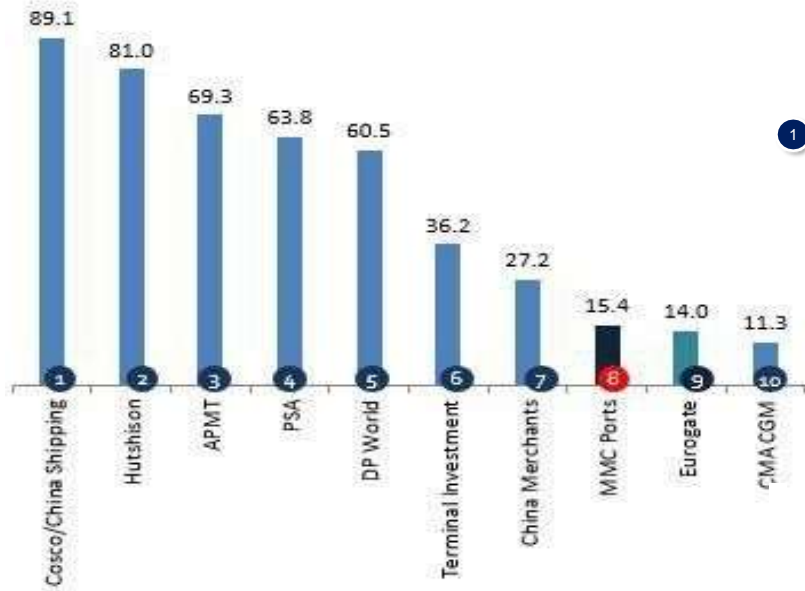


Red Sea Gateway Terminal



Kontena Nasional Berhad

PORTS & LOGISTICS - MALAYSIA'S LARGEST PORT OPERATOR



- ✓ Strategically located within Straits of Malacca, one of the busiest shipping lane in the world
- ✓ 40 shipping lines and up to 45 box operators calling MMC ports
- ✓ Connected to over 300 ports of calls with more than 181 weekly services
- ✓ Each port focuses on its own hinterlands

8th
 LARGEST PORT OPERATING GROUP IN THE WORLD





Vision

To be the preferred regional Port & Logistics Terminal Academic & Vocational Training Provider



Mission

We share necessary practical working knowledge to Ports & Logistics personnel

- i) For the industry
- ii) For the tertiary education
- iii) For the vocational training

2014
Inhouse training

2015
Greater Malaysia

2015 Certification of PTP Quay Crane Operators
 2015 Sabah Ports contract
 2015 MMC Group – Senai Airport, Penang Port & Northport
 2017 Approval for Pusat Bertauliah

2018
Global Reach

Global Collaboration

- UNCTAD English Speaking Networks
- Ports in Indonesia (Pelindo 1, Pelindo 3 & Pelindo 4)
- STC Tan Cang, Vietnam
- Fujian Port Authority, China

Regional Deliveriest:

- Singapore
- Indonesia
- Vietnam
- Cambodia
- Philippines
- Ireland
- Ghana
- Qatar
- Maldives

ON TOP OF THE WORLD

2020
World First Port to offer Master in Port Management

2019
World Excellence in Port & Terminal Training

2018
World First Port Kaizen Sensei

JPSC POSTER LADIES OF UNITED NATIONS



TrainForTrade@UNCTAD @TrainForTrade · Dec 8, 2022

A rainwater harvesting system proposed by Ms. Nadir through @UNCTAD @TRAINFORTRADE #PortManagement Programme is helping #JohorPort 🇲🇾 save fresh water & minimize chances of flooding 🙌

Read more bit.ly/3HjtXY0

#capacitydevelopment #SheTRAINFORTRADE #womeninports



UNCTAD Prosperity for all

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Home / News / Project by UNCTAD port programme graduate saves fresh water in Malaysia

Project by UNCTAD port programme graduate saves fresh water in Malaysia

01 December 2022
A rainwater harvesting system proposed by Rabiah Nadir is helping Johor Port save fresh water, minimize chances of flooding and contribute to global goals.



Nur Amalina Mohamed

"For ladies who aspire to work in the field that isn't common for women my advice is be yourself! Think big and don't listen to people who tell you it can't be done. If I can handle this crane, why can't you?," said Ms. Amalina Mohamed who works at Johor Port (Malaysia) and is certified to handle 6 different equipment.

TrainForTrade@UNCTAD 1,294 Tweets Following



TrainForTrade@UNCTAD @TrainForTrade · Mar 8, 2021

"For ladies who aspire to work in the field that is not so common for women, my advice is 'be yourself!' Think big and don't listen to people who tell you that it can't be done." said Ms. Mohamed from 🇲🇾 🙌

#InternationalWomensDay #SheTrainForTrade #ChooseToChallenge #Johorport

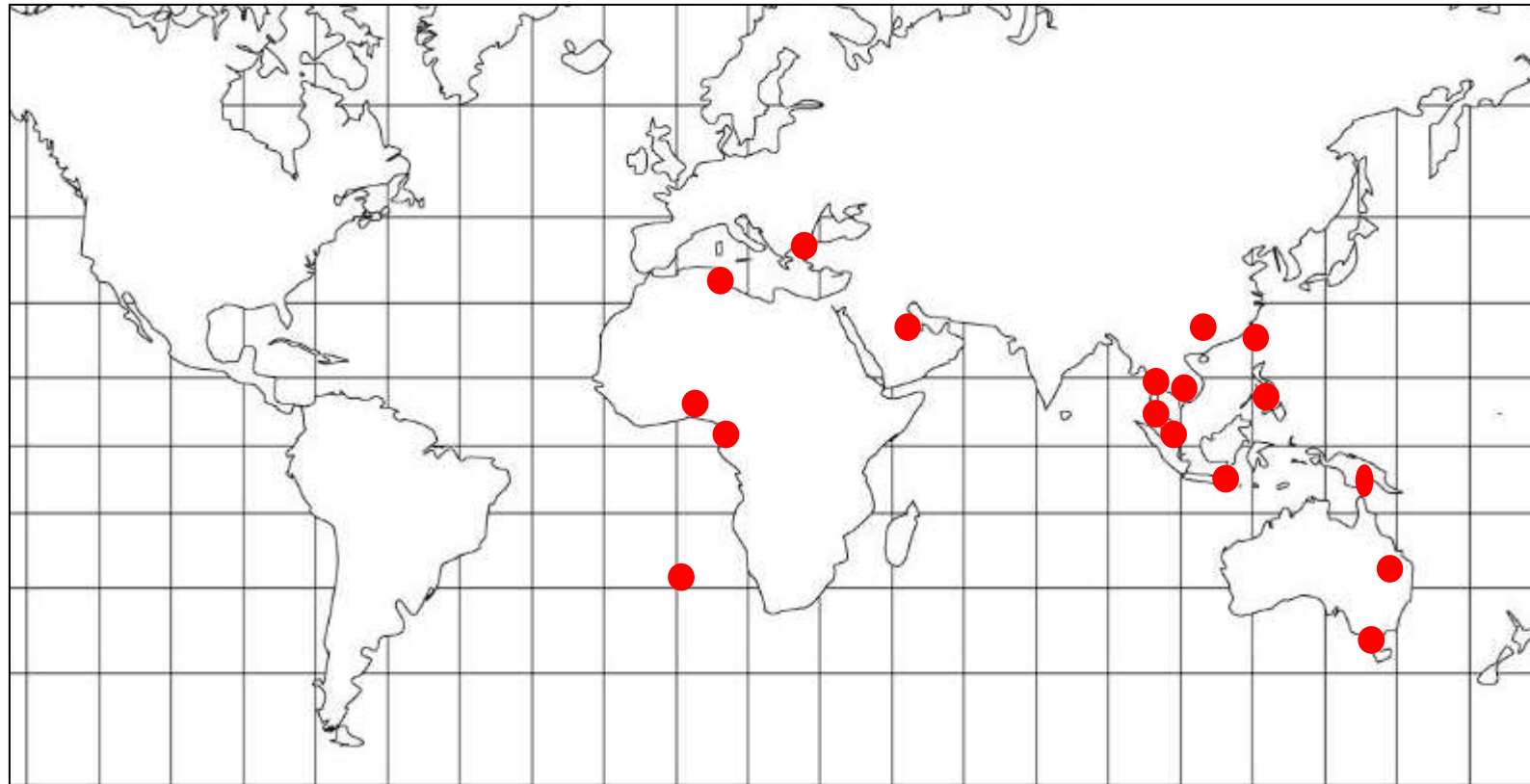


🗨️ 2 ❤️ 1 📌 🔄



<https://sites.ungeneva.org/not-a-womans-job/en/un-agencies-and-partnersgroup/nur-amalina-mohamed.html>

JPSC Global Reach



Regional Deliveries

- Singapore
- Indonesia
- Vietnam
- Taiwan
- Cambodia
- Philippines
- Morocco
- Maldives
- Papua
- Ghana
- Qatar
- Turkey
- Australia

JPSC in the Philippines



Professional Master Program



In collaboration with:

JP Skills Centre | JohorPort® | UTM | UTMSPACE

PROFESSIONAL MASTER IN PORT MANAGEMENT



Awarded by UTMSPACE | Fortnightly Weekend Class
High Quality T&L Facilities at Residensi UTM Kuala Lumpur

RM 16,800 : Local Student | USD 6600 : International Student

Learn From Highly Experienced Industry Professionals
Project Based Learning and Work Integrated Learning

Further Information

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Mobile Phone: 019-7505806 | Mobile Phone: 019-7112034

COMING SOON

Professional Master in Port & Security Management



Status: Awaiting approval from University Technology Malaysia
Expected approval in May 2024

- World's first Port to offer industry rich experience translated as academic subjects with the programs approved by UTM.
- 10 modules and 40 credit hours
- 100% lecturers are from JP Skills Centre
- First batch graduate 21 pax



WINNER OF MALAYSIA EDUCATION & TVET AWARD (META AWARD) in 2022

WINNER OF MALAYSIA PRIME MINISTER AWARD in 2021 (with JPB)

WINNER OF MALAYSIA INDUSTRY EXCELLENCE AWARD in 2021 (with JPB)

WORLD FIRST TO OFFER PROFESSIONAL MASTER IN PORT MANAGEMENT in 2020

WORLD BEST TERMINAL TRAINING CENTRE in 2019

WORLD FIRST PORT KAIZEN SEISEI since 2017



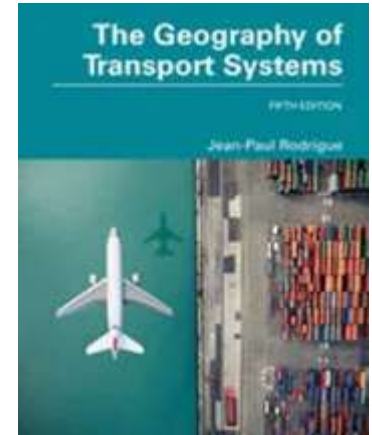
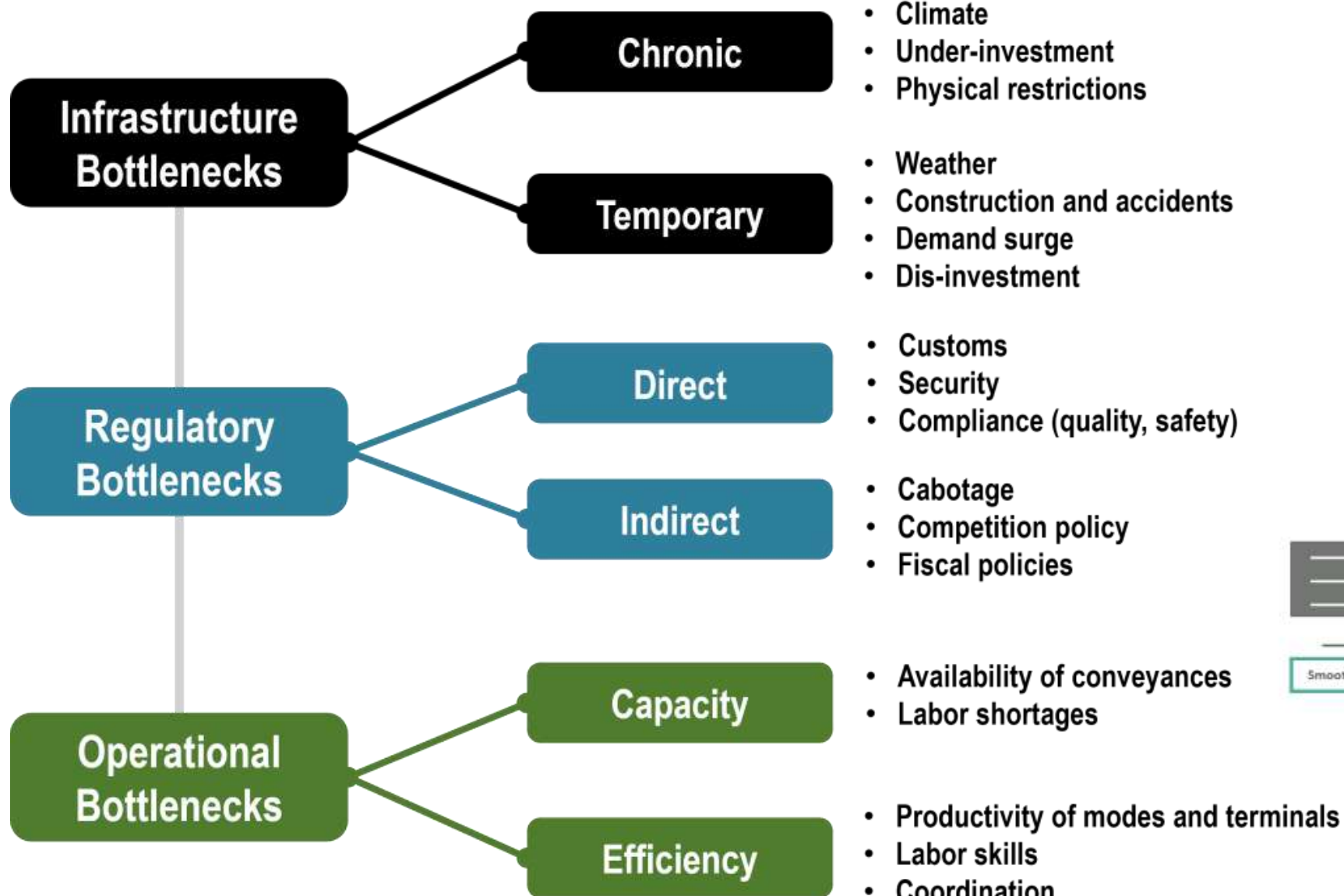
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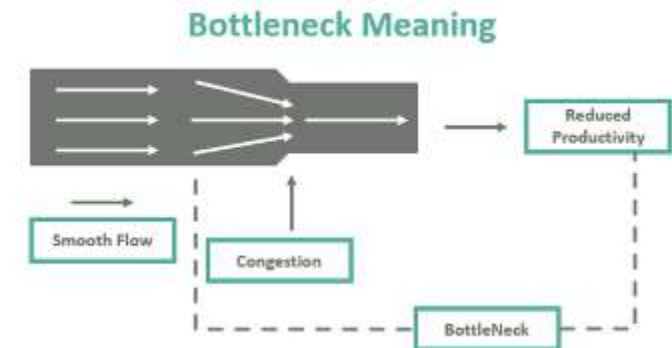


CHOKEPOINTS OF THE WORLD

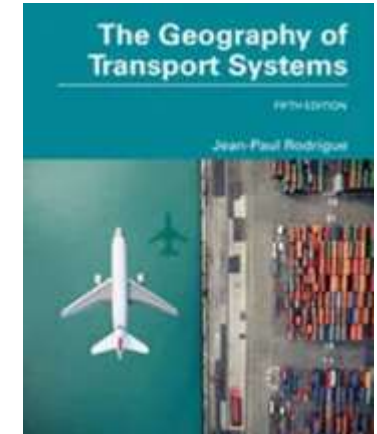
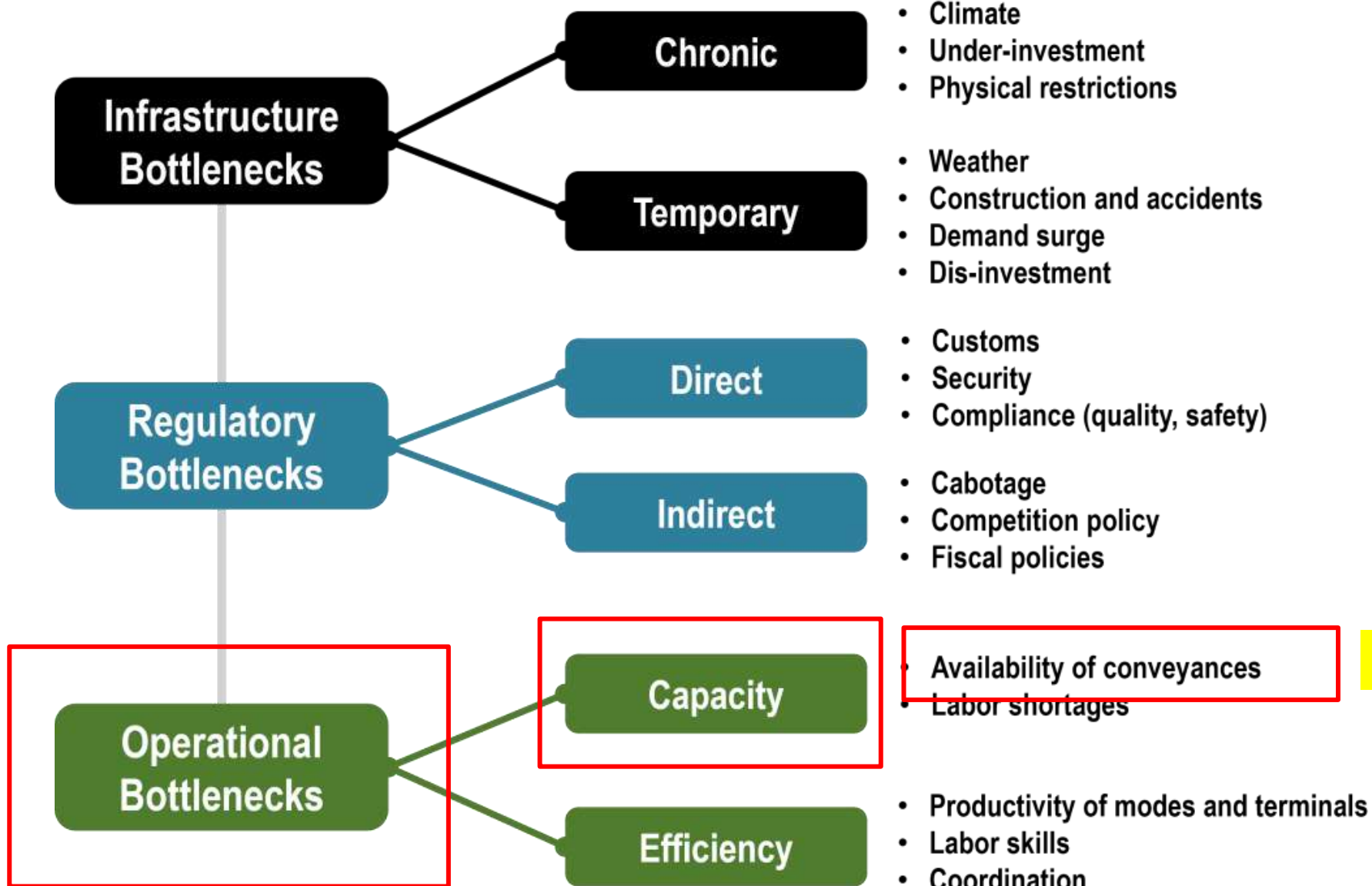
Types of Transportation Bottlenecks



The Geography of Transport Systems
By [Jean-Paul Rodrigue](#)



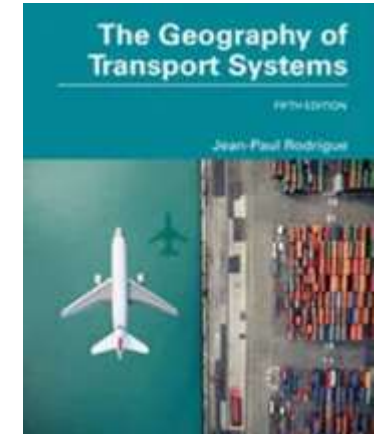
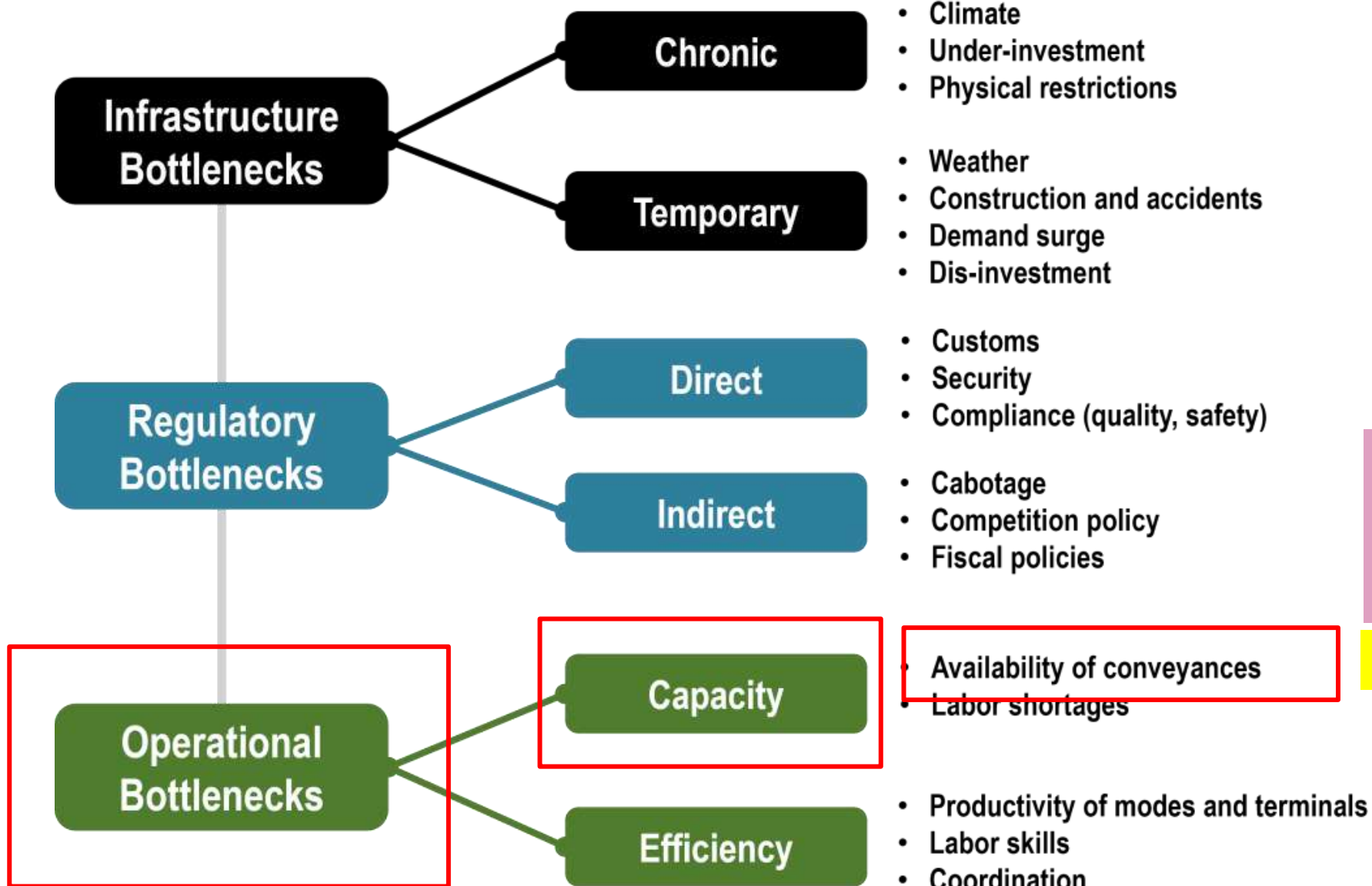
Types of Transportation Bottlenecks



AREA OF FOCUS

The Geography of Transport Systems
By Jean-Paul Rodrigue

Types of Transportation Bottlenecks

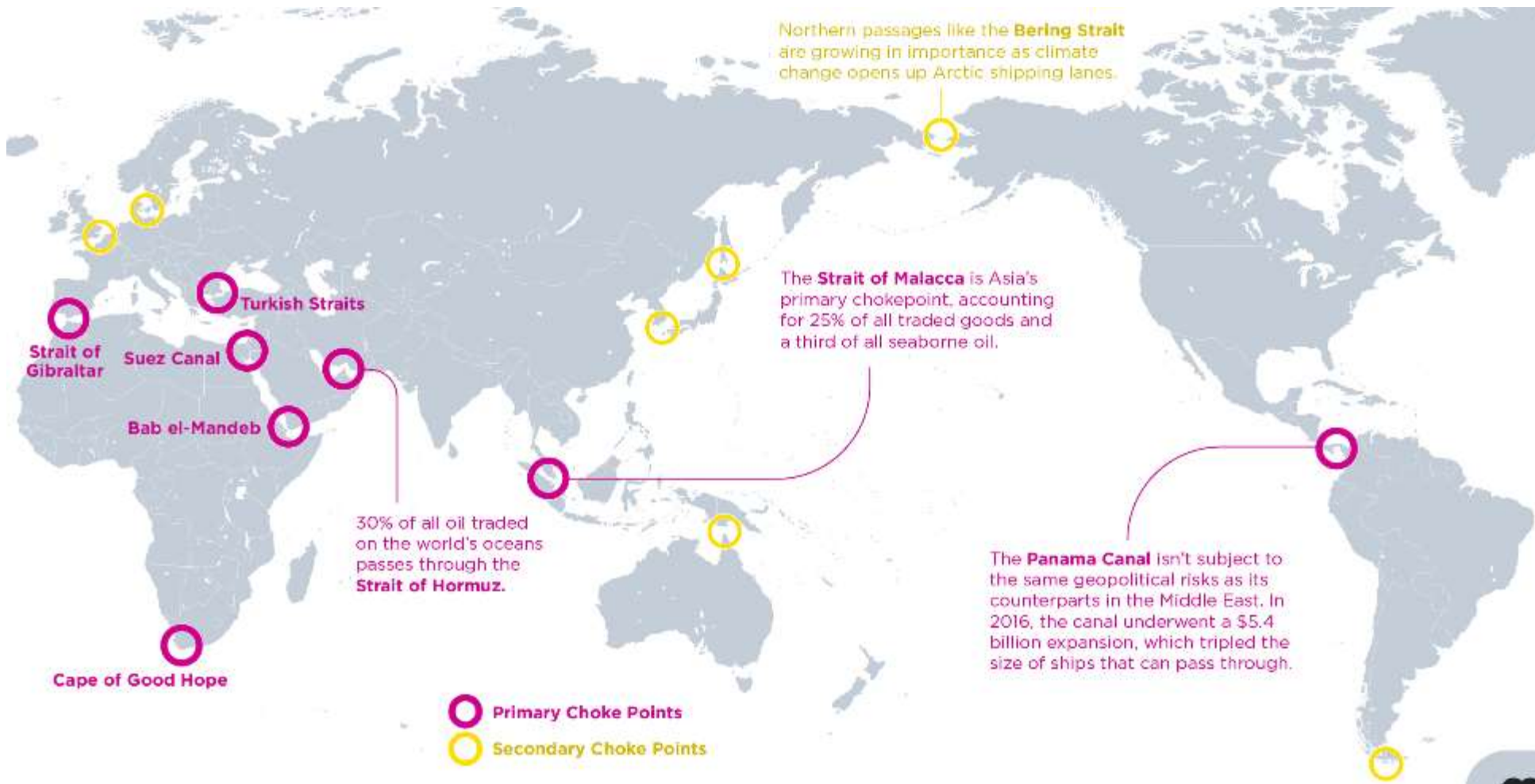


AND IN PARTICULAR,
CHOKEPOINTS IN
SUEZ CANAL &
PANAMA CANAL

AREA OF FOCUS

**The Geography of
Transport Systems**
By Jean-Paul Rodrigue

Part 3: Operational bottleneck Efficiency at Major Maritime Choke Points

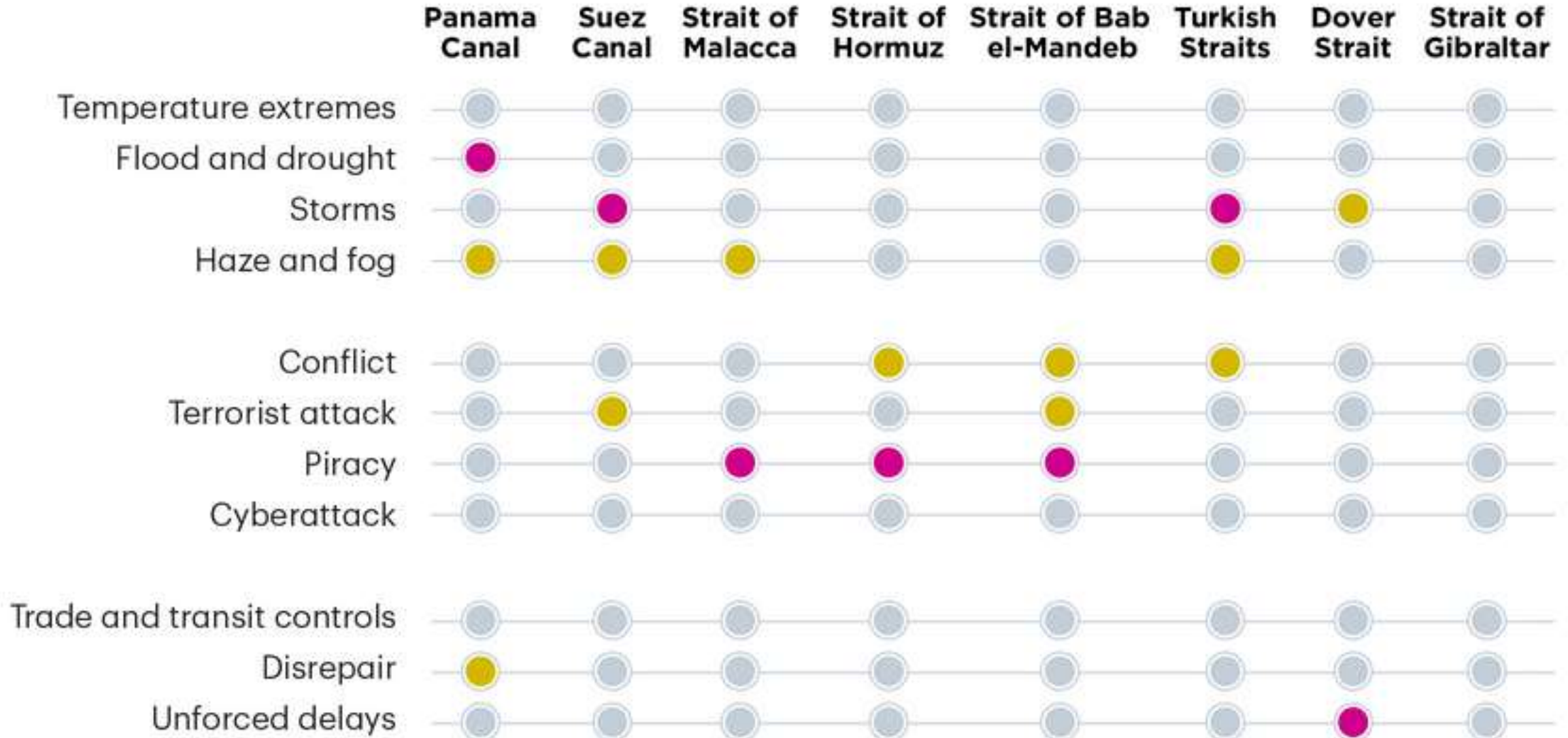


Bottlenecks (or chokepoints) of global maritime shipping have been for decades the object of geostrategic considerations as obligatory points of passage for global trade.

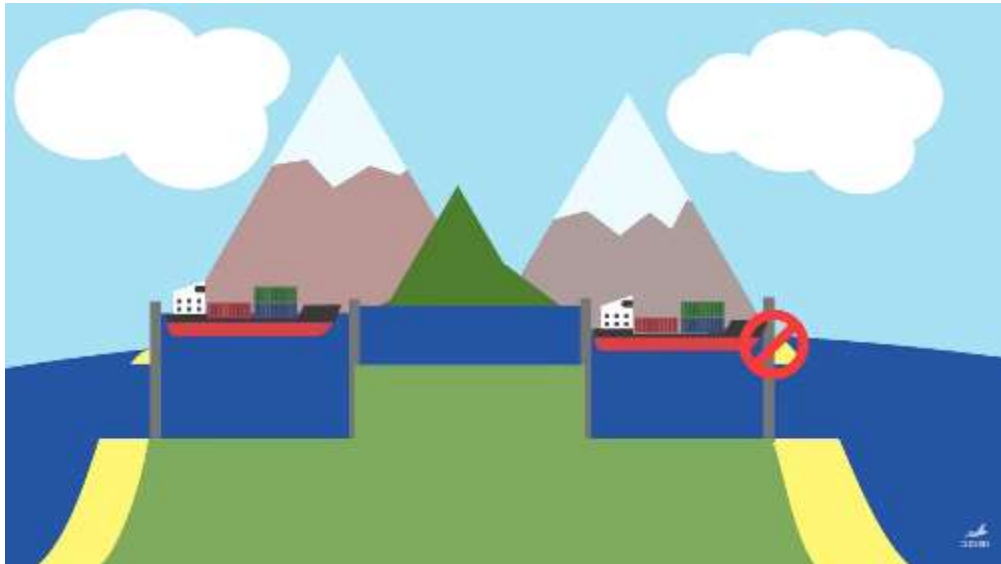
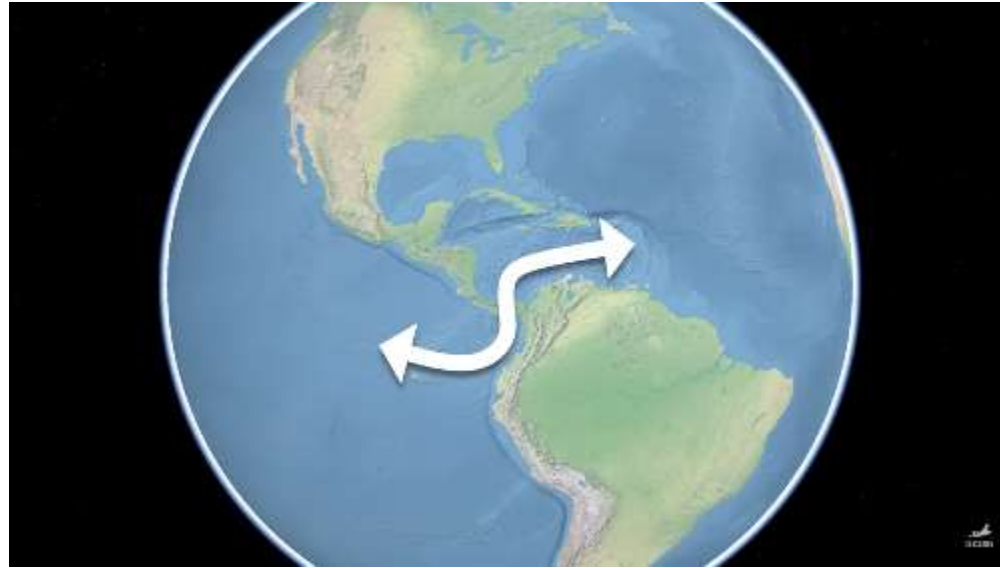
The connectivity they provide is related to reducing maritime shipping distances for international trade and the convergence of shipping services.

RISKS TO GLOBAL TRADE CHOKE POINTS

● High Risk ● Medium Risk ● Low Risk



1) PANAMA CANAL



The Panama Canal is a lock-type canal that provides a shortcut for ships traveling between the Pacific and Atlantic oceans. Ships sailing between the east and west coasts of the U.S. save over 8,000 nautical miles by using the canal—which roughly shortens their trip by 21 days.

12,000

ships cross the canal yearly

2) SUEZ CANAL

The Suez Canal is an Egyptian waterway that connects Europe to Asia. Without this route, ships would need to sail around Africa, which would add approximately seven days to their trips. In 2019, nearly 18,000 vessels, and 1 billion tons of cargo, traveled through the Suez Canal.

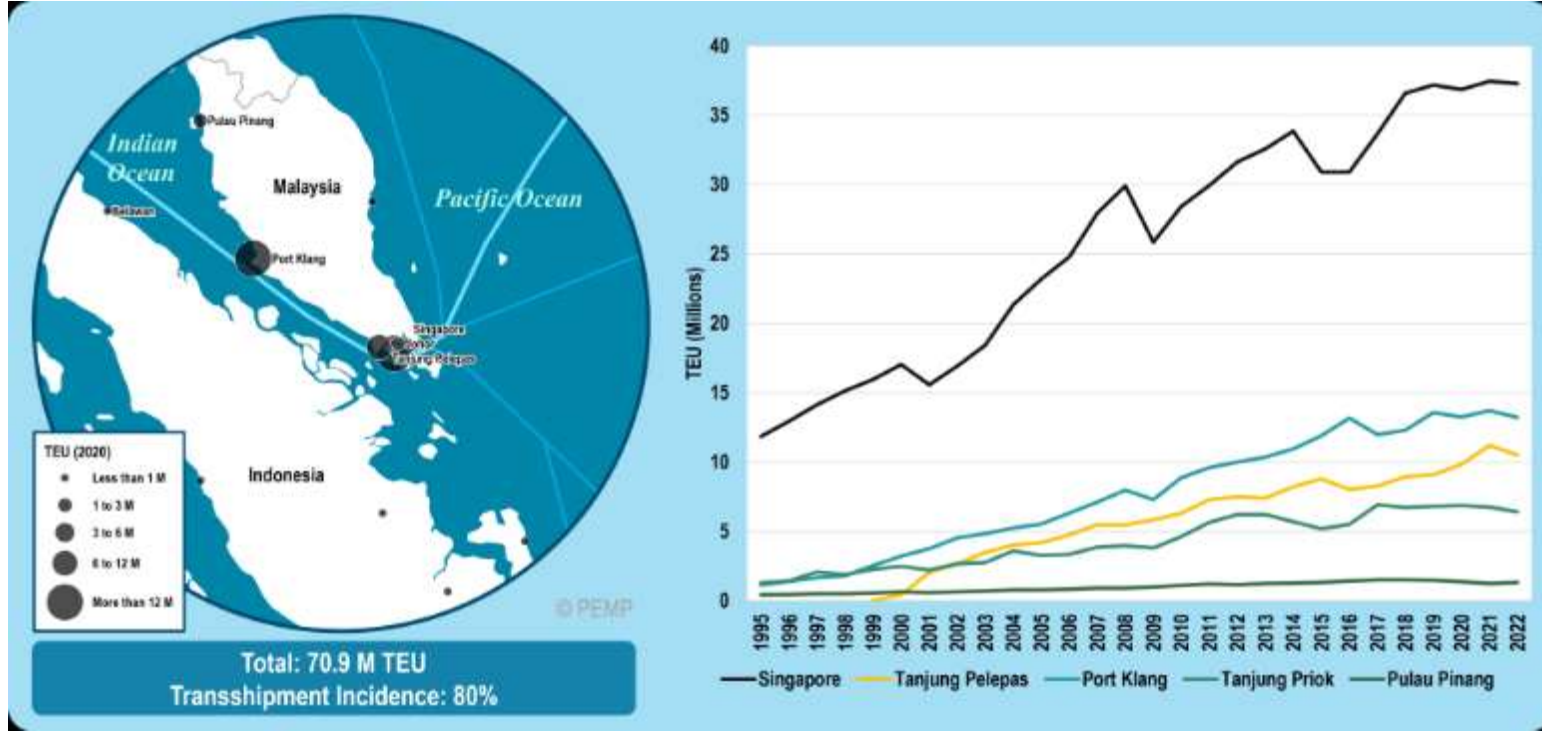
- The connectivity offered by the Suez Canal concerns
 - First its link between the Mediterranean Sea and the Red Sea, supporting deep-sea shipping services.
 - The second connectivity is the interlining and feeder services calling at the transshipment ports of the Mediterranean facade (mostly Port Said).
 - The third, on the Red Sea side, offers limited feeder services and primarily concerns interlining (mostly Jeddah).

18,000
ships cross the canal yearly



12 kilometers
Suez Canal, Egypt
February 2016 - Natural Colors
Contains modified Copernicus Sentinel data (2016)
Processed by Pierre-Marie

3) STRAITS OF MALACCA



30%

World seaborne trade goes through the Straits of Malacca.

> 100,000

The Straits sees more than 100,000 vessels a year compared to

18,000

 Suez

&

12,000

 Panama.

This choke point creates a risky situation for the 100,000 or so ships that pass the straits each year.

The area is also known to have problems with piracy—in 2019, there were 30 piracy incidents, according to private information group ReCAAP ISC.

Nearer to Singapore, there is the Phillips Channel....

1.96 nautical mile; or

3.0 km

Is the most narrow point of the Strait of Malacca

Phillip Channel is **the main and quickest shipping channel between the Indian Ocean and Pacific Ocean**, making it one of the most important arterial shipping lanes in the world

> 100,000

ships cross the Strait yearly

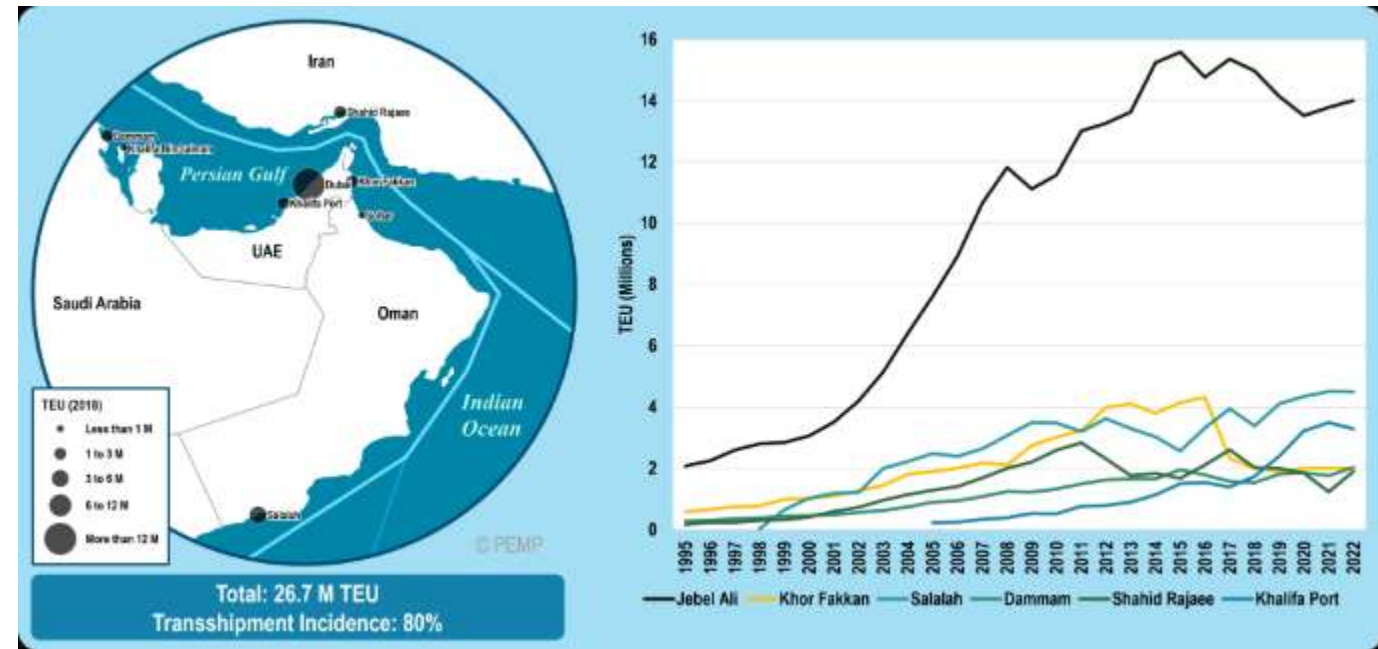


4) STRAITS OF HORMUZ

Controlled by Iran, the Strait of Hormuz links the Persian Gulf to the Gulf of Oman, ultimately draining into the Arabian Sea.

21,000,000

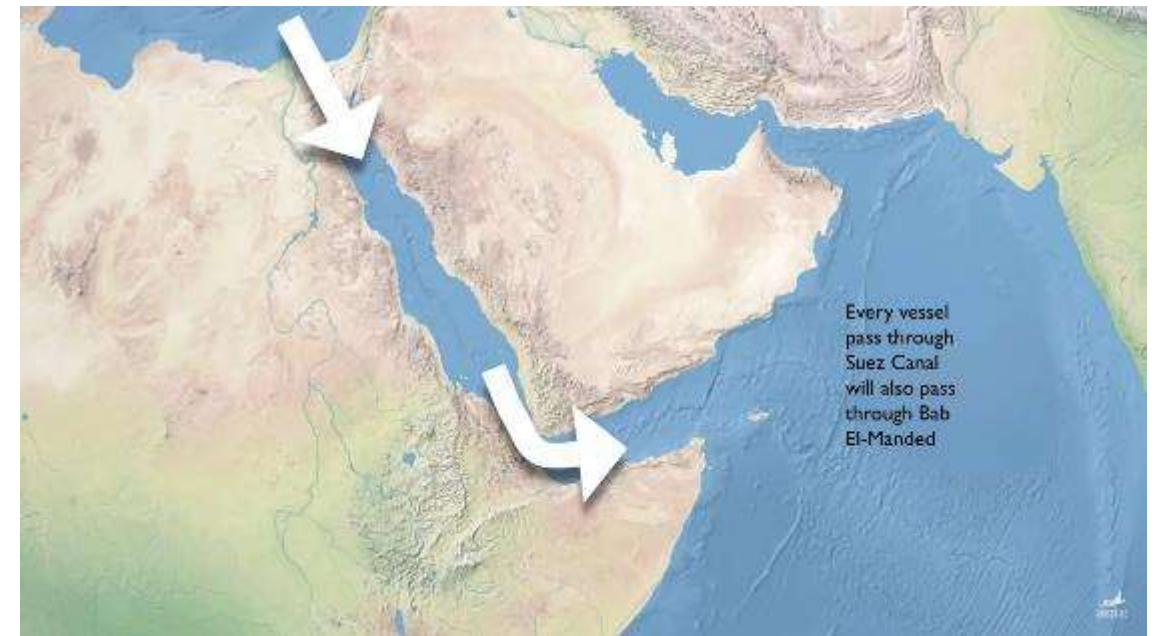
Barrels of oil moves on daily basis via Straits of Hormuz



5) STRAITS OF BEB AL-MANDEP

- The Bab el-Mandeb Strait is another primary waterway for the world's oil and natural gas.
- Nestled between Africa and the Middle East, the critical route connects the Mediterranean Sea (via the Suez Canal) to the Indian Ocean.
- Like the Strait of Malacca, it's well known as a high-risk area for pirate attacks.
- Due to the strategic nature of the region, there is a strong military presence in nearby Djibouti, including China's first ever foreign military base.

Every vessel that pass through Suez Canal will also pass through Beb Al-Mandep





6) TURKISH STRAITS

As maritime waterways, the Turkish Straits connect various seas along the Eastern Mediterranean, the Balkans, the Near East, and Western Eurasia.

Specifically, the Straits allows maritime connections from the Black Sea all the way to the Aegean and Mediterranean Seas, the Atlantic Ocean via Gibraltar, and the Indian Ocean through the Suez Canal, making them crucial international waterways, in particular for the passage of goods coming in from Russia.

In 1936 only 17 vessels passed through Istanbul Straits on average, while that figure stands around 50.000 today, which means **150 vessels** on an average day.



150

ships cross the Strait daily

7) DOVER STRAITS

- The Strait of Dover is considered the busiest shipping route in the world.
- The strait in the narrowest part of the channel between England and France sees
- The strait is 18 to 25 miles (30 to 40 km) wide, and its depth ranges from 120 to 180 feet (35 to 55 metres)

600

ships cross the Strait daily



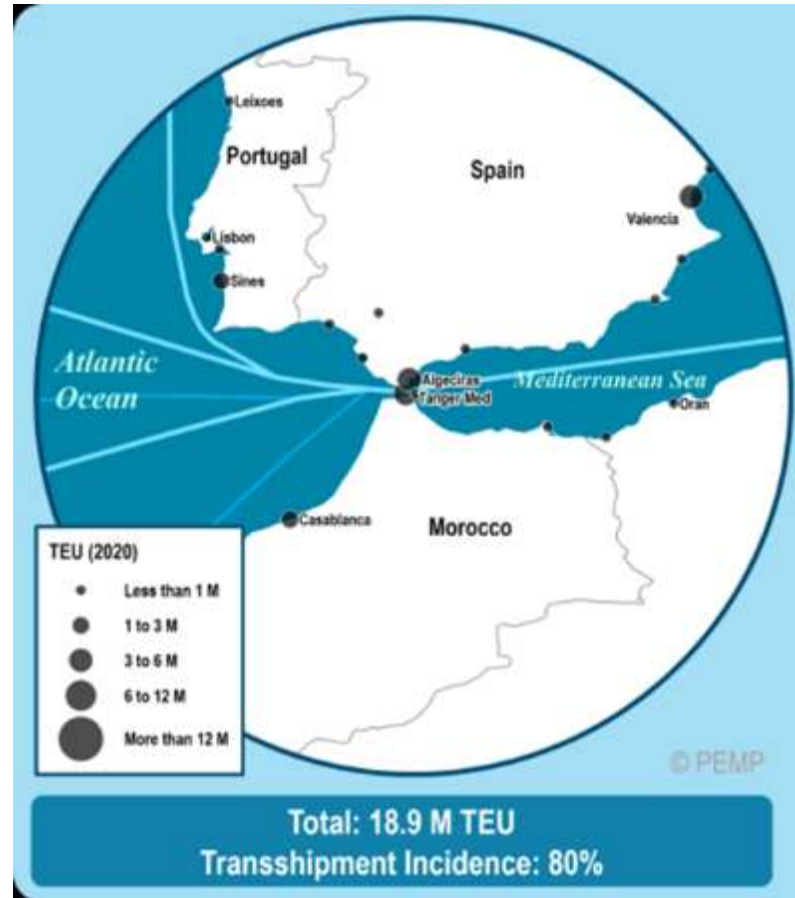
8) STRAITS OF GIBRALTAR

The Strait of Gibraltar is the only natural link between the Atlantic Ocean and the Mediterranean Sea and is one of the busiest waterways in the world.

300

ships cross the Strait daily

The two continents are separated by 13 kilometres (8.1 miles; 7.0 nautical miles) of ocean at the Strait's narrowest point between Punta de Tarifa in Spain and Point Cires in Morocco



The Strait's depth ranges between 300 and 900 metres (980 and 2,950 feet; 160 and 490 fathoms).

9) CAPE OF GOOD HOPE

The Cape eventually became a significant port and waypoint point for sailors traveling from Europe to Asia. However, the opening of the Suez Canal in 1869 provided a much shorter route from the Mediterranean Sea to the Indian Ocean, making the long trip around Africa inefficient

In the aftermath of recent attacks in the Red Sea, vessels are opting to bypass the Suez Canal and navigate around South Africa's Cape of Good Hope.

15 days

Additional days

4,000

Extra miles around Africa,

But, it is considered a safer alternative by many shipping companies.



10) STRAITS OF MAGELLAN

- The Strait of Magellan's importance as an international sailing route declined after the creation of the Panama Canal.
- It is somewhat dangerous due to rocky and narrow passages, tricky currents and winds along the way but it is sheltered from major open ocean storms.

1,500
ships pass yearly



Situational Analysis

- The situation in the **Suez Canal** remains very tense & the situation at the **Panama Canal** is no worse than that.
- All shipping companies are currently avoiding the Red Sea and freight traffic is being channeled exclusively via the Cape of Good Hope.
- The longer route means that ships and containers are unavailable for longer than would be the case if they were travelling through the Suez Canal.
- On the one hand, this results in capacity bottlenecks on the ships.
- On the other hand, equipment is slowly becoming scarce, meaning that some of the available space on the ships cannot be utilised.

IT CREATED MAJOR WORLD CRISIS AND BOTTLENECK IN MARITIME MOVEMENTS



WHAT IS HAPPENING AT PANAMA & SUEZ CANALS?

**Infrastructure Bottleneck Chronic
: The Climate Impact - The flooding of the Panama Canal**

Panama Canal shut after flooding

Heavy rain forces canal to close for the first time in 21 years as flooding in the area kills at least eight people.



9 Dec 2010

Flooding has forced the closure of the Panama Canal for the first time in 21 years and heavy rains were being blamed for at least eight deaths in the Central American country.

More than a thousand people in Panama were evacuated on Wednesday because of what authorities called historic flooding caused by record rainfall.

Infrastructure Bottleneck Chronic or Temporary
: The Climate Impact - The drying the Panama Canal



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ENVIRONMENT · PANAMA

The Panama Canal is enmeshed in a crisis that's disrupting global trade. But it will take years and billions of dollars to fix

BY PETER MILLARD, MICHAEL D. MCDONALD AND BLOOMBERG

January 3, 2024 at 8:39 AM GMT+8



Fixing the Panama Canal won't be easy.

WALTER HURTADO—BLOOMBERG/GETTY IMAGES

Panama Canal drought adds further strain on global trade amid Red Sea crisis

What's happening in the Panama Canal?

The drought hitting Central America is one of the worst in years, which authorities at the Panama Canal say is being driven by the El Nino weather phenomenon and exacerbated by climate change

The man-made canal primarily relies on rainwater to fill Gatun Lake, the principal reservoir that floats ships through the canal's lock system. In November, canal authorities said precipitation for the previous month was the lowest on record for the month since 1950.

26 meters

Minimum water to ensure ship can cross



23 meters

Current water level (early 2024)

>2022

40 ship pass Panama Canal daily

2023

32 ship pass Panama Canal daily

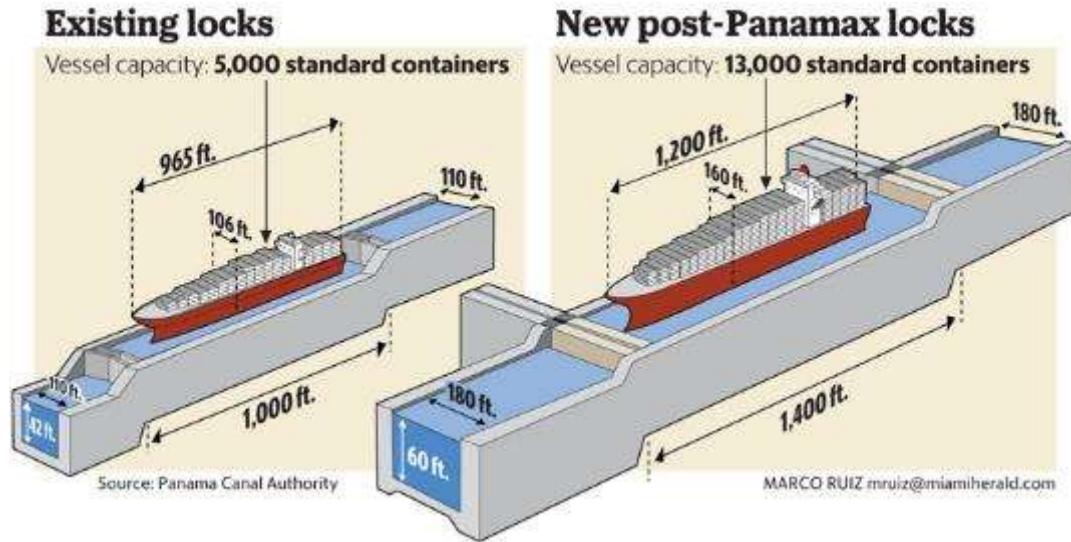
2024

24 ships allowed to pass Panama Canal daily



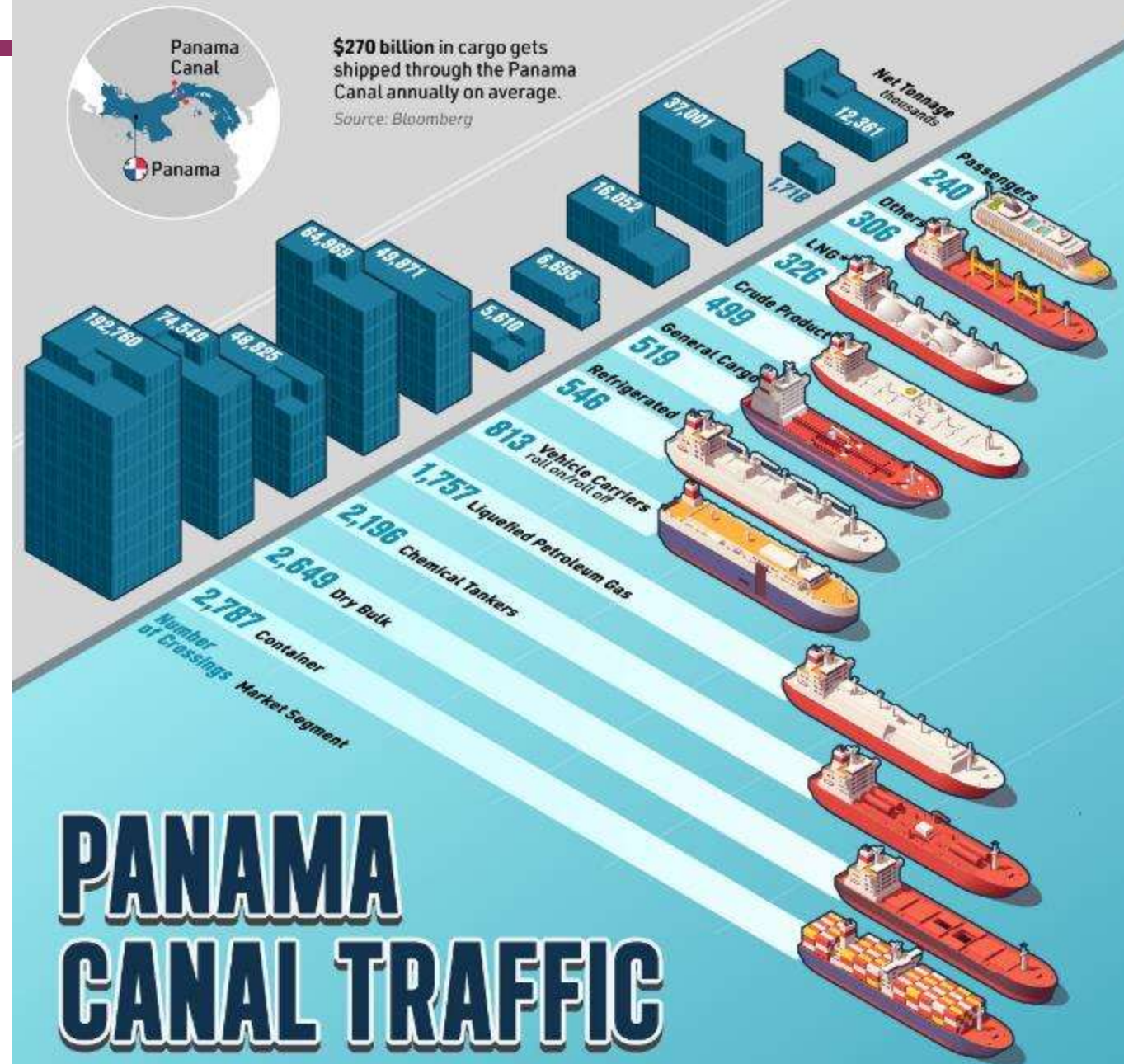
Infrastructure Bottleneck Chronic : Under Investment / physical restrictions

Subject to discussion. It maybe not be case upon initial opening as it was great investment at the point of time



Some questions to ponder....

- Is Panama Canal Build at the Right Size?
- Should there be new expansion plans?



Infrastructure Bottleneck Temporary : Demand surge due to war

Alternative shipping route avoiding Red Sea

— Using Red Sea/Suez Canal	— Around Cape of Good Hope
10,000 nautical miles (18,520km)	13,500 nautical miles (25,002km)
25.5 days*	34 days*

*Based on ultra large container vessel's average speed of 16.48 knots



Where is the demand surge?

The Red Sea has become a focal point of international attention as Yemen's Iran-backed Houthi rebels escalate their assaults on ships, prompting major shipping companies and oil giant BP to suspend trade through this vital waterway

Regulatory Bottleneck Direct : Security threat or war

Navigating Troubled Waters: The Unfolding Red Sea Crisis and Its Global Ripple Effects

The Red Sea is a seawater inlet of the Indian Ocean, lying between Africa and Asia.

Its connection to the ocean is in the south, through the Bab el Mandeb strait and the Gulf of Aden.

To its north lie the Sinai Peninsula, the Gulf of Aqaba, and the Gulf of Suez.



What would happen if the Red Sea was closed

This shows the normal **18,520km** route. It would take roughly **25.5 days** for an oil tanker.

This is the **25,000km** detour tankers would take if the normal route was closed. It would take **34 days**.



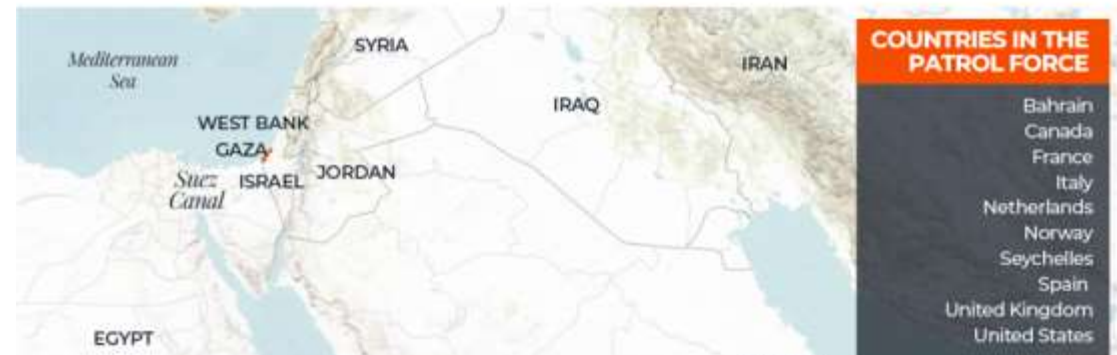
Regulatory Bottleneck Direct : Security threat or war

Shipping lines are still avoiding the Red Sea and sailing around the Cape of Good Hope, sea freight rates will rise again in mid-January, equipment and space are in short supply, and the situation will be exacerbated by the Lunar New Year.

Additional control by the Navy
But is it enough?

Red Sea patrol force to counter Houthi attacks

The United States has announced a 10-nation force to protect trade in the Red Sea after attacks by Yemen's Houthi rebels forced shipping companies to halt operations.

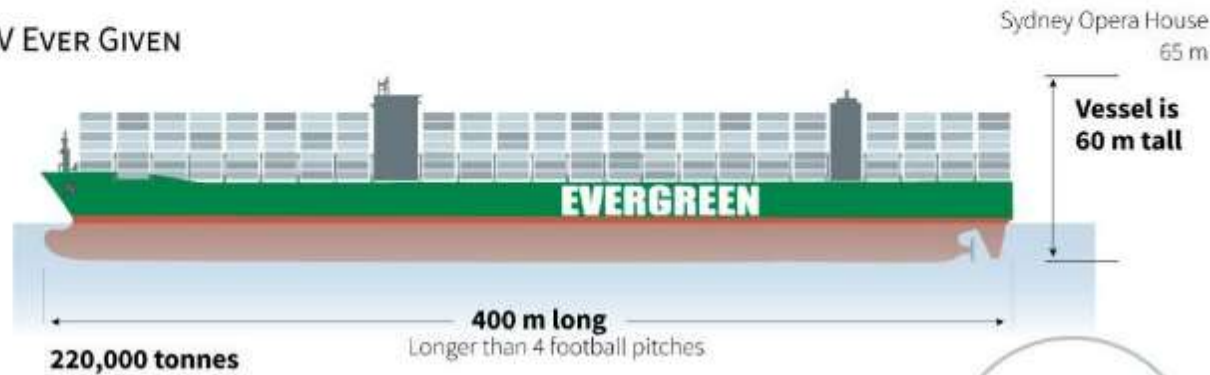


Infrastructure Bottleneck Temporary :Accident @ Suez Canal

MV Ever Given and the Suez Canal

The huge container ship of the Evergreen Marine Corporation has blocked the canal

THE MV EVER GIVEN



SUEZ CANAL
193.3 km long



Sources: fleetmon.com, Suez Canal authorities, Vessel finder

*at a depth of 11 metres



How much did the Ever Given blockage cost?

What the Ever Given's accident cost depends on whom you ask. One estimate, from the maritime data company Lloyd's List, estimated that the ship held up **\$9.6 billion in trade each day**, based on the volume and value of goods flowing eastwards and westwards through the canal

Blocked traffic in the Suez Canal for almost a week in March, 2022

Triggered a new surge in container spot freight rates

USD900 million holdup cost for future possible claims by the Suez authority

WHAT IS
HAPPENING IN
PANAMA
& SUEZ CANAL
ONLY
ACCELERATE
OPPORTUNITY

危机

WEIJI = CRISIS

“The Chinese use 2 brush strokes to write the word “crisis”.
1 brush stroke stands for danger; the other for opportunity.
In a crisis, be aware of the danger, but recognize the opportunity.”

ALTERNATIVES TO THE PANAMA & SUEZ CANALS

PART 1: THE SEA SOLUTION

PART 2: THE AIR SOLUTION

PART 3: THE RAIL SOLUTION

PART 4: THE ROAD SOLUTION

PART 5: OTHER BOTTLENECK SOLUTIONS... ELSEWHERE THE WORLD

PART 6: THE TRADE & TRANSPORT INTEGRATION SOLUTIONS TO THE BOTTLENECK



PART I

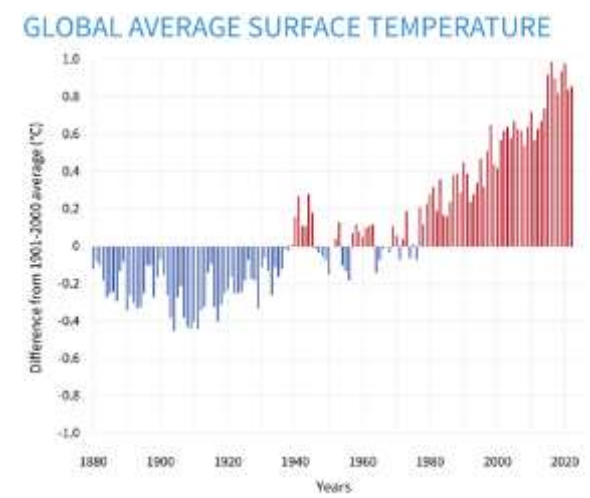
THE SEA SOLUTIONS TO BOTTLENECK PROBLEM

THE ARTIC ROUTE

Arctic shipping routes are the maritime paths used by vessels to navigate through parts or the entirety of the Arctic.

There are three main routes that connect the Atlantic and the Pacific oceans:

- the Northern Sea Route,
- the Northwest Passage,
- the Transpolar Sea Route.

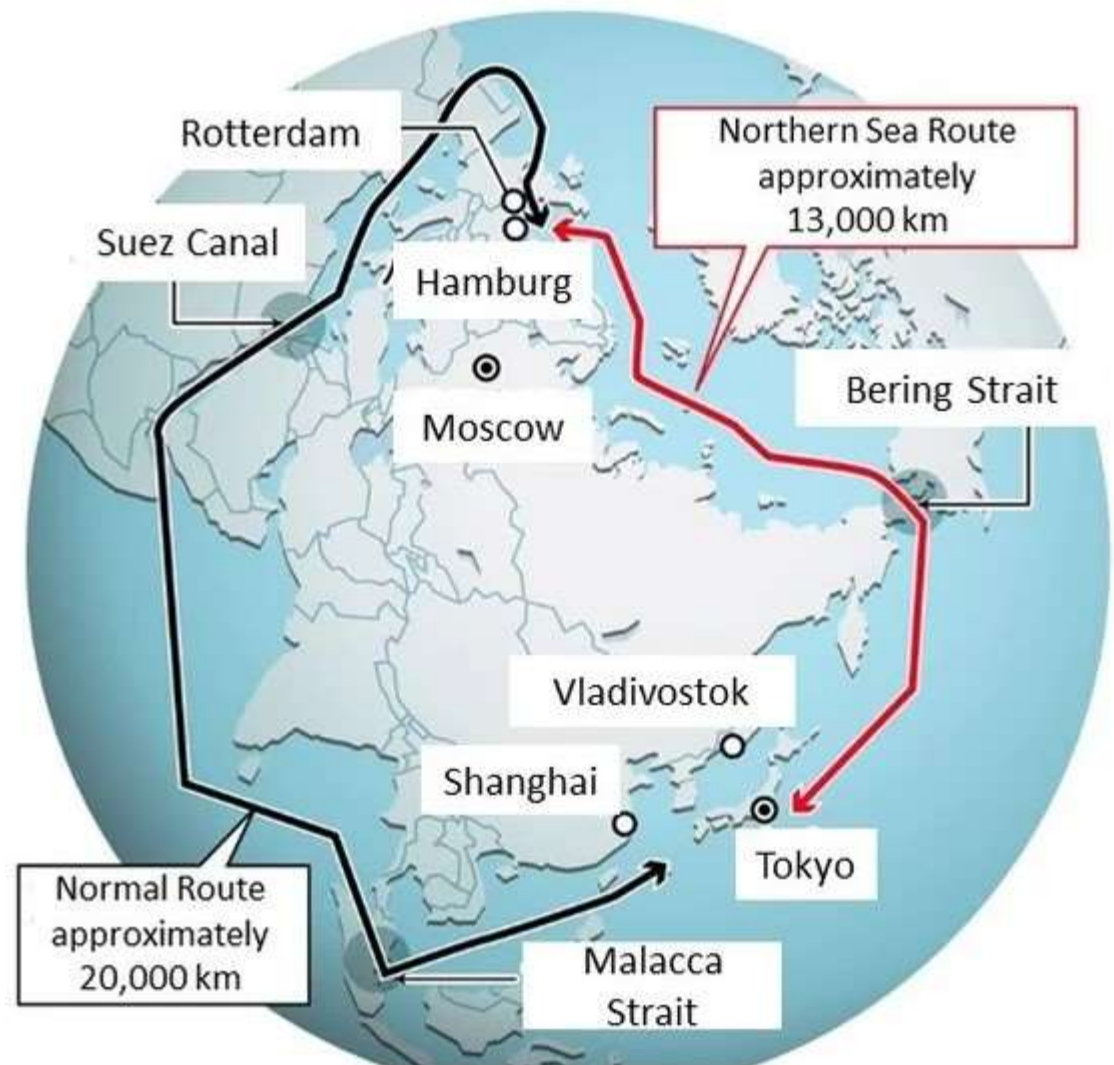


Sea (1a)

The opening of the Russian Northern Sea Route and the Canadian Northwest Passage to commercial traffic could pose an alternative to the canal in the long term.

Warmer waters in the Arctic Ocean could open the passage for an increasing number of months each year, making it more attractive as a major shipping route.

Northern Sea Route



Northwest Passage



Northern Sea Route: A New Shipping Highway?

Maersk, the world's biggest shipping company, is preparing to send a cargo vessel through the Russian Arctic for the first time. This is how the passage compares to the traditional Suez Canal route.

- Northern Sea Route
- Suez Canal Route

Taking the Northern Sea Route can cut the journey times by up to two weeks.

The passage is now feasible for three months a year, but this might change due to even more of the ice melting.

The *Maersk Esmeralda* departed Vladivostok and is stopping in Busan, South Korea, before making its trial voyage.

The trade and Suez Canal Route is more than 8,000 kilometers longer than the Northern Sea passage.

Red Sea Shipping
Red Sea Liberty

© 2015 Polaris | Travel High North News AP

BY THE NUMBERS

2035 Summer sea ice around Siberia will be completely melted

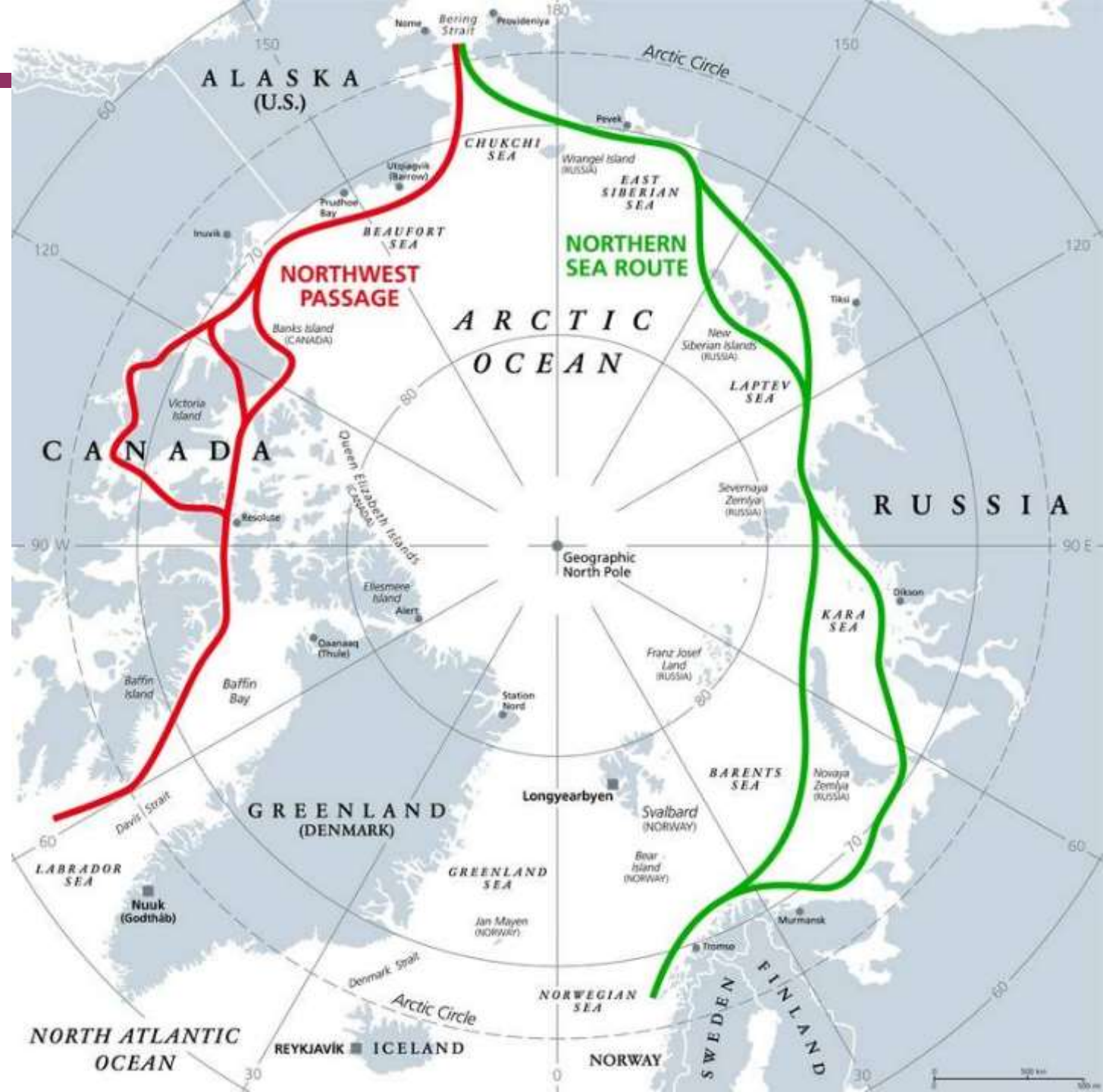
Between Shanghai & Rotterdam

3,000 nautical miles saving via Suez

6,200 nautical miles saving via Cape

40% less fuel than if it used the Suez route

80% fewer emissions than if it used the Suez route



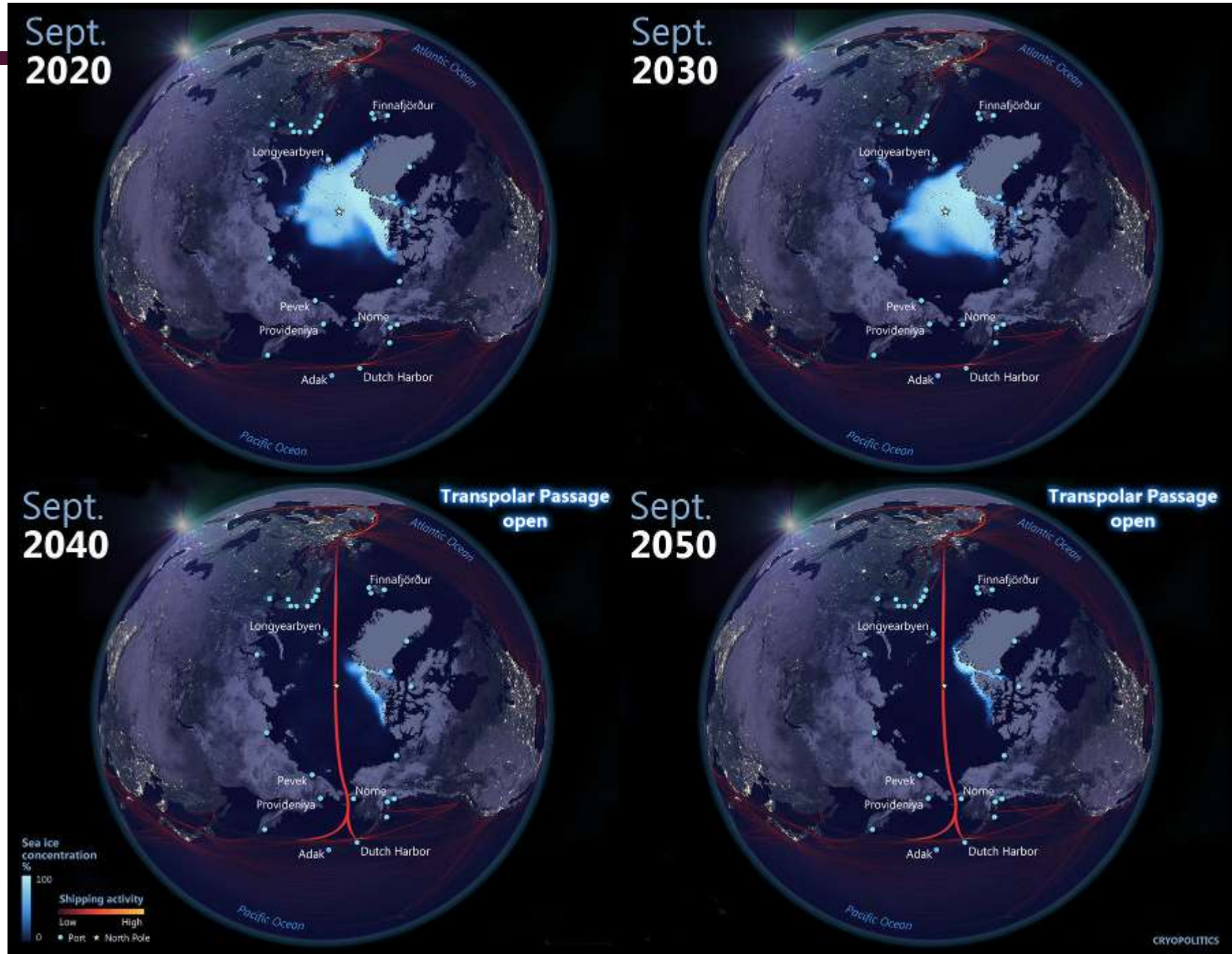
Transpolar Passage

The Arctic Shipping Route No One's Talking About

By mid-century, a Transpolar Passage will open across the Arctic Ocean via the North Pole.

Is Arctic Navigation viable?

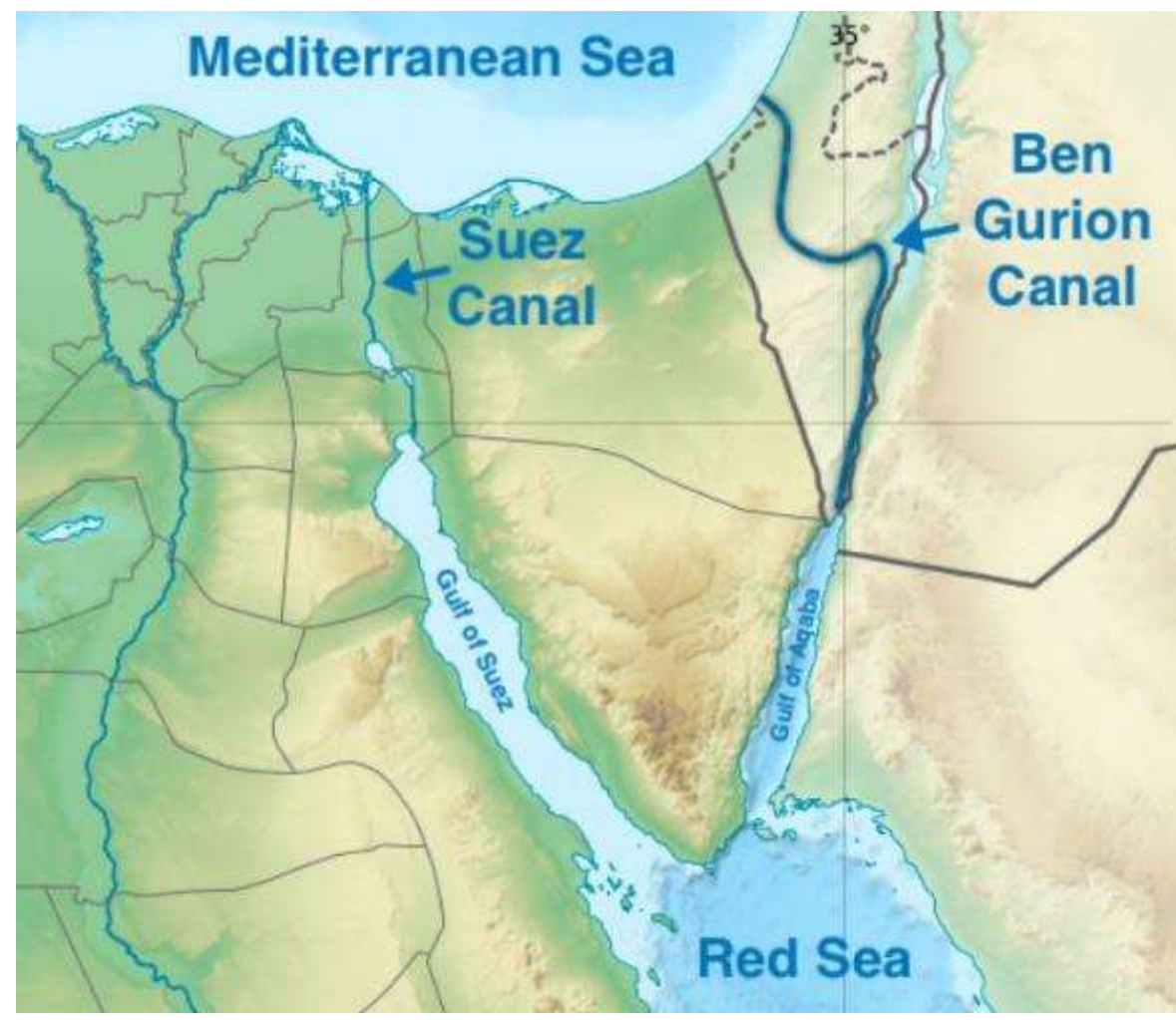
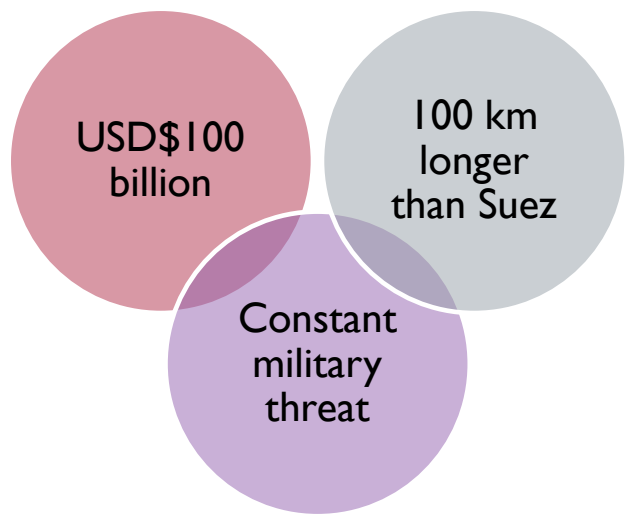
Arctic Ocean is not fully navigable as much of it is situated around the North Pole and remains frozen



the Ben Gurion Canal

- It would be 10 meters deeper than Suez.
- Ships with a length of 300 meters and a width of 110 meters could pass through the canal, which is the size of the world's largest ships.
- If realized, the Ben Gurion Canal will be almost one third longer than the 193.3 km long Suez Canal – 292.9 km

What is stopping from constructing the canal?



NICARAGUA CANAL

In the early 1900s, the United States had two options: build a canal across Nicaragua, or, through Panama.

The US Senate voted for the Panama option. It was a relatively easy choice – the route was shorter and, unlike Nicaragua, there wasn't a string of active volcanoes in the way to contend with.

Status – face huge resistance form the local people as it will be huge environmental impact and drinking water

Possibilities – it will never be build





PART 2

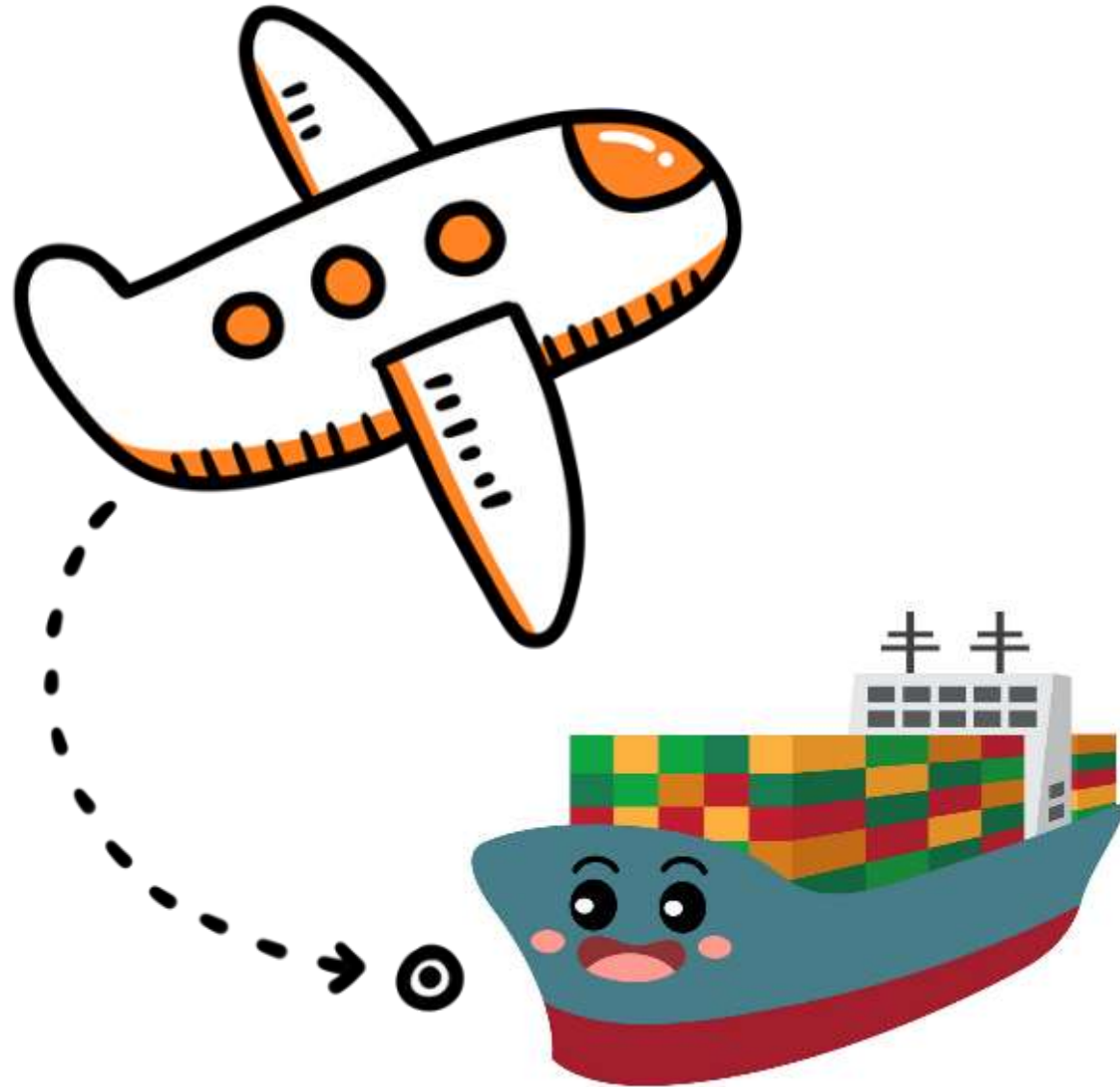
THE AIR SOLUTIONS TO BOTTLENECK PROBLEM

AIR IN SUBSTITUTE TO
SEA MOVEMENTS?

NEEDLESS TO SAY, IT IS
ALWAYS POSSIBLE

BUT...

HOW MUCH ARE YOU
WILLING TO PAY TO
THE SERVICES?



Retailers and manufacturers are increasingly seeking to fly their goods as attacks on vessels in the Red Sea raise ocean freight costs, prolong transport delays and force companies to find alternative routes.

Air cargo volumes from Vietnam to Europe – a major trade route for clothing exports – rose 62 per cent in the week ending January 14 and air freight rates increased by 10 per cent compared to the previous week.



Precondition of shifting from sea to air...

A company's decision to opt for air freight will be determined by the urgency of the situation

Transporting goods by air also comes with a high environmental cost

Air freight is a lot more expensive and has limited carrying capacity versus container shipping

Some companies may temporarily shift some of their shipments to air

PART 3

THE RAIL SOLUTIONS TO BOTTLENECK PROBLEM

RAIL ADVANTAGES

- FEWER GREENHOUSE GAS EMISSION
- VERY HIGH SAFETY
- VERY HIGH PLANNABILITY
- ABLE TO CONNECT INTERMODALITY



RAIL DISADVANTAGES

- LOW LEVEL OF FLEXIBILITY IN TERMS OF TIME AND LOCATION
- RELATIVE HIGH TRANSPORT COST
- NOISE EMISSION
- NON-UNIFORM STANDARDS
- VERY INVESTMENT IN INFRASTRUCTURE

The World's Longest Train Journeys

Longest direct rail journeys that do not involve changing train (by distance)



	Kilometers	Miles
Moscow to Vladivostok	9,259	5,753
Toronto to Vancouver	4,466	2,775
Shanghai to Lhasa	4,373	2,717
Sydney to Perth	4,352	2,704
Dibrugarh to Kanyakumari	4,237	2,633
Emeryville to Chicago	3,924	2,438
Paris to Moscow	3,215	1,998
Darwin to Adelaide	2,979	1,851

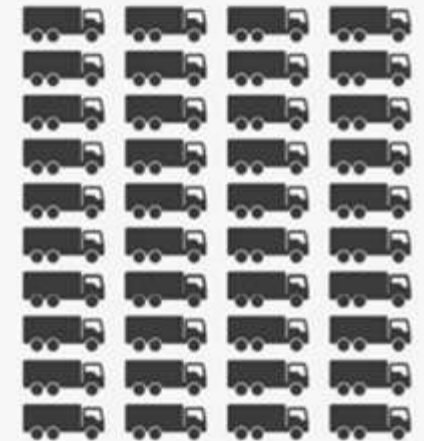
80%

of all freight train kilometers in Europe are covered **electrically**.

Rail is safe

Rail is greener. Preferring rail transport means contributing to climate neutrality by 2050, together with the European Union. Emissions, less than 1% are due to rail, while only 10% of passengers and goods are transported by train.

40 & MAYBE MORE LORRIES



= 1 TRAIN



THE SAFETY OF DIFFERENT MODES OF TRANSPORT IN EUROPE⁽¹⁾ NUMBER OF DEATHS PER BILLION PASSENGER-KILOMETRES



PLANE
0.06 deaths



TRAIN
0.1 deaths



BUS/COACH
0.23 deaths



CAR
2.7 deaths



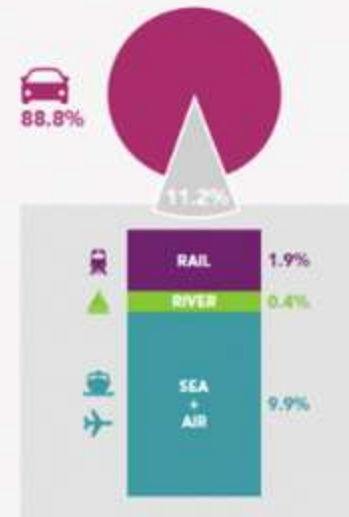
MOTORCYCLES
38 deaths

RAIL TRANSPORT: THE TRANSPORT METHOD THAT CONTRIBUTES THE LEAST TO AIR POLLUTION⁽²⁾

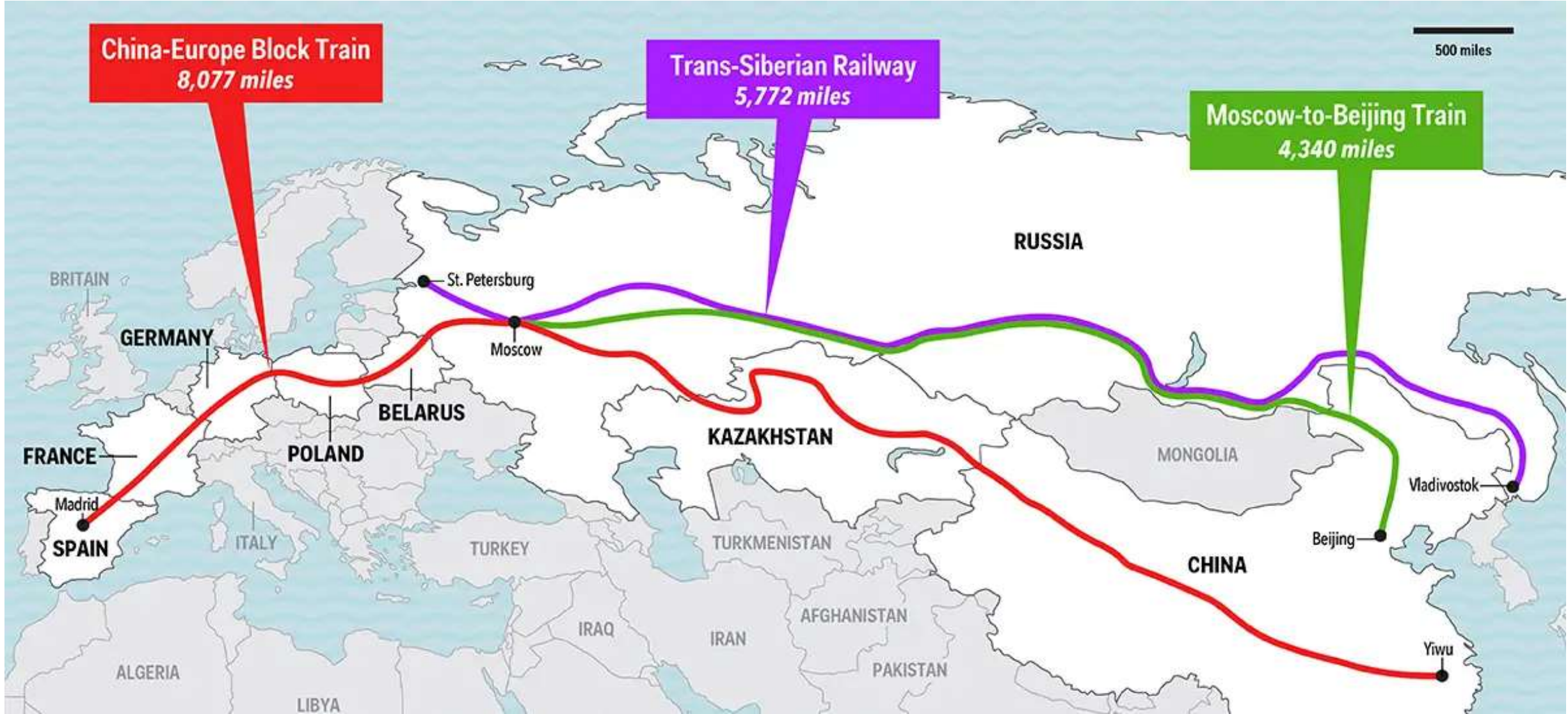
Fine particulate matter (PM_{2.5}) emissions by mode of transport in France.



Nitrogen oxide (NO_x) emissions by mode of transport in France.



ASIA TO EUROPE RAIL



CASE STUDY I

ACTUAL DHL TRAIN ROUTE

I) ONLY 13 DAYS FORM XIAN TO HAMBURG

II) ONLY 22 DAYS FROM XIAN TO BUDAPEST



Name	Xi'an Eastbound Speed Train	Xi'an Westbound Speed Train	Chengdu Trains
Origin	Duisburg, Hamburg, DE	Xi'an, Shaanxi, CN	Chengdu, Sichuan, CN
Destination	Xi'an, CN	Hamburg & Duisburg, DE	Malaszewicze, PL; Hamburg & Duisburg, DE; Budapest, HU
Transit Time	13 days -Xi'an	13 days – Hamburg / Duisburg	14 days – to Malaszewicze 20 days – to Hamburg & Duisburg 22 days – to Budapest
ETD	Weekly	Twice per week	Twice per week
Route	West Corridor: DE-PL-BY-RU-KZ-CN	West Corridor: CN-KZ-RU-BY-PL-DE	West Corridor: CN-KZ-RU-BY-PL
Remark	<ul style="list-style-type: none"> • New fast service from Europe to China • Based on successful WB speed train model operating since November 2022 	<ul style="list-style-type: none"> • Fastest railway service to Germany and Western Europe • 2 departures per week 	<ul style="list-style-type: none"> • Multiple destinations in Europe • Competitive rates • Suitable for South China

Cross-border Situation Update

Standard Railway Borders in Europe & China



Railway track width & main hubs across the route:

- 1435 mm railway (standard)
- 1520 mm railway (wide)
- 1435-1520 railway borders
- 1520-Road hubs in Europe
- 1520-Sea hubs

Transit times via the main cross-border points



Capacity, Rates and Equipment situation

China / Europe <-> Turkey & Central Asia



Remarks

- Service from China/Europe to Kazakhstan, Central Asia and South Caucasus (e.g. Azerbaijan) available
- Direct westbound & Eastbound service between China/Europe & Turkey – on request; connection via Poland/Hungary regularly available, as per previous page
- Middle Corridor (2 Seas via Caspian and Black sea) – available on demand



Capacity ● Very tight ● Tight ● Available

Rates ⊕ ⊕ Strong increase ⊕ Moderate increase ⊖ No change ⊖ Moderate decline ⊖ ⊖ Strong decline

Capacity, Rates and Equipment situation

China-Europe Westbound & Eastbound



Remarks

- Space is tight due to Red Sea crisis
- Shipping container equipment available in China and in Europe
- Fast Rail Terminal to Terminal transit times of 13-14 days to Poland, 18-20 days to Germany enable 20-26 days Door to Door Transit times China to Europe
- Xi'an speed train available with 13 days of transit time to Duisburg
- Trains operating smooth and secure in transit from Chinese border via Kazakhstan, Russia and Belarus to Poland border within 6-8 days

Remarks

- Space tight due to reduced number of Eastbound trains in general; DHL rail team manages to expedite customers' containers timely
- Various express trains continue to operate with lead times of 12-15 days from Germany to China
- Quick booking to Train departure time: Train departure within 7-12 days from booking date, pickup within 1-2 days after booking date
- Available rail/Short-sea feeder connections from France, Spain, Portugal, Italy, Hungary, Scandinavia, UK with European departure hubs

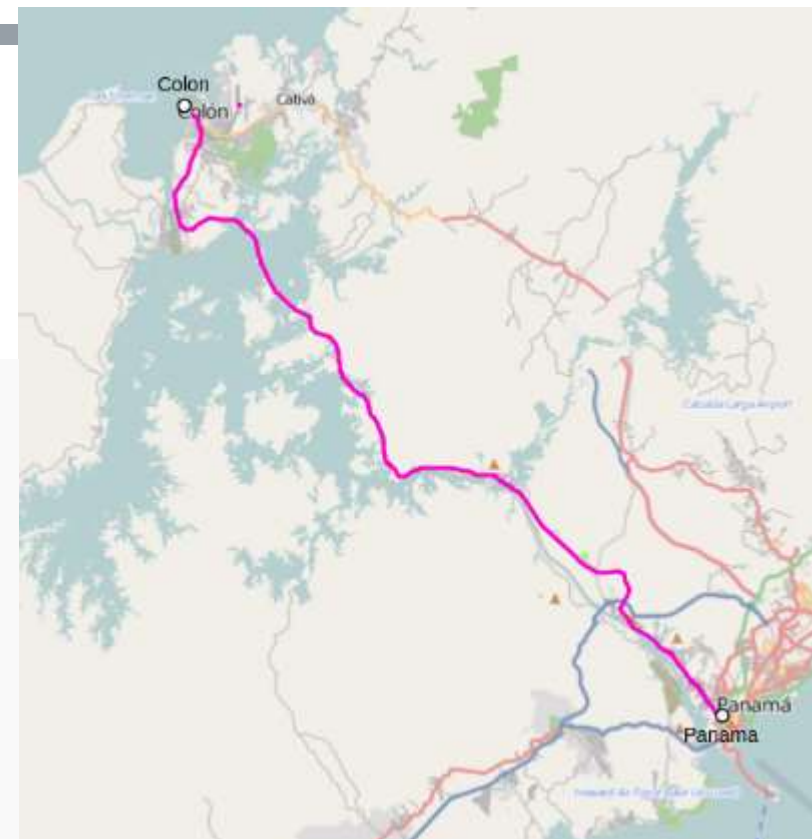
Capacity ● Very tight ● Tight ● Available

Rates ⊕ ⊕ Strong increase ⊕ Moderate increase ⊖ No change ⊖ Moderate decline ⊖ ⊖ Strong decline

PANAMA CANAL RAILWAY

The **Panama Canal Railway** is a railway line linking the Atlantic Ocean to the Pacific Ocean in Central America.

- The route stretches 47.6 miles (76.6 km) across the Isthmus of Panama from Colón (Atlantic) to Balboa (Pacific, near Panama City)
- Opened in 1855, the railway preceded the Panama Canal by half a century; the railway was vital in assisting the construction of the canal in the early 1900s.
- With the opening of the canal, the railroad's route was changed as a result of the creation of Gatun Lake, which flooded part of the original route.
- Following World War II, the railroad's importance declined and much of it fell into a state of neglect until 1998, when a project to rebuild the railroad to haul intermodal traffic began; the new railroad opened in 2001.



Maersk will use trains on the Panama Canal Railway that runs adjacent to the canal to bypass the waterway entirely.

Maersk and others shipping company were already using the railway to temporarily offload container weight from large ships before passing through the waterway to adhere to the drought-related draft restrictions.

Isthmus of Tehuantepec's Interoceanic Corridor (CIIT) MAJOR THREAT TO PANAMA CANAL?

Mexico aims to compete with Panama Canal by using cargo trains



With drought at the Panama Canal and conflicts in the Red Sea and other global shipping lanes disrupting trade, officials in Mexico predict a golden opportunity for the country's \$2.8 billion Isthmus of Tehuantepec's Interoceanic Corridor (CIIT) project.

1.4 million TEU
Vs Panama Canal,
which handles 8
million TEUs
annually.

10 Mega
Industrial Park

2023
Tested &
Completed

Construction of
1.6km long & 2.3m
high breakwater

Lowering VAT from 16% to 8%
and income tax from 30% to 20%.

303-kilometre railway
From Gulf of Mexico to Pacific
Ocean



CENTRAL BI-OCEANIC RAILWAY

A transnational railway linking the Pacific and Atlantic oceans across South America talks have been intensifying in recent months

The megaproject is expected to completely overhaul South America's trade and political landscape, and put landlocked Bolivia at the heart of future negotiations.

3,000km

from the port of Puerto Santos (Brazil) to Puerto de Ilo in Peru

1,700km

crossing Bolivian territory in between

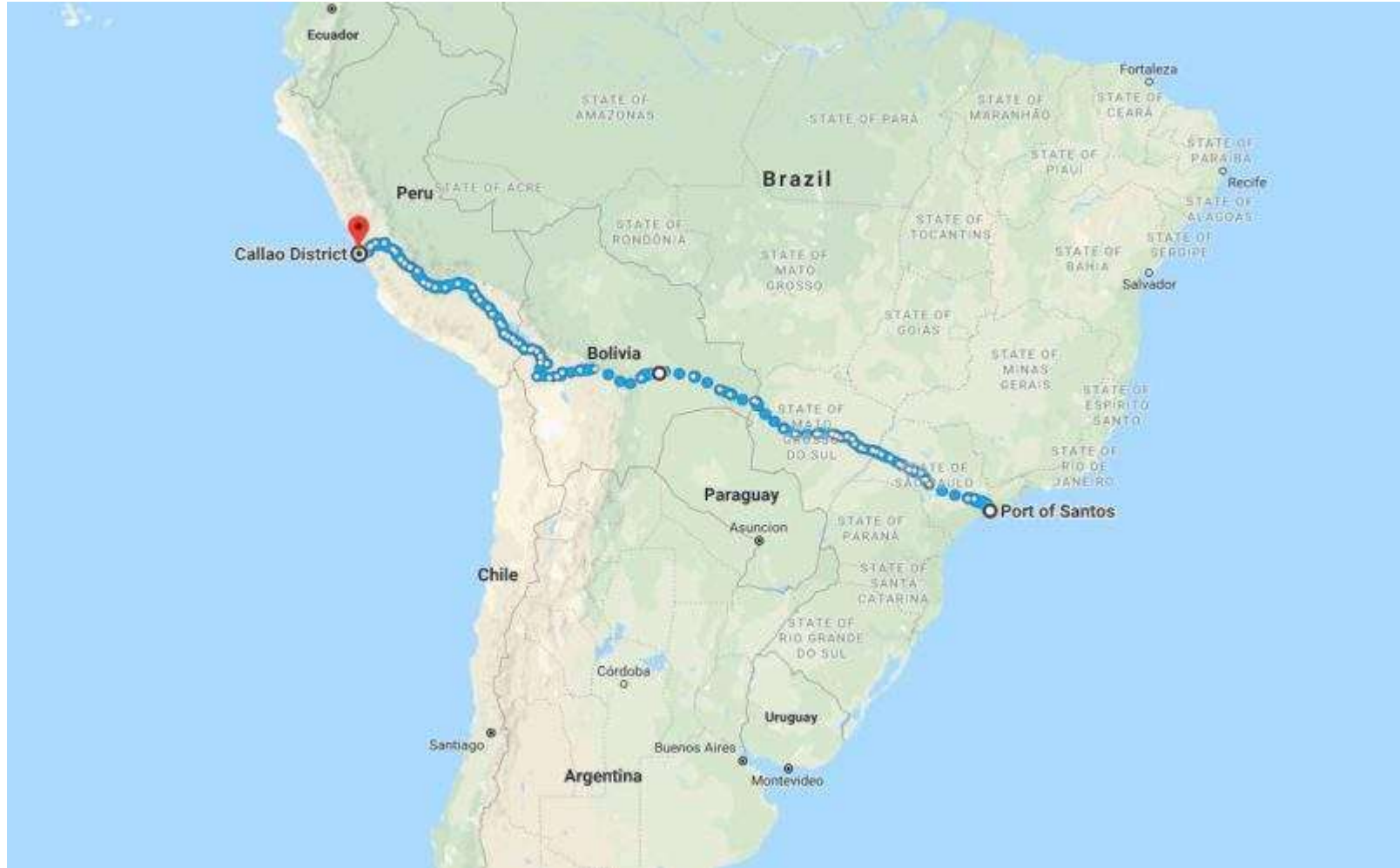
7,000,000

people

10,000

tons of cargo,

“with great possibilities of rapid increase”.



BRAZIL-PERU TRANCONTINENTAL RAILWAY

Same like Central Bi-Oceanic Railway
Brazil to Peru

5,000 km

to connect the hinterland of Brazil to the Pacific Ocean on the Peruvian coast

Project Potential Impacts

- 1) Environments as it cut thro amazon rainforest
- 2) Indigenous people resistance
- 3) Financial sustainability
- 4) Legal issues



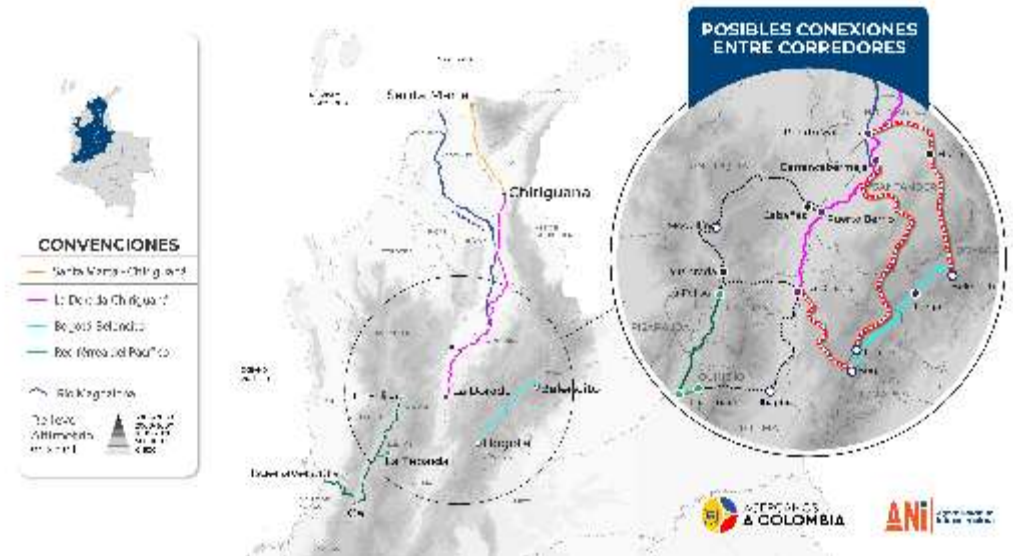
COLUMBIA – INTEROCEANIC TRAIN

Connecting the mountainous terrains of Columbia

Currently rail is disjointed

The corridor would achieve "26% lower transportation cost and the possibility to link 76% of GDP to a rail. The country has the opportunity to connect the Colombian Pacific and the Atlantic, connect the two oceans, and we are already making it a reality.

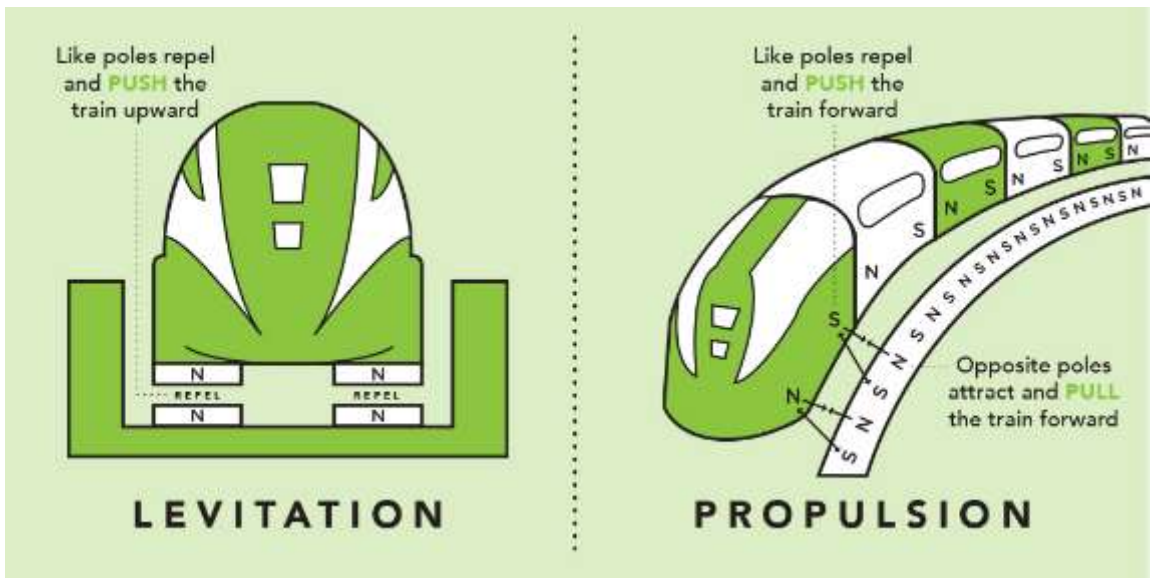
Status – feasibility studies approved



UNDERGROUND MAGLEV TRAIN IN COLUMBIA

Underground tunnel would use Maglev (derived from magnetic levitation) technology to transfer containers in less than 30 minutes between fully automated ports on the Atlantic and Pacific coasts of northern Colombia.

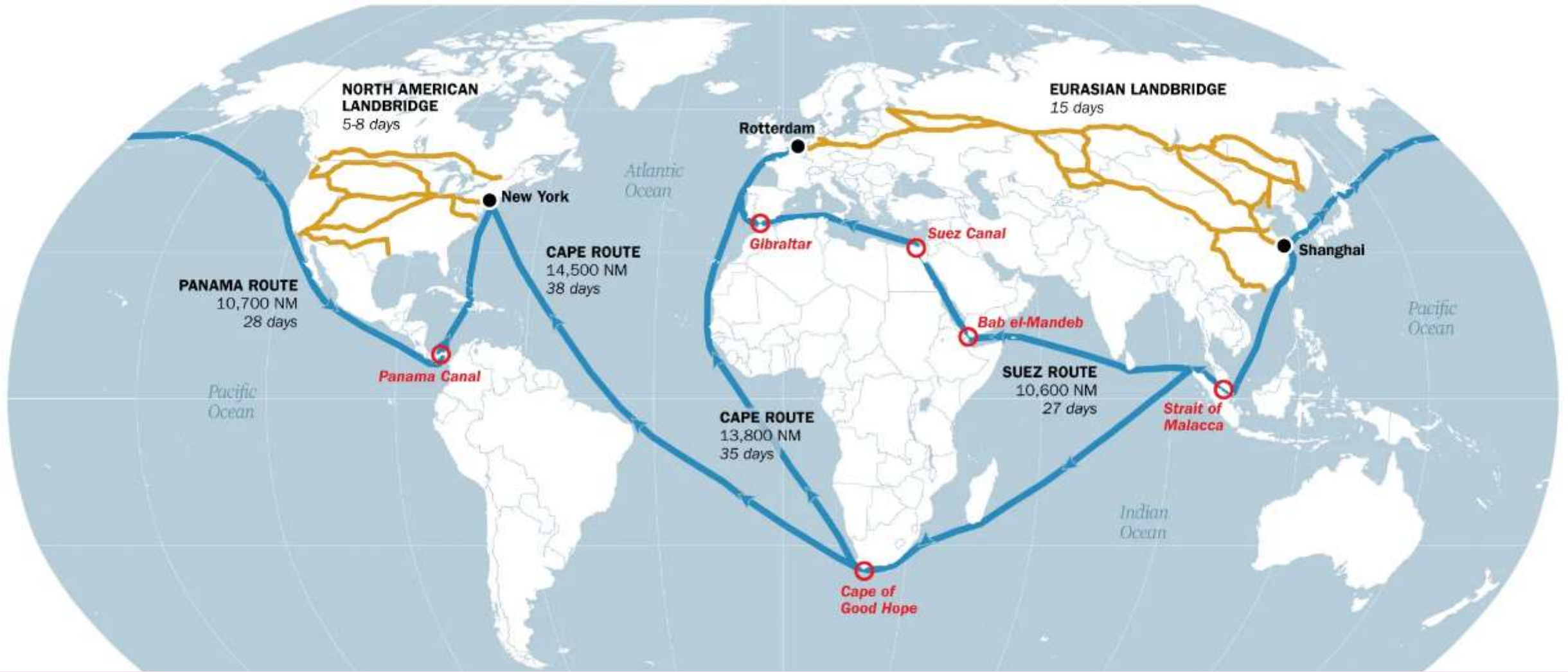
This 80-mile “green shipping corridor” would help place the shipping sector on a credible pathway to achieve zero emissions, said the company in a press release.



The Maglev and linear induction propulsion-based technology would be entirely electric and non-polluting.

PART 4

THE ROAD SOLUTION TO THE BOTTLENECK PROBLEM



There are alternatives of course. Shippers with New York-bound goods from the Chinese port of Shanghai can dock in Los Angeles and truck their wares across the U.S. instead. And cargo ships plying the Europe-Asia route through the Suez Canal can take the long way around Africa. Those alternatives are often slower—adding up to 15 days on some Europe-Asia routes—and more expensive. But the bigger long-term cost comes in the form of increased planet-warming carbon emissions.

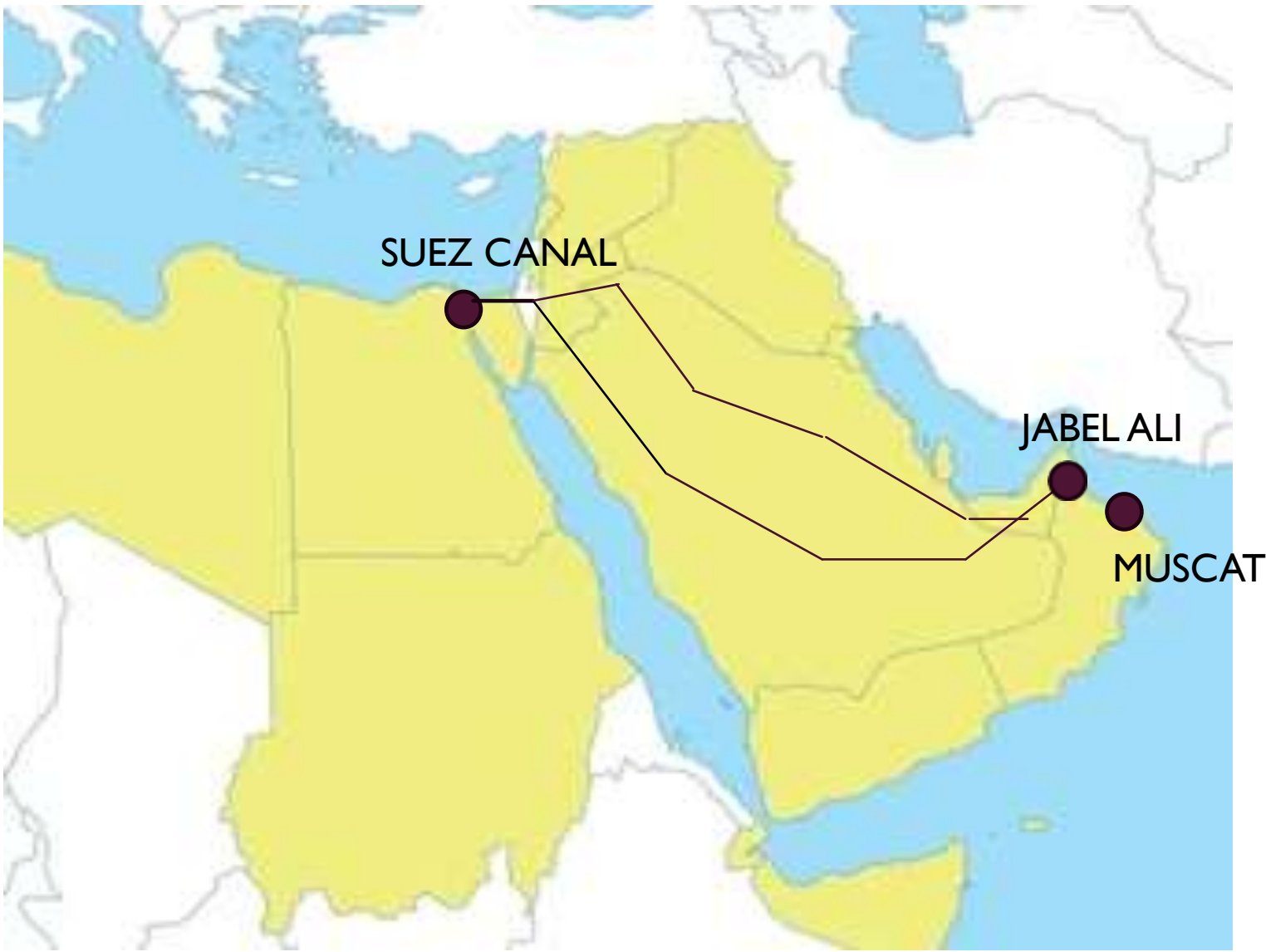
Red Sea Attacks Force Firms To Test New Land Routes Via UAE, Saudi

Roadway to link Dubai's Jebel Ali or Muscat is now being explored.

Suez to Jeddah is nearer but still stuck in the Red Sea

The routes offer an immediate solution to shipments trying to avoid the Houthi hot zone around the Bab el-Mandeb strait in the southern Red Sea, where months of missile and drone attacks have forced many commercial vessels to divert to a longer route around Africa.

It's disrupted crucial trade flows, raised freight costs and the impact is starting to filter through the global economy



The Bi-Oceanic Corridor (Road)

One of the new growth projects in South America, and Latin America, is Bi-Oceanic Corridor that will link Brazil with Chile, passing through Argentina and Paraguay.

Conceived since 2019, the corridor will allow a greater ease in exports of Latin American productions through the Atlantic and Pacific Ocean, as well as a greater possibility of new trade agreements with countries that previously had greater logistical difficulties.

With the existing routes from Chile to its ports on the west coast and from Brazil on the east coast of the continent, it will allow countries to have greater trade relations with other powers at a lower cost. The Bioceanic Corridor project estimates save US\$1000 for container exported, about ³ of the current logistics costs.



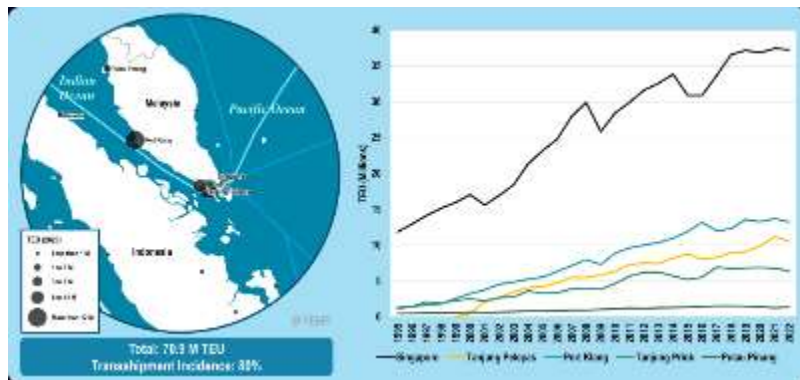
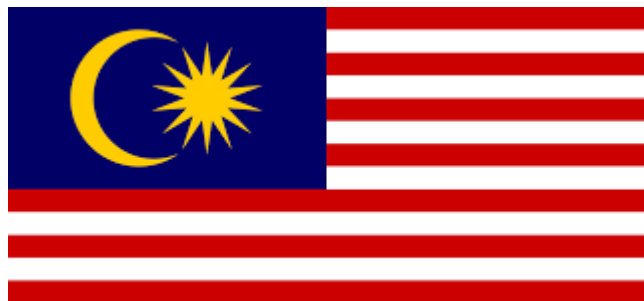
The plan is to create a connection from Mato Grosso do Sul (BR), to the Tarapacá Region (Chile); through Chaco Paraguayan (Paraguay), Jujuy and Salta Province (ARG) and the Antofagasta Region (ARG).

The project will have investment from the private sector and the International Bank of the Americas, with a budget of almost US\$2,370 billion

PART 5

OTHER BOTTLENECK SOLUTIONS ...ELSEWHERE THE GLOBE!

Others (I)



EAST COAST RAIL LINK (ECRL) PROJECT

CONNECTING LIVES, ACCELERATING GROWTH



KOTA BHARU, KELANTAN ← WP PUTRAJAYA = APPROXIMATELY 4 HOURS

PROJECT COST INCLUDING PROVISIONAL SUM FOR **DOUBLE TRACKING**
RM44 BILLION

LENGTH OF ALIGNMENT: **640 KM**



SERVICE PROVIDED: **PASSENGER & FREIGHT**



160KM/H (PASSENGER TRAIN)
80KM/H (FREIGHT TRAIN)



14 PASSENGER STATIONS
5 COMBINED PASSENGER & FREIGHT STATIONS
1 FREIGHT STATION

3 INTERCHANGE STATIONS

MENTAKAB WITH KTMB
BANGI WITH KTMB
PUTRAJAYA WITH ERL/MRT



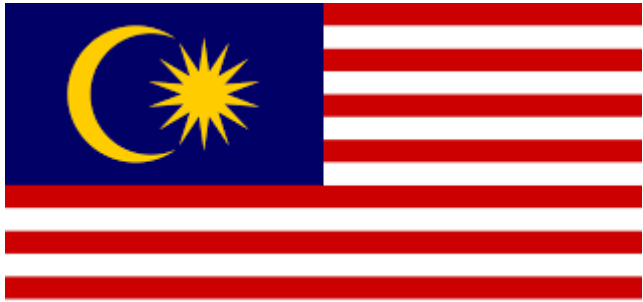
STIMULATE
ECONOMIC DEVELOPMENT ALONG
ECRL CORRIDOR

DEC 2026
COMPLETION DATE



Station names are subject to approval by relevant authorities

Others (2)

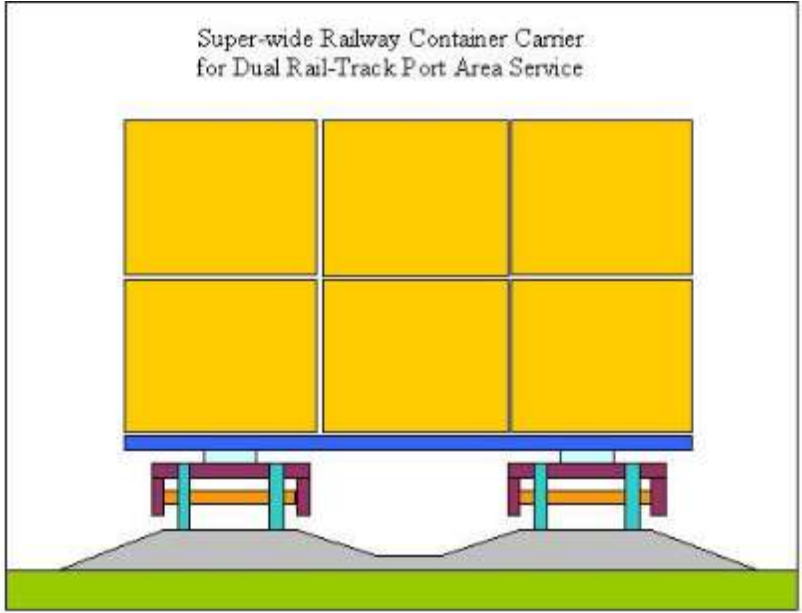


- Serves as alternative for 100,000 commuter
- Stationed at Bukit Chagar and Woodlands
- Can carry up to 10,000 per hour each way during peak time
- Expected to begin operations in December 2025

RTS Link



THAILAND'S PROPOSED **LANDBRIDGE PROJECT**

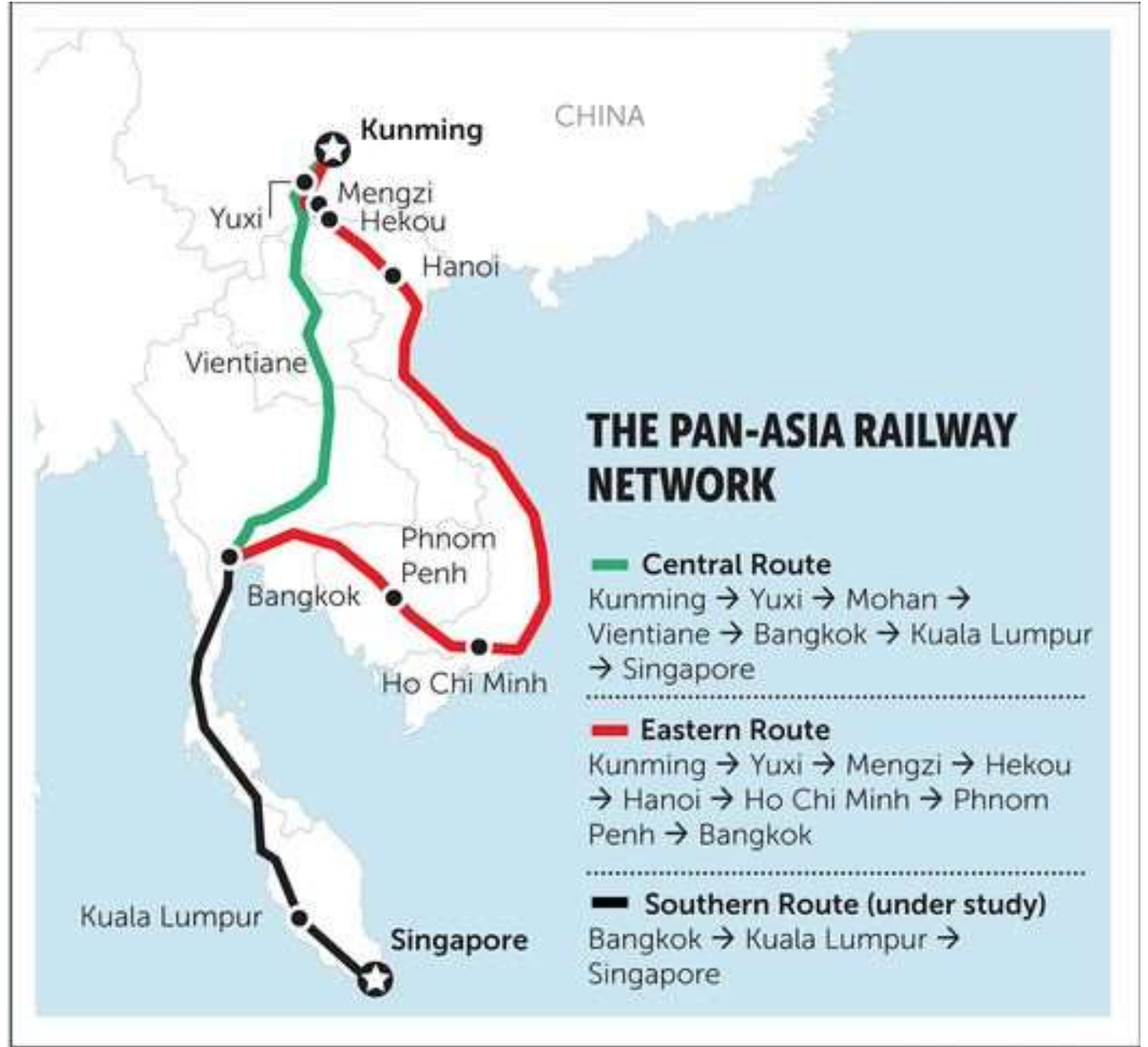




Malaysia's HSR (High Speed Rail KL-Singapore) as part of the larger TRANS-ASEAN BULLET TRAIN?

Thailand plans 'Trans-Asean' bullet train linking China, Laos and even Singapore. It will be the first time that Thailand will have such a modern transport network, which will cover 3,193 kilometres at a cost of about 2.07 trillion baht (RM380 billion).

The rail route will link Bang Sue with Chiang Mai in the North, Laos in the Northeast, Cambodia in the East and Malaysia in the South.



Others (5)



When complete, **Kyaukphyu Port** project will be the new southern terminus of the 1,700-kilometer China-Myanmar Economic Corridor (CMEC) connecting to the Chinese city of Kunming.

The corridor will provide landlocked Yunnan Province with access to the Indian Ocean. It is also a strategic bypass for Chinese shipping to avoid the congested Malacca Strait, easing trade with the Middle East, Africa and Europe





PART 6

THE TRADE & TRANSPORT INTEGRATION SOLUTION TO THE BOTTLENECK

INTEGRATED LOGISTICS APPROACH IA: MAERSK GROUP



Maersk Line



APM Terminals



Damco



Svitzer



Maersk Container Industry

**NEW
DIVISION 2021
MAERSK AIR**



Integrated Approach (2)

MARITIME ACTIVITIES

Maritime transport of containers



INTEGRATED LOGISTICS APPROACH IA 2: CMA CGM



AIR AND LOGISTICS ACTIVITIES

Multi-modal transport and warehouse management



INLAND ACTIVITIES

Handling activities at terminals and inland logistics



INTEGRATED LOGISTICS APPROACH IA 3: FEDEX SUPPLY CHAIN



INTEGRATED LOGISTICS APPROACH

IA 4: DHL SUPPLY CHAIN

- **Deutsche Post DHL** is the world's leading logistics company. Our 380,000 people in over 220 countries and territories work every day to help you cross borders, reach new markets and grow your business

DHL Supply Chain is a division of **Deutsche Post DHL** and is affiliated with DHL. Headquartered in Bonn, Deutsche Post has 510,000 employees. In 2016, DHL Supply Chain was primarily competing in strategic life sciences and healthcare, automotive and technology sectors of the market



INTEGRATED LOGISTICS APPROACH IA 5: FI LOGISTICS

Deutsche Post DHL Group, FI's official logistics partner, has a dedicated staff of 35 specialists who travel to each race to manage transportation, setup, breakdown and packing. In 2021, DHL moved 1,540 tons of equipment and 532 cars more than 74,500 miles



FORMULA 1® LOGISTICS KEY STATS



- 10 Teams
- 20 Drivers
- 21 Races
- 5 Continents
- 9 Months

Formula 1 fans can now experience the thrill of a Grand Prix in 21 countries including China, Singapore, Azerbaijan and Abu Dhabi. 2018 also sees the return of races to France and Germany.



As Official Logistics Partner of Formula 1, DHL draws on over 35 years' experience handling complex, time-critical, international motorsports logistics. Formula 1 freight travels by land, air and sea to 5 continents in 9 months, requiring detailed planning of complex global routing to ensure reliable delivery for the start of the race.



The F1 FORMULA 1 logo, F1 logo, FI, FORMULA 1, FIA FORMULA ONE WORLD CHAMPIONSHIP, GRAND PRIX and related marks are trade marks of Formula One Licensing BV, a Formula 1 company. All rights reserved.

CARGO

AIR FREIGHT

- 77 days prior to the race weekend
- Specialised team manage air cargo from their base
- Standard warehouse services for Middle East region
- DHL Cargo Direct - home with parcels

STATS

- 15 000 items made containers
- 100 M in the Package
- 1000000 300000 kg moved

CONTENTS

- Electronic & IT tools
- 2 x Race cars
- Engine elements
- Performance
- 40 Size of wheel rim

SEA FREIGHT

- More savings over air freight
- Managed by truck to the port and delivered back to port
- Specialised staff manage sea freight
- Check for anything that is exceptionally heavy or has a life expectancy for 40 years

STATS

- 20000 containers
- 20000 containers

CONTENTS

- 100 car parts
- 100 car chassis
- 100 of the garage

@redbullracing



INTEGRATED LOGISTICS APPROACH IA 6:AMAZON

Amazon is a Logistics company

Amazon today owns 11 planes, leases at least 100 other jets, and flies 200 flights daily. And it doesn't do everything itself. It works with 7 different airplane companies to do the dirty work of dealing with pilots, following the regulations and flying the planes..

But then, Amazon thought why stop at planes? Because if you're trying to have complete control over your logistics, there's another crucial piece in the puzzle that is shipping




Its new status as a freight forwarder, or “non-vessel operating common carrier,” gives Amazon, the world's largest online retailer, a foothold in the \$350 billion a year ocean freight business. It will not operate ships but subcontract that work

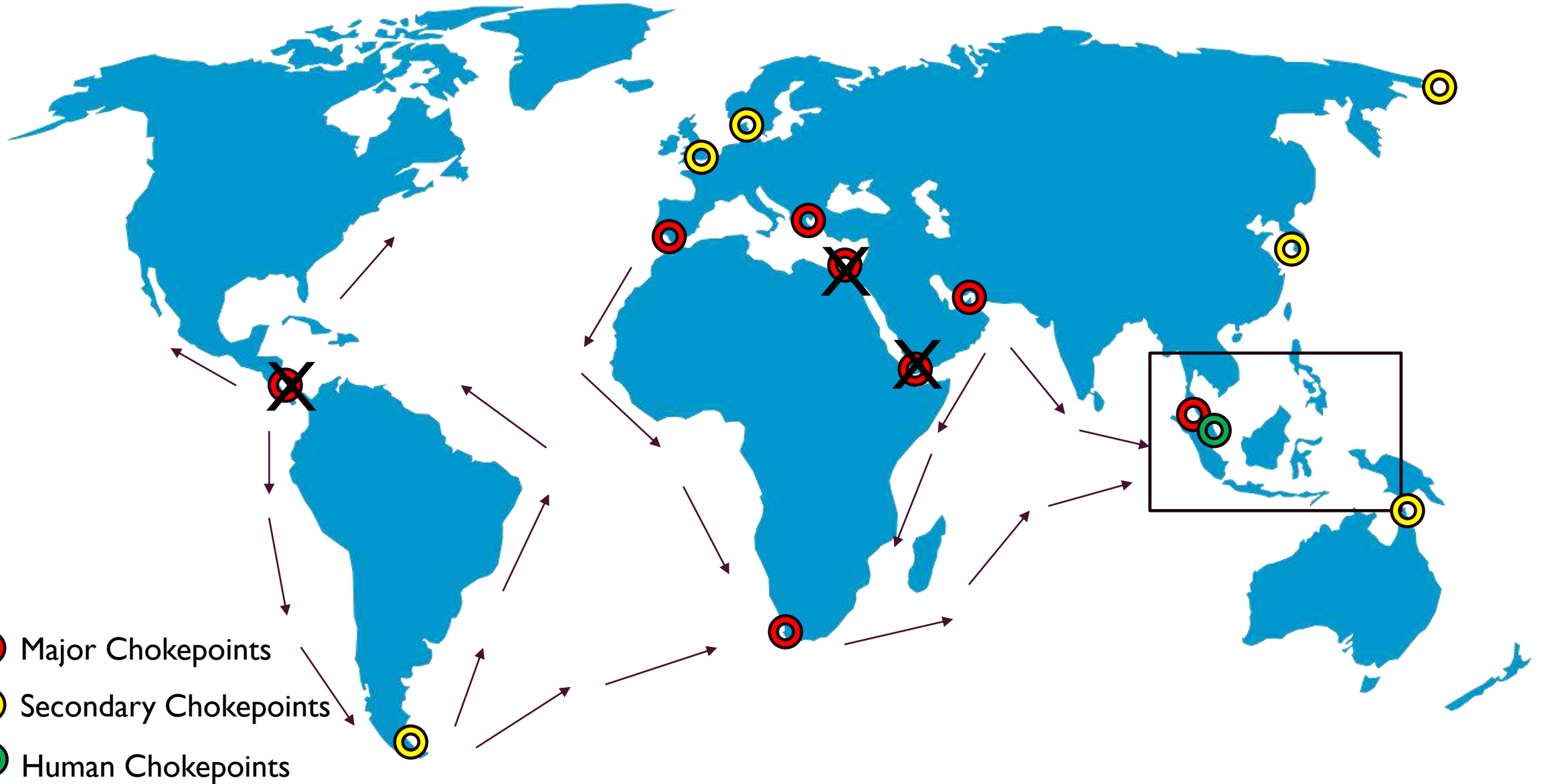


Amazon Enters Ocean Shipping with New Freight Forwarder Status

IMPACT TO BIMP-EAGA AND ASEAN

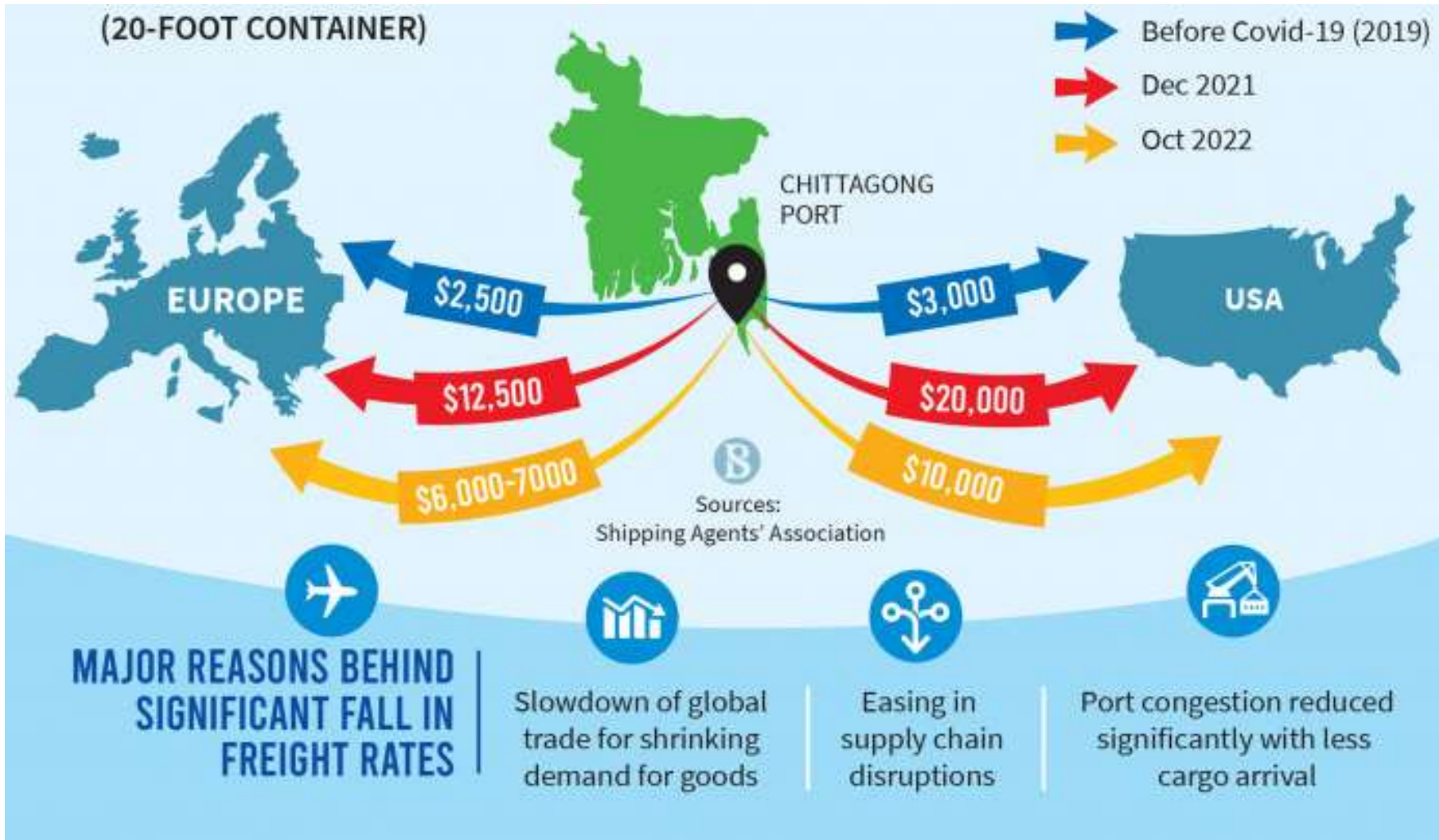


-  Major Chokepoints
-  Secondary Chokepoints
-  Human Chokepoints

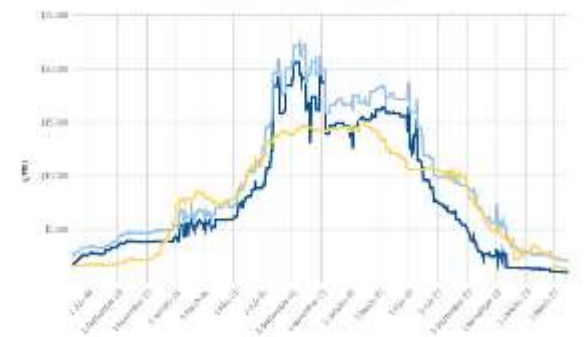


Cargo freight rate....

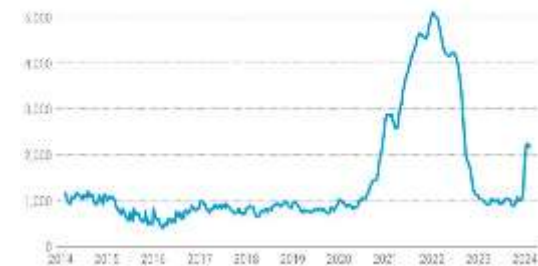
What will happen in 2024 to BIMP-EAGA & ASEAN?



Now two years into the supply chain crisis, rates have dropped significantly – although on some lanes prices are still much higher than they were pre-pandemic.



Container freight rates are on the rise again
 SCFI Comprehensive Container Freight Rate Index, 7 February 2014-9 February 2024, dollars per container per shipment



Source: UNCTAD as compiled, based on Clarksons Research and reported on www.maritime-union.org

OCEAN FREIGHT CHARGES TRENDS (for cargo via Chittagong Port) - BEFORE THE RED SEA CRISIS

Bottleneck Disruptions Shipping Impacts

Cost of shipping

Higher Co2
emission

Longer sailing
distance

Higher fuel usage

Higher retail price
of goods

Higher freight
charges

Higher insurance
cost

Higher seafarers
salary



THANK YOU



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