

Transporte Aquaviário e tópicos de planejamento de rede e logística

STT 403 – Aeroportos, Portos e Vias navegáveis

Lucas Assirati
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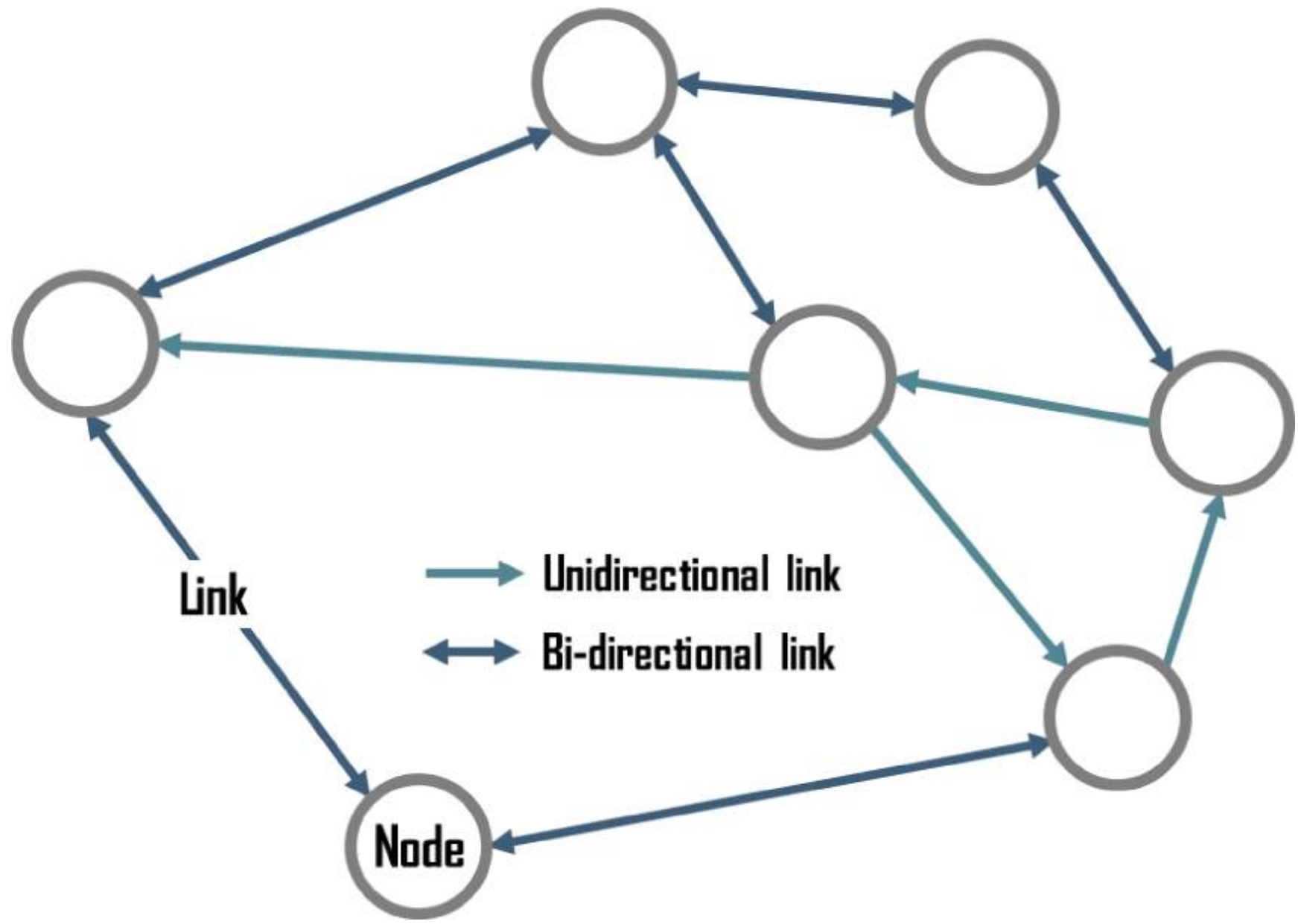
CONCEITOS:

1. Ordens de magnitude
2. Noção de mercado
3. Formatação de redes de transportes
4. Particularidade: o fluxo desbalanceado
5. Rotas pendulares
6. Logística: adição de valor em portos e áreas próximas

1. Ordens de magnitude

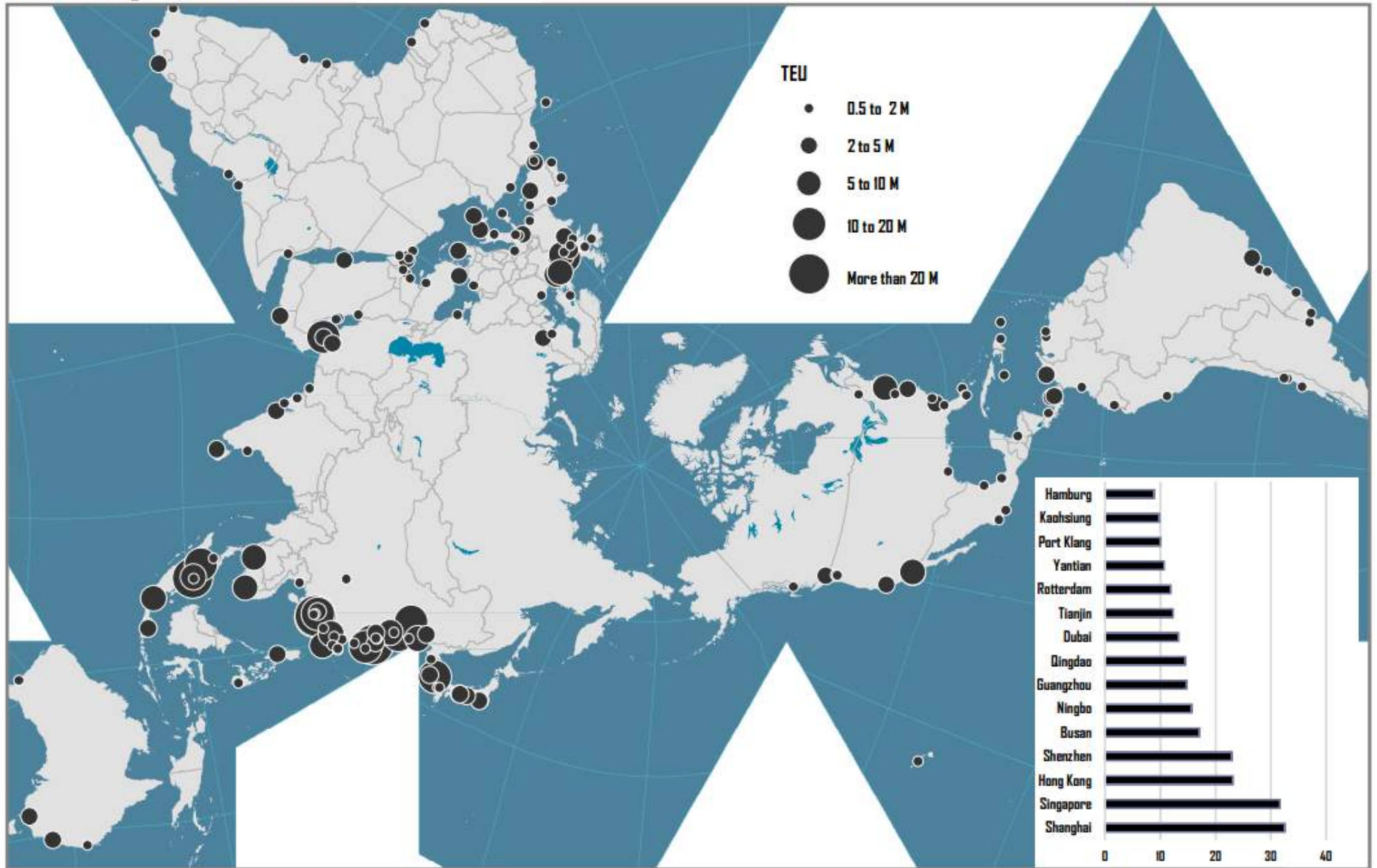
1. Ordens de magnitude

- Modelada por redes e grafos



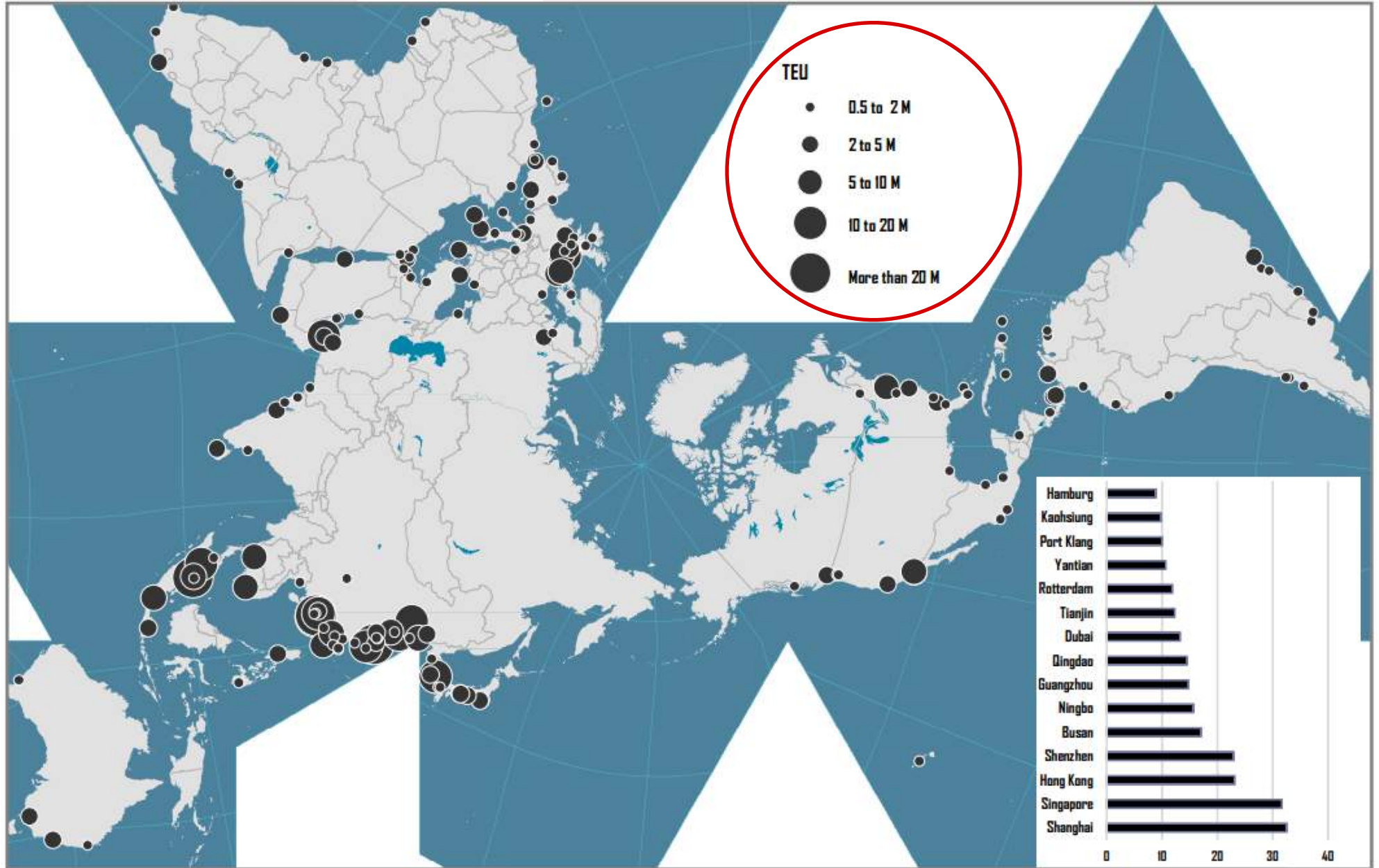
Nós

World's Largest Container Ports,



Source: Adapted from Containerization International, port authorities and port associations.

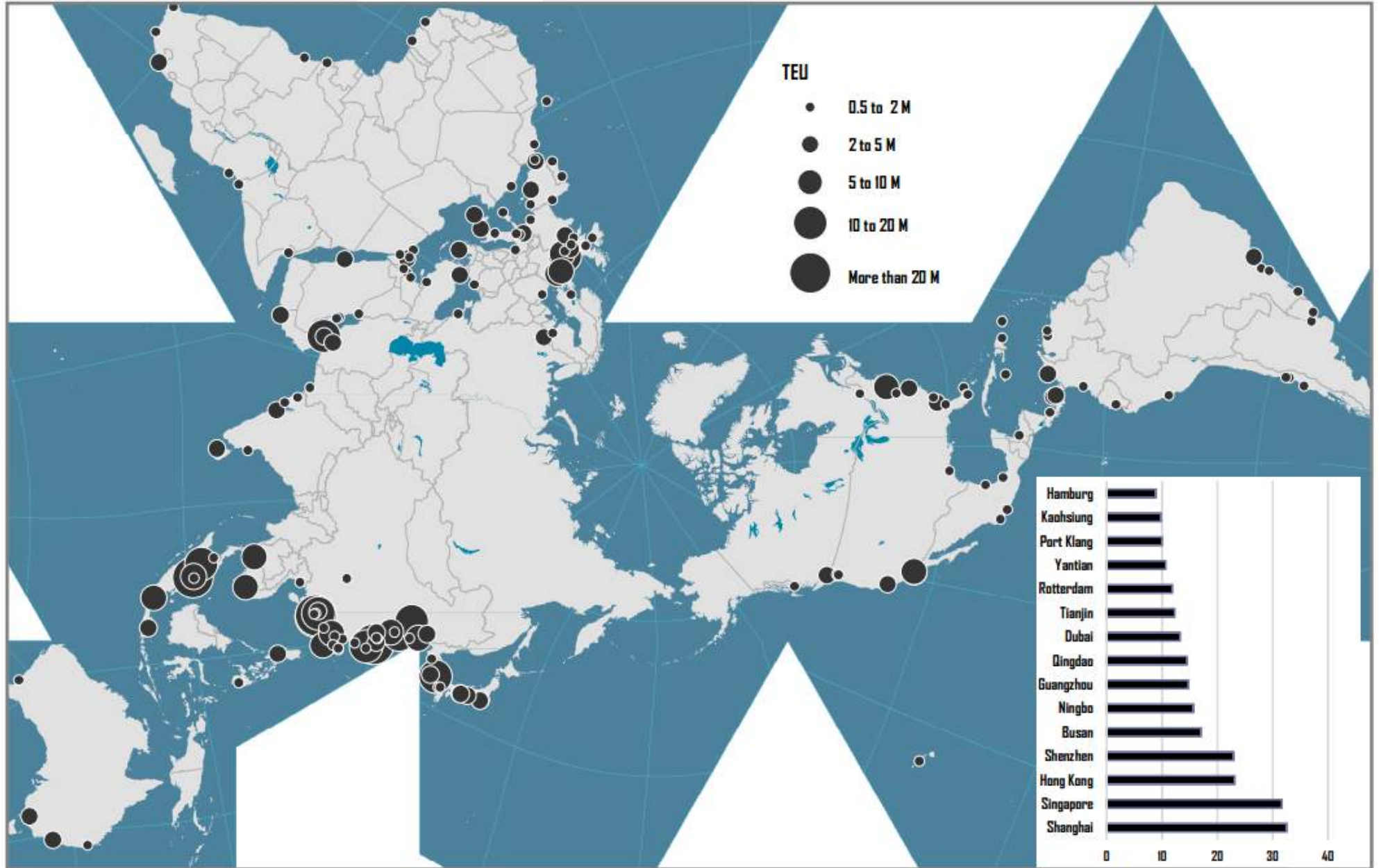
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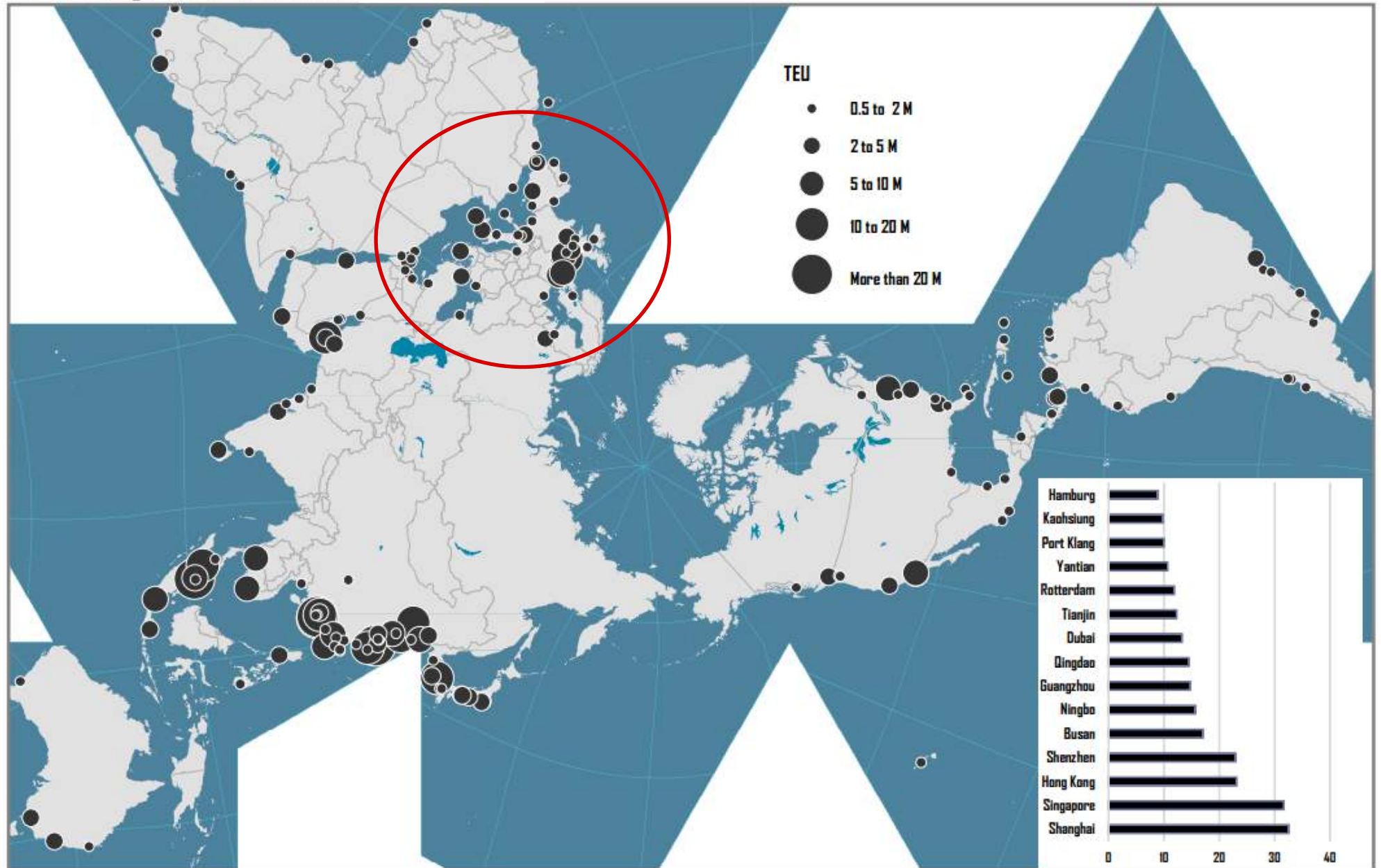
Dr. Jean-Paul Rodrigue, Dept. of Global Studies & Geography, Hofstra University

World's Largest Container Ports,



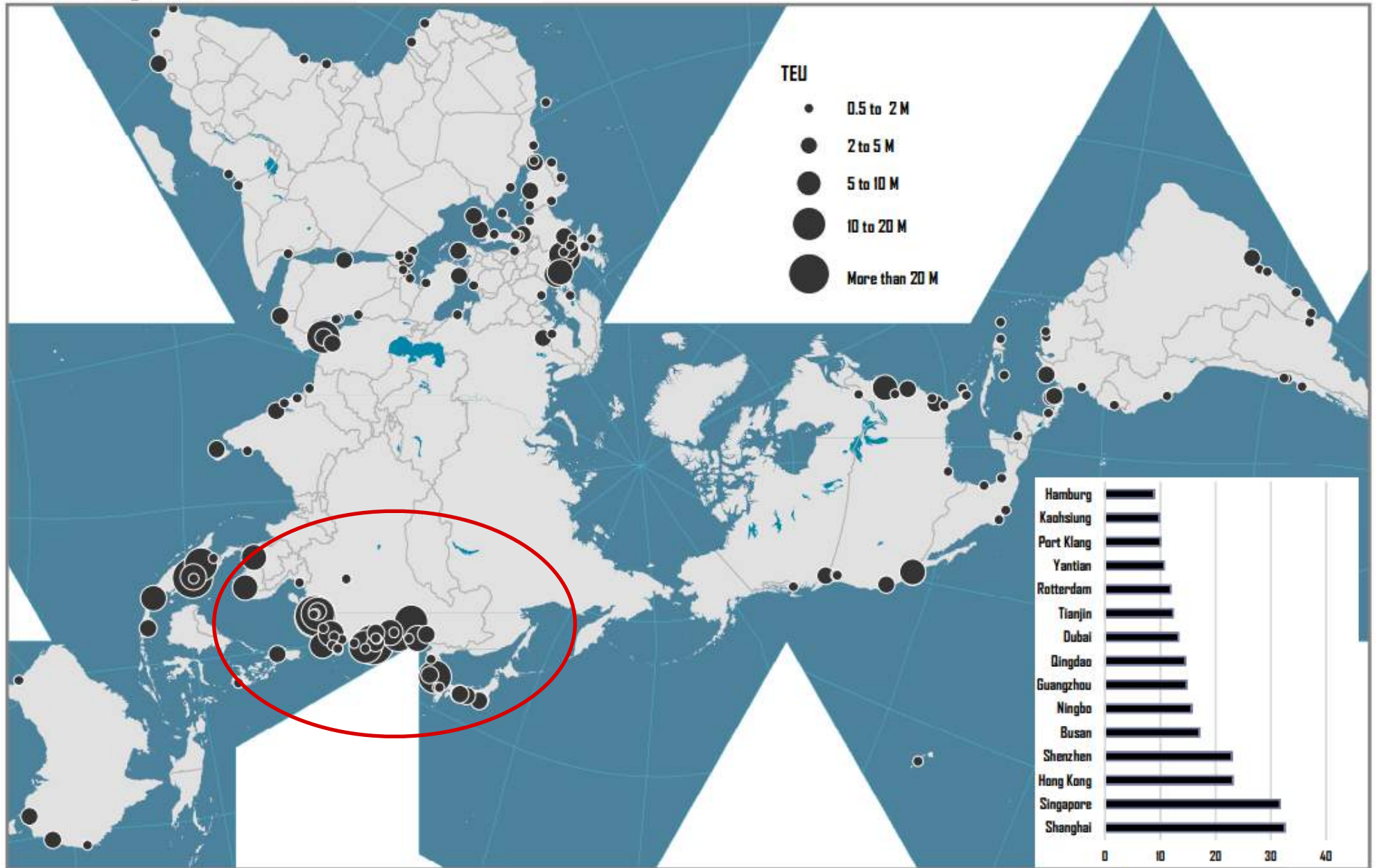
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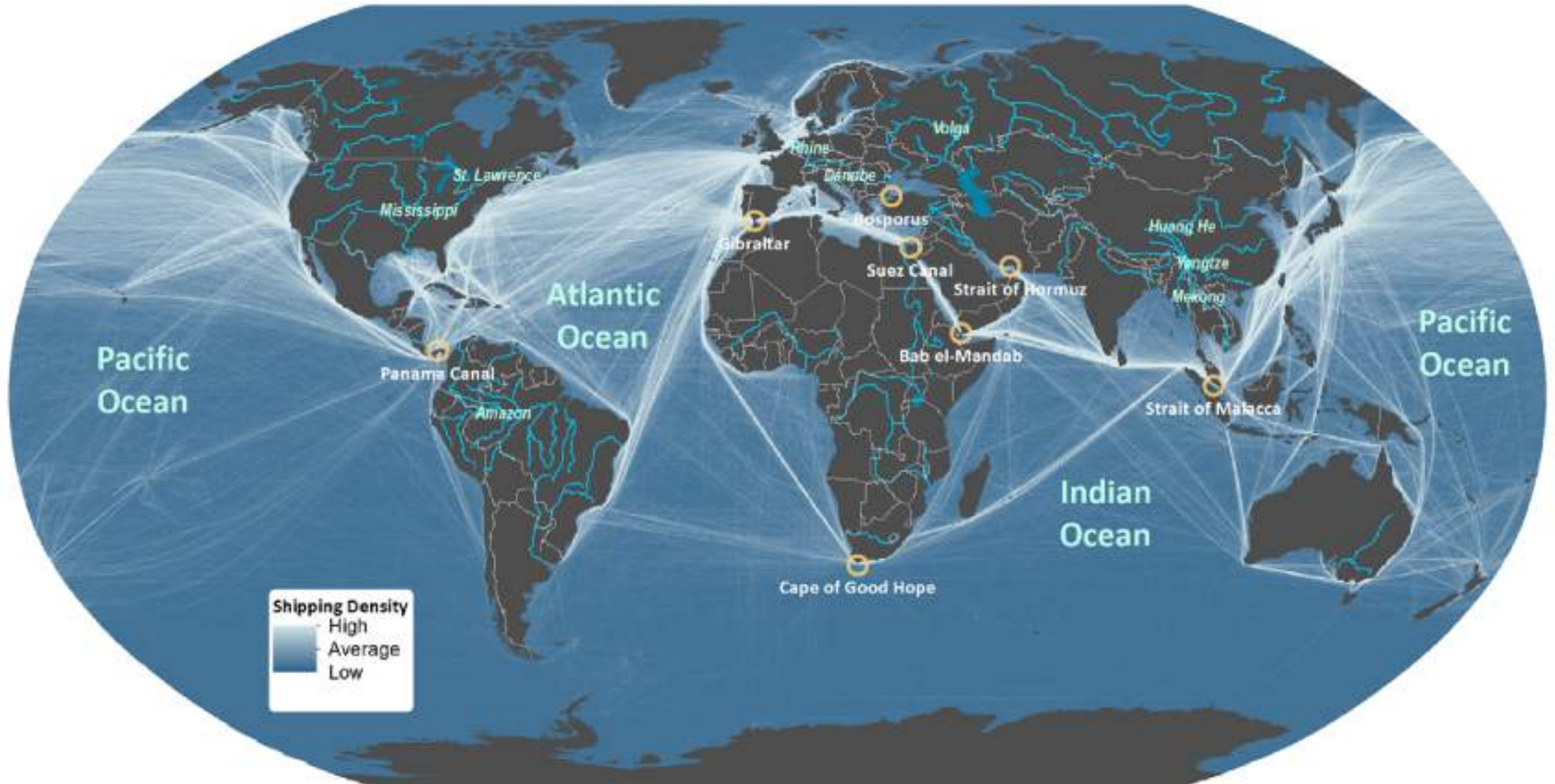
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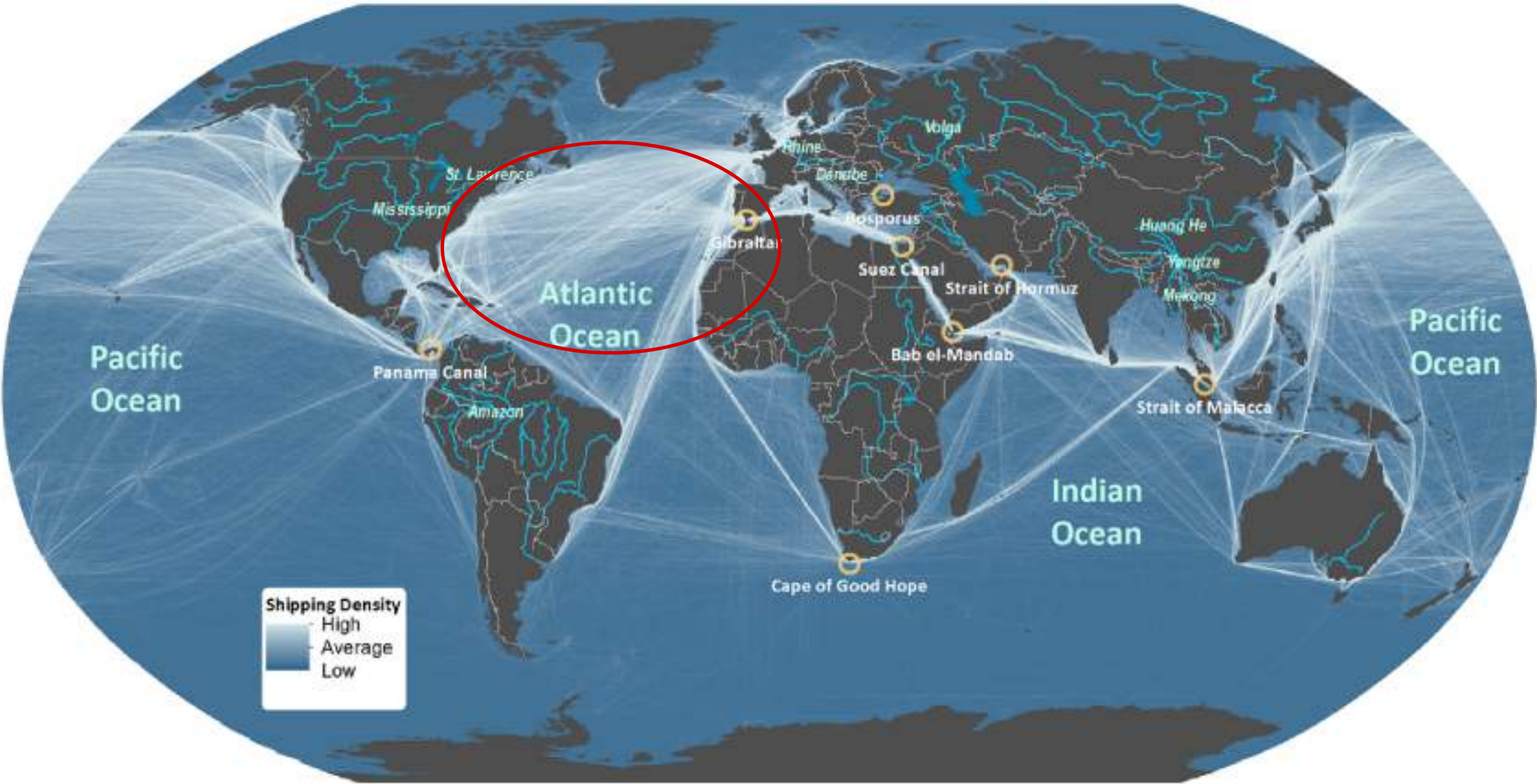


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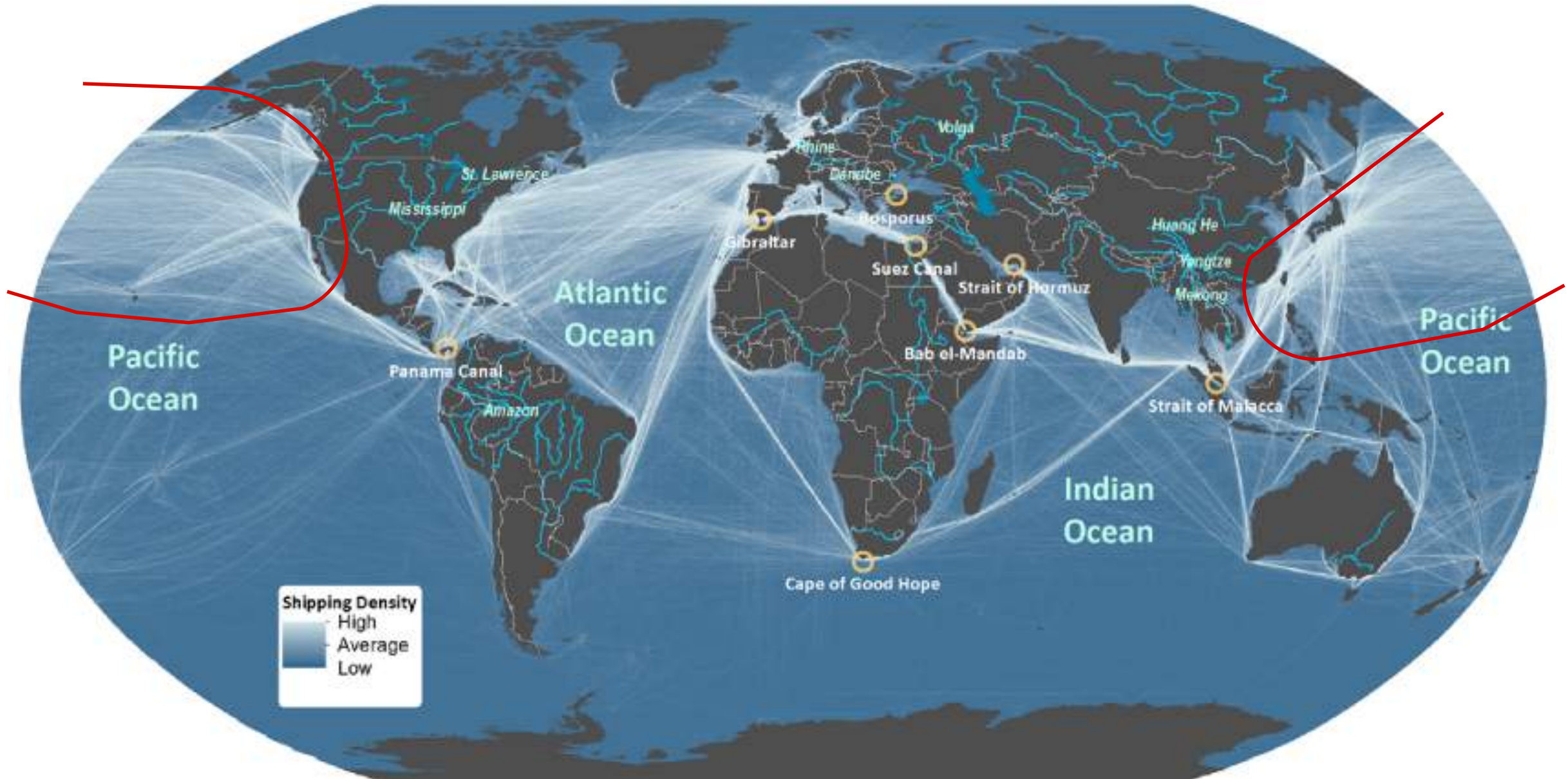
Arestas



Arestas



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Top 5 empresas de transporte internacional (2019)



1. Moller-Maersk Group (16,6 % share)



2. Mediterranean Shipping Company S.A. (MSC) (15,6 % share)



3. China COSCO (12,2 % share)

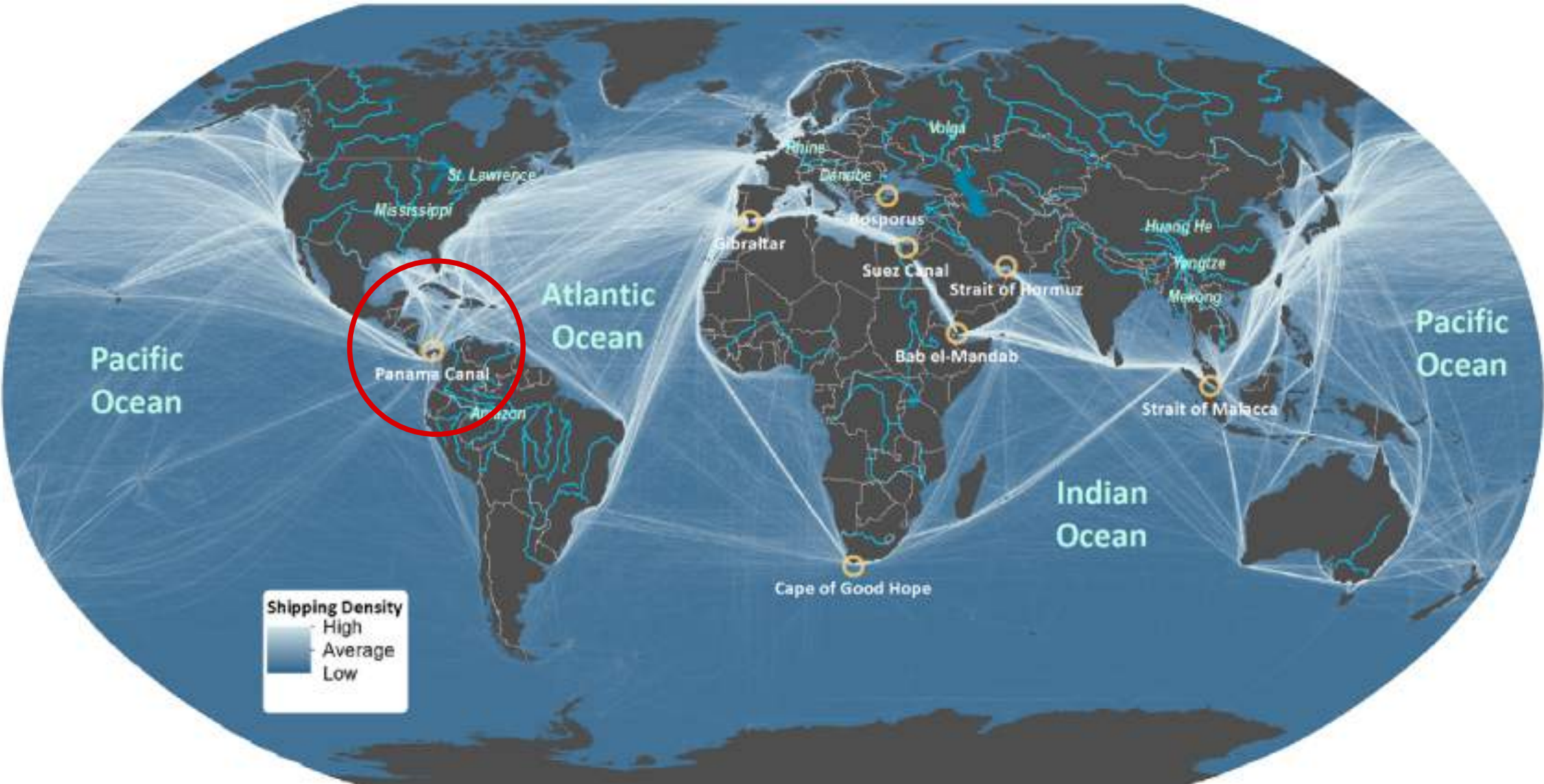


4. CMA CGM Group (11,3 % share)

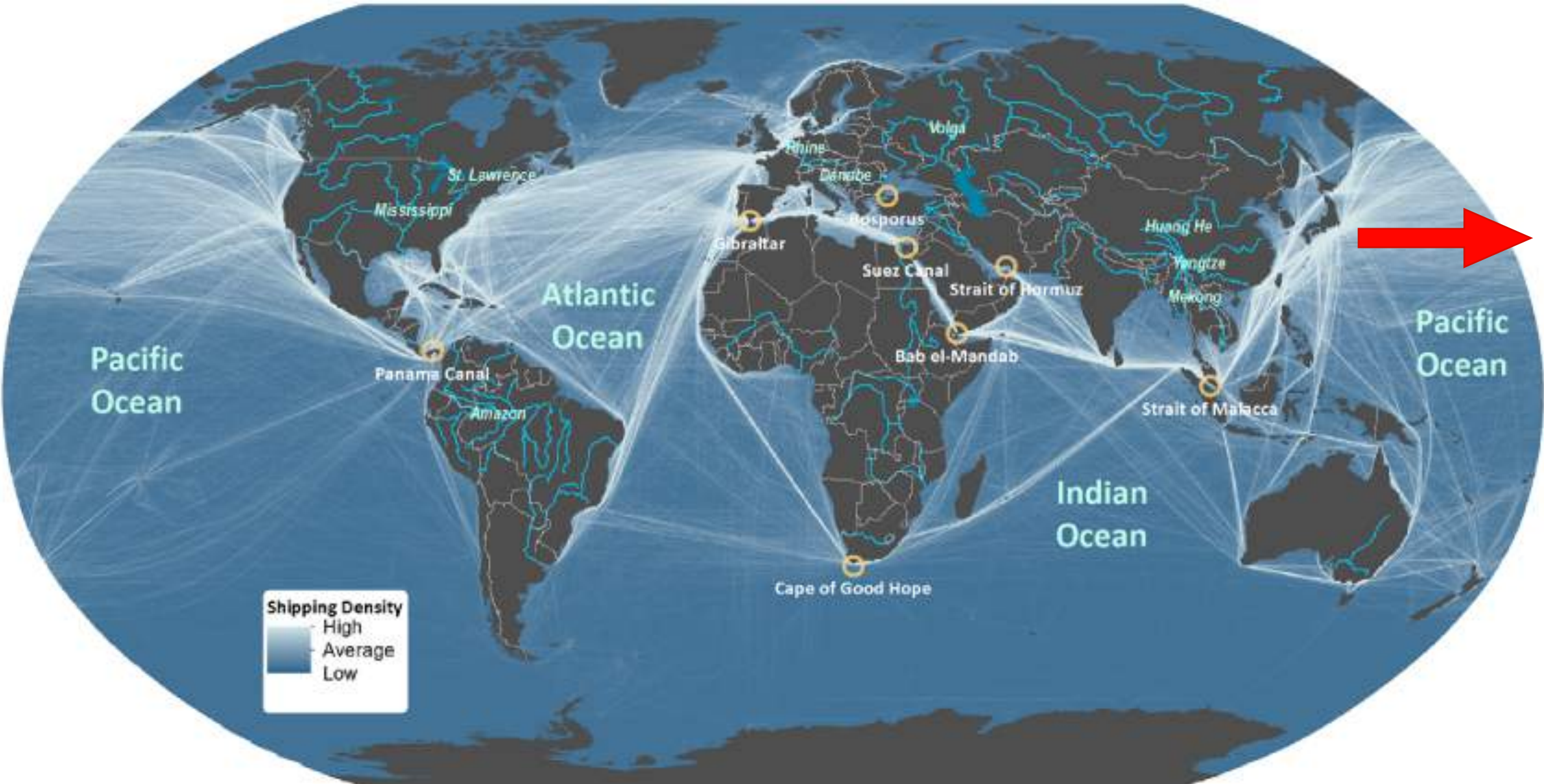


5. HAPAG-LLOYD (7,2 % share)

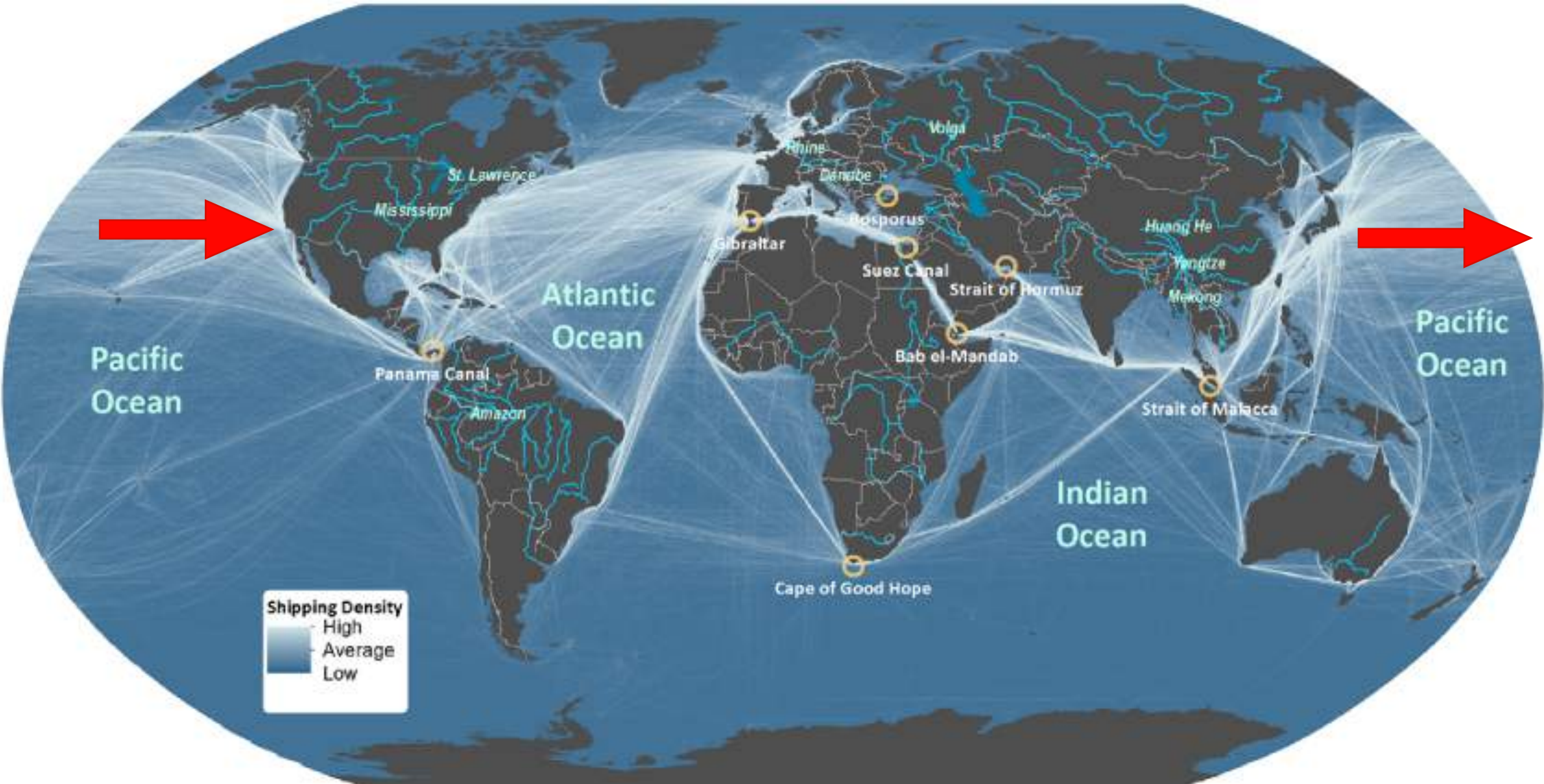
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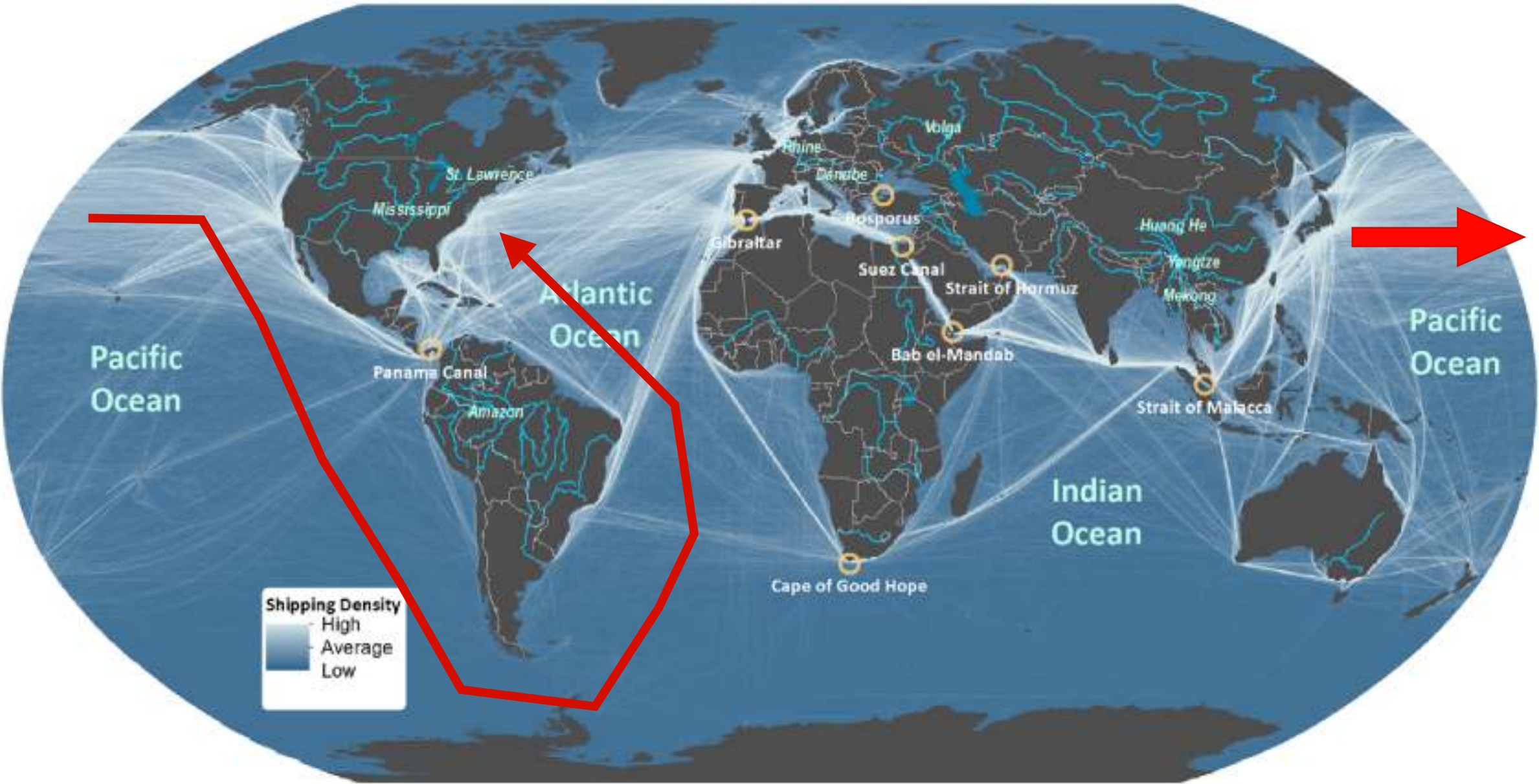
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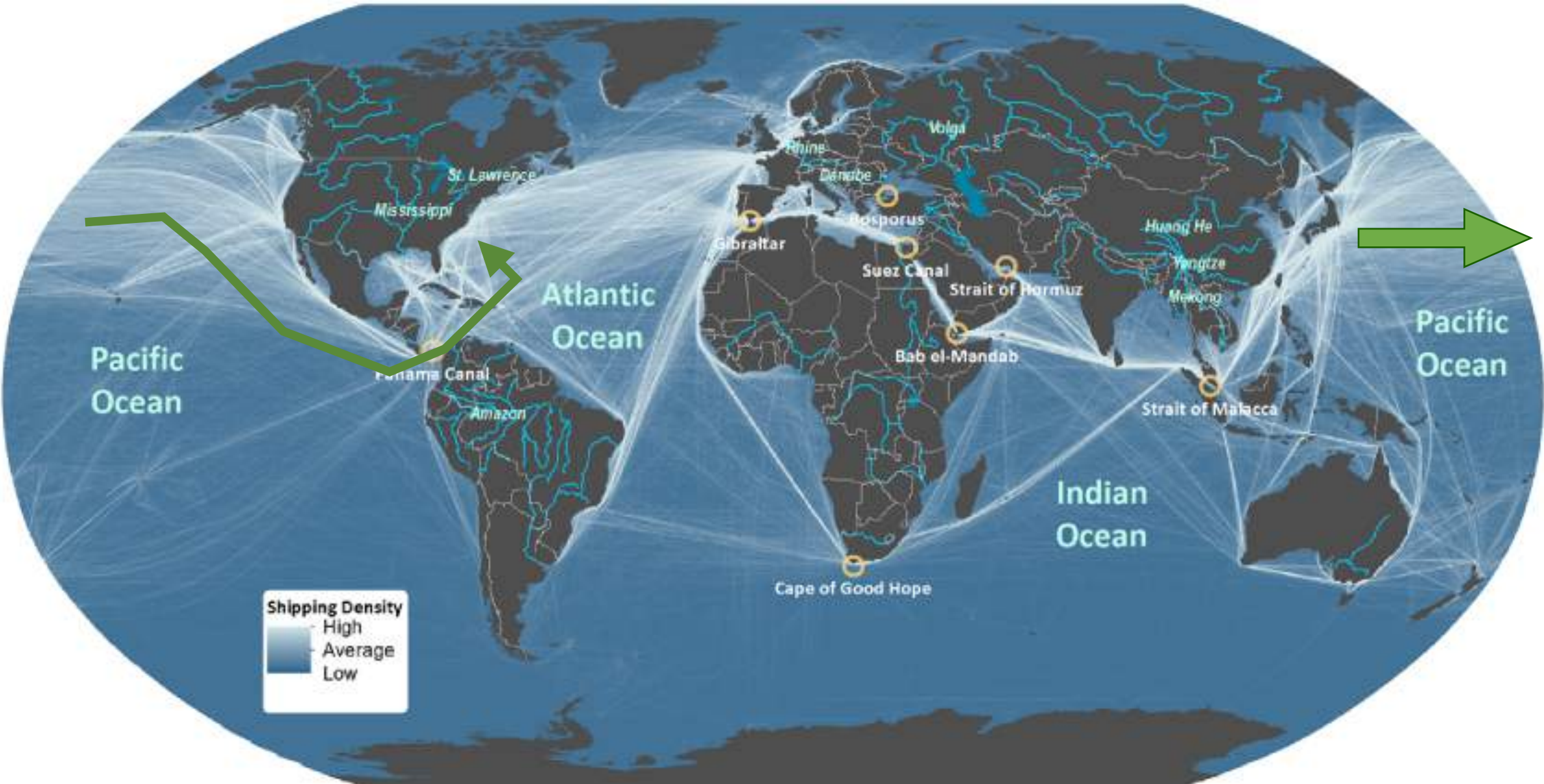
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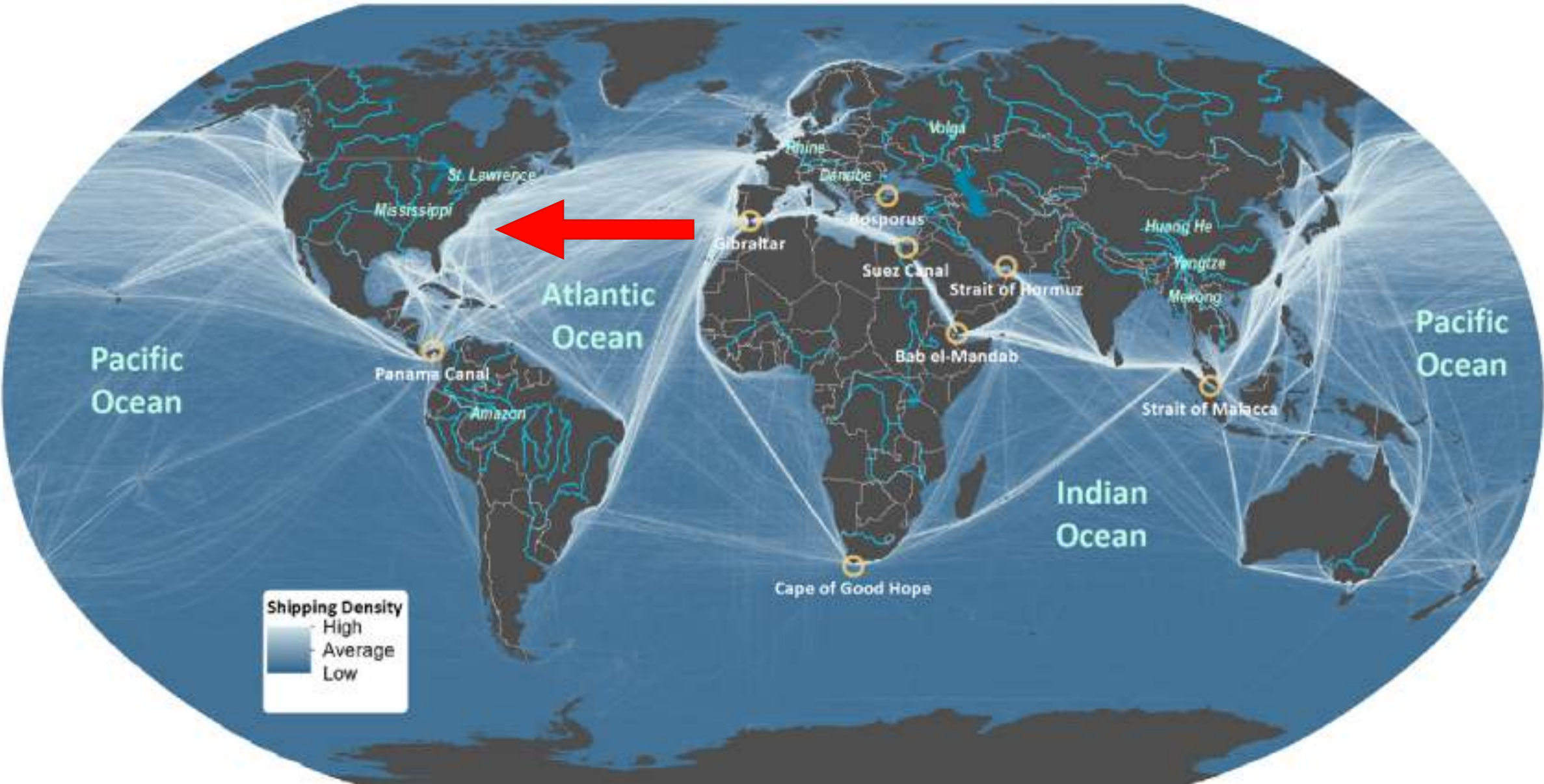
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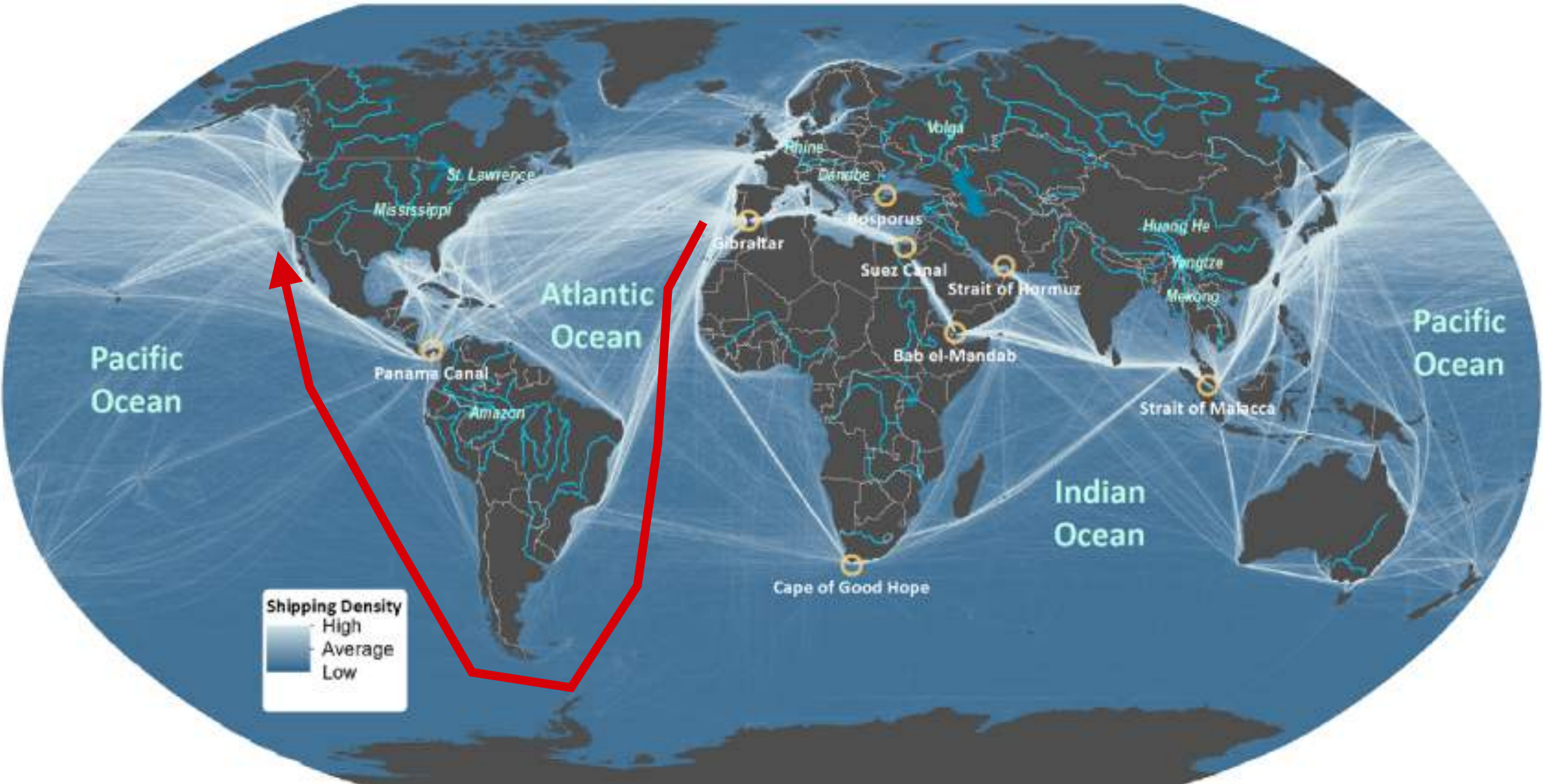
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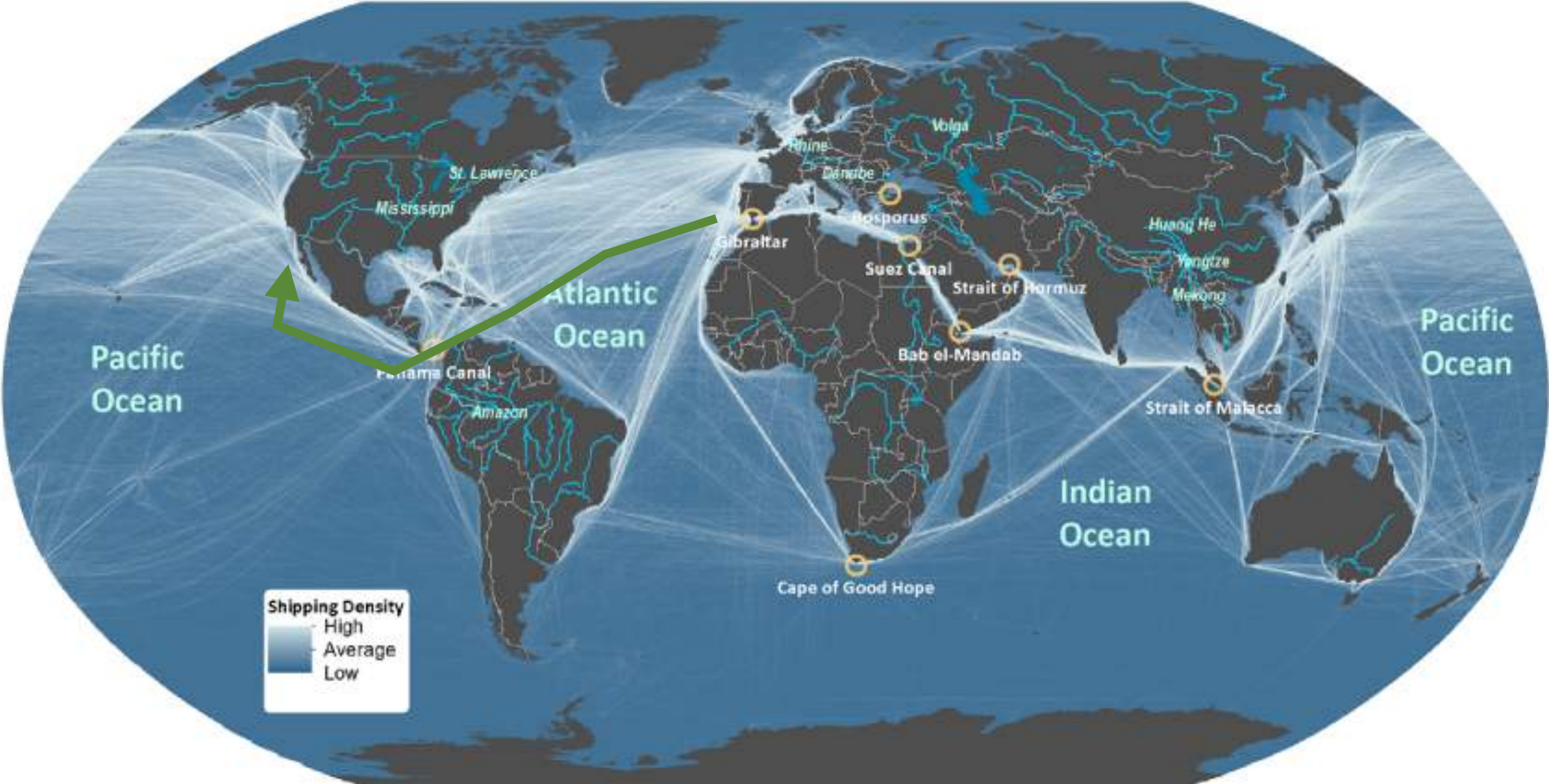
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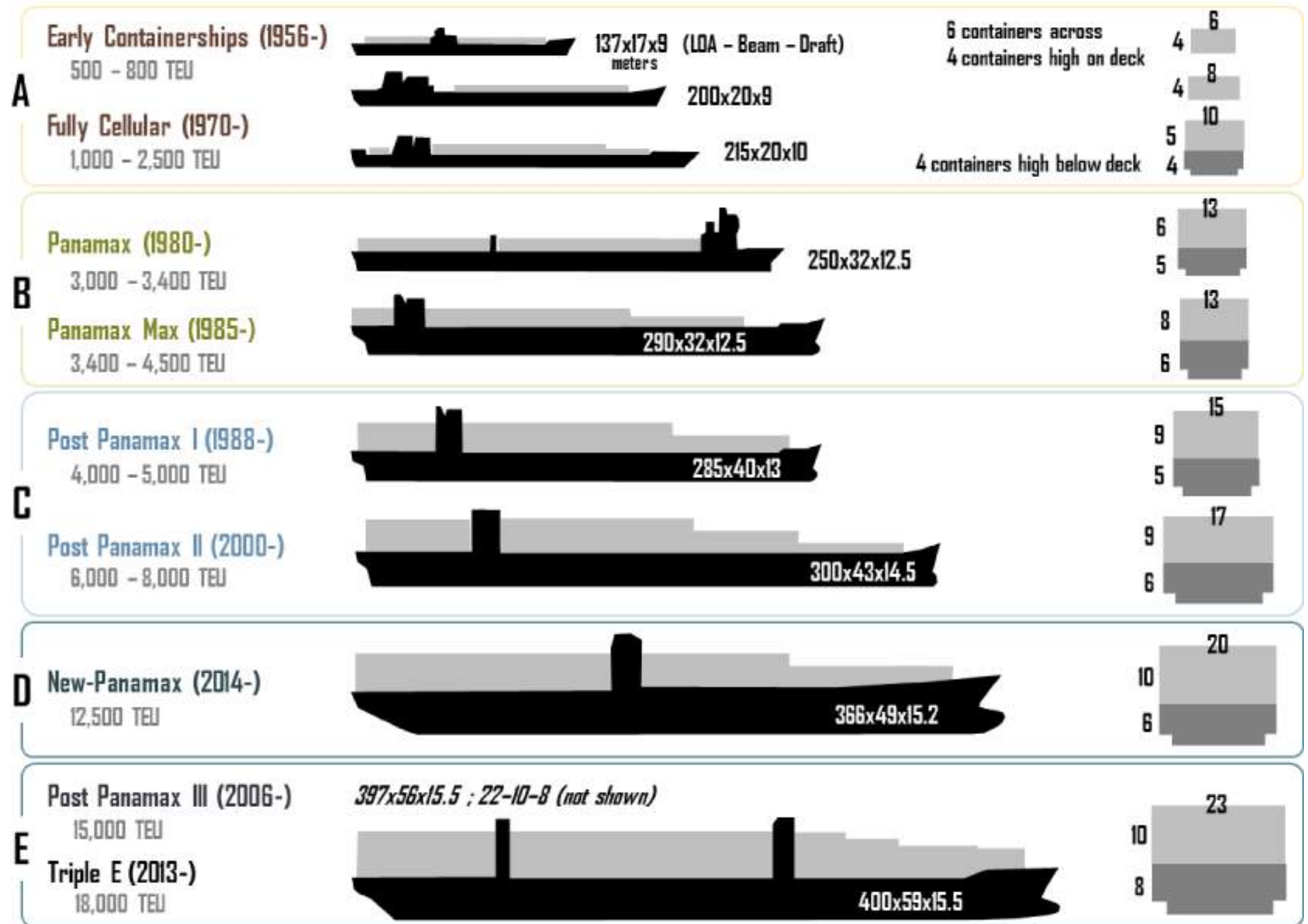
Arestas



Arestas



Veículos



2. Noções de mercado

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- Hinterlândias

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- Região contígua à costa,
- Região servida por um porto.

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→ Para uma certa mercadoria, para um determinado tempo e nível de serviço, qualquer porto dentro da fronteira da Hinterlândia atende de maneira equivalente a demanda.

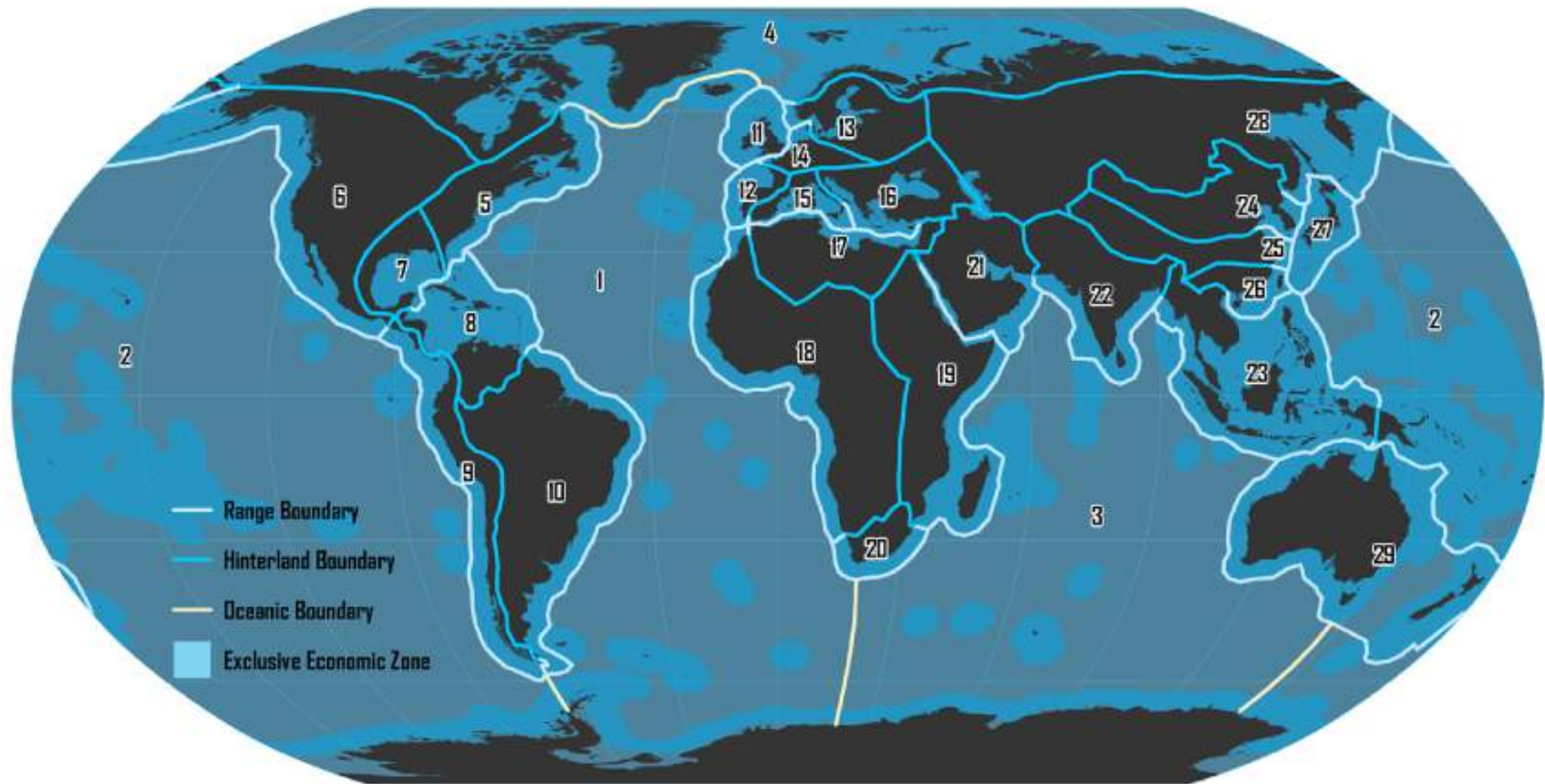
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→ Para uma certa mercadoria, para um determinado tempo e nível de serviço, qualquer porto dentro da fronteira da Hinterlândia atende de maneira equivalente a demanda.

→ Portos mais competitivos deslocam a Hinterlândia



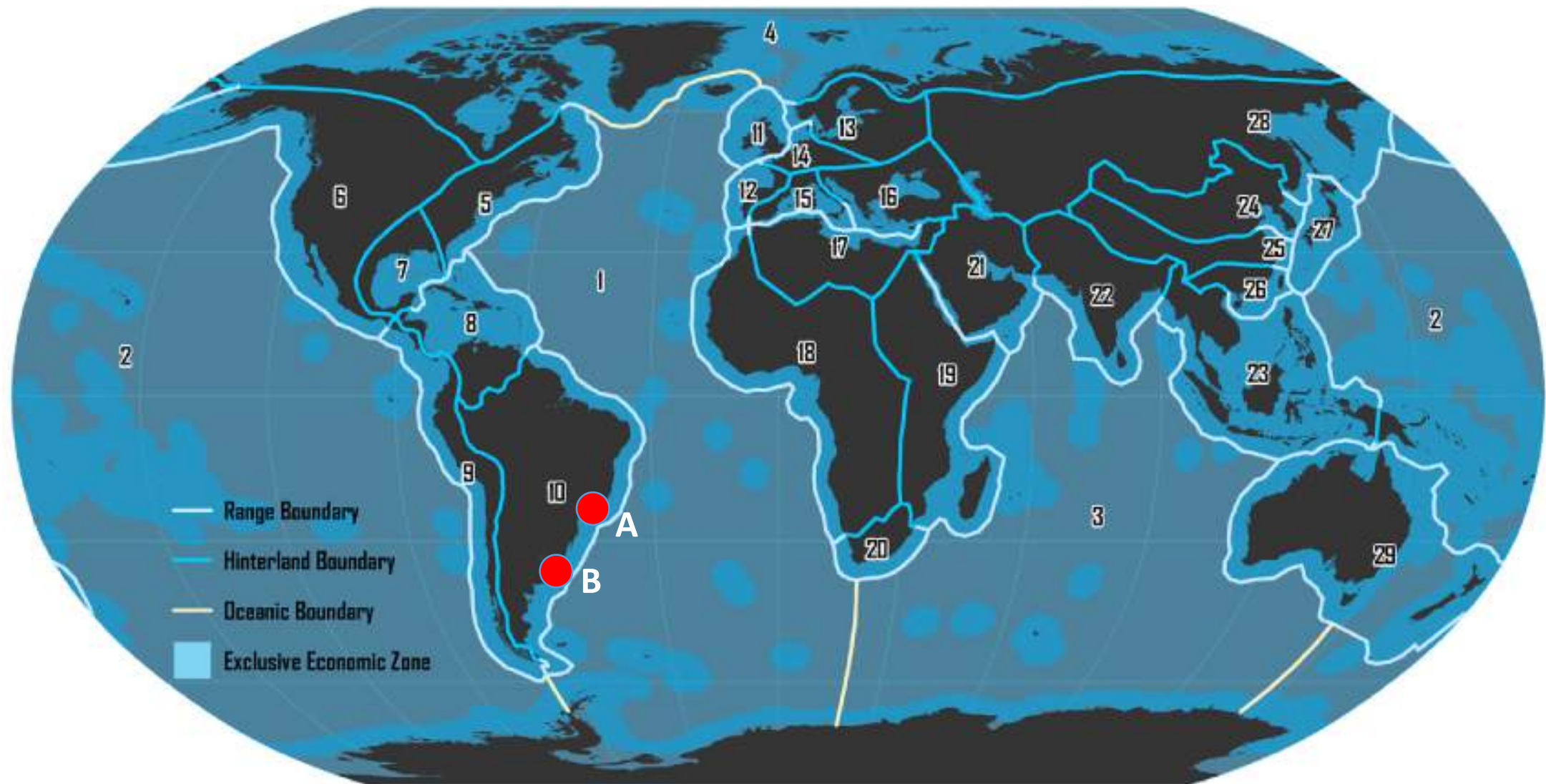
- 1. Atlantic
- 2. Pacific
- 3. Indian
- 4. Arctic
- 5. North American East Coast
- 6. North American West Coast

- 7. Gulf Coast
- 8. Caribbean Basin
- 9. South American West Coast
- 10. South American East Coast
- 11. British Isles
- 12. Europe Atlantic

- 13. Baltic
- 14. Northern Europe
- 15. Western Mediterranean
- 16. Eastern Mediterranean
- 17. Southern Mediterranean
- 18. West African Coast

- 19. East African Coast
- 20. South Africa
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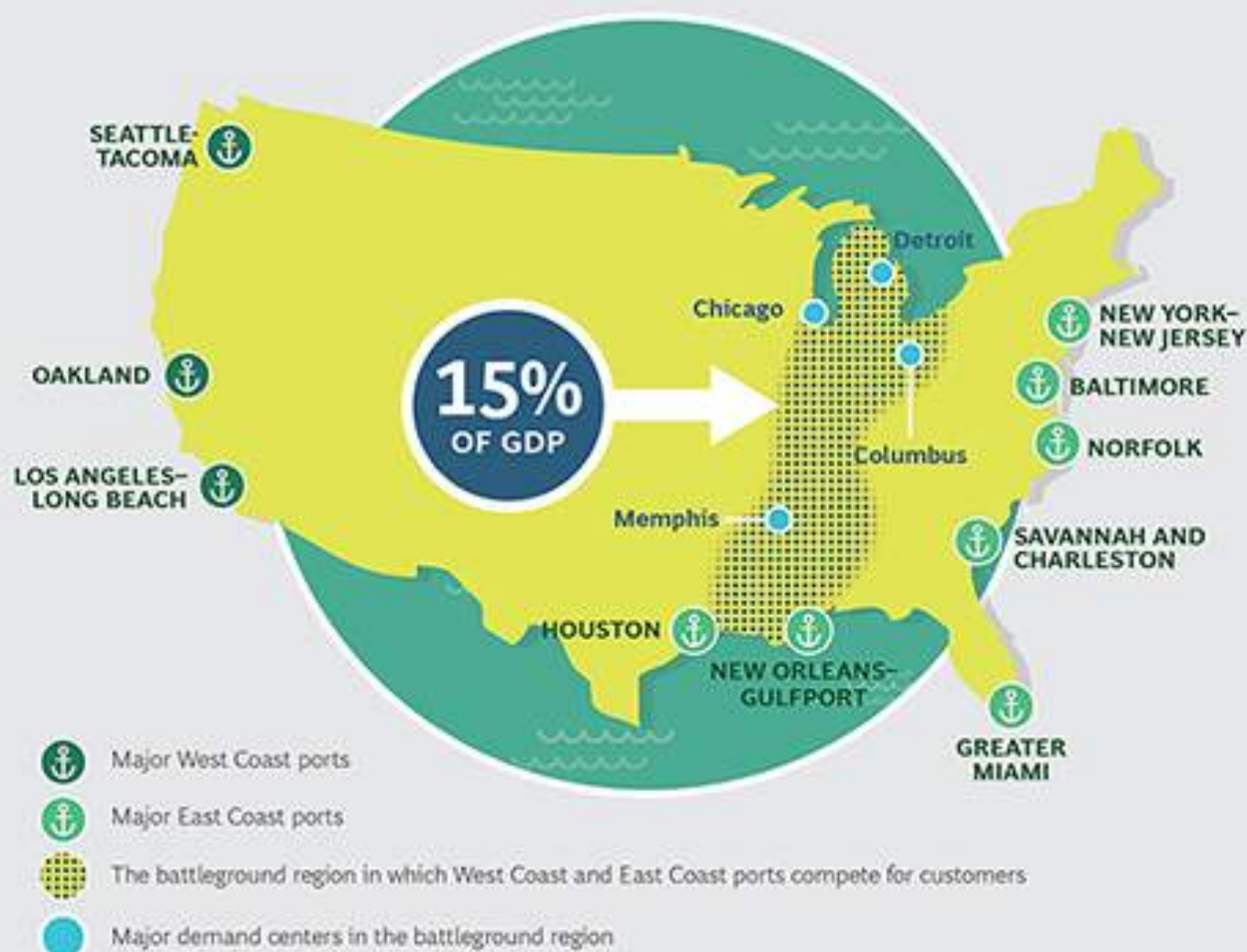
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Exhibit 2

A Battleground Region Representing **15 Percent** of GDP Will Be in Play Between West Coast and East Coast Ports



Sources: U.S. Department of Commerce Bureau of Economic Analysis; BCG analysis.

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A Battleground Region Representing **15 Percent** of GDP Will Be in Play Between West Coast and East Coast Ports

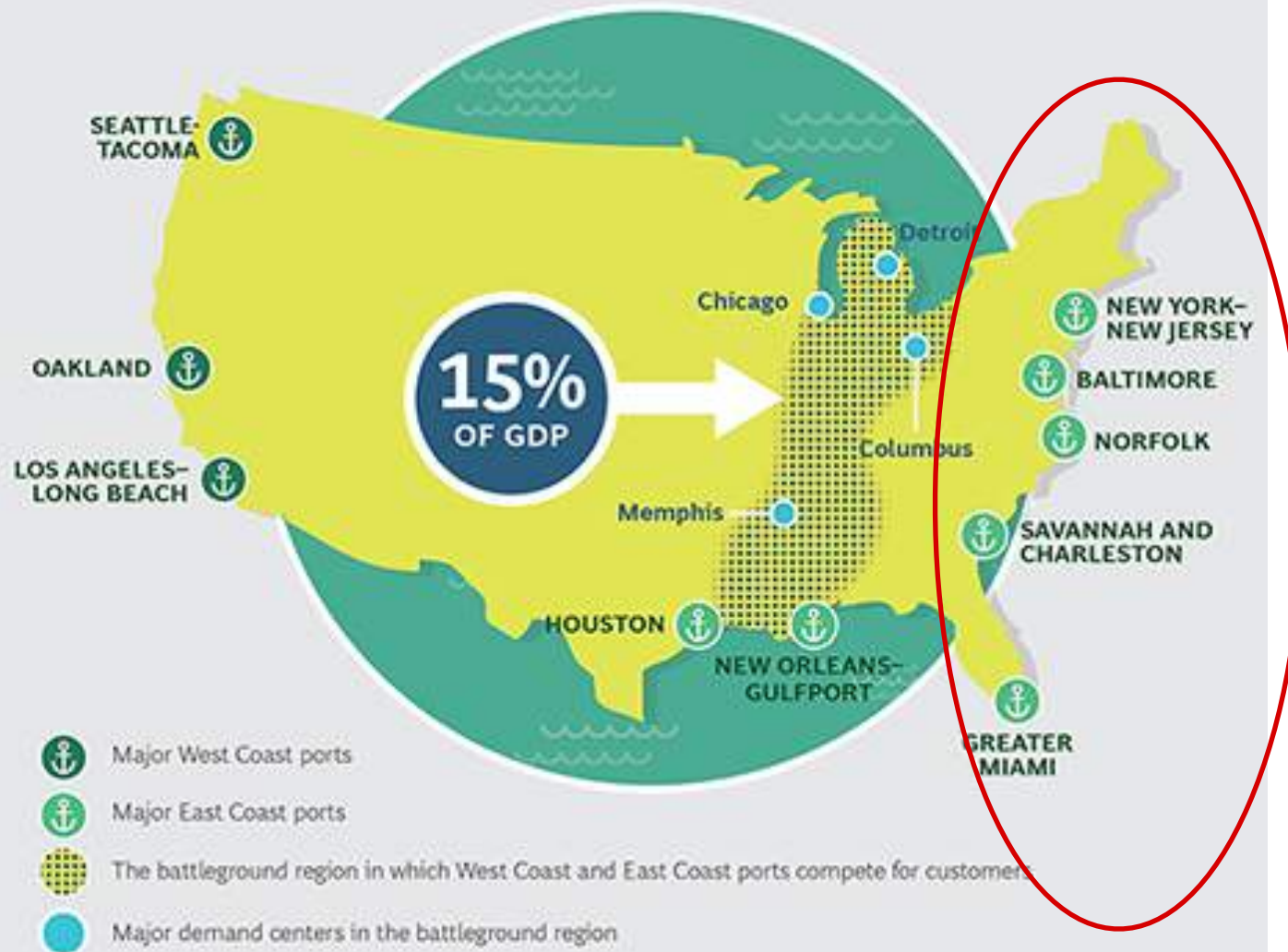
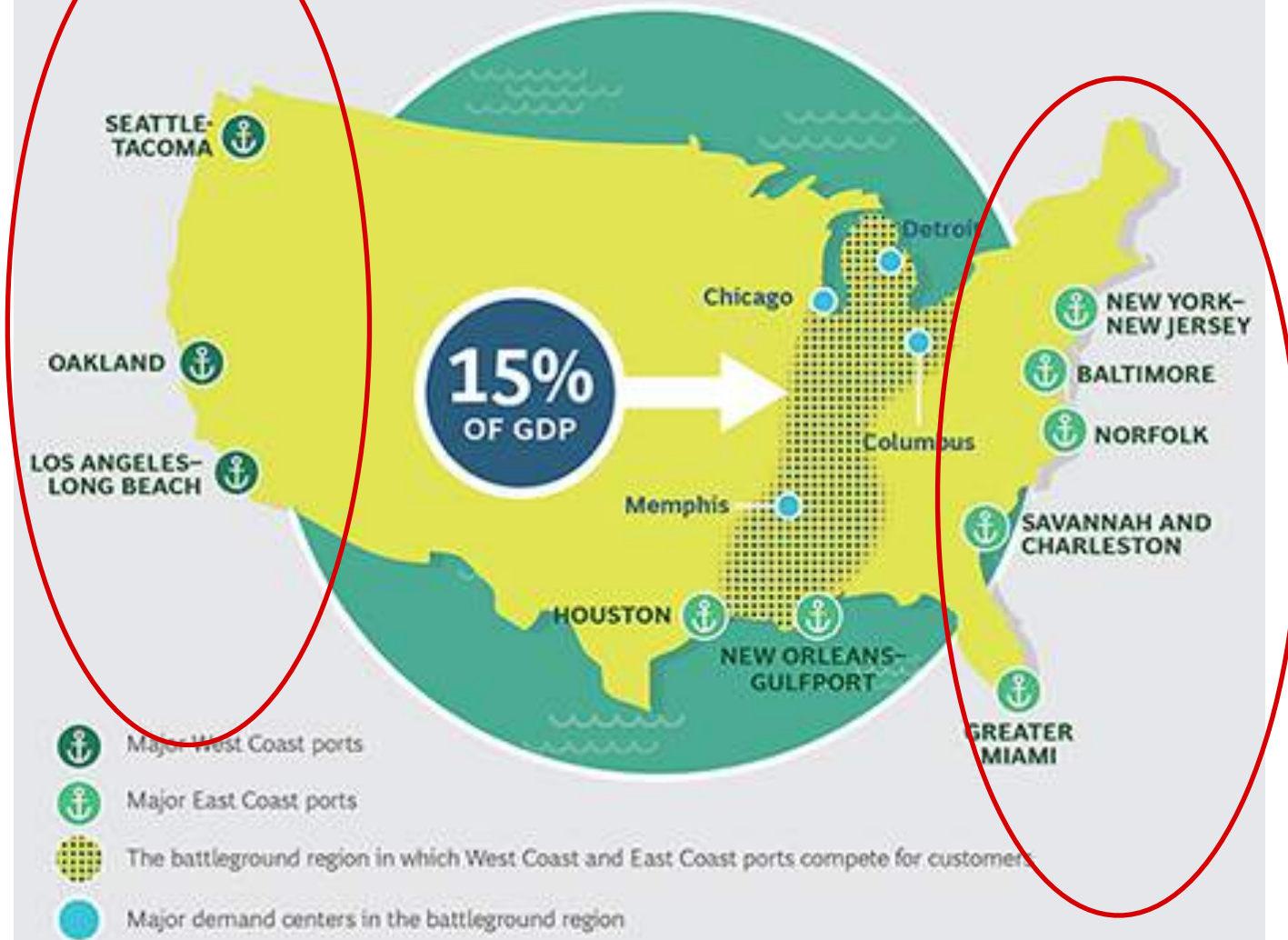
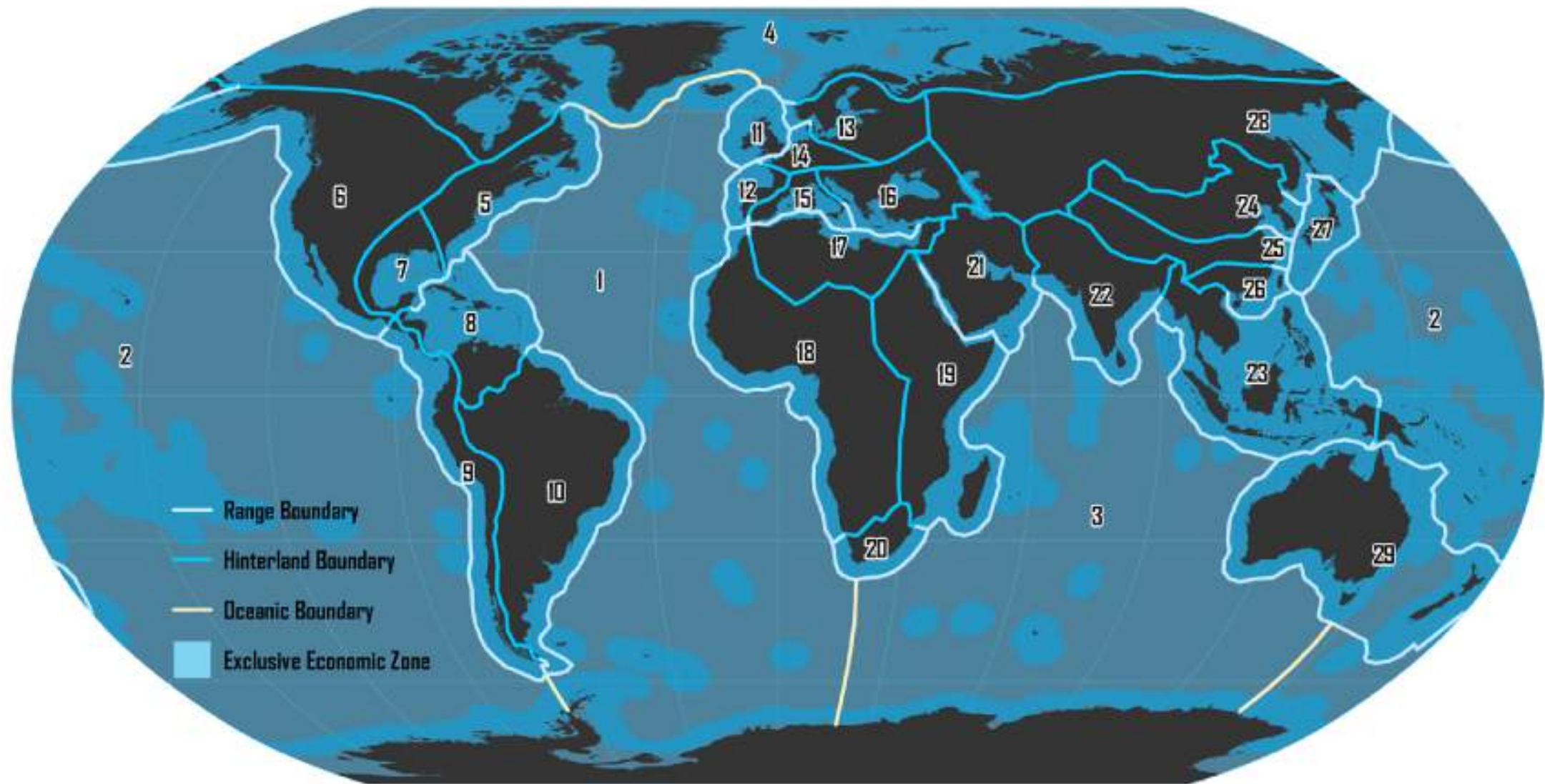


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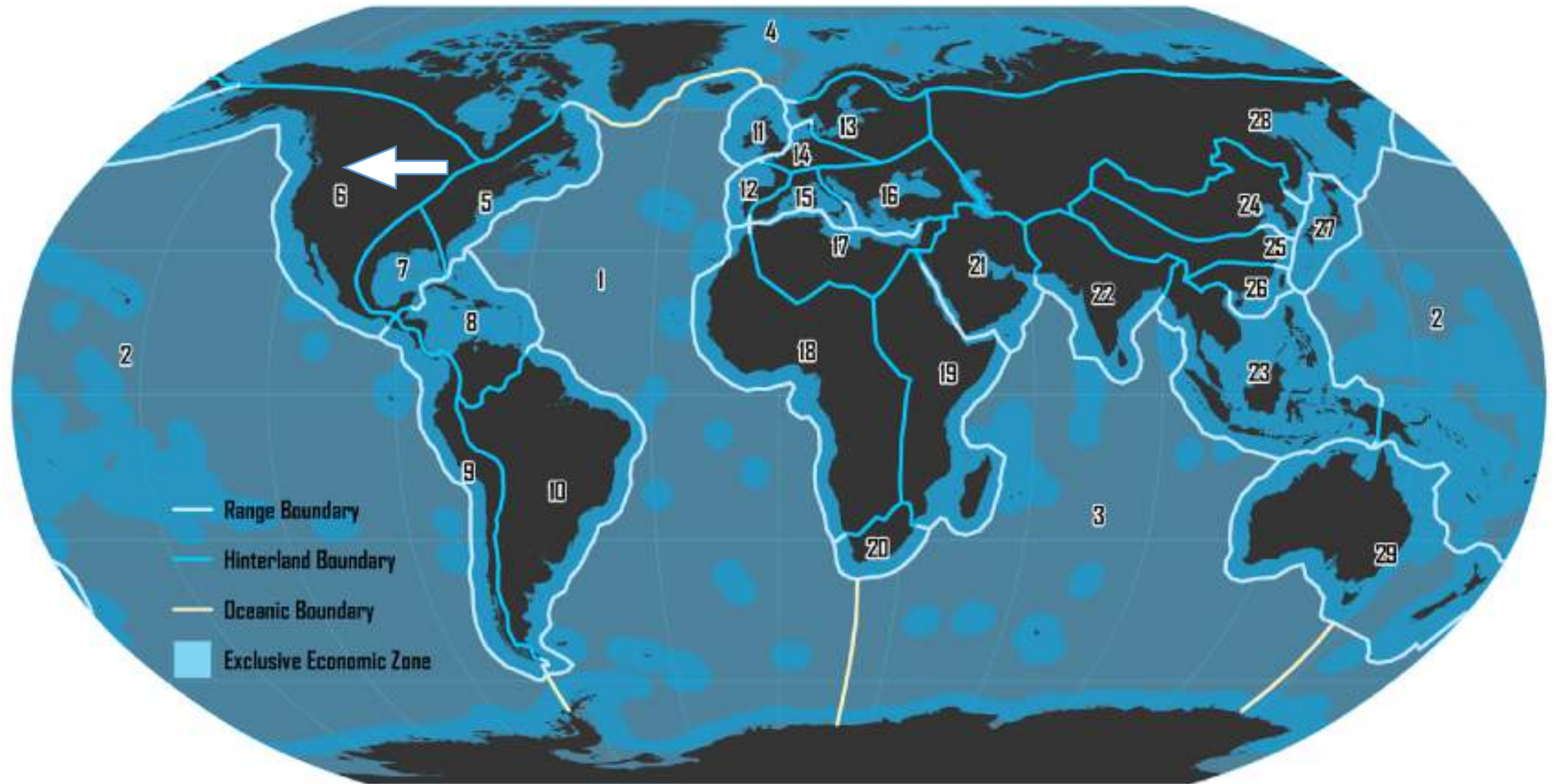
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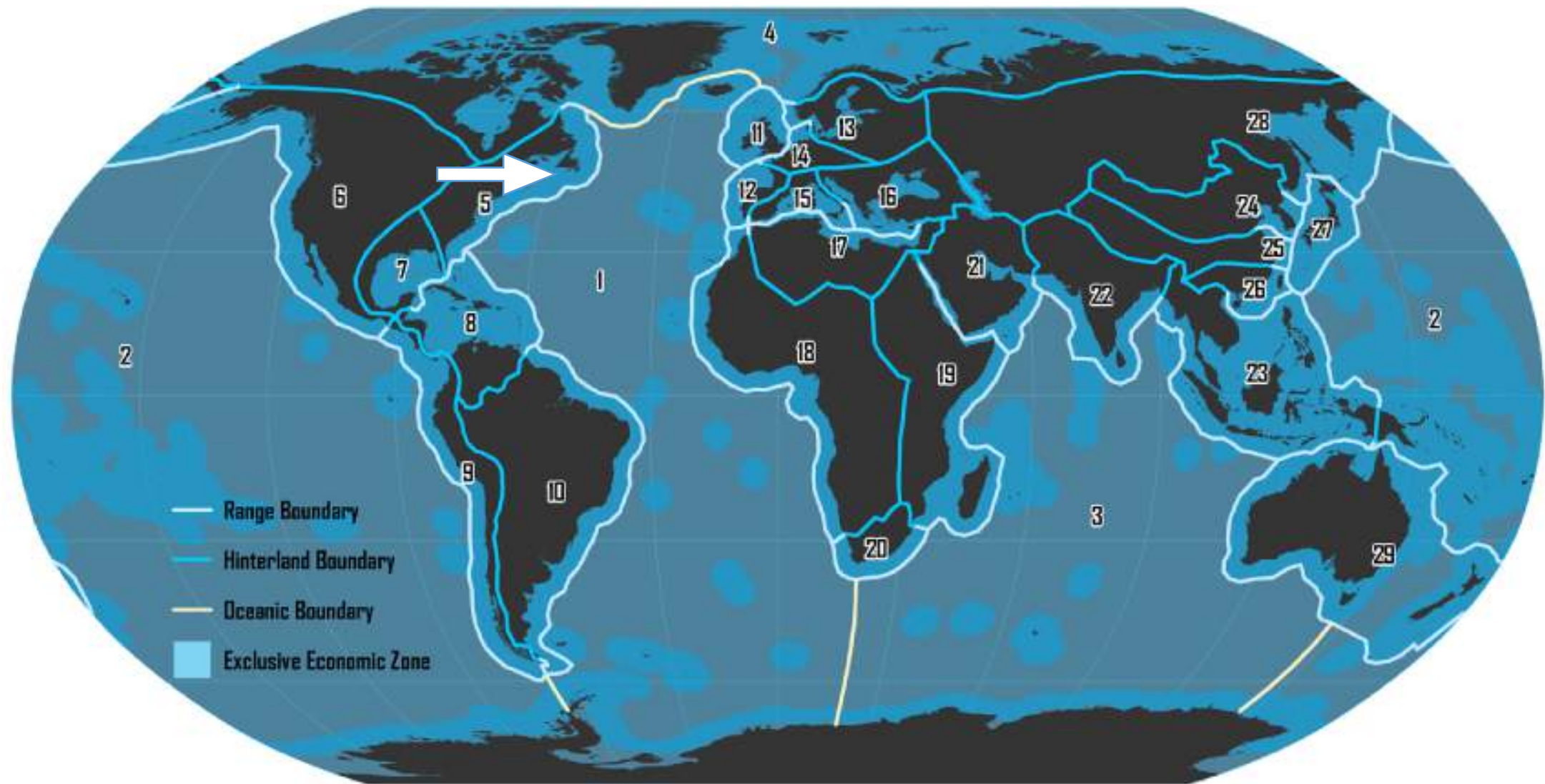
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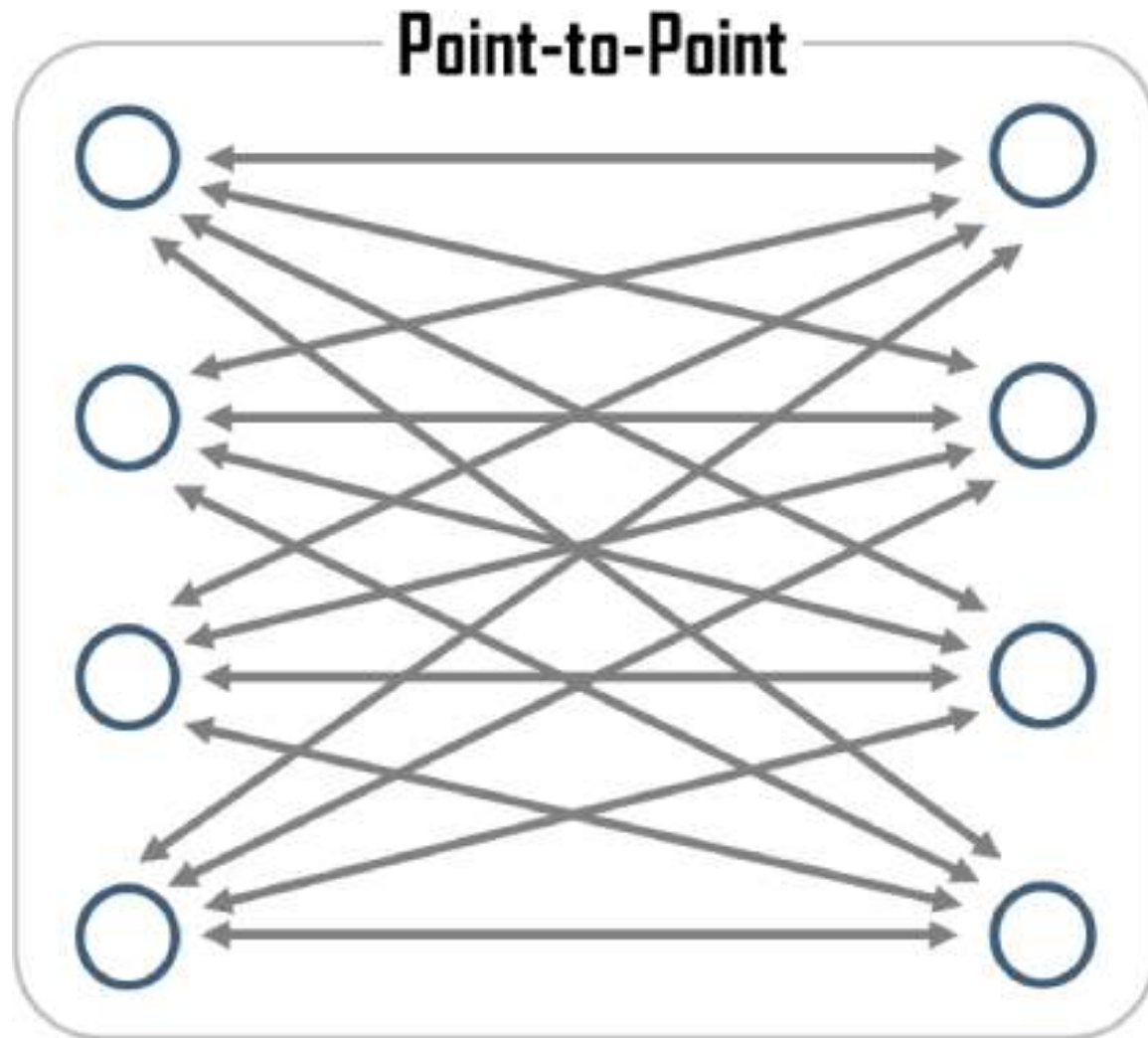
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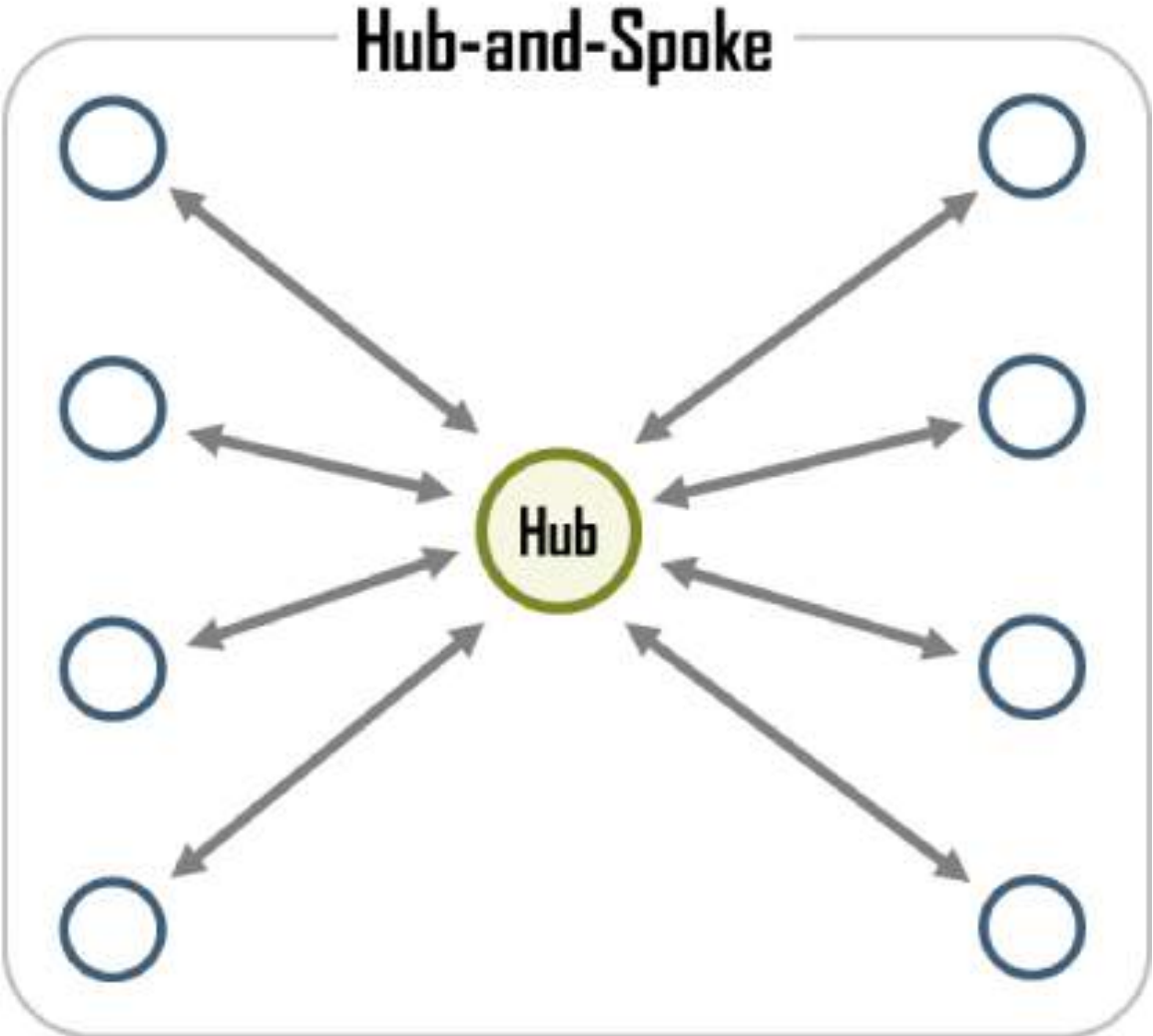
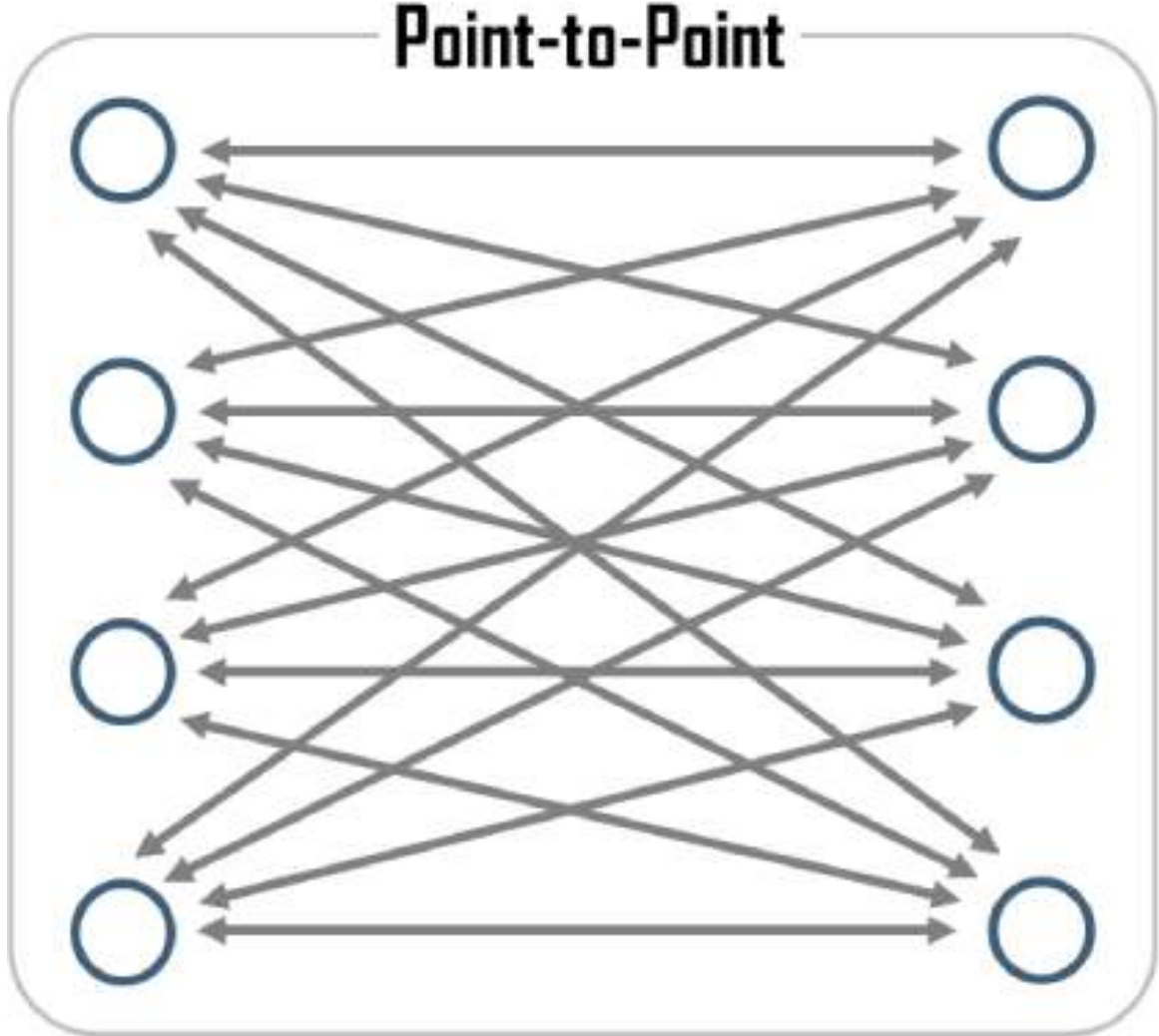
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3. Formatação de redes de transportes

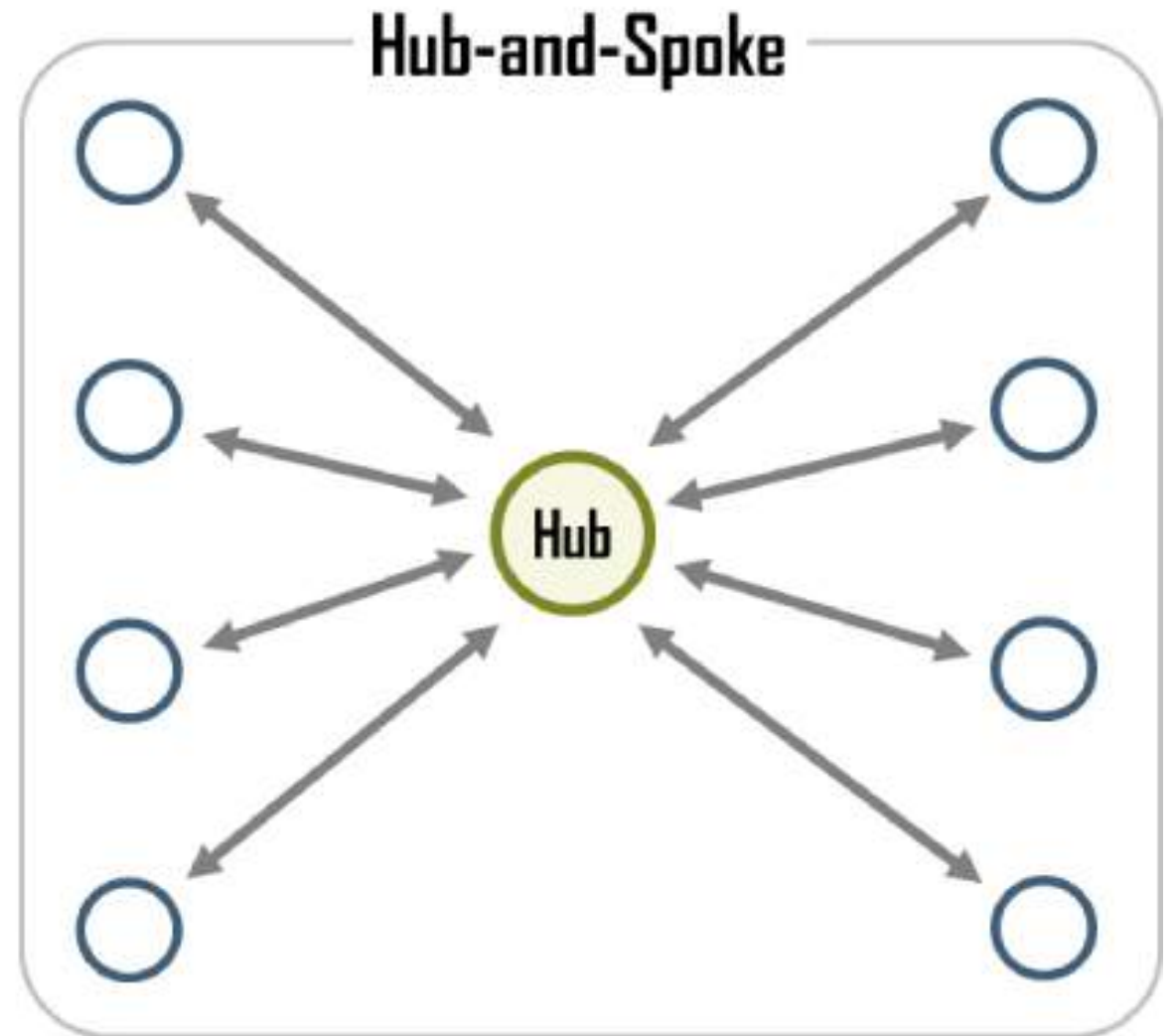
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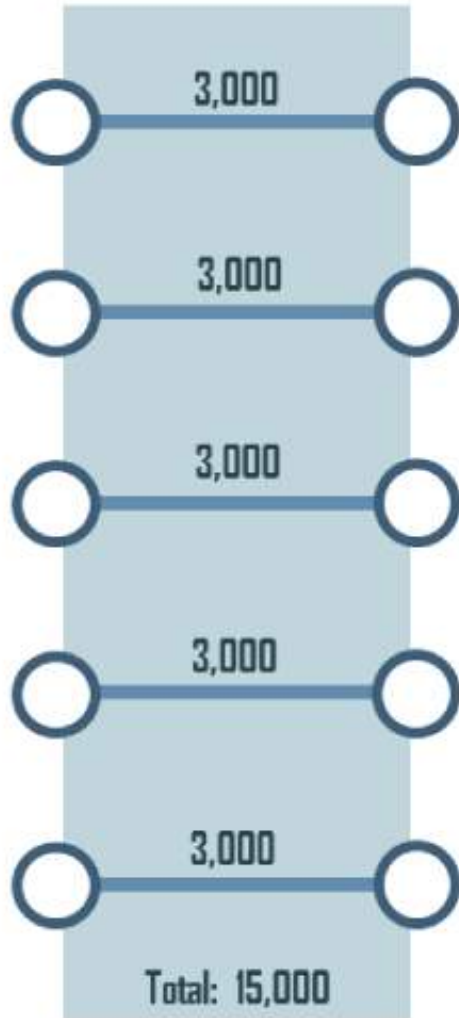


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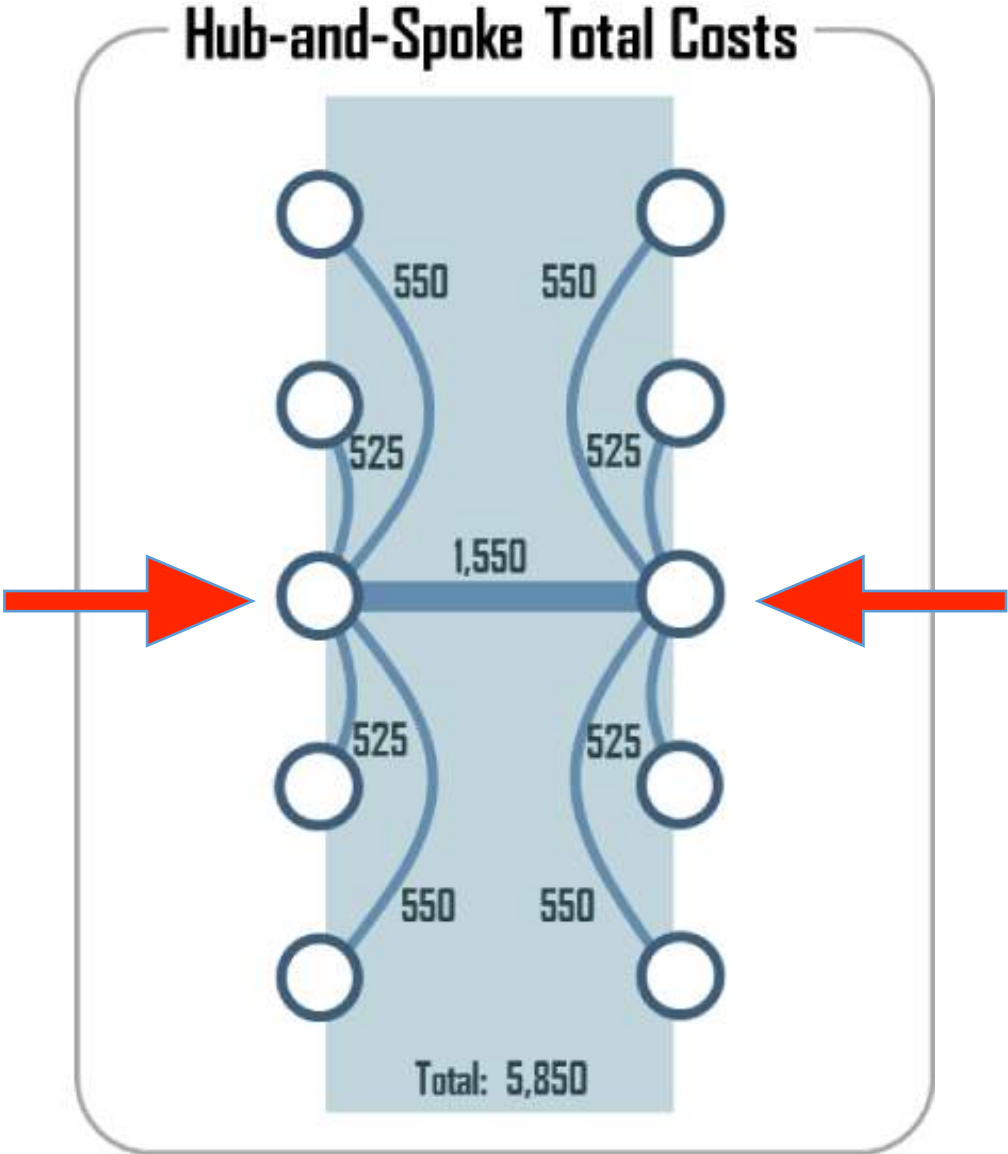
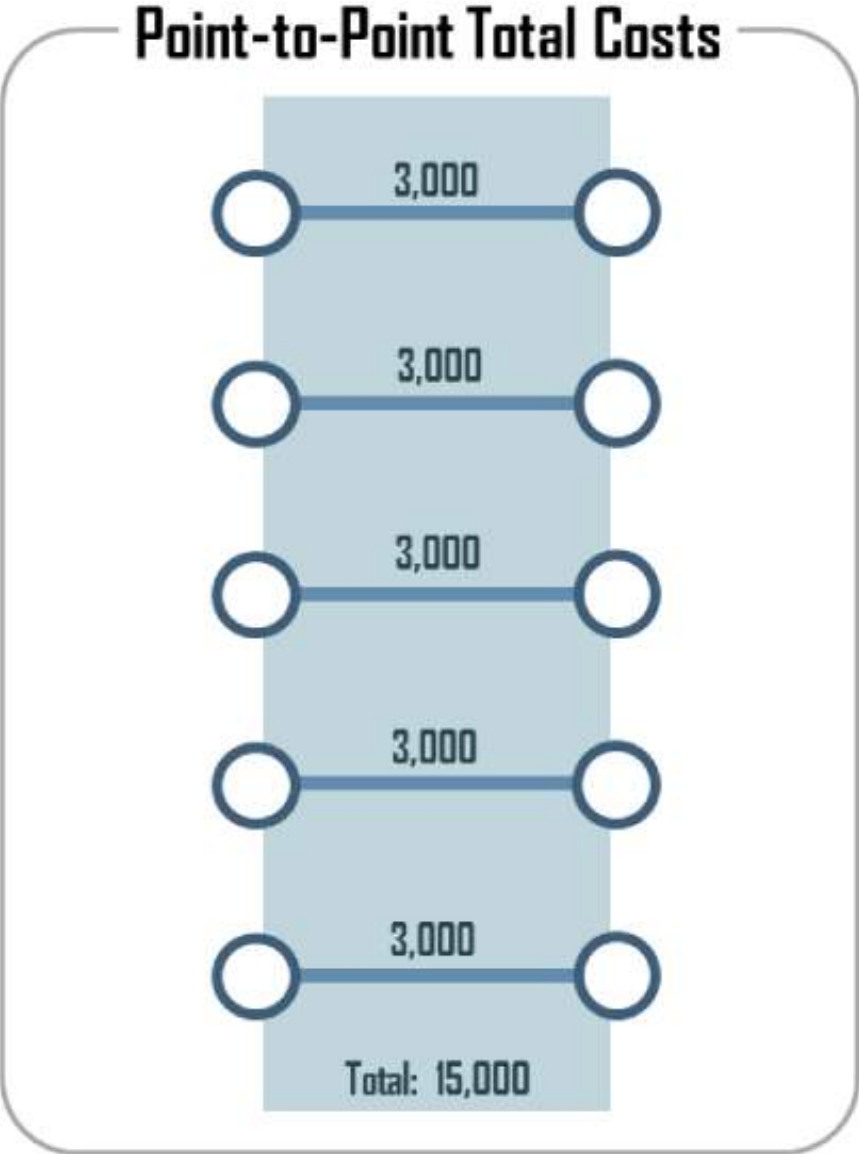


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Point-to-Point Total Costs

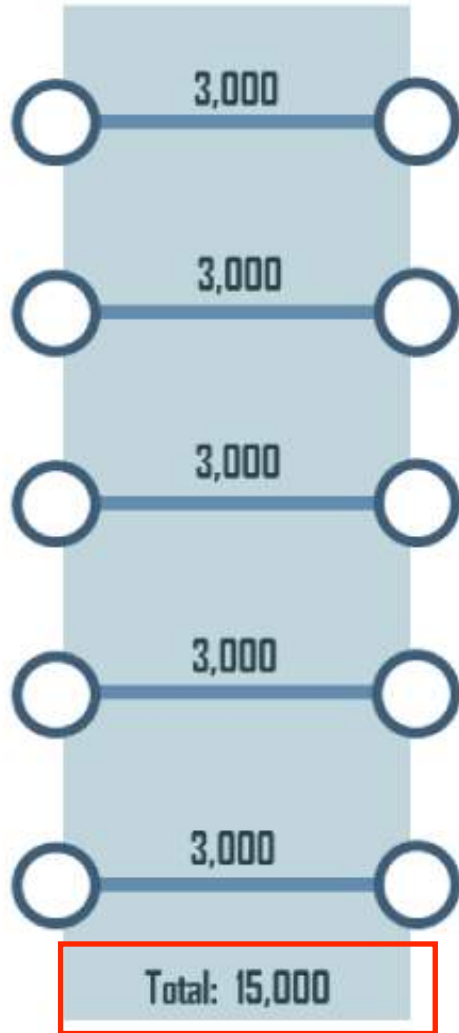


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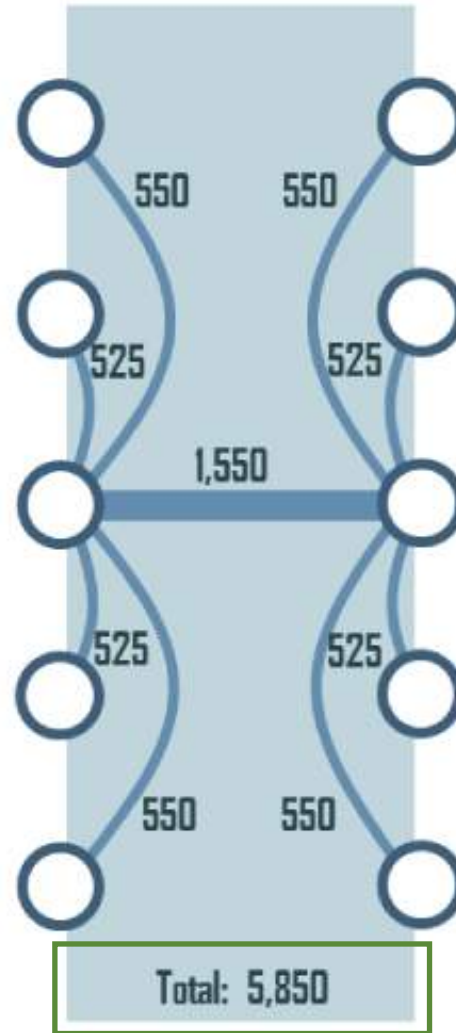


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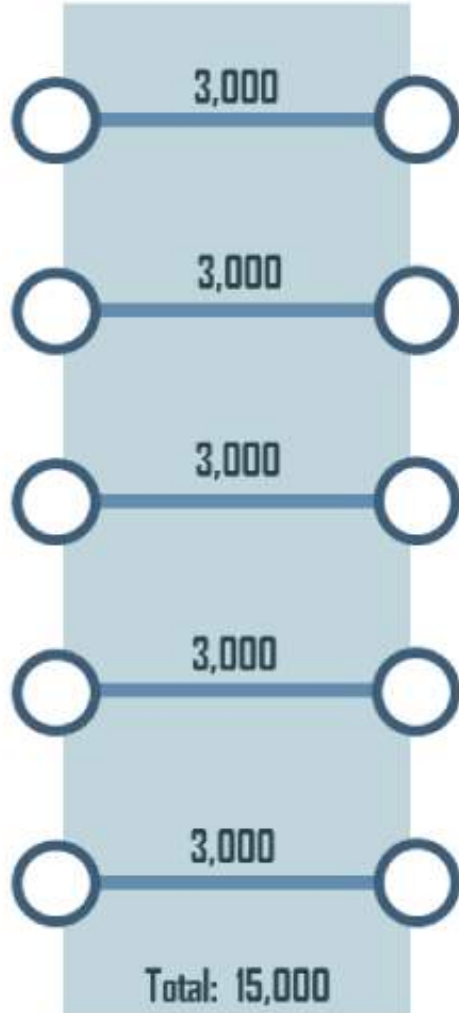
Hub-and-Spoke Total Costs



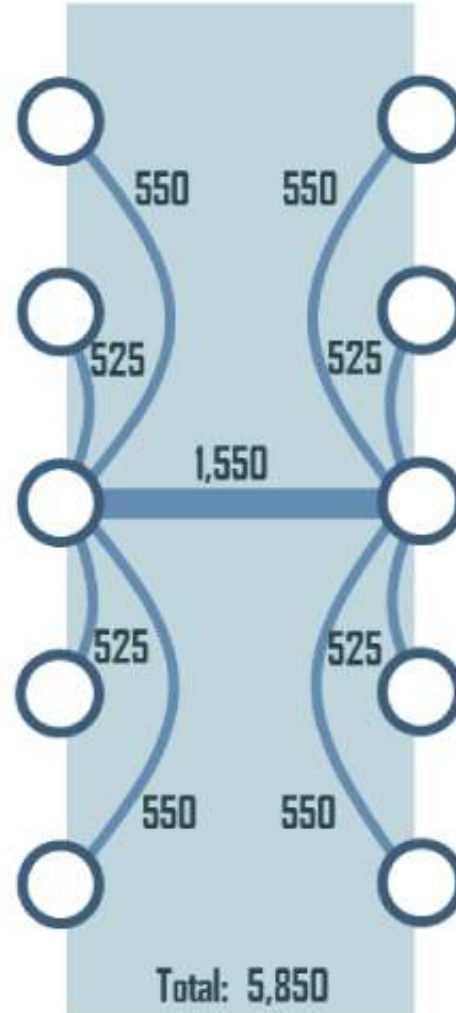
- Custo operacional do HUB pode ser menor que o porto-a-porto

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Point-to-Point Total Costs



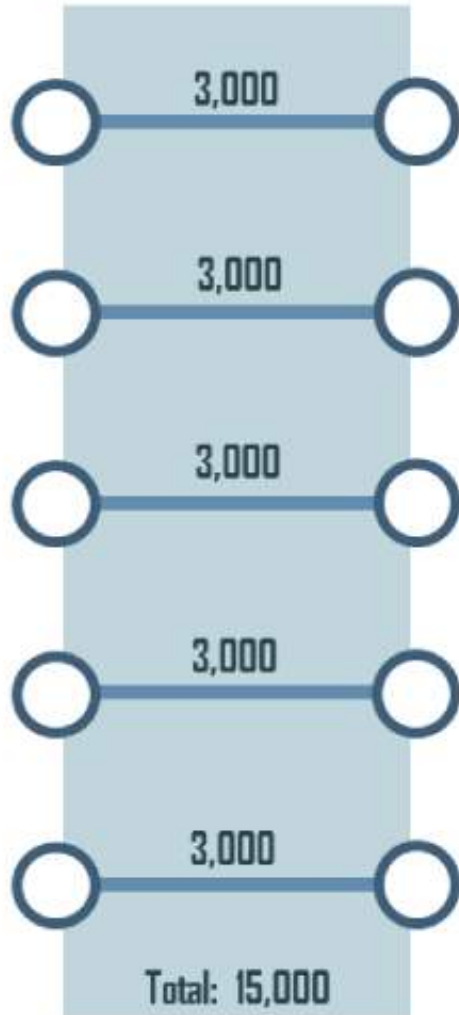
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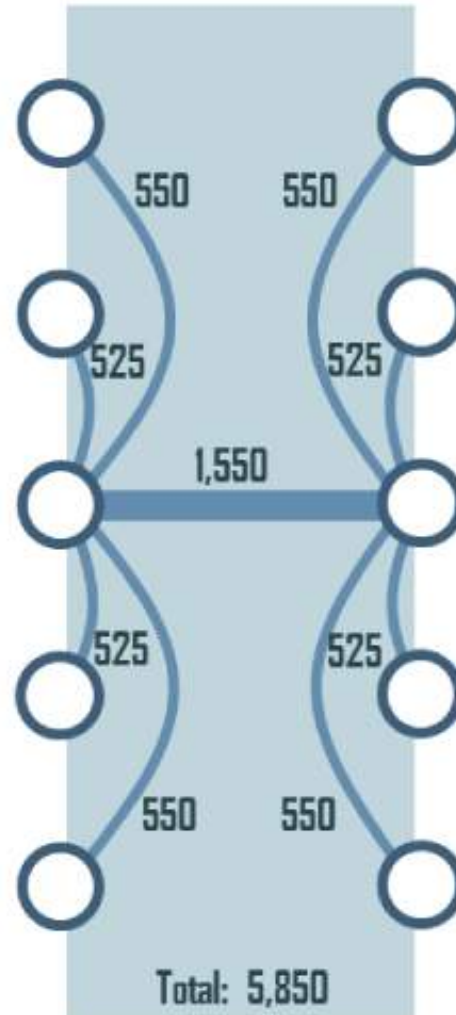
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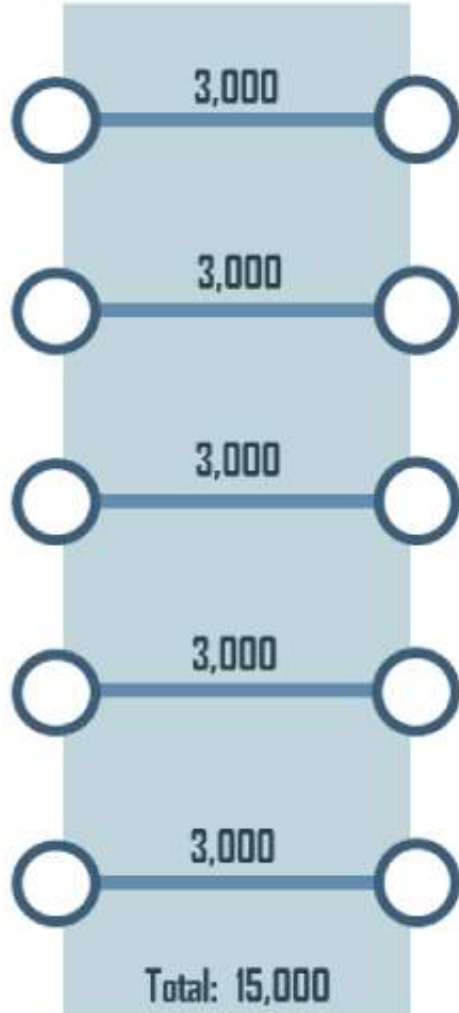
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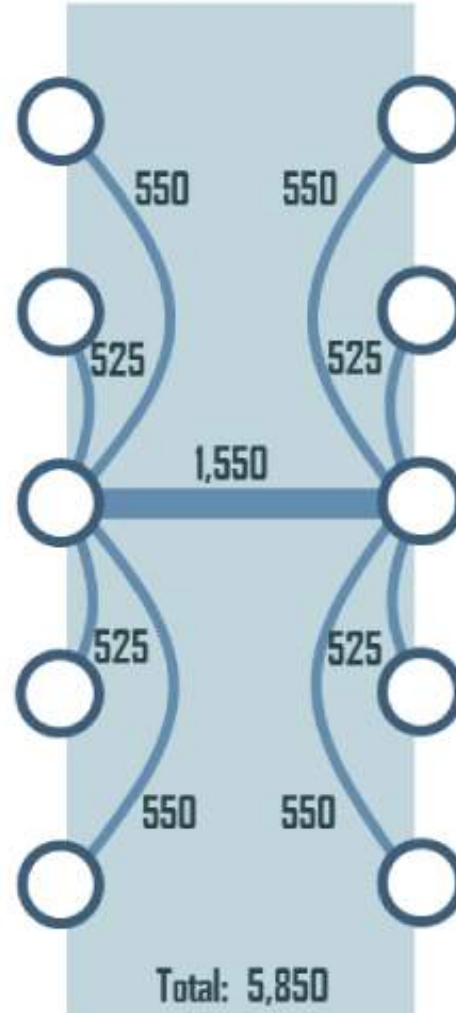
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- Vocação para o transbordo

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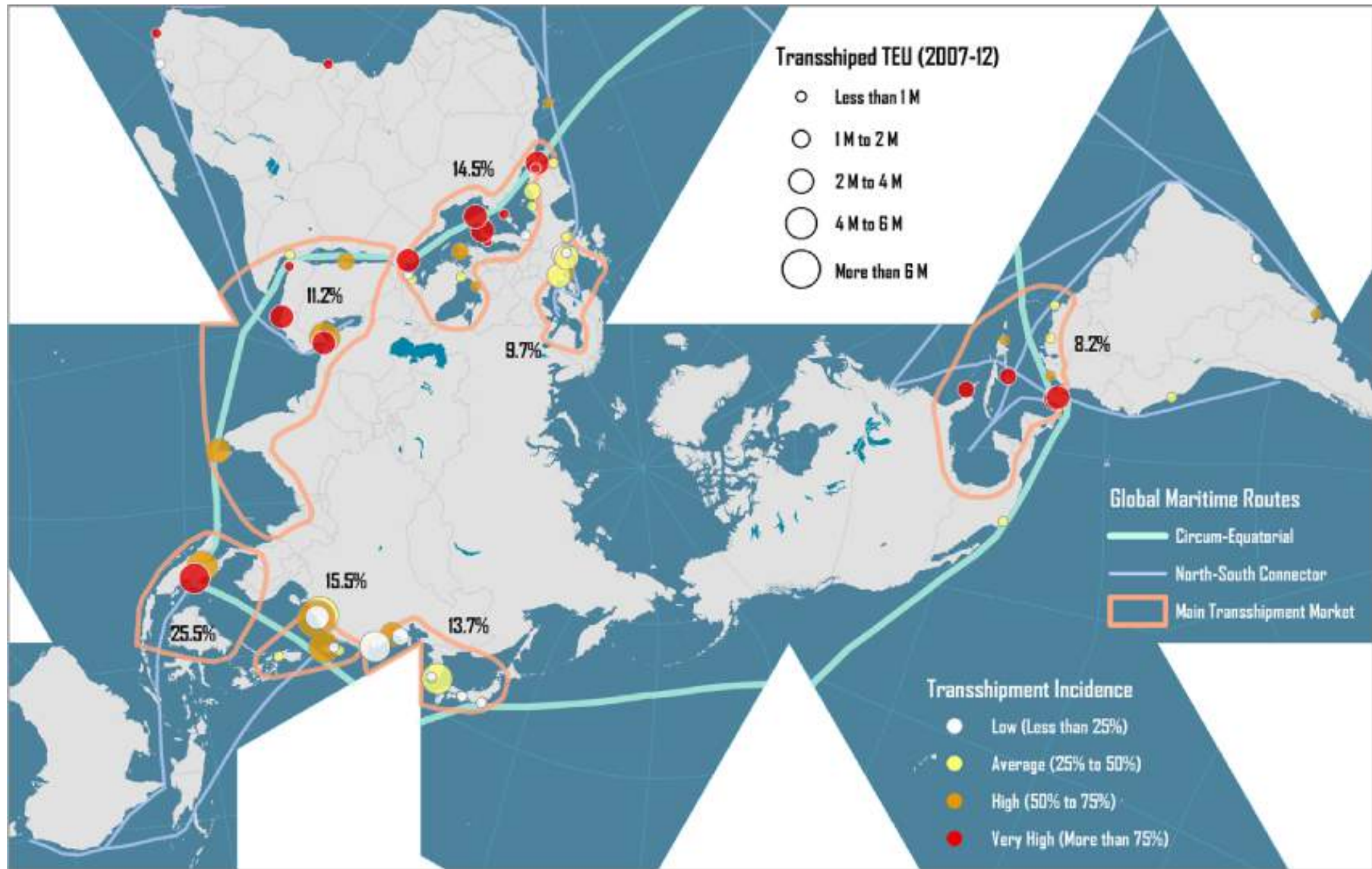
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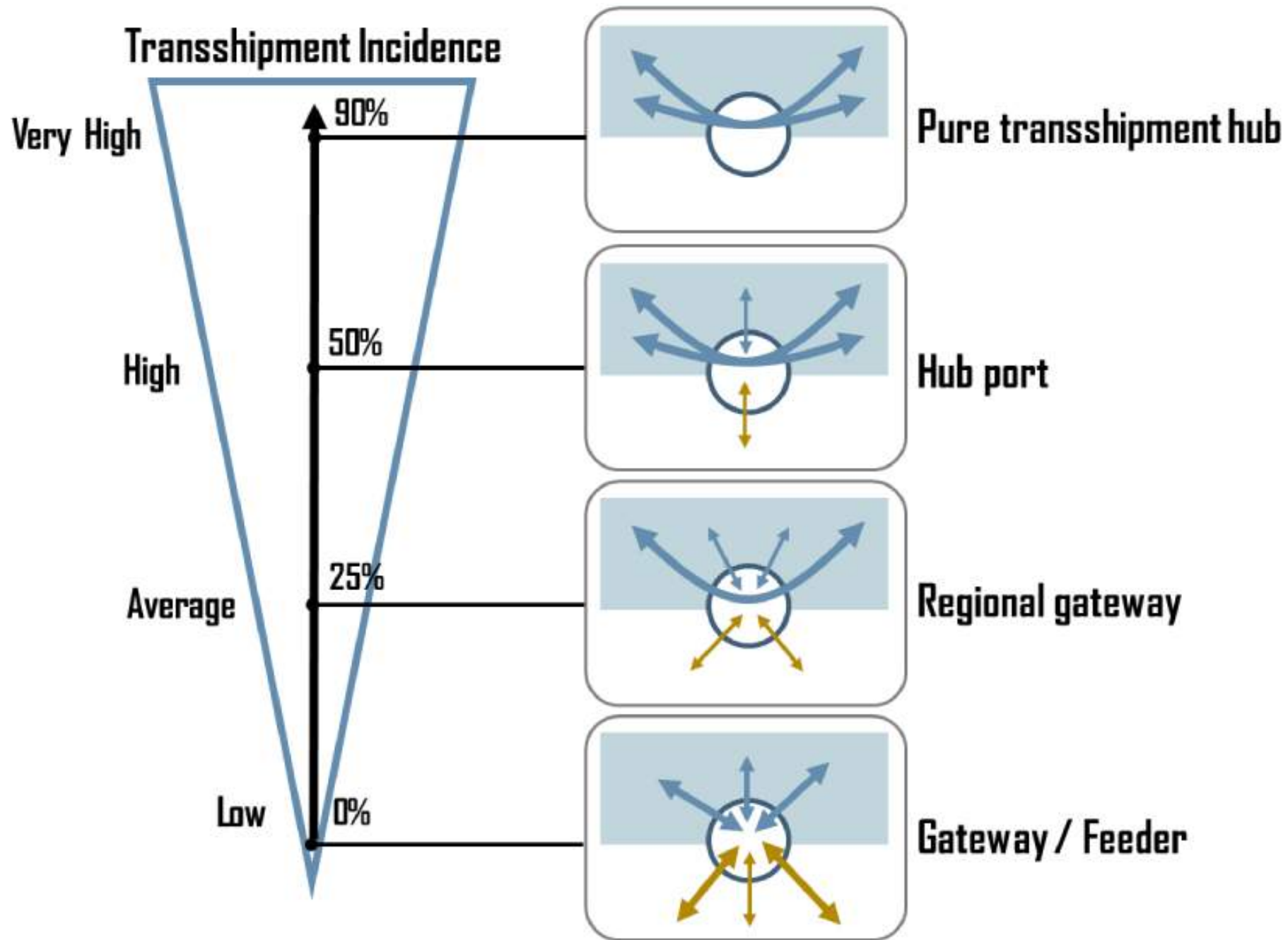


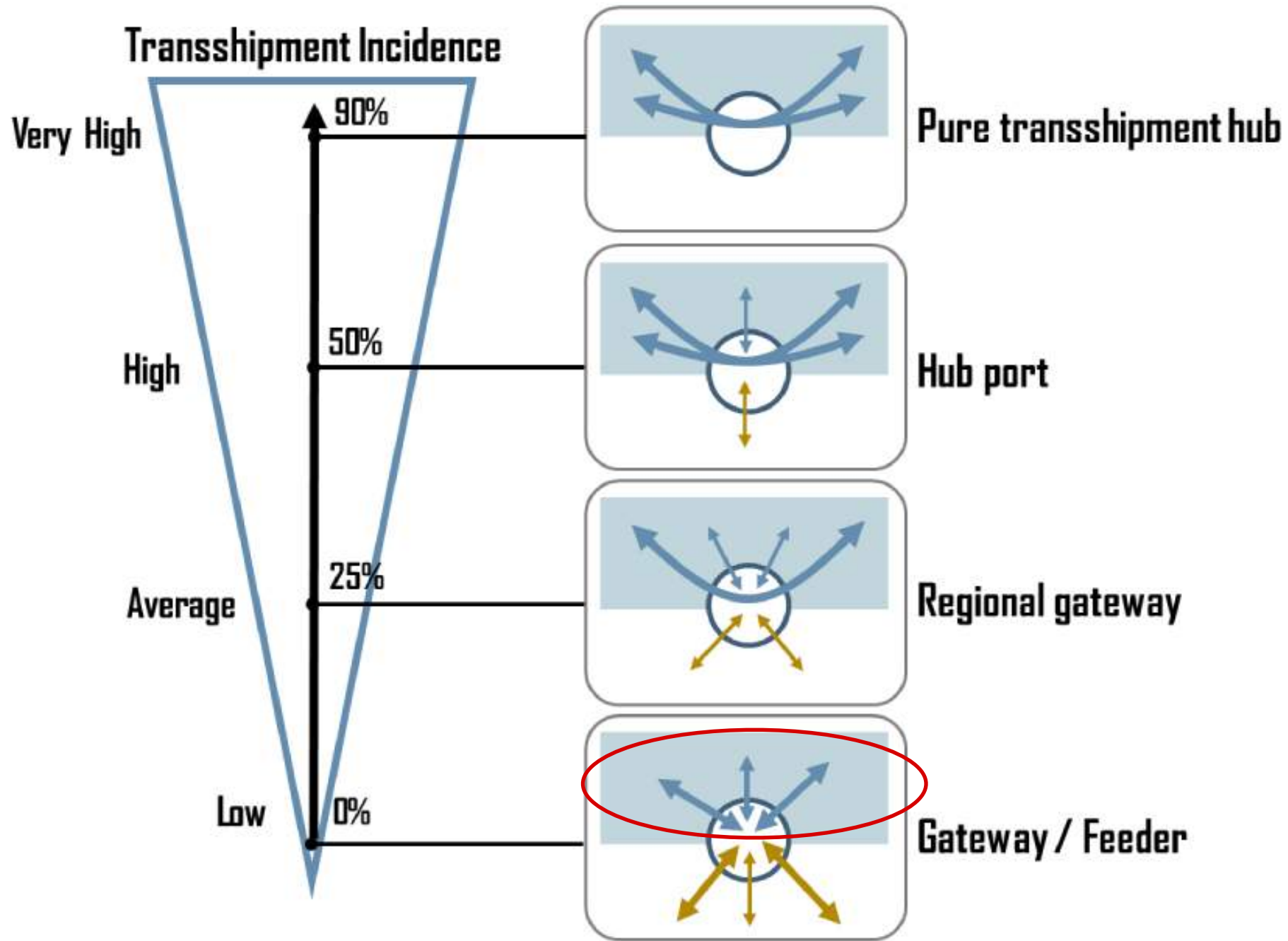
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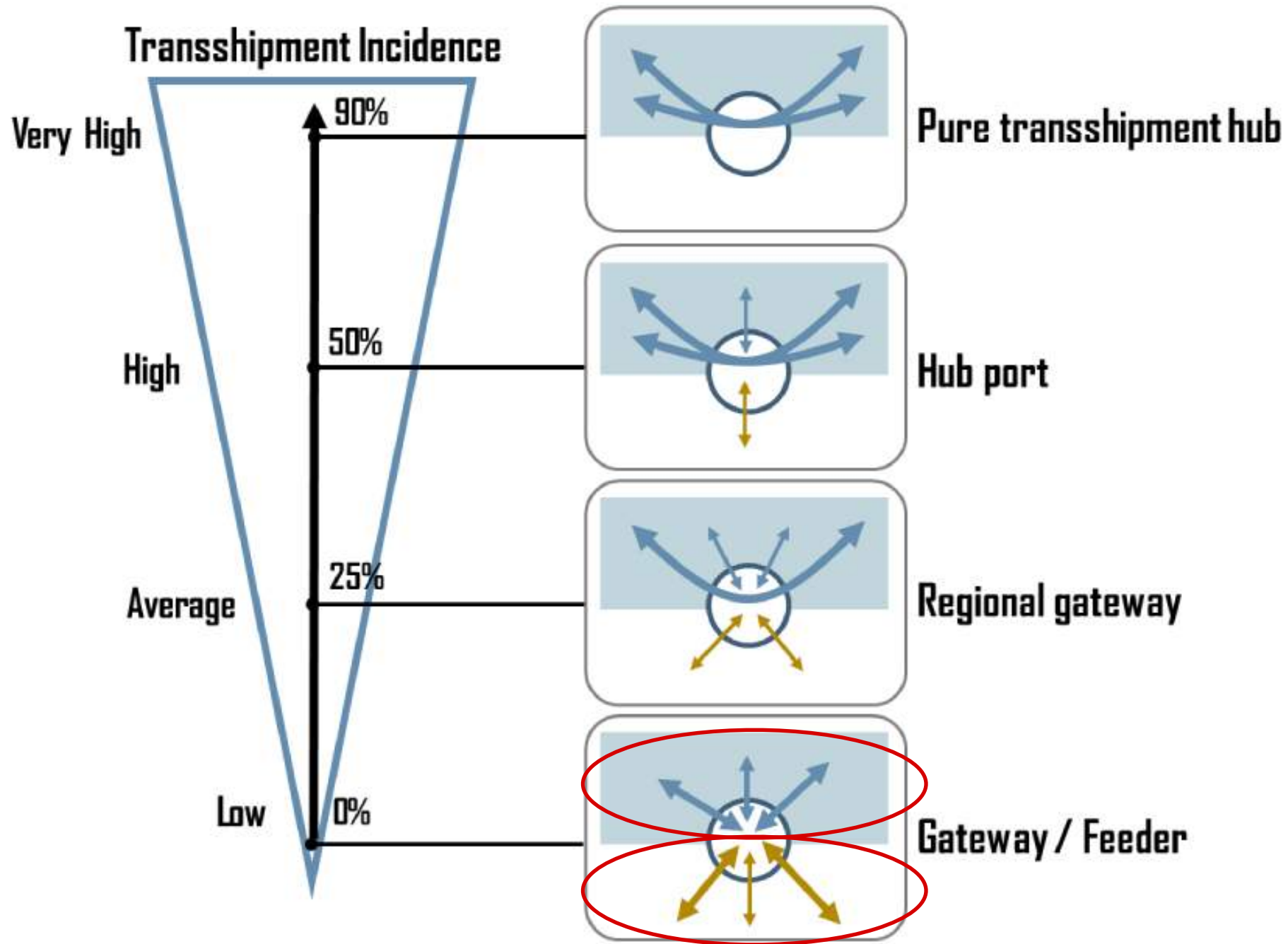


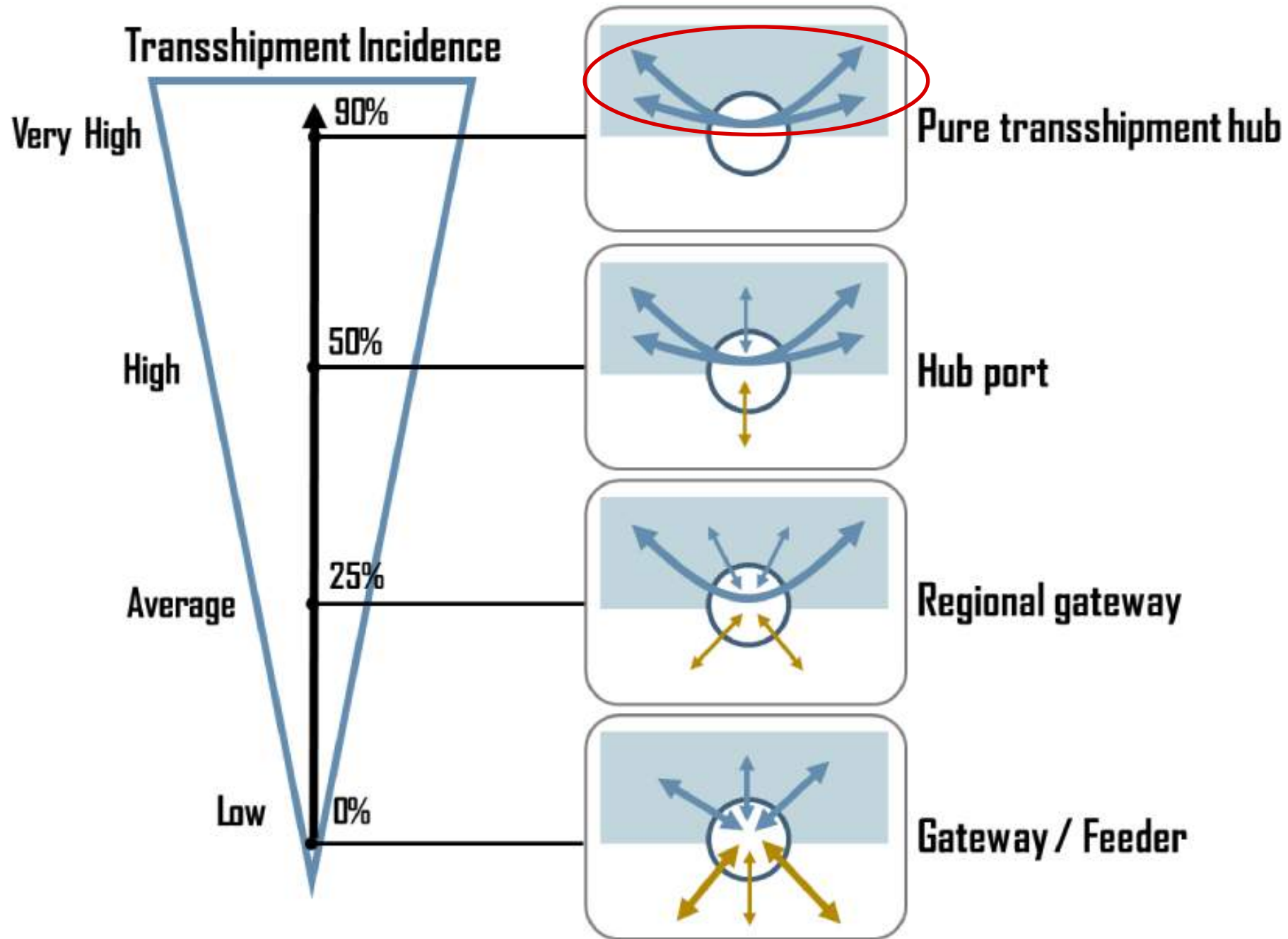
- Custo operacional do HUB pode ser menor que o porto-a-porto
- Porto deve ser suficientemente grande e com rotas desenvolvidas
- Vocação para o transbordo
- Portos só de transbordo não demandam alfândega

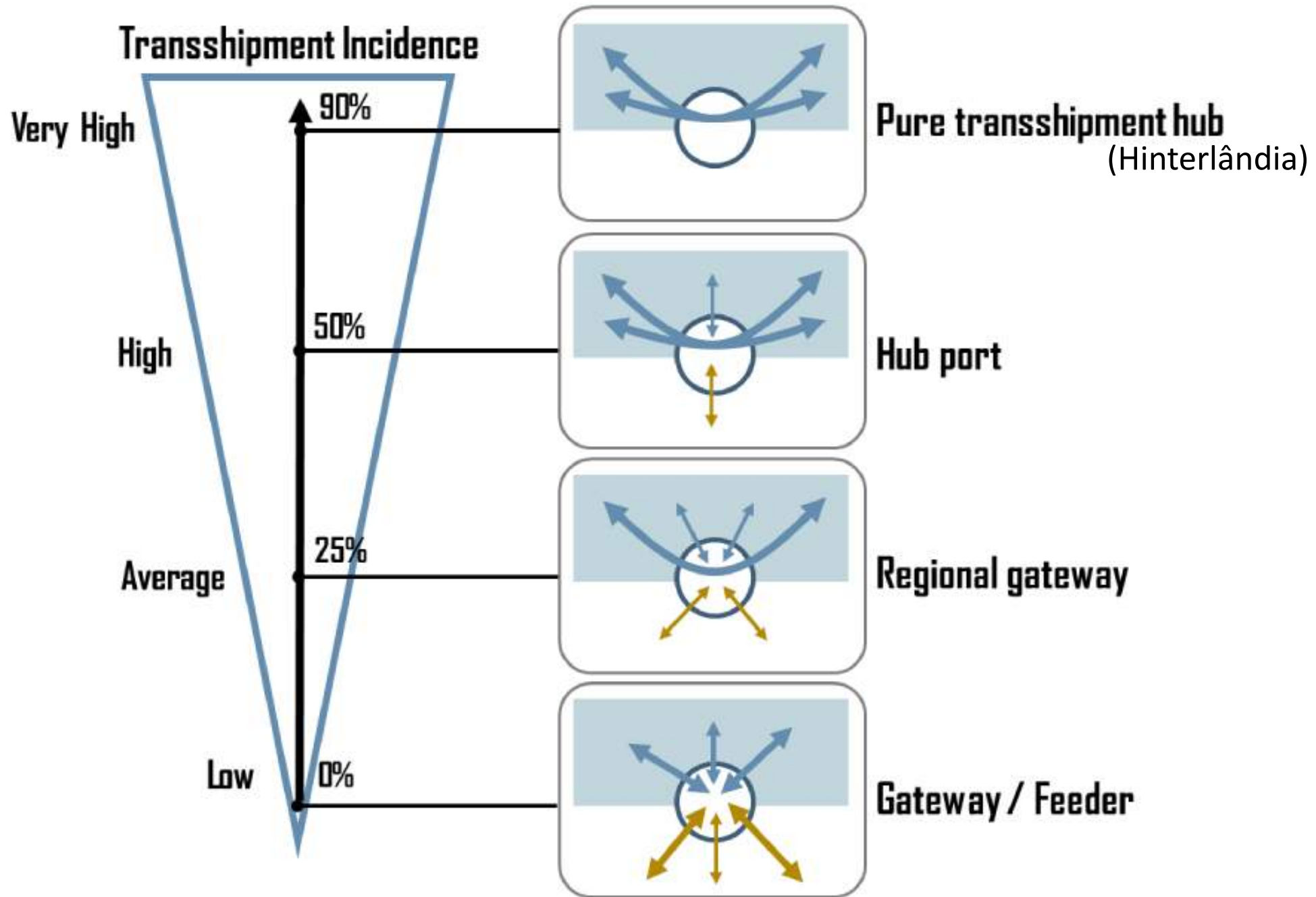


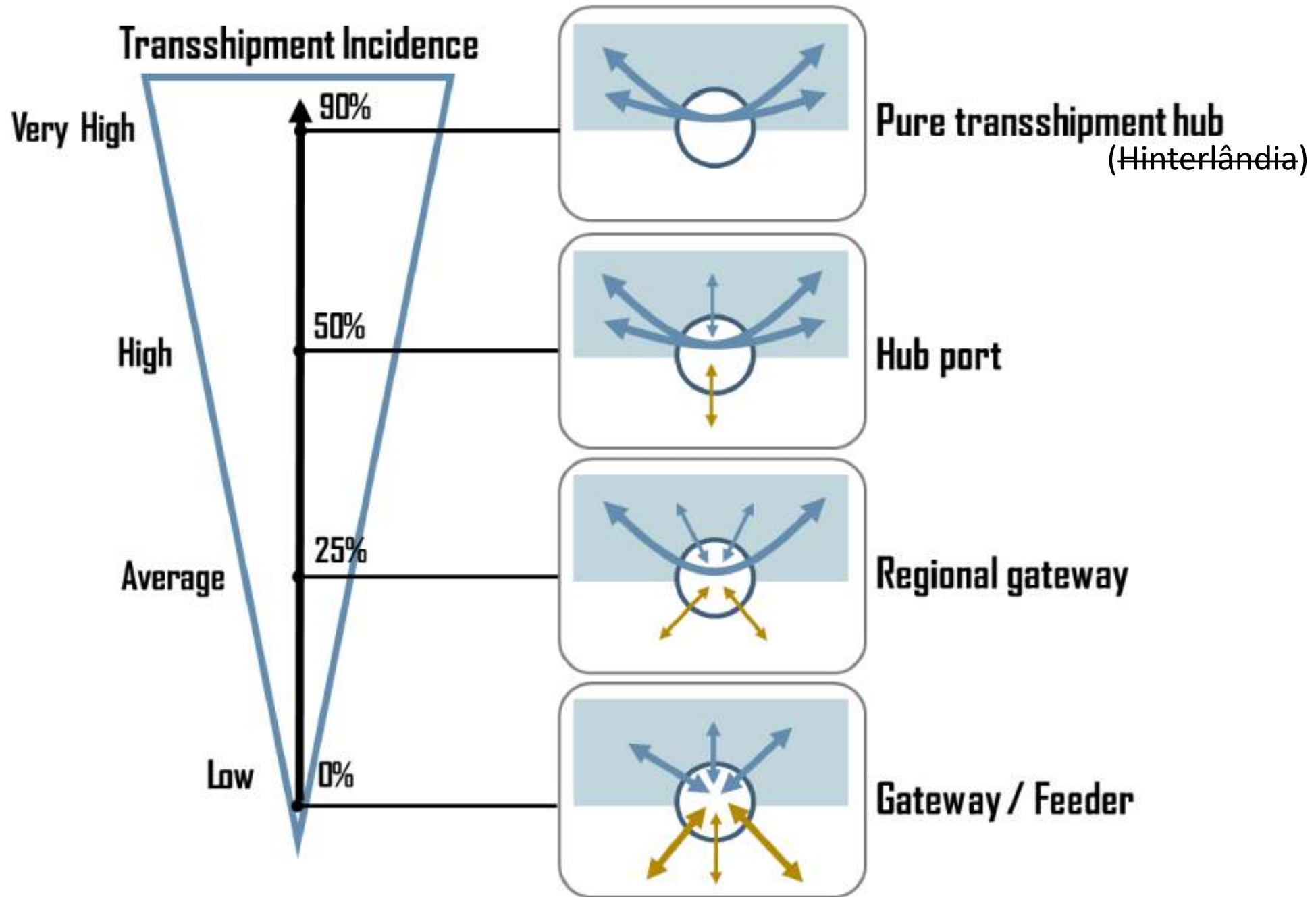






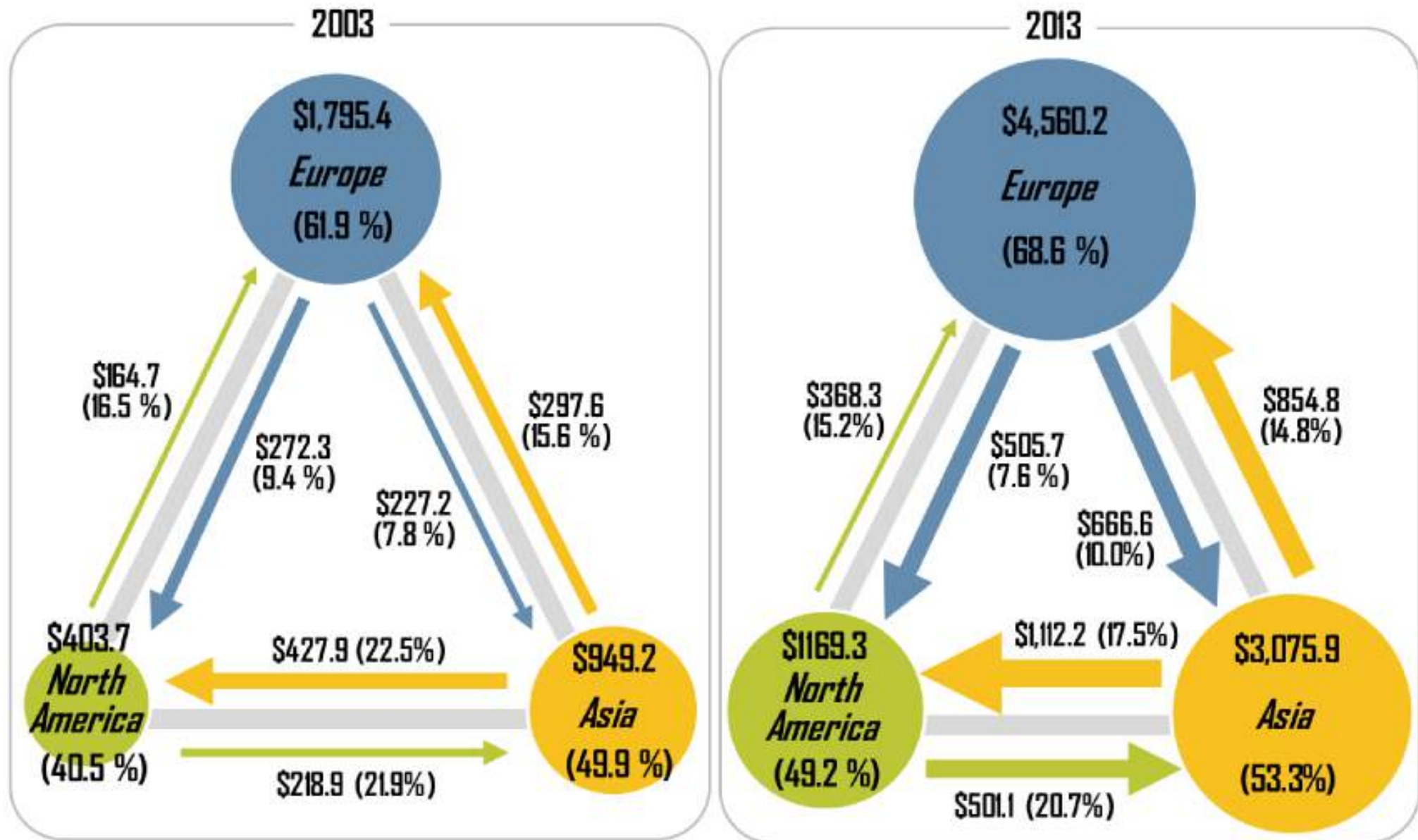




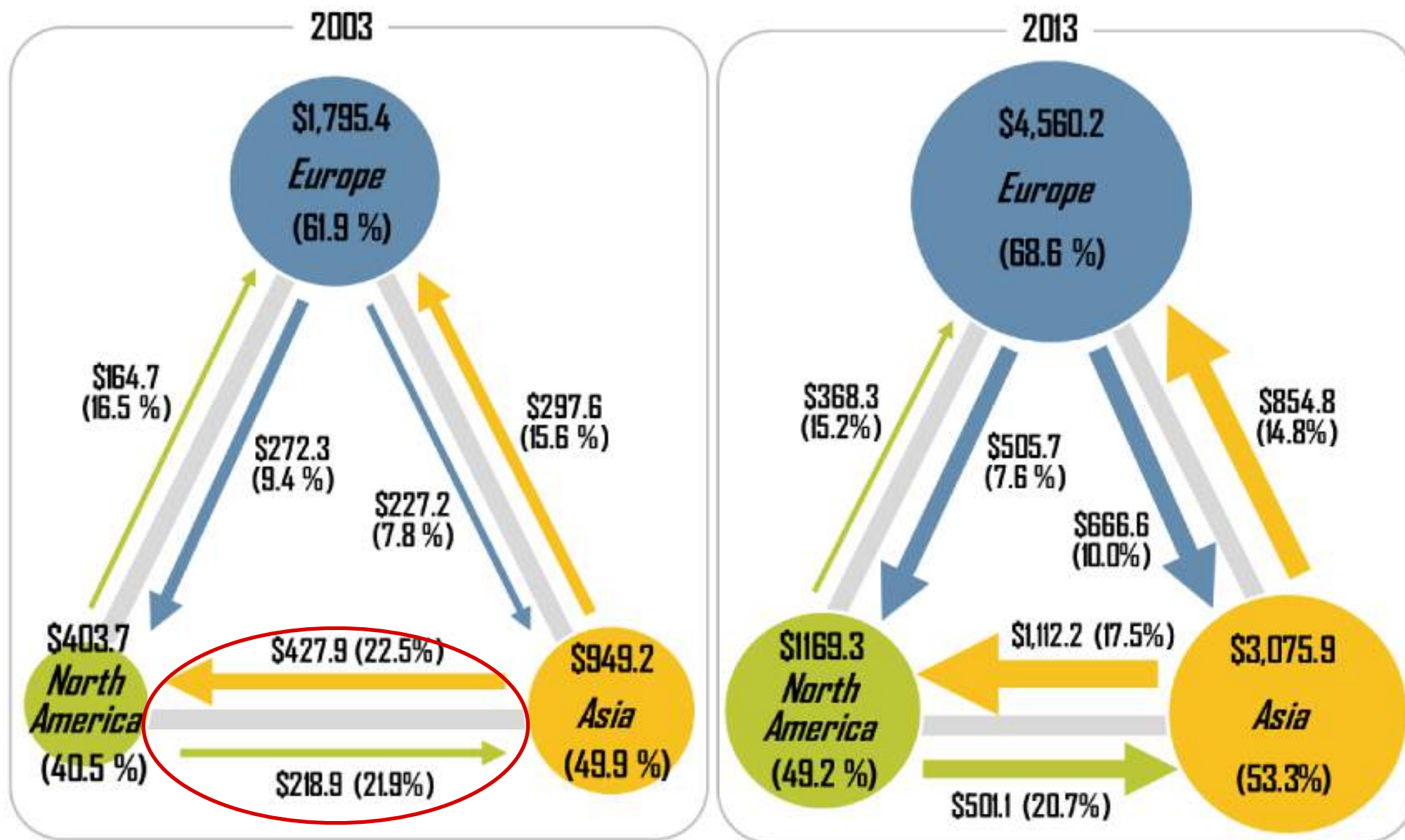


4. Particularidade: o fluxo desbalanceado

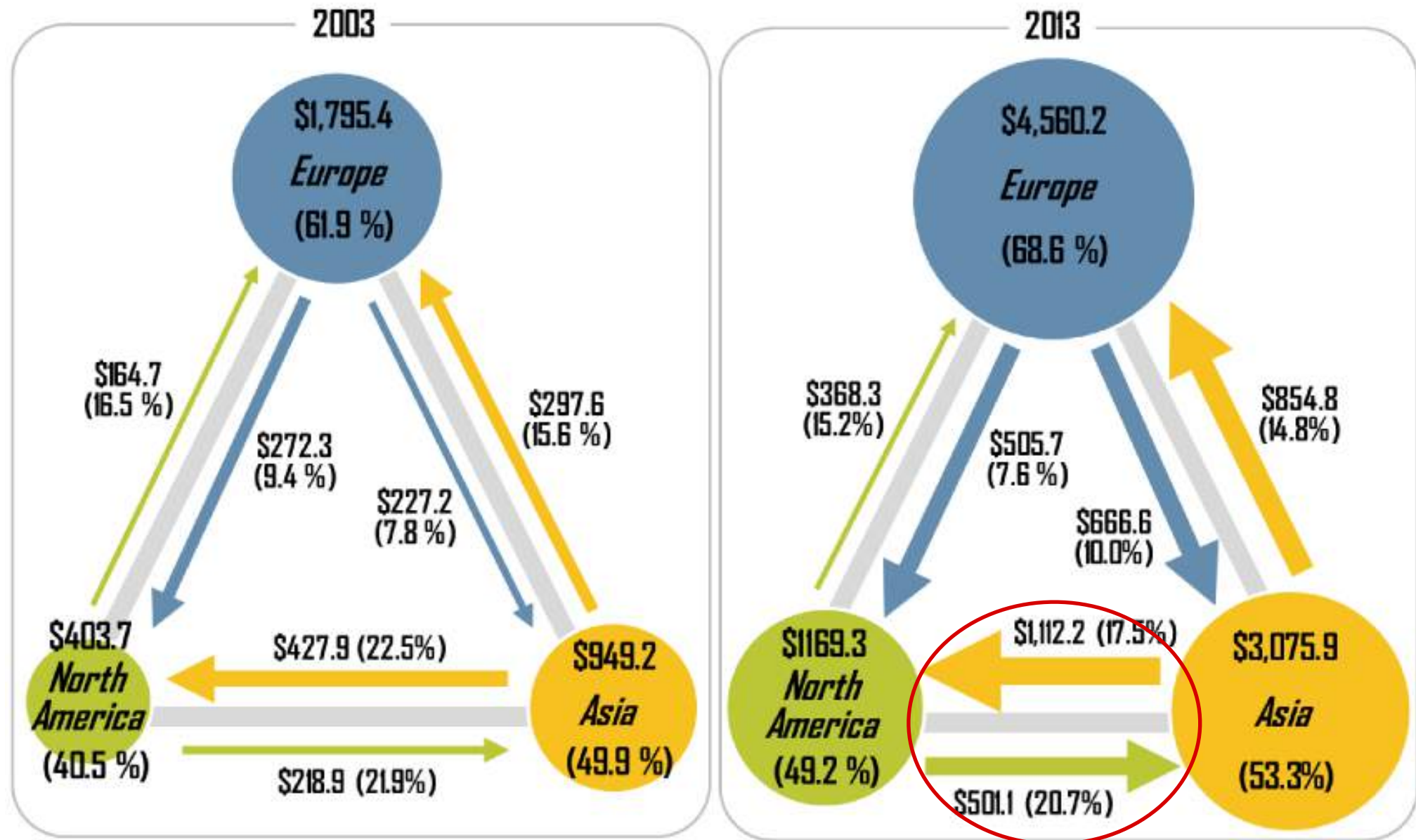
4. Particularidade: o fluxo desbalanceado



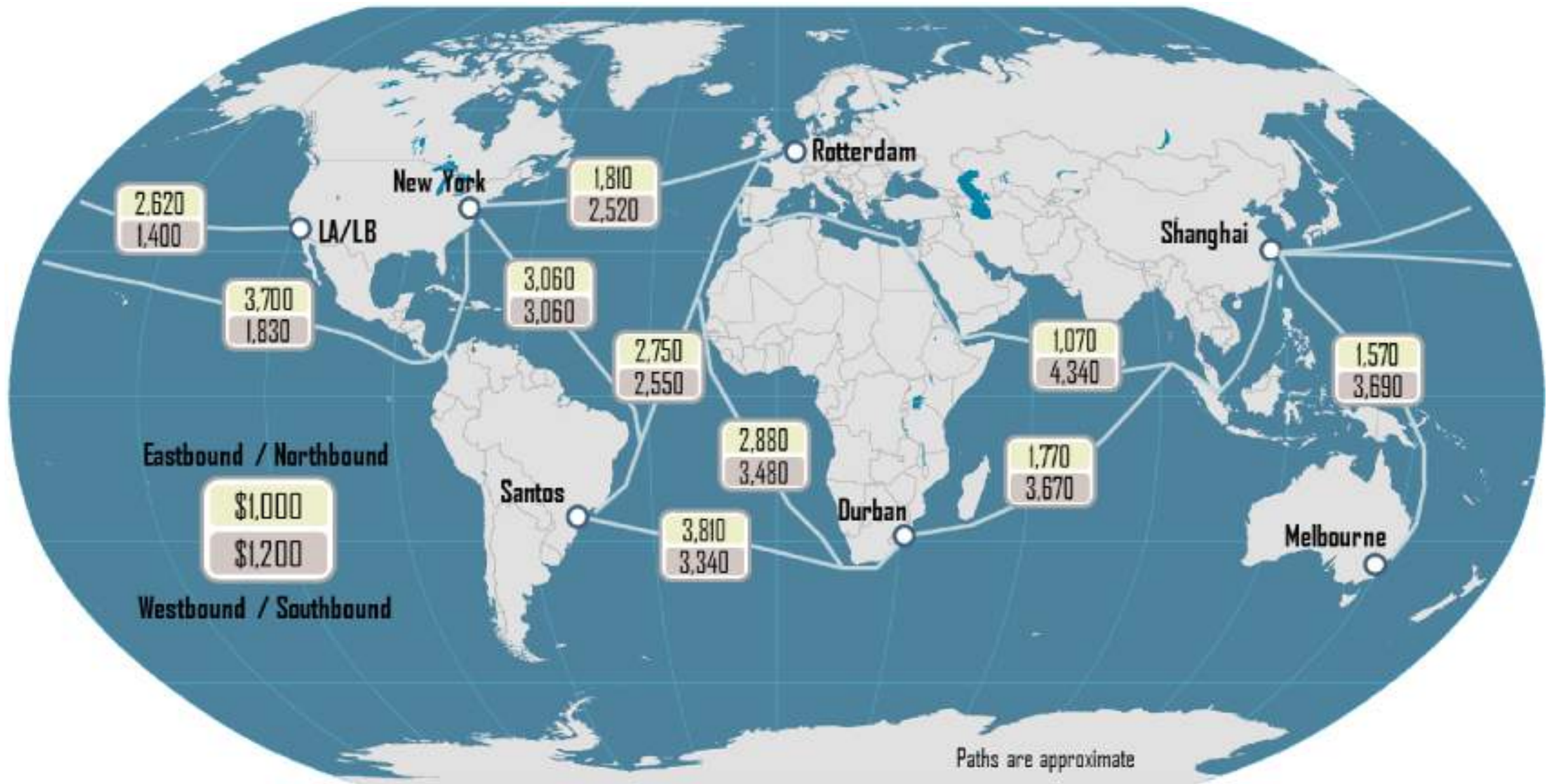
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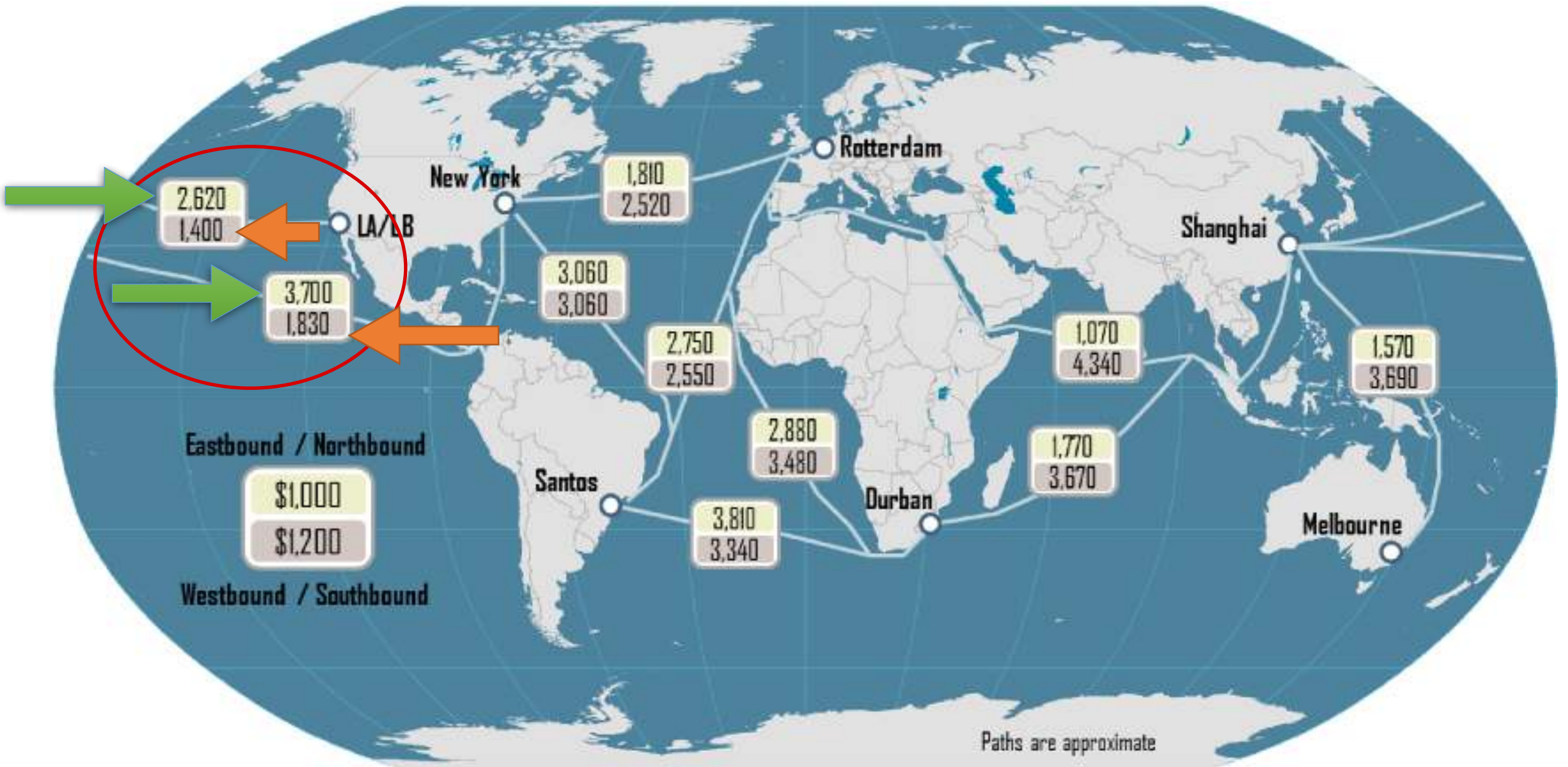
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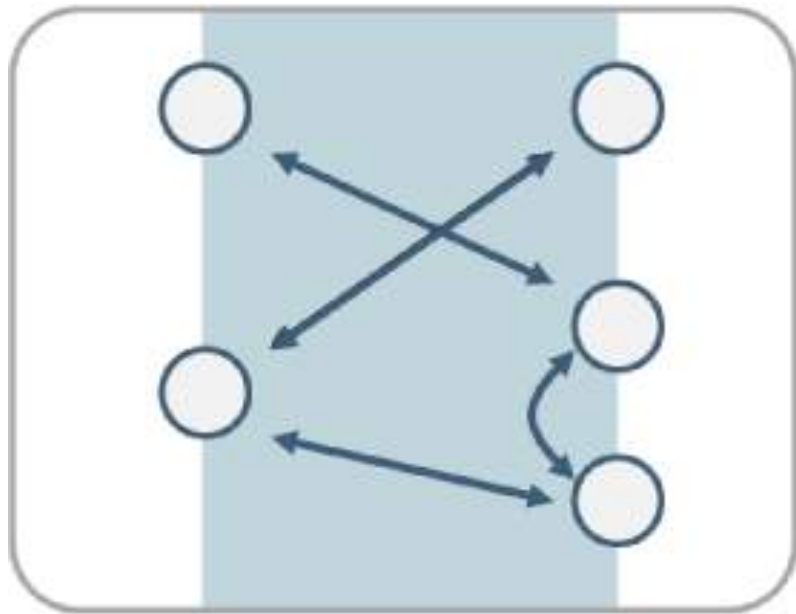


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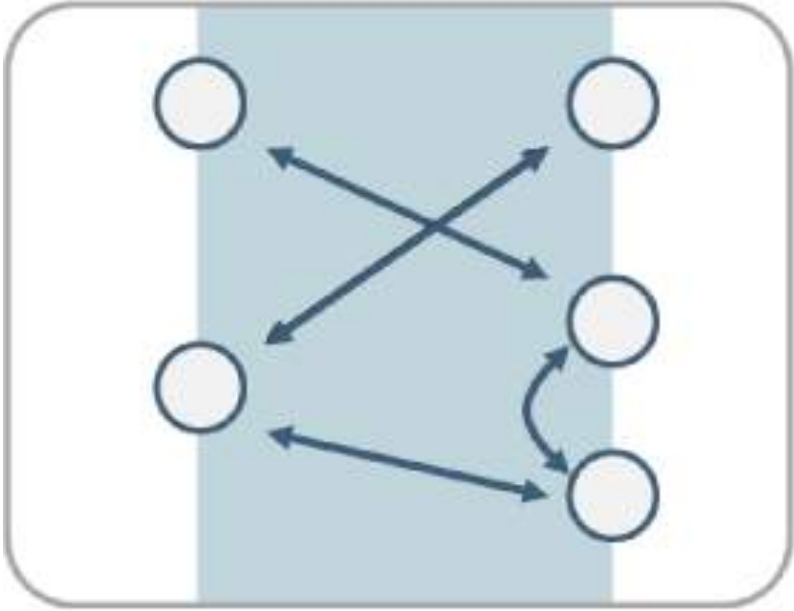
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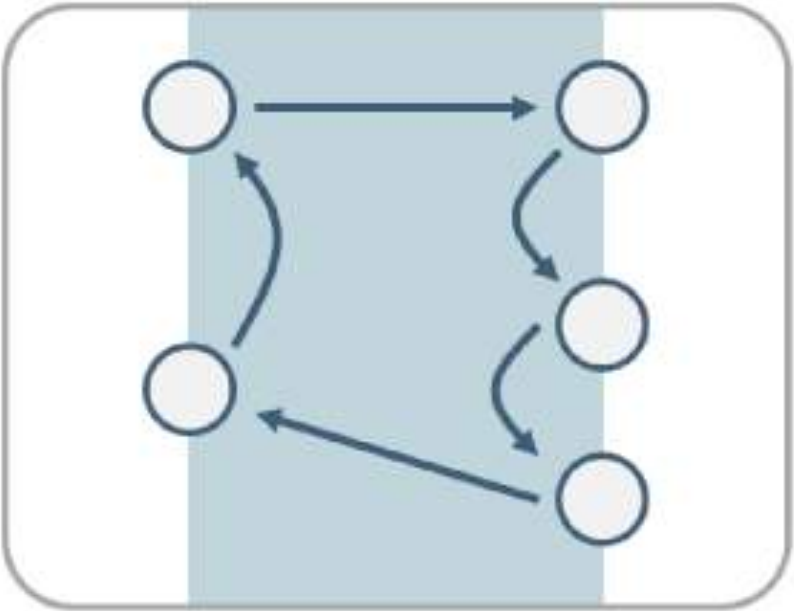


Port-to-Port

5. Rotas pendulares

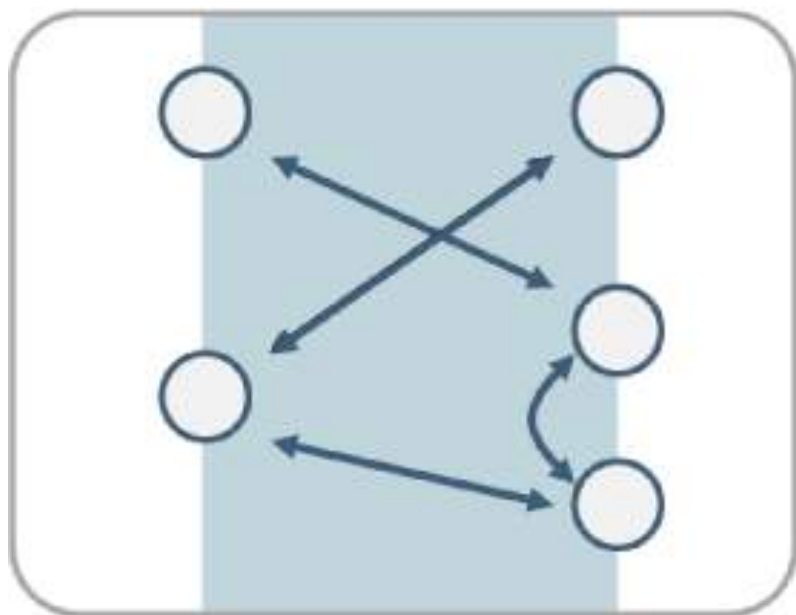


Port-to-Port

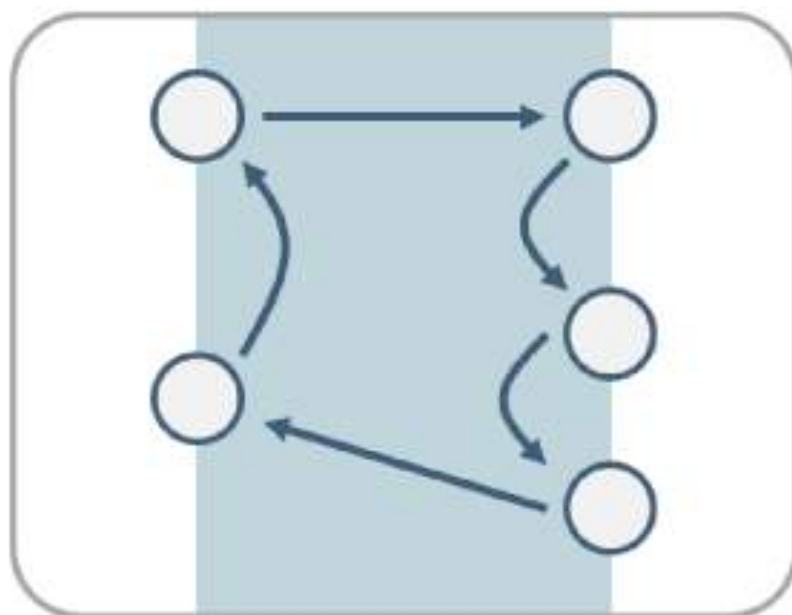


Pendulum

5. Rotas pendulares



Port-to-Port



Pendulum



Round-the-World

5. Rotas pendulares



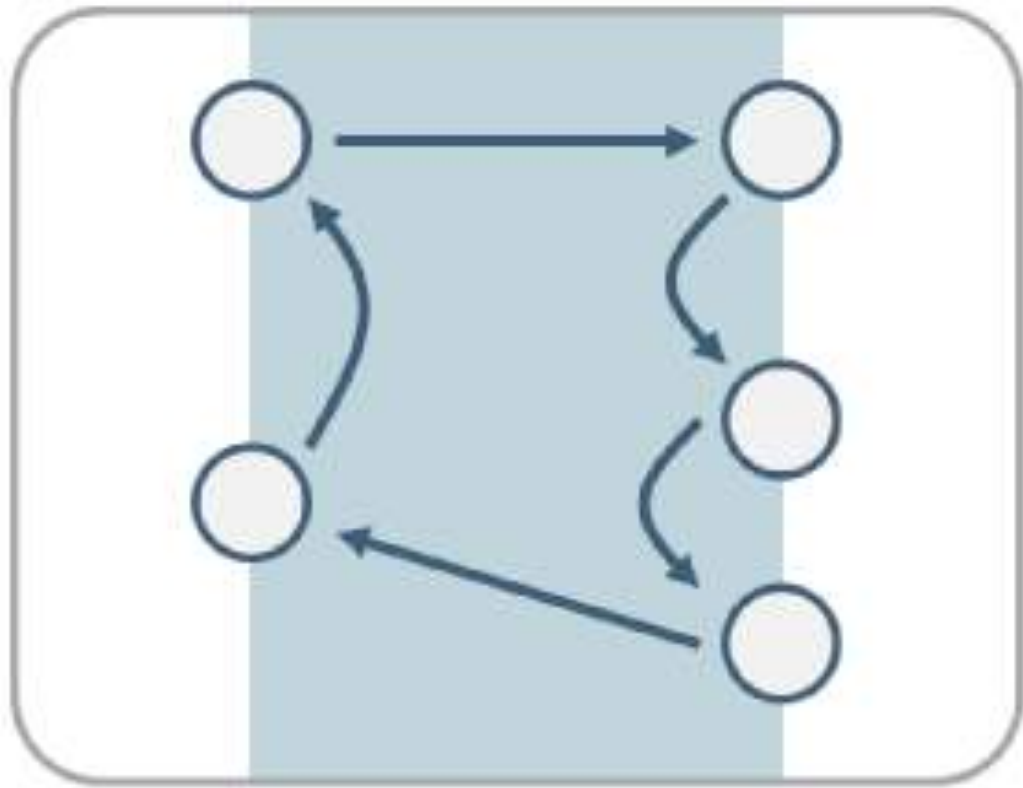
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Roteirização

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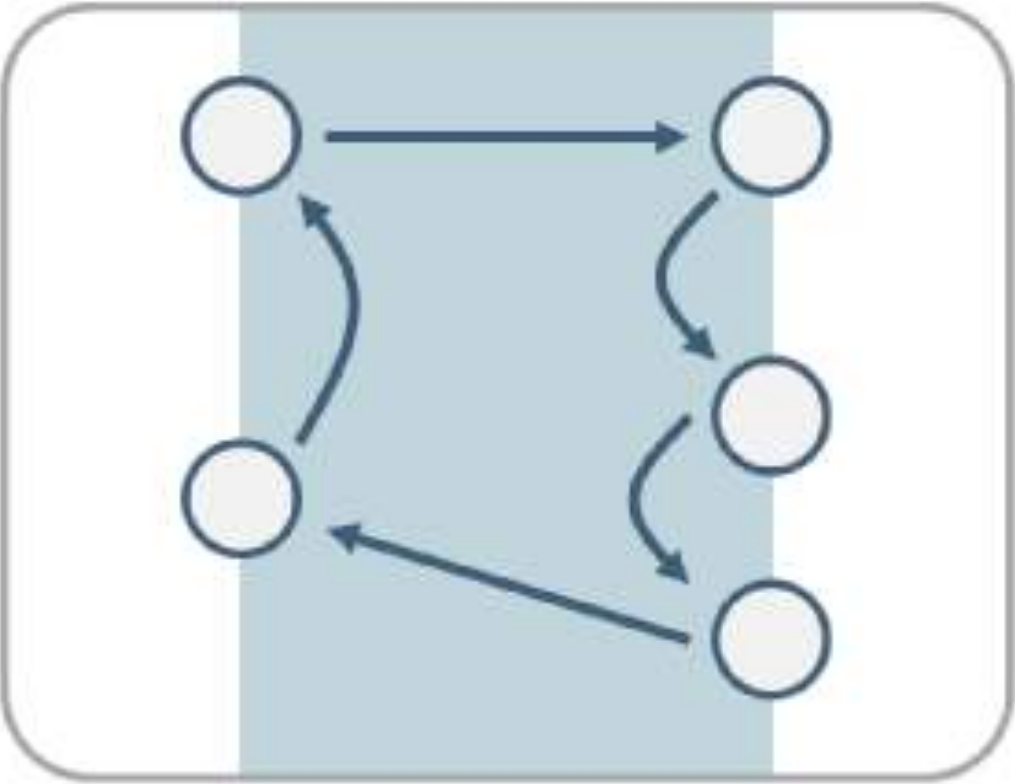
Roteirização



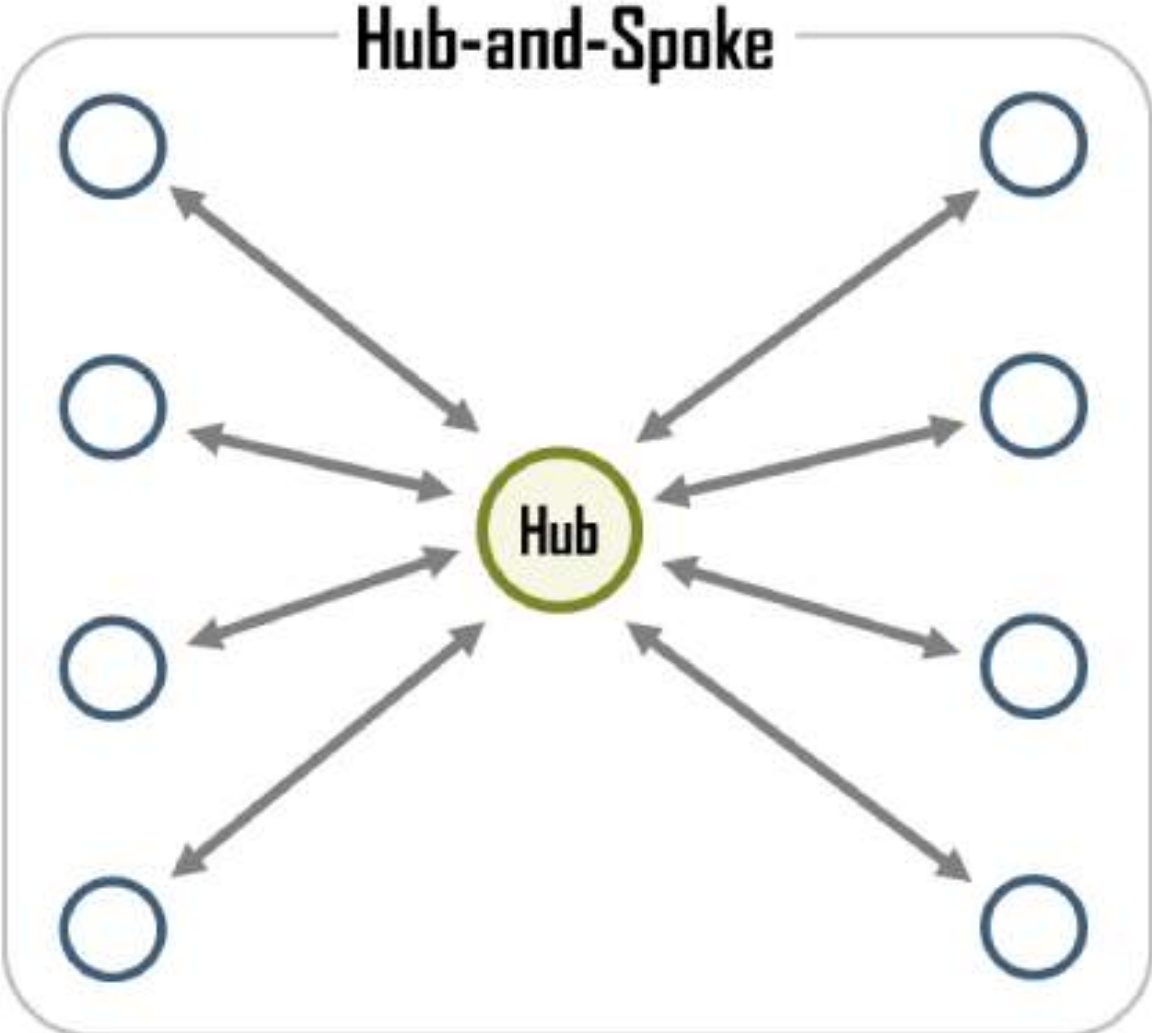
Pendulum

6. Logística: adição de valor em portos e áreas próximas

Roteirização



Pendulum



Hub-and-Spoke

6. Logística: adição de valor em portos e áreas próximas

Especificidade da carga



6. Logística: adição de valor em portos e áreas próximas

Especificidade da carga



EMBARCAÇÃO <—> INSTALAÇÃO PORTUÁRIA

6. Logística: adição de valor em portos e áreas próximas

Integração de atividades



6. Logística: adição de valor em portos e áreas próximas

Integração de atividades

INTERMODALIDADE



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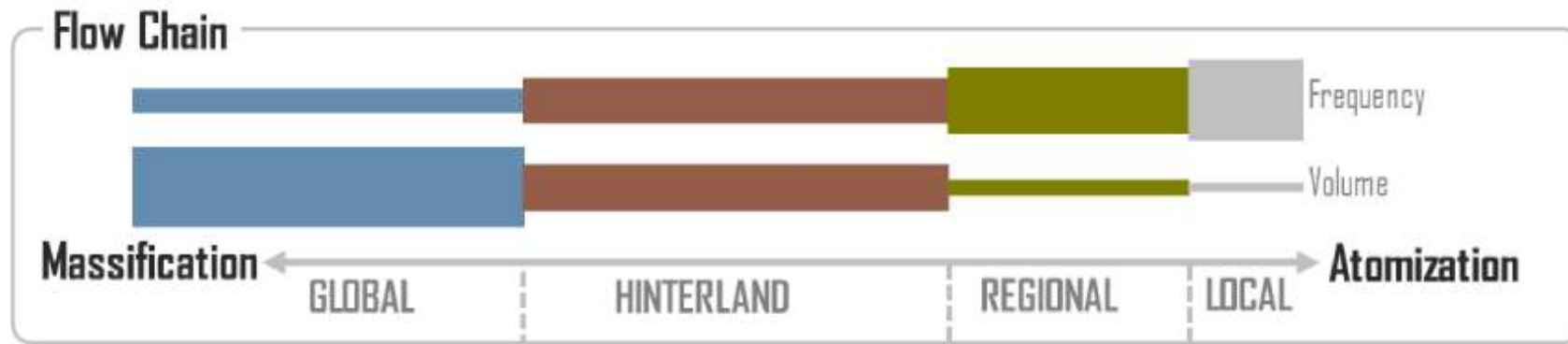


INTERMODALIDADE



6. Logística: adição de valor em portos e áreas próximas

Integração de atividades

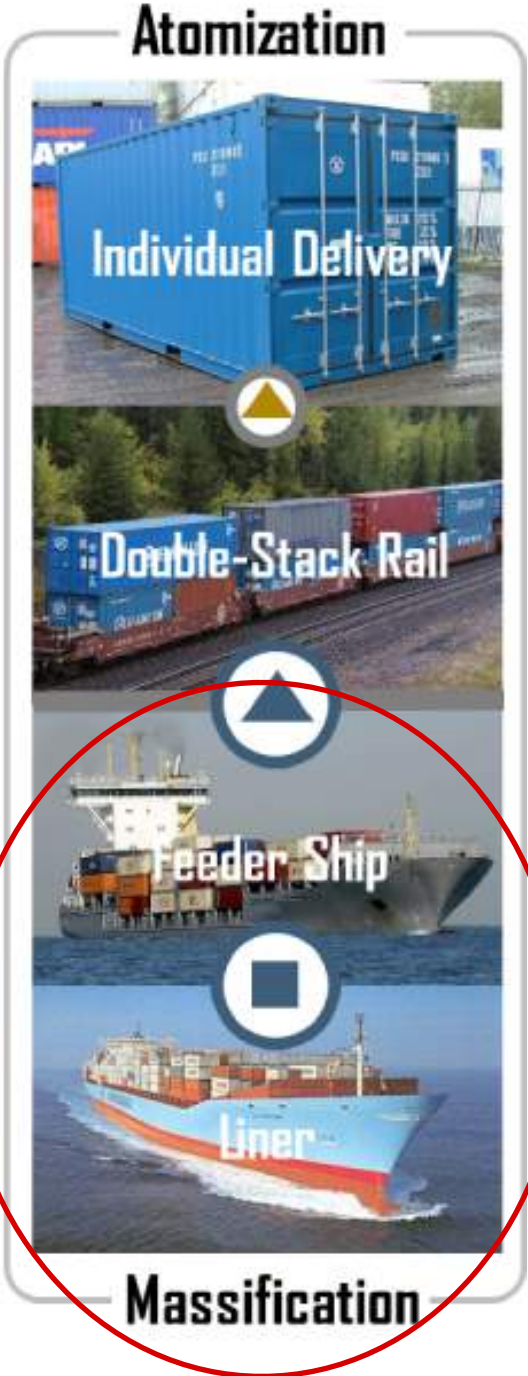
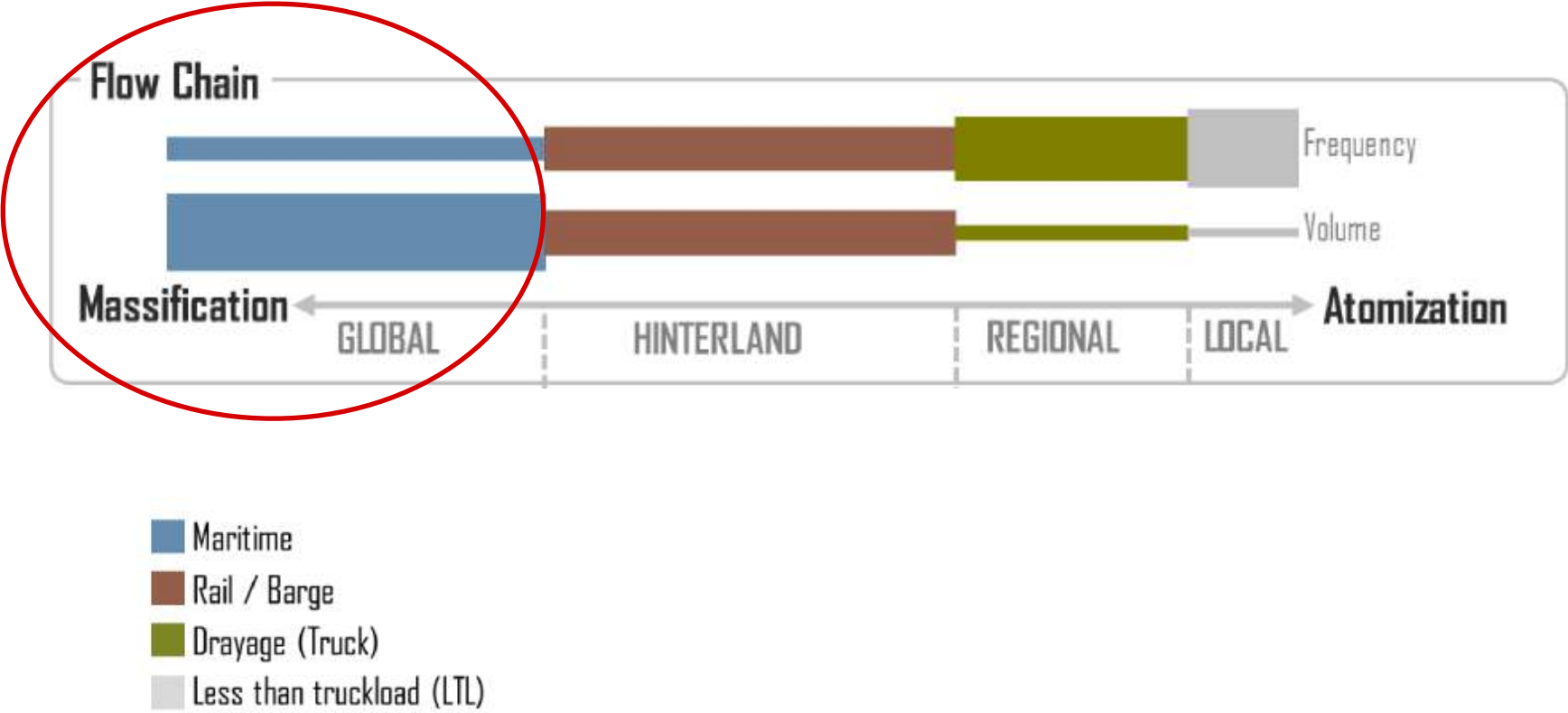


- Maritime
- Rail / Barge
- Drayage (Truck)
- Less than truckload (LTL)



6. Logística: adição de valor em portos e áreas próximas

Integração de atividades

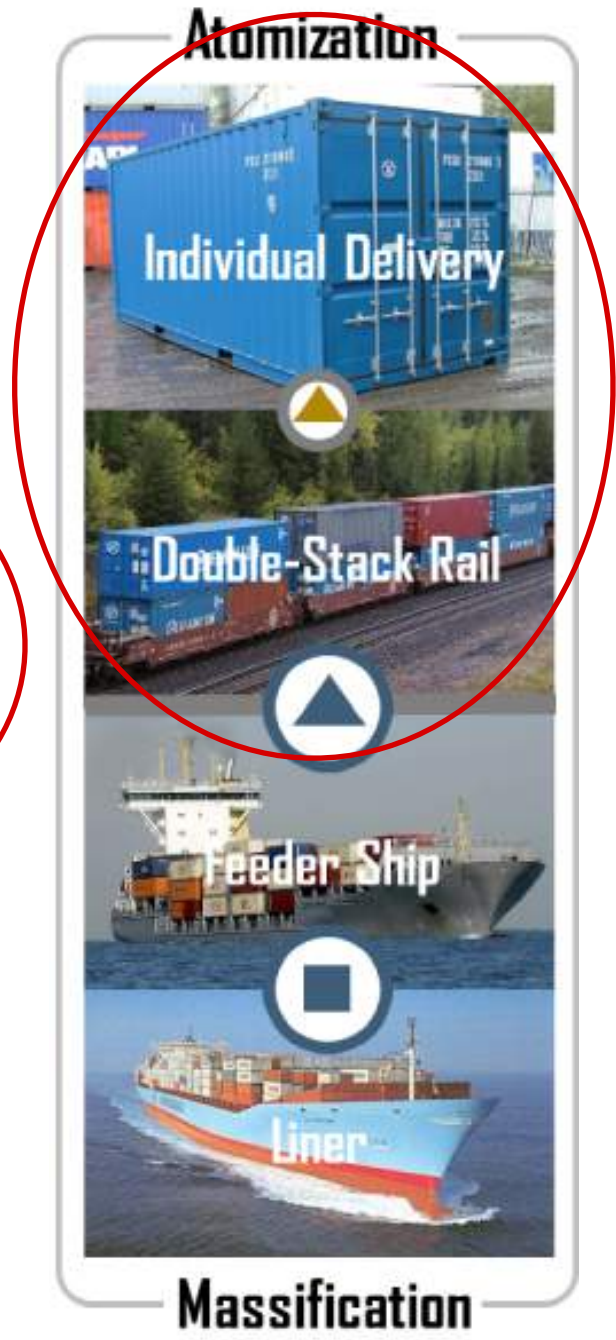


6. Logística: adição de valor em portos e áreas próximas

Integração de atividades

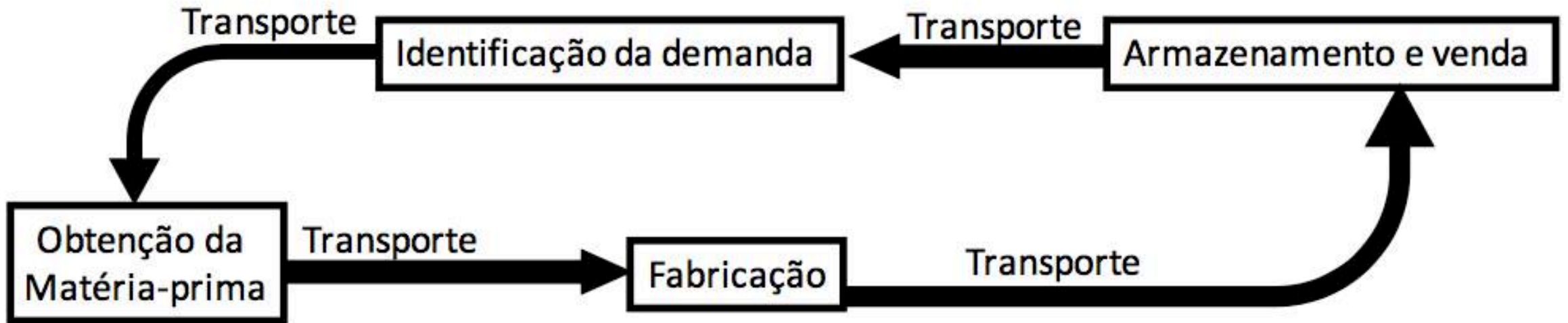


- Maritime
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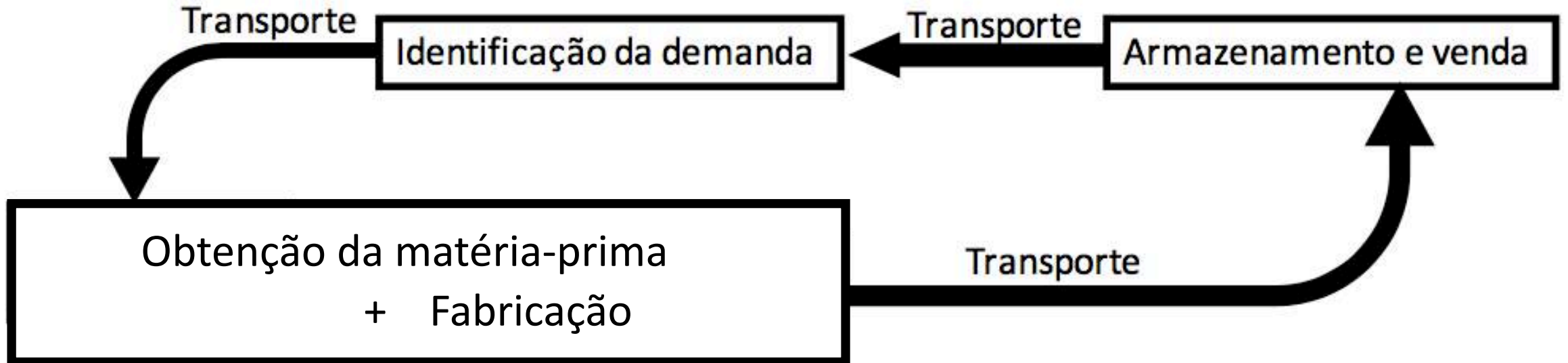
6. Logística: adição de valor em portos e áreas próximas

Integração de atividades



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