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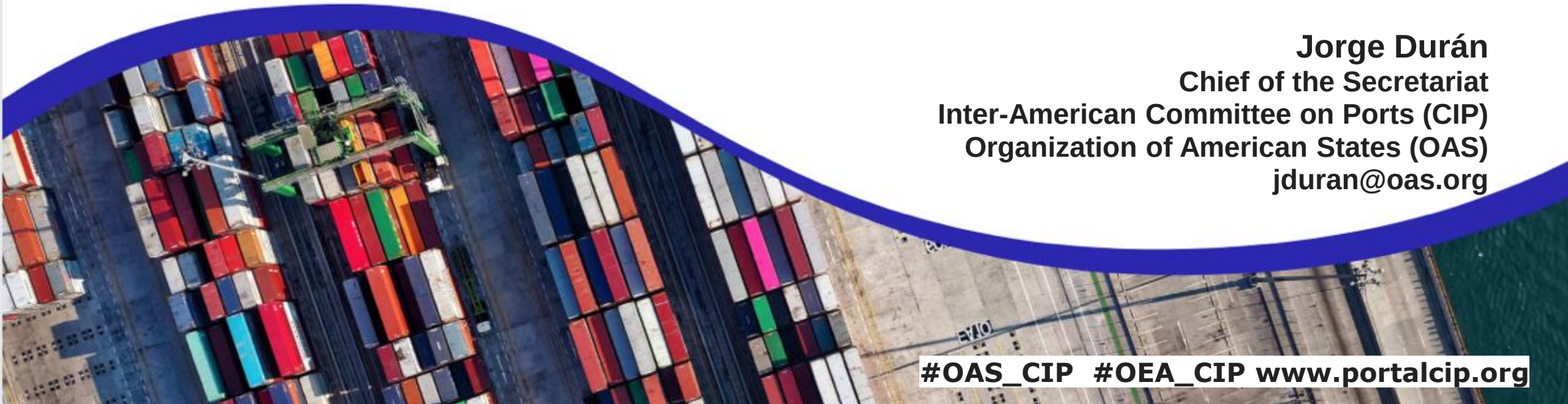
CIP Inter-American Committee on Ports

PIANC America 2023 Conference: Sustaining Ports, Waterways, and Marinas through a Changing Climate

Secretariat of the Inter-American Committee on Ports (CIP)

Ft. Lauderdale, April 25-27



Jorge Durán
Chief of the Secretariat
Inter-American Committee on Ports (CIP)
Organization of American States (OAS)
jduran@oas.org

#OAS_CIP #OEA_CIP www.portalcip.org

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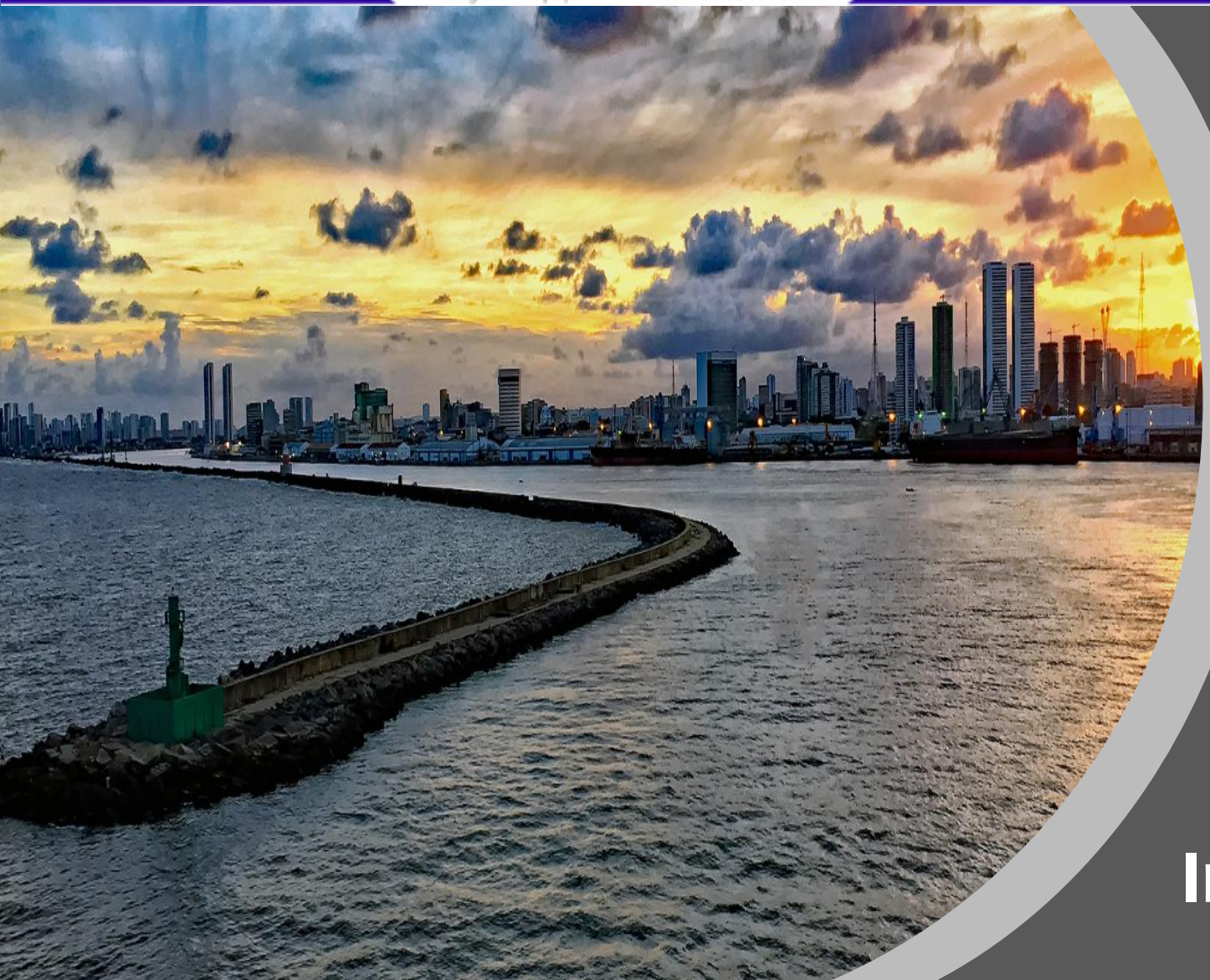


Introduction to the CIP

Inter-American Committee on Ports (CIP)

1. Political Dialogue

Only **permanent inter-governmental forum** at the highest level to strengthen Inter-American port dialogue.

2. Capacity Building

Promote and improve management and **technical capabilities** of port officials.

3. Technical Assistance

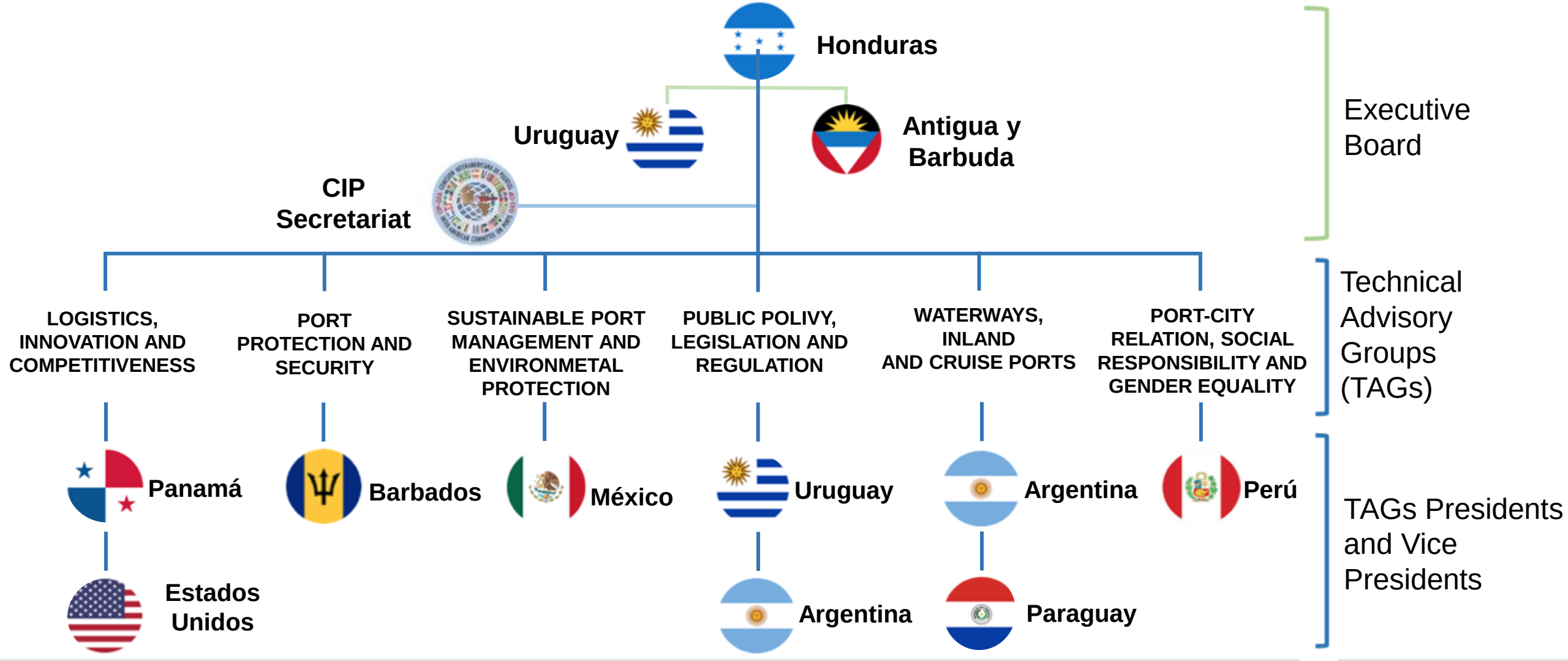
Assist Member States on issues or **specific projects** upon request and in line with CIP-OAS mandates.

4. Public-Private Partnerships

Promote win - win partnerships with private sector in the port industry to foster **strategic alliances** among relevant port stakeholders**.**

Executive Board

CIP Executive Board (CECIP) for the period 2021 – 2023:



Technical Assistance Projects

The CIP Secretariat has developed the following projects:

- Improved Disaster Risk Management in Caribbean Ports
- Institutional and Operation Assessment of Saint Vincent and the Grenadines Port Authority (SVGPA)
- Establishment of a Barbados Port Community System
- Feasibility Study for the Establishment of an Electronic Single Window (ESW) for Trade

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Waterways in Latin America

MAIN RIVER BASINS

1. Amazonas
2. Río de la Plata
3. Orinoco
4. San Francisco
5. Magdalena

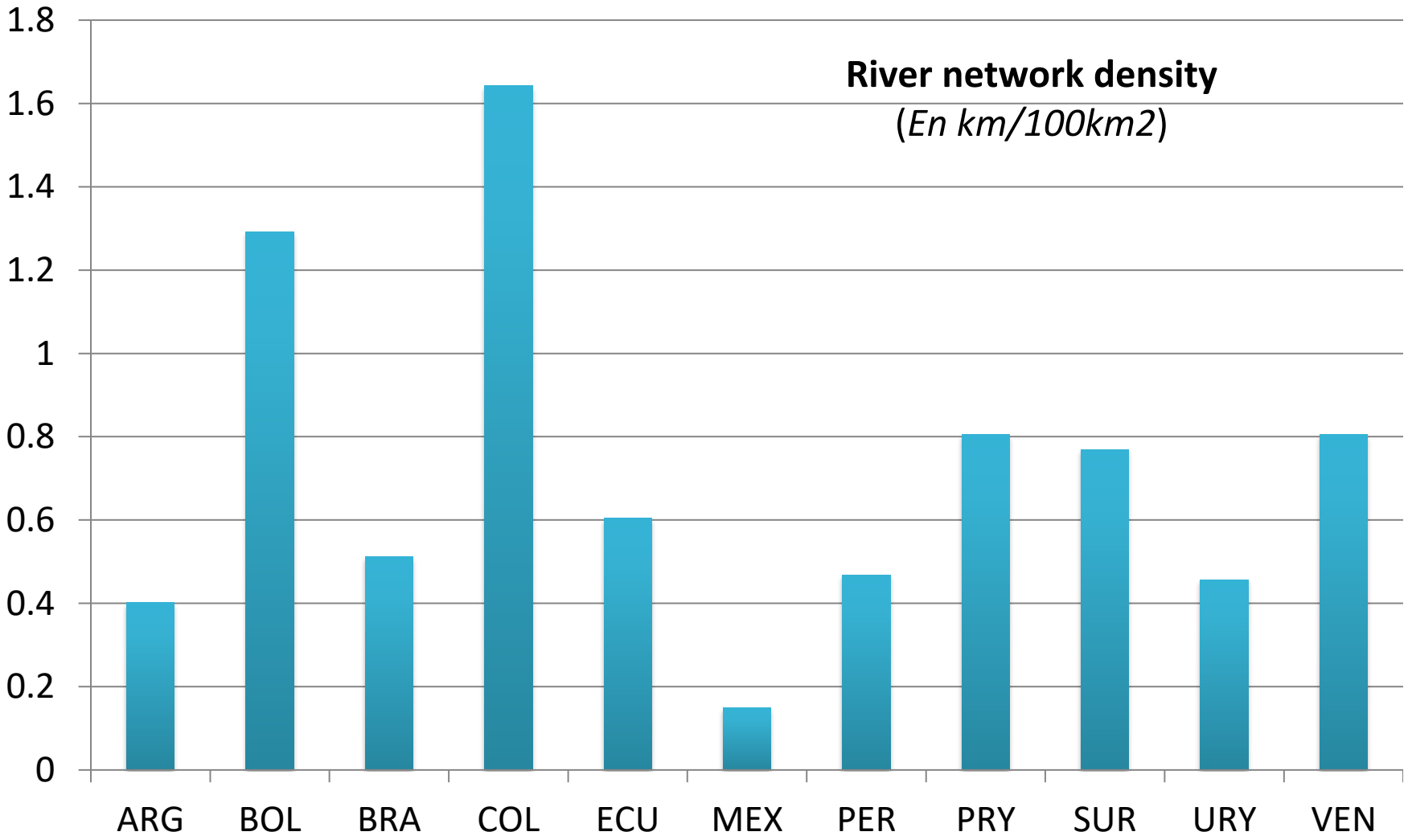
A. Orinoco
B. Casiquiare
C. Río Negro
D. Amazonas
E. Madeira
F. Mamoré
G. Guaporé
H. Paraguay
I. Paraná

Almost 70% of the continent is made up of river basins with naturally navigable rivers.

75% of the region's "surface water resources" correspond to basins shared by two or more countries.

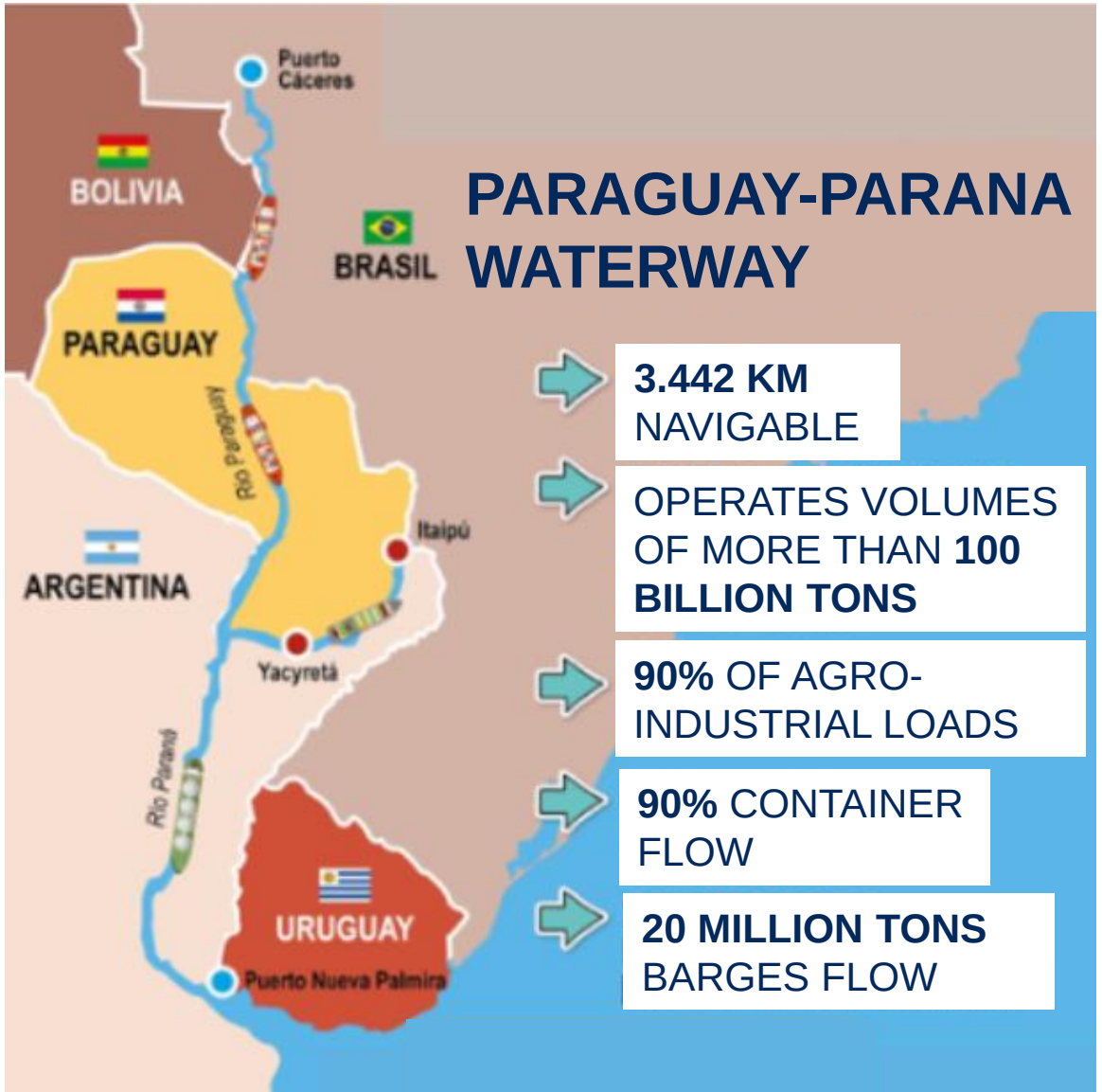
Source: Hidrovías para el desarrollo y la integración suramericana, CAF, 2016

DENSITY OF NAVIGABLE RIVERS IN LAC



Source: CEPAL, 2015

PROJECTION TO TRIPLE THE TONNAGE IN THE NEXT 20 YEARS



Credit:Mónica Ageitos, President, Centro de Navegación (CENNAVE) del Uruguay

CLASSIFICATION OF WATERWAYS

Criteria:

Horizontal Dimensions of the Vessel:

- Maximum Length
- Maximum Beam
- Tonnage

Vertical Dimensions:

- Draft
- Maximum Height under Bridges
- Connectivity

Local Importance: Waterways where the transport of goods or people is important for local development;

National Importance: Waterways where the transport of goods or people is important for national development;

Regional and International Importance: Waterways that meet the minimum technical and operational criteria for international traffic:

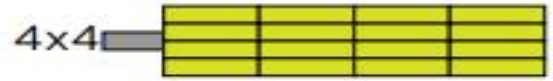
- Able to adapt to the evolution of inland navigation
- Capable of accommodating the most important load flows
- Sufficiently dynamic and flexible to accommodate hydrographic and climatic diversity.
- Capable of incorporating routes and integrated with other links in the logistics chain and modes of transport.

Source: CEPAL, 2017.
http://repositorio.cepal.org/bitstream/handle/11362/41133/1/S1700019_en.pdf

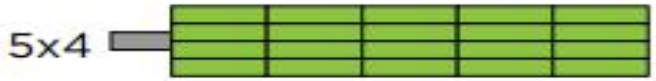
SIZE OF BARGES PER SECTION

Puerto Caceres Corumba/
Puerto Aguirre Section

Corumba-Asuncion Section



Asuncion-Confluencia Section



Confluencia-Santa Fe Section

Formations: 16 to 42 barges

A QUICK LOOK AT THE PARAGUAY-PARANA WATERWAY

As noted in the 2018 Executive Secretary's report*, in 2015 the trade flows of the countries that make up the waterway were identified in 2015:

	Argentina	Bolivia	Brazil	Paraguay	Uruguay
Total transported volume	64.6 million tons Export: 84.95% Import: 15.05%	1 million tons Export: 97% Import: 3%	4.47 million tons Export: 100%	12.97 million tons Export: 81.2%	52.36 million tons Export: 100%
Main route/ business partner	Asia, Europe and Brazil	Central America and Asia	Argentina	Europe and South America	Paraguay
Featured products	Export: Soybean oil, corn and soybean oil residues Import: Petroleum oils (fuels) and fertilizers	Export: Soybean oil and soybean oil residues Import: Petroleum oils (fuels)	Export: Iron ore (98.8 %)	Export: Soybean and soybean oil residues, corn and wheat Import: Fuels and fertilizers	Export: Fertilizers and hydraulic foundations

Credit:Rodrigo DaCosta: Head of the Physical and Digital Integration Department, Asociación Latinoamericana de Integración (ALADI)
***Elidrovia do Puo Paraçuas - EXIS.A - Estudo de mabilidade tecnaca, econórtica e ambiental : ANTAO - Agencia Nacional de Transportes Aquariarios / UFPR. - Coitensidade Federal do Parana / ITII - Intelligence Tech &- Trade Imitiative (Brasil). 2018.*

BENEFITS FOR THE REGION

To favor trade.	Provide an outlet to the sea for neighboring countries.	Stimulate the import/export of goods.	Increase consumption in the port region.

Reduce logistics and transportation costs.	Improve the competitiveness of the area of influence.	Improve river communication between Argentina, Brazil, Bolivia, Paraguay and Uruguay.

Credit:Mónica Ageitos, President, Centro de Navegación (CENNAVE) del Uruguay

RELEVANT DATA OF THE PLATA BASIN

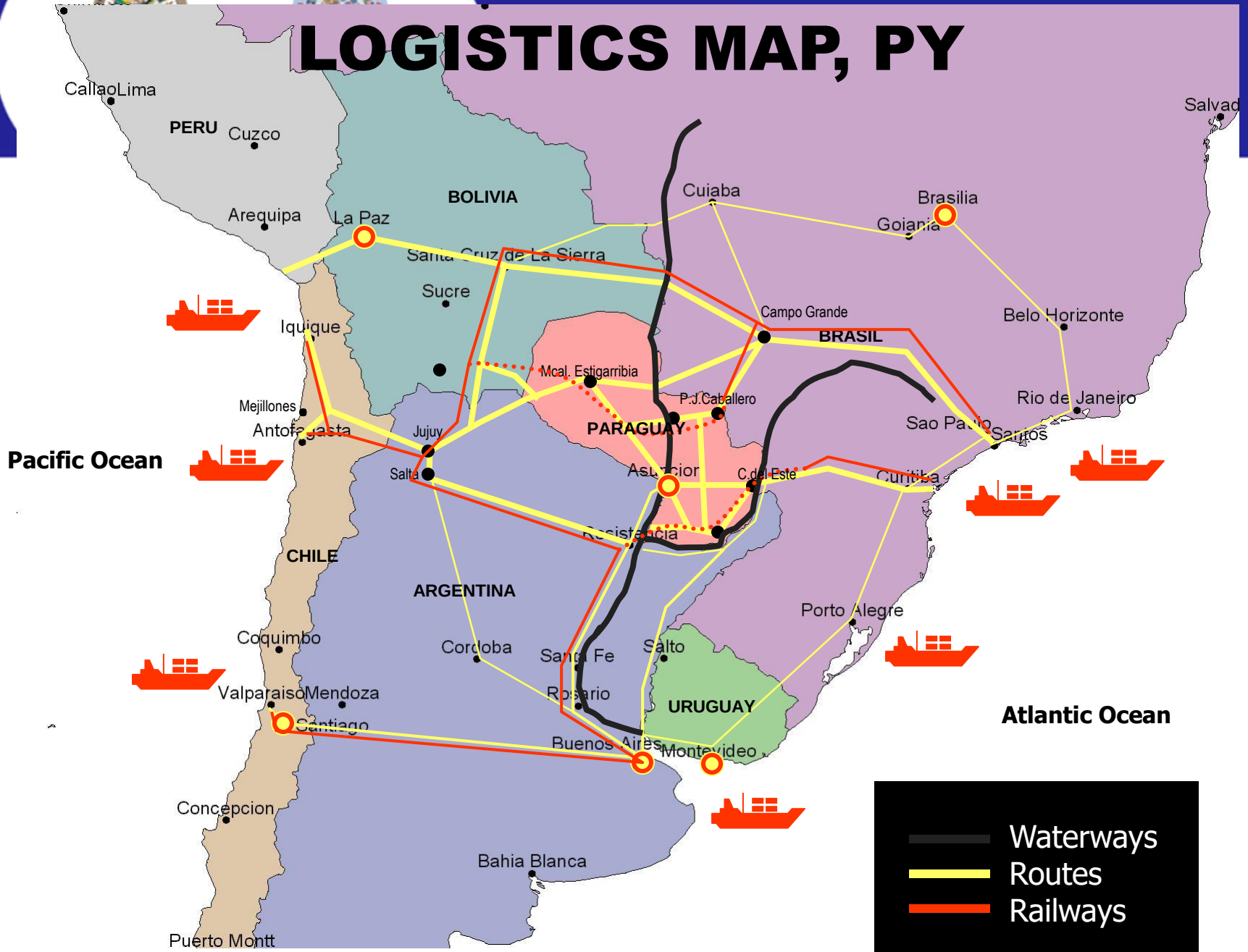
The **Plata Basin** has a **significant hydroelectric potential** estimated at 92,000 MW, which has given rise to the construction of more than 150 hydroelectric power plants, of which 72 are larger than 10 MW. Sixty percent of the basin's hydropower potential has been developed or is in the process of being developed. in the process of being developed.

Three of these plants are binational and large-scale, such as Itaipú, Yacyretá and Salto Grande. The Garabi-Panambi plants (Argentina-Brazil), on the Uruguay river, are in the process of development. Itaipu is currently the largest hydropower producer in the world, although it is the second largest in terms of installed capacity, after China's Three Gorges.

The basin's high energy production has been a **determining factor in the socio-economic development** of the countries that make up the basin.

Credit:Juan Carlos Muñoz Menna: Director of the Administración Nacional de Navegación y Puertos (ANNP), Paraguay y Director Titular del Centro de Armadores Fluviales y Marítimos (CAFYM)

LOGISTICS MAP, PY



ADVANTAGES OF RIVER TRANSPORTATION

In relation to freight, taking the unit as an index:

Waterway:	**1.00**
Railway:	**1.40**
Road:	**3.20**

In terms of energy consumption, one liter of gas oil transports one tonne of energy:

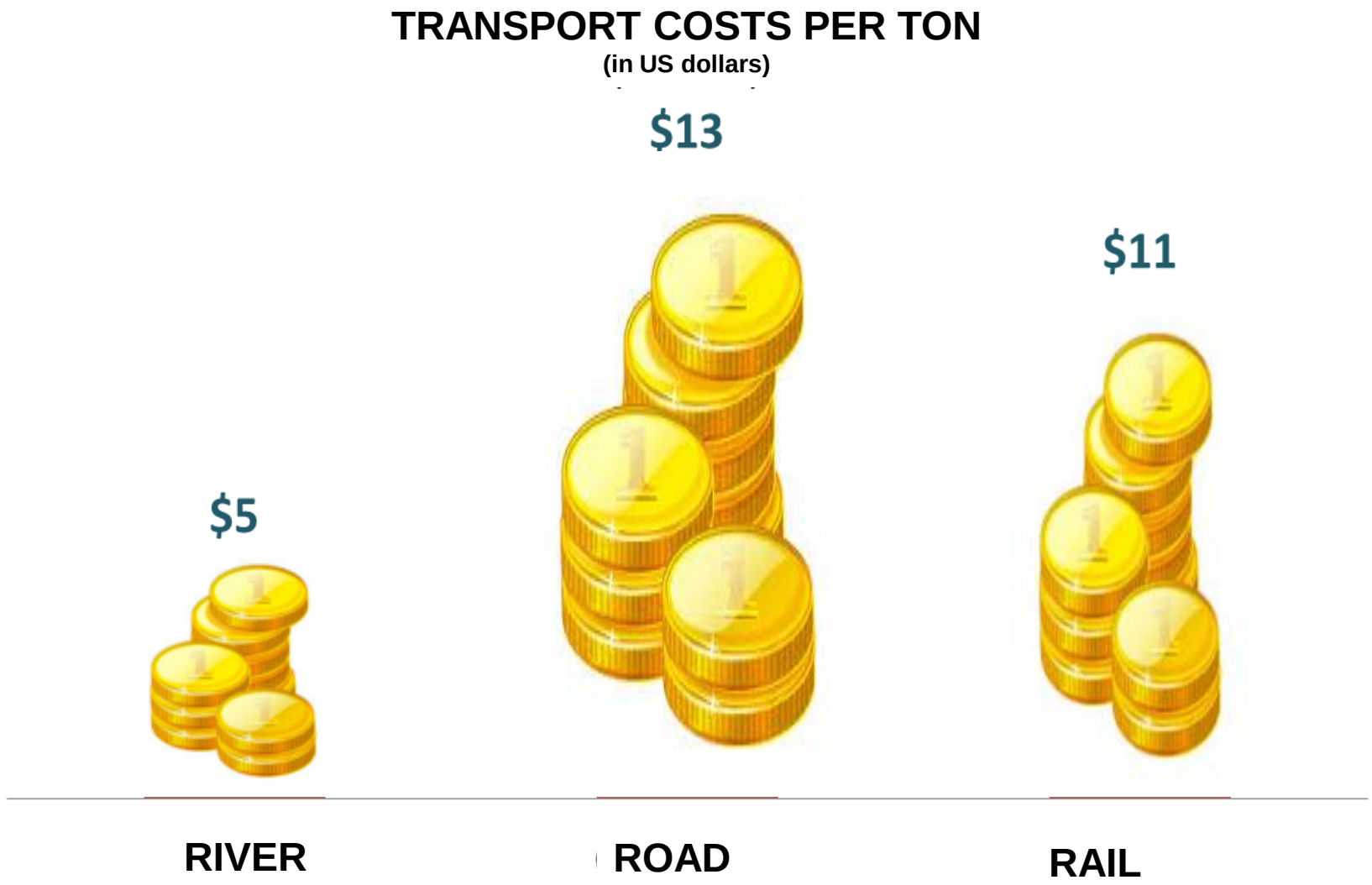
By barge:	**251 km.**
By rail:	**101 km.**
By truck:	**29 km.**

Regarding power, with a HP^B you can transport:

Waterway:	**22.2 t**
Railway:	**7.4 t**
Road:	**1 t**

Source: CAF, 2016

COMPARISON - COST PER TON IN ARGENTINA



Source: FONPLATA

Despite the fact that:

- **necessary dredging works have not been developed**
- **or the signaling to use the waterway at all hours**

ADVANTAGES OF RIVER TRANSPORTATION

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Compare...

Iowa Department of Transportation

Source: Iowa Department of Transportation - 800 Lincoln Way - Ames, IA 50010 - 515-239-1520

Cargo Capacity

ONE BARGE
1,500 TON
52,500 BUSHELS
453,600 GALLONS

ONE 15 BARGE TOW
22,500 TON
787,500 BUSHELS
6,804,000 GALLONS

ONE JUMBO HOPPER CAR
112 TON
4,000 BUSHELS
33,870 GALLONS

ONE 100 CAR TRAIN
11,200 TON
400,000 BUSHELS
3,387,000 GALLONS

ONE LARGE SEMI
26 TON
910 BUSHELS
7,865 GALLONS

Equivalent Units

ONE BARGE

13.4 JUMBO HOPPER CARS

58 LARGE SEMIS

ONE 15 BARGE TOW

TWO 100 CAR TRAINS

870 LARGE SEMIS

Equivalent Lengths

ONE 15 BARGE TOW
.25 MILE

TWO 100 CAR TRAINS
2.4 MILES

870 LARGE SEMIS
11.5 MILES
(BUMPER TO BUMPER)

COST PER TON/KM - FROM CUIABÁ, BRAZIL BY MODE

To Paranaguá Port via Train: $ 24,607
To Paranaguá Port via Truck: $ 23,322
To New Palmira via Truck-Barge: $ 17,210

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Port Logistics Digitalization

Global trends in ports

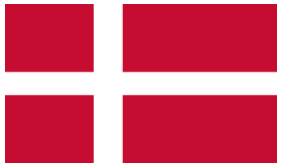
As key nodes in global transportation that provide access to markets, support supply chains and link consumers and producers, ports are under constant pressure to adapt to changes in the economic, institutional, regulatory and operational environment.

- Mega-Ships/ Mega-Alliances
- Port Automatization SW/PCS
- Investment in infrastructure and technology
- Smart Ports

Globalization, trade and maritime transport

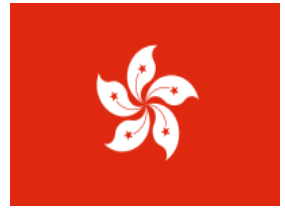
The Maritime Business is probably one of the most globalized industries. A simple commercial transaction can involve people and goods from several countries.

A ship  Built in  Registered in 

Charted by an operator in  that employs crew from 

insured in  transporting cargo manufactured in 

on behalf of a shipping agent  that goes from a port  

to  through terminals concessioned to operators of ports of 

Courtesy: Fernando Gamboa, Former Director General of Port Development and Administration, SCT

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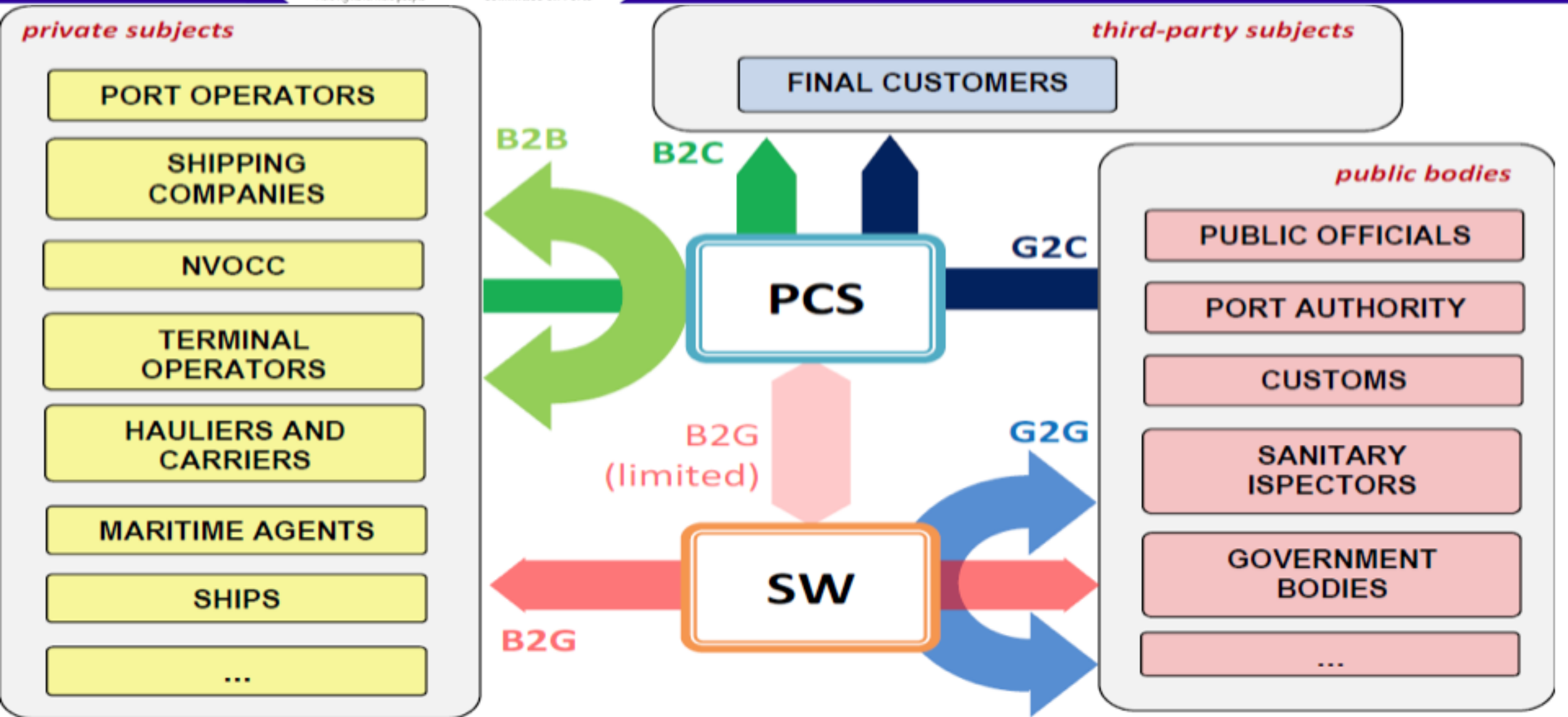
Accelerating trend: digitalized logistics

The IMO approved the amendments to the Facilitation Agreement (FAL):

Mandatory maritime single window for data exchange in ports worldwide as of January 1, 2024.

Port Community System/Single Window

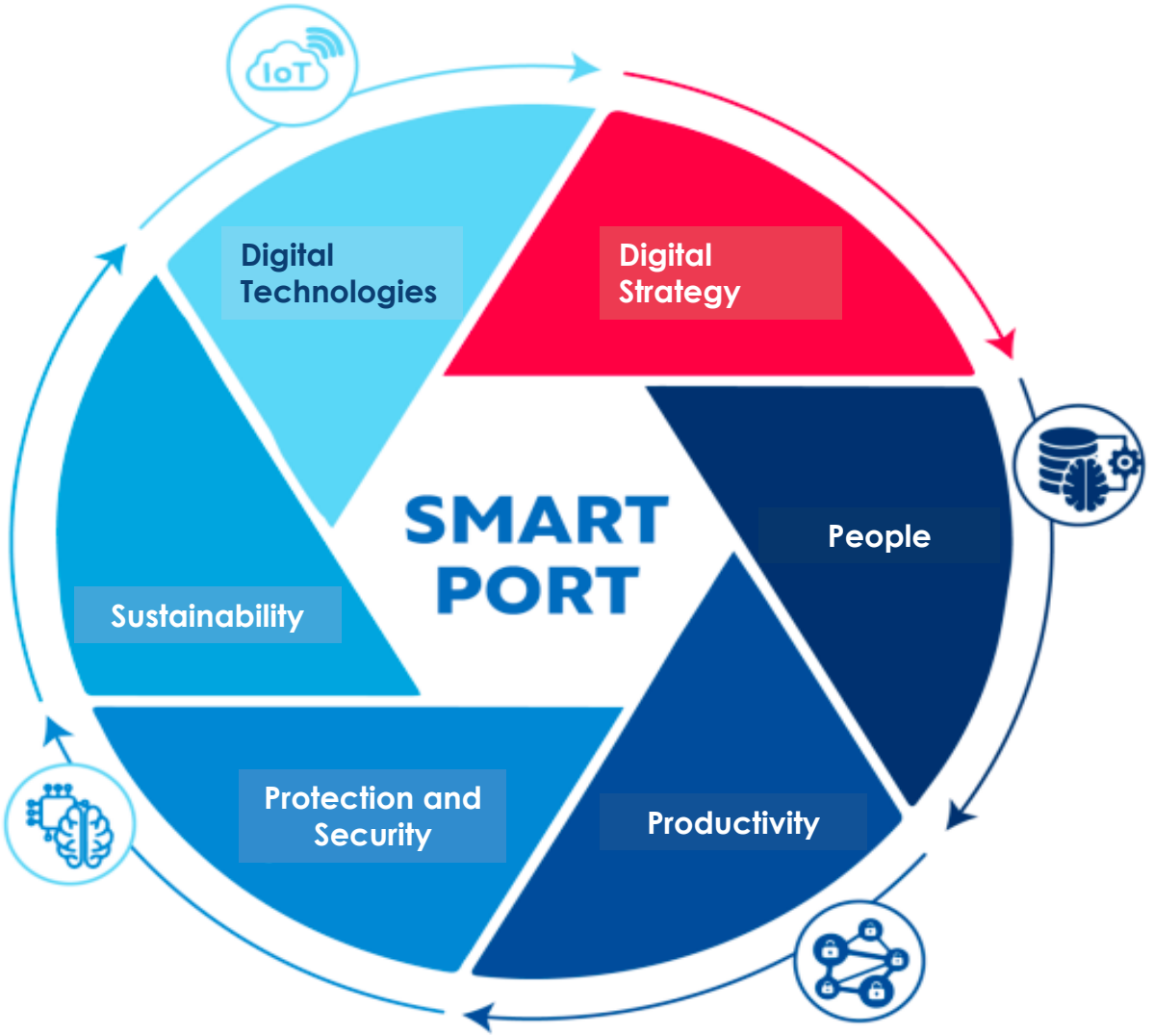


Smart Port

*With the implementation of these **4 levels of digital transformation** we are on our way to a Smart Port.*

WHAT IS A SMART PORT?

A **Smart Port** is a concept linked to **Industry 4.0** in which the port uses **emerging technologies** (IoT, big data, blockchain, distributed ledger, AI, ML) and other methods to improve **the economic competitiveness** and **efficiency** of the port, the **environmental** and **energy sustainability** of operations, as well as the **security** and **protection** of the facilities.



Modernization Challenges

- Increased Competitiveness
- Cybersecurity
- Resources for hard and soft infrastructure investment
- Sustainable Management and Environment Protection
- Legislation Updates

CONCLUSIONS

- Waterways are the best means of transportation from financial and environmental cost/benefit perspectives.
- Regional Navigation Agreements: Dialogue and coordination to define navigation policy on waterways (important progress has been made in this area).
- The countries of the region must prepare for the challenges of international trade and the development of waterways accordingly.
- South American countries should build an integrated strategy of river integration that includes a better intermodal articulation (road, rail, river and maritime) taking into account the improvement of the port-city relationship.
- Waterways and public and private ports must be prepared (depth-dredging, operations-tie-up, protocols, pilotage, pilotage and safety) and improve the logistic value chain and be more competitive.

Thank you for your attention!

Jorge Durán
Chief of the Secretariat
Inter-Americana Committee on Ports (CIP)
Organization of American States (OAS)
jduran@oas.org
http://portalcip.org