

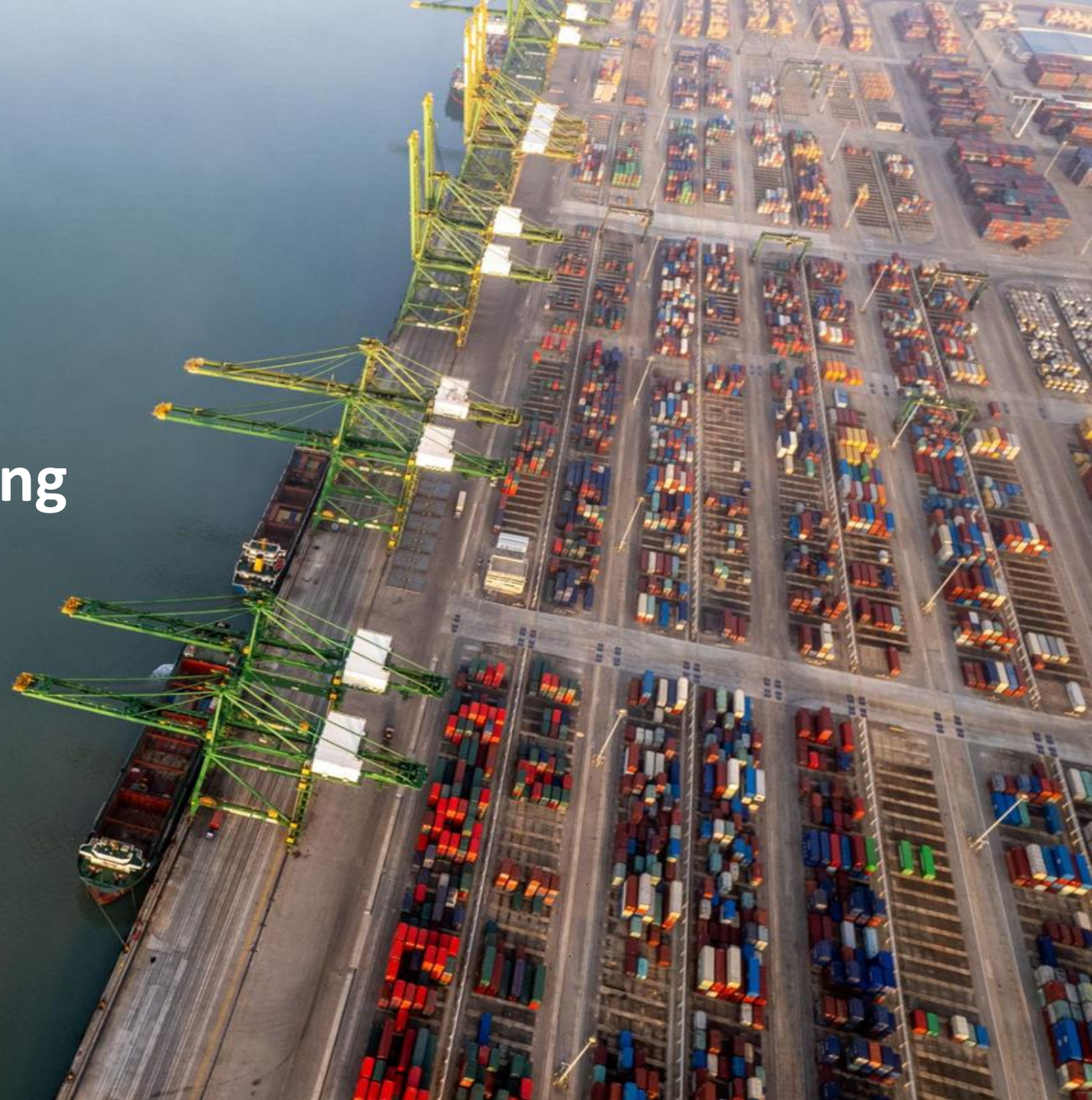


Port Community Collaboration & Data Sharing

Fostering Stakeholder Coordination
in the age of AI

June 9th 2026,

14th Regular Meeting of the CIP,
Bridgetown-Barbados



Who is IPCSA ?



IPCSA

International Port
Community Systems
Association

“A Community of Communities”



55 Members
operating in
over 50
Countries



Members
Operating in
excess of 500 Sea
+ Air Ports, Inland
terminals &
border crossings



**Seaports,
Airports, PCS
Operators,
Single Window
Operators**

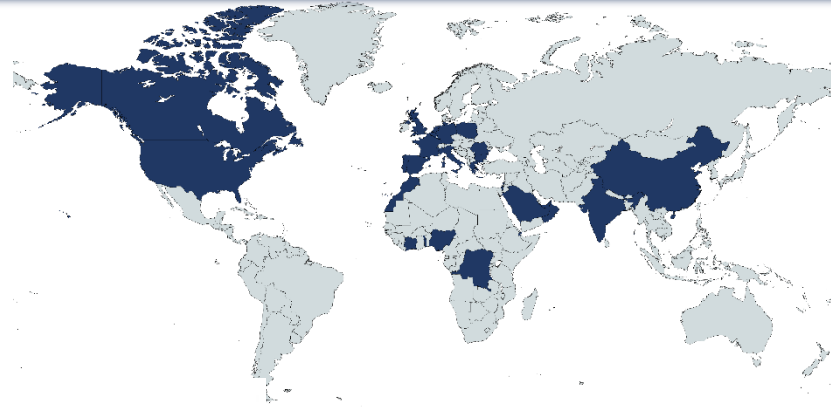


Over 50bn
electronic
exchanges per
annum and
1.5m+ users



Covering
500m + TEUS
20bn + Tonnes
of cargo

IPCSA MEMBERS 2026



Une Référence Internationale



IPCSA members North-America

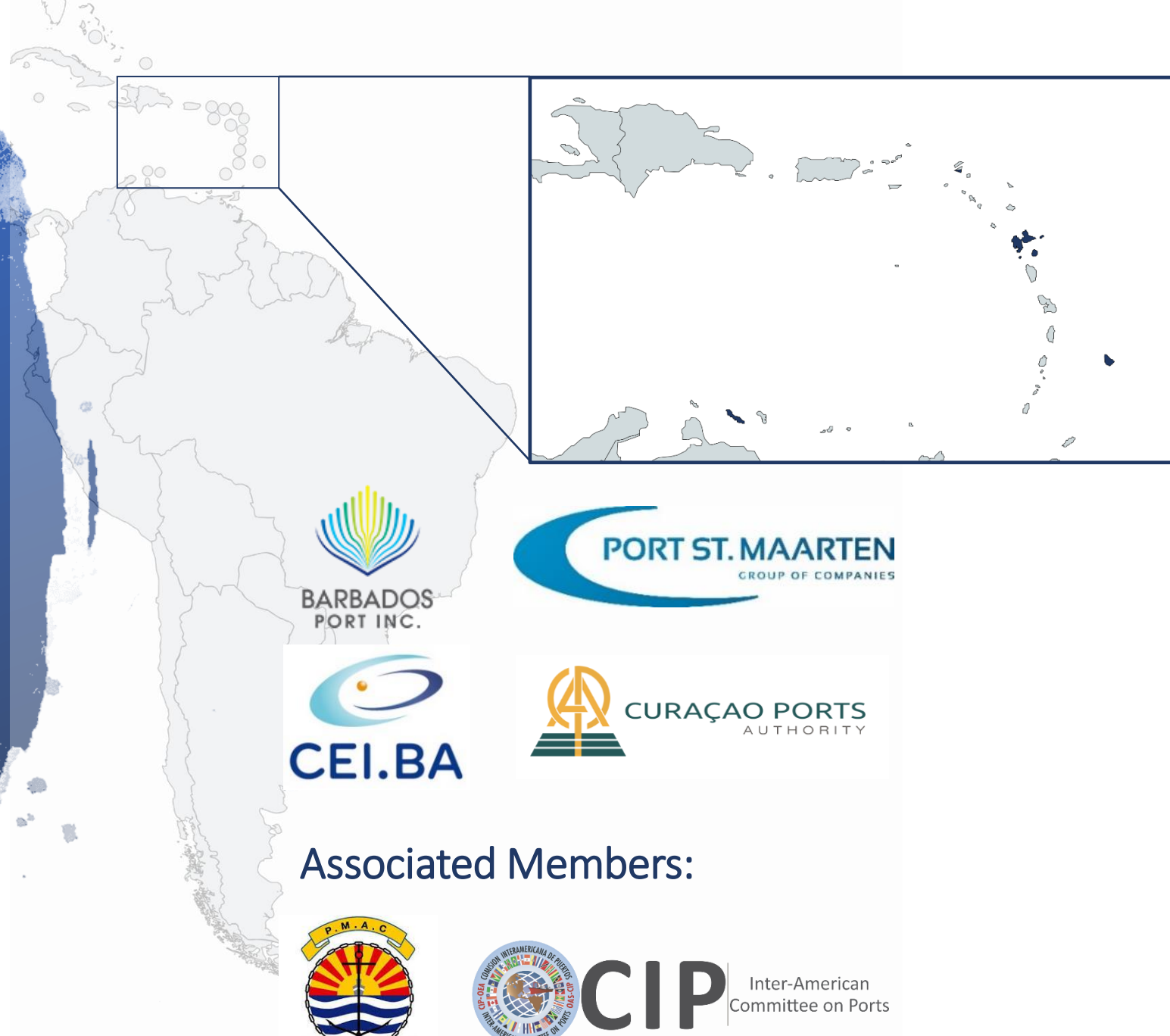


Associated Member:



IPCSA members

Latin-America & Carribean



Associated Members:



No PCS-course today ...



PCS Masterclass

A unique in-depth training to leverage your PCS-knowledge!

With this educational initiative, IPCSAs commitment to knowledge dissemination and skill enhancement remains clear and steady, contributing to:

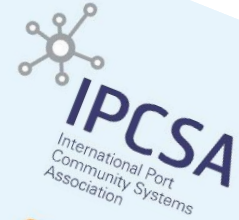
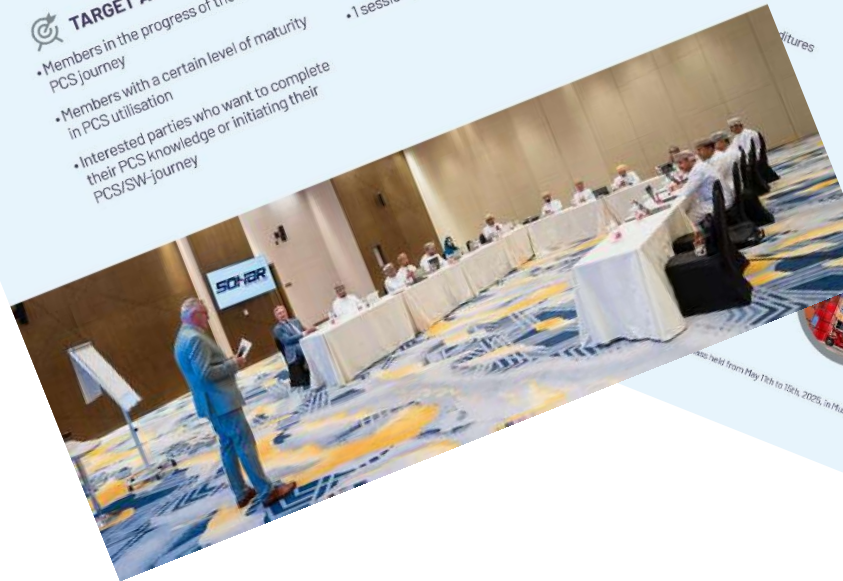
- Strengthen IPCSAs role of influencing the conditions for successful PCS implementations and operations.
- Increase IPCSAs expansion of knowledge around the use of Port Community Systems & Single Windows worldwide.
- Creating and promoting stakeholders' buy-in to support the role of PCS & SW in port logistics chains.

TARGET AUDIENCE:

- Members in the progress of their PCS journey
- Members with a certain level of maturity in PCS utilisation
- Interested parties who want to complete their PCS knowledge or initiating their PCS/SW-journey

DURATION AND FORMAT:

- 4 days for the full PCS Masterclass
- On-site classes, 4 to 5-hour sessions
- 1 session per course module



Course Contents

1 Introduction to PCS & Key Stakeholders

- Port Community and relevant stakeholders
- Guidelines for the construction of a robust Port Community
- What is a PCS?
- How to develop a PCS
- Methodologies for Change Management
- Communication Plan
- PCS Benefits
- Capacity building
- Legal aspects

2 PCS Technology aspects

- PCS IT Landscape Overview
- PCS modern and robust architectures
- Resilience measures for the Port Community
- PCS Future Challenges

3 PCS processes & services

- Core processes of a PCS
- Data and process international standards
- PCS services

PCS Governance & Business Models

- Models for the Operation

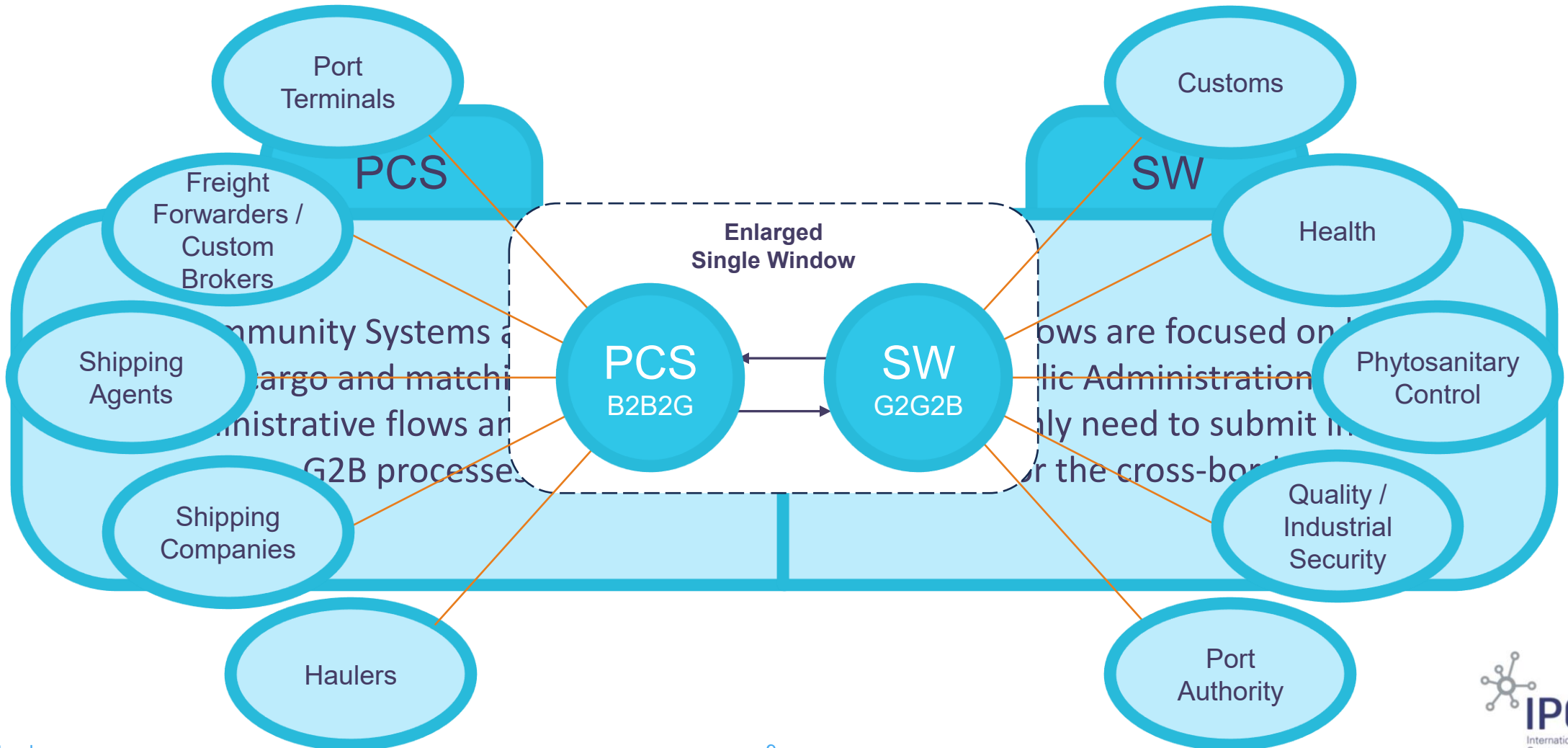


... held from May 18th to 20th, 2025, in Moscow. Organized in partnership with Scher Port.



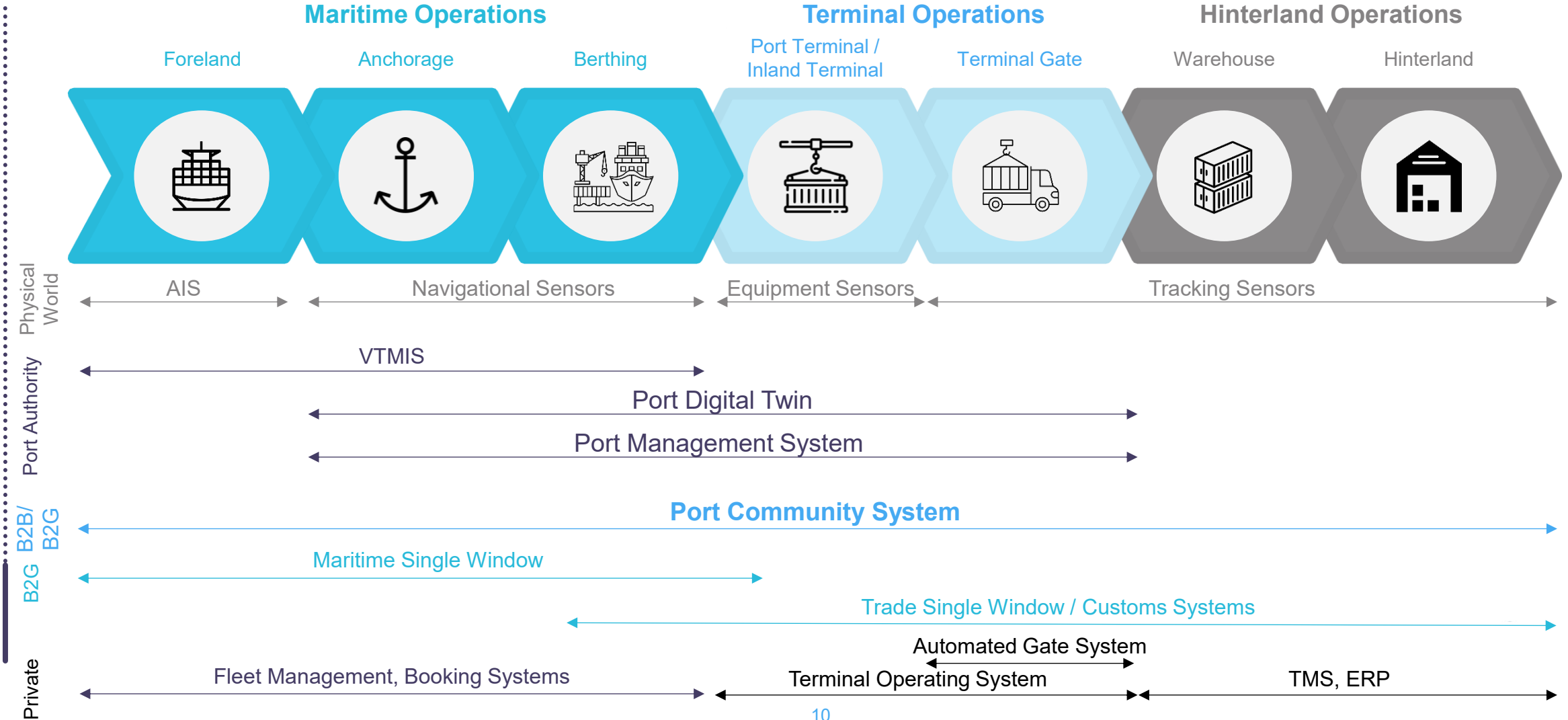
the PCS as a Single Window Environment

PCS FOCUS ON VOYAGE, CARGO AND INTERNAL FLOWS WHILST SW DUTIES INVOLVE DEALING WITH PUBLIC ADMINISTRATION



Port IT ecosystem: the relevance of interoperability

MAIN INFORMATION SYSTEMS IN A PORT MUST INTERACT BETWEEN THEM TO PROVIDE A HOLISTIC VIEW





AI



Analytics



Digital Twins

the AI Paradox

The ports that benefit most from AI will not necessarily be those with the most advanced algorithms.

They will be the ports with the most trusted and connected data ecosystems.



Trust



Data Sharing



Standards



PCS



Single Window

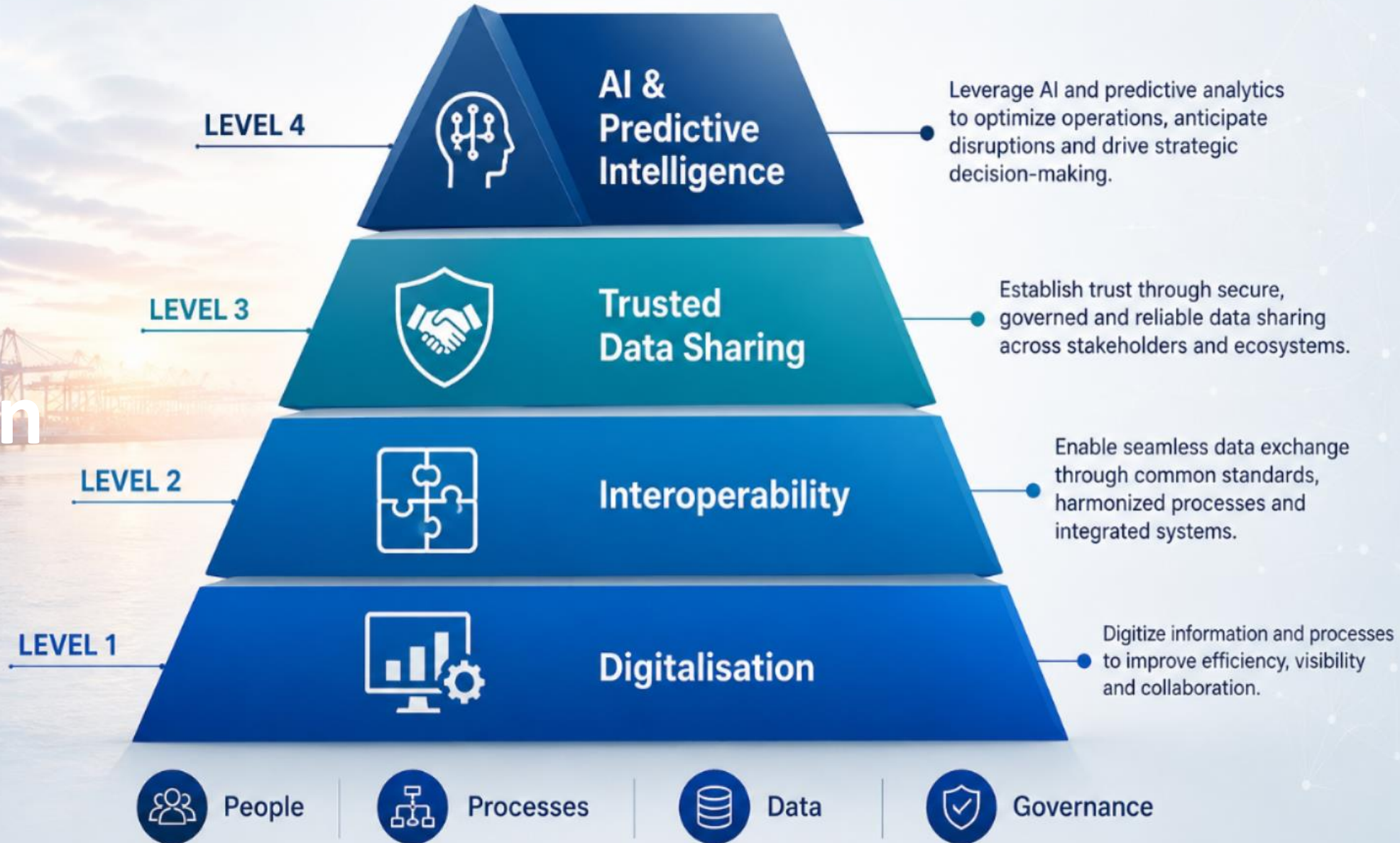


Governance

AI
needs a
foundation

MATURITY PYRAMID

Building the foundation for an intelligent and connected port ecosystem



Critical Gap: Data Fragmentation

Despite all digitalisation efforts and investments

- Same data entered **multiple times**
- **No global interoperability**
- **Legal barriers** to data sharing

Result

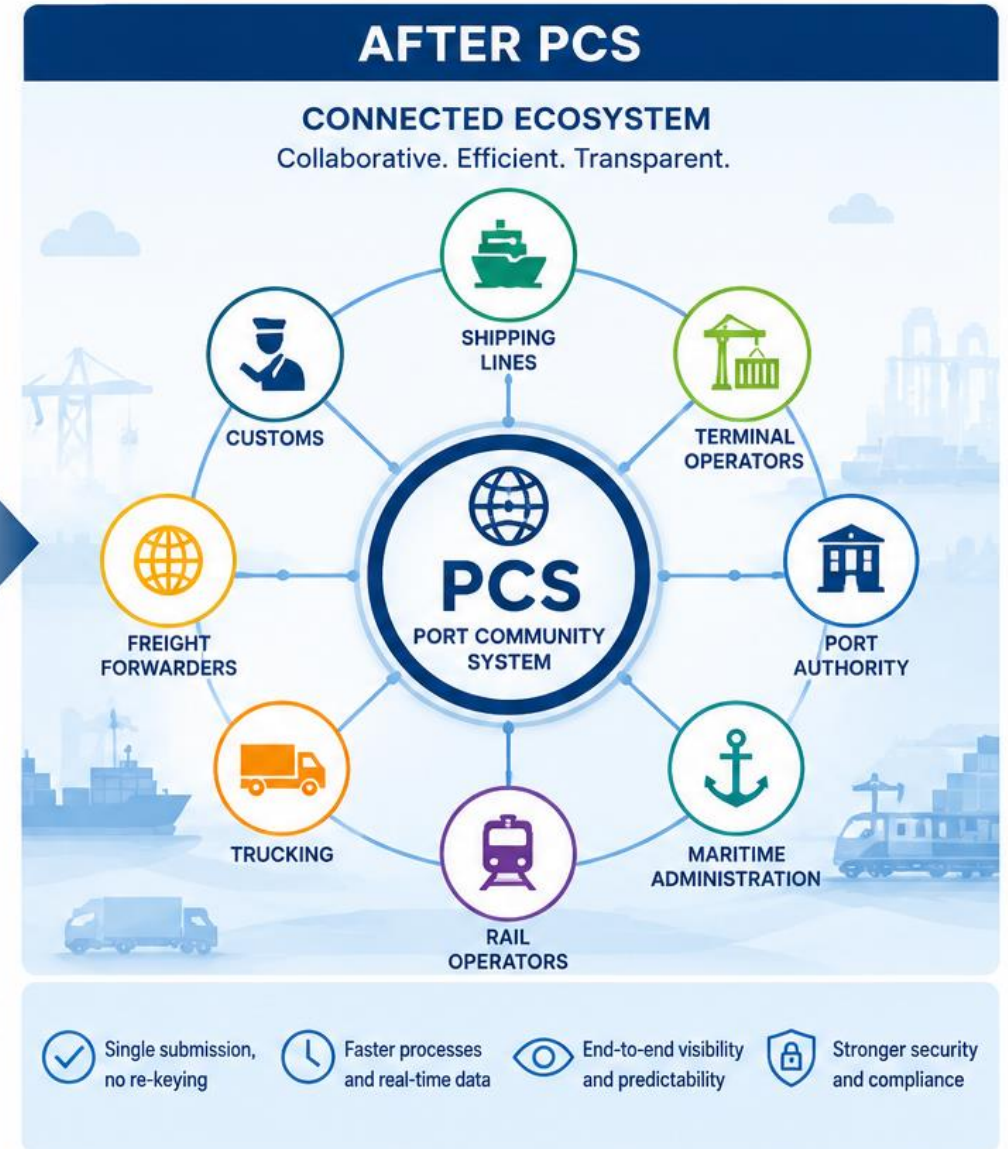
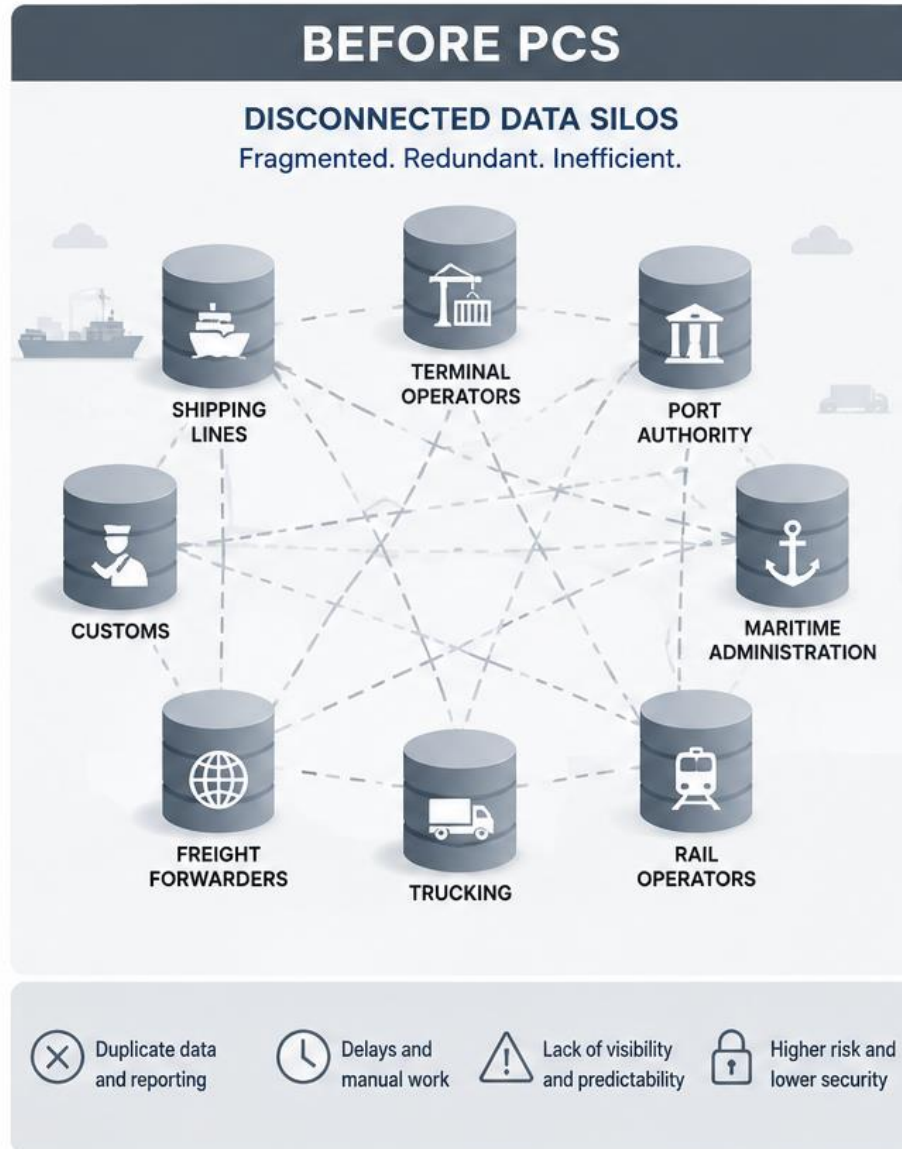
- **Inefficiency persists**
- **Risk visibility** remains **partial**
- Trade finance **gap** (~\$2.5T+) **continues**

Ports are Networks, not Organizations



THE REAL VALUE OF A PCS

A PCS IS NOT AN IT PLATFORM. IT IS A COLLABORATION PLATFORM.















AI AND PORTS

WHAT AI ACTUALLY NEEDS





AI is only as good as the data ecosystem that powers it.

FIVE PILLARS OF AI-READY PORT ECOSYSTEMS

 <p>ACCURACY</p> <p>Reliable and accurate data is the foundation of trusted insights.</p>  <p>1</p>	 <p>STANDARDIZATION</p> <p>Common standards and definitions ensure data speaks the same language.</p>  <p>2</p>	 <p>TIMELINESS</p> <p>Up-to-date data at the right time enables proactive decisions.</p>  <p>3</p>	 <p>TRUST</p> <p>Trust in data, processes and governance drives collaboration.</p>  <p>4</p>	 <p>ACCESSIBILITY</p> <p>The right data, available securely to the right stakeholders.</p>  <p>5</p>
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GETTING THESE FIVE PILLARS RIGHT UNLOCKS THE TRUE POWER OF AI IN PORTS.

-  Better Decisions
-  Greater Sustainability
-  Stronger Security
-  Higher Efficiency



PREDICTIVE PORT OPERATIONS

AI-POWERED INSIGHTS FOR SMARTER DECISIONS



PREDICT
Anticipate events
before they occur



OPTIMIZE
Use resources
efficiently



SUSTAIN
Reduce delays
and emissions



PERFORM
Improve safety
and service levels

Use Case #1: Predictive Port Operations

ETA PREDICTION

Estimated Time of Arrival

	MSC ALINA IMO 9701234	ETA 07:45	PREDICTION 07:38	EARLY
	MAERSK HORIZON IMO 786543	ETA 09:30	PREDICTION 09:45	DELAY
	CMA CGM TITAN IMO 9835671	ETA 11:15	PREDICTION 11:05	EARLY
	ONE INNOVATION IMO 9843210	ETA 13:00	PREDICTION 13:20	DELAY
	HMM OCEAN IMO 9876541	ETA 15:45	PREDICTION 15:40	ON TIME

[VIEW ALL VESSELS →](#)

BERTH PLANNING

Optimal Berth Allocation



BERTH 1 MSC ALINA 07:38 ONGOING	BERTH 2 MAERSK HORIZON 09:45 NEXT	BERTH 3 CMA CGM TITAN 11:05 PLANNED	BERTH 4 ONE INNOVATION 13:20 PLANNED	BERTH 5 HMM OCEAN 15:40 PLANNED
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AVG. WAITING TIME
1.2 HOURS
▼ 18% vs yesterday

BERTH UTILIZATION
87%
▲ 7% vs yesterday

PREDICTED DELAYS
2 VESSELS
▼ 33% vs yesterday

CO₂ SAVINGS
128 TONS
▲ 15% vs yesterday

RESOURCE ALLOCATION

Optimized Deployment

SHIP TO SHORE CRANES 17 / 20

■ In Use ■ Planned ■ Available

YARD EQUIPMENT 86 / 120

■ In Use ■ Planned ■ Available

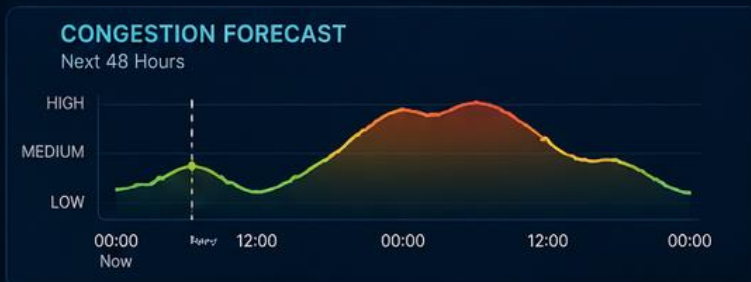
TRUCKS 245 / 320

■ In Use ■ Planned ■ Available

RAIL MOVEMENTS 18 / 24

■ In Use ■ Planned ■ Available

[VIEW RESOURCE DASHBOARD →](#)



- ### AI INSIGHTS
- High vessel arrival between 08:00 – 11:00 tomorrow. Recommend adjusting gate operations.
 - Berth 2 may experience delay risk due to weather conditions.
 - Reallocate 2 yard cranes to increase productivity at Berth 3.

IMPACT

-18%
Waiting Time

+12%
Productivity

-128 t
CO₂ Emissions

+23%
Service Level



SUPPLY CHAIN VISIBILITY

Real-Time. End-to-End. Actionable.

AI-powered visibility across the entire logistics chain

AI INSIGHTS

- ⚠️ Potential delay detected at inland terminal
- 🔄 Recommend rerouting via alternate corridor
- 🌱 Cargo at risk of late delivery: 12%

EST. TIME OF ARRIVAL

2d 14h
On Time

CLEARANCE STATUS

Cleared

SUPPLY CHAIN RISK

Low Risk
12%



ONE SOURCE OF TRUTH • ONE CONNECTED ECOSYSTEM • BETTER DECISIONS

END-TO-END VISIBILITY
See the full journey in real time

PROACTIVE ALERTS
Detect issues and act early

SMARTER DECISIONS
AI turns data into actionable insights

STAKEHOLDER COLLABORATION
Share information, work as one

SUSTAINABLE SUPPLY CHAINS
Reduce delays, emissions and costs

THE IMPACT

-25%
REDUCTION IN DELAYS

-15%
LOGISTICS COSTS

-20%
CO₂ EMISSIONS

+30%
SUPPLY CHAIN RESILIENCE

BETTER SERVICE
HAPPIER CUSTOMERS

Use Case #2: Supply Chain Visibility



SECURITY & RISK MANAGEMENT

AI-POWERED PROTECTION FOR A SECURE PORT ECOSYSTEM

Advanced AI turns data into early warnings, stronger security, and smarter risk decisions.



DETECT
AI detects anomalies
in real time



ANALYZE
Assess risk and
identify patterns



RESPOND
Automated alerts
and actions



PROTECT
Strengthen resilience
across the ecosystem

AI CAPABILITIES



ANOMALY DETECTION
Identify unusual behavior
across operations and
data patterns



CARGO RISK PROFILING
Assess risk levels using
historical data, ML
and external signals



**CYBER THREAT
MONITORING**
Detect, alert and respond
to cyber threats in
real time



**COMPLIANCE
MONITORING**
Ensure adherence to
regulations and security
standards



FRAUD PREVENTION
Spot fraudulent activities
and document
manipulation



AI DELIVERS



STRONGER SECURITY
Protect people, cargo,
infrastructure and data



EARLY WARNING
Detect risks before they
become disruptions



LOWER COSTS
Reduce losses, delays
and compliance costs



GREATER TRUST
Build confidence through
transparent and secure
data sharing



SUSTAINABLE OPERATIONS
Secure and efficient
operations for a resilient
supply chain

REAL-TIME RISK MONITORING

12
HIGH RISK ALERTS
↓ 35% vs yesterday

98%
THREAT DETECTION
Accuracy

7
POTENTIAL RISKS
Under investigation

3.2 min
AVG RESPONSE TIME
↓ 28% improvement

92%
COMPLIANCE RATE
↑ 8% vs last month



SHARED DATA. SMARTER INSIGHTS. STRONGER PROTECTION.

A SECURE PORT IS A COMPETITIVE PORT.

Use Case #3:

Security & Risk
Management



THE BIGGEST CHALLENGE IS NOT TECHNOLOGY. IT IS TRUST.

Technology connects systems.
Trust connects people and unlocks the value of data.



WITHOUT TRUST, WE GET:

-  Data silos
-  Limited collaboration
-  Higher risk
-  Lost opportunities

WITH TRUST, WE ACHIEVE:

-  Stronger collaboration
-  Better decisions
-  Lower risk
-  Sustainable growth

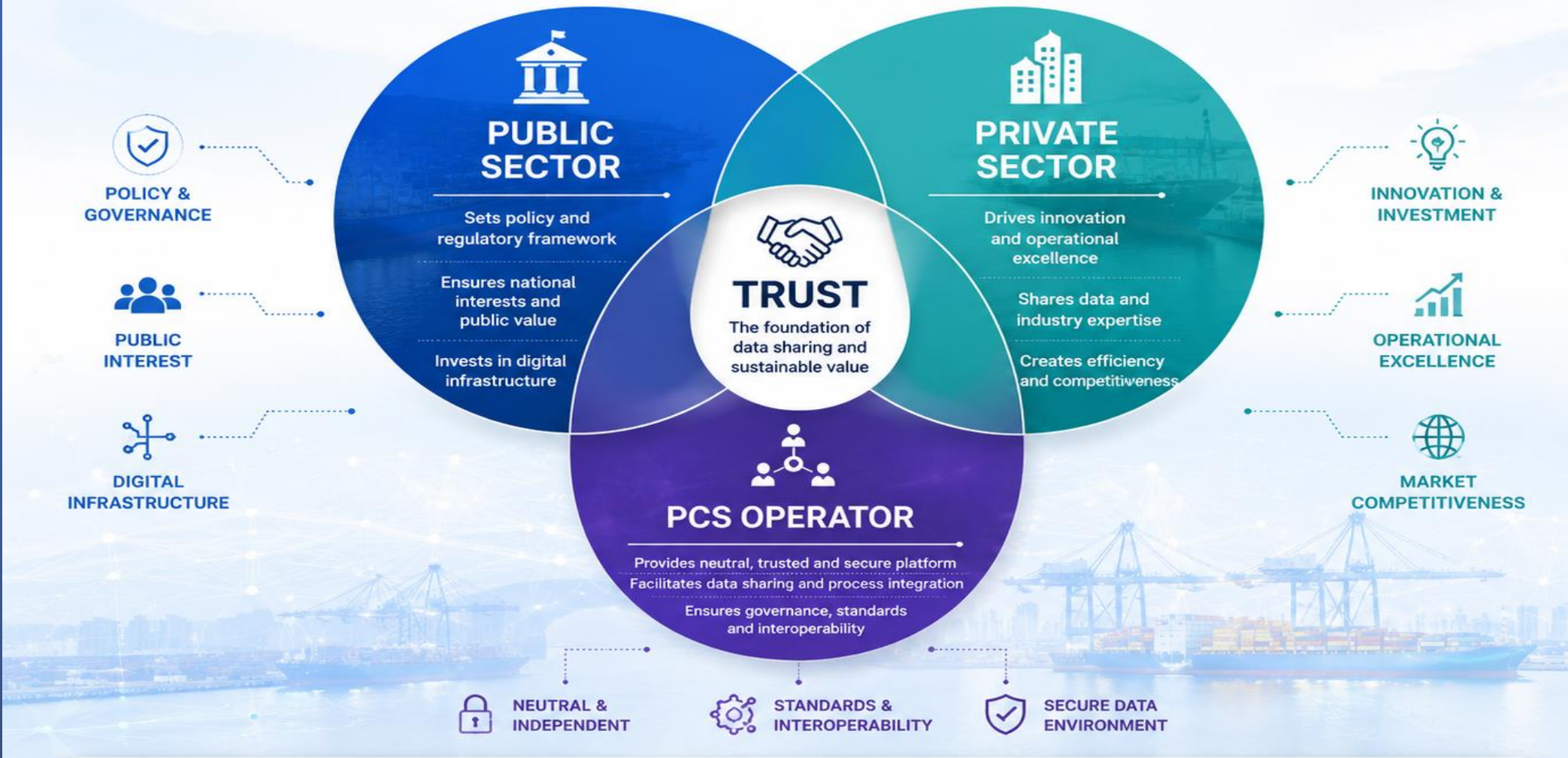


When governance is strong, transparency is real, and security is paramount, data becomes a shared asset — and AI creates exponential value.



PUBLIC-PRIVATE COLLABORATION

Stronger Together. Better Ports. Smarter Trade.

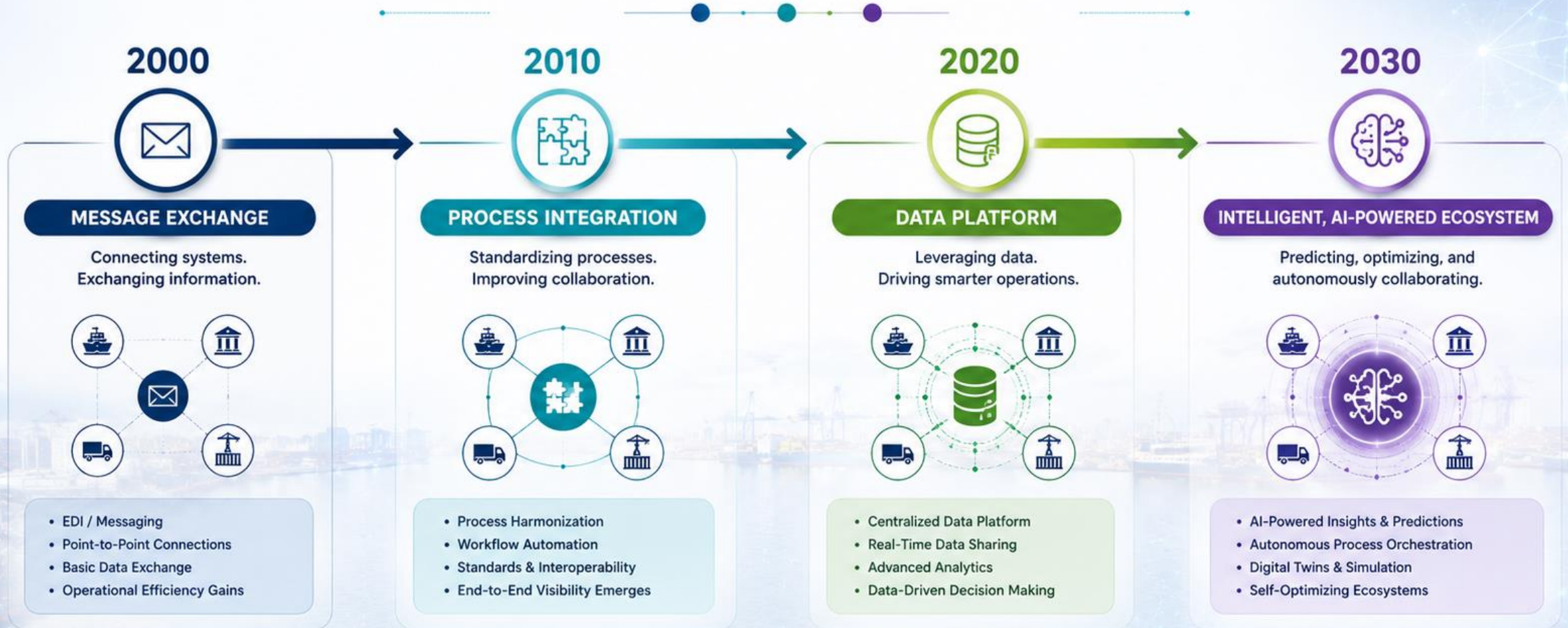


TOGETHER WE DELIVER

-  **More Efficient Ports**
-  **Smoother Trade Flows**
-  **Sustainable Growth**
-  **Resilient & Secure Supply Chains**
-  **Shared Prosperity for All**

FROM PCS TO INTELLIGENT PORT ECOSYSTEMS

20+ YEARS OF COLLABORATION. BUILDING THE FOUNDATION FOR AN INTELLIGENT FUTURE.



 Greater Efficiency
Lower Costs

 Sustainable
Operations

 Enhanced Resilience
& Security

 Stronger Collaboration
More Value

 Smarter Ports
Connected World

THE FOUNDATION IS COLLABORATION. THE FUTURE IS INTELLIGENCE.



THE OPPORTUNITY FOR THE AMERICAS

Connected ports. Digital corridors.
Intelligent trade across the Americas.

By collaborating and sharing trusted data across borders, we unlock a smarter, more resilient and sustainable supply chain for our region.

- 

DRIVE ECONOMIC GROWTH
Improve competitiveness and attract investment across the region.
- 

INCREASE SUPPLY CHAIN RESILIENCE
Anticipate disruptions and adapt quickly with end-to-end visibility.
- 

SUPPORT SUSTAINABILITY
Optimize operations and reduce emissions through data-driven decisions.
- 

STRENGTHEN SECURITY & COMPLIANCE
Leverage AI to detect risks, ensure compliance and protect the flow of global trade.
- 

EMPOWER PEOPLE & PARTNERSHIPS
Foster collaboration, trust and innovation among public and private stakeholders.



- ### OUR ENABLERS
- 

PCS INTEROPERABILITY
Connecting Port Community Systems
 - 

SINGLE WINDOWS
Streamlining trade and information flow
 - 

DATA STANDARDS
Ensuring quality, consistency and reusability
 - 

TRUST & GOVERNANCE
Building confidence through clear rules and security
 - 

AI & ANALYTICS
Turning data into intelligence and actionable insights



ONE AMERICAS. ONE DIGITAL ECOSYSTEM. ENDLESS OPPORTUNITIES.

- 

SEAMLESS CONNECTIONS
- 

COMPETITIVE ADVANTAGE
- 

SMARTER DECISIONS
- 

SUSTAINABLE FUTURE
- 

SHARED PROSPERITY FOR ALL

5 Takeaways

1. AI depends on trusted data.
2. Trusted data depends on collaboration.
3. Collaboration requires governance.
4. Interoperability enables scale.
5. PCS and Single Windows provide the foundation.

“The future of smart ports is not merely digital. The future of smart ports is collaborative.”



CONNECTING PORT COMMUNITIES.
ENABLING GLOBAL TRADE.

Building Intelligent Port Ecosystems
for a Smarter, More Sustainable Future.



STRONGER COLLABORATION
Uniting the port community
for shared success



DIGITAL TRANSFORMATION
Driving efficiency, visibility
and innovation



SUSTAINABLE GROWTH
Building resilient and
responsible supply chains



AI-POWERED DECISIONS
Turning data into intelligence
and real-world impact

TOGETHER WITH THE PORT COMMUNITY



CUSTOMS



PORT
AUTHORITIES



SHIPPING
LINES



TERMINAL
OPERATORS



FREIGHT
FORWARDERS



LOGISTICS
PROVIDERS



COMMUNITY
PARTNERS



OUR VISION
A world where port communities
seamlessly connect and thrive.



OUR MISSION
To advance digital collaboration
and standards for smart ports.



OUR COMMITMENT
To lead, advocate and deliver value
for our global port ecosystem.



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