Seamless Logistic Chain & Continuous Innovation Culture at Algeciras BrainPort

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Puerto de Algeciras

Ernest Shackleton

Puerto de Algeciras

THE CONQUEST OF THE ANTARCTIC

man Bldg.

MEN WANTED

for hazardous journey, small wages, bitter cold, long months of complete darkness, constant danger, safe return doubtful, honor and recognition in case of success.

Ernest Shackleton 4 Burlington st.

MEN—Neat-appearing young men of pleasing personality.

December 29th, 1913. London Times

Endurance

Innovation as a Process

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TRAVESÍA DE LA INNOVACION

HERCULES

Global Trade & Maritime Transport

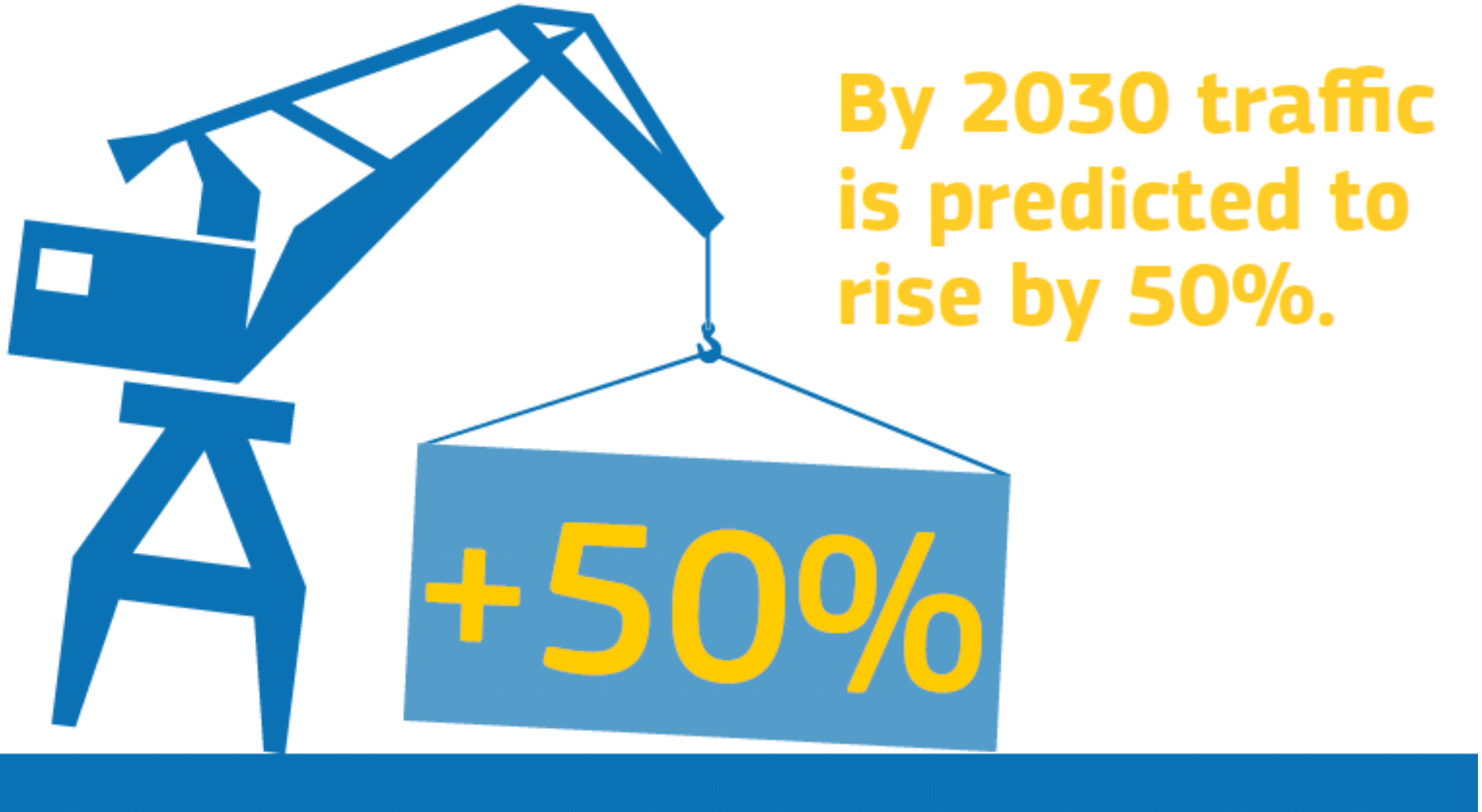
Puerto de Algeciras

90% GLOBAL TRADE IS TRANSPORTED BY SEA

MARITIME TRANSPORT IS THE BACKBONE OF INTERNATIONAL TRADE

Global Trade & Maritime Transport

Puerto de Algeciras



By 2030 traffic is predicted to rise by 50%.

Key Issues

01 What are the Logistic Challenges?

02 How Digital Innovation Helps to Deliver Value?

03 What´s Going on in Practice?

04 Next Steps to Consolidate Innovation Process?

Puerto de Algeciras

01

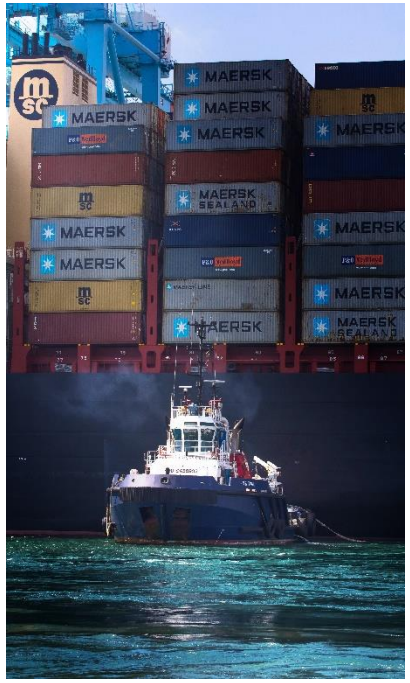
What are the Logistic Challenges?

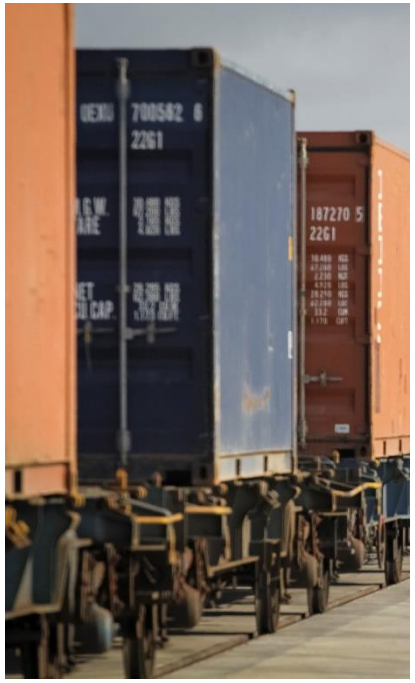
Mission of a Port

Puerto de Algeciras

Accelerate the Cargo Flow through Logistic Chains to Support Trade and Create Value

Many Actors Involved to Deliver <u>The Port Service</u>
Operations and Documentation Flows: <u>Complex</u>





COMPLEXITY IS THE NEW REALITY

Key Drivers in Port Logistics

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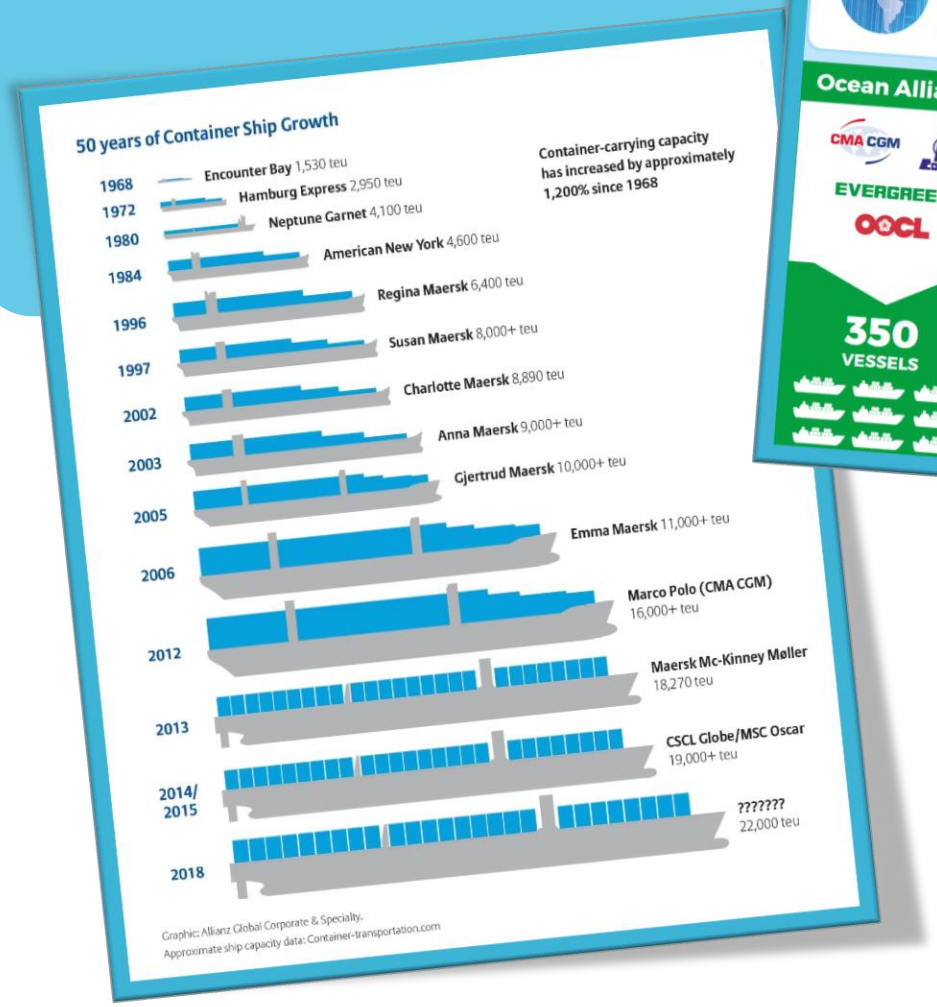

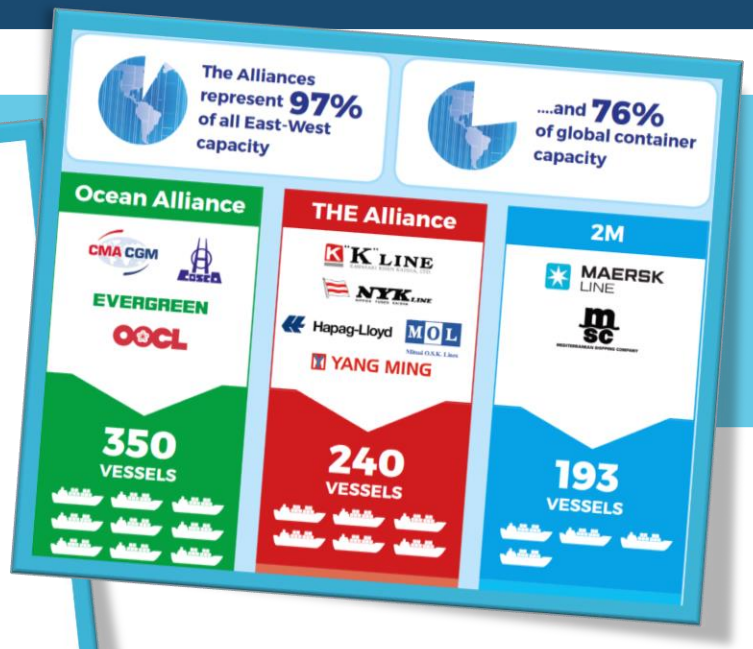

Bigger Vessels

Industry Consolidation

Wild Competition

Just-in-Time

e-commerce

Problems in Port Logistics

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Ports as “BLACK HOLES” in Logistic Chains

- ✓ Visibility & Transparency
- ✓ Predictability & Reliability
  - ✓ Waiting Times
  - ✓ Documentation & Burocracy
  - ✓ Mistrust & Discontinuity
    - ✓ Inefficient Coordination
    - ✓ Communication Gaps

02

How Digital Innovation Helps to Deliver Value?

What is DIGITAL for Algeciras Port?

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Transparency (Trust)

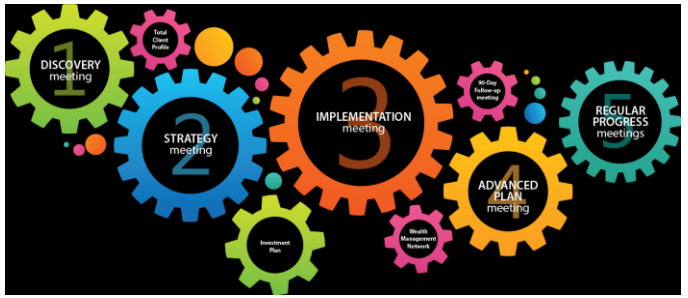
Predictions

Autonomous

No Idle Time

Seamless

Data-Driven Decisions



Innovation as a Business Process

Mission Critical Priorities & IT Pillars

Puerto de Algeciras

Operational Excellence in Port Community

Port CDM: Digital Platform for ComPort

Seamless Integration in the Logistic Chain

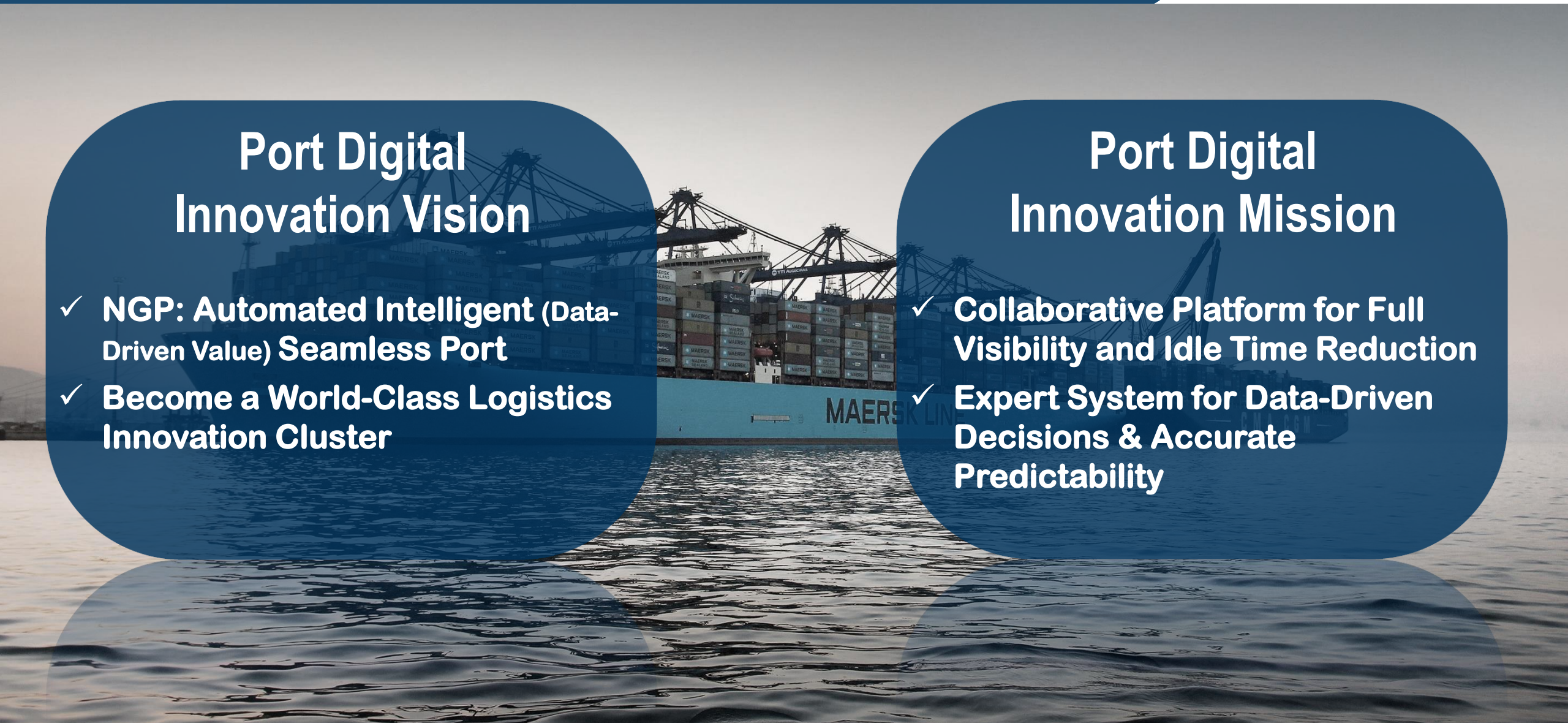
Digital Platform for B2B Interactions

Technology & Innovation to the Core

Innovation as a Business Process

Next Generation Algeciras Port

Puerto de Algeciras

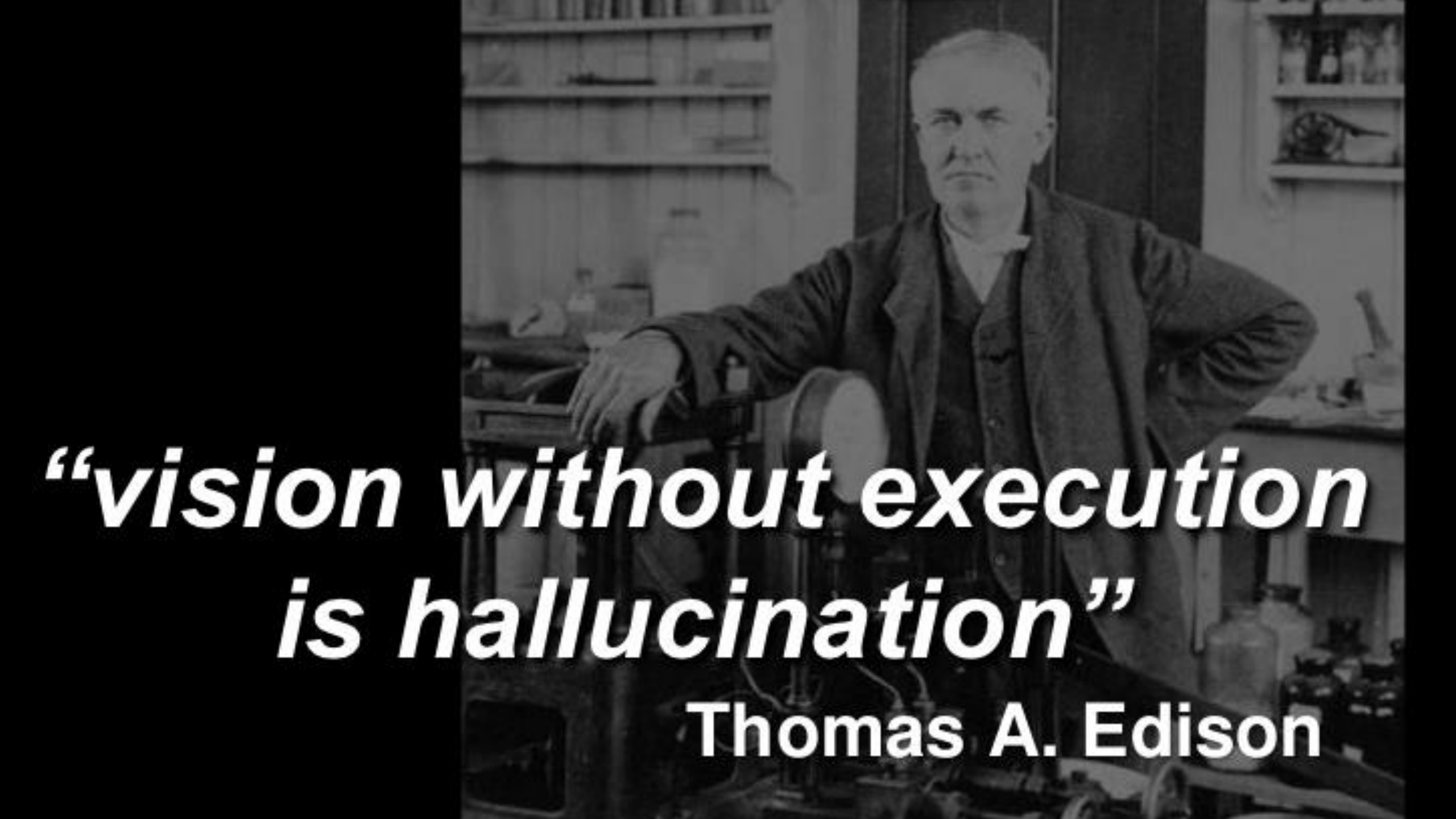


Port Digital Innovation Vision

- ✓ NGP: Automated Intelligent (Data-Driven Value) Seamless Port
- ✓ Become a World-Class Logistics Innovation Cluster

Port Digital Innovation Mission

- ✓ Collaborative Platform for Full Visibility and Idle Time Reduction
- ✓ Expert System for Data-Driven Decisions & Accurate Predictability


“vision without execution is hallucination”
Thomas A. Edison

One-Page IT & Innovation Plan

Puerto de Algeciras

2014 | 2017 | 2020 | 2025

Phase I: 2014-2016

- **BI** Qlikview
- **EDI** Vessel Calls
- **PCS** Teleport 1.0
- **SIP** Passenger Information System
- **VTS** Nepshys
- **PMS I** Maritime Operations
- **SCI** Full-HD Video System
- **SIGCA** Access Control, Track&Trace
- **VoIP** WiFi Rad-Links

CORPORATE INTEROPERABILITY PLATFORM

- **BPA** *Analytics - IoT - BigData*
- **OPTIPORT** Monte Carlo Holistic Simulator
- **HERCULES** OPE Management App
- **SAMPA** *Met-Ocean Forecast*
- **SG3** Virtual Environments
- **GIS & WEB** New Platforms

Phase II: 2017-2020

PORT/LOGISTICS/TRADE COMMNUNITY SYSTEM

PORT OPERATIONS MANAGEMENT SYSTEM

Harbour Analytics Strategy

Cybersecurity Strategy

Port Location Strategy

eAdmon, TELCO Optiz, SACR/LTE, GTIC, DevOps, SIGCA2, PRINCE2-ITIL-AGILE

Innovation Projects ABP2020 & H2020

Simulation, Artificial Intelligence, IoT, Analytics, Prototyping

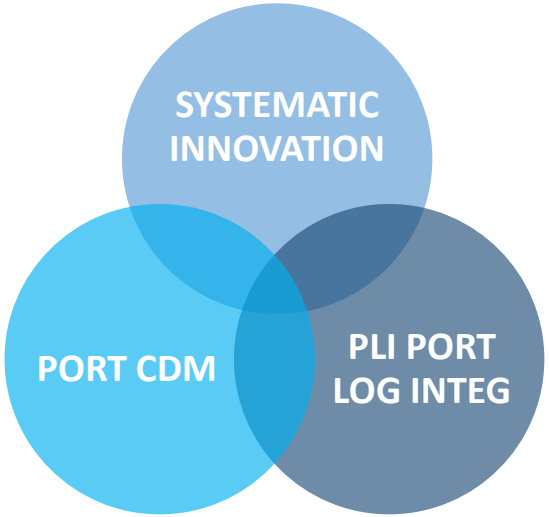
Containers, Ro-Pax, Vessel Services

Start-Ups & Transversal Innovation Initiatives

APB Lab Center, Open Innovation, Public Open Data, Innovation Awards, BrainPortHack, StartUp Accelerator, Public-Private Innovation Partnerships, BlockChain, Corporate Venturing

Phase III: 2020-2025

Next Generation Port Concept



Port Logistics Innovation Cluster

One-Page IT & Innovation Plan

Puerto de Algeciras

2014	2017	2020	2025
Phase I: 2014-2016	Phase II: 2017-2020	Phase III: 2020-2025	

Phase I: 2014-2016	Phase II: 2017-2020	Phase III: 2020-2025
Digital Port Ecosystem	Maximize Impact in Port Community	New Business Models
IT - Business Integration	Collaboration & Analytics	Artificial Intelligence
New Innovation Framework	Innovation as a Business Process	Start-Ups Ecosystem

03

What´s Going on in Practice?

http://innovacion.apba.es/

Port Operations Management System

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Data Acquisition & Standarization

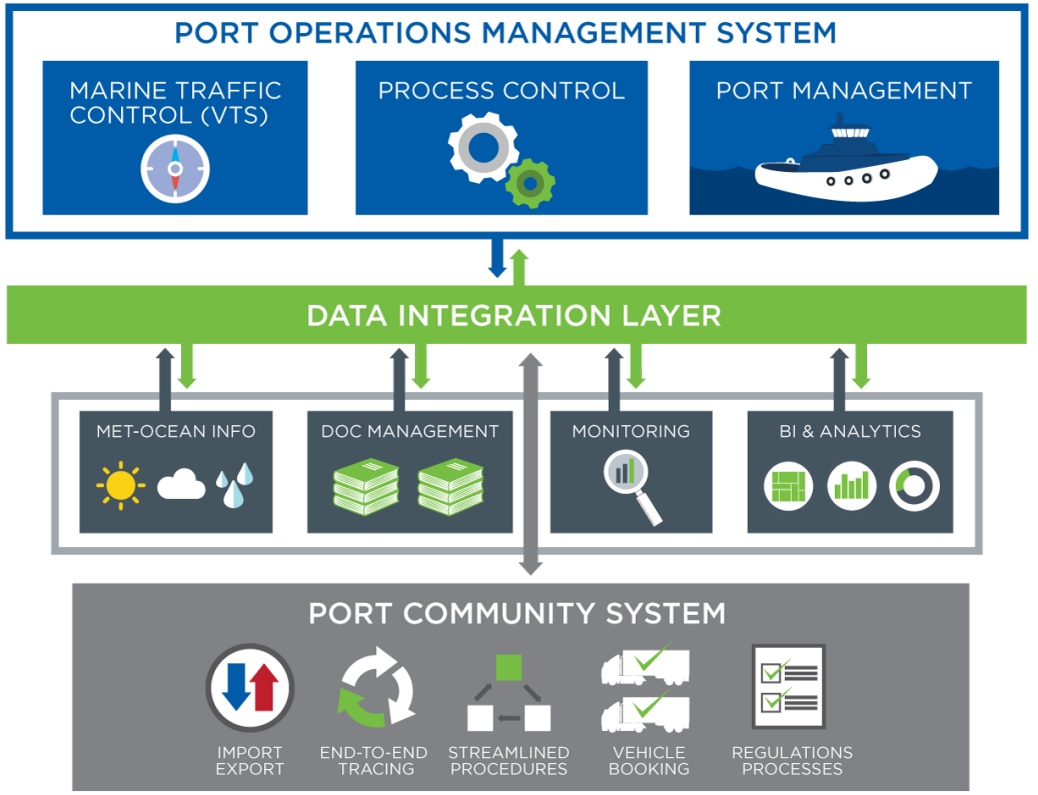
Dynamic Event Data Exchange

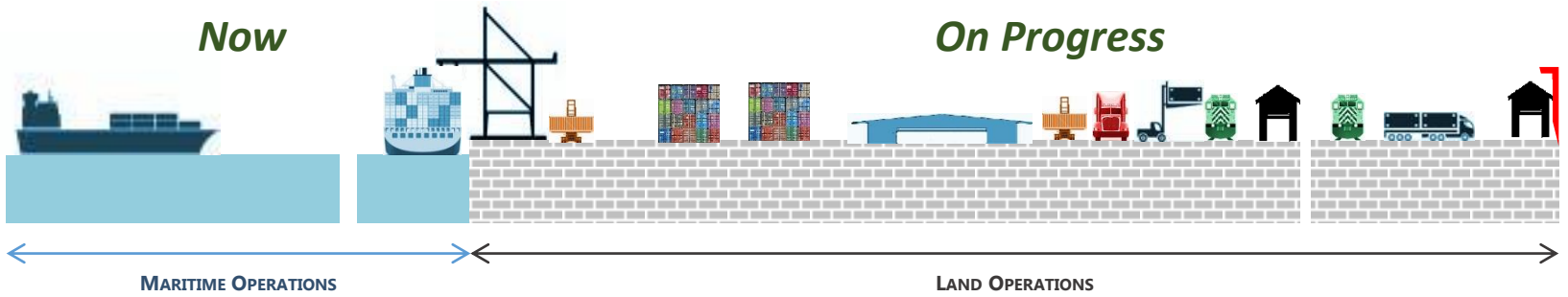
Overall Visibility

Operational Coordination / Idle Time

Planning / Execution Confluence

Data-Driven Business Decisions





BrainPort Analytics

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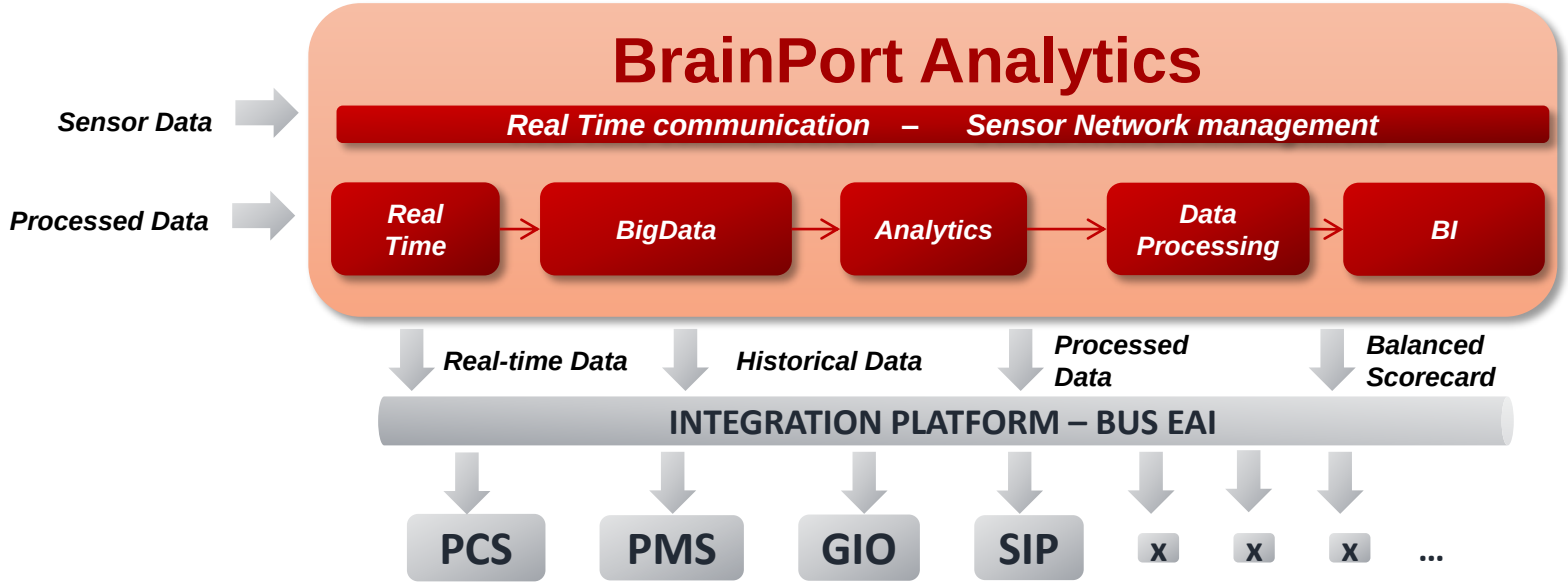
Operations + Meaningful Information = "Process Intelligence"

IT supporting network



Teleport 2.0: Port Community System

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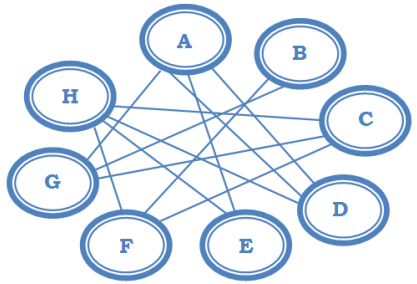
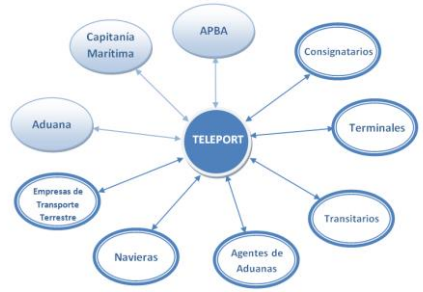


Information and Documentation Exchange Platform



From Port Community System To Logistic Community System To Trade Community System
Port Integration Along the Logistic Chain

TELEPORT 2.0

Downstream: Inland

Upstream: Port-to-Port

Teleport 2.0: Port Community System

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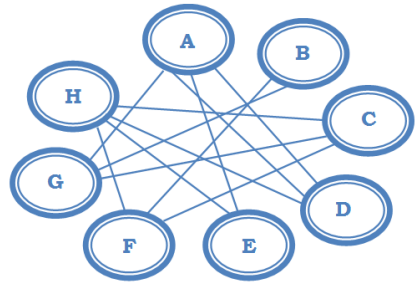
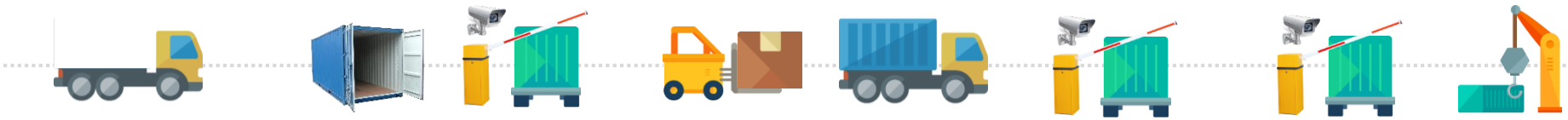
SVA - Sea

SVA - Port

SVA - Land

Transversal Information Services





Red Bull
racing
Red Bull
RENAULT
Pepe Jeans
CASIO
GEOX
PIRELLI
GIVES YOU WINGS

Pit-Stop Port Operations

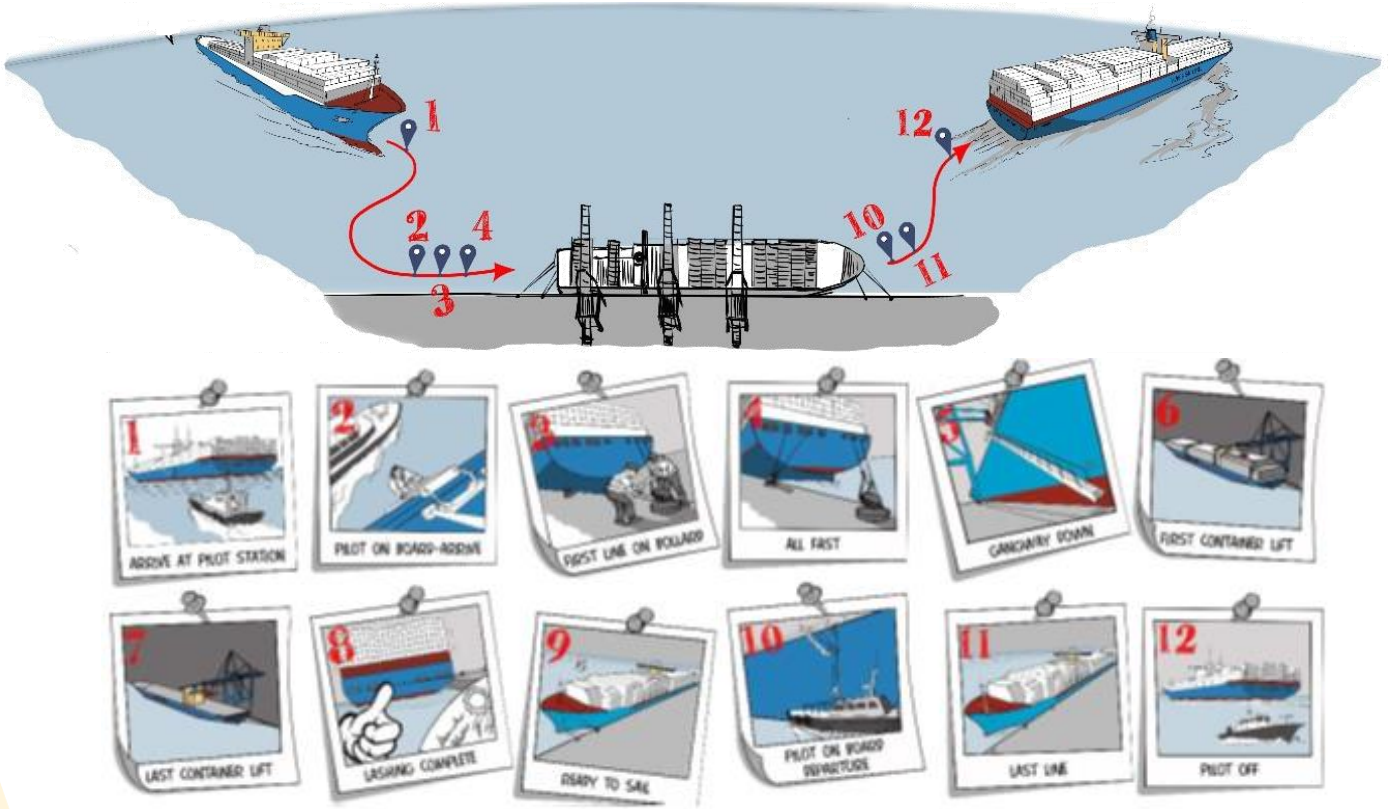
Puerto de Algeciras

Target: Reduce End-2-End Idle Time

navis ATOM ADVANCED TERMINAL OPTIMIZATION

OPERATIONAL EXCELLENCE THROUGH CROSS-CONNECTED SYSTEMS

- ✓ End-2-End Visibility
- ✓ Port Collaborative Decision Making
- ✓ Processes and Data Standarization
- ✓ With BU, Customers & other Ports
- ✓ Agile Methodology (Scrum)
- ✓ Prototyping & Validated Learning
- ✓ Cloud Continuous Integration Platform



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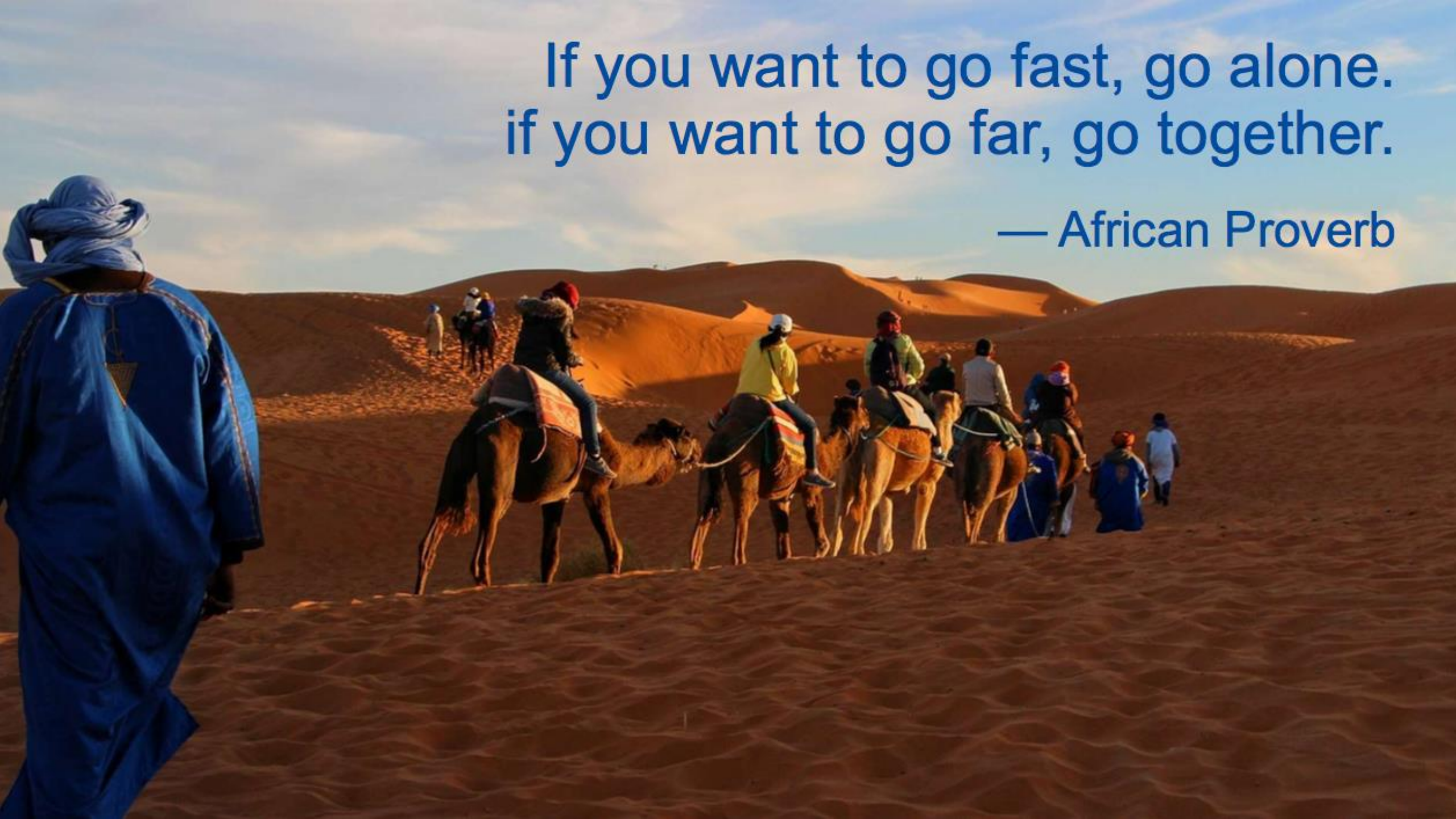
Next Steps to Consolidate Innovation Process?


If you want to go fast, go alone.
if you want to go far, go together.
— African Proverb

Next Steps

1. Promote more Interactions with Customers along the Logistic Chain
2. Systematize Relationships with Start-Up Ecosystem
3. Simplify Digital Platforms
4. Continuous Exploration of Digital Innovation Trends (Blockchain, AI, Machine Learning…)
5. Test & Adopt New Business Models (Dynamic Pricing, New Services…)

Innovation Projects: 2017-2020

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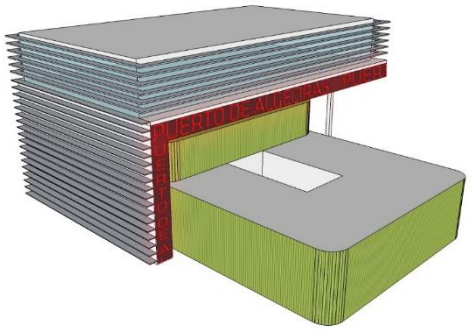
IMPACT/ CLOSENESS TO CLIENTS

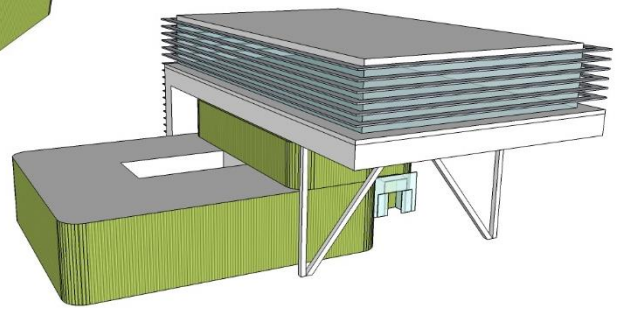
Business Line: Container	Business Line: RO-PAX	Business Line: Full-Service-Port
Simulation & Optimization of a Container Hub	Ro-Pax Fast Scanning Techniques	Full Vessel Services Port Simulation & Optimization

- Port Emergency Management & Planning Tool
- Advanced System for Vessel Motions & Operational Risk
- Logistics & Cargo Flow Holistic Simulator
- Logistics Sensoring & Analytics Lab: IoT + Analytics
- Advanced Telco & Cybersecurity for Ports
- BrainPort Lab Center

Public Innovation Procurement

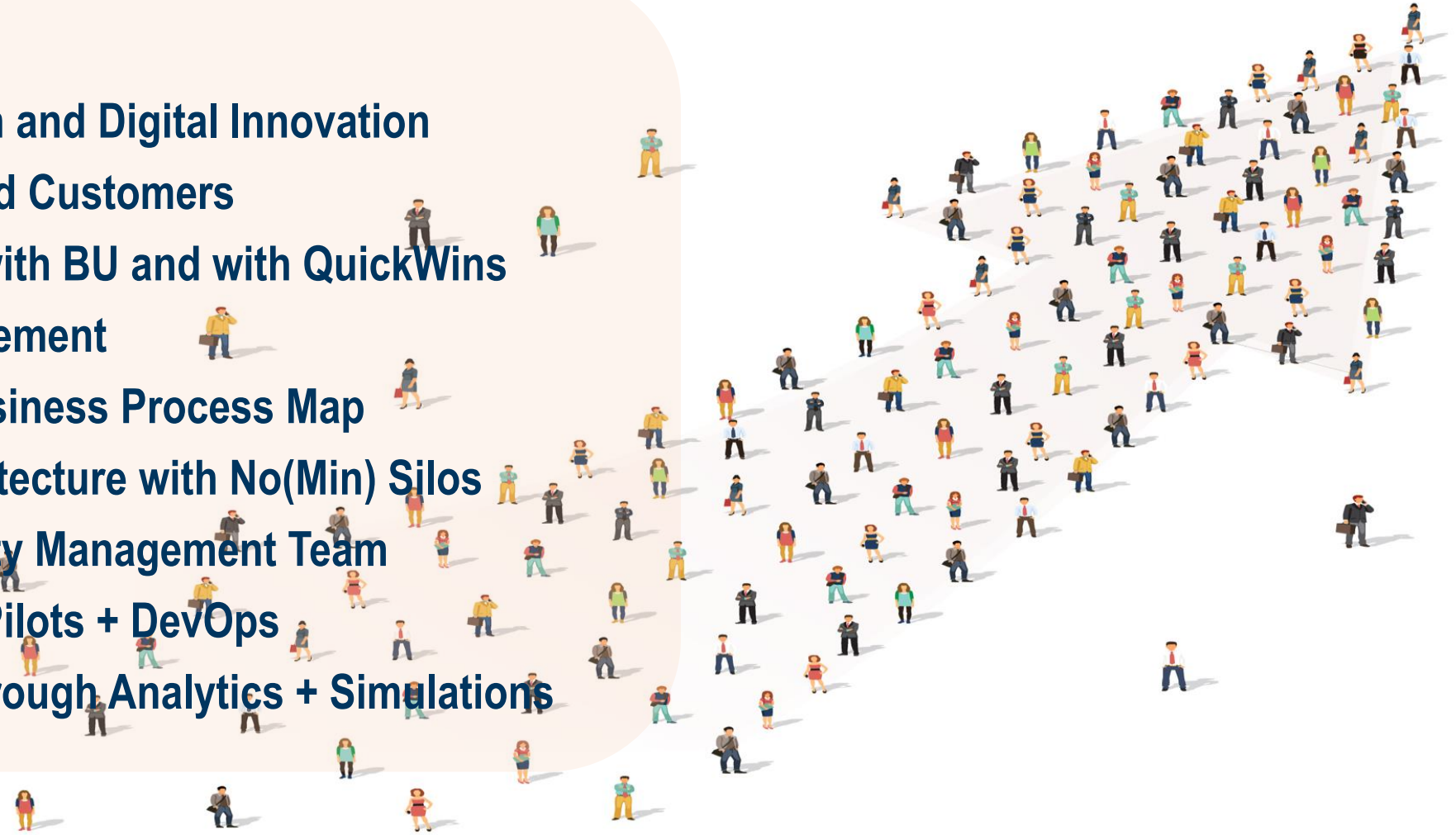
Competitive Dialogue





Key Success Factors

- ✓ Long-Term Goals
- ✓ Integrate Business Vision and Digital Innovation
- ✓ Collaboration with BU and Customers
- ✓ Communicate Together with BU and with QuickWins
- ✓ Public Innovation Procurement
- ✓ Ellaborate End-2-End Business Process Map
- ✓ Corporate Systems Architecture with No(Min) Silos
- ✓ Set-Up an Inter-Operability Management Team
- ✓ Agile Methodology with Pilots + DevOps
- ✓ Data-driven Decisions through Analytics + Simulations



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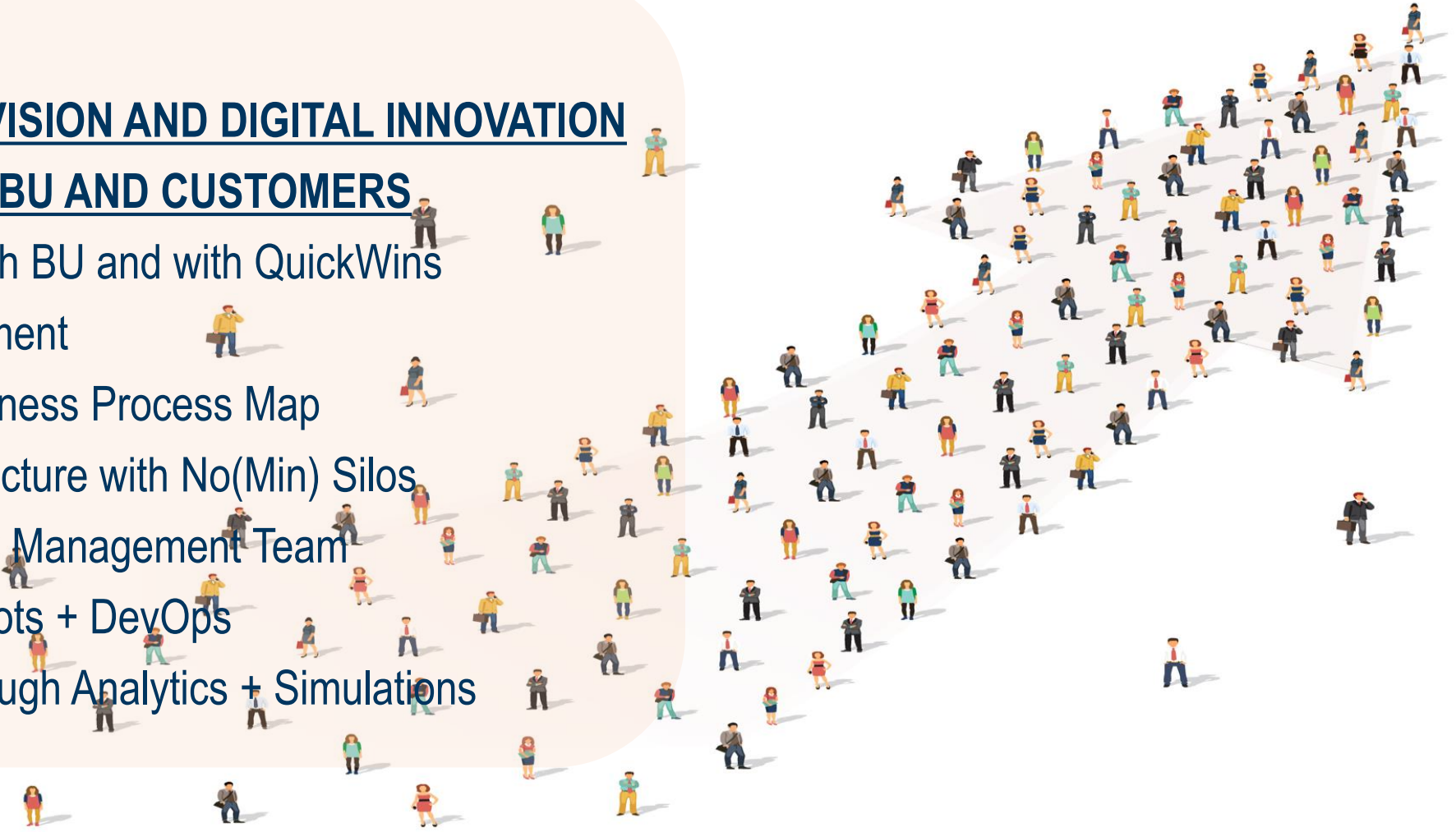

Innovation for Next Generation Port

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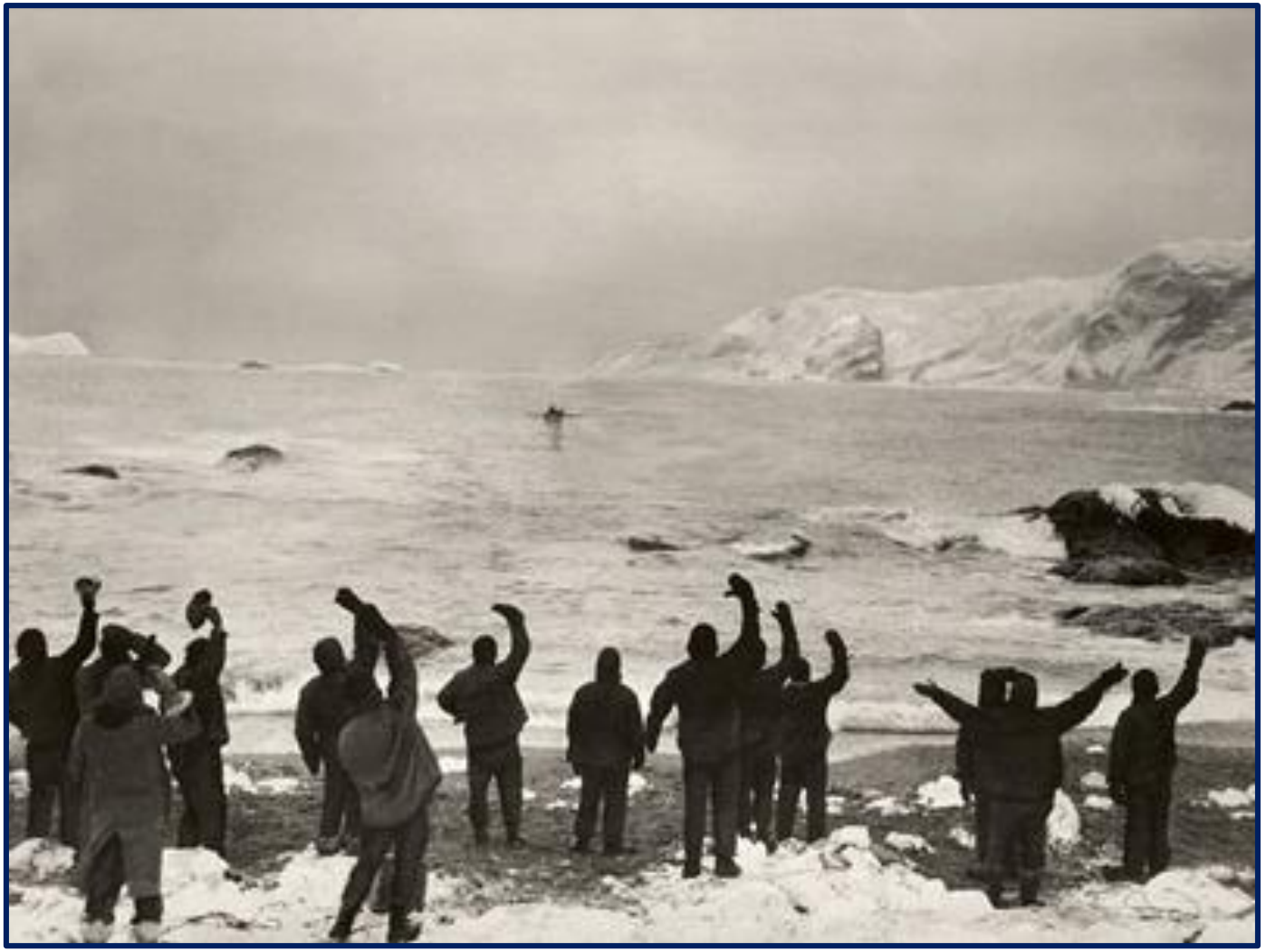

"DIFFICULTIES ARE JUST THINGS TO OVERCOME"

ENDURANCE

TEAM WORK

HERCULES

INNOVATION AS A CORE BUSINESS PROCESS IN COLLABORATION WITH PARTNERS AND CUSTOMERS FOR NEXT GENERATION PORT

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