

Harnessing Artificial Intelligence for Smarter Ports

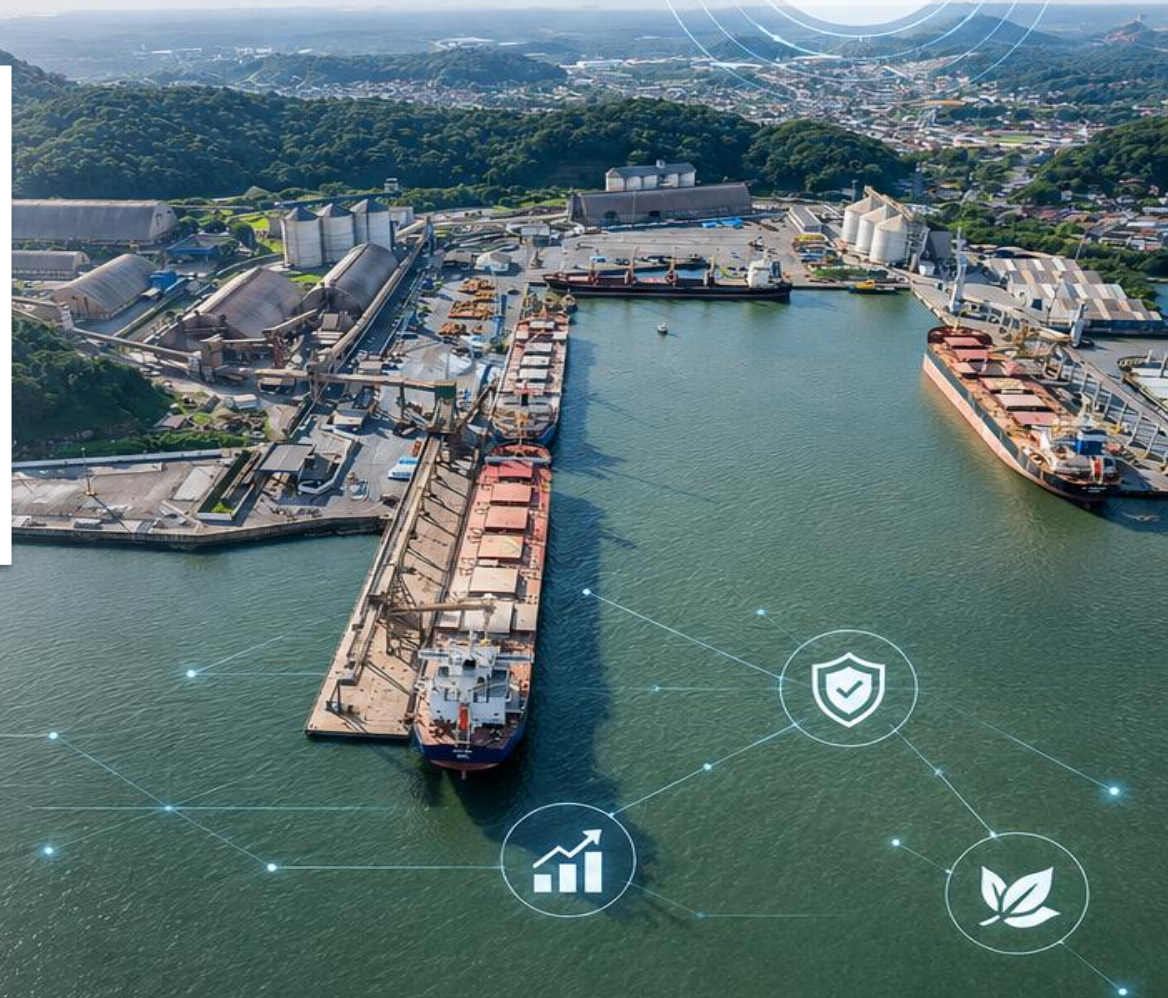


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Porto de São Francisco do Sul
Santa Catarina - Brazil



**International Comittee on Ports
Webinar**
September 24th, 2026

AI



BABITONGA PORT COMPLEX

MORE THAN R\$ 2 BILLION IN INVESTMENTS
FROM 2023 TO 2026

PORT OF
SÃO FRANCISCO
DO SUL

GOVERNMENT OF
**SANTA
CATARINA**
SECRETARIAT OF PORTS,
AIRPORTS AND RAILWAYS



ACCESS CHANNEL DREDGING
R\$ 318 MILLION

PORT OF ITAPOÁ
R\$ 500 MILLION

ACCESS CHANNEL

TCS: R\$ 500 MILLION

TESC: R\$ 360 MILLION

TGSC: R\$ 500 MILLION



GREATER SECURITY
Controlled environment
and 24/7 monitoring.



GREATER EFFICIENCY
Automated processes and
more agile operations.



SMARTER DECISIONS
Real-time data for
strategic management.



OPERATIONAL TRANSFORMATION
Technology that drives
the future of the port.

DATA THAT CONNECTS. INTELLIGENCE THAT GENERATES RESULTS.

BABITONGA PORT COMPLEX



LARGEST PORT in cargo handling in the state of Santa Catarina.



Responsible for **52%** of Brazil's steel imports.



More than **1,200** vessel berthings annually within the Port Complex.



The Babitonga Port Complex handled **R\$ 25 billion**:
Exports: R\$ 10 billion
Imports: R\$ 15 billion

INNOVATION AND TECHNOLOGY

PORT AND BULK TERMINAL

> Total investment: **R\$ 22.7 million**



ACCESS CONTROL

Greater security in access to the port and terminal.



24/7 MONITORING

CCTV and continuous surveillance of all operations.



IT INFRASTRUCTURE

High-performance servers and network.



INTEGRATED CONTROL ROOM

Centralized management with state-of-the-art technology.



GREATER EFFICIENCY AND SECURITY

Integrated processes, real-time data and more assertive decisions.



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CARGO MOVEMENT ANALYSIS

Real-time cargo
movement analysis.



PERIOD COMPARISONS

Comparisons
by period.



TREND AND SEASONALITY IDENTIFICATION

Identification of trends
and seasonalities.



STRATEGIC MANAGEMENT AND DECISION MAKING

Supports strategic management
and decision making.



WASTE CONTROL AND ENVIRONMENTAL COMPLIANCE

Waste control and
environmental compliance.



AI THAT ANTICIPATES SCENARIOS AND DRIVES RESULTS.

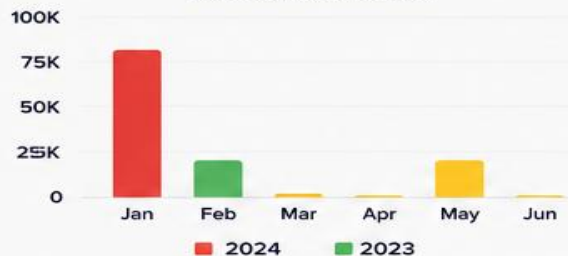
Artificial Intelligence that
anticipates scenarios and
drives results.

OPERATIONAL INDICATORS

PORTONET

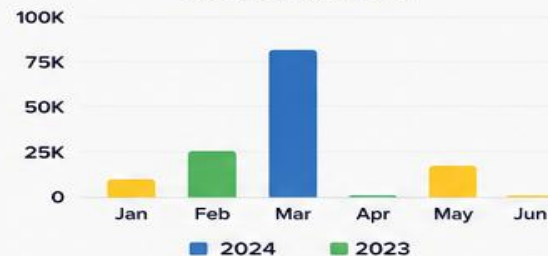
COMPARISON OF TONNAGE – INBOUND

Last 6 months comparison



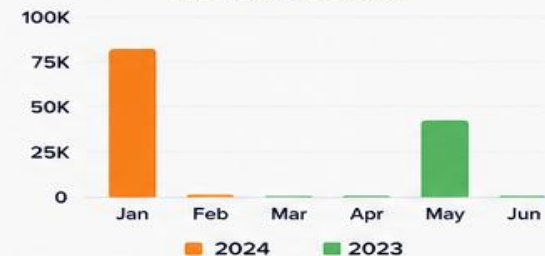
COMPARISON OF TONNAGE – OUTBOUND

Last 6 months comparison



COMPARISON OF TONNAGE – BALANCE

Last 6 months comparison



CARGO MOVEMENT

Period: Last 6 months

CARGO TYPE	INBOUND (t)	OUTBOUND (t)	BALANCE (t)
Container	152,842	145,673	7,169
Break Bulk Cargo	98,721	87,654	11,067
General Cargo (Unitized)	76,543	69,321	7,222
Solid Bulk	45,231	38,765	6,466
Liquid Bulk	32,109	28,432	3,677
TOTAL	405,446	369,845	35,601



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Babitonga Bay: The Smart Estuary

How Artificial Intelligence and real-time monitoring are transforming port infrastructure into a predictive and sustainable ecosystem.

THE PARADIGM SHIFT IN PORT MONITORING

TRADITIONAL MODEL	ASPECT	INTELLIGENT ECOSYSTEM
 Manual and periodic sampling.	 DATA COLLECTION	 Continuous real-time sensors (24/7).
 Slow human review.	 ANALYSIS	 Neural Networks and Computer Vision (e.g.: YOLO).
 Reactive (days to weeks).	 RESPONSE TIME	 Predictive and immediate (automated alerts).
 Isolated and technical reports.	 TRANSPARENCY	 Integrated and accessible web platforms for stakeholders.



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THE PROOF OF CONCEPT: DREDGING THE CONNECTIVITY CHANNEL

THE DIGITAL SHIELD



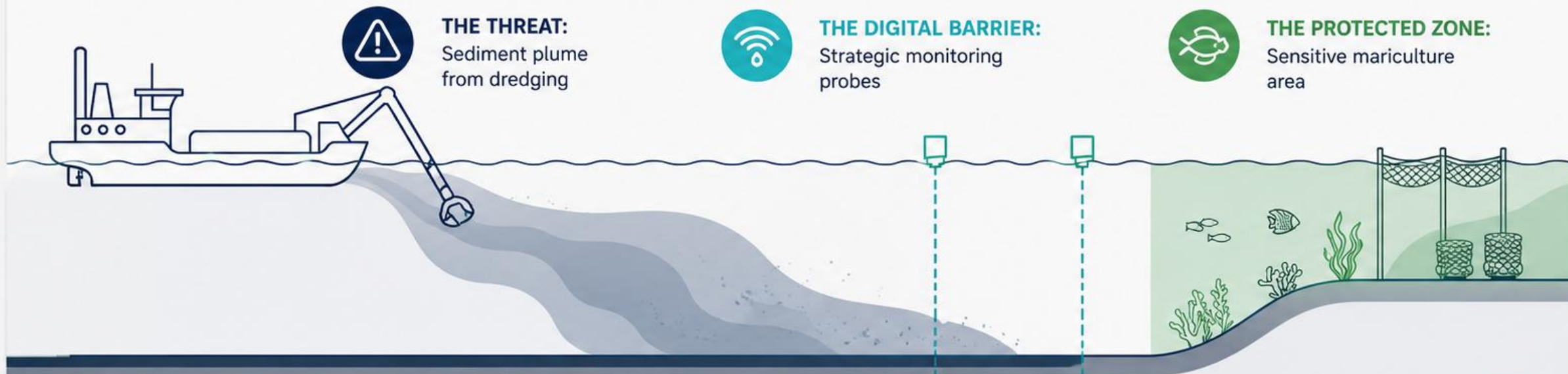
THE THREAT:
Sediment plume
from dredging



THE DIGITAL BARRIER:
Strategic monitoring
probes



THE PROTECTED ZONE:
Sensitive mariculture
area



The first real-time environmental monitoring in aquaculture infrastructure works in Babitonga Bay acted as **preventive protection, mitigating risks** before impacts reach sensitive ecosystems.



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SMARTER DECISIONS

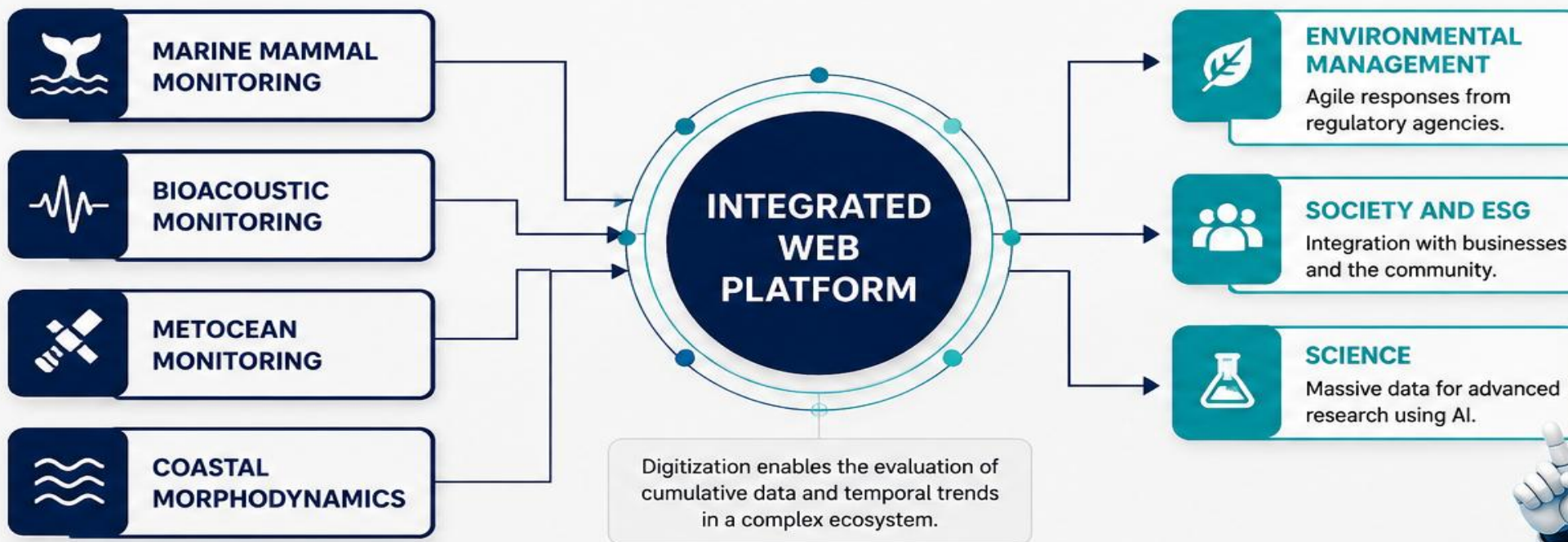
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PMAI: THE DIGITAL NERVOUS SYSTEM OF BABITONGA BAY



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THANK YOU!



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14th Regular Meeting of the CIP

The Scope of Artificial Intelligence:

Reshaping Strategies for Sustainable and Secure Ports

📍 Bridgetown, Barbados

📅 June 2026



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