



# Alcântara Port Terminal

Multimodal Logistics for Northern  
Corridor Competitiveness

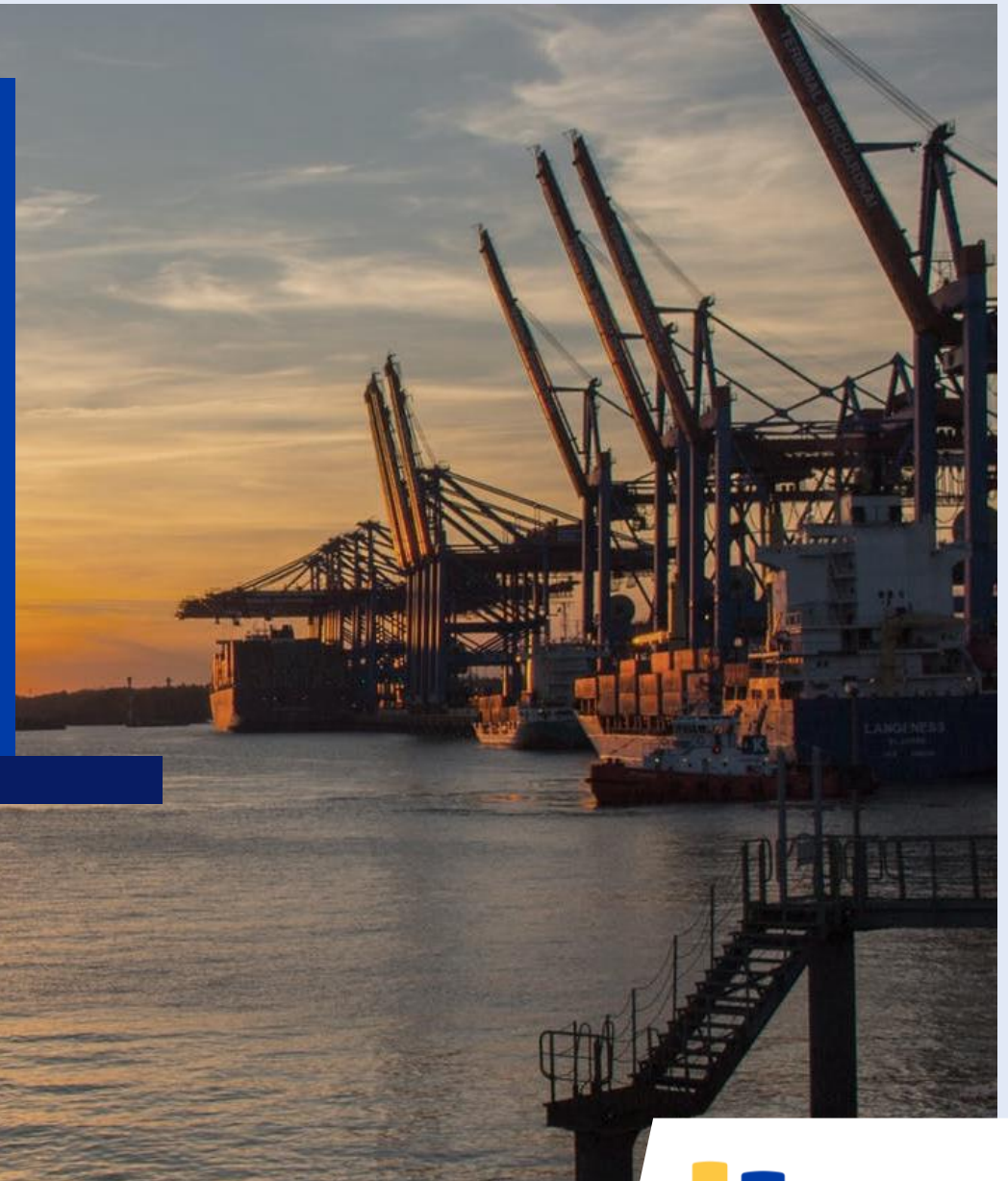
August 2020

# About GPM

- Grão-Pará Multimodal (GPM) is a company founded in March 2017 specifically for the Port of Alcântara project and its railway access.
- GPM signed the TUP (private use terminal) Adhesion Contract with the Brazilian State that was published in the DOU in December 2018.
- The shareholders are two Brazilian companies, one located in São Luís (MA) and the other in São Paulo.
- The two companies complement each other in terms of investments, market intelligence, engineering and projects, counting, directly and indirectly, with more than 170 engineers and technicians.
- GPM shareholders have been operating in the Brazilian market for more than 10 years in the area of projects, concessions and projects of ports and railways
- In international terms, shareholders develop project consulting and structuring of concessions since the end of the 1990s, particularly in Portugal.

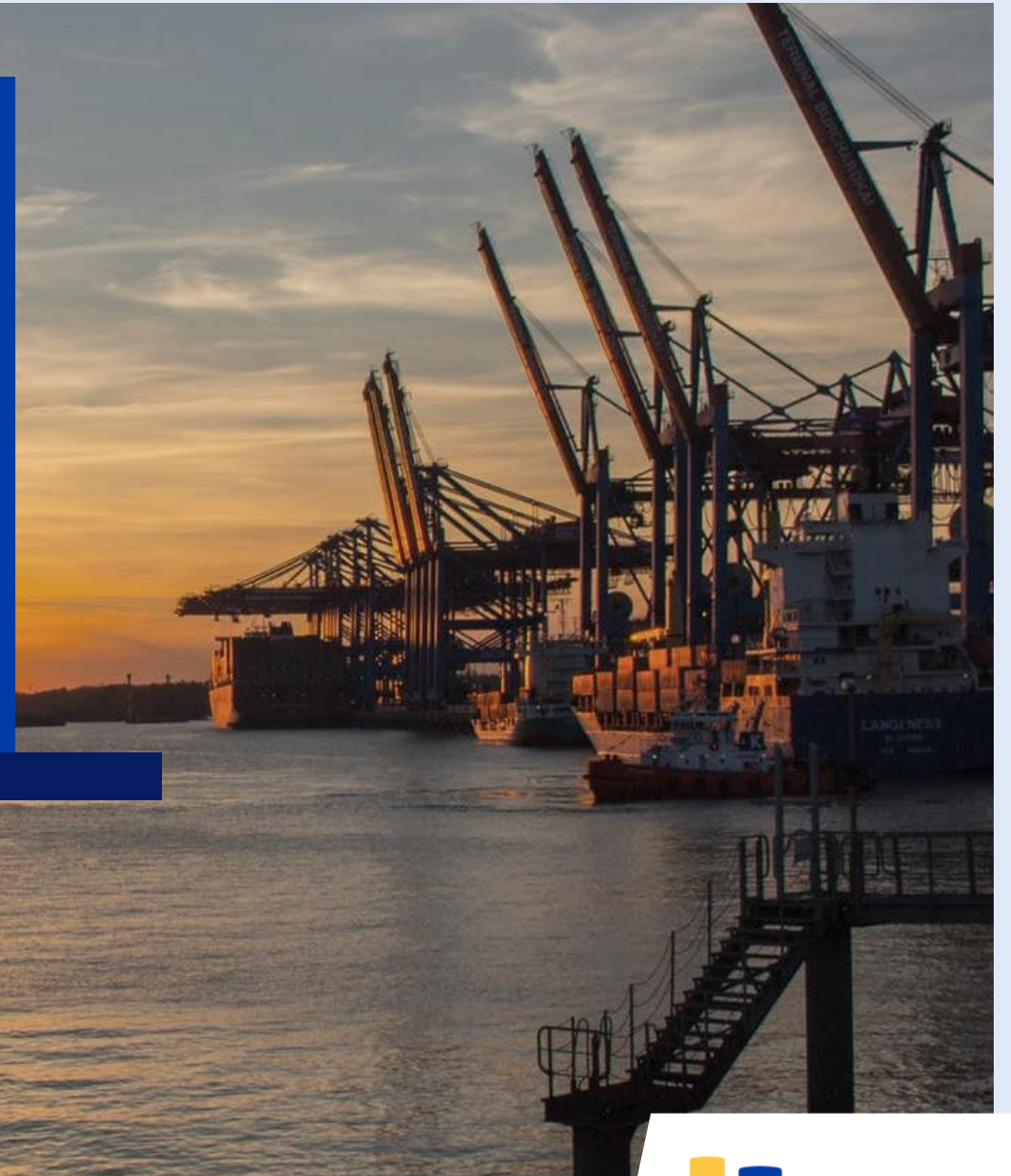
# Summary

- 1 - Market developments
- 2 - TPA Features
- 3 - Opportunities with TPA



# Summary

## 1 - Market developments



# ALCÂNTARA PORT TERMINAL (TPA)

Development of the most  
strategic Private Terminal of  
the Northern Corridor for  
Brazilian exports



# Why is TPA being developed?

Trends in the region are creating immediate opportunities for export

## DEMAND FOR IRON ORE



**>30%**

demand growth in Vale's Northern System



**#02**

Is Brazil's position in the global iron ore export ranking

Brazil expected to increase its importance as a global exporter of iron ore

## PRODUCING REGIONS



**>70%**

is the participation of Vale's Northern System



Exploration of other areas with enormous export potential to the South and East of Carajás

## FLOW CHALLENGE



Ports of São Luís at the capacity limit



North South Railway and its connections increase connectivity and cargo capture



Investments in logistics infrastructure, such as The Maranhão Railway and TPA, will allow simultaneous disposal of iron ore and grain, without conflicts

# Why is TPA being developed?

Trends in the region are creating immediate opportunities for export

## DEMAND FOR GRAINS



**>10%**

global grain demand growth in 10 years



**#02**

is Brazil's position in the global grain export ranking

Brazil expected to increase its importance as a global grain exporter

## PRODUCING REGIONS



**>50%**

is the participation of the states of Arco Norte in grain production



Arco Norte will consolidate as the most strategic region for grain exports

## FLOW CHALLENGE



**~25%**

of the grains are only exported by Arco Norte



Investments in logistics infrastructure, such as North-South Railway, will reduce transport costs

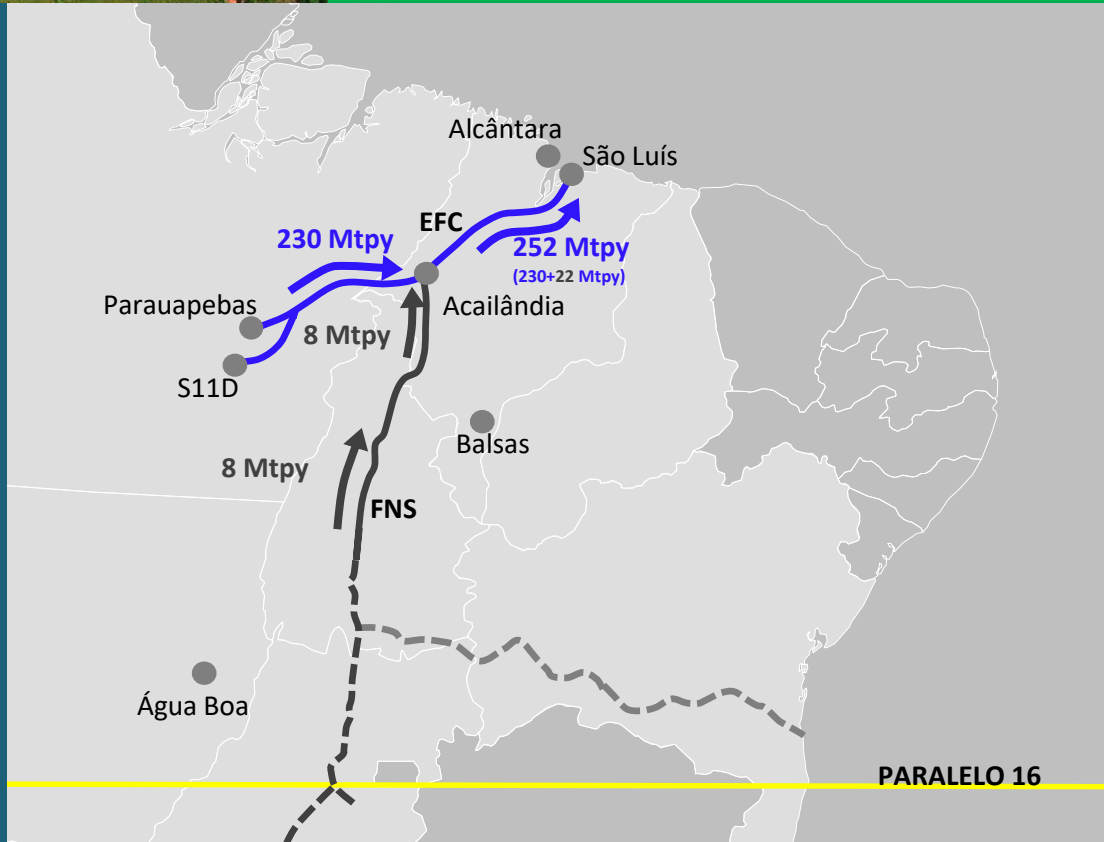


Investments in infrastructure will increase the volume exported by the region



# MARKET DEVELOPMENTS

## Demand 2020 - 252 Mtpy



Iron Ore – Northern System production 230Mtpy transported by EFC to TPPM \*



Agribusiness – MATOPIBA production 8 Mtpy, transported by FNS/EFC

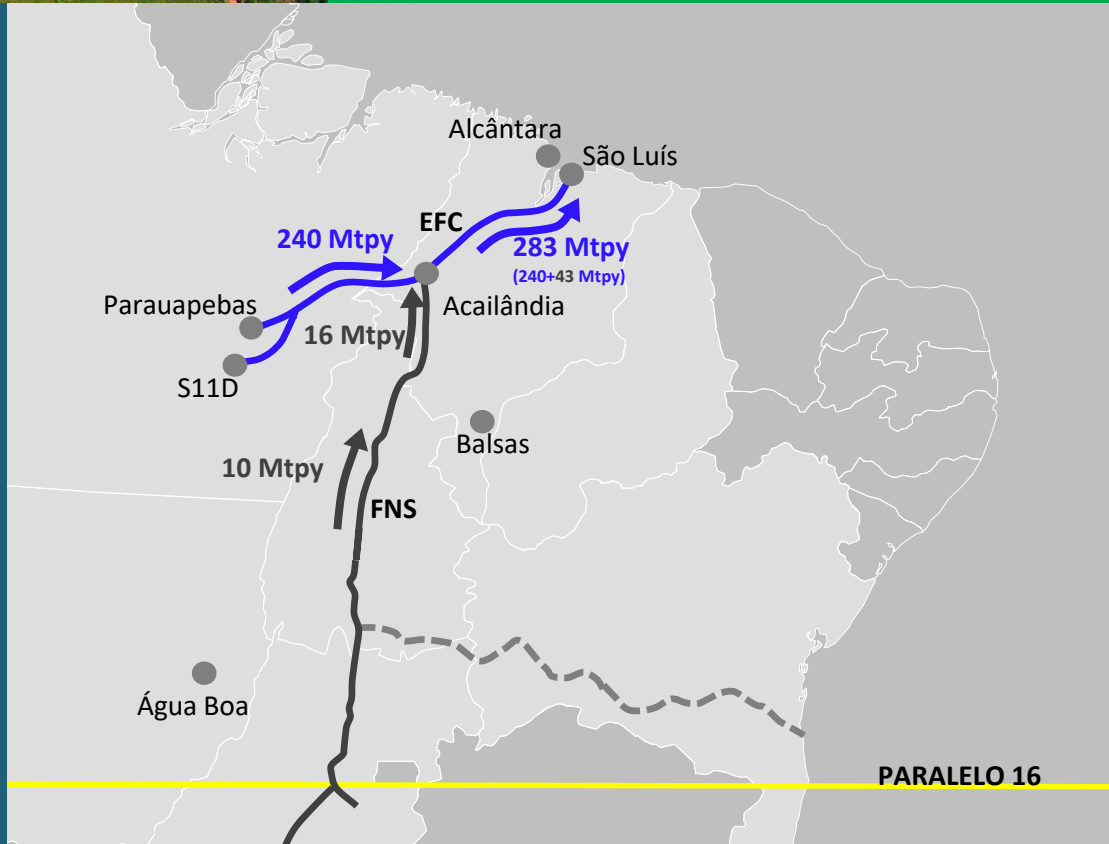
**Logistic** – Iron ore railway transports 2,7 times the grain railway, however, the railway occupation of the EFC is the same. This means that 1Ton of grain is equivalent to 2.7Ton of ore in terms of EFC occupation

\* Vale Bank of America Merrill Lynch presentation 12May20



# MARKET DEVELOPMENTS

## Demand Forecast 2022 - 283 Mtpy



Iron Ore – Northern System production 240Mtpy, transported by EFC to TPPM \*



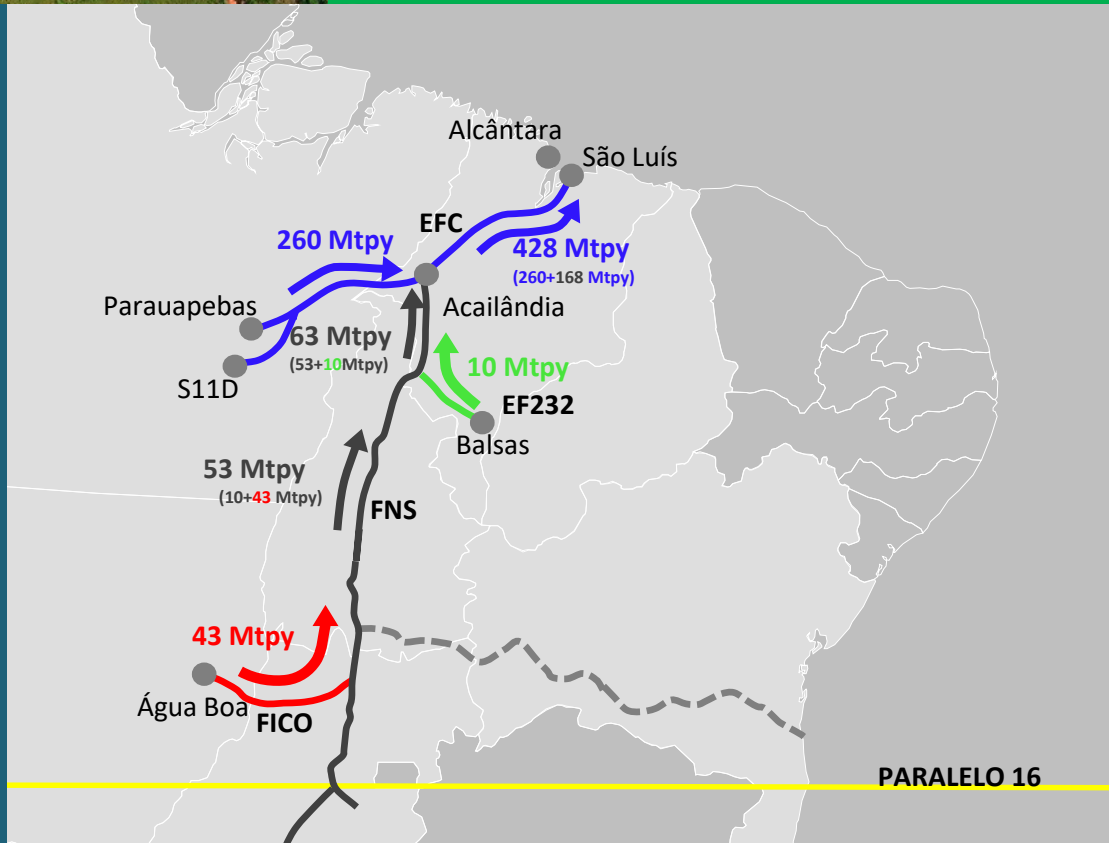
Agribusiness – MATOPIBA production 16 Mtpy, transported by FNS/EFC \*\*

\* Vale Bank of America Merrill Lynch presentation 12May20

\*\* EMAP information

# MARKET DEVELOPMENTS

## Demand Forecast 2025 - 428 Mtpy



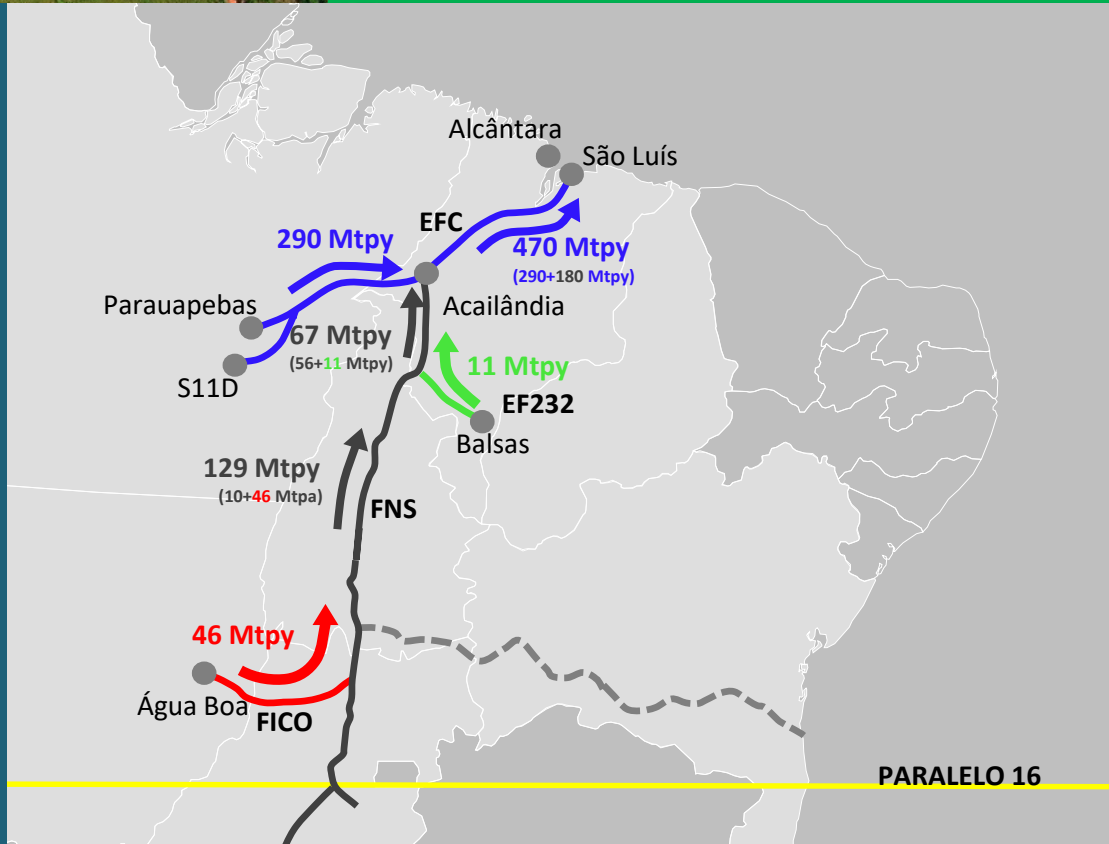
- Iron Ore – Northern System production 260Mtpy, transported by EFC to TPPM \*
- Agribusiness – MATOPIBA production 10 Mtpy, transported by FNS/EFC \*\*
- Agribusiness – Start of the FICO Operation with a production forecast of 43 Mtpy transported by FICO / FNS / EFC \*\*
- Agribusiness - Start of Operation EF232 with production forecast of 10 Mtpy transported by EF232 / FNS / EFC \*\*

\* Vale Bank of America Merrill Lynch presentation 12May20

\*\* Demand forecast presented by Valec

# MARKET DEVELOPMENTS

## Demand Forecast 2030 - 470



➤ Iron Ore – Northern System production 290Mtpy, transported by EFC to TPPM \*

➤ Agribusiness – MATOPIBA production 10 Mtpy, transported by FNS/EFC \*\*

➤ Agribusiness - Production of 46 Mtpy transported by FICO / FNS / EFC \*\*

➤ Agribusiness - Production of 11 Mtpy transported by EF232 / FNS / EFC \*\*

\* Vale Bank of America Merrill Lynch presentation 12May20

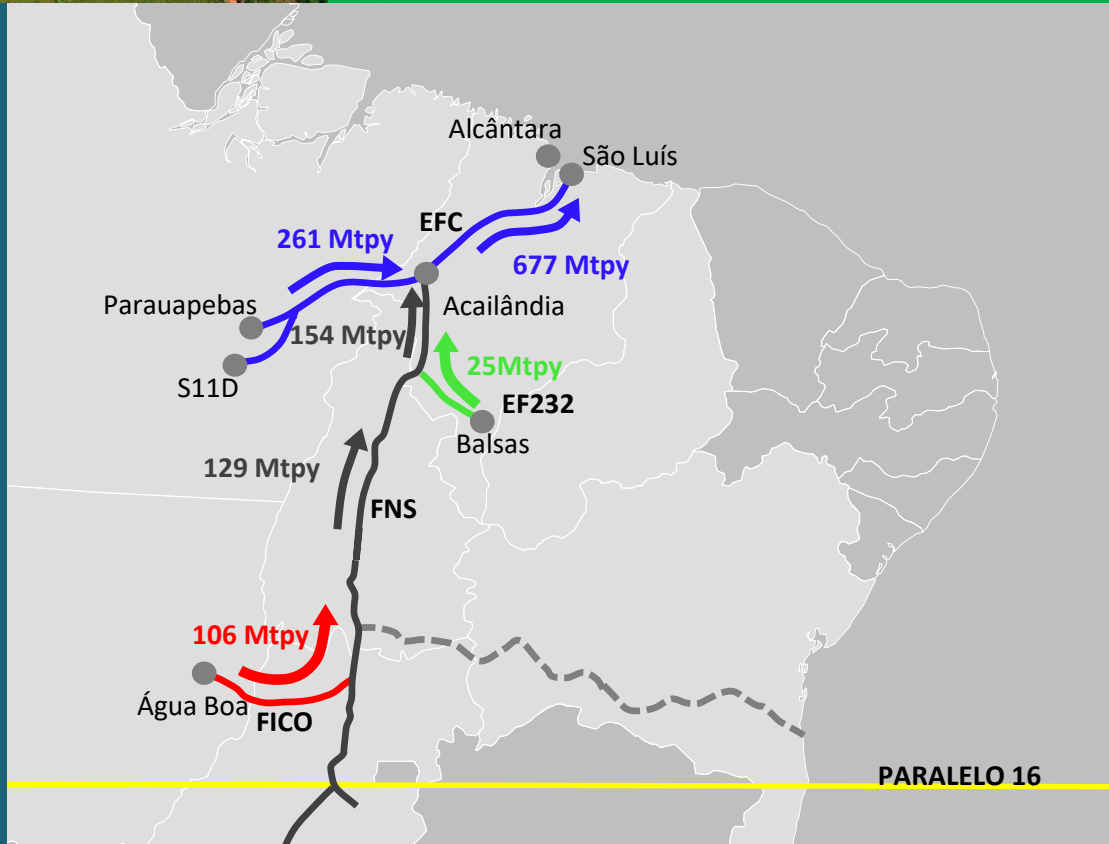
\*\* Demand forecast presented by Valec



# MARKET DEVELOPMENTS

## Demand Forecast 2030

### Seasonal Effect 677 Mtpy



Iron Ore – Northern System production 261Mtpy, transported by EFC to TPPM \*



Agribusiness - MATOPIBA production 23 Mtpy, transported by FNS / EFC



Agribusiness - Production of 106 Mtpy transported by FICO / FNS / EFC



Agribusiness - Production of 25 Mtpy transported by EF232 / FNS / EFC

20% seasonality in the grains in May and June

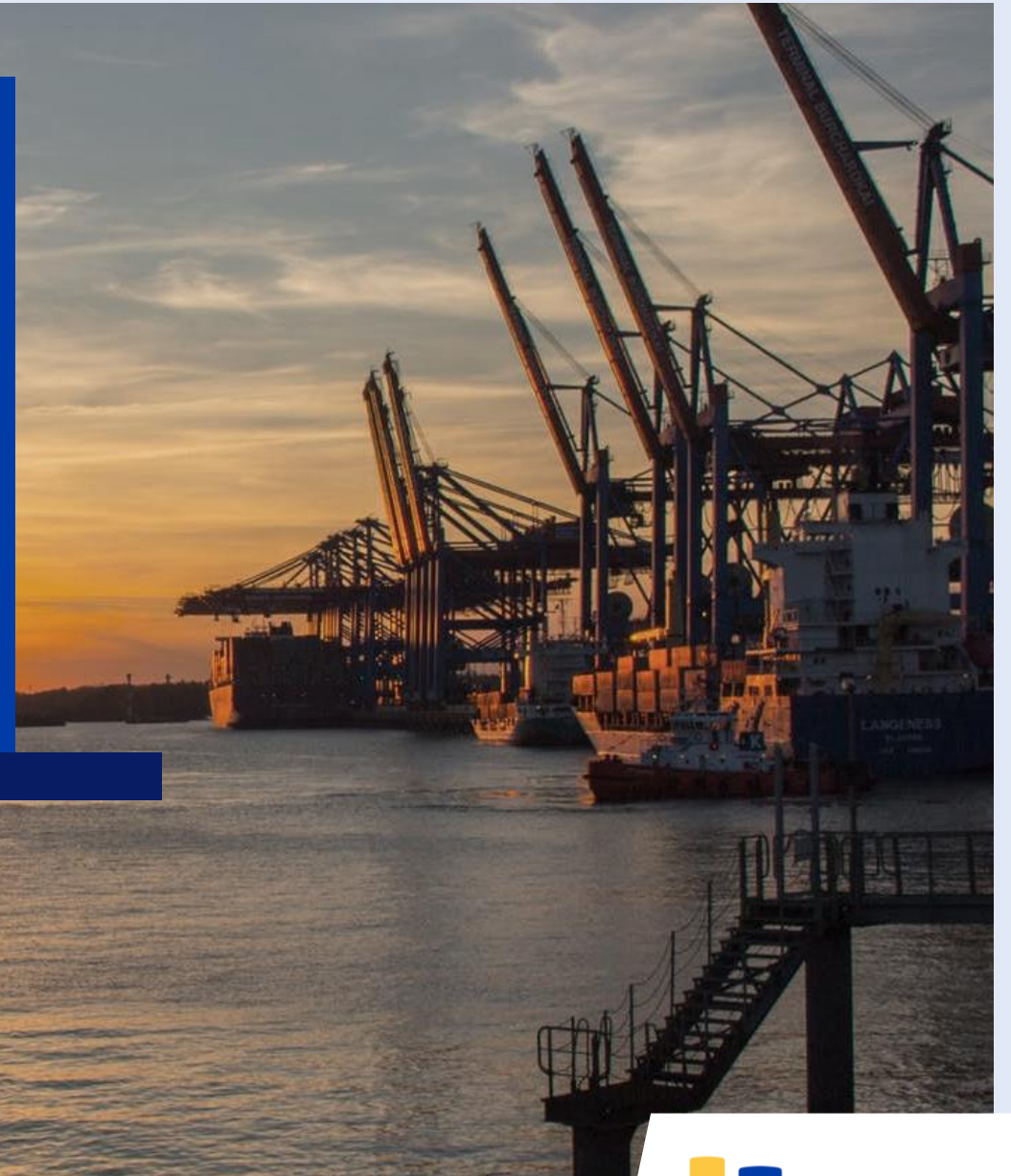
45% seasonality in iron ore in the 1H

# SÃO MARCOS BAY CONDITIONALITIES

- Installed capacity approaching the limit
- Piers ratio vs. Ship capacity (not all support valemex)
- Use of common channel in São Marcos Bay
- No operational back-up in relation to accidents or constraints in the use of piers
- Seasonality (rain and humidity)
- Seasonality agribusiness affecting ore cargo arrival
- Size of storage yard

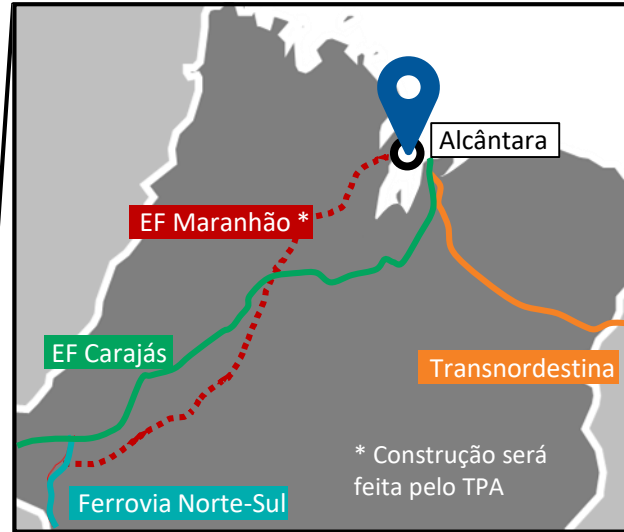
# Summary

## 2 - TPA Features



# Location of The Alcântara Port Terminal

Project for construction of a private use terminal (TUP) in strategic region of disposal...



... west bank of São Marcos Bay, which has a fully unimpeded navigation channel



**The 2018 (ANTAQ and MINFRA) Agreement**



**Rail access: Extension to TPA  
(50 km shorter than the path to the TMPM)**



**Maximum current speed in TPA is 2 m/s**



**Integrated environmental licensing:  
Port - Railway**



**Quilombolas: Formal agreement with  
Community**

# Location of The Alcântara Port Terminal

➤ **Location: West Bank of São Marcos Bay (avoids East Bank congestion: 3 ports + 1 under construction)**

➤ **Deep water: minimum natural draught of 25 m on piers (ships up to 400,000 DWT)**

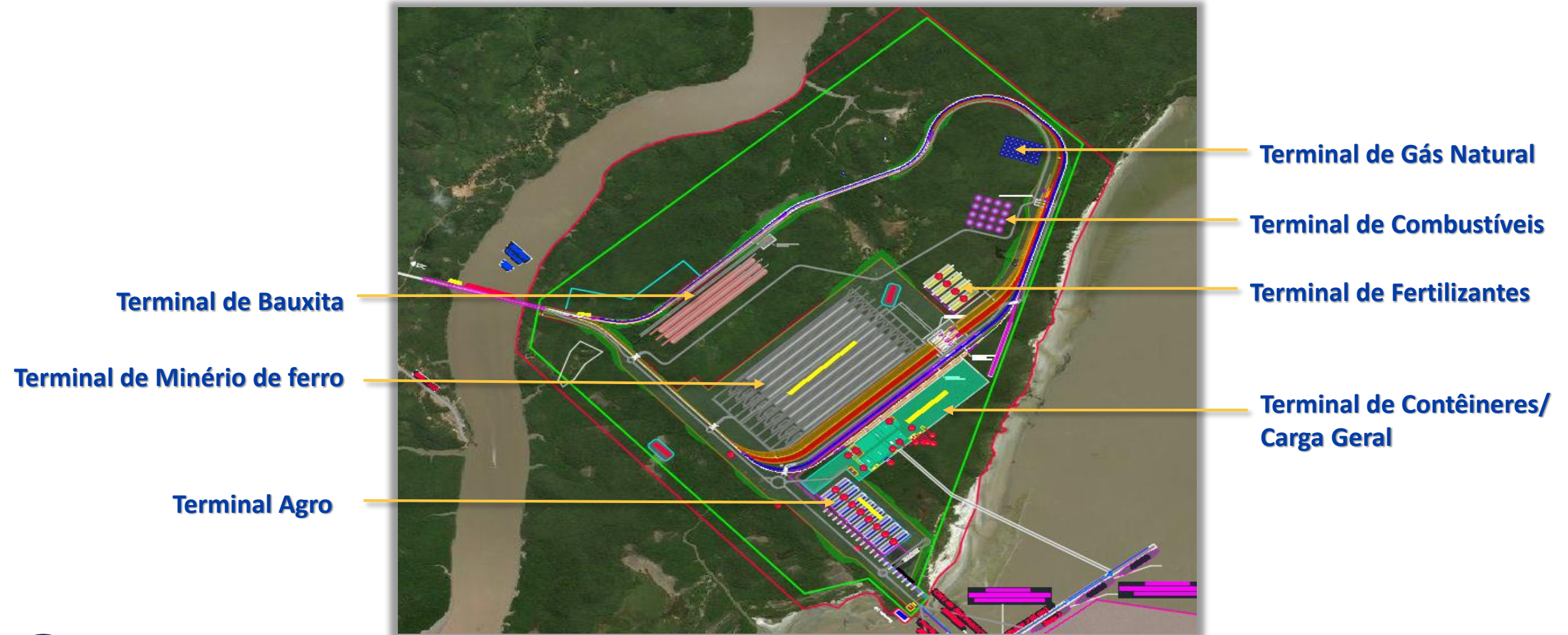
➤ **Maneuverability: Maximum safety level obtained with APEM and DHI simulations at Force Technology Denmark in Copenhagen**

➤ **Pier: Up to 8 berths x 405 m (Agri, Iron Ore, General Cargo, Fuels)**





# Alcântara Port Terminal Area



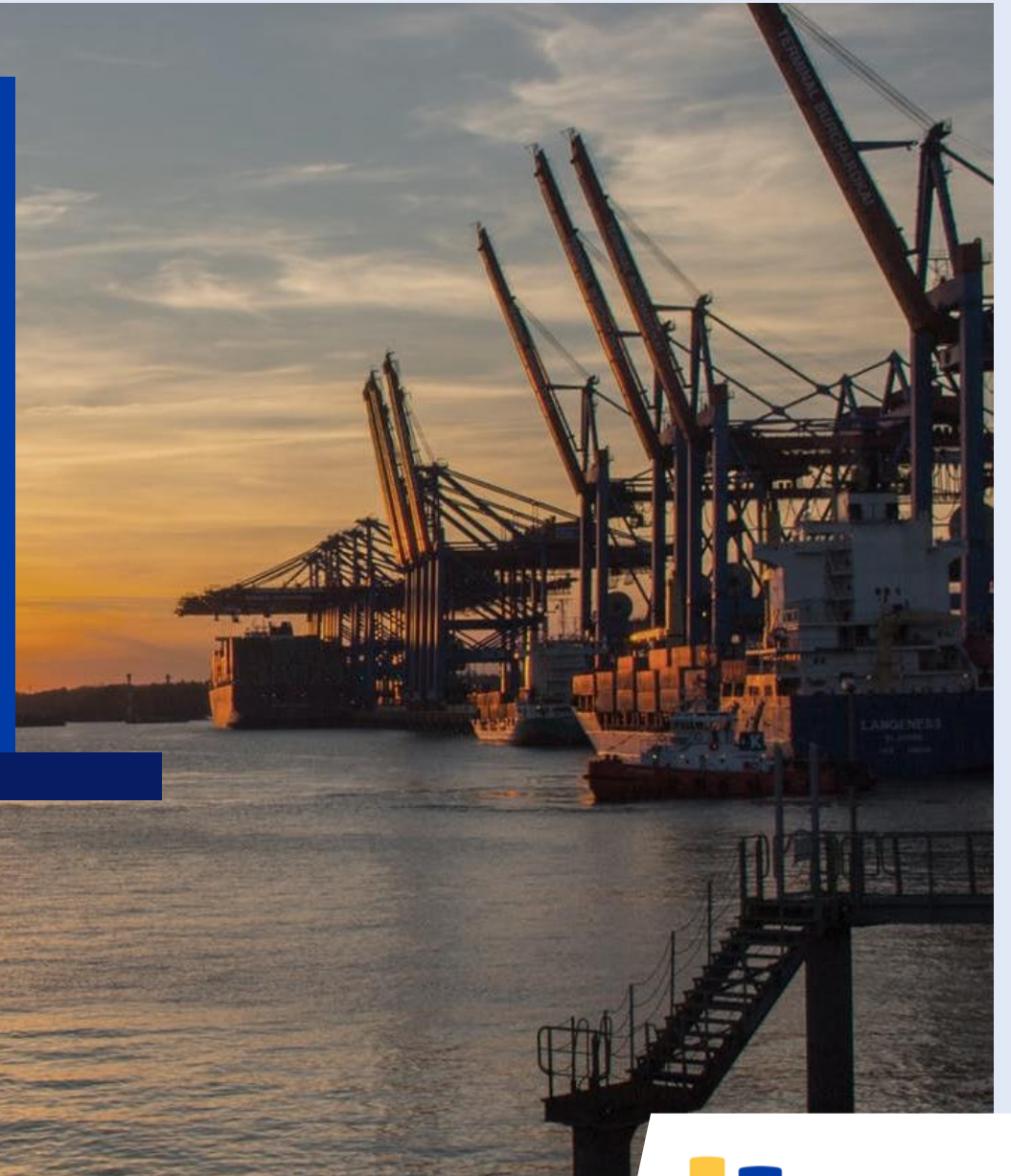
Useful domain: Cajual Island (12 million m<sup>2</sup>)



Capacity of 9 yards of 0.8 Mt totaling 7 Mt and can be increased up to 15 Mt

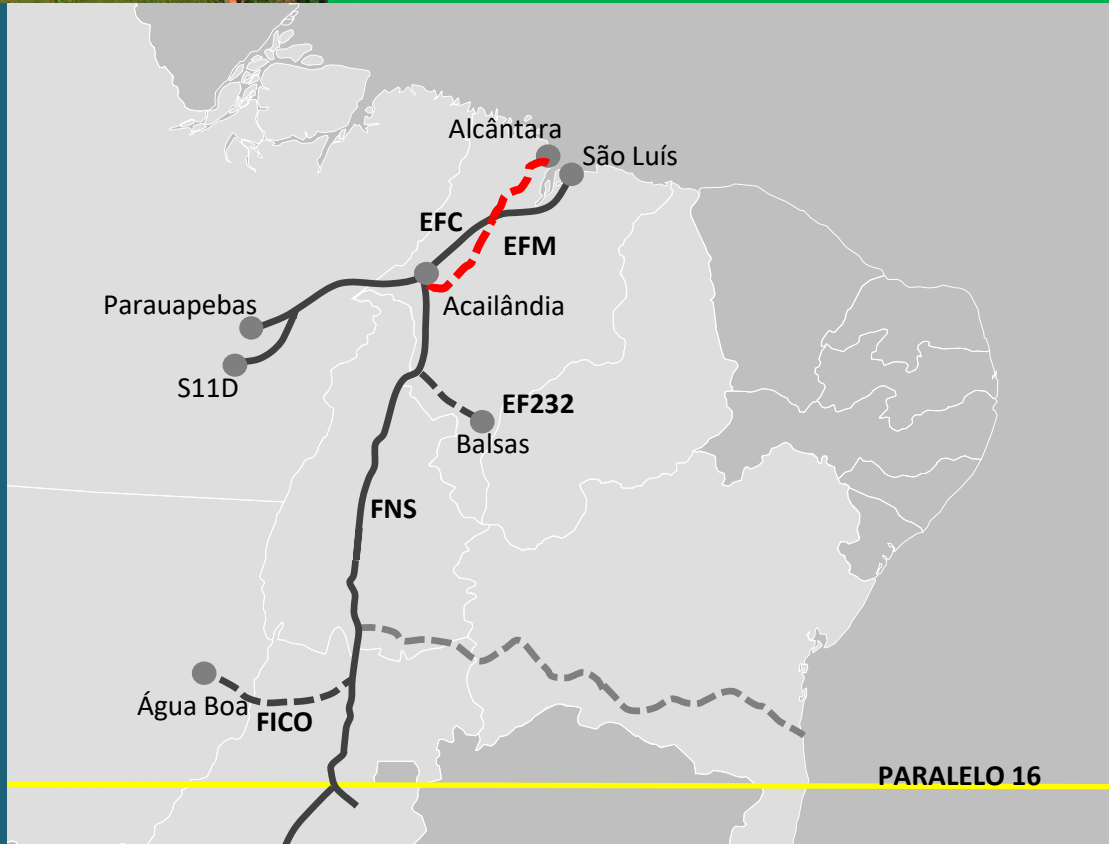
# Summary

## 3 - Opportunities with TPA





# OPPORTUNITIES WITH TPA and EFM



**Alcântara Port Terminal and Maranhão Railway as opportunities to solve logistics bottlenecks**

# TPA: DIMENSIONS AND CAPABILITIES

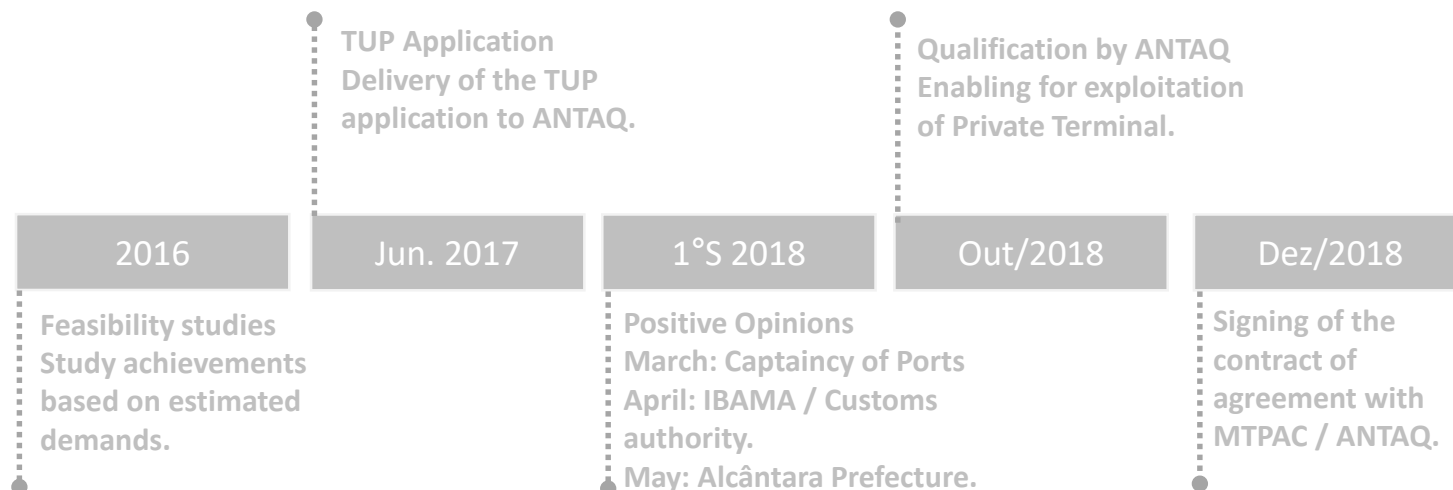
- Pier extension: 1,620m (phase 1) and 3,240m (phase 2)
- Number of berths: 4 (phase 1) and 8 (phase 2)
- Depth: 25 m (natural)
- Load type: Iron Ore and Grains
- Load capacity (phase 1):  
Iron Ore: 140Mtpy  
Grains: 40Mtpy

# OPPORTUNITIES WITH TPA

- TPA can act as a TPPM backup allowing recovery of goals and/or achievement of new targets by decreasing the level of risk of the current operation
- EF Maranhão will allow prioritizing the transport of ore in the EFC
- Replacement of trucks by rail and ships up to 200,000 DWT for Agro increasing the attractiveness of the Northern Corridor with savings in sea freight up to 40%
- TPA is 50km closer to Carajás and Açailândia than TPPM
- Project in basic design phase allowing customization of lay-out according to needs and requirements

# Project Timeline

## Top past and future milestones



<b>APPROVALS</b>	<p><b>Approvals obtained:</b></p> <ul style="list-style-type: none"> <li>Port Authority</li> <li>Ministry of the Environment (subject to EIA)</li> <li>Tax Authority</li> <li>Alcantara Prefecture</li> </ul>	<p><b>Port's Agreement for Adhering:</b></p> <ul style="list-style-type: none"> <li>Consent obtained from ANTAQ on Oct. 2018</li> <li>Contract authorizing Porto signed with the Ministry of Transport and ANTAQ in Dec. 2018</li> </ul>
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**Current schedule:**

- 2019 / 2021:** Project and Licenses. Basic, detailed design. Obtaining environmental permits
- 2022:** Start of The Works. Start of construction
- 2024:** Start of Operations. Port start-up

**Environmental License:**

- Reference Term for the Environmental Impact Study of Porto and Railway (EIA) issued in Jul. 2018
- EIA has been in progress since Jan. 2019
- Environmental License expected in 2021



# Business Model “TEGRAPA”

GPM intends to develop the project in the form of a Private Landlord

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**The model for Agribusiness will be similar to the model in force at TEGRAM (Itaqui), according to 3 points:**

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1

## Basic Infrastructure

GPM will be responsible for basic infrastructure and support for the enterprise

2

## Port Operators

A company or consortium will take over the agribusiness port operation with the following charges:

- entry price (bid)
- rental value of area proportional to the space occupied,
- indexed tariff and setting up your specific operation

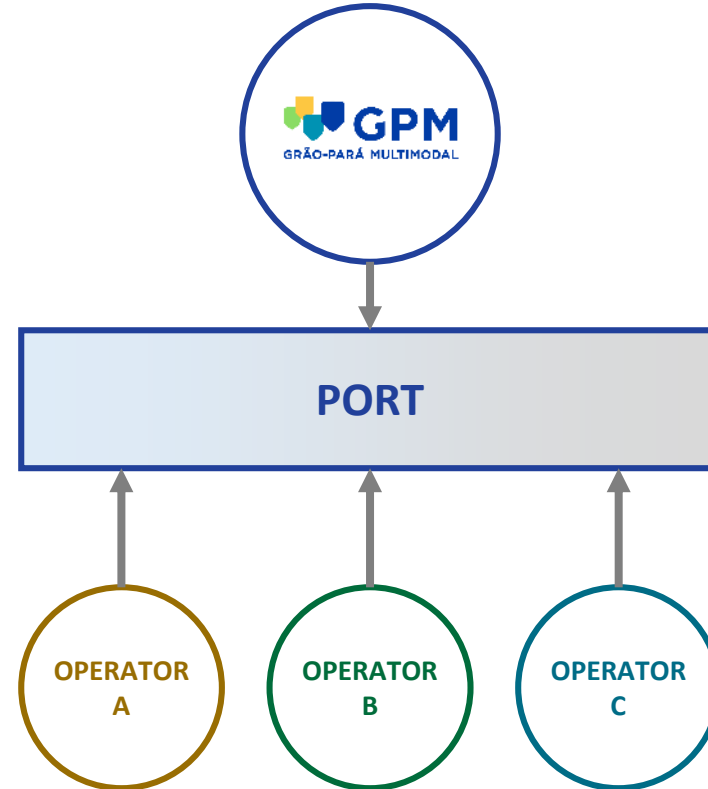
3

## External Operators

Traders that are not part of point 2 will be able to use TPA using the companies that are part of it

# Relationship between parties

## Model “Private Landlord Port Complex”



### GPM Role:

- Invest in the basic infrastructure of the port
- Performs maintenance of common basic infrastructure and superstructures

### Operators Role:

- Invest in the construction of their own storage and product handling structures
- They operate and maintain their own structures. Pay port fees



# Relationship between parties

## Model “Open Access”



### GPM Role:

- Invests in the construction of the railway (infra, super and track material)
- Maintains railway infrastructure and superstructure

### Operators Role:

- Operate with their own compositions
- Pay right of way and / or fares

# FINANCIAL MODELING



**General Assumptions:**  
Cost of Equity: 7%  
G-perpetuity: 0%  
Project debt percentage: 70%

**DOES NOT INCLUDE  
TAX BENEFITS**

**Financial Assumptions:**  
CDI: 95%

**Assumptions of  
Inputs on  
Revenue:**  
PIS: 1.65%  
Cofins: 7.60%  
ISS: 5%

**Debt Inputs:**  
Payment Deadline:  
240  
Kd: 5%

**Capex Inputs:**  
Ptax Base - Capex: 5.0  
Tx. Monthly  
Depreciation 0.28%  
Capex taxes included:  
PIS/COFINS: 9.25%  
ICMS: 12%



The Financial Modeling of the enterprise elaborated by A&M was carried out in dollar in a strategic way to provide greater internationalization of the project.



Capex's financing of the investment was considered composed of 70% debt and 30% equity. The entry of the capital will be of the pari passu type, with the entry of the debt and capex.



A debt has a shortfall until the beginning of operation and amortization premise in the price system, where interest is accrued and not paid during construction. Given the start of the operation, constant installments will be paid for debt amortization.



**No tax benefit was considered in the model, so that it was possible to evaluate only the attractiveness of the enterprise.**



## ALCANTARA PORT TERMINAL (TPA) INVESTMENT - Landlord Vision



<b>Activity</b>	<b>TOTAL (M US\$)</b>
Landlord - Infrastructures	244
Railway 215 KM	528
<b>CAPEX TOTAL</b>	<b>772</b>

Based on the model and consulting Firm Alvarez & Marsal we developed a business model adjusted to the logic of the landlord that exists in The Port of Itaquí with TEGRAM in which operators enjoy the basic infrastructure pay a bid, a fixed amount for space, variable value indexed to the amount shipped and enable its operation



# ALCÂNTARA PORT TERMINAL (TPA) Landlord Vision



Based on the assumptions and data presented above, the economic-financial model, using market rates, generated the following indicators (US\$):

	KEY FIGURES
<b>IRR</b>	41,4%
<b>NPV Post Money</b>	2.064.179.000
<b>NPV Perpetuity</b>	2.064.179.000
<b>Payback</b>	8,0 years
<b>Payback After Operation</b>	4,0 years
<b>NPV / CAPEX</b>	2,67



**Thank You**