



Bahia Iron Ore Logistics



Valor da Logística Integrada

Agenda

- VLI Concept
- Minas-Bahia Corridor
- VLI Iron ore numbers
- Santa Fé Project

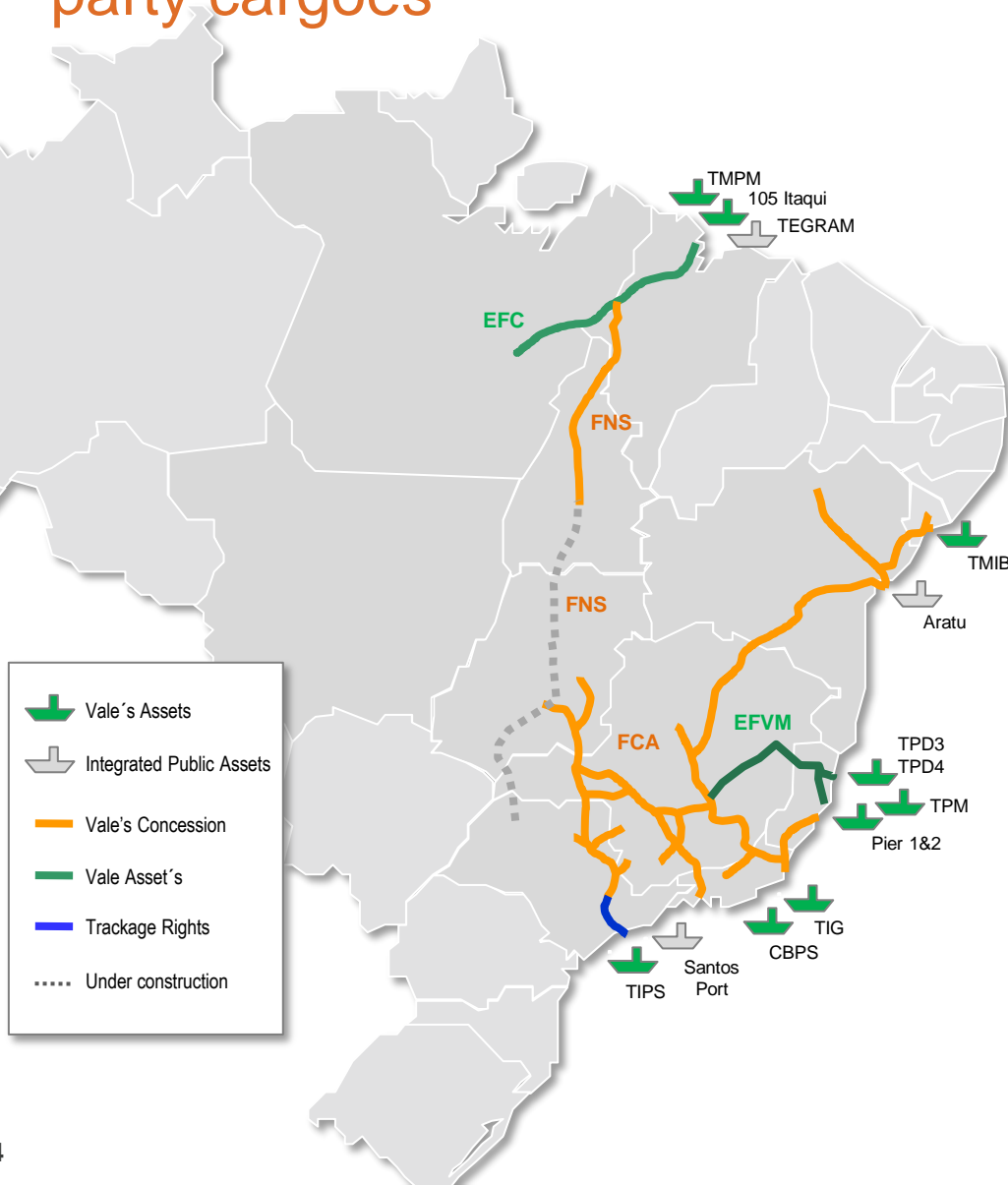
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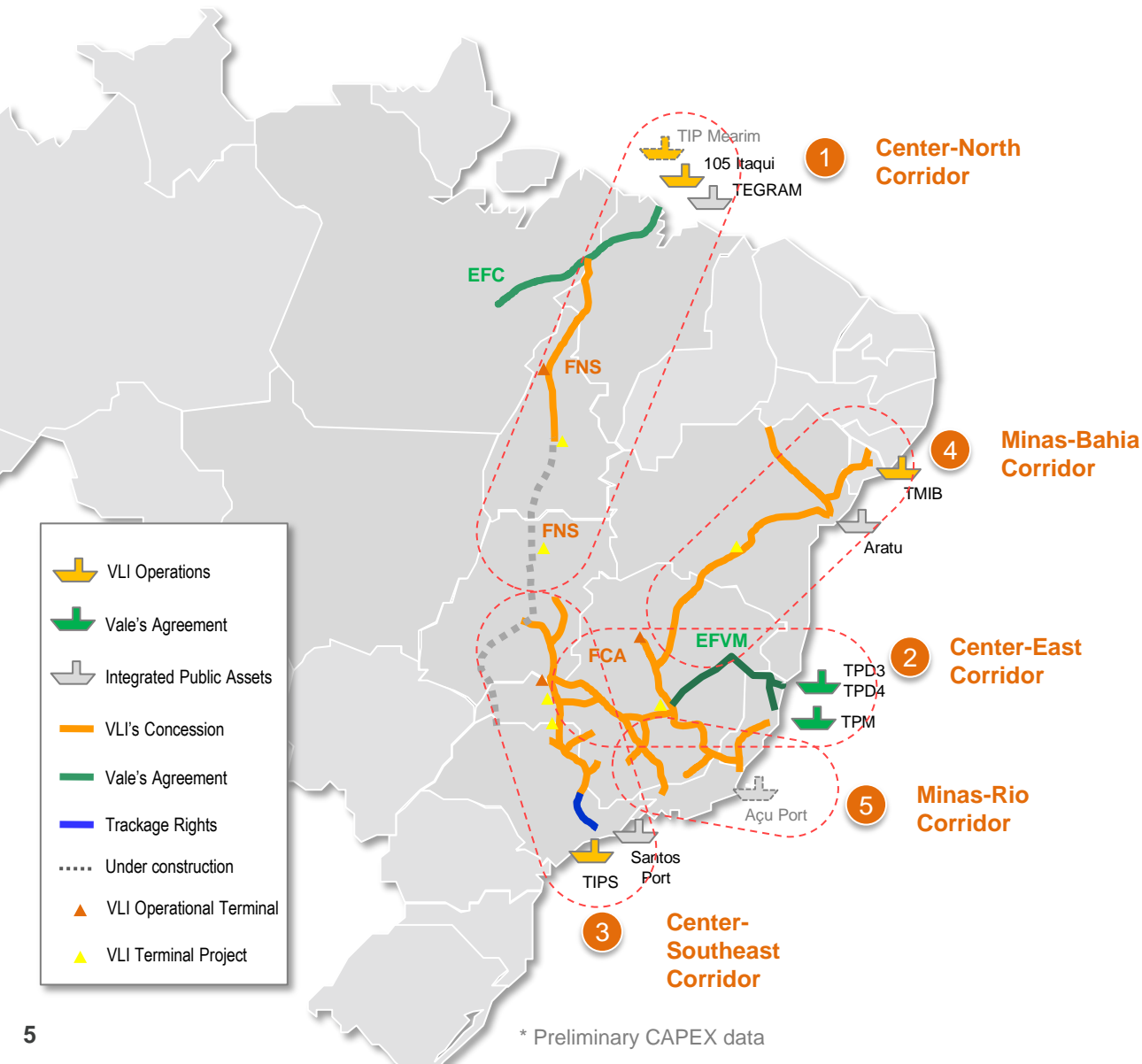
Vale is also an integrated logistics services provider in Brazil and operates assets that transport own cargoes and third-party cargoes

The company is one of the largest investors in logistics in Brazil

- Vale has invested more than US\$ 10 billion in logistics infrastructure in the period 2004-2013. Only in 2013, US\$ 600 million were invested
- 10,000 km of railroads, 12 maritime port terminals (7 specialized in general cargo), 44,853 railcars and 1,059 locomotives
- 42% of the Brazilian trade balance (volume) was handled at Vale's maritime port terminals in 2013
- Our railroad assets were responsible for 55% of the total cargo transported by Brazilian railways in 2013



In 2010, Vale created VLI to provide logistics services to general cargoes, in Brazil, using five integrated corridors



Mission

"Transport our client's freights via integrated solutions, generating wealth and sustainable development."

Vision

"To become the best logistics company in Brazil, committed to efficiency and regarded as a reliable company by our clients."

VLI general overview - 2013

- Railroad volume : 46 million ton
- Port volume: 26 million ton

Different segments are served using VLI Logistics Infrastructure

Our share in the Brazilian markets

- We handle about 51% of the total domestic cargo in the steel industry ;
- More than 51% of the Brazilian coal imports are transported by our assets;
- We transport 14% of Brazilian grains exports through our railways to Vitória, São Luís and Santos ports;
- We are responsible for 6% of Brazilian fertilizers imports from Vitória and São Luís;
- 6% of the total sugar exports are transported by FCA through Santos Port;
- We handle more than 2 millions tons of timber and pulp products.

In **2013**, **66%** of VLI revenue were related to **international market** (Exports and Imports) and the others **34%** achieved in the **domestic market**

Agriculture

Bulk agricultural products and fertilizers are transported using an integrated logistical network consisting of railroads and the ports of Santos, Vitória (Tubarão Port Complex), Aracaju (TMIB) and São Luís (Ponta da Madeira).

Steelmaking

Raw materials such as limestone and coal are carried by railroads integrated with the ports of Vitória (Tubarão Port Complex) and São Luís (Ponta da Madeira). Finished and semi-finished products such as coils, slabs and billets are transported for the domestic market.

Industrialized products

Miscellaneous minerals, pulp, fuels and cement are transported on Vale's North and Southeast systems in Brazil, with a focus on safety and efficiency.

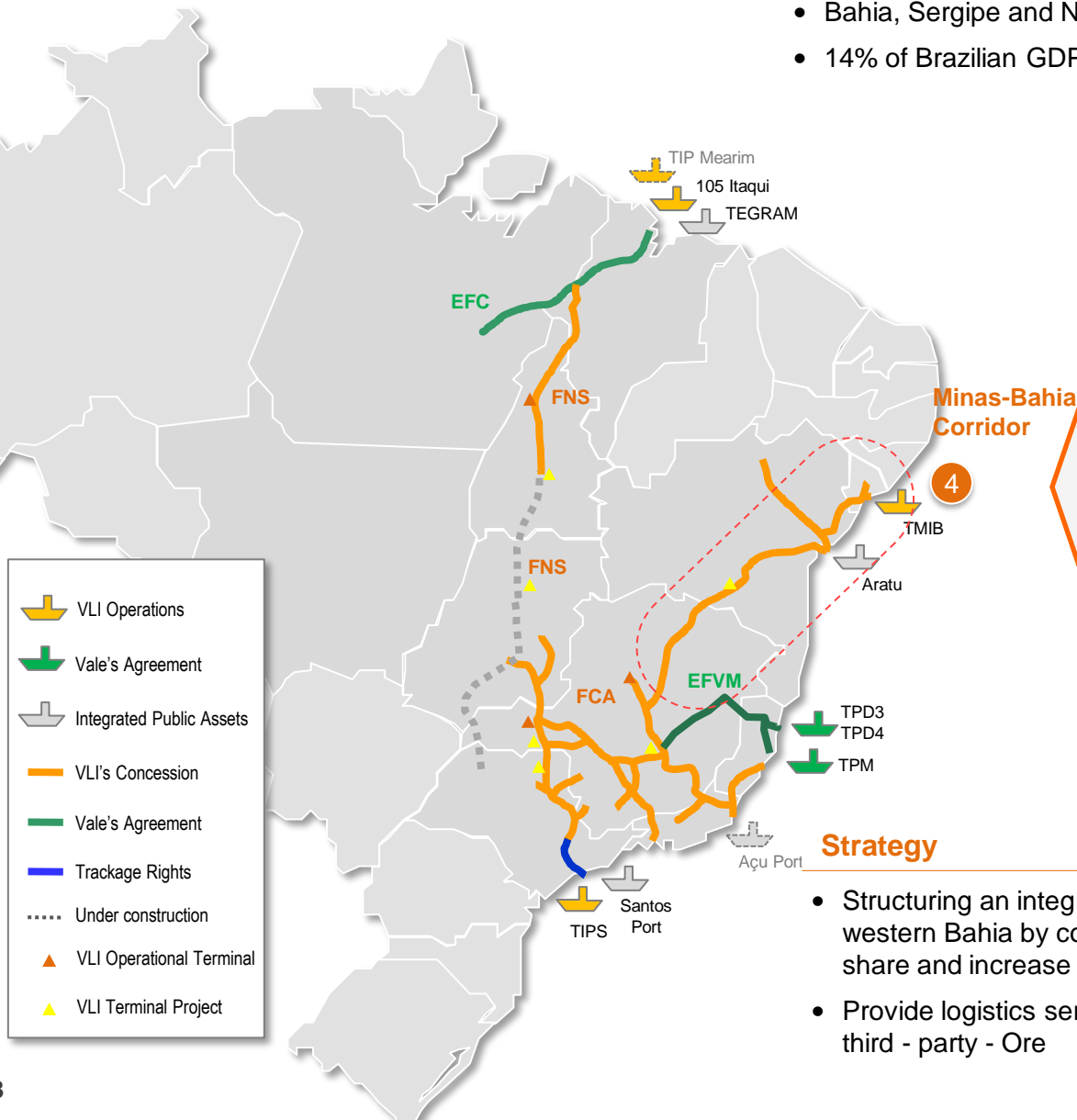
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Minas-Bahia Corridor

Main Markets

- Bahia, Sergipe and North of Minas Gerais
- 14% of Brazilian GDP



Minas Bahia Corridor

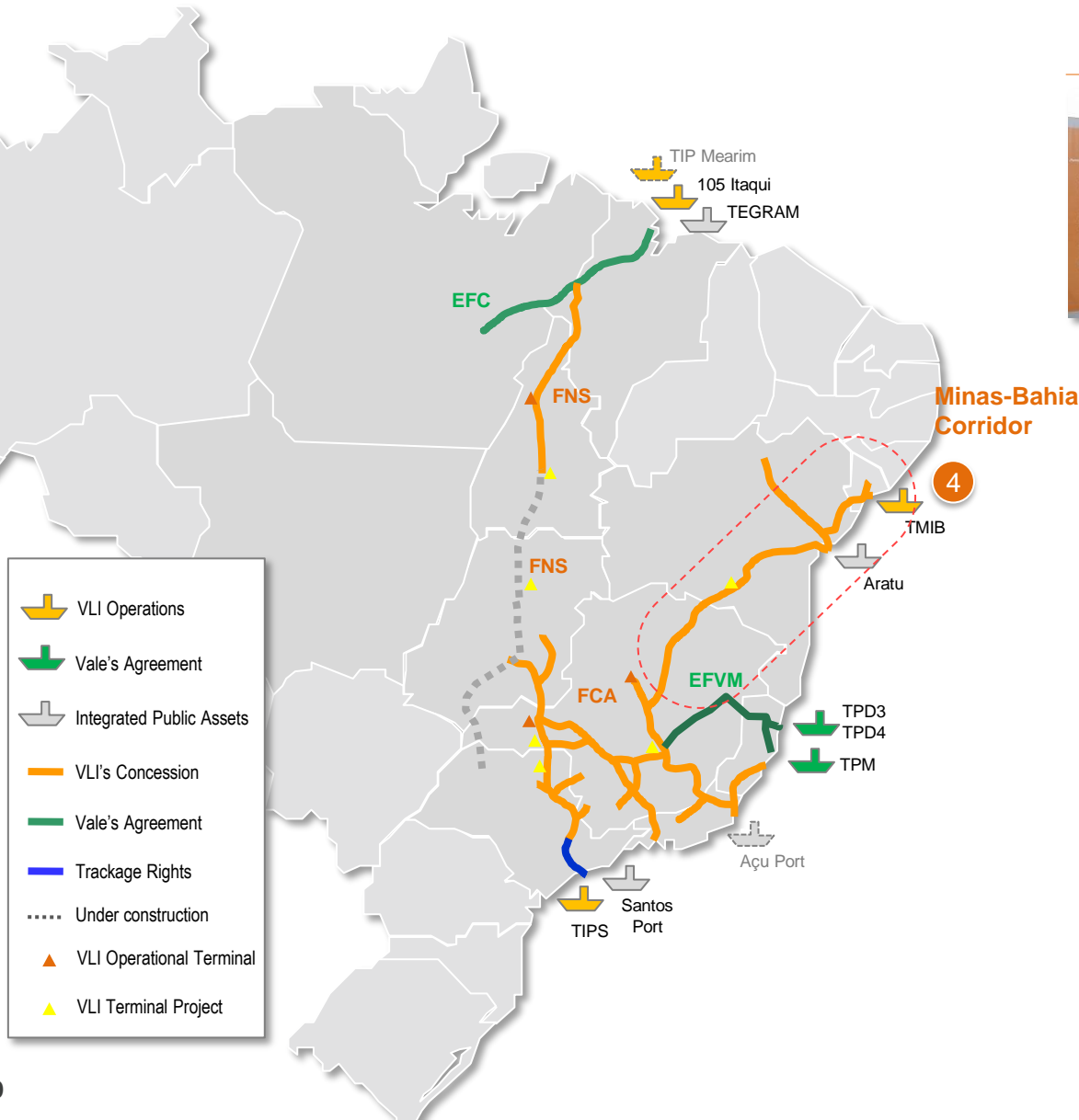
Main required investments

- Acquisition of rolling stock
- Construction of Brumado Terminal
- Connection to Aratu Port
- Improvement of track reliability and capacity

Strategy

- Structuring an integrated logistic solution to exports soybean from western Bahia by connecting FCA to Aratu Port to capture market share and increase productivity;
- Provide logistics services and integrated corridor to transport export third - party - Ore

Minas-Bahia Corridor: FCA railway and Aratu public Port are the main assets involved.



FCA



- Concession until 2026
- Gauge: Metric
- Length: 8,066 km
- 316 cities
- 7 states
- Cover 64% of Brazil GDP
- FCA is strategically located, connecting Brazil's major railroads.
- FCA has access to Tubarão Port (via the EFVM) Santos Port (via ALL) and other Brazilian ports in Bahia and Rio de Janeiro.

Aratu Port



- Current terminals operate Solid and Liquid Bulk and Gas products.
- Berth: 2
- Draft: 12 m
- Volumes handled in 2013: 5,8 mt year

Aratu Port current operation



Transshipment to the truck



Back Yard

When the ship is ready for charge, the cargo is transferred to the yard for loading/unloading

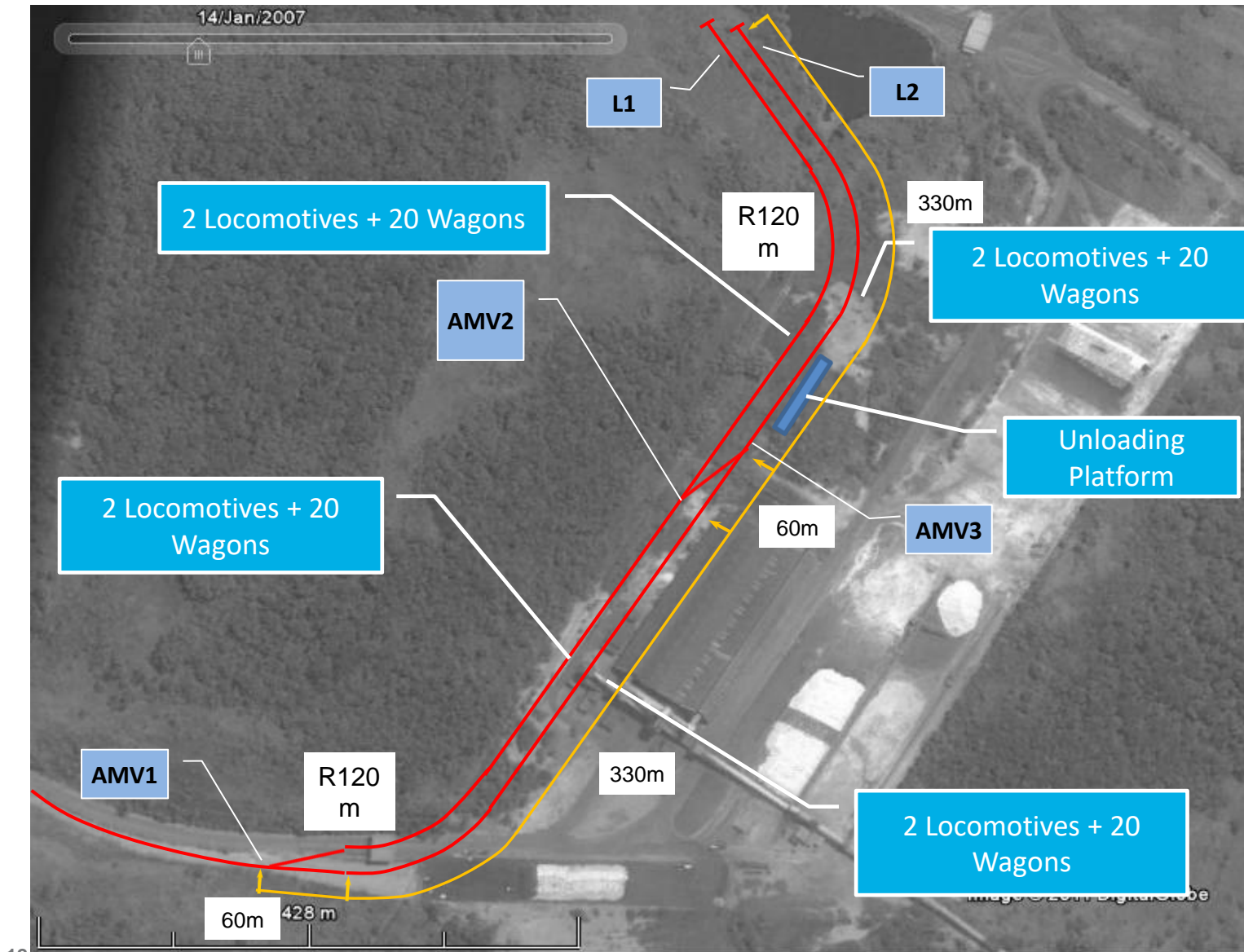


Aratu Port perspectives

Aratu Port



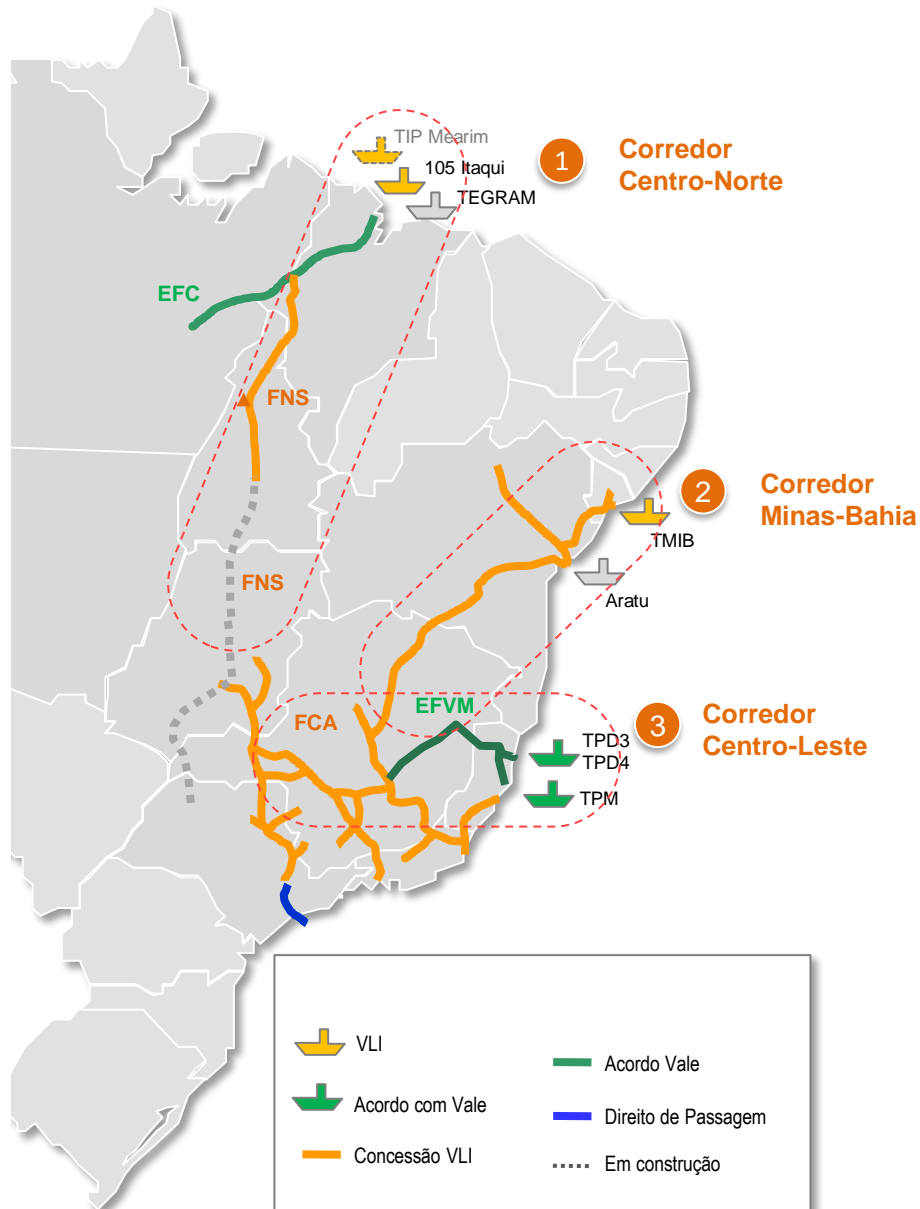
Aratu Port layout proposed to support 2 million tons per year.



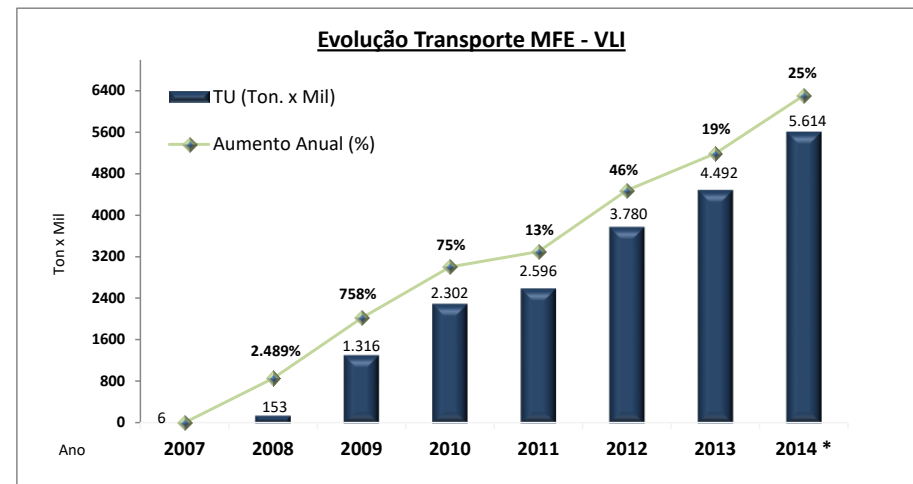
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In 2013 VLI increased more than 5 million Tons of third-party iron ore volumes using its assets



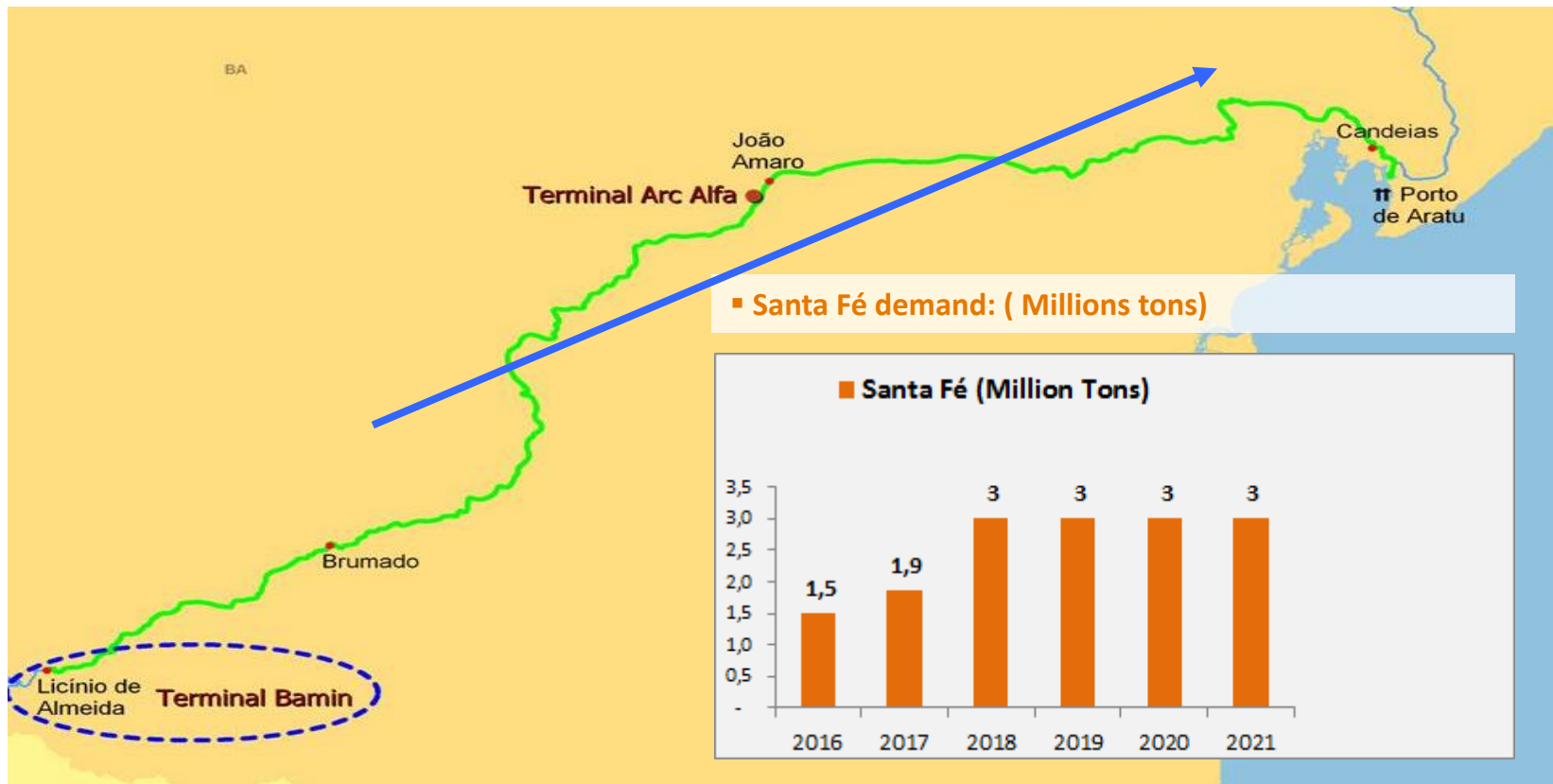
Iron Ores volumes operated by VLI



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The current volumes presented by Santa Fé below starts in 2016 with 1,5 Million tons and grows to 3 Million tons in the end of 2017

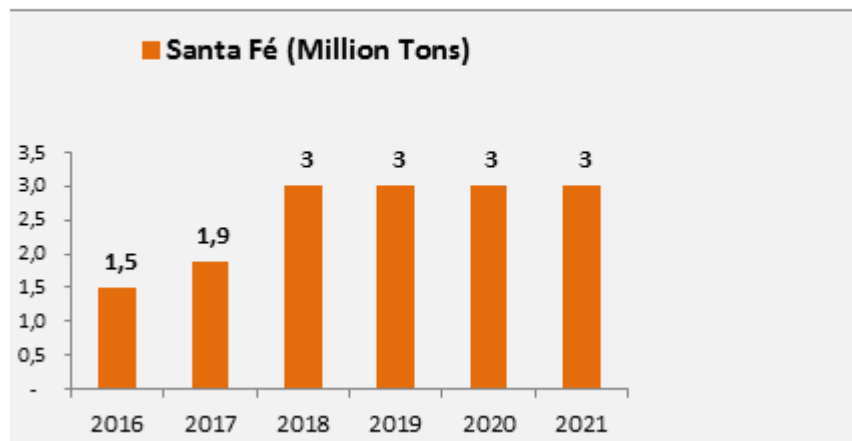


* Railroad distance between Brumado and Aratu Port: 650Km

VLI preliminary capacity assessment indicates that the rolling stock fleet will need to be increased to support Santa Fé volumes in the following years

▪ Santa Fé demand: (Million tons)

Million Tons	2016	2017	2018	2019	2020	2021
Santa Fé (Million Tons)	1,5	1,9	3	3	3	3



▪ Trains Model:

- 4 Locomotives + 40 Wagons
- Wagons average Weight : 54 tons
- Estimated transittime: 36 hours

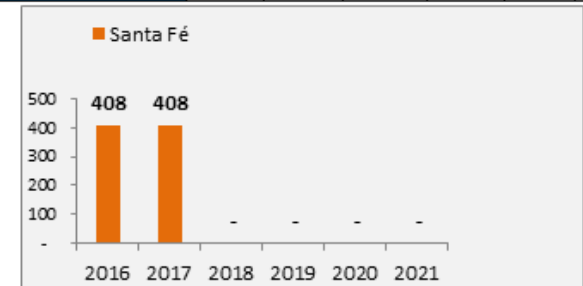
* Capacity for initial volumes

Necessary expected invesiments to follow Santa Fe volumes annual growth predicted

▪ Wagons necessary acquisition (Unit)

Wagon Acquisition (Unit)

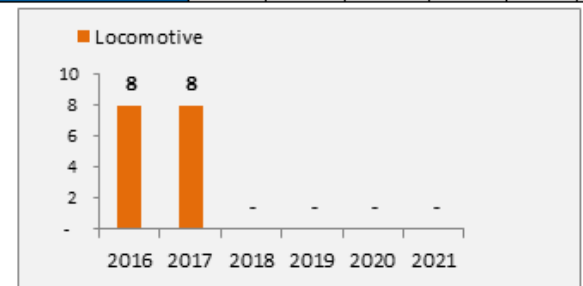
Wagons (Unit)	2016	2017	2018	2019	2020	2021
Santa Fé	408	408	-	-	-	-



▪ Locomotives necessary acquisition (Unit)

Loco Acquisition (Unit)

Locomotive	2016	2017	2018	2019	2020	2021
Santa Fé	8	8	-	-	-	-



Considering the VLI preliminary capacity assessment the total investments amount are nearly US\$ 140 Million

▪ Investments Summary : US\$ 140 Million

US\$ x Million	2015	2016	2017	2018	2019	2020	2021
Locomotive	27	27	-	-	-	-	-
Wagon	39	39	-	-	-	-	-
Unload Terminal	5	-	-	-	-	-	-
Railroad	4	-	-	-	-	-	-
Total	74	66	-	-	-	-	-

* Dollar: R\$2,4

▪ Comments:

- VLI didn't consider CAPEX related to loading and discharging railroad terminal;

40 Vagões GFE

4 Locomotivas



Next Steps

▪ Project development :

- Santa Fé confirm/update the project volume and start up schedule;
- Commercial Agreement signature. (MOU);
- VLI will prepare a customized study in order to accomplish the contract

▪ VLI Project considerations :

- VLI guidelines establish that for those amount of investments estimated for the project (rolling stocks acquisitions, railroad track capacity) can just be contracted after commercial agreement signature and financial guarantees.
- Nowadays the estimated leadtime delivery for rolling stocks VLI acquisitions are:
 - Wagons: 1 year before entrance necessity
 - Locomotives: 1,5 year before entrance necessity

Thank You!

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