ZAMIN FERROUS

CHALLENGES OF THE LOGISTIC INFRASTRUCTURE IN THE AREA OF INFLUENCE OF THE RÍO DE LA PLATA

Bremen, November 10th 2011

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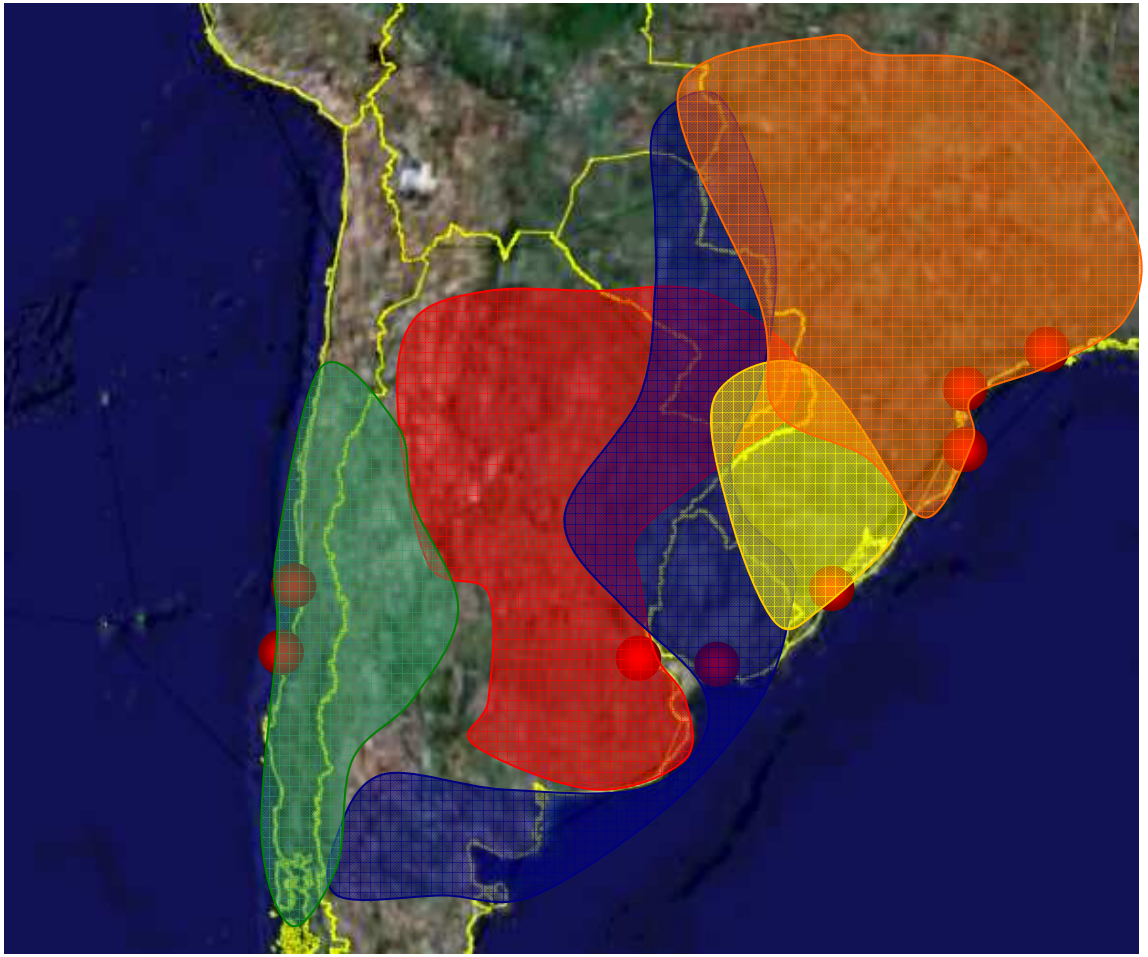
1. Area of Influence
Hinterlands



1. Area of Influence
The Waterway Paraná Paraguay

1. Area of Influence
Transport Costs for Soya in 2009

71 USD/ton
Mato Grosso do Sul (MS) to Paranaguá

59 USD/ton
Santa Cruz (SC) to Arica

27 USD/ton MS to Nueva Palmira
36 USD/ton SC to Nueva Palmira

2. State of the Art
General Aspects

- → Largest Historical Grain Production
  - → Paraguay historical record
  - → Bolivia and Mato Grosso do Sul
- → Huge Potential on Iron Ore
  - → Brazil
  - → Bolivia
- → Lack of River Terminals
- → Insufficient Draught at Sea Terminals
- → Unresolved Agreements between Countries
- → Excessive Bilateral Approachs

2. State of the Art
Draught in 2014

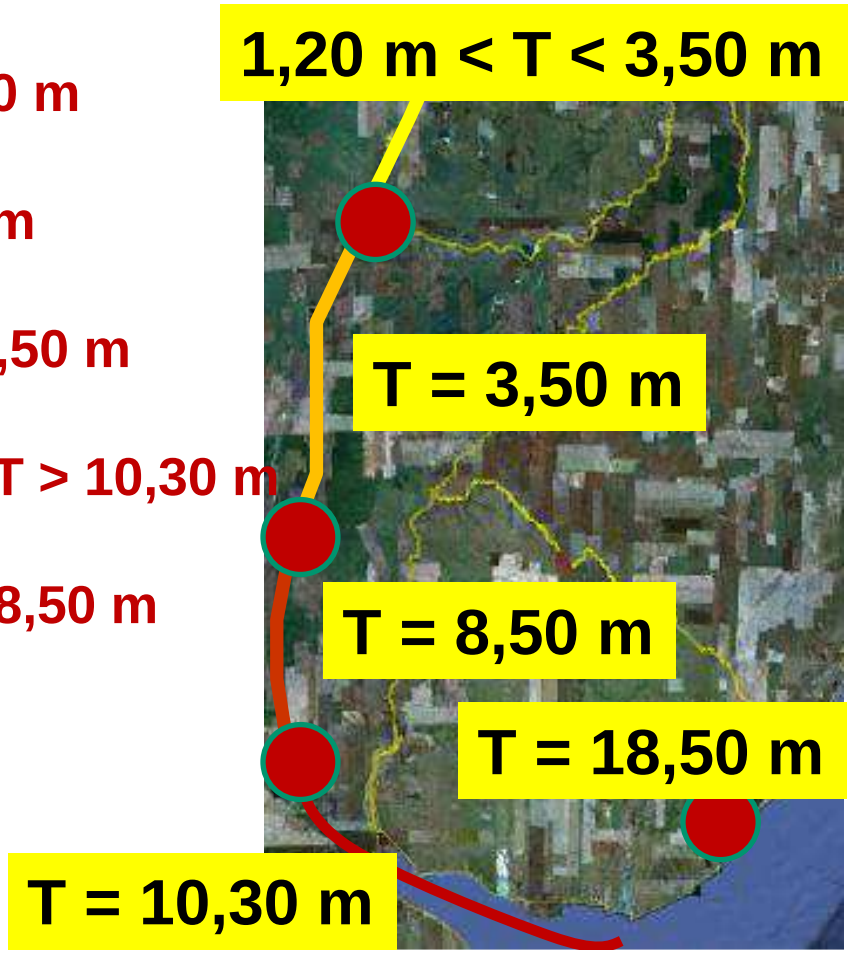
→ Aguirre – Pilar, unstable, T < 3,50 m

→ Pilar - Santa Fe, stable, T > 3,50 m

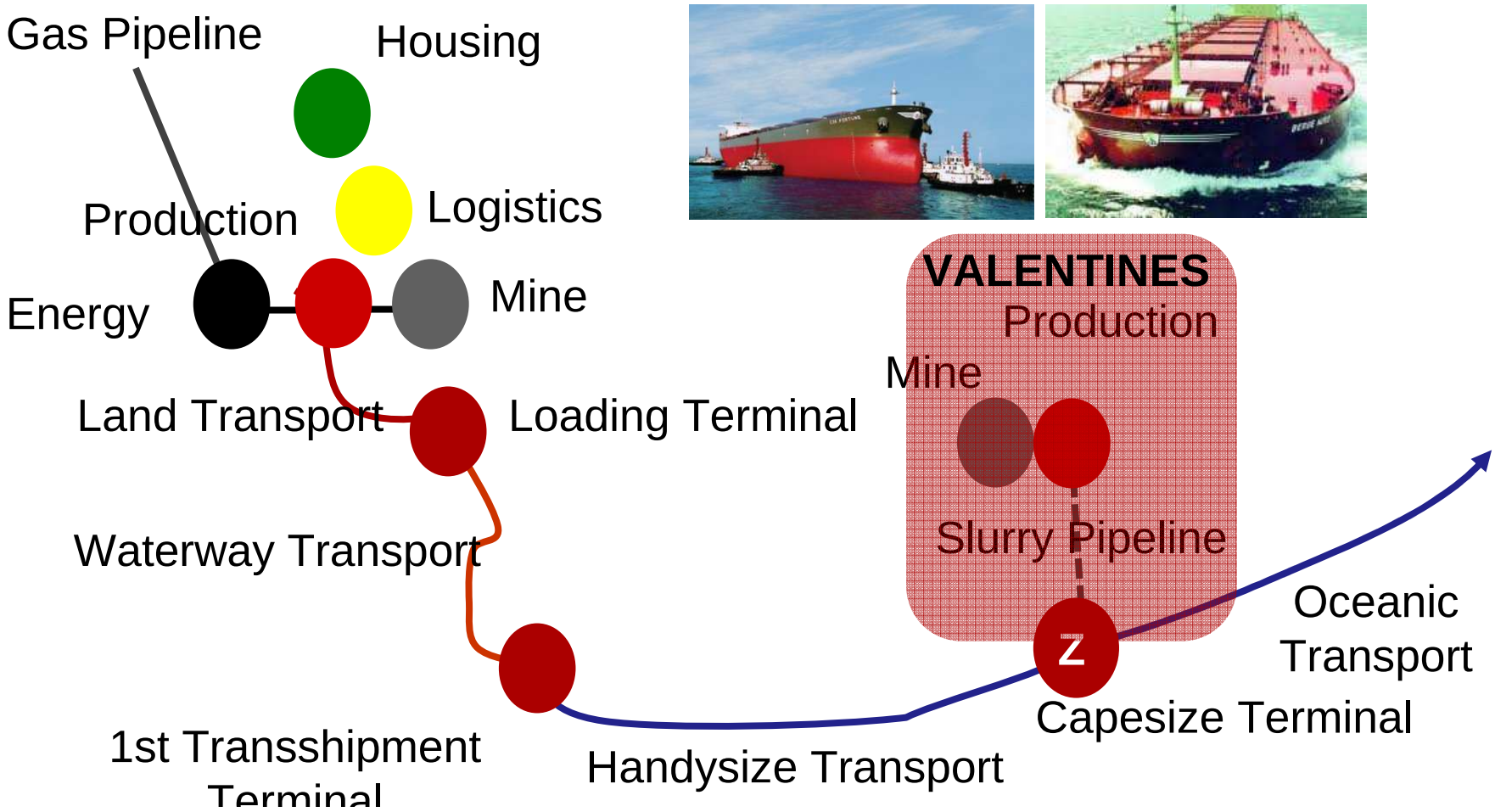
→ Santa Fe – Rosario, stable, T > 8,50 m

→ Rosario – Channel End, stable, T > 10,30 m

→ ZF Terminal La Angostura, T = 18,50 m



3. Challenges
Bolivian Iron Ore (Synergies)



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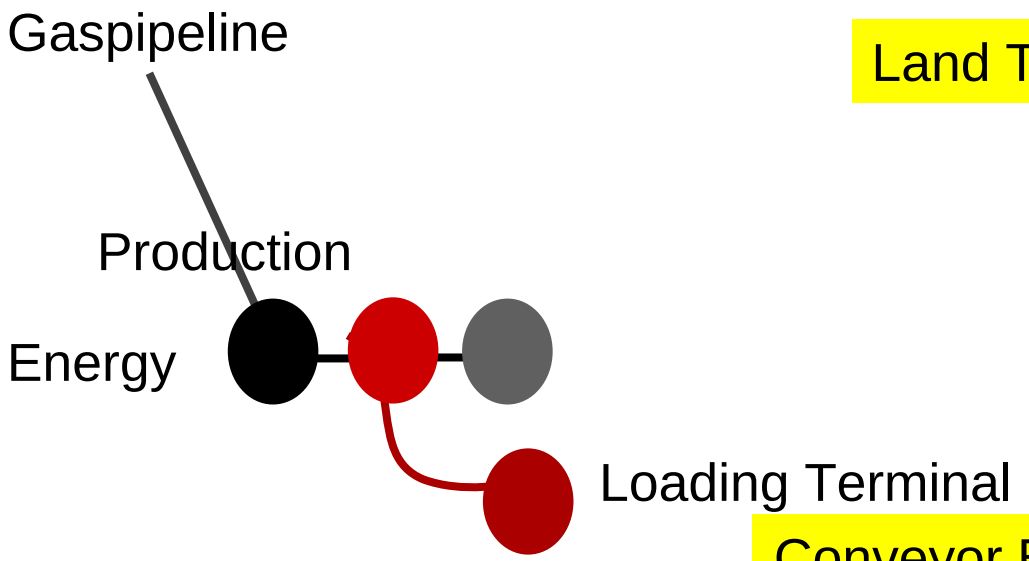
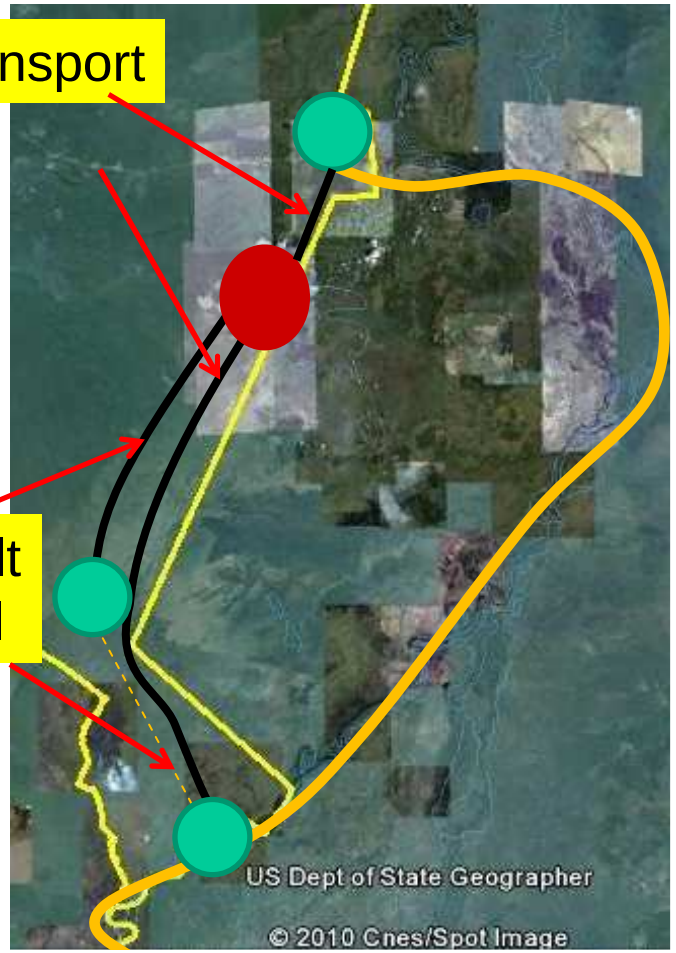
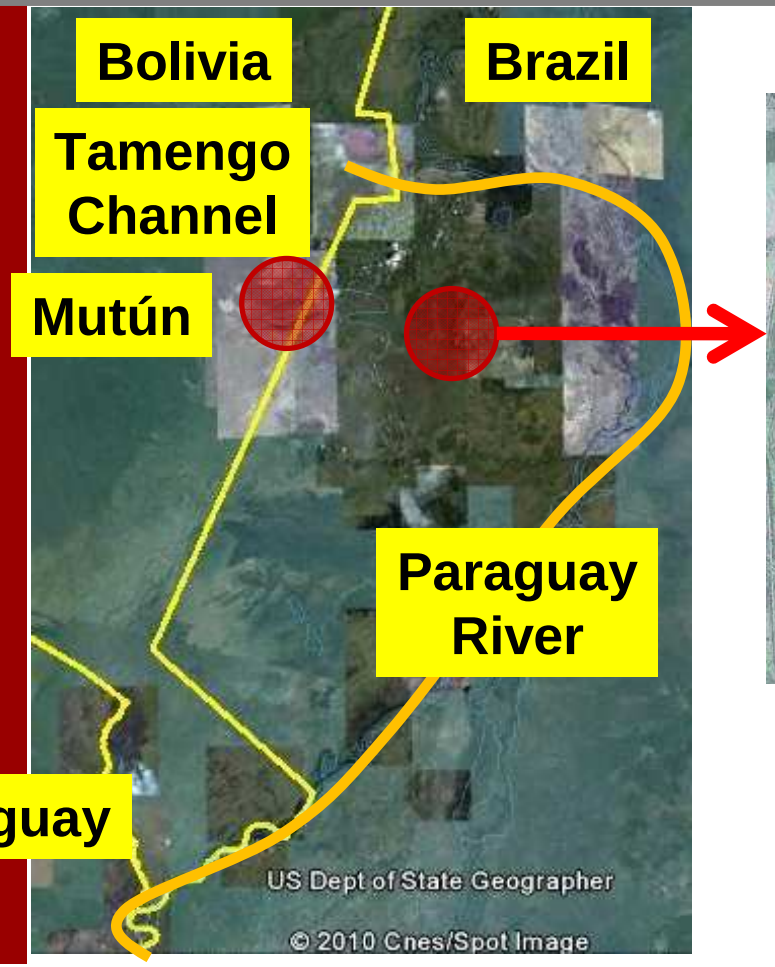




→ Land Transport to Tamengo
→ Land Transport to Busch
→ Belt – Terminal - Channel

3. Challenge
Brazilian Iron Ore



3. Challenge
Brazilian Iron Ore

- MMX Loading terminal
- Vale Loading Terminal
- Ex Rio Tinto (Vale) Loading Terminal
- San Nicolás Transhipment Terminal (Vale)
- Zárate Port Transhipment Terminal (sunk)
- Ibicuy Transhipment Terminal (Vale, sunk)
- Agraciada Transhipment Terminal (Rio Tinto, not built)
- Nueva Palmira Transhipment Terminal (Navios, no space for iron ore)
- Punta del Este floating transhipment station (Rio Tinto, not built)
- La Angostura, Export Terminal (Zamin, 2014)

3. Challenge
Brazilian Iron Ore, Loading Terminals

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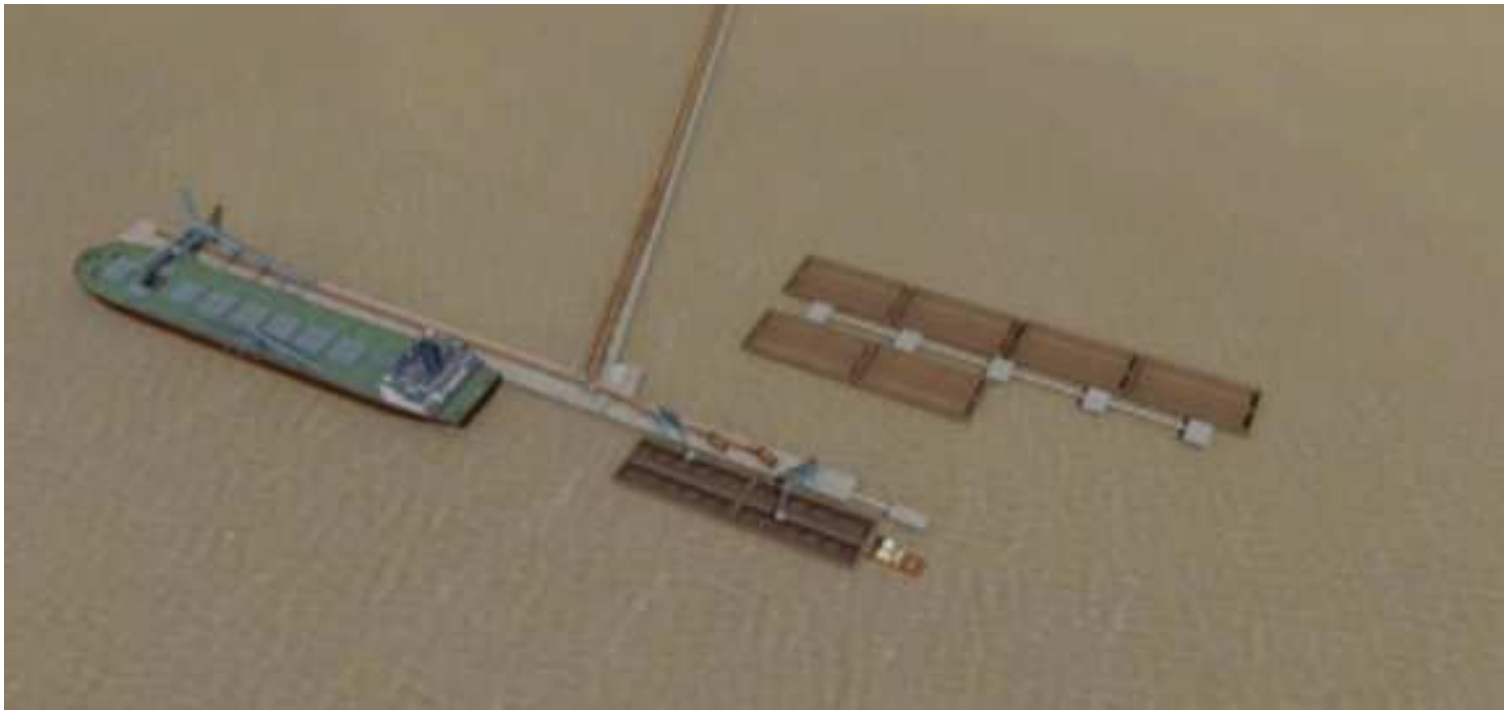
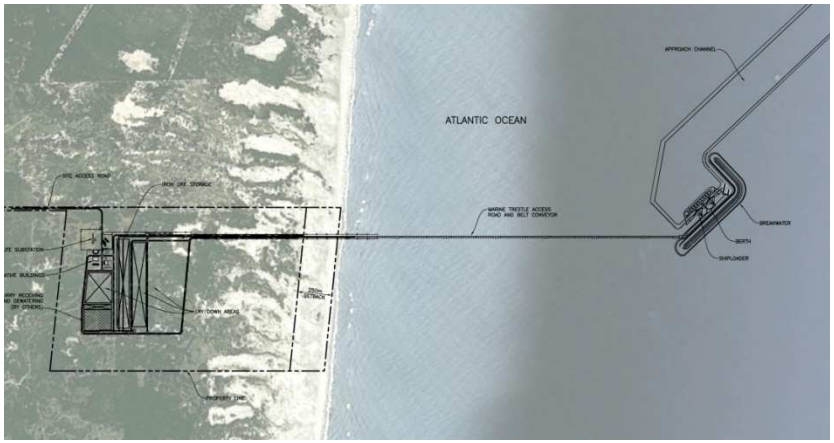
Brazilian Iron Ore, Transhipment Terminals

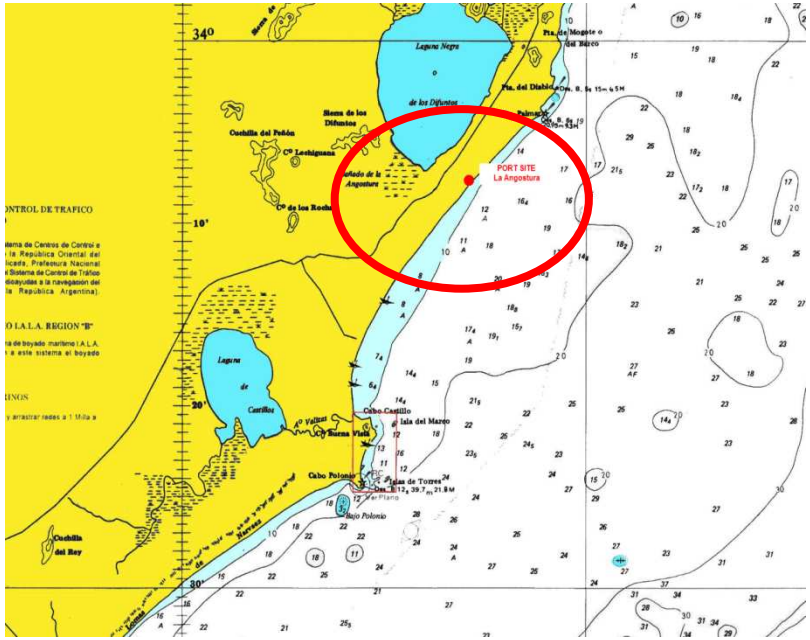


3. Challenge

Brazilian Iron Ore, Transhipment Terminals

3. Challenges
Export Terminal La Angostura





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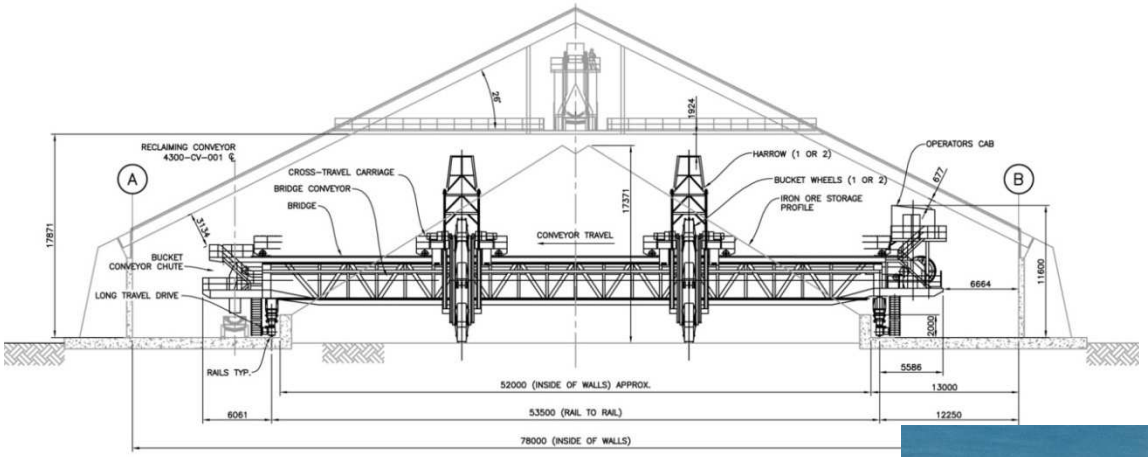

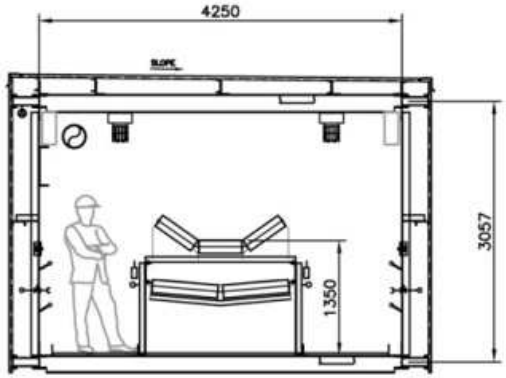

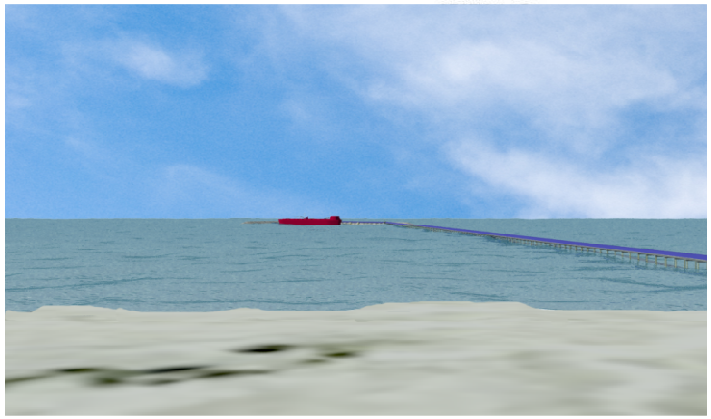

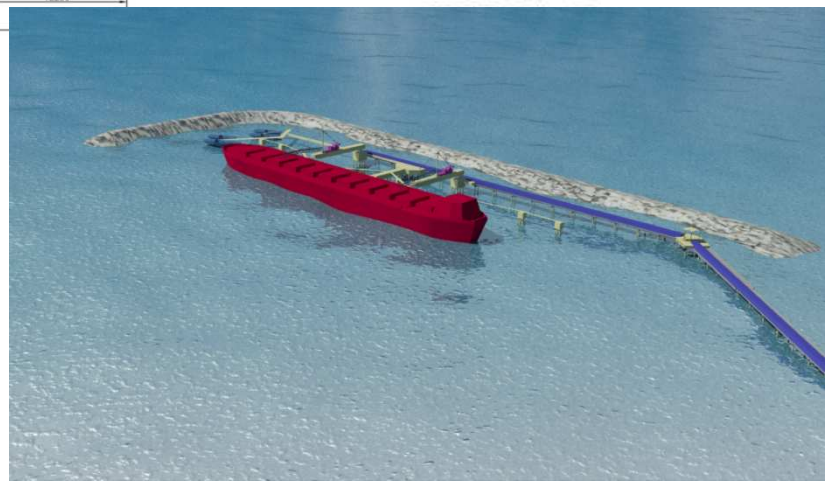

4. Good Examples
“Bajo Paraná” and Uruguay River

5. Conclusions

- Always underestimated growth
- Too slow progress on agreements
- Reasonable and good solutions for grains
- Huge potential for iron ore
- Insufficient Infrastructure ports and dredging
- Fiscal discipline inhibits state investments
- Bottlenecks at decision makers
- Lack of infrastructure inhibits development

Construcción de Barcazas

Hipótesis 1: 15 Mton/a
Hipótesis 2: Flujo continuo (conservador)
Hipótesis 3: Barcaza Mississipí (1500 ton)
Hipótesis 4: Ciclo de Bolivia a Pilar 15 días
Hipótesis 5: Ciclo de Bolivia a NP 40 días
→Producción diaria: 41.100 ton/d
→Embarque: 27 barcazas/día
→Para modelo Pilar: 411 barcazas
→Para modelo NP: 1096 bacazas