

# 17° Conferenza Witness

## *La fine dell'economia del retrovisore*



**LOGMARIN**  
ADVISORS a RINA company

[www.logmarin.net](http://www.logmarin.net)

**Francesca Narizano**

**Efficienza, competitività e sostenibilità nel  
trasporto marittimo delle materie prime  
alle industrie**



**LOGMARIN**  
ADVISORS a RINA company

**COMPETENCIES**

**EXPERIENCE**

**PARTNERSHIP**

**Have a look to our corporate video @ [www.logmarin.net](http://www.logmarin.net)**

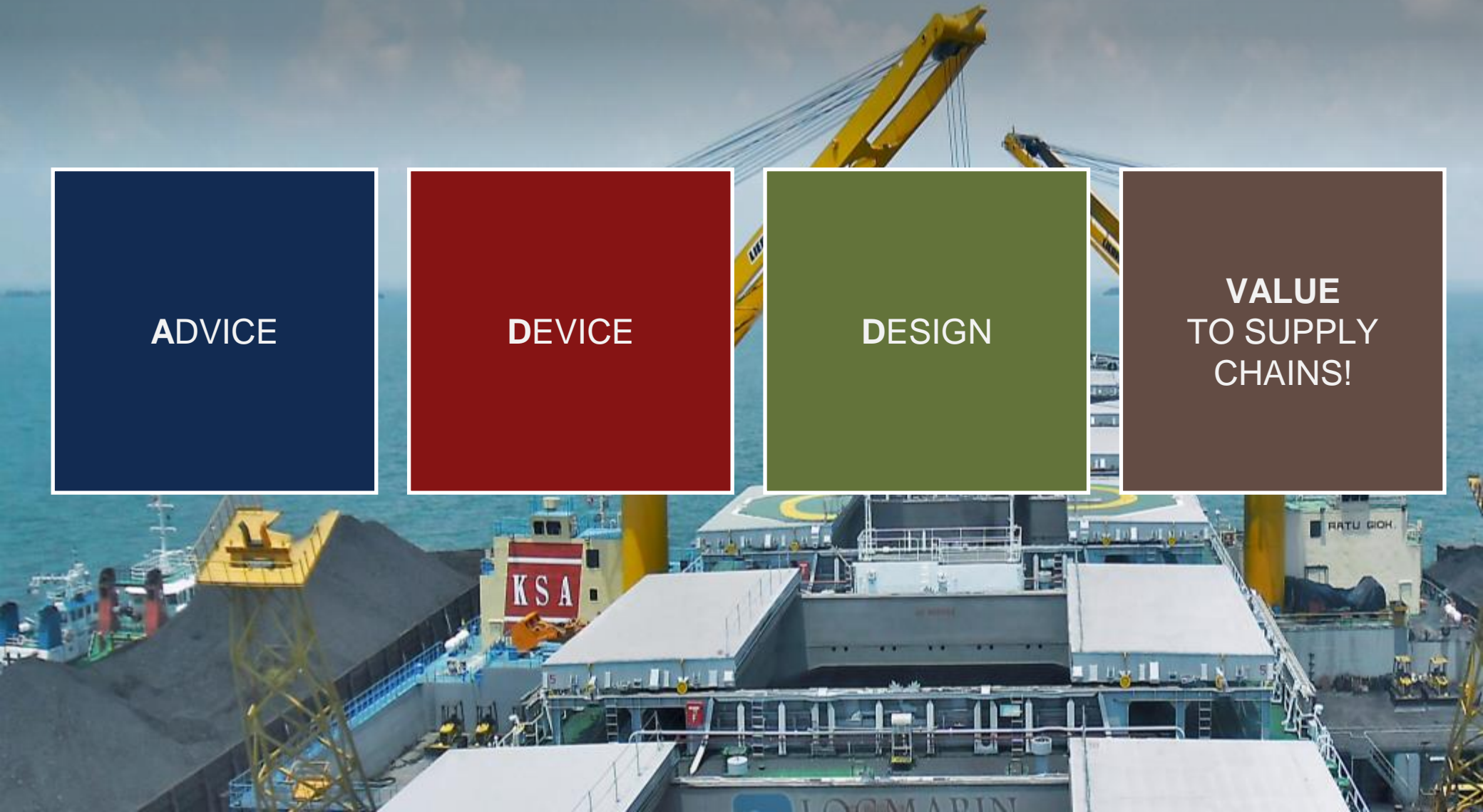
# WORLDWIDE RECOGNIZED AS EXPERTS IN THE FIELD OF FLOATING TERMINALS

**ADVICE**

**DEVICE**

**DESIGN**

**VALUE  
TO SUPPLY  
CHAINS!**







- **ABG HEAVY INDUSTRY**
- **AES**
- **AFRICEAN**
- **ALTUS**
- **AMBRE ENERGY**
- **ANGLO FERROUS**
- **ARCELORMITTAL**
- **ASHAPURA**
- **AXIA POWER HOLDINGS B.V.**
- **BAHRAIN STEEL**
- **BANPU**
- **BEDESCHI**
- **BELTSHP MANAGEMENT LIMITED**
- **BHP BILLITON**
- **BIO POWER**
- **BULK TRADING SA**
- **CHINA POWER IH**
- **C TRANSPORT MARITIME**
- **CARBOFER**
- **CITIC PACIFIC MINING**
- **DURAPORT**
- **EDF**
- **EGAT**
- **EMCO**
- **EMIRATES GLOBAL ALUMINIUM**
- **ENDESA**
- **ENEL**
- **ENI**

- **ESSAR**
- **ETA DUBAI**
- **FRASER SURREY DOCKS**
- **GIORDO**
- **GLINGROW HOLDING**
- **GOLDEN BAY CEMENT**
- **GOLDER ASSOCIATED**
- **GUNUNG STEEL GROUP**
- **HUBCO**
- **ILIM GROUP**
- **IMC SHIPPING SERVICES**
- **INTERPORT GROUP**
- **JAPAN POWER**
- **J M BAXI**
- **KEPCO**
- **KIDECO**
- **KINDER MORGAN**
- **LAVANT SHIPPING**
- **LIEBHERR**
- **LOUIS DREYFUS ARMATEURS**
- **MARUBENI**
- **MITCHELL GROUP**
- **NORANDA**
- **ODEBRECHT TRANSPORT**
- **OLDENDORFF CARRIERS**
- **PEINER SMAG**
- **PREMUDA**
- **PT MERATUS**
- **PT MIFA BERSAUDARA**
- **PT MBSS**

- **PT MITRA ALAM SEGARA SEJATI**
- **PT MITRA KALTIM SAMUDERA**
- **PT MITRA SWIRE CTM**
- **PT NUSANTARA**
- **PT JAYA SAMUDRA KARUNIA**
- **PT KARTIKA SAMUDRA ADIJAYA**
- **QATAR STEEL**
- **ROCK TREE**
- **RUTILA RESOURCES**
- **SAIF**
- **SALGAOCAR**
- **SANDWELL AUSENCO**
- **SAIPEM**
- **SKM - SINCLAIR KNIGHT MERZ**
- **SCORPIO**
- **SOGREAH**
- **SOCIETAD PORTUARIA RIO CORDOBA**
- **SWIRE CTM BL**
- **TATA POWER**
- **TIGER ENERGY**
- **TIMBLO**
- **TIRRENO POWER**
- **UNIVERSITY OF TRIESTE**
- **VALE**

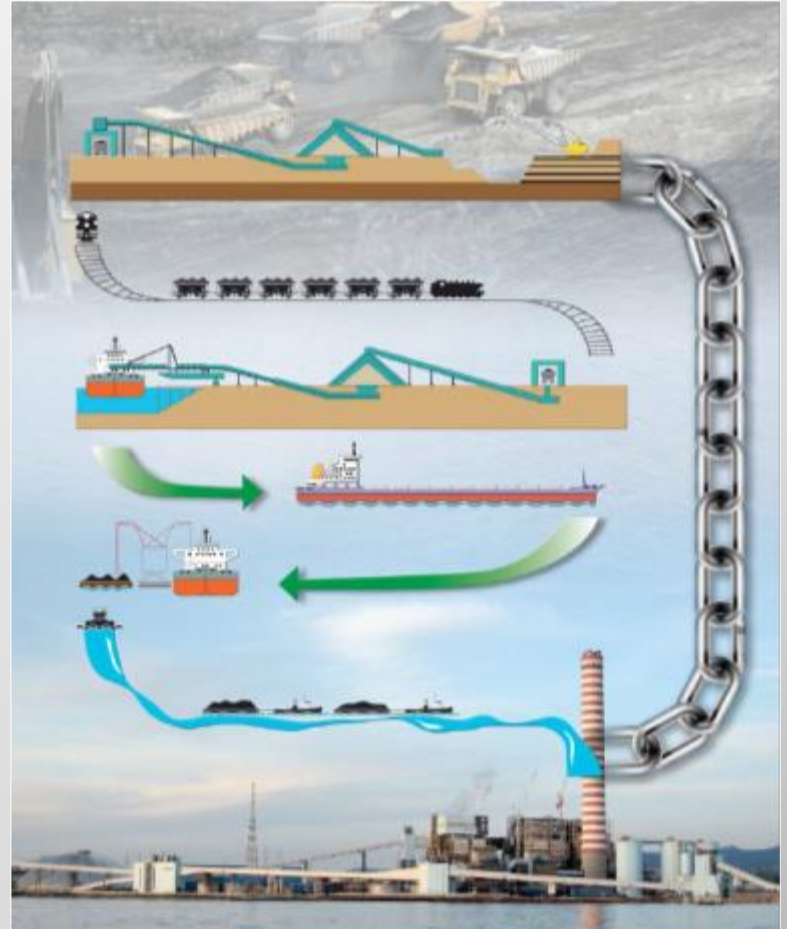
# Success stories always tell the truth

## Floating Transfer Units



***23 units in operation, 1 at under construction 2 at design stage, 25 technical services***

## Waterborne Supply Chains



***80 Feasibility studies developed in than 23 countries all over the world***

***...IN 10 YEARS ONLY***



# ***Customized floating terminals***



***...OVER 70 MILLION TONNES HANDLED DURING THE LAST 12 MONTHS***

# Planning with foresight

**A critical step for life-long gains!**

Opportunity for  
Competitiveness



Siting and data Collection

Data  
and Bottlenecks Analysis

Solutions Identification

Risk Analysis and  
Cost/Benefit Analysis

**Feasibility Study**

***What to do?***

Engineering

Project Management

Site/Construction  
supervision

Operational Manual  
& Procedures

**Project implementation**

***How to manage?***

Technical Service

Performance Evaluation

Training &  
Commissioning

**Operation**

***How to perform?***

t





## A WIDE RANGE OF APPLICATIONS AND POSSIBILITIES

RISK-FREE  
ENVIRONMENT

TAILOR-MADE

USER FRIENDLY  
OUTCOME

SCIENTIFIC &  
OPERATIONAL  
EXPERIENCE



**Decision making supporting tool!**

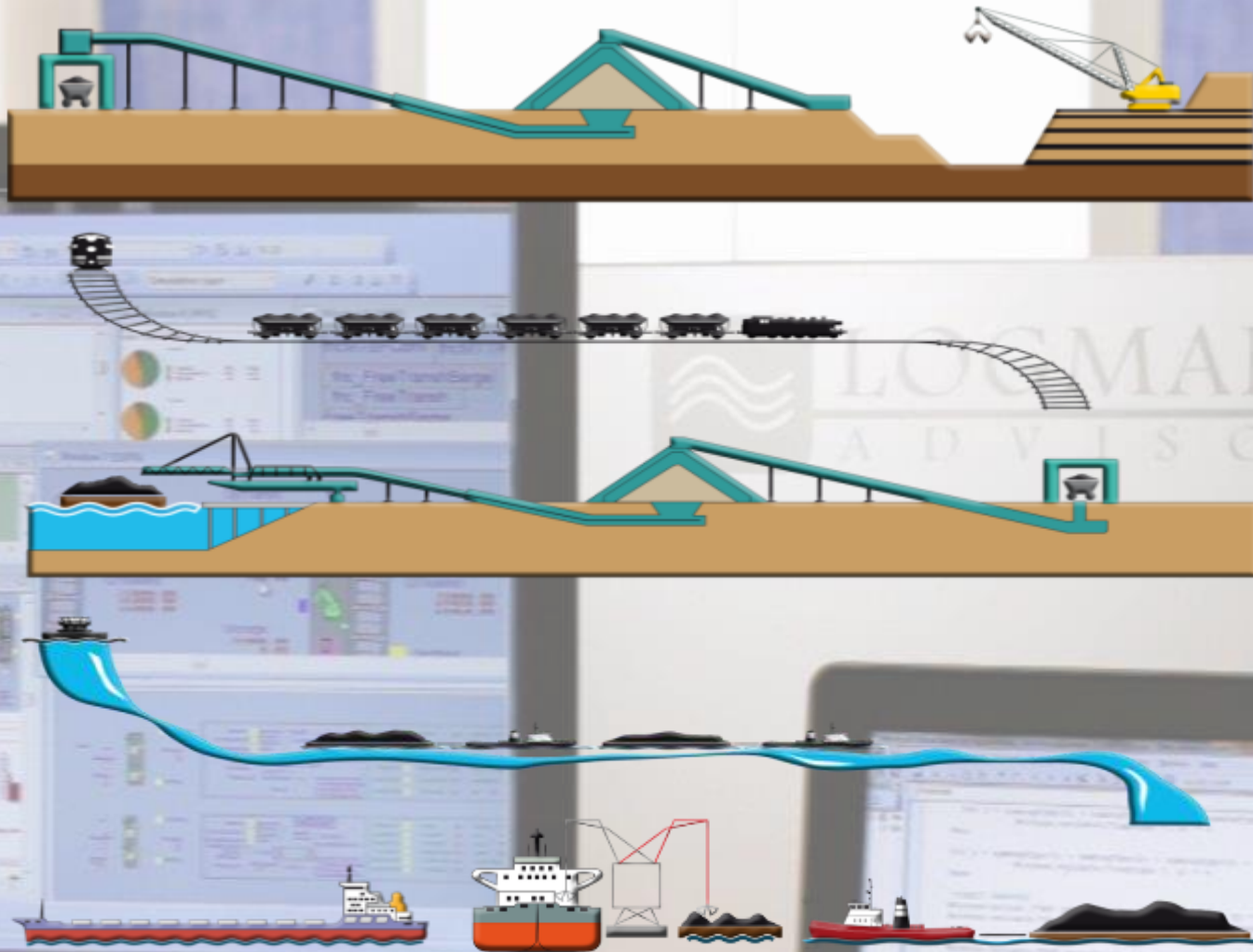


**No missing link!**

**“Door-to Door”  
approach ...**

**...for commodities  
competitiveness**

 **witness**

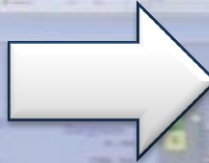


**Log.Des: Witness application to commodity supply chain**

# A wide range of applications and possibilities

## Inputs and model construction

- Target production
- Equipment features (shore and offshore)
- Fleet composition and features
  - Tide and draft restrictions
  - Operational and sailing windows
  - Weather patterns and operative thresholds
- Breakdowns and maintenance
  - Vessels' schedule
- Costs, freight, consumption and contractual terms



## Outputs

- Theoretical throughput
- Occupancy and cycle phases duration
- Waiting time and queuing
  - Storage utilization
- Downtime due to adverse weather and failures
  - Vessels detention time
- Cost of fleet and consumption
- Overall supply chain cost per tonne

**Log.Des: a real world process in a risk-free environment**



# A wide range of applications and possibilities

## Sensitivity analysis:

- Running of multiple scenarios
  - Results obtainment
- Comparison of representative output



## Optimal solution as balance between:



**Cost Saving**



**Performance**



**Sustainability**

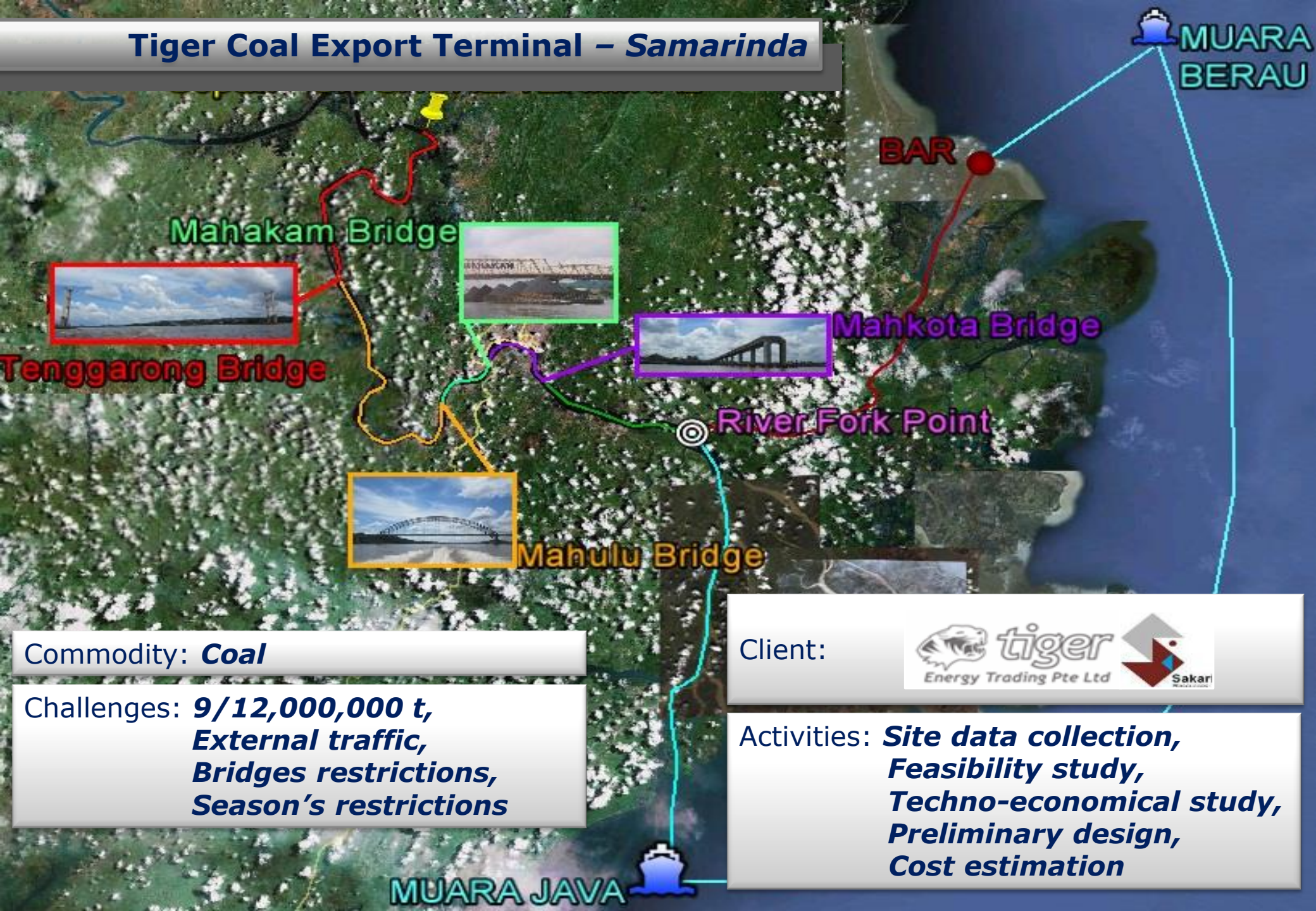
**Log.Des: a real world process in a risk-free environment**

## Case studies





# Tiger Coal Export Terminal – Samarinda



Commodity: **Coal**

Challenges: **9/12,000,000 t,**  
**External traffic,**  
**Bridges restrictions,**  
**Season's restrictions**

Client:



Activities: **Site data collection,**  
**Feasibility study,**  
**Techno-economical study,**  
**Preliminary design,**  
**Cost estimation**

MUARA JAVA



# Tiger Coal Export Terminal – Samarinda

Witness (Log\_Des-Simul : Base Model.)

File Edit View Model Elements Reports Run Window Help

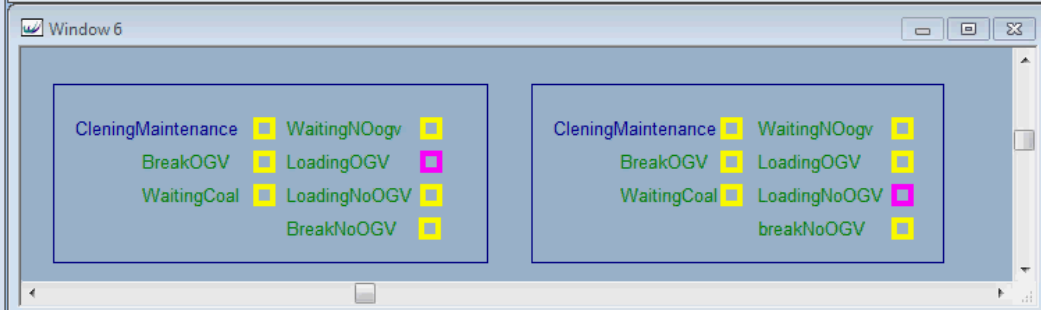
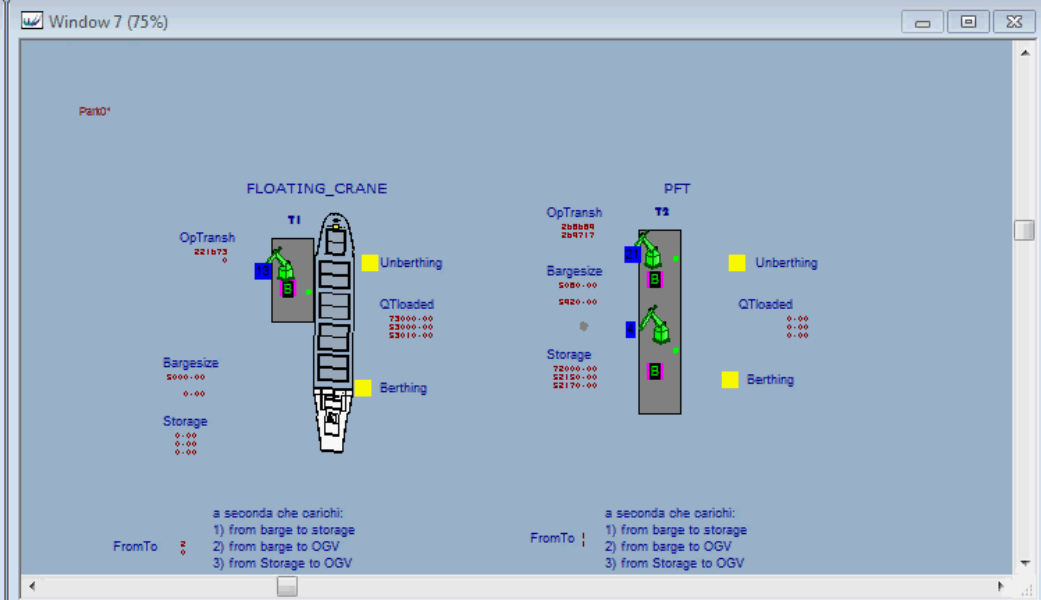
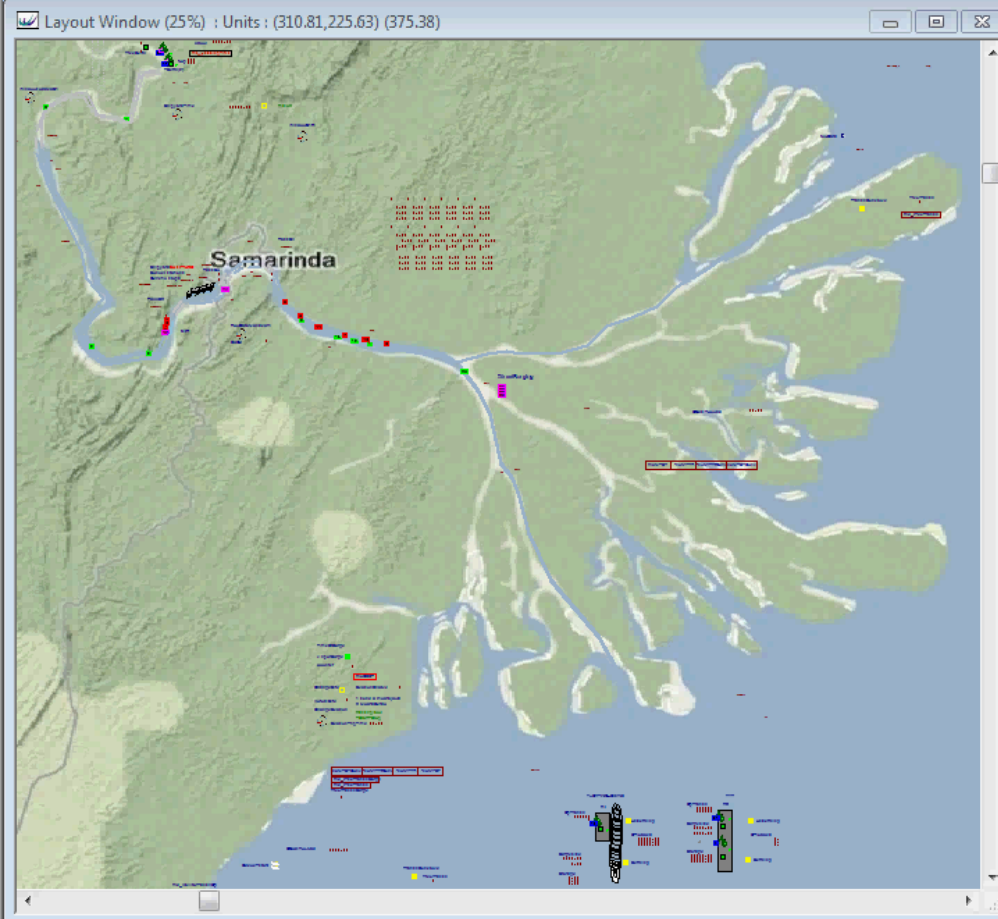
Layout Window (25%) : Units : (310.81,225.63) (375.38)

Window 7 (75%)

Window 6

Simulation Layer

0.13



Interact Box

Time: 9827.371 Warmup: 8760.00

Ready



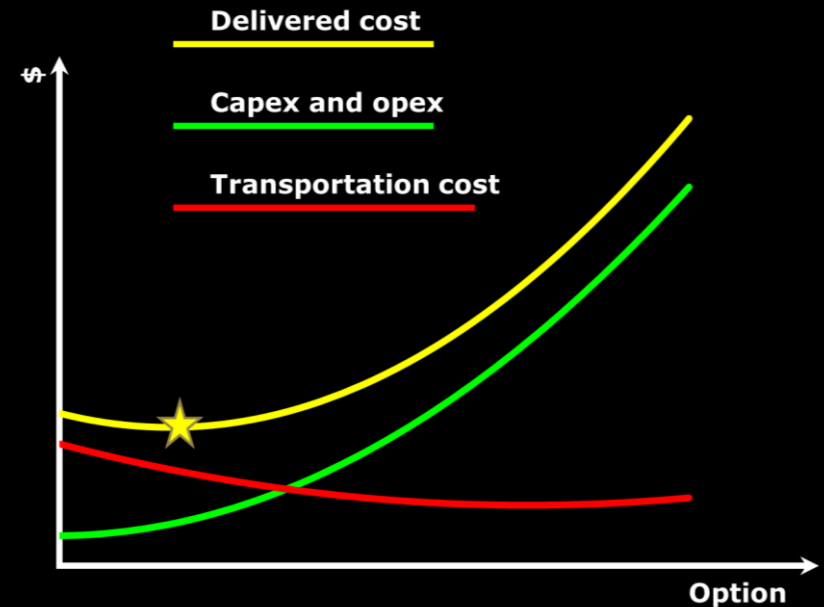
# BARGE FLEET OPTIMIZATION BASED ON SHIPPING MARKET



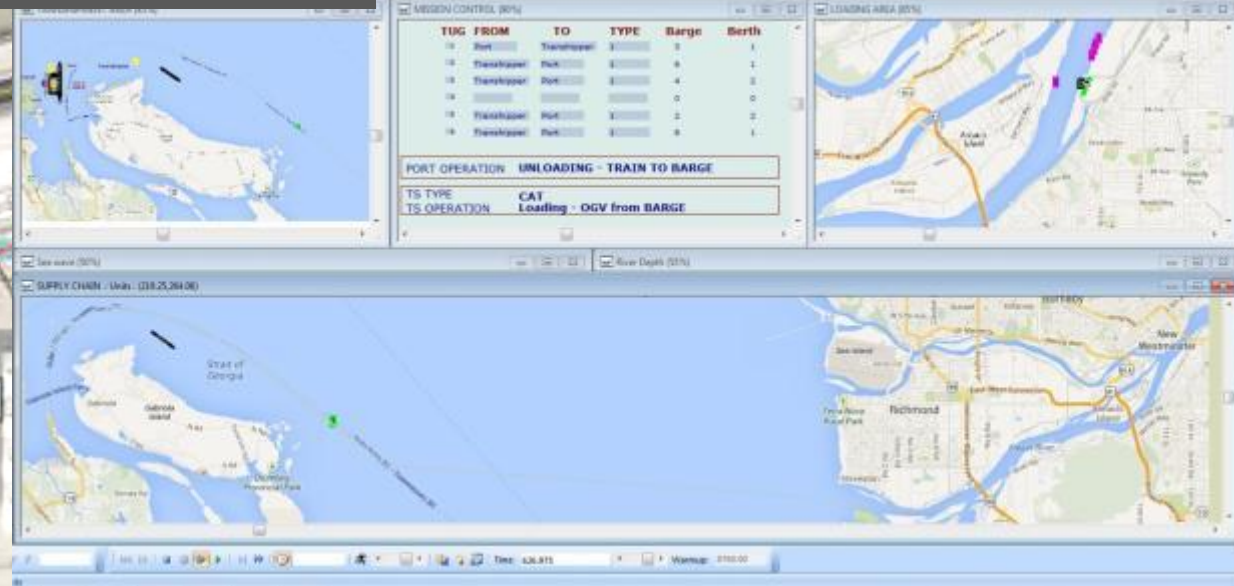
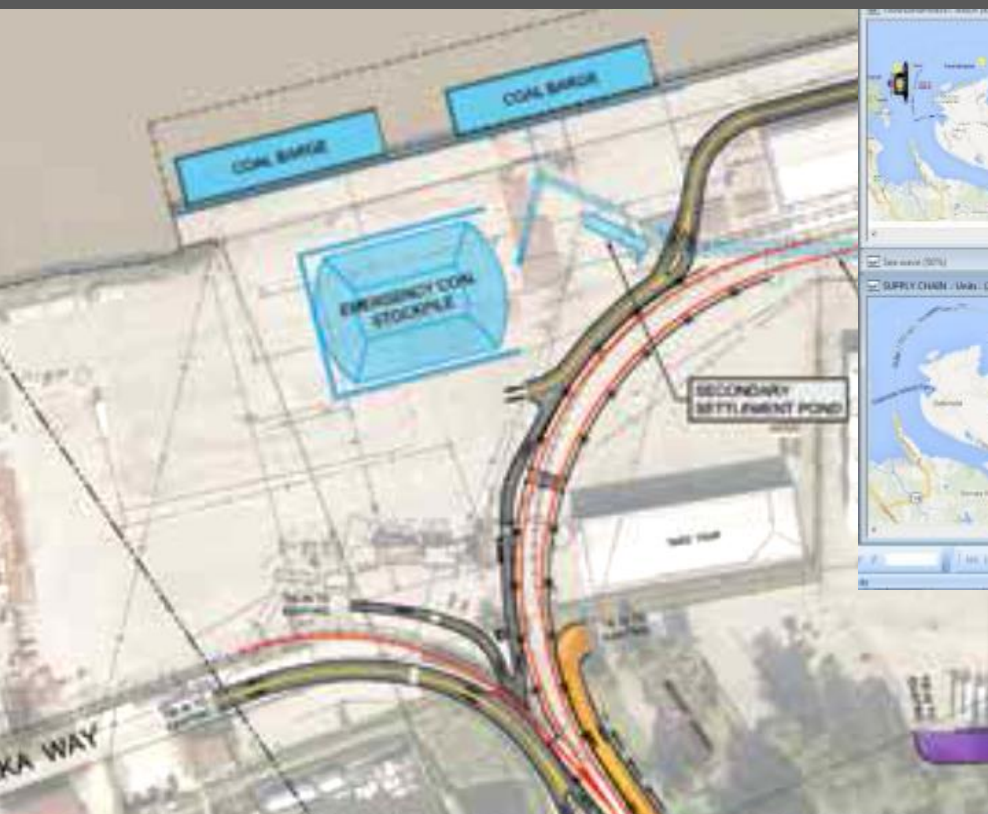
INLAND - RIVER  
TRANSPORTATION



OCEAN FREIGHT



# Fraser River export chain - Canada



Activities: **Site data collection and analysis,**

**Overall chain concept: from train scheduling to OGV loading, Dynamic simulation model, Definition of the most cost effective chain,**

**Assessment of cycle time, OGV loading performances, storage and barge loading facilities,**

**Preliminary cost estimation from mine to Korean Power Stations**

Client:

**ambreenergy**

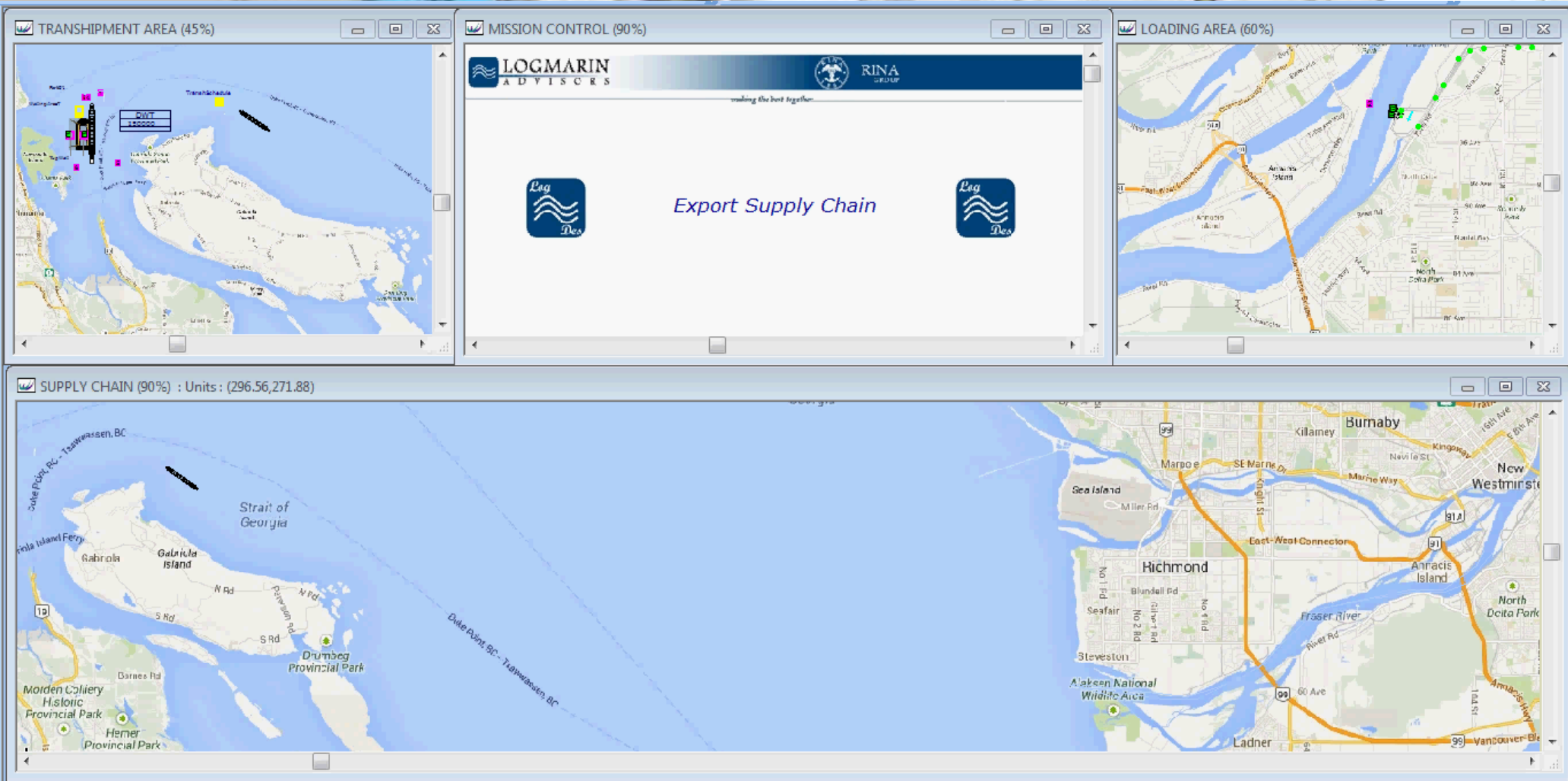
**FRASER  
SURREY  
DOCKS**  
Pacific Rim Stevedoring

Commodity: **Coal**

Challenges: **Train arrival logics,  
Export chain (train to OGV),  
Tide,  
River and sea navigation**



# Fraser River export chain - Canada



# Cement Distribution Project - New Zealand

Client:



Commodity: **Cement**

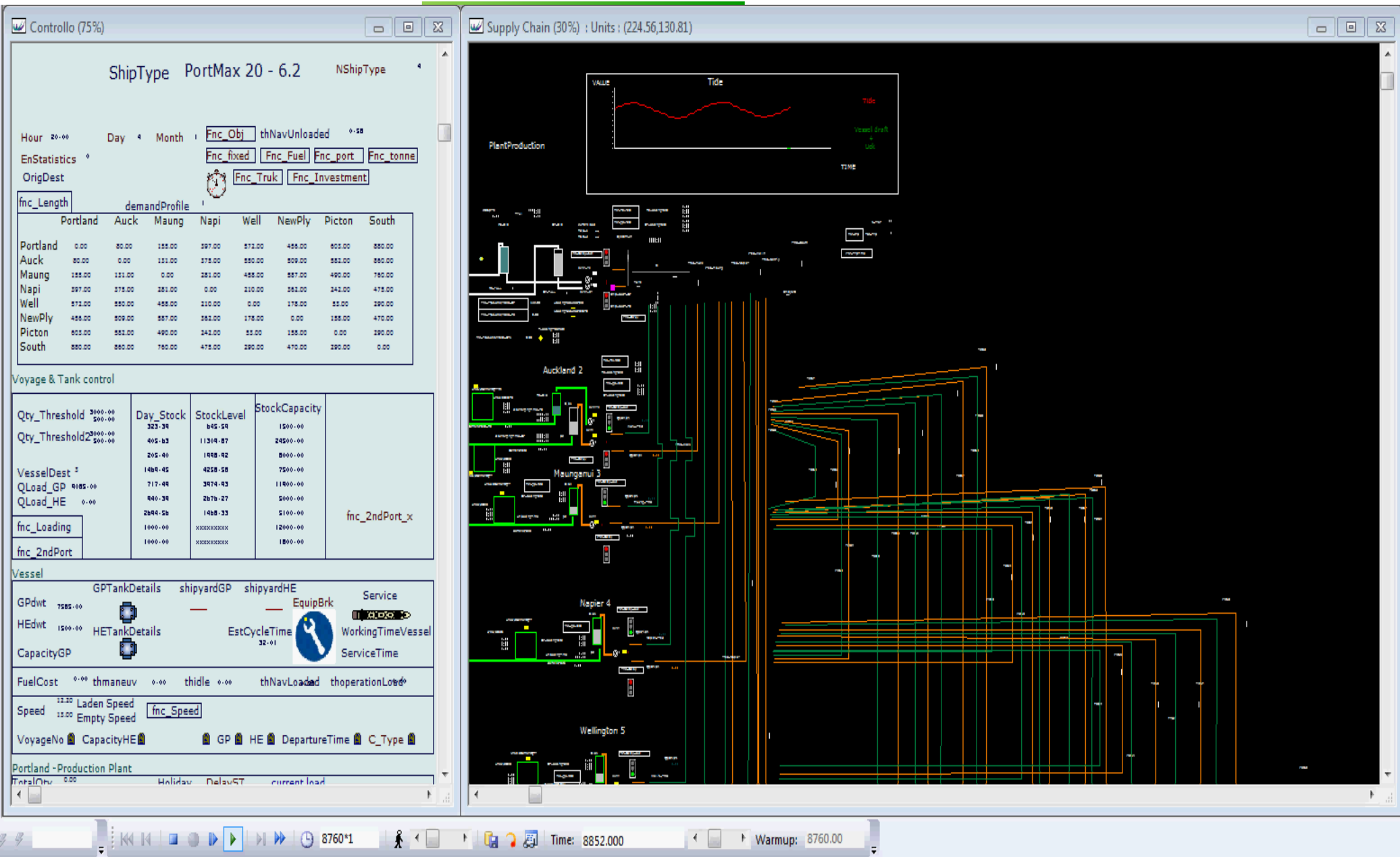
Challenges: **Annual production increase, New receiving depots, Only one vessel to substitute existing ones**

Activities: **Model simulation of existing chain (Log.Des), Identification of best solution via software optimizer (Log.Des), Definition of new vessel features (new building and conversion), Vessel Capex & Opex estimation, Recommendation on shore terminal upgrade**





# Cement Distribution Project - New Zealand



**NO GUESSING,  
BUT PLANNING WITH FORESIGHT**

**Thank you for your  
attention**



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