



SAIL CARGO PILOT

Dual Ports : Wind Propulsed Cargo

Chartering platform for Wind Propulsed Shipping

1. Voyage simulation
2. Booking system
3. Smart Management
4. Conclusion

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Dual ports: wind propelled cargo



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1. Voyage simulation

Development of tool of voyage simulator, including cost calculation:

Objective : offering the cargo owner a price calculation, in function of a certain distance between 2 ports and in function of the cargo capacity of the ship

Competitor and reference framework: competition with trucks (transporting 40 tons or more) on similar distances

Basic stones: collection of data

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1. Voyage simulation

The following data is collected :

- Languages : E/N/F , others
- Overview of participating ships, including short technical description
- Overview of journeys: selection can be made according to region/datum

Every journey is determined in function of the next port and in function of the date of arrival (ETA)

- For every journey: available capacity (m^3/mton)
- Selected regions: North Sea, Baltic Sea, Irish Sea, CUK, Atlantic
- Contact information

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1. Voyage selection

On basis of the datasets, an indicative price can be calculated for the cargo owner, considering :

- Duration of journey (days)
- Harbour dues
- Staff costs
- Energy costs in port

For charging or discharging a ship in the port, 1 day lay-up time is considered.

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1. Voyage calculation

Route	Rotation				Days (average)	TCE/d (€)	Voyage Cost (€)	Port Charges (€)	Total Voyage Cost (€)	Payload (MT)	Freight rate/Mt (€)	Freight rate/kg (€)
	Oostende	Den Helder	Kattegat		10	160,00	1600,00	1500,00	3100,00	100	31,00	0,03
	Oostende	Den Helder	Kattegat		10	160,00	1600,00	1500,00	3100,00	500	6,20	0,01
	Oostende	Den Helder	Kattegat		10	160,00	1600,00	1500,00	3100,00	1000	3,10	0,00

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1. Voyage simulation

Rotation				Days (average)	TCE/d (€)	Voyage Cost (€)	Port Charges (€)	Total Voyage Cost (€)	Payload (MT)	Freight rate/Mt (€)	Freight rate/kg (€)
Oostende	Den Helder	Kattegat		16	160,00	2560,00	1500,00	4060,00	100	40,60	0,04
Oostende	Den Helder	Kattegat		16	160,00	2560,00	1500,00	4060,00	500	8,12	0,01
Oostende	Den Helder	Kattegat		16	160,00	2560,00	1500,00	4060,00	1000	4,06	0,00

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2. Next step : set-up of a booking system

On basis of the data sets, involving :

- Choice of ships
- Choice of journeys
- Availability of cargo capacity on certain routes and during certain periods
- Availability of pax capacity on certain routes and during certain periods

A centralised booking-system will be worked out, involving the identification of the clients

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2. Next step : set-up of booking systems

Flexibility will be guaranteed for the shippers , whereby extra ports can be introduced if routings will be changed due to weather conditions or other reasons.

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3. Smart management

In order to be operational, an efficient and cost-efficient management-system for the chartering-platform will be necessary, whereby the transparency of the logistic chain is a core necessity for the client.

In order to be cost-efficient, new technologies and smart sensors can be installed on the ships, working on basis of solar/wind energy. This can offer the client a personalised approach, whereby the ETA of the ship can be followed on basis of the strenght of the wind, the wind direction and the force of the currents (cfr sail races).

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4. Conclusion

1. Draft tool for voyage simulator can be enlarged with different indicators that can be calculated:
 - Cost of trucking on similar distances
 - Volume of CO² that has been saved by using sailing ships
 - Pax price calculation (competition with regular cars)
 - Pre and post-transport on CO² friendly and cost-effective way
 - ...



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4. Conclusion

2. Efficient and smart management system needs to be worked in order to support the chartering platform, involving new technologies, with attention for:

- Transparency for logistic operations
- Personalised approach for the client
- Development of new earning models: sales of cargo space on board of ship, combined with promotion for the company of the client (e.g. LED projection on the sails in ports)
- Organisation of cargo liability