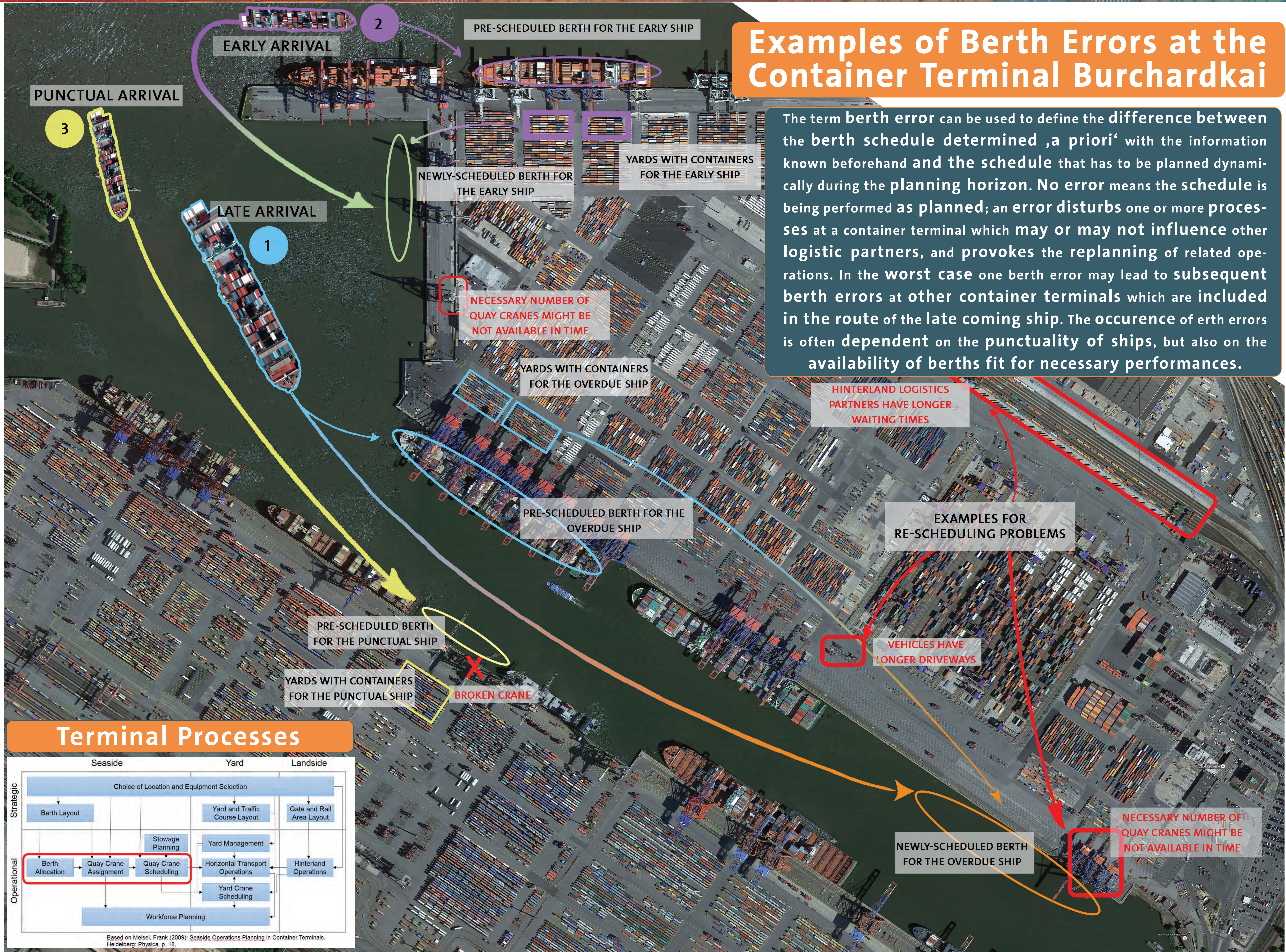


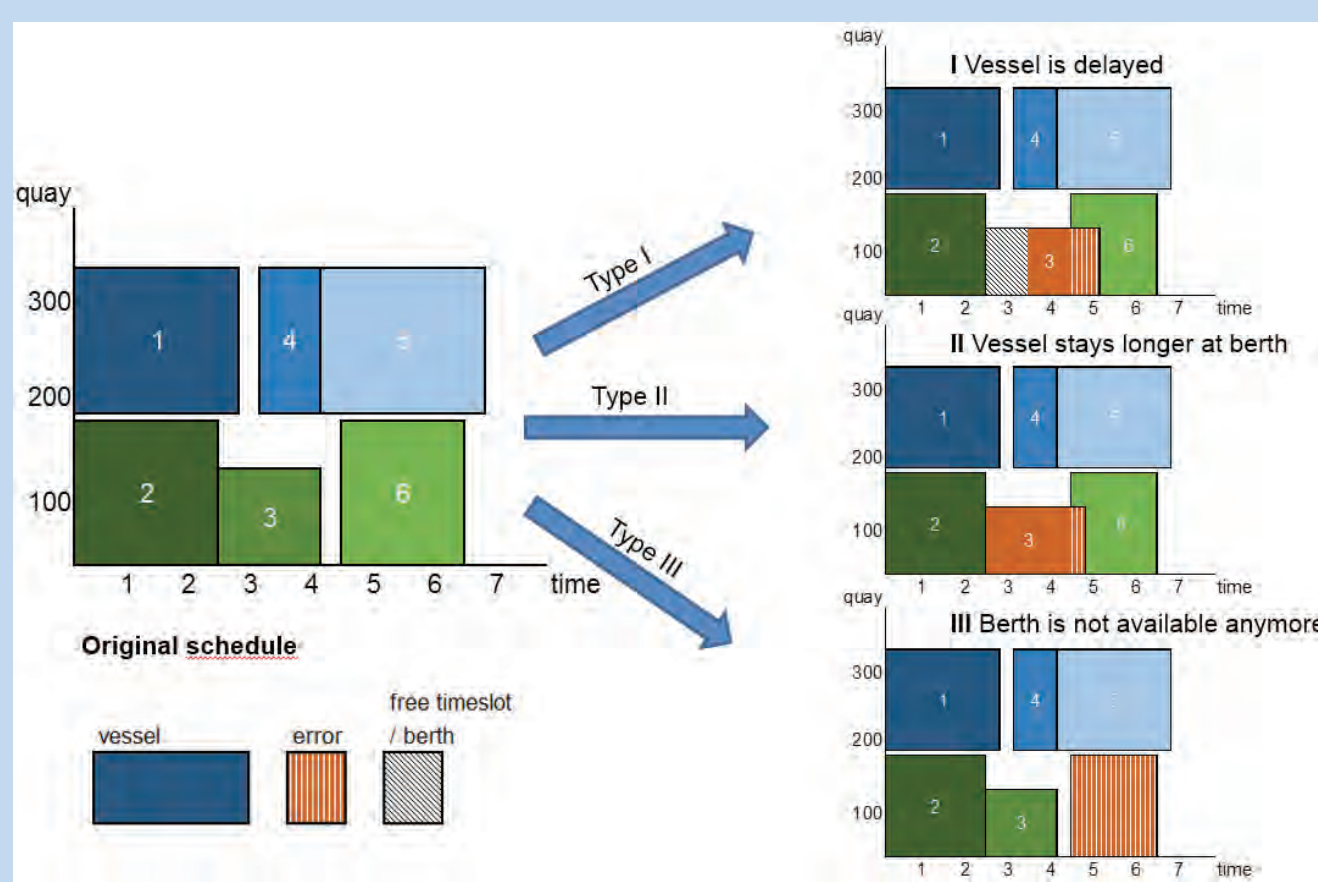
# A DECISION SUPPORT SYSTEM TO MITIGATE THE IMPACT OF BERTH ERRORS

SUPERVISORS: ROBERT STAHLBOCK, EDUARDO ANÍBAL LALLA RUIZ  
 STUDENTS: MATS HANSEN, JULIA KASCH, NILS SCHRÖDER, PHILIPPE TIEDE

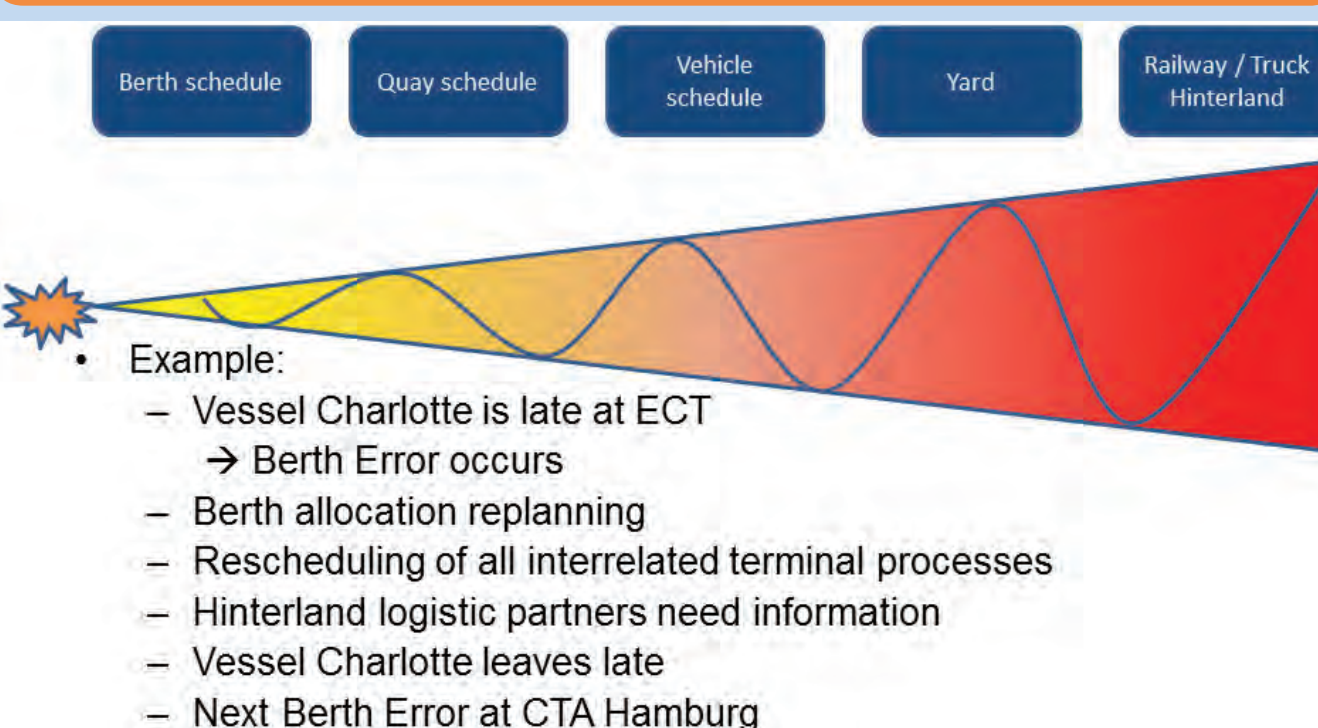


## Decision Support System (DSS) with an integrated Information System

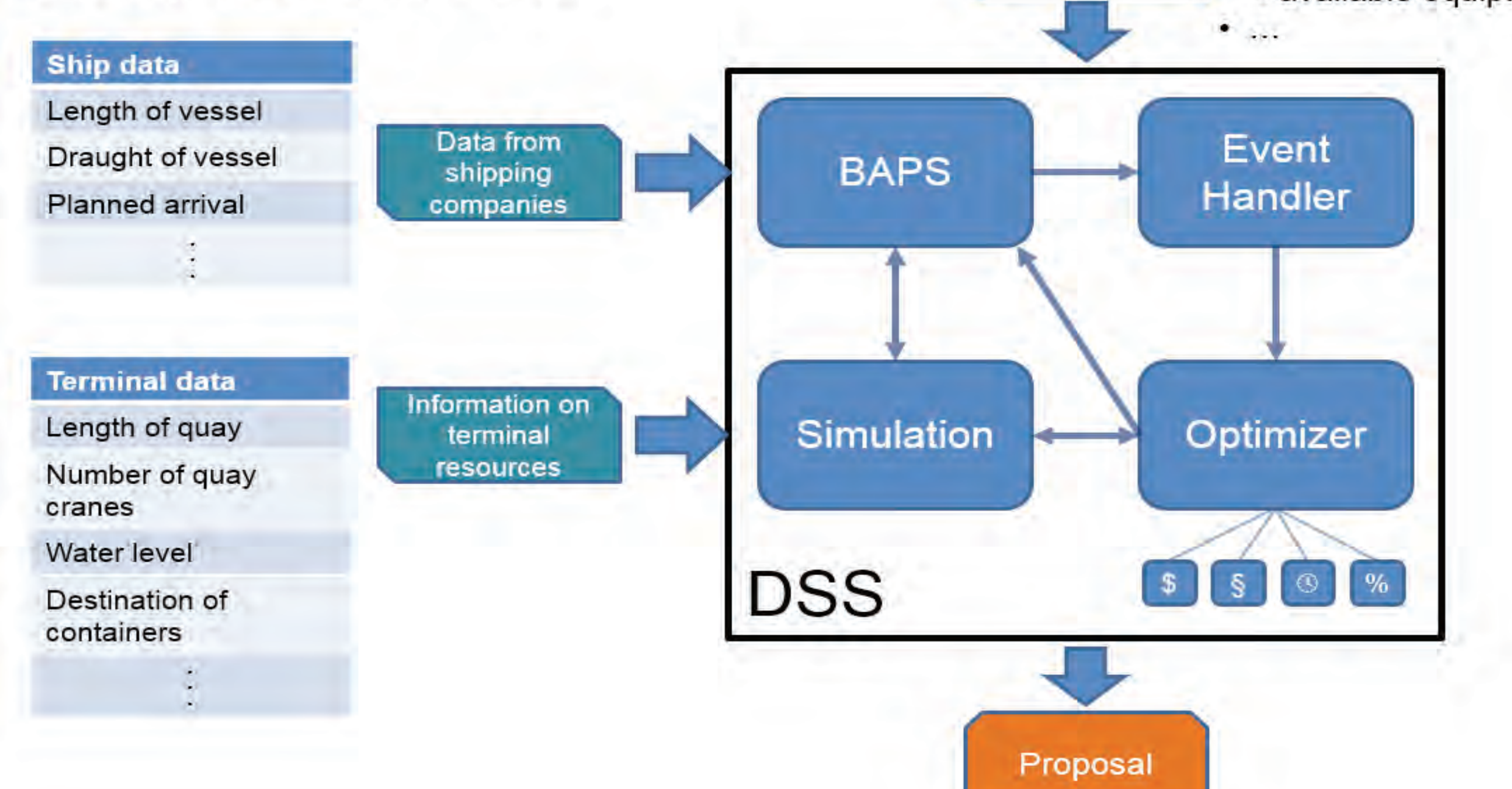
### Berth Error Schedules



### Impact on Processes



### Concept of a framework



### Example of Chosen Solution based on KPI Extra Costs

Key Performance Indicators (KPIs):

- \$ extra costs
- ⌚ fulfilment of contractual deadlines
- ⌚ total time to process the combination of actions
- % reduction of the impact in percent

Real-time event	Actions	KPIs			
		\$	⌚	⌚	%
Vessel arrives late and interferes with another vessel	Load both vessel at planned berth and load other vessel after delayed vessel is loaded	150	4/6	3	0
	Load delayed vessel after other vessel was loaded at planned berth	120	5/6	4	10
Load delayed vessel at different berth and load other vessel as planned	Load delayed vessel at different berth and load other vessel as planned	100	5/6	6	10
	Load other vessel to different berth and load delayed vessel at planned berth	200	4/6	8	13

### Resulting Schedule

