



COREALIS Valencia Demo/Training Webinar

## JIT Rail Shuttle Service

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## Overview

**Objective:** Elaborate a feasibility Study of an innovative JIT rail shuttle for key port-hinterland corridors (Specific study for one corridor) to **increase the modal split** of the railway for inland transport

### Outputs and KPI's

- ❖ Solution Design & Service Characteristics
- ❖ Process reengineering & IT functional requirements
- ❖ Business Models and Market Analysis

#### Service KPI's

(e.g. Number of Daily Trains, Total TEUs/Tons transported, etc.)

#### Operational KPI's

(e.g. Modal split, Dwell Time in the terminal, etc.)





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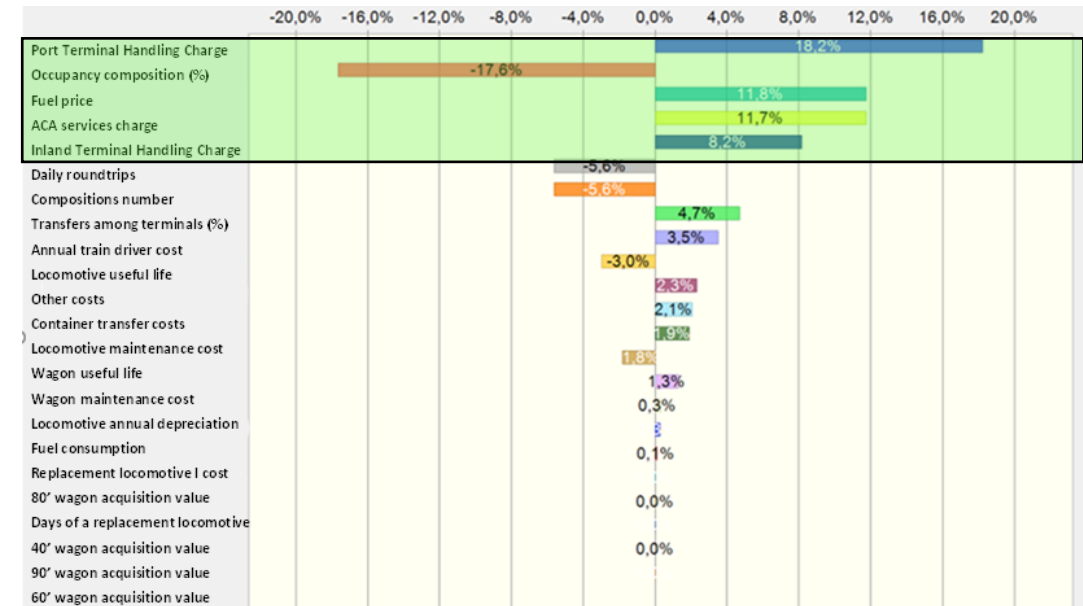


## Main results:

### Costs results

COST		SCENARIO 1	SCENARIO 2	SCENARIO 3	SCENARIO 4	SCENARIO 5	SCENARIO 6	SCENARIO 7
RAILWAY CHARGES	Access to the railway infrastructure annual charge	0	0	0	0	0	0	0
	Railway capacity reservation annual charge	13,365.04	20,047.56	20,047.56	13,365.04	20,047.56	13,365.04	13,365.04
	Rail traffic annual charge	19,050.72	28,576.08	28,576.08	19,050.72	28,576.08	19,050.72	19,050.72
FIXED COSTS	Locomotive annual depreciation	144,115	144,115	144,115	144,115	163,590	163,590	163,590
	Replacement locomotive annual cost	40,000	40,000	40,000	40,000	40,000	40,000	40,000
	Composition acquisition value	70,848	106,272	106,272	70,848	119,556	79,704	66,420
	Train driver annual cost	320,000	480,000	480,000	320,000	480,000	320,000	320,000
VARIABLE COSTS	Fuel consumption annual cost	564,525.26	846,787.89	846,787.89	564,525.26	846,787.89	564,525.26	564,525.26
	Locomotive maintenance annual cost	239,980.00	359,970.00	359,970.00	239,980.00	359,970.00	239,980.00	239,980.00
	Wagon maintenance annual cost	147,680.00	221,520.00	221,520.00	147,680.00	249,210.00	166,140.00	138,450.00
TERMINAL COSTS	Terminal handling annual charge at port terminals	698,880	1,048,320	1,048,320	698,880	1,179,360	786,240	546,000
	Handling annual charge at inland terminals	448,282	672,422	672,422	448,282	756,475	504,317	350,220
	Annual ACA services	208,000	312,000	312,000	208,000	312,000	208,000	208,000
	Container transfer annual costs	0	0	599,040	399,360	0	0	0
Other annual costs	437,209	642,005	642,005	437,209	683,336	465,737	400,440	
TOTAL	TOTAL COSTS (Euros)	3,351,934.46	4,922,035.57	5,521,075.57	3,751,294.46	5,238,908.64	3,570,648.59	3,070,041.17
	COST PER UNIT OF TEU TRANSPORTED (Euros/TEU)	100.72	98.60	110.60	112.72	93.29	95.37	98.40

### Sensitivity Analysis

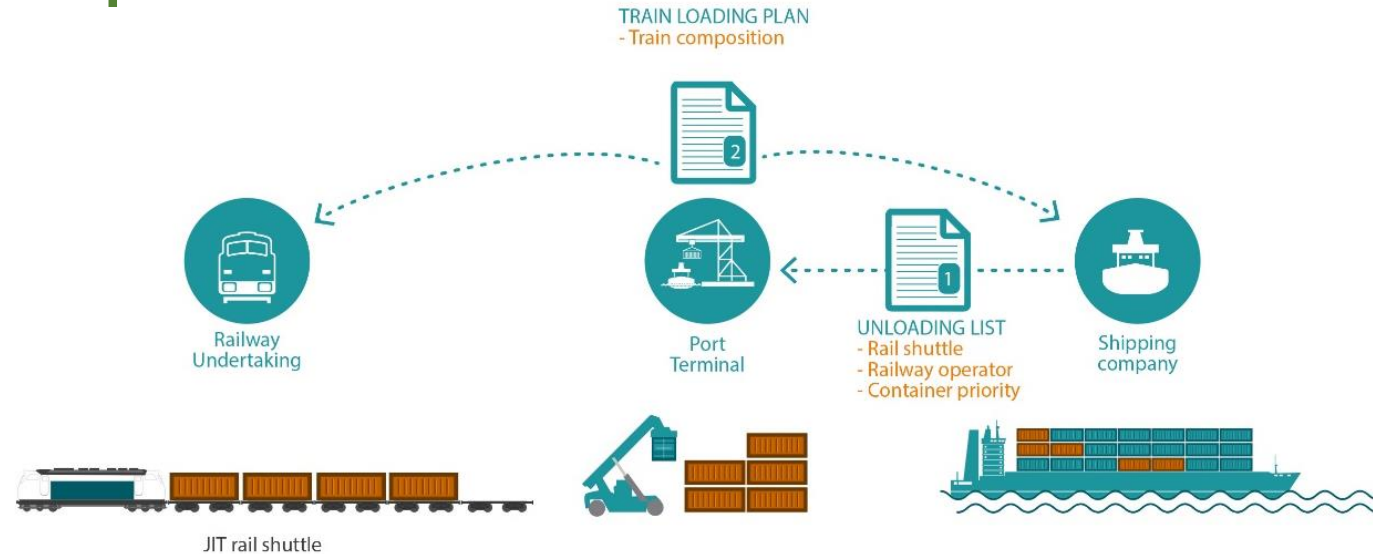




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## New information requirements



Port terminals assume a **new role** in the loading/unloading → Containers that will be transported by train

Shipping Agencies indicate in the Discharge Lists (via PCS) which containers should be loaded into the shuttle service

PCS transmits the discharge list to the port terminal operating systems (TOS) → Generate Shuttle Loading Lists

Train Loading Plan via PCS to the Railway Company → Freight List

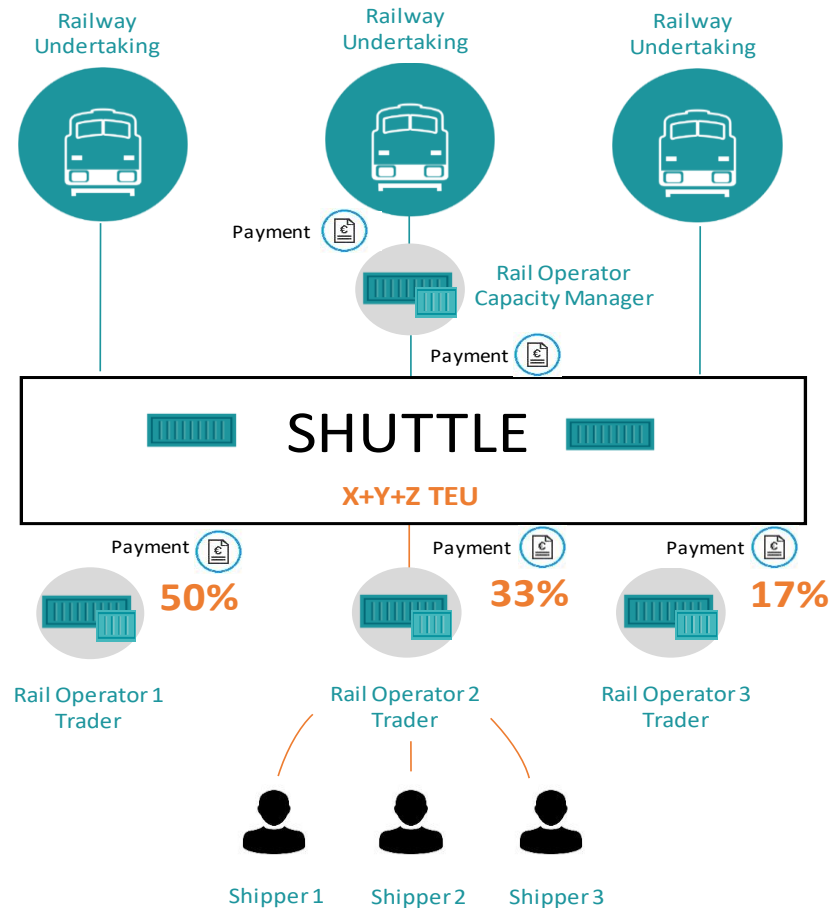




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## Business Model



2. Railway companies add capacity under a “call for capacity” issued by the SHUTTLE entity. Once selected, railway companies are paid for the services that will carry out during an established period of time.

1. **SHUTTLE** entity is a private/public or PPP company that issues tender contracts called “calls for capacity” to select railway companies that wants to add capacity at lowest prices while maintaining an established quality of service.

3. After a railway company is selected, SHUTTLE entity issues a bidding process to sell the available slots among the interested rail operators/freight forwarders.

4. Rail operators/freight forwarders make their bids to be able to trade a certain percentage (%) of the available slots in the shuttle.

5. SHUTTLE entity studies the offers and choose the best bids (those that guarantee a lowest €/TEU for the shippers)

A financial compensation system is managed by the SHUTTLE entity so that rail operators can use more/less capacity than the one assigned in the bidding process.



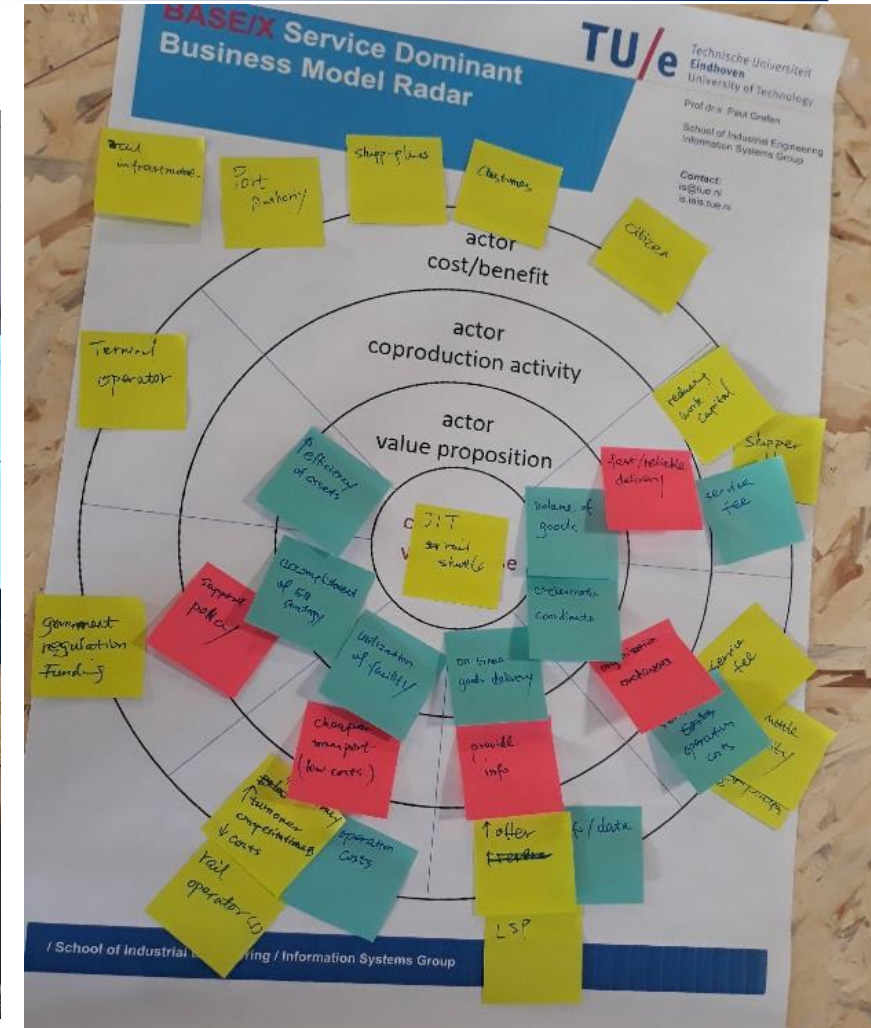
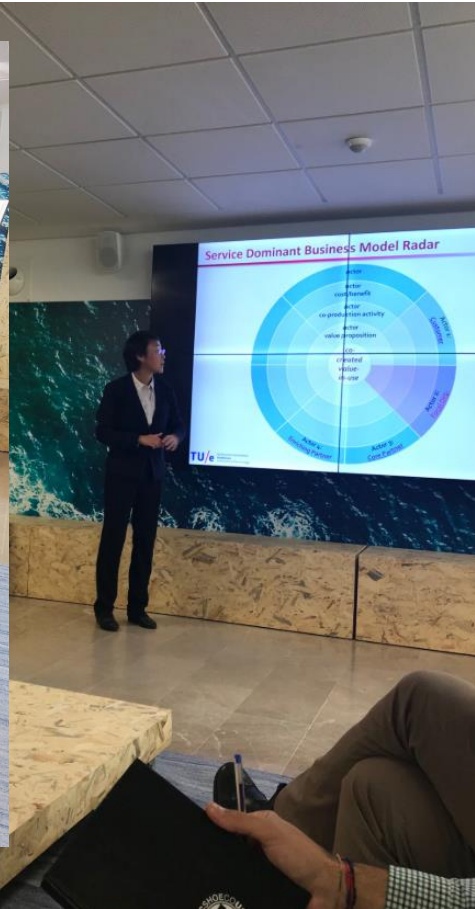




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## SDBM-R Workshop

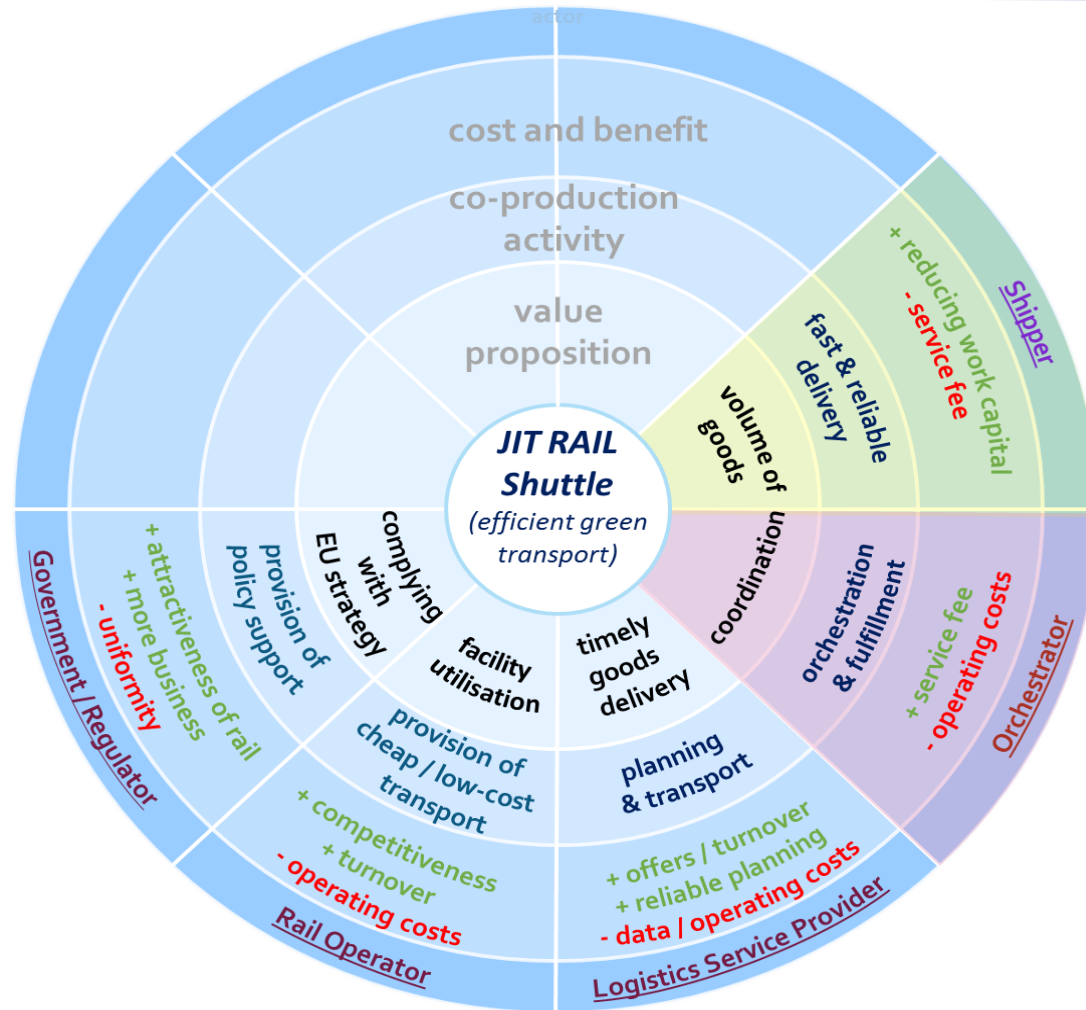




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## SDBM-D Results





-  [www.corealis.eu](http://www.corealis.eu)
-  [corealis\\_eu](https://twitter.com/corealis_eu)
-  [COREALIS EU Project](https://www.youtube.com/COREALIS_EU_Project)
-  [Corealis\\_eu](https://www.linkedin.com/company/corealis_eu)
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# THANK YOU FOR YOUR ATTENTION



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