This project has received funding from the Shift2Rail Joint Undertaking under the European Union's Horizon 2020 research and innovation programme under grant agreement no. 777594 (OptiYard)

COOPERATION MEETING

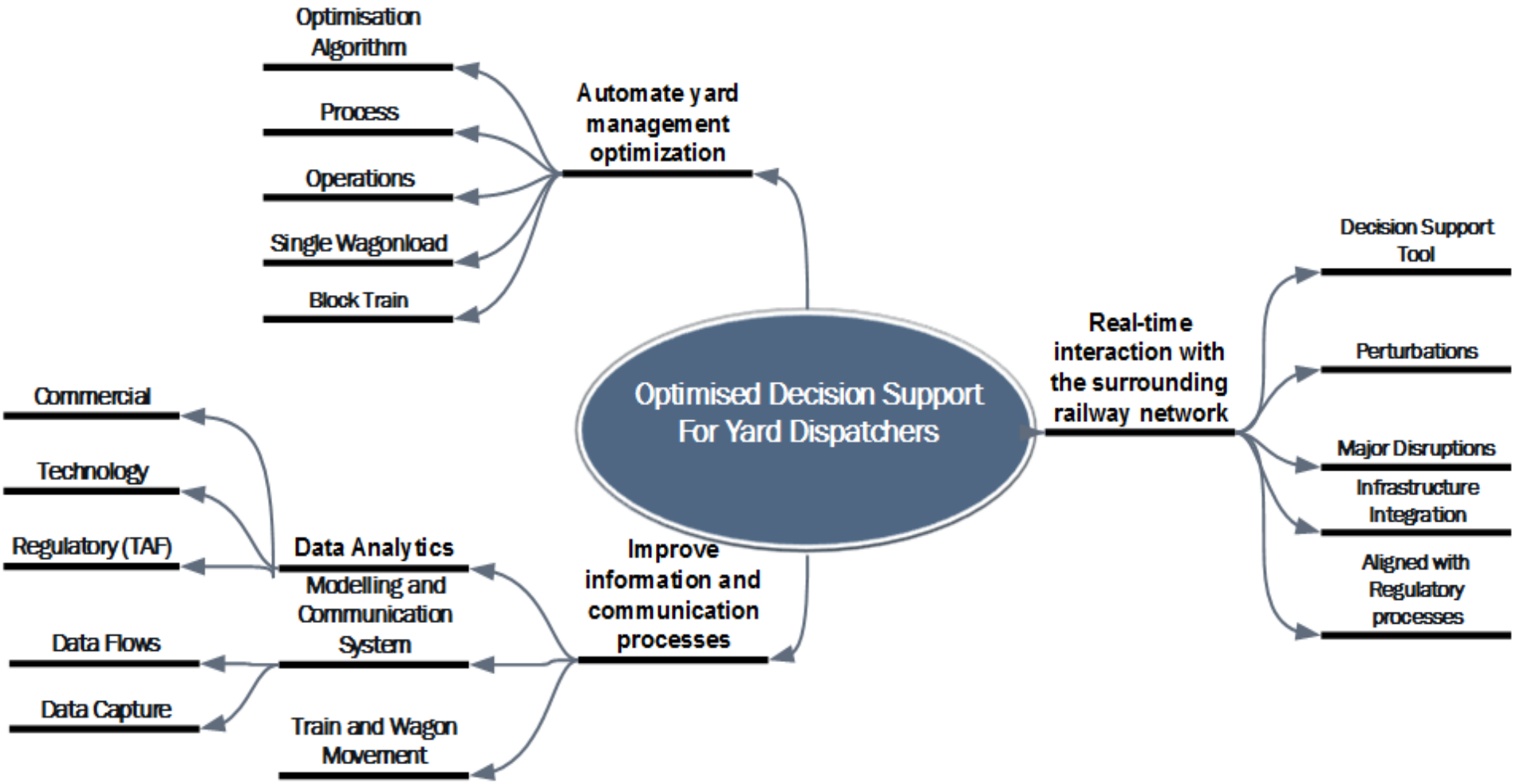
15-09-2017

San Sebastian

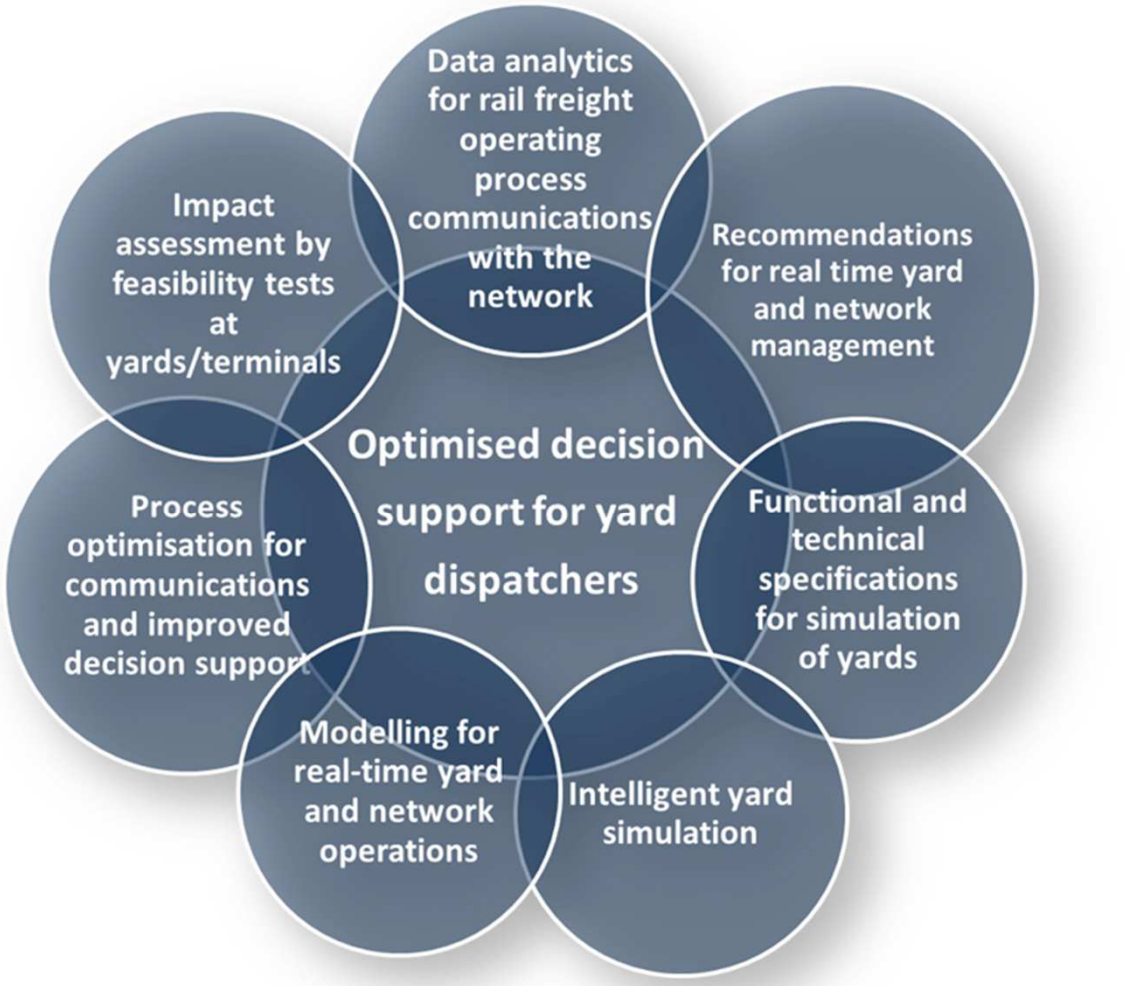
John LUTZ – UIC
OptiYard Co-ordinator

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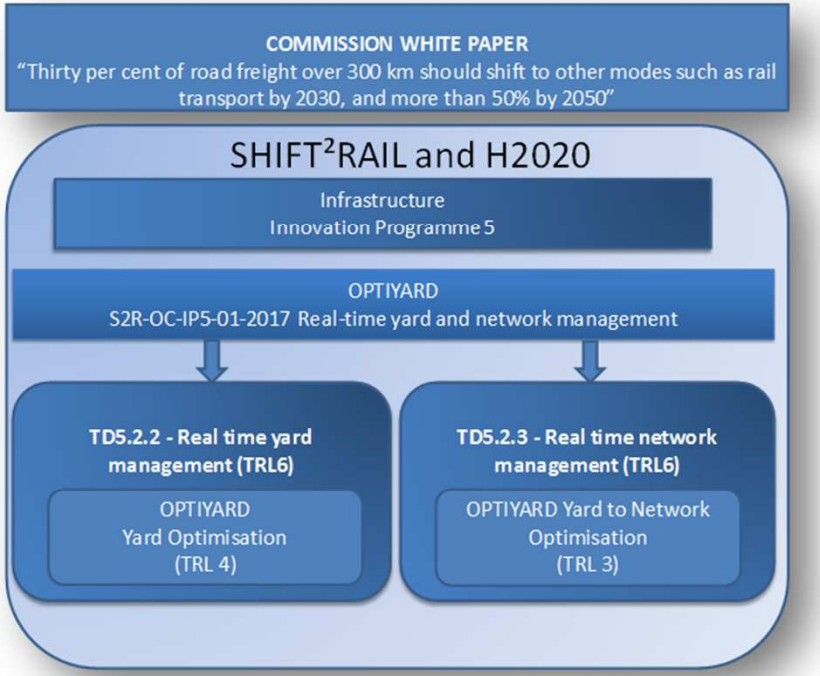
OPTIYARD OBJECTIVES

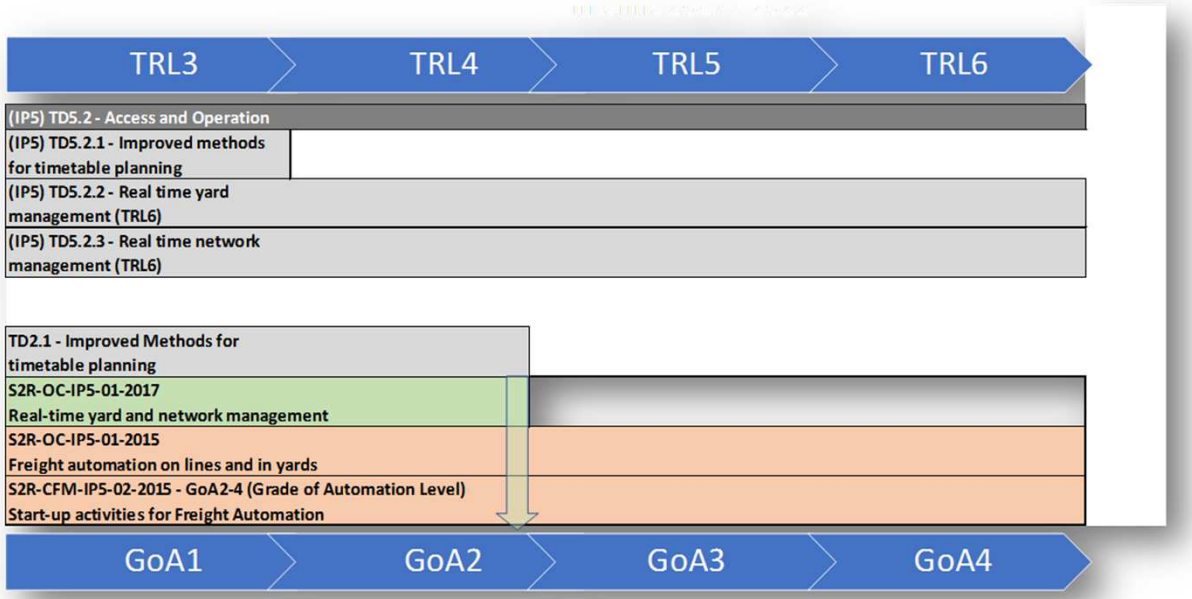


MEETING THE OBJECTIVES

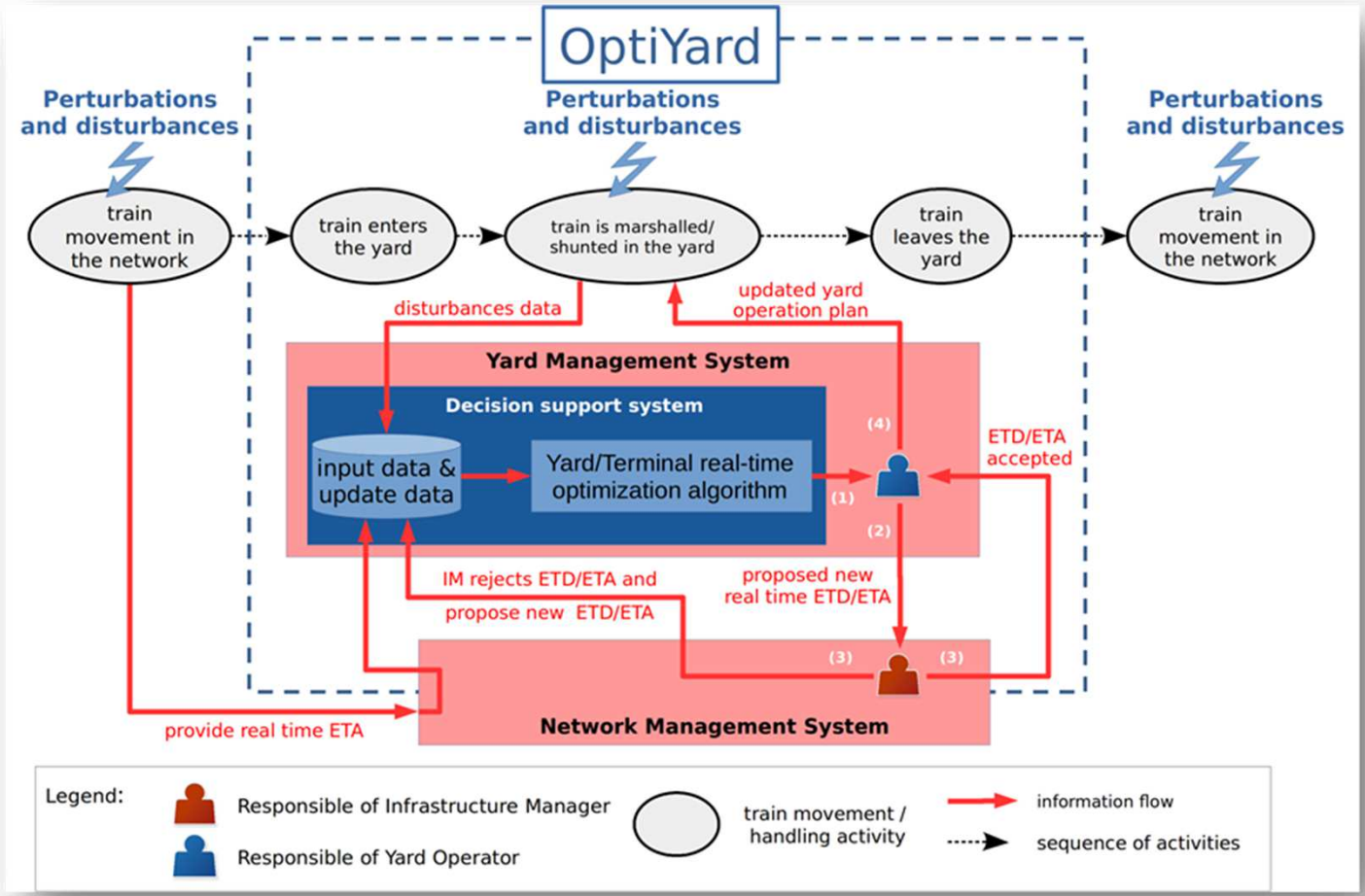


POSITIONING OF THE PROJECT

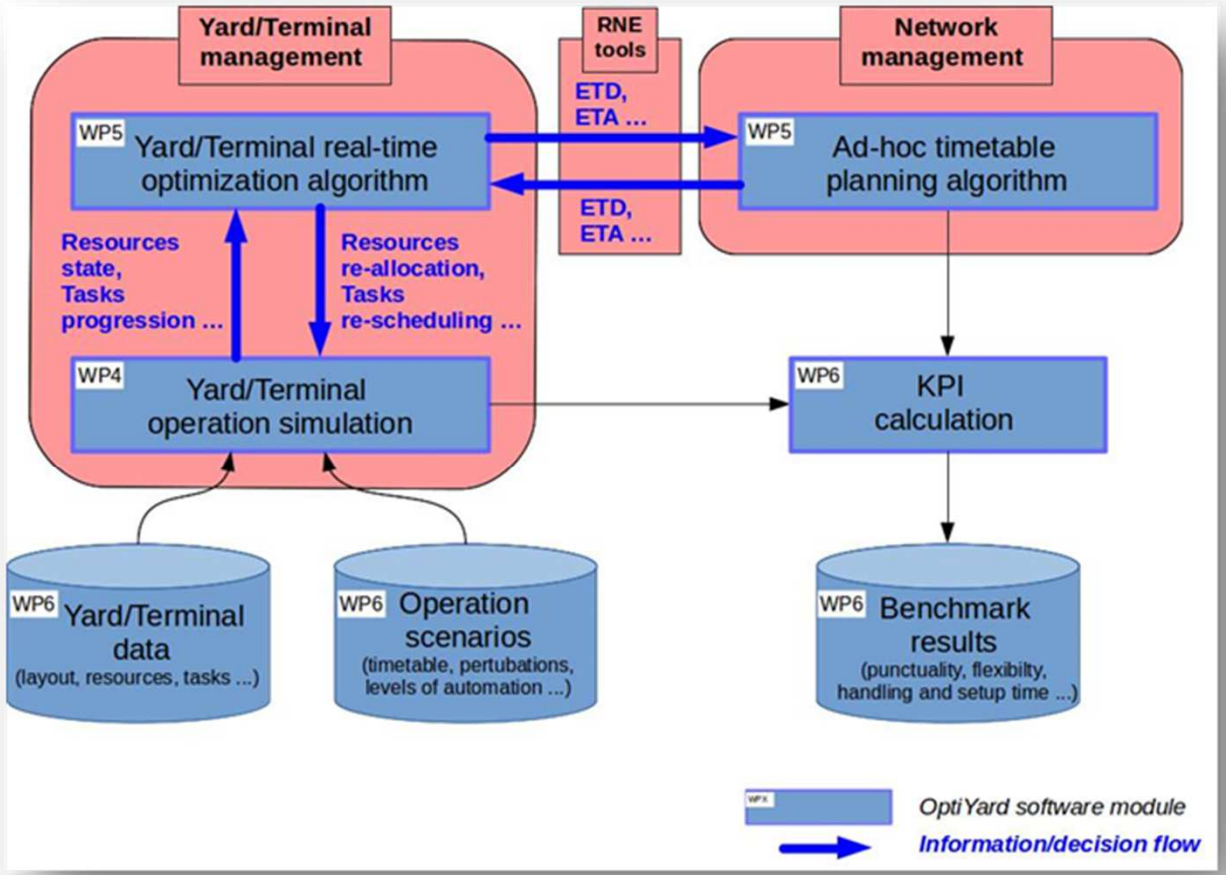




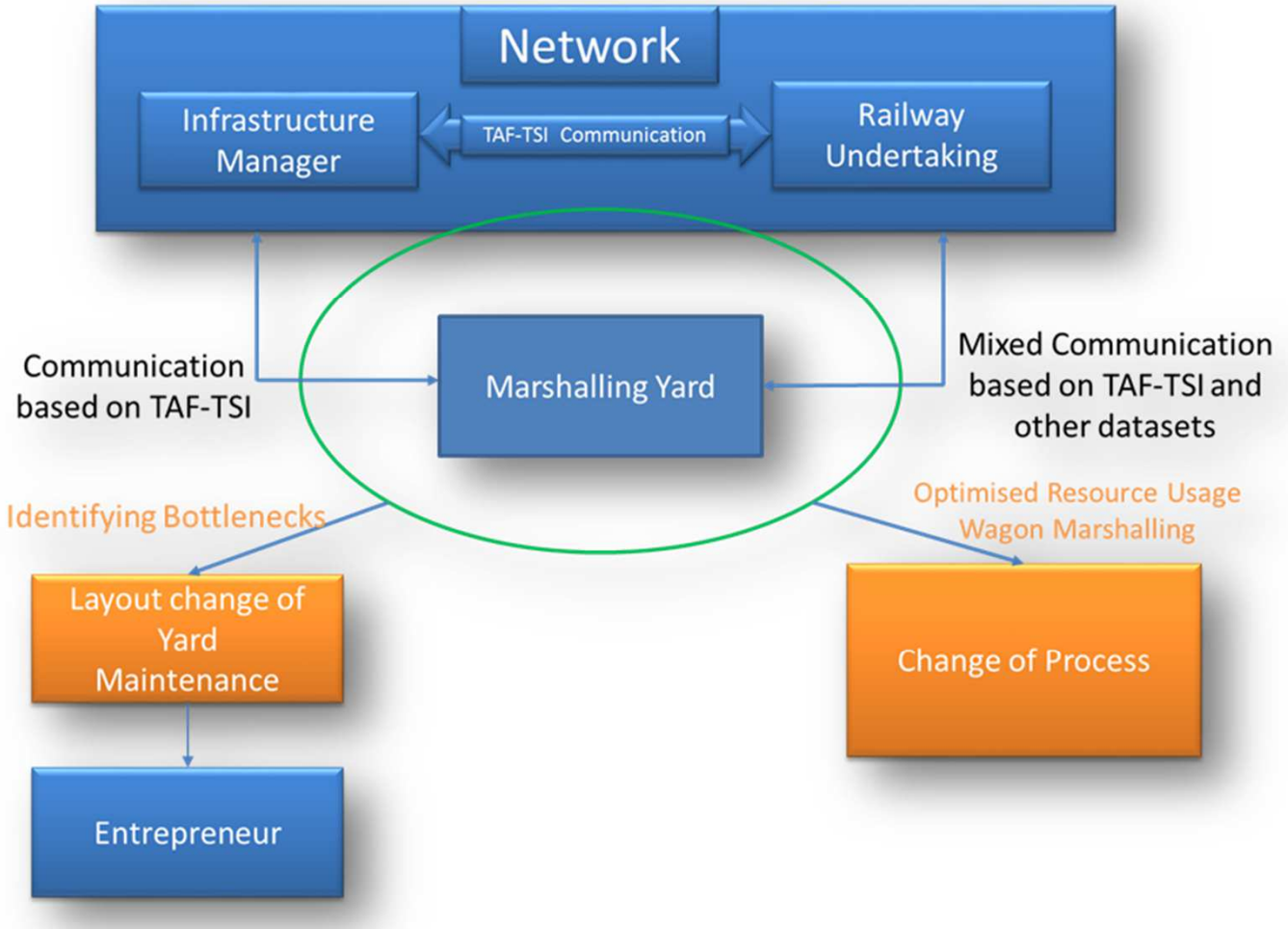
AMBITION FOR DECISION SUPPORT



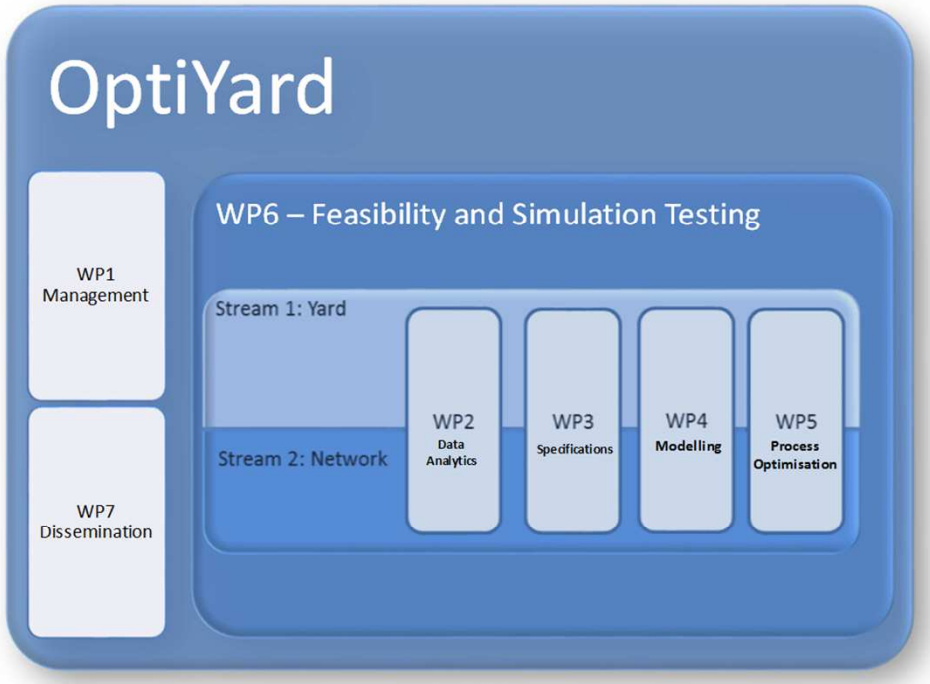
OPTIYARD ARCHITECTURE

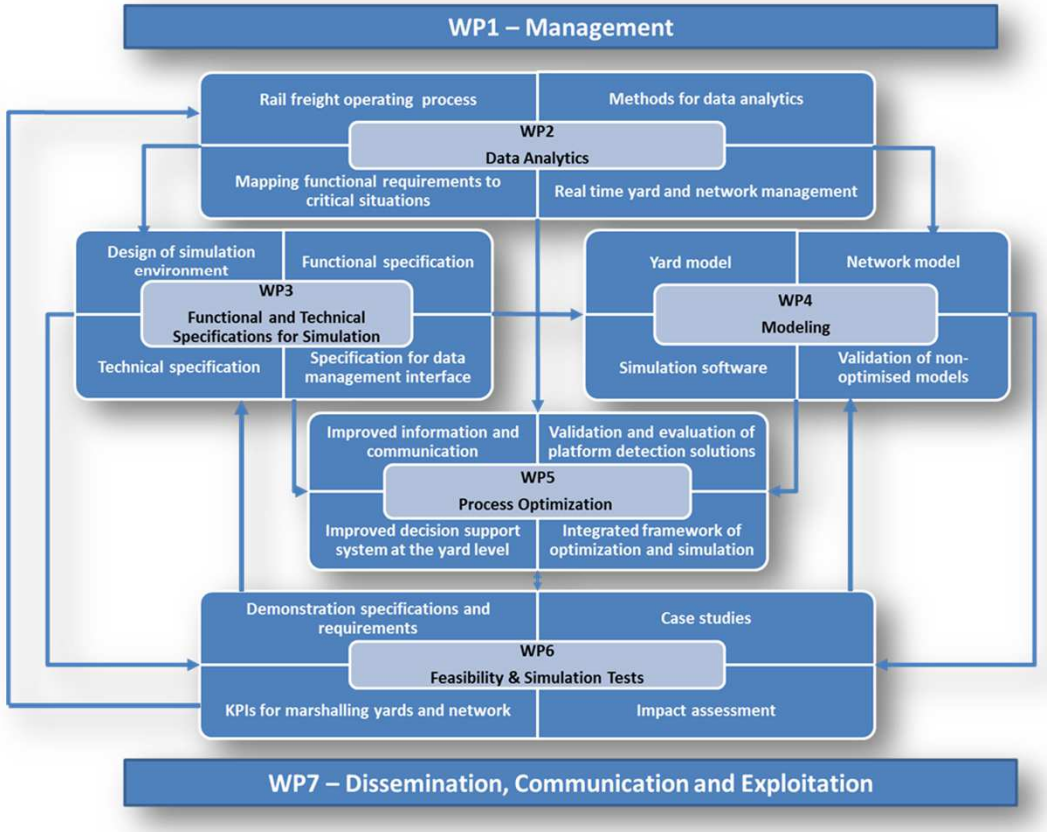


RELATIONSHIP TO THE NETWORK



OPTIYARD STRUCTURE





CASE STUDIES

- **Ceska Trebova (CZ)**
  - marshalling capacity of up to 1,200 wagons in 24 hours
  - operated by the partner CD Cargo
  - throughput is around 700 wagons in 24 hours, some 18% of which are intermodal wagons
  - 38 sorting tracks (with the length of up to 1 000 meters), divided into 5 clusters
  - designed with 38 sorting tracks (with the length of up to 1 000 meters), divided into 5 clusters

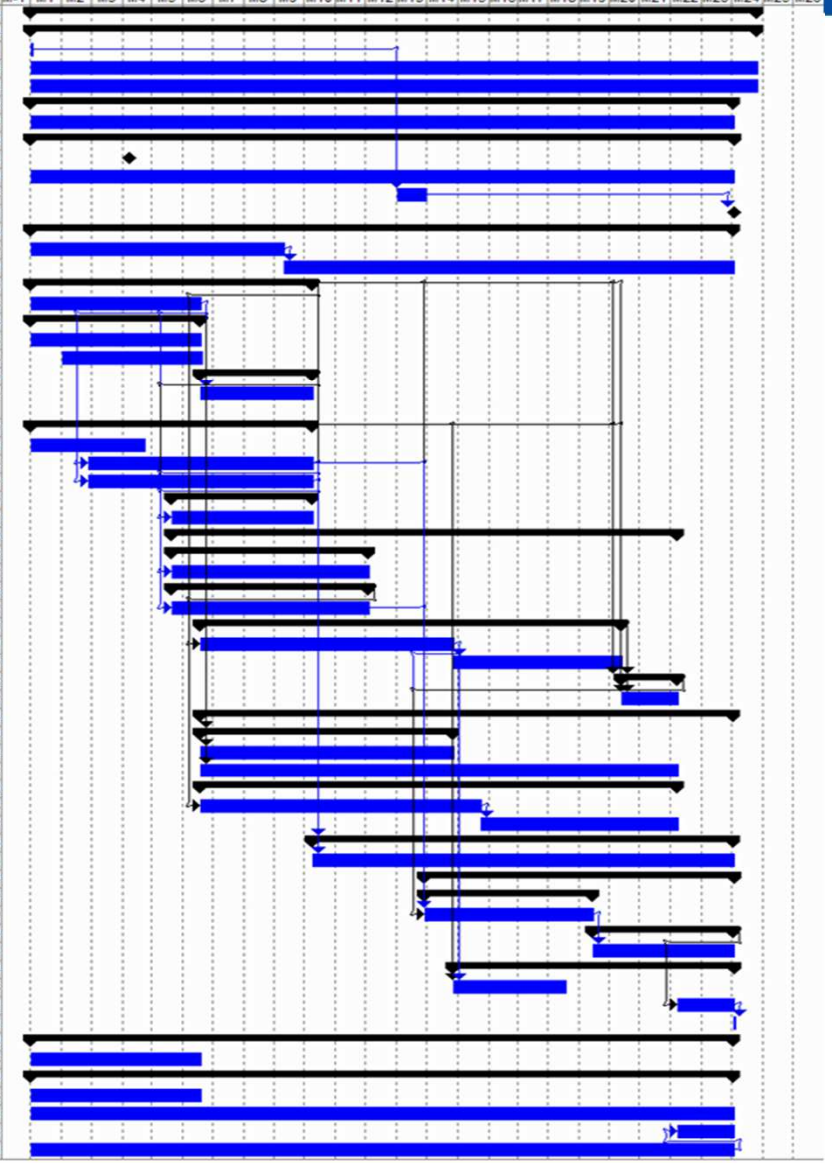
- **Trieste (IT)**
  - handles around 8,000 trains of which around 25% are conventional in a horizontal marshalling system
  - two main sites at Campo Marzio and Servola to serve conventional terminals and combined terminals
  - The communication system with RFI is also being upgraded to monitor the trains two hours before their arrival in the yards
  - This complex case in term of layout, of variety of traffics, of tight space conditions and with a rapidly growing activity due to their strategic position offers interesting possibilities of optimizing a medium-sized marshalling yard

PARTNERS

No	Participant organisation name	Country
1	Union Internationale des Chemins de fer (UIC) - Coordinator	France
2	Università degli studi di Roma la Sapienza (DICEA)	Italy
3	Institut français des sciences et technologies des transports, de l'aménagement et des réseaux (IFSTTAR)	France
4	Union Internationale pour le transport combiné Rail-Route (UIRR)	Belgium
5	University of Newcastle Upon Tyne (UNEW)	United-Kingdom
6	University of Leeds (LEEDS)	United-Kingdom
7	CD cargo a.s. (CD Cargo)	Czech Republic
8	EURNEX e. V. (EURNEX)	Germany
9	Oltis Group (OG)	Czech Republic
10	NEW OPERA AISBL (NEW OPERA)	Belgium
11	Simcon (SIMCON)	Slovakia
12	Technische Universitaet Dresden (TUD)	Germany
13	Adriafer srl. (ADRIAFER)	Italy

OPTIYARD TIMING

ID	WBS	Task Name	Month	Month End
1	1	**Management**	**M1**	**M24**
2	1.1	**Project Management and Coordination**	**M1**	**M24**
3	1.1.1	Project Kick-off Meeting	M1	M1
4	1.1.2	Ongoing Consortium Management	M1	M24
5	1.1.3	Ongoing Coordination with S²R Projects	M1	M24
6	1.2	**Administrativee and Financial Management**	**M1**	**M24**
7	1.2.1	On-going Adminstrative and Financial Management	M1	M24
8	1.3	**Quality Management**	**M1**	**M24**
9	1.3.1	Project Management and Quality Assurance Plan	M1	M4
10	1.3.2	Continuous Quality Management	M1	M24
11	1.3.3	Mid-term Deliverable Review	M13	M13
12	1.3.4	Final Deliverable Review	M13	M24
13	1.4	**Data and Intellectual Property Rights management**	**M1**	**M24**
14	1.4.1	Intellectual Property Rights Agreement	M1	M9
15	1.4.2	Continuous IPR Management	M9	M24
16	2	**Data Analytics**	**M1**	**M10**
17	2.1	RAIL FREIGHT OPERATING PROCESS, TARGETED INFORMATION AND DATA	M1	M6
18	2.2	**Suitable methods for data analytics**	**M1**	**M6**
19	2.2.1	Definition and selection of suitablemethods for real-time data analytics	M1	M6
20	2.3	MAPPING OUT FUNCTIONAL REQUIREMENTS OF METHODS AGAINST CRITICAL SITUATIONS	M2	M6
21	2.4	**Recommendations FOR REAL TIME YARD AND NETWORK MANAGEMENT**	**M6**	**M10**
22	2.4.1	Recommendations for improved traffic management, improved information and communication channels across parties involved	M6	M10
23	3	**Specification of the OptiYard Simulation Environment**	**M1**	**M10**
24	3.1	REQUIREMENTS FOR GENERAL APPLICABILITY OF THE SIMULATION ENVIRONMENT	M1	M4
25	3.2	FUNCTIONAL SPECIFICATION	M2	M10
26	3.3	TECHNICAL SPECIFICATION	M2	M10
27	3.4	**SPECIFICATION FOR DATA MANAGEMENT INTERFACE**	**M5**	**M10**
28	3.4.1	Functional and technical specifications for the simulation environment	M5	M10
29	4	**Modeling**	**M5**	**M22**
30	4.1	**Yard Model**	**M5**	**M12**
31	4.1.1	Yard Simulation Model	M5	M12
32	4.2	**Network**	**M5**	**M12**
33	4.2.1	Network Simulation Model	M5	M12
34	4.3	Simulation Software	**M6**	**M20**
35	4.3.1	Yard Simulation software for WP6	M6	M14
36	4.3.2	Yard simulation software	M14	M20
37	4.4	**Validation of non-optimised models and simulator**	**M20**	**M22**
38	4.4.1	Validated Models and Simulator	M20	M22
39	5	**Process Optimisation**	**M6**	**M24**
40	5.1	**IMPROVED INFORMATION AND COMMUNICATION**	**M6**	**M14**
41	5.1.1	Optimisation of information and communications methods	M6	M14
42	5.2	Improved decision support system at the yard level	M6	M22
43	5.3	**Improved decision support system at the network level**	**M6**	**M22**
44	5.3.1	Review of State of the art on yard and network traffic management optimisation algorithms	M6	M15
45	5.3.2	Improved decision supoort systems at network level	M15	M22
46	5.4	**Definition of the integrated framework of optimization and simulation**	**M10**	**M24**
47	5.4.1	Description of the optimization algorithms and of the integration framework	M10	M24
48	6	**DemonstatorsBusiness Cases - Feasibility & Simulation Tests**	**M13**	**M24**
49	6.1	**Demonstration specifications and requirements**	**M13**	**M19**
50	6.1.1	Business Case Specifications and Plans	M13	M19
51	6.2	**Business Case Studies**	**M19**	**M24**
52	6.2.1	Business Case Feasibility and Simulation Test	M19	M24
53	6.3	**Impact Assessment**	**M14**	**M24**
54	6.3.1	KPIs for marshalling yards and network & KPI performance model	M14	M18
55	6.3.2	Cost benefit assessment	M22	M24
56	6.3.3	Socio-economic impact assessment of innovative real-time yard and network management	M24	M24
57	7	**Dissemination, Communication and Exploitation**	**M1**	**M24**
58	7.1	Data Management Plan (DPM)	M1	M6
59	7.2	**Dissemination, Communication and Exploitation Plan and tools aligned with Shift²Rail**	**M1**	**M24**
60	7.2.1	dissemination and exploitation plan	M1	M6
61	7.2.2	On-going Dissemination and Exploitation Plan evolution	M1	M24
62	7.2.3	Report on Dissemination, Communication and Exploitation activities	M22	M24
63	7.3	Industrial dissemination activities	M1	M24



QUESTIONS

Thank you for your kind attention!

John LUTZ

UIC

OptiYard Co-ordinator

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