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)

WP4 - MODELLING

Dual Modelling of the yard and network environments

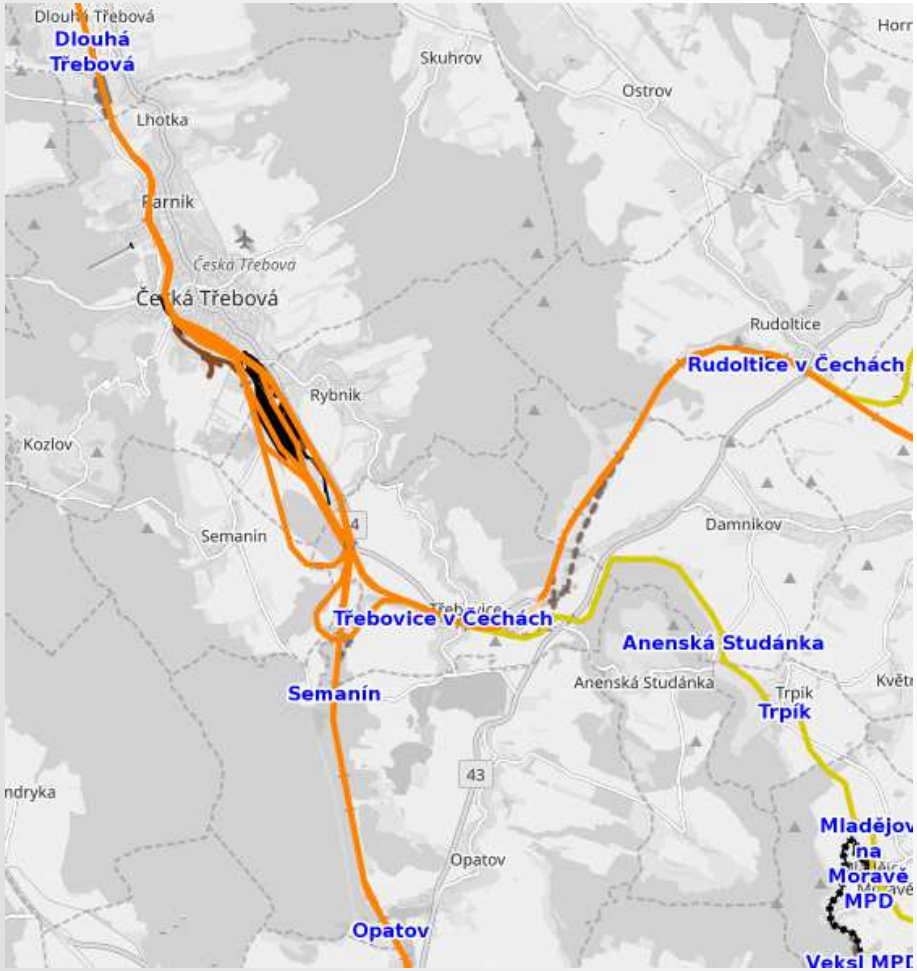
Mid-term Conference, October, 5th 2018

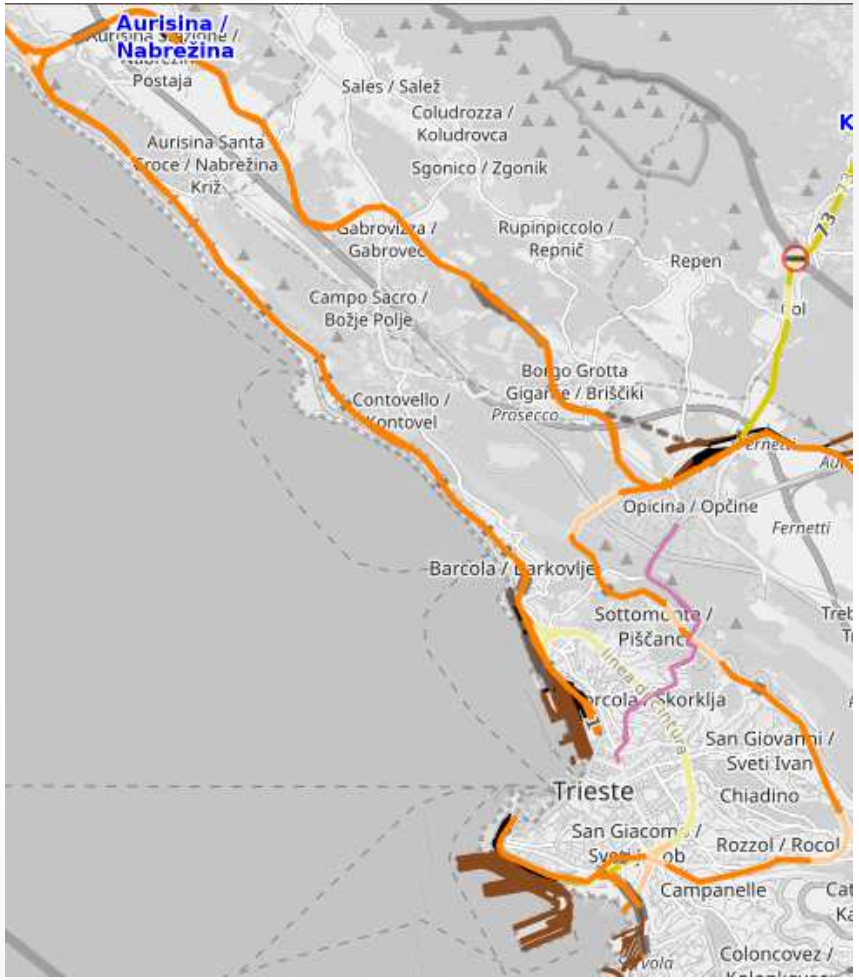
OBJECTIVES / DELIVERABLES

- **D4.1 Yard and network simulation model (M12), Lead: DICEA**
- Model to be used in WP5 and WP6
- **D4.2 Yard simulation software for WP6 (M14), Lead: SIMCON**
- Non-optimised software for virtual yard operations.
- **D4.3 Validated models and simulator (M22), Lead: SIMCON**
- Validation and final report of simulation software.

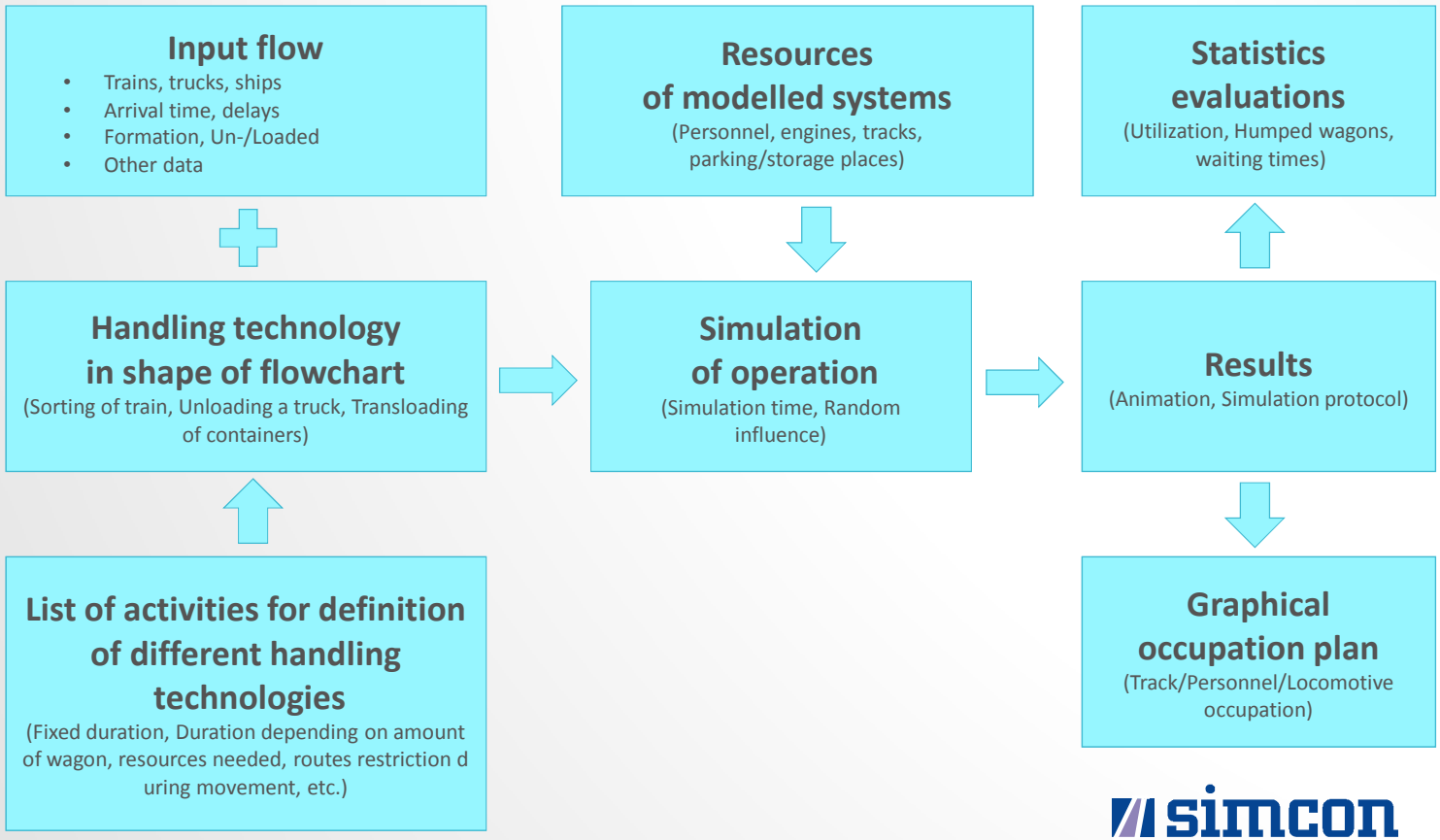
CASE STUDIES

SURROUNDING NETWORKS



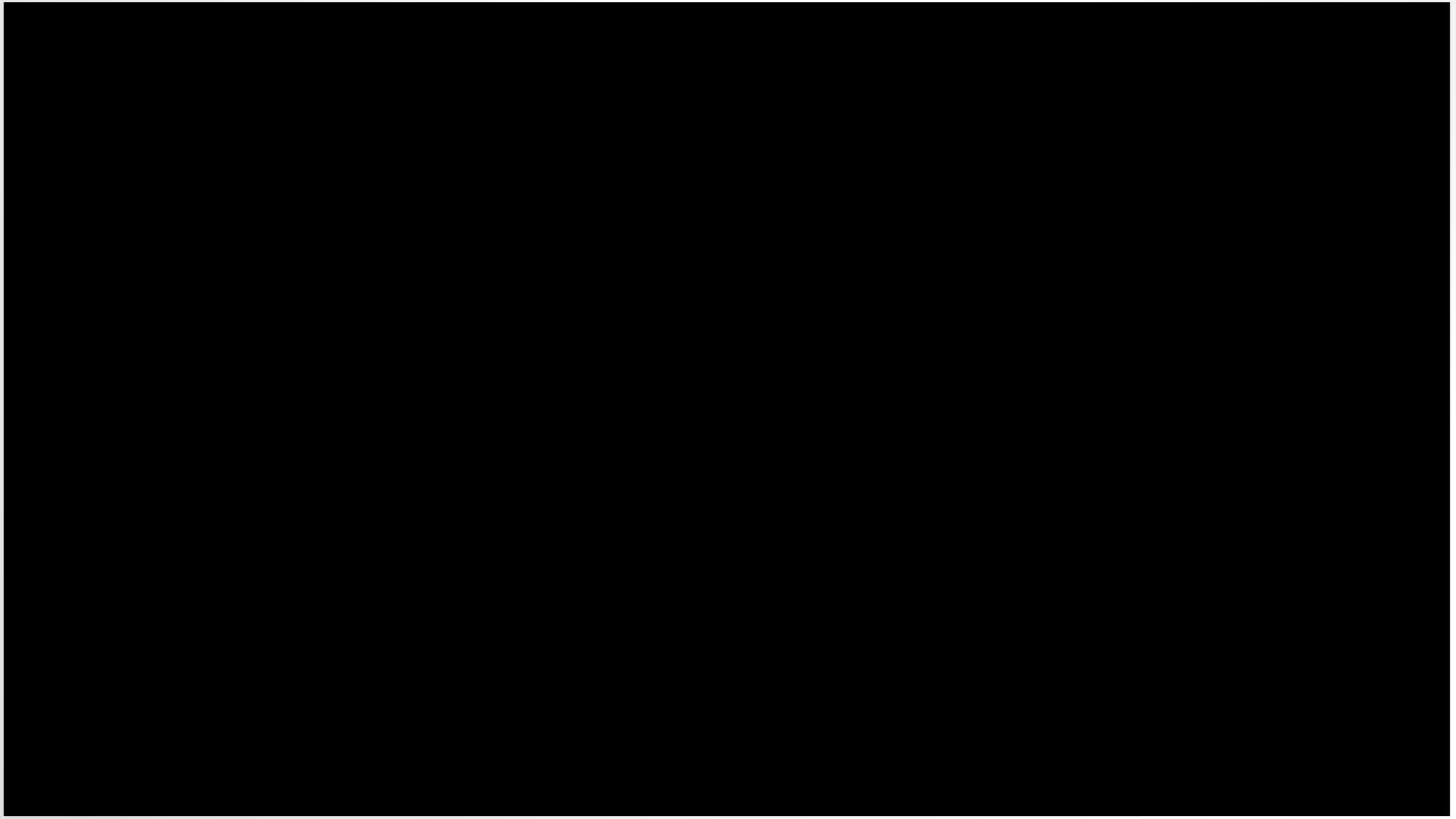


YARD MODELLING PRINCIPLES IN VILLON



simcon

ČESKÁ TŘEBOVÁ YARD SIMULATION



TRIESTE YARD SIMULATION

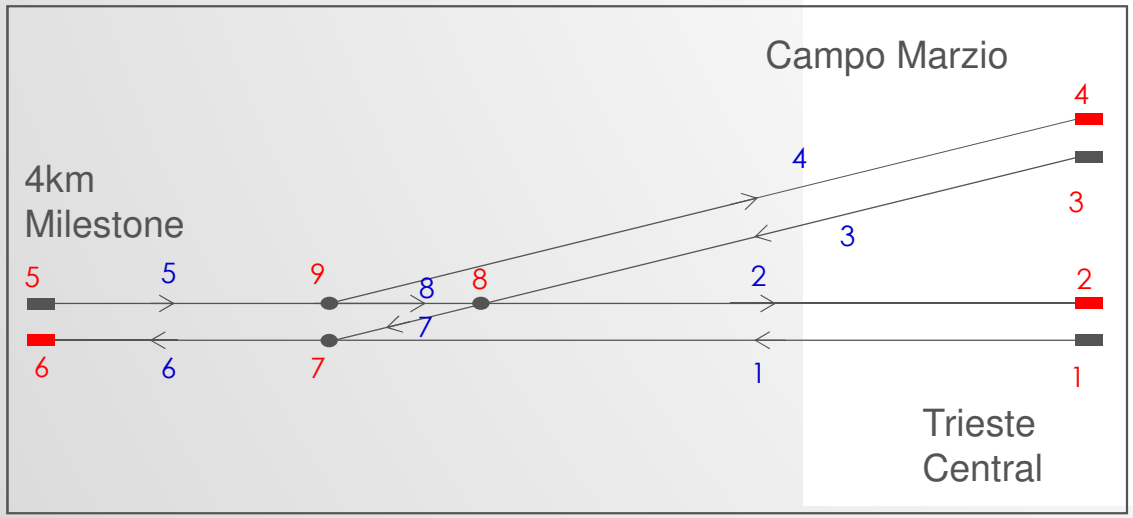
NETWORK MODELLING PRINCIPLES

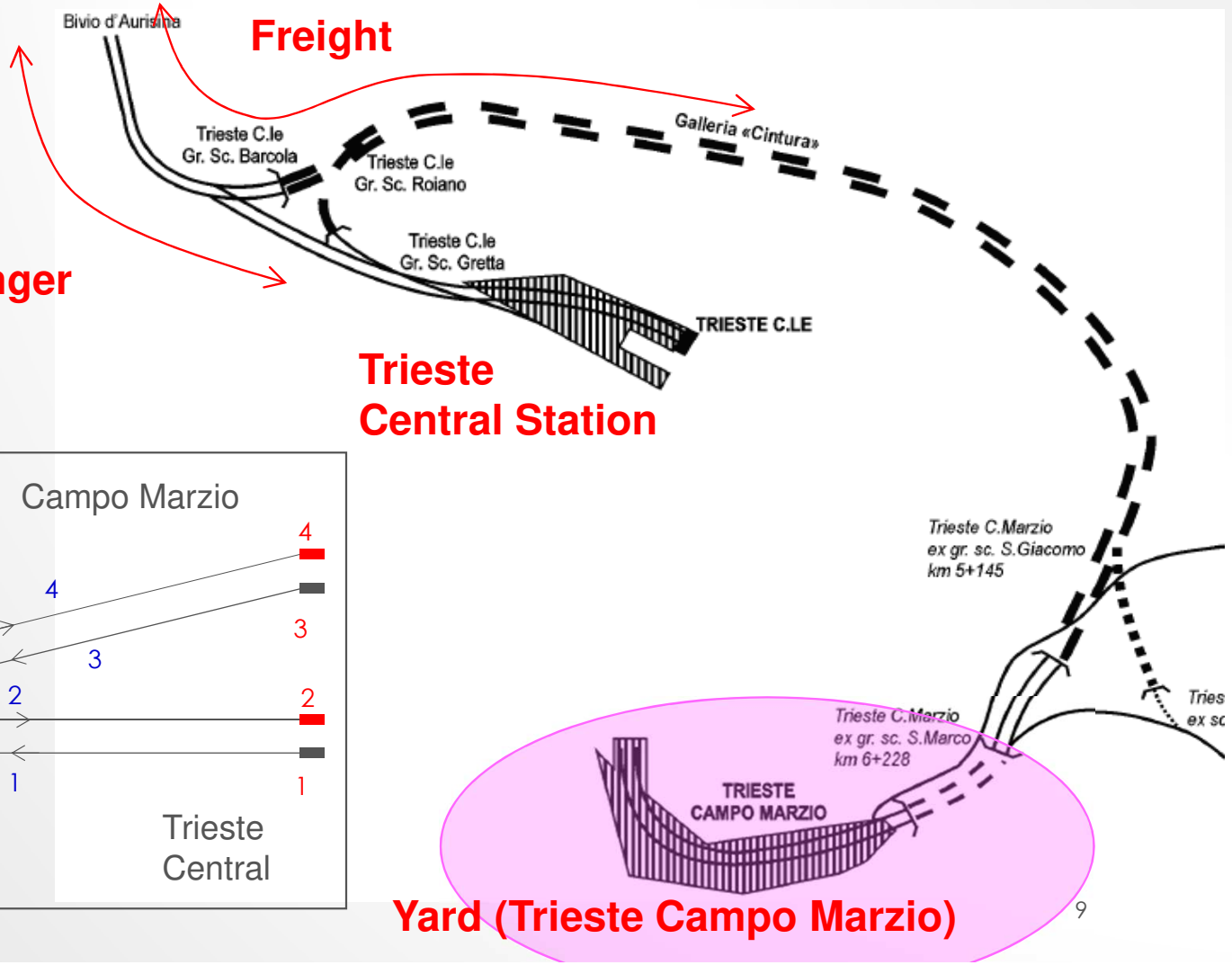
The network model delivers:

- **ETAs** at the home signal
- **available train paths for departure** from the yard,
- (at least conceptually) draw input from the **TIS** info points and **national IT system**

EXAMPLE ILLUSTRATION: NETWORK SIMULATION

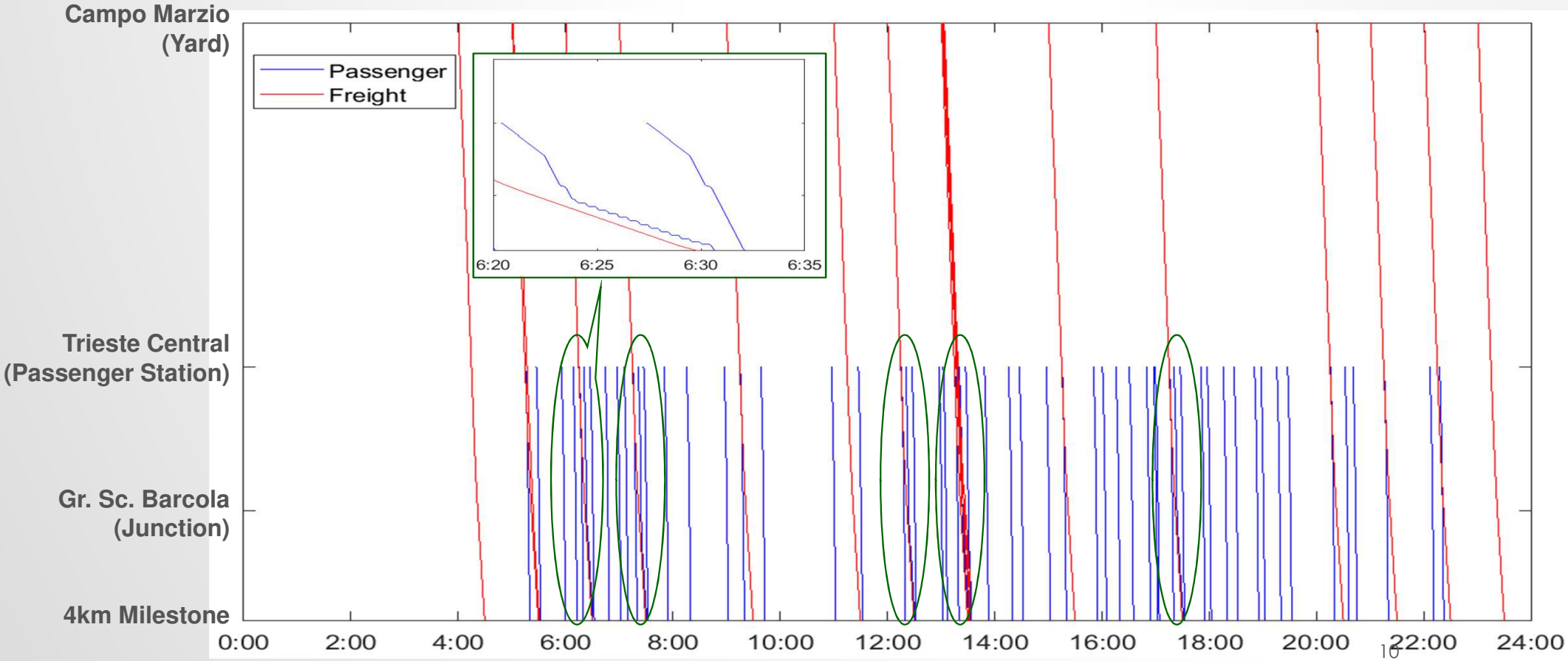
- Trieste, Italy



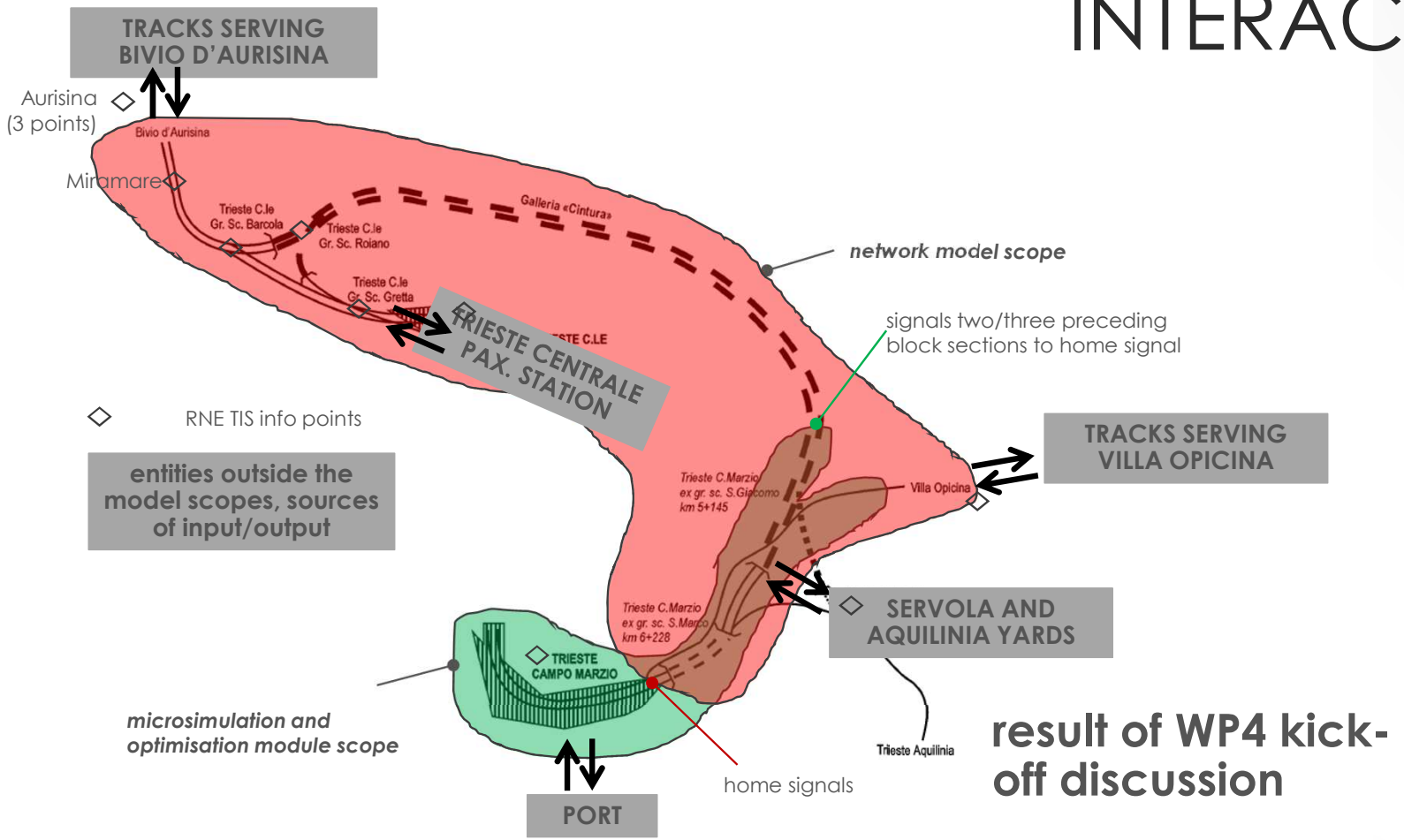


CAUSE OF DELAY

Trajectories for outbound trains



YARD-NETWORK INTERACTION



result of WP4 kick-off discussion

UPCOMING WORK

- validation of models
  - Ceska Trebova: yard on-going, network to be scheduled
  - Trieste: yard and network scheduled November
- collaboration with FR8HUB and connected S2R CFM projects
  - kick-off: Rome 13th June 2018
  - Working Group TRV, DICEA, IFSTTAR
  - topics:
    1) Yard-network communication/interaction
    2) Yard processes and optimisation
    3) Optimisation of network together with yard
    4) Use cases OptiYard and FR8HUB
  - workshop scheduled in Stockholm, 7th February 2019

QUESTIONS

Thank you for your attention!

Riccardo LICCIARDELLO, SAPIENZA University of Rome, DICEA