Rail traffic Explorer & Simulationbooster
LIFT - Spin-off of the University of Trieste

Studies
- Infrastructure Planning
- Timetables
- Punctuality & Robustness
- Temporary Timetables

Software Products
- TRENNOAnalysis
- TRENNOExport
References

in Italy

international
- Croatia
- Serbia & Montenegro
- France
- The Netherlands
- Norway
- Chile
- Argentina
- Perù
- Brasil
- Algeria
- Egypt
Railway Operations....
Railway Operations....
Railway Operations....

Real Train Behavior
Railway Operations....

Real Train Behavior
Railway Operations....

Real Train Behavior

Network Effects
Railway Operations....

Why not.... representing operations in an accurate way?

Real Train Behavior

Network Effects
Microsimulation
Microsimulation

OPEN TRACK

Flexible
Intuitive
Accurate
Reliable
Animation
Microsimulation

OPEN TRACK

Flexible
Intuitive
Animation

Why not....
taking full advantage of it?
at its best.....

Real behavior of trains (Delays)

Validated

Shunttings

Alternative itineraries

Nice outputs
at its best.....

Real behavior of trains (Delays)

Nice outputs
at its best.....

Real behavior of trains (Delays)

Why not.... doing it automatically?

Nice outputs
TRENO

.... a smart box...
Analysis

Delays on a map

Punctuality along a corridor

Distributions

Find the most delayed trains on the graphic timetable

Compare scenarios

Aggregated

Detailed

Delays on a map

Punctuality along a corridor

Distributions

Delay distribution of train(s) departing from CE

Number of trains

Minutes

Number of trains

Minutes

Number of trains

Minutes

Number of trains

Minutes

Number of trains

Minutes

Number of trains

Minutes

Number of trains

Minutes
timetable & courses

Departure: Atown

Shunting: Depot B to Station B

Departure: Bcity

Real Delays

itineraries

Alternative itineraries

turnaround
timetable & courses

in OT define the Infrastructure, Routes and Paths; the rest will be done by TRENNO

Alternative itineraries

timetable & courses
turnaround
TRENO

**Analysis**
- Real and simulated traffic data
- Wide range of diagrams
- Point out Critical sections
- Compare different scenarios

**Export**
Complete preparation of simulation scenarios:
- Reduce time
- Reduce error probability
- Improve precision
Export

Real Traffic

Timetable

Arr  Dep
Atown 18:29 18:47
Bcity 19:10 19:12
Cvill 19:43 19:44

Understanding Railways

TRENO

OPEN TRACK
Import Timetable and Real Traffic Data

Create the Station Layouts

Create the Shunttings

Merge trains in groups, Check delay distributions

Export & import
Import Timetable and Real Traffic Data

Create the Station Layouts

Create the Shunttings

Merge trains in groups, Check delay distributions

Export & import
Worflow

I. Analyse Real Traffic Data
II. Create the infra model
III. Station Layout
IV. Del. Distributions
V. Export & Import
VI. Simulation
VII. View the results
and if...(1)
different timetable

1. Import the timetable in TRENTO
2. Export & Import
3. Simulation
4. View the results
and if...(2)

different allocation of platforms

I. Edit the platform occupation
II. Export & Import
III. Simulation
IV. View the results
Drag & Drop | create shuntings | define turnaround
Did you test it?

in Italy

international
- Croatia
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Summarising....
Summarising... represent operations in an accurate way
Summarising

represent operations in an accurate way

take full advantage of OT
Summarising...

- Represent operations in an accurate way
- Take full advantage of OT
- Do things automatically
TRENO on:
- Validate simulation
- Multiple scenarios
- Large Networks
- Various trains
- Shunttings
- Various parts of a network
- Simulate again...
Thank you for your attention!

info@liftlab.it