RailSys 00 05 - 9-5
Developer

- GmbH (RMCon) Rail Management Consultants

- March 1999 founded company, are a rail transport management and a software development enterprise
RailSys

- The timetable and infrastructure management program

- A software system for analysis, planning and optimization of operational procedures and facilities
Applications

- Timetable construction
- Running time calculation
- Planning of capacities
- Infrastructure planning
- Validation of nationwide basic interval timetables
- Investigation of operational quality, punctuality and guaranteed connections
Database

- Exact microscopic display of all data sectors:
  - Infrastructure
  - Vehicles and train types
  - Timetable and operational data
  - Routing rules
RailSys Modules

Infrastructure Manager

Timetable Manager

Evaluation Manager

Simulation Manager
Infrastructure Manager

- All data may be entered with an accuracy of one meter.

- Configuration parameters for every element of track include
  - Length
  - Maximum speed
  - Gradient
  - Curvature/Radius
  - Electrification
  - Tunnel cross-section
  - Superelevation
Any size of networks

Macroscopic display

A multitude of modern signaling systems:
- M/P signalling system including PZB (German automatic train protection)
- Automatic train control (ATC)
- Multiple aspect/section signalling
- Running at sight (e.g. tram)
- Moving block (running in absolute braking distance)
- Transfer of signal terms via shortloops and balises (e.g. ATC system Denmark/ETCS)
Infrastructure Manager – Macroscopic Network
Infrastructure Manager - Microscopic network
Infrastructure Manager - Zoom on microscopic network
From the Timetable Manager you can enter a train and its timetable data.
The timetable data may be edited interactively in large tables or in simple graphical manner.
Every modification concerning the train route causes a new calculation of the minimum running time.
Timetable Manager

◆ When creating a timetable or change an existing timetable some conflicts happen. These conflicts will be displayed for the entire network.

◆ The results of the timetable construction may be printed as graphical timetables and track occupation plans. Furthermore, all tables may be exported into Excel or ASCII formats.
Timetable Manager

Hierarchic train and pattern list

Timetable tabular

Conflicts

Track layout

Speed distance graph

Graphical timetable
Timetable Manager – Track Occupation
Simulation

- Synchronous and event orientated simulation
  - The position of all trains in the network is calculated simultaneously. Its advantage is that all trains run in interaction with the signaling system as in reality including the influence of other trains.
Actual speed graph and time distance graph after the simulation
Track occupied timetable and operational simulation
Statistical Evaluations

Data to evaluate
- Average delay per train (at arrival and/or departure)
- Number of delayed trains (at arrival and/or departure)
- Rate of delayed trains (at arrival and/or departure)
- Distribution of delays (at arrival and/or departure)
- Delays between two stations
System requirements

- Windows NT/2000/XP
- Memory: 256 or 512 MB (according to size of project)
- Hard disc: 300 MB
- Screens: resolution of 1,024 x 768 or more
Output possibility

♦ Graphical timetable
♦ Track occupation diagram
♦ Delay statistics
♦ Train lists
♦ Running time tables
♦ Track networks
Print of a graphic timetable
Print of track occupation
Print of running Timetable

<table>
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<th>Station/Track</th>
<th>Station/Track</th>
<th>Arrival</th>
<th>Departure</th>
<th>Running time</th>
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5 - سیستم‌های مکانیزه
RailSys - 9-5
پایان