

Studies for Turnkey Projects

With years of experience in Turnkey Projects and expertise in Operations Planning, Operations Concepts, Simulation and Timetable Planning, **Rail Systems Engineering** is able to offer to its clients the possibility to be a simulation-and-timetable-planning **Partner for Turnkey Projects** during the whole duration of a project.

For turnkey contractors who have their **own licence of our simulation** software, we can provide the simulation model together with reports. The turnkey contractors could then do their own simulation and demonstrate it to their clients without the need of building up the full scale of know-how in simulations.

Feasibility Study

We can propose new ideas and concepts that are not only able to cater to today's railway demands, but also enable seamless transition into the future.

- Early stage Operations Concepts
- **Demand forecast** of passengers and freights
- **Service Concepts** (Capacity Planning Vs Service Intention)
- Infrastructure Planning (Analysis of station closures/relocation of sidings)

Tender Phase

During preparation of tender documents for a new project, the expectations and requirements have to be specified at least on a level of detail for all tenderers to give appropriate quote.

- Expected **running times** / loop time
- Capacity requirements (passengers and freights)
- Number of rolling stock (for full service, operational spares & maintenance)

Detail Design

During Concept Design and Detail Design Phase, we can do simulations according to design stage, with data available at that project stage:

- Verification of design
- Verification of proposed signalling layout and braking curves
- Verification of **contractual requirements**
- Documentation as part of clients' requirements
- Demonstration of simulations to clients
- Operational concept documents like **proposed timetables, headways** and **failure mode analysis**

Design Modifications

Every project has its own design changes. Be it a request from the clients or a proposal by the contractors, with simulation, the impact of a system's design

- Visualise **operational impact of design changes**
- **Prove compliance** to contractual requirements
- Fast analysis of changes before construction efforts are being made

Temporary Signalling

Analyse train operation during **construction** period and propose **temporary signalling** if needed.

- Proposal of location for loops and crossovers
- Save cost in temporary signalling by sizing as needed
- Show running times during construction

Construction

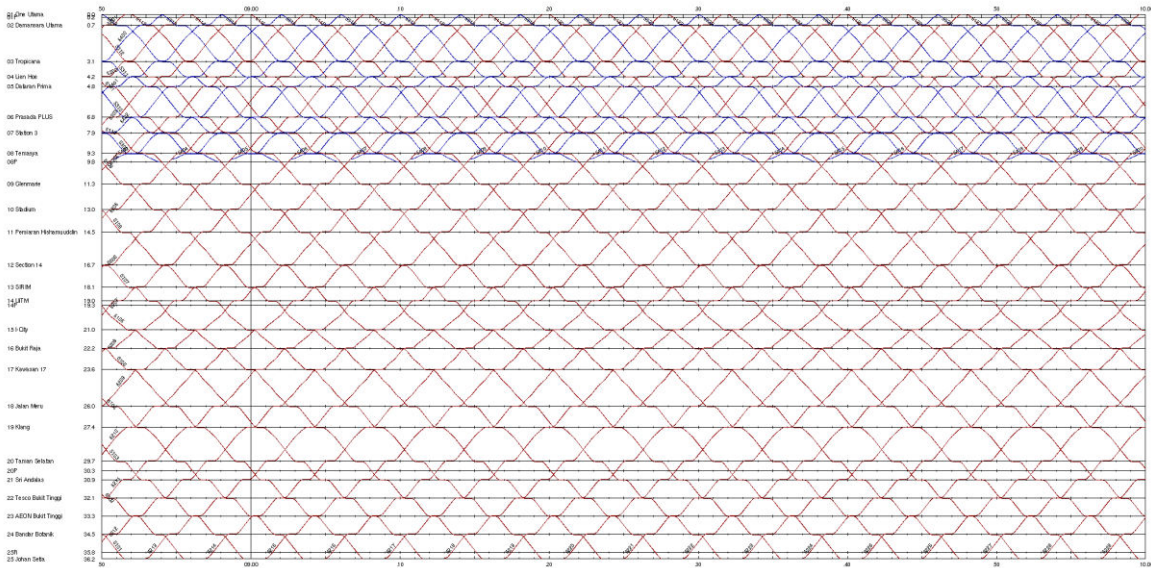
During construction of a line (in particular for brownfield projects), we can plan construction timetables for commercial and construction trains, taking into account

- Maximise **track possession time** with minimal impact on running trains
- Daily optimisation of timetables

Feasibility Studies

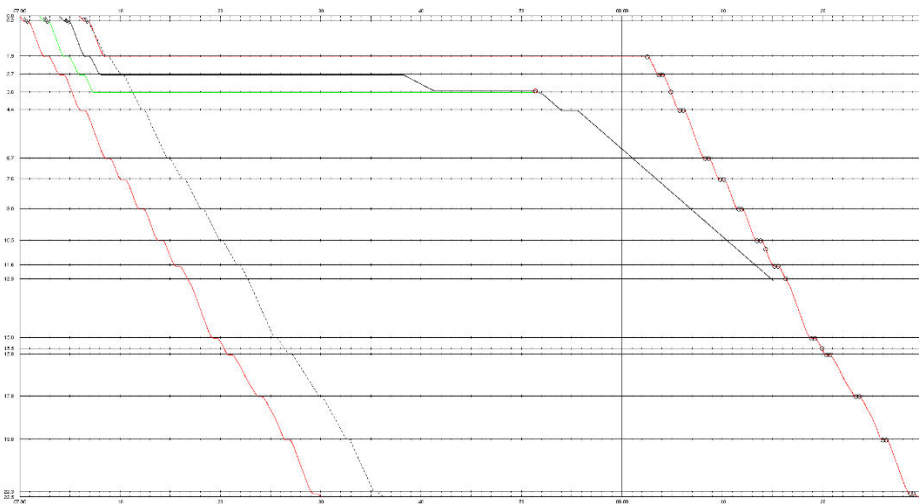
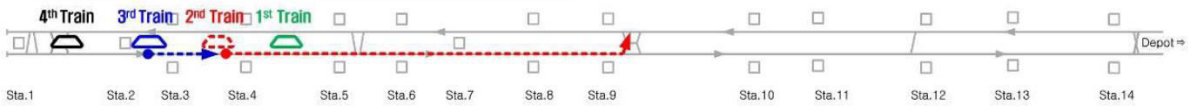
Verification of Headway & Running Time

01 One Utama - 25 Johan Setia

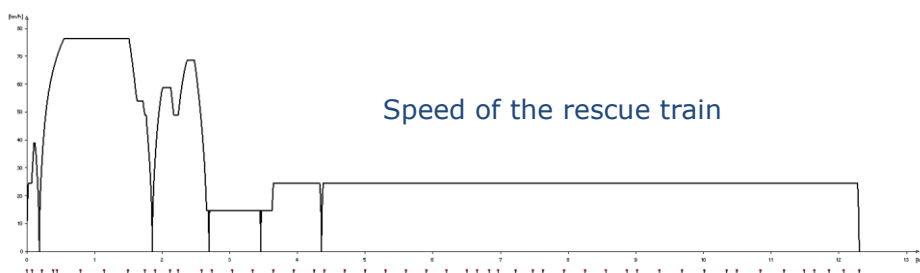


Operational Analysis of Failure Mode

2nd Train : Stalled Train, 3rd Train : Rescue Train, 4th Train : Following Train



An example of Recovery Planning by coupling the stalled train to the rescue train and both trains are sent to a pocket track. Delays are also shown.



Speed of the rescue train

Rail Systems Engineering SB – Malaysia

The company was founded in 2008; we are located and registered in Kuala Lumpur, Malaysia.

The company's main focused services are Mainline ATO, Operations Concepts, Simulation & Timetable Planning. We cover East Asia (all ASEAN countries), Korea, Taiwan, Sri Lanka, Bangladesh & Saudi Arabia.

Rail Systems Engineering AG - Switzerland

In 2017 Rail Systems Engineering AG in Switzerland was opened, with focus on Train Protection, ATP & ETCS.

Rail Systems Software GmbH - Switzerland

The company joins the group of companies in 2021. It is providing services with regards to Railway Infrastructure Data and Software Development for data management and handling.

We are the East Asian representative for the following Product Partners:

OPEN TRACK

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View our webpage

