



## TREsa for Signallers Assistant Route Setting

TREsa's main feature is the automatic route setting capability. Developed initially in conjunction with GE Transportation Systems (now Alstom) to SIL2, TREsa currently operates with both Alstom MCS and Siemens WESTCAD technology platforms, but has protocols to enable integration with other OEM systems.

**SARS** - The main feature of the Signaller's Assistant is an Automatic Route Setting capability (SARS). The SARS contains user-modifiable operating parameters, together with live timetable acquisition and validation capabilities, as well as the ability to provide information to signallers and signalling managers such as signaller simplifiers.

- Diverse Monitor' provides independent validation of routes which may be called.
- Has an internal view of the state of the infrastructure via the control system changes of state, plus TD system.
- Can interface to up to 4 workstations.
- Aims to keep a train running with two green signals (on a 4 aspect area) (configurable).
- Predicts stepping time in advance to identify and resolve conflicts.
- Requests routes without challenging the interlocking.
- Avoids creating stand-off situations with other ARS trains, regardless of infrastructure.
- Trains can be run to user defined Special Timing Patterns or Perturbation Plans.
- Users can reconfigure data to allow for operational changes such as temporary speed restrictions and engineering works.
- Application can be adapted to mitigate unusual signalling features.
- ACI supported where associations are included in the timetable.
- Accommodates timetabled splitting and joining.
- Supports re-platforming at terminus and through stations where the option has been selected.
- Performs chaining for empty coaching stock.
- Configurable to await TRTS or use advance route-setting time.
- Mandatory Sequencing option.
- Notifies signaller of trains requiring non-AR routes.

**SACS** - This is the Signallers Assistant Control System facility through which users make changes to train timetables and SARS parameters.

- Configurable user permission levels.
- Lists trains' details and performance.
- Allows signaller to interrogate timetable for individual trains.
- Control interface for implementing parameter sets and special timing patterns.
- Displays simplifiers.
- Control interface for enabling Mandatory Sequencing.

### OPERATIONS WORKBENCH

- Provides off-line simulation of control area.
- Allows testing of TT and validation of STP / PP via digital signing.
- Replay functionality for incident/performance investigation.

### DIAGNOSTICS

- Local Technician's graphic interface to confirm system status.
- Logs events from SARS for replay.
- Holds full master copy base data including Parameter sets, STPs and PPs for back-up
- Connected to Radio Clock for time signal reference.



## Hitachi Information Control Systems Europe

Hitachi Information Control Systems Europe is a provider of software products for railway Command and Control, including simulators and automatic route setting systems. We are also the integrator of Hitachi traffic management systems for the UK and European market, working closely with Hitachi Rail Europe.

### Maintaining Safety Standards

Our railway signalling and operations simulation system (TRESim) has a strong record in operator training and is used by Network Rail at signalling centres throughout the UK to train and continuously assess signallers.

### Network Modelling

Simulation enables major project schemes to be evaluated before detailed design and implementation. This reduces technical, programme and operational risk. Automated data verification tools provide added assurance that safety integrity levels are consistently maintained.

### Traffic Management

In addition to our role as UK systems integrator for Hitachi's Tranista Traffic Management System, our training simulator has been developed specifically for use with multi-vendors' products and solutions. This ensures that the current levels of high fidelity offline training facilities for railway operations are maintained during the introduction of new technology and business change does not compromise safety or performance.

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