

We put the **ai** into **rail**

dessan Validate

An application that comprehensively tests interlocking, in addition to the design and validation process. Using virtual infrastructure models in conjunction with adjacent interlocking areas, cross boundary faults can be identified and eliminated as well as checking the focus interlocking for any errors.

Offering a new level of automated assurance, **dessan Validate** is designed to exercise the complex data which constitutes the safety critical element of a signalling interlocking over a wide number of Computer Based Interlocking systems. The process for validation begins with the collation of the Client provided scheme plan information, routes and data into a 'simulation engine'.

The simulator then forms the 'host' for the system which will create its own Excel format control tables for the post-to-post routes, independent of the client provided Control Tables.

It is these independently generated control tables that enable **dessan Validate** to test the interlocking data against first principles of Interlocking.

The Testing Process

The software will perform tests by running test scripts which fall into two main categories:

A. Tests which validate the post-to-post signal routes against the Network Rail Emergency Change Notice

B. Additional tests which check that routes do not get disturbed by other route requests and/or point calls

This ensures flank/overlap are safe and to reveal faults which may not be found by conventional testing methods.

Type A Test Scripts

- Track Dead Locking of Points
- Route to Point Locking
- Route to Point Maintained Locking
- Route to Route Locking
- Route to Route Maintained Locking
- Point Detection in Ascon
- Track clear in Ascon (main and warner routes)
- Signal Ahead Lamp Alight in Ascon (main and warner routes)

dessan Validate can currently test:

- Points
- Routes (including cross boundary)
- Permissive/Non Permissive routes
- Preferred/Non Preferred Routes
- Warner Routes
- Shunt/Call-On/POSA Routes
- Route Perturbation

Type B Test Scripts

- No other conflicting route request will set or cause a change of state, when a route and its forward route are set
- No other route or point request affects the Ascon on the route set
- No other route or point request affects the Ascon on the route, or its forward route when both are set
- Another, more complex operation of the above 2 Ascon tests combined with maintained locking

It is recommended that **dessan Validate** be utilised at a point in the programme where data is stable and as error free as possible. This could be at the end of the data production and whilst the 'set to work' takes place.

