

Efficient Timetable Planning with TPS

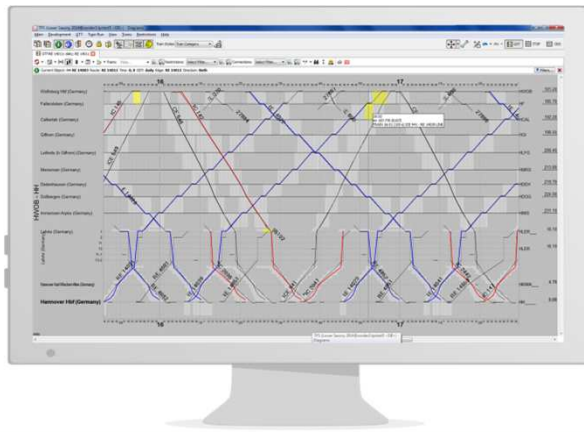
HaCon – A Siemens Company



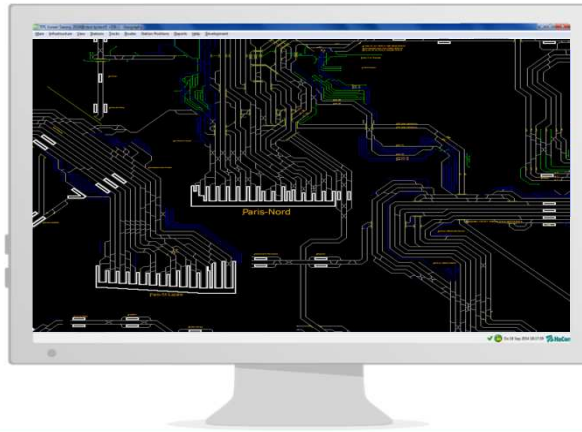
Alexander Hubert



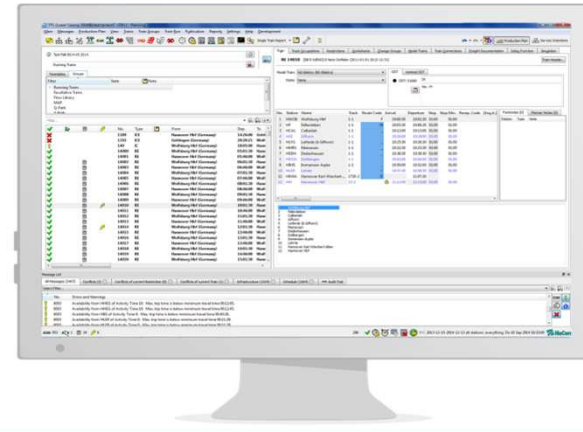
Train Graphs



Network Topology



Tabular Editors



TPS Functional Areas

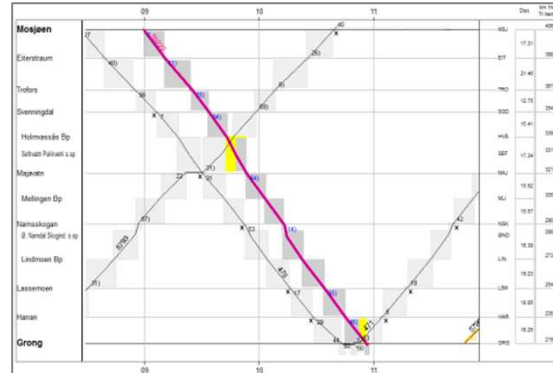


The screenshot displays the main interface of the TPS software. On the left, there is a sidebar with filters for 'Running Trains', 'Facilities', and 'From Library'. The main area shows a list of train runs with columns for 'No.', 'Station', 'Name', 'Track', 'Arrival', 'Departure', 'Stop', 'Stop Min.', 'Start', and 'End'. A specific train run 'ET 92222' is highlighted. Below the list, there are several tabs for 'Messages', 'Conflicts', 'Conflicts of current Restriction', 'Infrastructure', 'Schedule', and 'Simulation'.

This screenshot shows a detailed view of a train run. The top part contains a table with columns for 'Business Name', 'Type', and 'State'. Below this, there is a 'Restrictions' table with columns for 'Index', 'ID', 'Name', and 'Restriction Time'. The bottom part of the screenshot shows a graphical representation of the train's path over time, with a blue bar indicating the duration of the run.

This screenshot displays a detailed view of a train run, showing a grid of tracks and time slots. The grid is labeled with track numbers (1-8) and time slots (17:06 - 18:29). The grid contains various symbols and text indicating the status of the train run, such as 'OK', 'NTH', and 'SKD'. The interface also shows a 'Main' menu and a 'Train' menu.

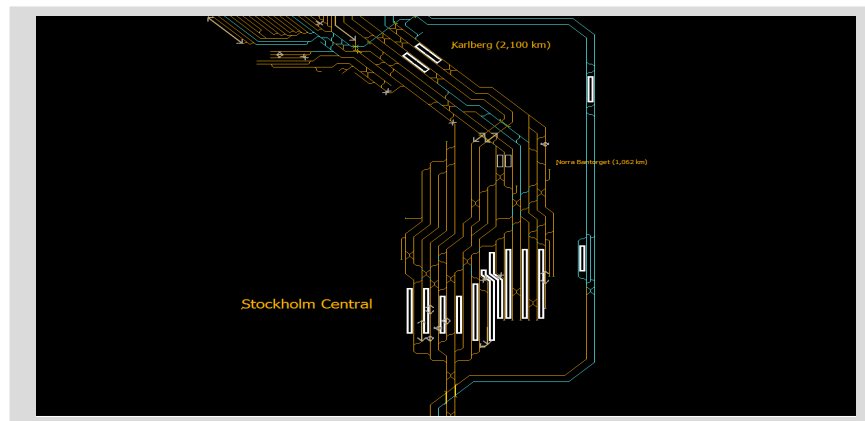
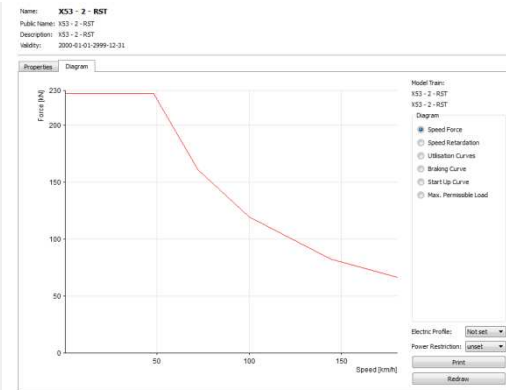
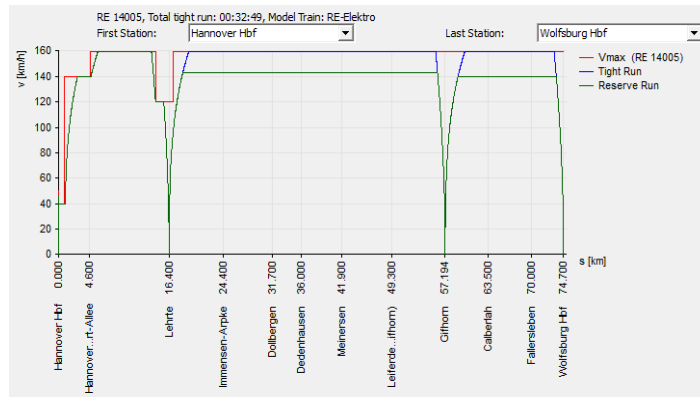
- Runtime Calculation
- Conflict detection and -resolution
- Planning parameters
- Simulation
- Tabular and graphic editing
- Reports and Analysis



This screenshot shows a detailed view of a train run, including a map of the route and a table of train run details. The map shows the route from 'Monsrud (44.03 km)' to 'Grong'. The table below the map lists the train run details, including 'Station Abbreviation', 'Name', 'Comm.', 'ID', 'Description', and 'Public Name'. The table also includes a 'Routes' column with 'ID', 'Description', and 'Public Name'.



- Production plan planning level
- Exact
 - routing on interlocking level
 - runtime calculation
 - conflict detection
- Distribution of reserves, smooth speed distributions





Strategic Planning (> 5 years)

Framework Agreements (2 – 5 years)

Long Term Planning, LTP (1 – 2 years)

Short Term Planning, STP (1 day – 12 months)

Traffic Management, VSTP (0 – 24 hours)

Historised Train Operation (< 0)



Support the incremental planning methodology and business process in relation to it

Delivery Commitment (DC)

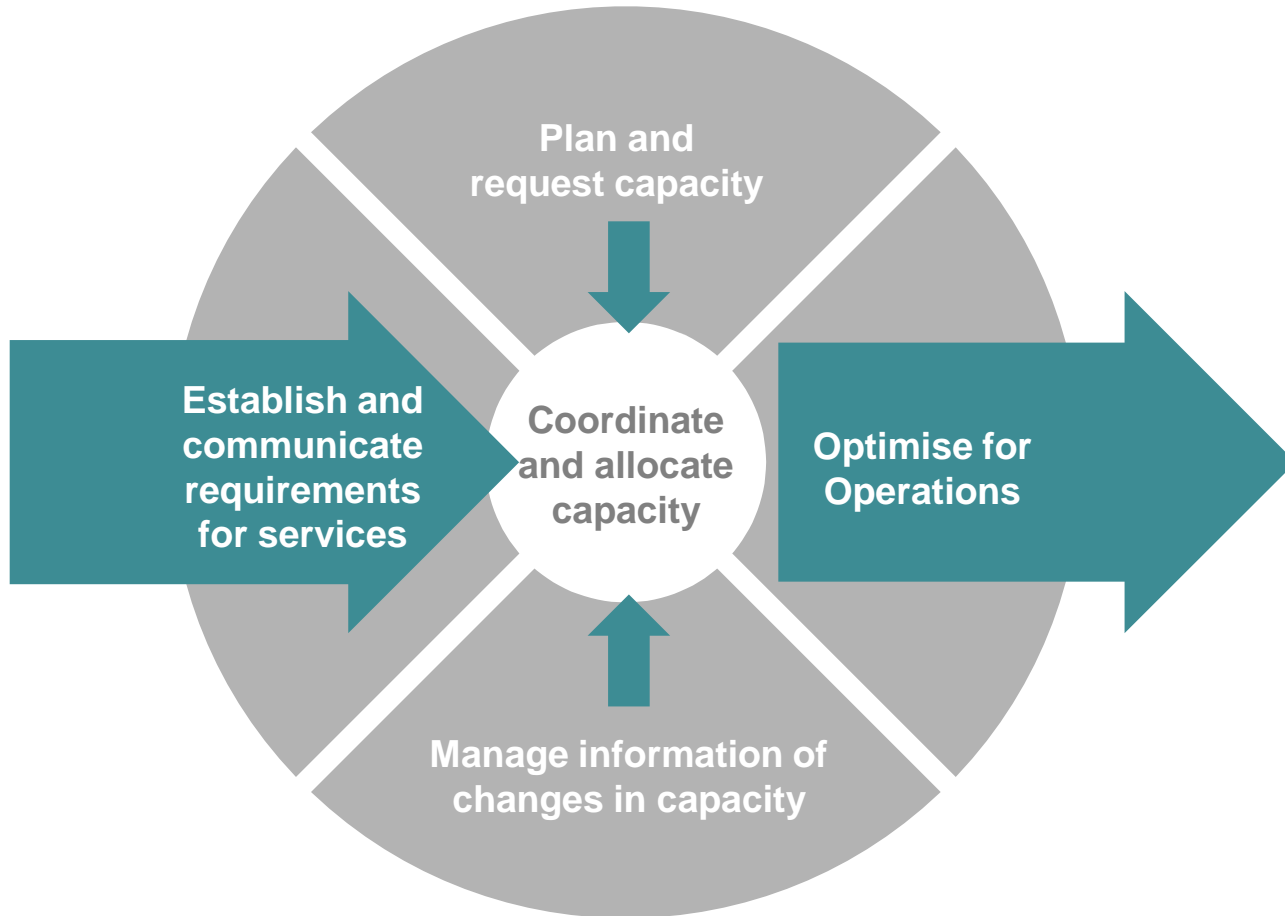
Production Plan (PP)

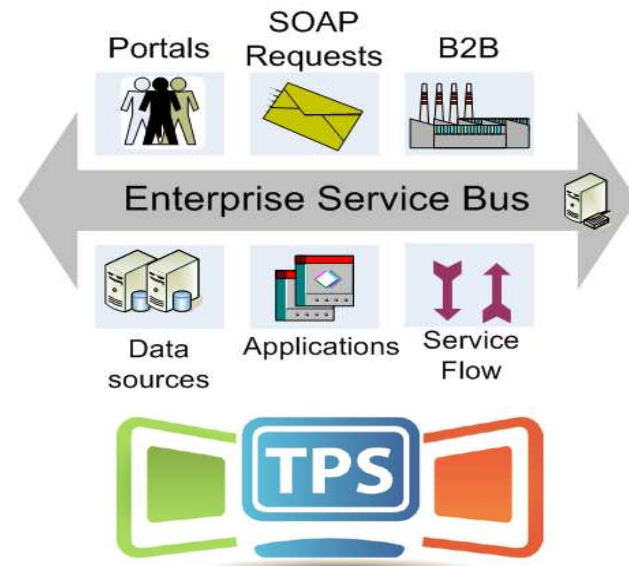
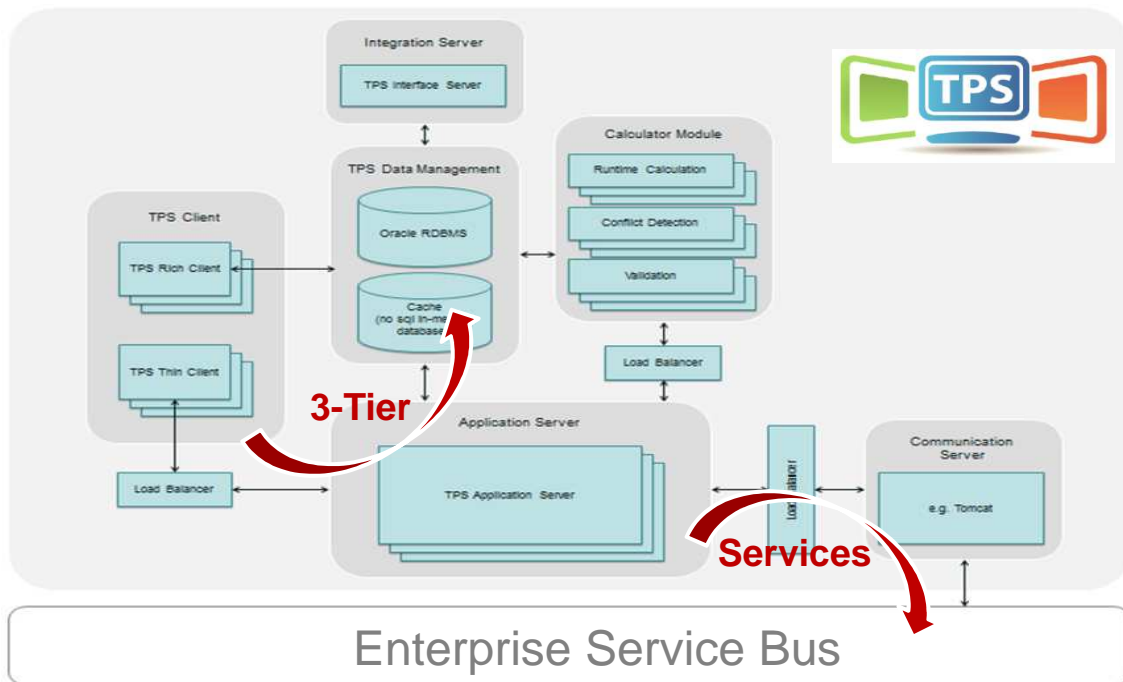


Capability to...

- manage integrated DC/PP, LTP/STP and pre-arranged capacity; and
- provide information on agreement, planning and operational level views

... at the same time, in one and the same system!







TPS provides further modules for an efficient timetabling and operations

TPS Portal: Web based capacity application portal for train path and infrastructure restrictions

TPS Online: Realtime Traffic Management System

TPS Simulation: Stochastic simulation of rail traffic operations



Conclusion

TPS provides key building blocks for efficient timetable planning system

- Precision... Microscopic operational level model of the railway network and traffic
- Consistency... Incremental timetable planning continuously during all process steps
- Accessibility... Modern architectures for integration with external and internal customers

Thank you for
your attention!



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TPS

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