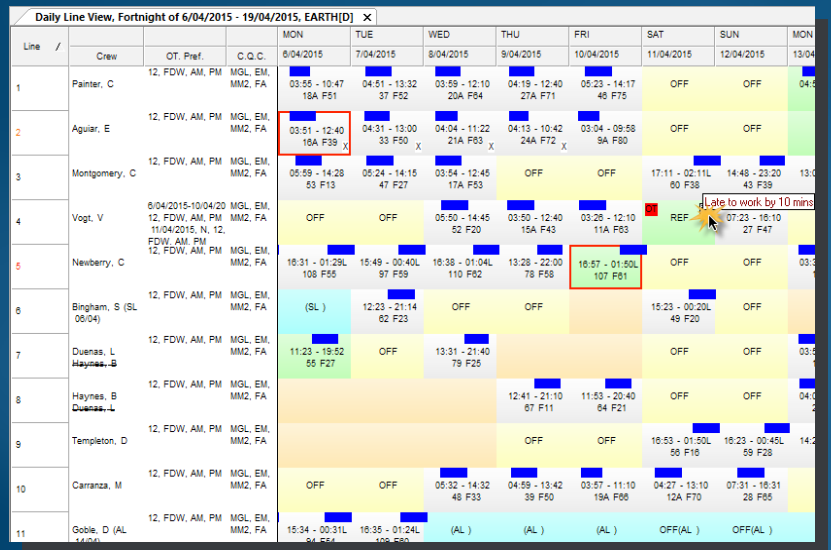# TPAC RailCrew

A Resource Management Solution for
Rail Crew

Workforce Management

Employee planning and management is a complex and critical process for modern railways. The business drivers requiring increased efficiency and competitiveness must be balanced with the need to obey employment agreements, safety requirements, qualifications and operational robustness.

- Create efficient shifts and rosters
- Ensure employment contracts are observed
- Observe and cater for lifestyle requirements of employees
- Monitor and manage fatigue and safety regulations
- React to day-to-day disruptions allowing for the continual need to improve service delivery
- Provide what-if modelling capabilities
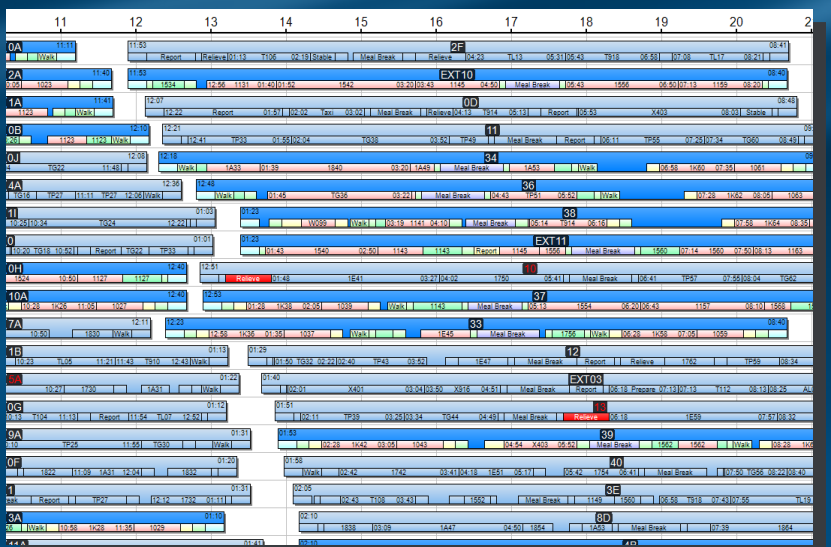

User Configurable Roster View

Employee Rostering

RailCrew Rostering is an integrated rostering solution for a railway allowing an unlimited number of rosters across multiple business units. Rosters can be optimised and automated for "current operations" while "what-if" scenarios can be taken off-line for further analysis. Paired with the dynamic rules system for validity, legality and business metrics, Rostering provides.

- Master and individual rostering
- Optimisation of employees to planned activities
- Roster periods are flexible
- Leave and absence management
- Overtime management, employee preferences and decision support costs
- Automatic qualification generation from train schedules, qualification tracking, log books and validation
- Multi-driver capabilities
- Configurable alert levels
- Comprehensive suite of reports, and outputs to other 3rd party reporting packages.
- Optional integration for external employee information
- Change tracking and audit visibility

Live Employee Statistics and Rosters Summaries

Live Train Operations and Conflicts Shown Via Gantt Charts

Intelligent Decision Support

Work Distribution

Train Gantt

Live Management & Operations

RailCrew Rostering is also a live management and operations tool. As the cost of operating a modern transport network increases and accountability is demanded from all operational stakeholders, railways must have a comprehensive management solution.

• Provides visibility and decision support in real-time during the changing operational environment
• Real-time changes, delays and cancellations received from train systems for immediate employee rule validation
• Estimation engine to show likely future crew-events based on current-time train events
• Manual and automatic modes of operation
• Publish changes quickly and efficiently
• Tracking of planned vs actual to feed back into future rostering events
• Accurately produce payroll information

Employee Shift Optimisation

RailCrew Shifts allows users to optimise employee schedules from various input sources such as timetable, maintenance schedules, extra work and ad-hoc tasks.

Optimisation techniques provide improved efficiencies for operators in the area of crew planning and operations, and it provides user with the ability to easily and flexibly assess the effects of rule and operational procedure changes.

• Flexible and simple rule editing
• Column-generation and heuristic optimisation techniques
• Manual and automatic shift construction
• Intelligent rule validation and user-feedback
• Reporting and system output
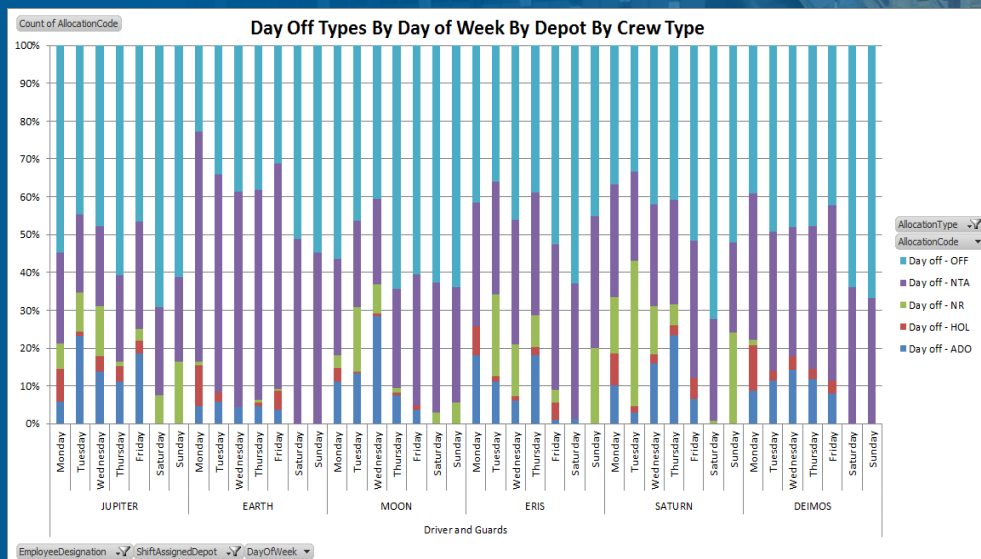
Train Schedule Visibility

RailCrew Timetables allows users to view the existing train schedule, and to track it through all layers of planning, scheduled, estimated and actual.

• Manual train schedule updates can be fed directly into the crew schedule estimation engine
• Scheduled, Estimated and Actual time tracking
• Train transpose functionality
• Train graphs and timed gantt charts
• Validation reporting

TPAC RailCrew

- Improved operational decision reducing crew related disruptions, standby and relief crew requirements
- Improved management of period changes, minimising overtime usage and ensuring train coverage
- Controlled and automated generation of crew pay requirements reducing errors, disputes and administration costs
- Proven for passenger railways – from intercity to long distance metro
- Proven for freight/cargo railways
- A flexible rules model to ensure a close custom fit with your operation
- Standardised interfaces enable easy integration into your IT environment
- External data warehouse capability
- Easy-to-use, multi-user interface
- A rail specific solution means faster deployment and better results
- Increased crew efficiency
- Reduced crew planning effort
- Equitable crew plans

Day off types by day of week by depot