CTI Constraint Technologies

TPAC ManPower Planning

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TPAC™ Manpower Planning is part of the TPAC™ suite of crew planning tools. It is designed to assist in medium to long-term forecasting of crew requirements. Typically this equates to the six-month to five-year time frame. It allows the user to experiment with different scenarios to see their effect on training, recruitment, working time and leave by matching future manpower numbers and skills with the business's commercial and logistical activities.

How is TPAC Manpower Planning used?

TPAC™ Manpower Planning has been designed to handle all manpower planning requirements for a transport enterprise including:

- Measurement of current operations.

- Modeling of future service requirements through the use of either actual schedule and pairing data or statistical projections.

- Development of an optimal crew plan that considers three main controllable factors:

  1. working time per period, including the modulation of credit hours, overtime, leave and reserve

  2. training of crew groups

  3. recruitment of new crew members

Advantages of TPAC Manpower Planning

The **TPAC™ Manpower Optimizer** has the following advantages:

- Better utilization of staff.

- Better human relations.

- Higher productivity.

- Smoother transition of business driven change.

- Staff attrition/retirement rates, existing leave balances, numbers of supernumary/administrative crew, restrictions on working hours over time (e.g. yearly duty limits), training time and resource (classrooms, simulators, trainer) limits are all considered.

- Fast turn-around of scenarios, enabling the planner to refine the details of the plan, and to test multiple scenarios quickly.

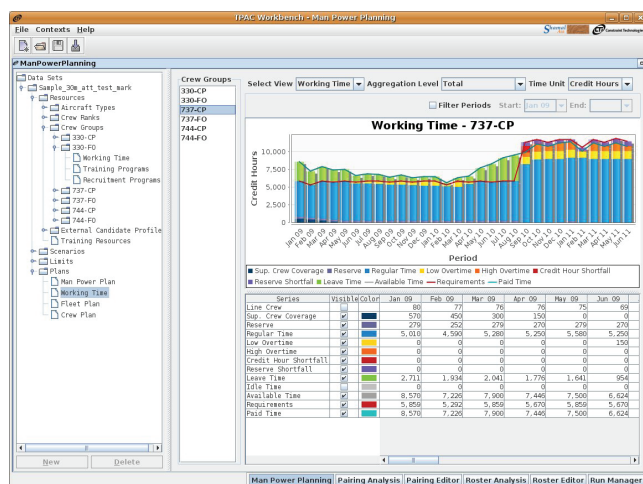Our optimizers are suitable for large problems that are made up of thousands of staff.

Fig.1 *A developed Manpower Plan showing details for the crew requirements and changes for each planning period contained in the plan.*
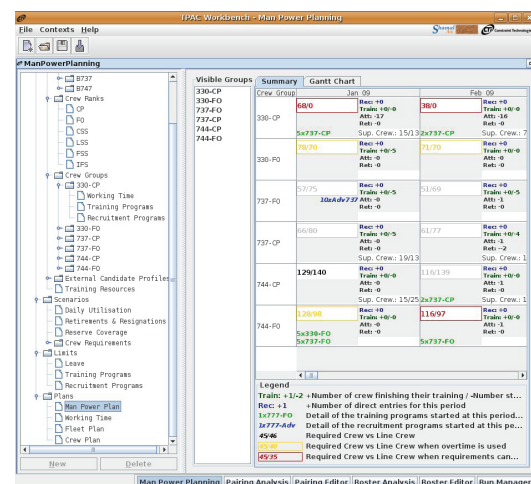

Fig.2 *Graphs and detailed spreadsheet tables are produced for each plan.*