



Manpower Planning

Manpower Planning is the process of forecasting and allocating the optimal crew establishment.

Precise crew planning with optimized costs and resources

SUPPLY AND DEMAND

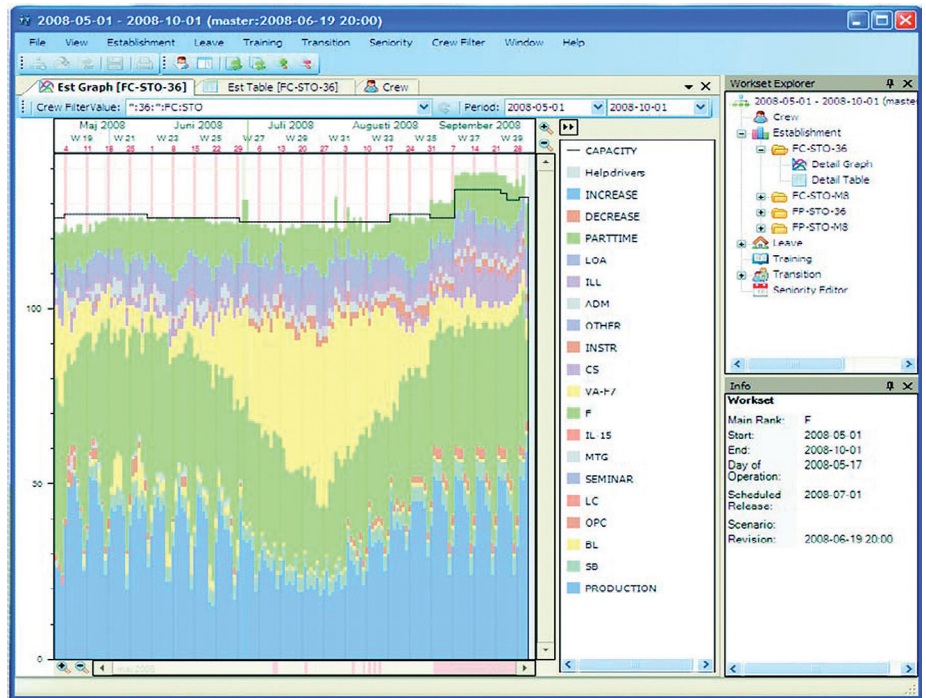
Precision

Using the latest planning data currently available allows long-term and short-term crew demand to be precisely calculated, thereby enabling the user to be aware of current crew balance at any given point in time and to proactively adjust the plan if needed. As an example, giving the planner the ability to assess crew demand for production based on fleet hours estimates, latest flight schedule and pairings allows for precise crew demand calculations at all points in time. Pairings can be generated early in order to support the manpower process long before any production pairings are produced and imported to Jeppesen Manpower Planning.

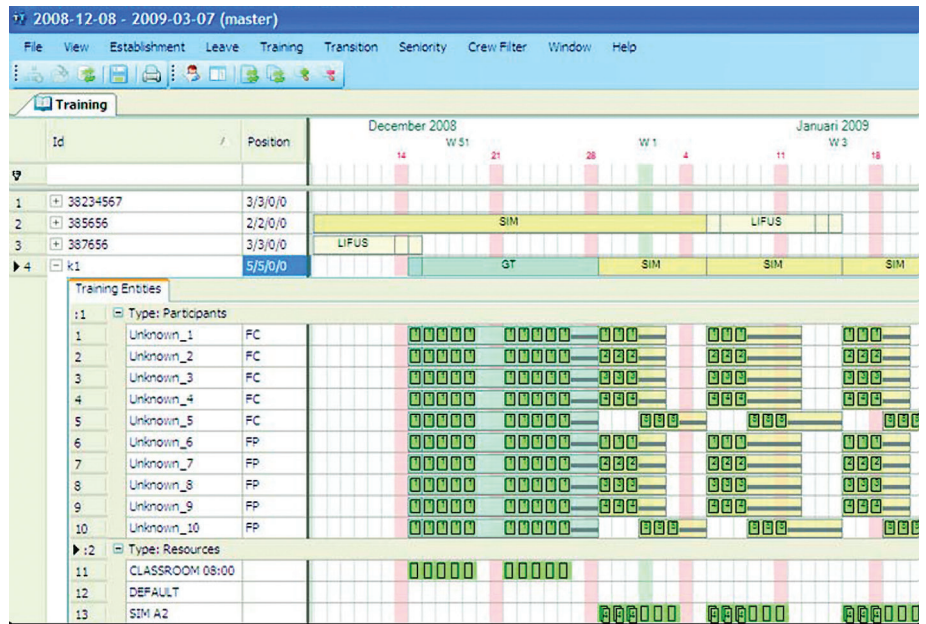
In addition to production, other known and estimated demands including stipulated days off, vacation, leave, standbys, planned activities, sick leave, and training, can also be used to obtain overall crew demand.

In some cabin situations, production may have to be split among production groups. For example, if B747 purser production can be combined with either B737 or A320 duty, the user can define how much of the B747 production should be allocated to each qualification group.

Crew supply is based on current crew availability, known recruits and retirements. Crew supply considers the effect of part-time or full time, attrition, and any other absence reason. The result is presented graphically with crew surplus and deficit clearly visualized.



A graph showing crew supply and demand. Production is at the bottom with vacation, standbys, days off, etc. When clicking a bar, the source data is displayed. Information can come from estimates or planned activities such as meetings or vacations that are forecasted or already assigned.



Course template showing course activities with corresponding resource need, as well as number of crew complement for the course.

TRAINING

Optimized Promotion and Recruitment

Optimization allows the user to produce promotion programs and related training activities to correct

imbalances in the crew supply. For the next season, actual bids are used, while forecasted bids or estimated crew movements can be used to build the promotion paths necessary to fill gaps.

The resulting promotions respect airline seniority requirements while minimizing costs such as training costs and salary. The optimized training plan considers other demands placed on crew such

as vacation and recurrent training and provides feedback to the planner on how these demands should be planned in order to get the best training plan.

The user can define course templates consisting of classroom sessions, simulator sessions and route instructions. Separate templates are created for different types of training (e.g. promoting a first officer from B737 to B747).

By using the training optimizer, the user is able to quickly build a cost-effective balanced training plan which best uses available training resources in order to meet production needs at the right time for a given period while respecting seniority, company rules and any relevant regulations.

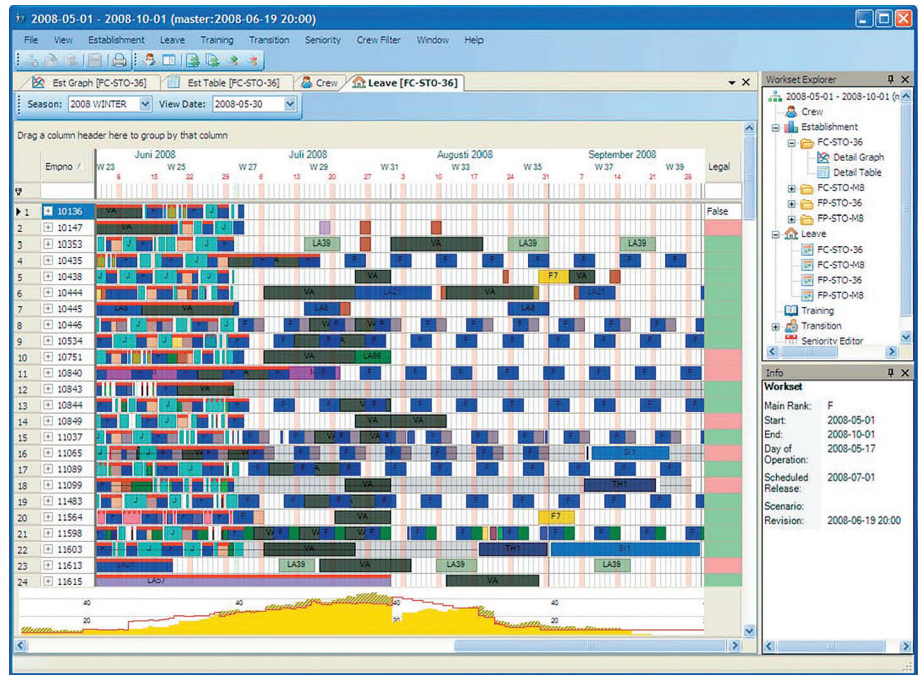
LEAVE AND VACATION

Vacation Planning and Award

The system can automatically define and allocate vacation blocks. Vacation blocks are created to match the desired vacation volumes for the focus period, usually one season. Crew members enter their requests for vacation via Jeppesen InterBids. This is the same interface as used in rostering. Vacations are assigned based on seniority and company regulations.

What-if Scenarios

Stand-alone scenarios supported by optimization allow the user to safely and quickly evaluate the impact of new or



The Manpower leave assignment Gantt view with the leave limit as the red line at the bottom and the assigned amount of leave in yellow underneath.

modified variables on the crew balance, thereby providing decision-making feedback which allows the user to understand the impact of new rule or benefits of one training strategy over another.

CUSTOMIZATION

Measurability

Jeppesen Manpower Planning comes with a set of standard reports for analyzing key properties of solutions, scenarios or input data, for example for training requirements for individual crew

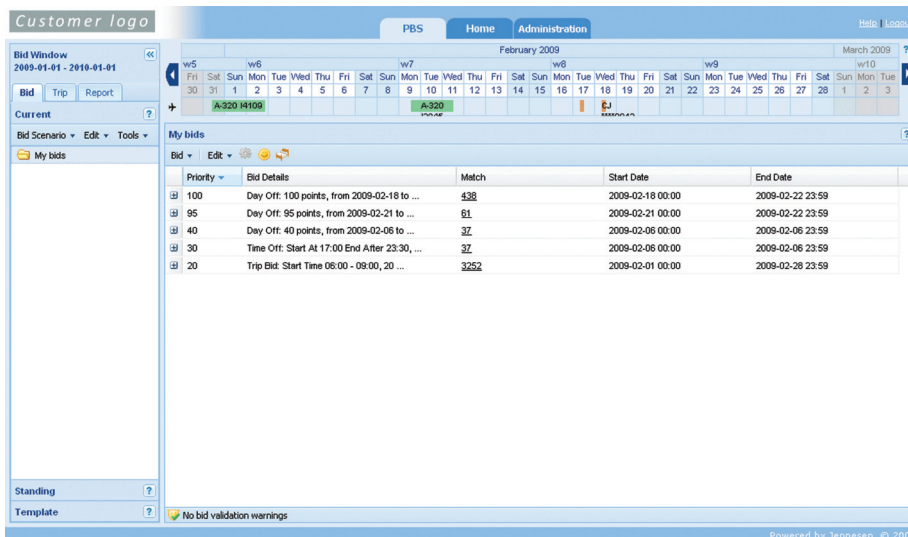
members or customized reports can be created with Jeppesen Rave Publisher.

Jeppesen Rave™

The Jeppesen Rave language handles legality as well as quality and cost aspects. Usage varies from adding new quality control parameters and carrying out minor simulations, to rewriting and evaluating entire agreements.

Clients appreciate the short lead times for introducing changes to the system.

Moreover, Rave allows changes to be made by the client. Because new rules or quality constraints can be tested within a few hours, this puts the client in direct control of an ever-changing operation.



Crew members enter and view bids for vacation via Jeppesen InterBids.

Technical Information

Establishment module

Training module and optimizer

Scenario analyzer

Reports

Vacation planning and award module

Platform: Windows NT/XP

Questions and Answers

How does Jeppesen Manpower Planning utilize information from crew planning to estimate demand?

Jeppesen Manpower Planning is designed to operate as an integral part of crew planning. Jeppesen Manpower Planning uses production pairings when available, to estimate the production demand. Jeppesen Manpower Planning also tells crew planning how much production can be assigned to each base or crew group and how many mixed fleet type pairings can be managed. Approximate pairings can also be created to support the long-term planning. Even if these pairings will never be flown, they still represent a better estimate of future demand compared with average productivity numbers for flights or aircraft.

How can I save money using Jeppesen Manpower Planning?

By introducing optimization for the planning of transition training, it is possible to determine in the best way who should be trained and when. This optimized training plan is built while considering other demands placed on crew, such as vacation and recurrent training. Knowing about these additional demands enables the optimizer to provide feedback to the planner as to when vacation and recurrent training should occur. In other words, the optimizer provides a solution which dimensions the vacation and recurrent plan as well.

Solving the training plan with this approach enables savings on:

- crew salary;
- training resources such as simulators.

Other benefits of training optimization include better-timed recruitment, reduced crew shortages and vacation buy-backs.

By providing the ability to define forecasting strategies for each individual crew group which accurately reflect the crew group's unique characteristics (including crew behaviour, known and estimated planned activities, and historical trends), it is possible to know at any given time what the head count is expected to be. This allows for proactive decision making should adjustments to the plan be necessary.

Does the system guarantee that seniority is respected?

Seniority is the guiding principle when awarding new positions. Of course, all other company-specific rules and regulations are also checked and verified; for instance, it may be stipulated that crew members may not change position until they have worked at least 18 months in their current position.

To what extent is scenario management available?

Any number of scenarios can be managed. Long-term scenarios evaluating the effect of different fleet compositions and schedules can be explored. Shorter term scenarios exploring different sick leave or vacation scenarios are also easily created. The effect on crew availability created by different crew agreements can also be explored. Simulation capability becomes even more powerful if scenarios are explored together in Jeppesen Manpower Planning, Jeppesen Crew Pairing and Jeppesen Crew Rostering.

How is feedback from the operation managed?

Operational planning changes are easy to make. For example, flight schedule changes or changes in crew availability may make the current manpower plan impracticable. The user can easily explore and evaluate various scenarios such as how planned activities such as training, meetings and vacation can be moved in order to generate a feasible solution.

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