



Carmen Manpower

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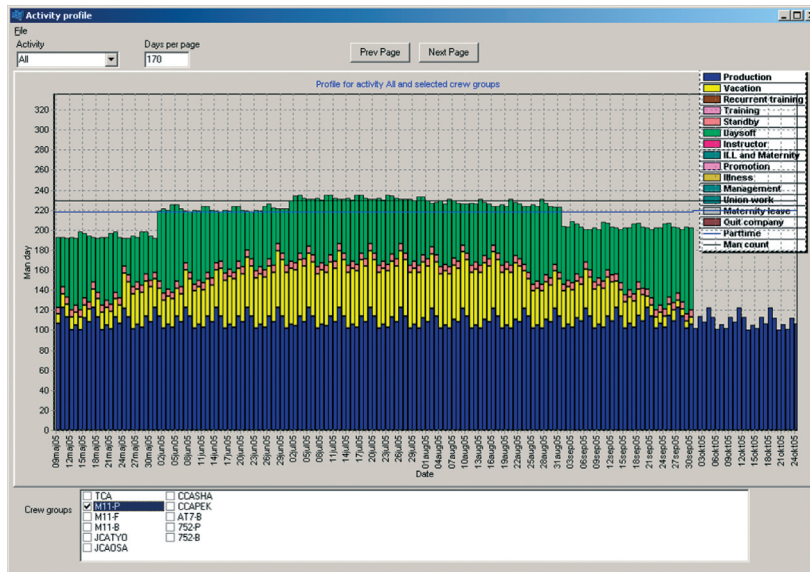
Provide adequate crew establishment while minimizing costs

Supply and demand

Long-term crew demand is calculated based on the best information currently available. When pairings are not available, the flight schedule or fleet composition is used to estimate the demand. Pairings can be generated early in order to support the manpower process long before any production pairings are produced and imported to Carmen Manpower. In addition to production, stipulated days off and vacation, standbys and estimated training demands are added to obtain overall crew demand.

In some cabin situations, production may have to be split among production groups. For example, if 747 purser production can be combined with either 737 or 320 duty, the user can define how much of the 747 production should be allocated to each qualification group.

Crew supply is based on current crew availability plus known recruits and retirements, together with forecast sick leave, part-time or other reasons for absence and for crew leaving the company. 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, for example estimated production, estimated days off, production pairings imported from Carmen Crew Pairing or real planned meeting imported from Carmen Crew Rostering.

Promotion and recruitment

Promotion programs and related training activities are produced to correct imbalances in the crew supply. For the next season, actual bids are used, while forecast bids are used to build the promotion paths necessary to fill gaps. The resulting promotions respect airline seniority requirements while minimizing training costs.

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 Carmen InterBids. This is the same interface as used in rostering. Vacations are assigned based on seniority and company regulations.

From	To	M11-C	M11-FO	752-C	752-FO	32S-C	32S-FO	E70-C	E70-FO	M80-C	M80-FO	AT7-C	AT7-FO	NA	Retir.	Sum
M11-C		74													9	83
M11-FO		2	56					2								60
752-C				50											7	57
752-FO		1			40			8								49
32S-C		3		1		126			1						1	132
32S-FO			4		1		105					1				111
E70-C								5								5
E70-FO																0
M80-C		1		4						38					2	45
M80-FO			1		1			4			30					36
AT7-C								6	1			41				48
AT7-FO			1		5		4					3	25			38
No prev.									4				8		6	
FTE		81	62	55	47	126	109	25	6	38	30	45	33	0		657
Total		81	62	55	47	126	109	25	6	38	30	45	33	0		657
Demand		81	62	55	47	126	109	25	6	38	30	45	40			664
New hires		0	0	0	0	0	0	0	0	0	0	0	7	0		7
New group		7	6	5	7	0	4	20	6	0	0	4	8			67
Cost		60	72	60	84	0	48	240	72	0	0	12	96			744

Crew promotion matrix showing the transitions among crew groups. At the bottom, costs and requirements for new employees are shown.

Questions & Answers

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

Carmen Manpower is designed to operate as an integral part of crew planning. Carmen Manpower uses production pairings when available, to estimate the production demand. Carmen Manpower also tells crew planning how much production can be assigned to each base or crew group, how many mixed fleet type pairings that can be managed etc. 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 Carmen Manpower?

By introducing optimization for planning of transition, courses and vacations, it is often possible to reduce head count. Other consequences can typically be better timed recruitment and better utilization of simulators.

Having access to manpower decision support tools, it is possible to implement changes faster. Close access to results and data from other optimization systems such as Carmen Crew Pairing and Carmen Crew Rostering will also provide overall cost control for the complete crew planning process.

Does the system guarantee that seniority is respected?

Seniority is the guiding principal 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 at 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 Carmen Manpower, Carmen Crew Pairing and Carmen Crew Rostering.

How is feedback from the operation managed?

Operational planning changes are easy to adjust. 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 on how training and unassigned vacation can be moved in order to generate a feasible solution.

If you have any questions about Carmen Manpower, please contact us at carmen@carmensystems.com



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