



Carmen Manpower

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

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.

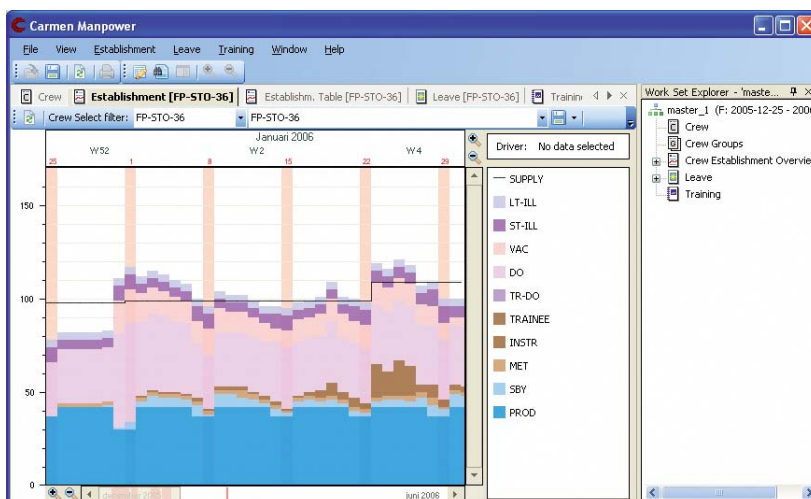
Crew supply is based on current crew availability plus known recruits and retirements, together with forecasted sick leave, part-time or other reasons for absence and for crew leaving the company. The result is presented graphically with crew surplus and deficit clearly visualized.

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 forecasted 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.



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.

No	Δ	Name	Type	Resource	Debrieftime	Duration	Max days	Days to use	Min pause	Qual obt	Instr qual	SI
1		INTRO	GROUND_CLASS	COMPUTER...	00:00:00	08:00:00	1	12345	0		INSTR, INSTR	
2		CBT	GROUND_CLASS	COMPUTER...	00:00:00	08:00:00	1	12345	0			
3		FCBT	GROUND_CLASS	COMPUTER...	00:00:00	08:00:00	9	12345	0		TSIFTD	
4		CLASS	GROUND_CLASS	CLASSROOM	00:00:00	08:00:00	6	12345	0		INSTR	
5		OBS1	PROD_OBS	DEFAULT	00:00:00	04:00:00	1	1234567	1			
6		PRE	GROUND_SIM	M11 SIM	01:00:00	04:00:00	5	123456	2		TSI	
7		PFS	GROUND_SIM	M11 SIM	01:00:00	04:00:00	15	123456	2		SFI	
8		OBS2	PROD_OBS	DEFAULT	00:00:00	04:00:00	1	1234567	1			
9		SKI	GROUND_CHECK	M11 SIM	01:00:00	04:00:00	1	123456	2		SIMTRE	
10		ZER	GROUND_CHECK	M11 SIM	01:00:00	04:00:00	1	123456	2		SIMTRI	
11		SCL	GROUND_FLIGHT	M11 SCHO...	01:00:00	04:00:00	4	12345	2		TRE	
12		FAM1	PROD_FLIGHT	DEFAULT	01:00:00	04:00:00	7	1234567	2		TRI	
13		FAM2	PROD_FLIGHT	DEFAULT	01:00:00	04:00:00	40	1234567	2		LFI	
14		LFC	PROD_CHECK	DEFAULT	01:00:00	04:00:00	1	1234567	0		TRE	

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

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

