



## Eurocopter

### WORKSHOP PLANNING FOR HELICOPTER PROPELLER REPAIR

EUROPE'S LEADING HELICOPTER MAINTENANCE AND REPAIR COMPANY, Eurocopter schedules operations at its helicopter propeller workshop near Paris with a planning system based on ILOG Solver, ILOG Scheduler and ILOG Views.

The shop repairs more than 2,000 blades a year from different countries, owners and makers under a variety of contracts. The planning system optimizes the schedules using ILOG constraint programming technology that assigns technicians to repairs, respects their workload, and fulfills contractual obligations, including deadlines and guarantees. Once a schedule has been created, it is displayed with a interactive interface based on ILOG visualization software.

Today the Eurocopter workshop provides better service to its customers through fully optimized scheduling. Technicians are properly assigned with plenty of time to do repairs, and the customers keep their helicopters flying. Eurocopter found the best answer to its workshop planning needs with ILOG and its advanced optimization software components.

*"ILOG software allowed us to create the planner in just three months. Clear separation of modeling, solution search and schedule visualization is a tremendous asset for estimating training costs or doing parallel development. We are strongly considering using ILOG Scheduler as our technical foundation for future workshop optimization problems."*

● **Jean-Pierre Germinet**  
Project Manager  
Eurocopter





## ABOUT EUROCOPTER

*Founded in 1992 by a merger between Aerospatiale-Matra and DaimlerChrysler Aerospace, Eurocopter is a subsidiary of EADS, one of the three largest aerospace groups in the world.*

*Eurocopter itself has become Europe's leading integrated aeronautical group, with its parent company, Eurocopter, and German subsidiary, Eurocopter Deutschland. It currently controls 49 percent of the civil and semipublic market, and 38 percent of the military market for helicopter maintenance and repair.*

## ABOUT ILOG

*Founded in 1987, ILOG is the world's leading supplier of visualization, optimization and business rule software components in C++ and Java. The company's commitment to R&D keeps its products among the most advanced in the industry, and its worldwide network of offices and representatives ensures every ILOG customer receives the best sales and consulting support. For more information about ILOG and its products, please visit [www.ilog.com](http://www.ilog.com).*

## BETTER REPAIR SERVICE THROUGH OPTIMIZATION

Large-scale repair operations require tight planning to optimally use limited resources. Materials, tools, shop space, contract requirements, and workers' skills and training are among the many considerations that must be taken into account when devising a workshop plan.

ILOG Solver and ILOG Scheduler allow Eurocopter to apply each planning consideration as a constraint. First the whole operation is modeled, and then the model reduced to constraints that are processed by ILOG's industry-leading constraint programming engines.

The engines search through the constraints, matching them to form an optimal schedule for filling work orders. Once a schedule has been generated, it is presented using ILOG Views Gantt charts. The charts are presented in an interactive interface that allows planners to directly update and refine the schedules onscreen.

## BENEFITS

ILOG Scheduler's extensive library allowed modeling to be done naturally, without technical artifice. Users can describe constraints in detail. This enables Eurocopter to keep the system in sync with operations, so that changes in resources or business activities can quickly be reflected in scheduling. The ease of use of all three ILOG components – ILOG Solver, ILOG Scheduler and ILOG Views – resulted in rapid development of the system, creating a demand among the other Eurocopter divisions for similar planning systems.

## PROJECT

Headed by a project manager from the IT arm of Eurocopter, a team of five people, including a consultant from ILOG, developed a model of the problem and created the application for running the resulting constraints in just three months. A third-party software house developed the ILOG Views interface. The application runs under Windows NT 4 and Visual C++ at La Courneuve, the site of the workshop near Paris.

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