



AIRBUS HELICOPTERS

DECISION-SUPPORT TOOL FOR HELICOPTER BLADE REPAIRS



Aims:

- to provide users with an intelligent tool to enable them to apply a business rules approach to helicopter blade repairs
- to modernize a business tool, while migrating the pre-existing rules
- to return control to the business users



Solutions:

- implementation of a rule-based system
- automatic migration device for existing rules



Results:

- easily configurable, robust, upscalable tool for the business experts
- users become accountable
- more than 10 000 business rules managed by the tool
- an application that has become part and parcel of the activity

“Any misgivings about how difficult it would be to use an expert system were quickly dispelled. The operating team soon recognized the quality of the expert system recommendations and how easy it was to deploy the new rules. As for DSI, we proved that we know where to find top-tier partners” Jean-Pierre GERMINET, Project Manager at the IT Services Division (DSI), AIRBUS HELICOPTERS

AIRBUS HELICOPTERS¹ is the global No. 1 manufacturer of civilian and military helicopters, with some 12 000 units in service flying for 3 000 customers. Aircraft safety is the priority issue in aeronautics and the helicopter sector in particular. AIRBUS HELICOPTERS must guarantee this. Apart from complying with regulatory requirements, the company provides maintenance for its fleet. This extends to helicopter blade repairs, which are carried out by teams based at the Paris-Le Bourget (93) factory.

In 2005, the IT Services Division (DSI) sought to modernize its IT tool for monitoring helicopter blade repairs which was starting to show its age. The DSI put out a tender to find a service provider that could develop a bespoke application using the ILOG JRules² tool and migrate the existing system's rules, as it wanted to continue using a rule-based system that suited its needs.

Ever since that migration, AIRBUS HELICOPTERS has regularly called on EURODECISION's BRMS (Business Rules Management System) experts for their expertise on this tool. As it

happens, the team demonstrated in-depth knowledge of the various rule-based systems and readily understood the business, which convinced AIRBUS HELICOPTERS to rely on this business analytics specialist for over a decade now.

The system, which was devised for business users and can keep up with the frequent repair policy changes, has become part and parcel of the repairs activity operating process. The workshop technicians, who work in two eight-hour shifts, receive the blades, carry out a diagnosis and use an online interface to the expert system to enter the blade defects they observe. The system, which really helps in decision-making, calculates the repair times in real time and automatically updates the equipment's history. Users querying the tool's proposed solution, contact the engineering office manned by business experts, who decide whether to follow the recommendation or to change the parameters in the system. These business experts can roll out new production rules easily and swiftly (e.g.: taking on board new tooling and suppliers, regulatory obligations or those relating to the product life cycle, etc.), and do so without going through the DSI.

Apart from their ability to understand the customer's business need, the support given by the EURODECISION experts enabled the users to grasp this technical tool in no time. The project leaders enjoyed a high level of trust which made for constructive business and technical dialogue. Accordingly, AIRBUS HELICOPTERS regularly calls on EURODECISION to upscale and enhance the tool.

The system, which now handles more than 10 000 rules, is used every day by some forty experts. As the business users are responsible for setting the parameters, their responsiveness and accountability have improved. The system was initially designed for helicopter blades. It has since been demonstrated that it can be applied to a broader base to repairs of other composite material equipment. To cap it all, the tool has turned out to be a commercial asset for AIRBUS HELICOPTERS. As it traces all the repair actions carried out in the workshop, the company can provide its customers with detailed follow-up, and offer them additional, high added-value services such as optional maintenance operations.

¹ the new name for EUROCOPTER

² now known as IBM WODM

