



Facing up to the IT challenge of offshore helicopter operations

It was important, says Brian P. McDonald Director Asian Aviation Services (AAR); Management Consultant, SFS Aviation Co., Ltd., to select an MRO solution that could address all of the business's needs.

THAI HELICOPTER BUSINESS, SFS Aviation, founded in 1990, now employs 150 staff, including 48 pilots, 52 engineers and 50 in support and administration. And we use the latest generation aircraft to operate in support of offshore oil and gas customers' installations. The fleet comprises four AW139 Helicopters, three S-76C+ Helicopters and two BK117. Corporately, the business is part of a \$350 million group with interests in fuel, lubricants, chemicals, real estate, marine logistics and Aviation. In short, SFS Aviation has strong ownership which, in turn, supports a company commitment to quality and safety.

That quality and safety focus is evidenced from the fact that we work to highly developed quality and safety manuals and systems that are compliant with EASA standards and we utilize a safety management system (SMS) philosophy. SFS Aviation also utilizes QSMS (quality safety management system) right across the management of business in line with the company's commitment to best practice in aviation across the board.

All aspects of the business are managed and operated by a process model using an integrated ERP system which achieves our objectives by installing controls and barriers to manage human error. SFS Aviation, in line with offshore helicopter operators worldwide, is embracing SMS and process driven management tools. We are also looking to the airline lesson wherein all aspects of a flight are carried out in the same manner with checklists, a process, a stabilized approach, clearly defined criteria and parameters for all personnel to follow. Some examples of this include...

- Restricting the issue of purchase orders to 'approved vendors' only – a QMS (quality management system) requirement.
- Setting minimum/maximum inventory levels with an automatic purchase order being issued when stock levels on certain items reach minimum agreed levels.
- An alert notification when critical components or maintenance checks are approaching, with thresholds set at company determined levels based on current utilization, etc.
- Assistance in the management of training schedules and personnel rosters through integration with the HR module, i.e. alerts are triggered when CRM-Simulator slots are becoming due.
- Analysis of data through input of information such as HUMS (health and usage monitoring system), HOMP (helicopter operations monitoring program) and flight data information allows management to track performance and reliability of aircraft, personnel, parts etc.

We also work to a number of general standards and deploy systems and equipment applicable to the type of operations in which we are engaged.

- Minimum OGP (oil & gas producers) standards.
- Aircraft meet the latest FAR (Federal Aviation

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- Regulations) with enhanced handling, and glass cockpit avionics and displays.
- Our pilots are subject to full flight simulator training and have access to cockpit resource management.
- QA (quality assurance) and SMS systems are applicable throughout operations.
- We use an aircraft and engine HUMS.
- HOMP, FOQA (flight operations quality assurance) and FDM (flight data monitoring) all offer full downloads and analysis.
- We operate aircraft with Performance Class 1/2e having the full ability to climb with full payload from a Heli-Deck in the event of one engine failure.
- We also deploy EGPWS (enhanced ground proximity warning system) and TCAS (traffic alert and collision avoidance system).

CRITICAL IT CHALLENGES

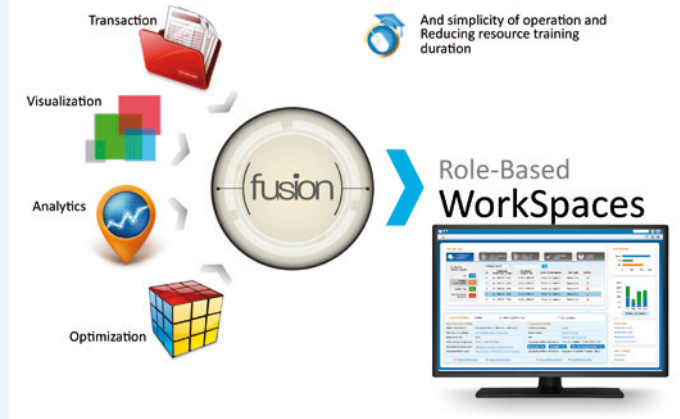
Helicopter operators face a number of critical IT challenges some of which are specific to the sector while others would be recognized across aviation operations and MRO. Because of the nature of our work as well

as the environments and locations in which we have to operate, we need to consider staying connected during remote operations. Like all operators and modern businesses, we also need to weed out data silos across the organization and to manage seamless integration with multiple systems. Our MRO functions and backbone functions (finance, HR, procurement...) have to work together and we need to work to reduce resource training duration. So how do we plan to address and tackle these critical IT challenges?

THE SOLUTIONS THAT WE HAVE IMPLEMENTED

To stay connected while remotely operating we use an offline field maintenance solution (OFMS). We also promote simplicity of operation and reduced resource training duration using role-based WorkSpaces (see figure 1). To ensure global parts visibility and to achieve seamless integration with other systems, we employ real-time stock visibility (see figure 2) globally (see figure 3). We also share data across the organization using RSPRINT+, a seamless implementation methodology, while MRO functions and backbone functions such as finance, HR and procurement work together through one system that connects them all: an aviation solution capable of replacing existing multiple systems.

WorkSpaces - One screen does it all



With Workspaces, one screen does it all. There is a parallel in everyday life: we all like to arrange our favorite phone apps on one screen for easy access. WorkSpaces offers the same convenience with software features. User interfaces are only provided with necessary information based on a context determined by the user's role and function; but, as with simply scrolling your phone screen to access further apps, the rest of the information in WorkSpaces is only a click away. So an aircraft technician will be able to

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run through his job card for the day, his licenses, training calendar, etc. all on one single screen, while his manager can view all the approvals, also on a single screen. This concept of ‘cutting through the clutter’ has huge potential in cutting resource training time from a few weeks to just a few days.

Real time Stock visibility with Google maps integration

Global Parts visibility & Seamless integration

Answers in real time!

- How many aircraft are under maintenance?
- What is the stock level at our Thailand base station?
- What is the status of all engine overhauls?
- How many rotables are due for service?

Part visibility
Stock levels
Warranty tracking
Store status
PO generation
E-Approvals
E-procurements

Is just a click away

The solution we chose answers all of our critical IT challenges and several others at a click of a button. It's also easy to check stock levels, overhaul status etc.

Real time Stock visibility with Google maps integration

Global Parts visibility & Seamless integration

Zooming in

In the example illustrated in figure 3, the pins in red indicate places with low stock level of a particular part while green shows places where the parts are available and ready for dispatch. Blue shows that the parts will be ready in the next 24 hours and are in the last day of the refurbishment process.

FLEXIBILITY AND MOBILITY

Our IT solution supports both Apple and Android devices and helps us manage and supervise operations anywhere at any time which is especially useful during remote operations in the middle of the ocean. Having more WorkSpaces on tablets means that users at the right authority level can remove or authorize MRO operations anywhere anytime. Also the risk component of any delays through miscommunication or pre-agreed upon matters is weeded out.

A SOLUTION MATCHED TO OUR NEEDS

There was an entire gamut of solutions available from which we have tailor-made our system by selecting relevant modules for immediate use while retaining the option to add more should the need arise in the future. This is the solution that addresses the last of the critical IT challenges we discussed earlier, seamless integration with existing systems and key functions such as HR, procurement etc. The aviation solution we chose is also able to take over our entire business and offer an end to end business solution, including human capital management, and finance and accounting.

The term ‘remote operations’ has always suggested several unmanageable variables for our projects and operations. I see these three (connectivity, global visibility, and training and usage) as the key IT challenges that we face while remotely operating. The solutions that we have selected are capable of making these problems obsolete. ■

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RAMCO



Ramco Aviation Suite manages the entire business of aircraft maintenance covering engineering support, inventory and procurement, maintenance, sales and MRO contract management, compliance, quality, and operations. The company also offers an Off-Line Field Maintenance module targeted at organizations having remote aircraft operations with no internet connectivity. Ramco Aviation Suite is modular and specific functions such as Reliability Management can also be deployed as a standalone best of breed solution alongside existing systems.



BRIAN P. MCDONALD



DIRECTOR ASIAN AVIATION SERVICES (AAR); MANAGEMENT CONSULTANT, SFS AVIATION CO., LTD.

Brian has 48 years general aviation experience and extensive helicopter maintenance experience in senior roles with various helicopter companies in Australasia. He holds private pilot licenses for both fixed and rotary wing aircraft. Having lived and worked in Asia for 30 years, Brian has extensive Asian experience, including General Manager, Hawker Pacific SEA and CEO of Helicopters (NZ) Ltd. He also has extensive contacts with operators and helicopter OEM's and offers consultancy services to the general aviation sector in Asia.

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