



CASE STUDY

Monarch Aircraft Engineering

Client:

Monarch Aircraft Engineering Limited (MAEL)

Project:

Facilities software upgrade to manage aircraft hangar maintenance at 40 sites across Europe.

Objectives:

Expanding the use of QFM Software and rolling out the latest version across the whole organisation.

Results:

Supporting the expansion of the FM operation from 11 to 40 sites; capturing all pertinent maintenance information, streamlining reporting, managing health and safety, identifying trends and managing budgets.

FM Challenges in Aircraft Maintenance

It can house four full-size football pitches, 2,400 Minis or 450 double decker buses. Monarch Aircraft Engineering's new state-of-the-art aircraft maintenance hangar facility at Birmingham Airport, which opened on 4 November 2013, can also accommodate most aircraft type in its two bays. It is one of the first to have the capacity for Boeing 787 Dreamliner maintenance, with sufficient capacity for other wide body aircraft, such as the Boeing 777, 747 and Airbus A350. The 110,000 sq ft facility can house 10 narrow-body aircraft, in addition to various component-repair and back shops, offices and a staff restaurant.

Today, 60 per cent of the world's airlines outsource heavy maintenance work, with the global maintenance, repair and overhaul (MRO) market worth US\$49 billion. This is predicted to grow to US\$65 billion over the next 10 years. The multi-million pound maintenance hangar, which complements Monarch's existing maintenance hangar facilities at Luton and Manchester airports, will enable the organisation to service a greater share of the growing market for aircraft maintenance service in the UK and Europe.

Its own third-party (non-Monarch Airlines) maintenance activities have grown to become 31 per cent of its total business in 2013, up from 18 per cent in 2010, and over the next two years it is anticipated that this will increase to almost 40 per cent of turnover. This will consolidate MAEL's position in the top 10 largest airframe MRO organisations in Europe.

The new facility will also ensure the continued growth of the organisation's apprenticeship scheme, now in its 42nd year. More than 700 apprentices have been through the scheme since its inception. Not only does the scheme help to create jobs in the local community, it also provides an essential pipeline of skilled aircraft engineers for MAEL and the wider industry. The new Birmingham hangar has created 150 jobs, with another 150 predicted to be recruited as demand grows.

► The Facilities Management Function

David Major, the organisation's property and facilities manager, started working for MAEL as a project manager eight years ago after a long career with Kodak. He took over the FM position four years ago after the previous incumbent retired. The role of the facilities management team is to ensure that aircraft maintenance can be completed as efficiently and effectively as possible. "We are responsible for everything up to the aircraft steps. We do not work on the aircraft. But we manage the floor it stands on, the power that goes to the aircraft, the air required for the tools, the lighting, heating, cooling, landscaping, pest control, front of house, parking, cleanliness, catering, statutory checks and the opening and closing of the enormous hangar doors." The team is also responsible for maintaining the motor transport in the hangar including ground support equipment, zippers, mobile elevated working platforms and stands. For example, Major is responsible for maintaining the tug that pulls the plane out of the hangar back to operational duties, but not for driving the tug itself. Security, a core function at an airport, is managed by a different team, although Major has responsibility for fire detection and the maintenance (not monitoring) of CCTV equipment.

Although the business is a 24/7 operation, the FM team works core office hours between 8am-4pm shift and provides an on-call service outside of hours.

QFM is helping us to professionalise the FM function across The Monarch Group

Major, and the FM team, are responsible for 40 sites across Europe including Gatwick, Leeds Bradford, Manchester, Luton, East Midlands, Tenerife and Malaga. These range from line stations near runways, where a small number of staff are based to provide ground support on aircraft flying out of that destination, to workshops, offices and hangars. The other two hangars are based in Manchester and Luton, where Monarch Aircraft Engineering is headquartered. "The FM challenges in Luton and Manchester primarily relate to the age of the buildings; between 20 and 40 years' old, and the associated wear and tear." Churn is also a major issue at Luton where desks are constantly moved around. There are 350 Monarch Aircraft Engineering employees based in Luton, with 150 in Manchester and 150 in Birmingham.

Another key facility is Monarch Aircraft Engineering Training Academy (MAETA) which was completely refurbished in January 2013 providing several new theatre style classrooms and facilities to carry out aviation training. Commenting on the development, Mick Adams, Managing Director for MAEL said, "This investment into new technology training facilities is a natural progression for the business, where we are a leading MRO and we intend on maintaining this position. MAEL has been training aircraft engineers for the past four decades and has gained a worldwide reputation for its continuing high standards."



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2 of 3

The Requirement

The organisation outsources most of its facilities services. Mitie manages cleaning; Guardian supports the HVAC and general maintenance; Ecolab does pest control; and Blue Apple provides the staff catering.

MAEL first started using QFM Software 10 years ago to standardise its FM reporting and centralise documents using one application. However, the system was only used by a small number of individuals and not to its full capacity. In March 2014 MAEL has expanded the use of the application and is now rolling out the latest version of QFM to the whole organisation.

It has enabled Major and his team to take on additional properties and expand the FM operation across The Monarch Group. Previously he managed 11 properties, but with QFM to support the FM operation, has taken on all 40 sites across the group including Monarch Aircraft Engineering, Monarch Airlines, the leading schedule leisure airline, Cosmos, the tour operator, and First Aviation, the corporate / wholesale side of the business. Many of the properties were looked after internally, using local contractors, and Major and his team will use QFM to analyse costs and performance and see where savings and improvements can be made.

Under the new system, anyone in the business will be able to log an issue or event whether in an office, line station or hangar. "It will speed up the reporting process and enable us to capture everything that we do," says Major. "The new system will resolve the issue of the adhoc fault reporting methods which we previously encountered. For example, on a written note not all essential information may be captured."

Now, the event is raised through QFM and then prioritised according to the service level agreement. "Health and safety and aircraft maintenance are the priorities within our SLAs," explains Major. "We work at height 2 million times a year so everything we do is very much linked to health and safety. Anything that risks health or stops work in the hangar is always a priority." The job is then sent to the appropriate contractor.

Due to the nature of the core business, the FM team at MAEL is heavily focused on planned preventative maintenance (PPM). "With scheduled maintenance we reduce the risk of equipment failure" explains Major who is working with Service Works to input into QFM all the organisation's FM assets' maintenance schedules; from a tooling dispenser and a vehicle to a vending machine or CCTV equipment. "The system will then flag up when we need to complete a task and assign it to the contractor." QFM will also enable Major to record the accurate costs of each of the properties and use the information for budgeting purposes. "And it will allow us to explore trends with the equipment", adds Major. "We can establish if something is failing more often than it should do and to take appropriate action accordingly. And it also allows us to manage our contractors efficiently and provides data for informed decision making. For example, we are now able to foresee when an asset gets to a point beyond economical repair. QFM is helping us to professionalise the FM function across The Monarch Group."



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3 of 3