MRO system replacement: selection through to phased implementation

One of the key challenges in selecting a replacement MRO system is identifying a solution that best complements your current and future business model. In this case study, Icelandair Technical Services reviews their recent selection process for MRO software; outlines the importance of building a strong relationship with your vendor and the user-community; and discusses the significance of identifying an implementation approach that best supports your business operations.

Defining your optimized enterprise

While there are inevitably commonalities, every aviation organization considering MRO system replacement is doing so based on varying compelling events. Some choose new fleet introduction as an opportunity for change, some can no longer justify the investment required to maintain legacy systems, and some believe that their current maintenance environment is incapable of supporting the organization's future plans. Regardless of the starting point, we all arrive at the same destination: a boardroom table, pouring over technical requirements, soliciting organizational feedback, and feeling overwhelmed by the task ahead.

We can't make the process of MRO system replacement easy, but we can definitely make it easier—we just need to understand where it is that we want to end up. We don't have to be limited by what we're currently doing; instead we should be encouraged by what's possible.

So, we start from scratch and first define our optimized maintenance enterprise. What does the ideal environment look like? And how far away is our present from our preferred future? This is an important first step when deciding what to do next. Your ability to clearly articulate your desired end state and goals for the future will help you as you begin to define your requirements and evaluate your future business partners in this undertaking.

In this white paper

Icelandair Technical Services (ITS) reviews their recent selection process for MRO software; outlines the importance of building a strong relationship with your vendor and the usercommunity; and discusses the significance of identifying an implementation approach that best supports your business operations.

Icelandair technical services at a glance

Managed fleet size:
35 B757 and B767 supported from 6 operators

Employees:
300 total–140 mechanics, 160 office and support staff

Services provided:

- Maintenance

- Technical Services

- Engineering

- Material support

Identifying the right approach

After identifying your desired end state, the next step is to identify the right approach in addressing the gaps between your current and future maintenance environment. Once again, having this defined at the outset provides the necessary context for future decisions.

A common approach identified by many IT vendors is to tactically address the areas of supply chain and maintenance execution without adjusting how we manage our upstream processes. Because these represent the most repeatable, high-volume activities in the organization, it is often thought that addressing these areas first will offer quick wins and the greatest return, as it does in areas such as manufacturing. But this argument is flawed; we don't first budget for gas if we don't know what car we're planning to buy or how far we intend to drive. To approach MRO system replacement from this vantage assumes that we're planning for consistent demand, with little to no consideration or allowance for uncertainty.

A better approach is to focus on a holistic approach and look at maintenance operations in terms of the ultimate goal of achieving serviceable aircraft, as this is what ultimately drives the demand for parts and labor downstream in the organization. The result of this approach is true visibility into your operations, with accurate demand signals and an optimized supply chain. This clear chain of command also provides greater insight in to why things have happened–or continue to happen–including aircraft delays and parts shortages.

With a clearly defined end state and a decided starting point, you're now in a position to confidently connect the dots between MRO system selection and implementation.

The Icelandair technical services experience

Icelandair Technical Services (ITS) is the independent maintenance arm of Icelandair. Established in 1937, the organization is responsible for the maintenance and technical management of the Icelandair fleet and, since 1995, has been providing maintenance, technical services, engineering and material support to a number of other global operators.

ITS' legacy maintenance environment consisted of a single MRO system, but with separate database instances for each ITS customer. The system has a Windows client interface and had reached the end of its roadmap. Although the vendor is currently introducing a new generation system to the market, ITS took this as an opportunity to explore other available options.

For ITS, the compelling event to begin the search for a replacement MRO system was driven by our requirements for a future-proof system able to support the ongoing strategy of our business. This, coupled with the nearing end of life (EOL) of our legacy system, provided the catalyst for our search for an MRO software solution provider able to meet our evolving needs.

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At the outset, ITS established clear and measurable goals for system replacement; this included a modern solution able to support our business objectives, as well as defined productivity enhancements, improved material utilization, and other quantifiable cost reductions.

Expected Advantages:

- Modern, user-driven design (web-based)

- Broad functionality and features

- Flexible with customizable user interface

- More efficient processes and task automation

- Strong vendor, good support and continued development

The selection process

Eight systems were evaluated with four eventually selected for further consideration. As the vendor was being evaluated as much as the software, ITS took every opportunity to build a relationship with the shortlisted organizations and attended conferences, participated in web presentations, and facilitated face-to-face meetings and demonstrations in order to familiarize ourselves with our potential partners.
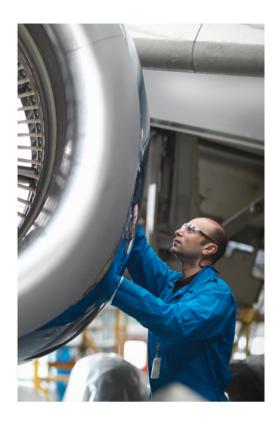
Based on our goals and requirements, the experience with each vendor, and our level of confidence in their systems, ITS selected the IFS Maintenix software for a proof-of-concept pilot to assess their fit with our organization and their ability to meet our needs for system replacement.

Elements of the Pilot Project:

- Walked through selected usage scenarios with ITS data

- Allowed the organization to take a look at data migration and cleanup effort

- Identified any gaps or areas of concern

- Engaged people and assessed the vendor

- References from questionnaires, phone calls and on-site visits to existing customers

5 Principles

...that form the basis of an optimized maintenance enterprise:

- Business model

- Organizational process

- Real-time targets

- Data model

- Continuous improvement

Why IFS Maintenix

The comprehensive functionally, advanced architecture, and future product direction of the IFS Maintenix software strongly paralleled our internal requirements for system replacement and quickly emerged as the solution-of-choice to enable the future direction of ITS.

Furthermore, the system's approach to aviation maintenance is guided by five principles that ITS believes form the basis of an optimized maintenance enterprise:

- **Business model:** model the whole business down to the component level in software.

- **Organizational process:** include the entire maintenance organization into one disciplined process.

- **Real-time targets:** capture real-time data to enable dynamic planning, immediate reaction to events, and the ability to take advantage of opportunistic maintenance.

- **Data model:** maintain information in a granular information model that enforces accurate, detailed, and compliant asset maintenance records at all times.

- **Continuous improvement:** continuously drive the process toward 100% predictable maintenance to minimize the impact of unplanned maintenance.

The implementation process

In order to minimize the impact on operations, ITS has chosen a phased implementation with the first phase focused on the implementation of 'back-office' activities, or those processes which are time-insensitive. Consequently, the first phase of implementation concentrates on the introduction of the Engineering, Planning, and Technical Records modules of the IFS Maintenix software. Phase two of the project focuses on 'production' activities, or time-sensitive processes, including Materials, Maintenance Execution, Finance and system integrations to flight following and finance. This phased approach was based on comparing the benefits of smoother and risk-reduced implementation versus the costs of running two systems in parallel during phase one. The latter was kept to a minimum by clearly defined interim processes and a clear split of functional areas that each system is responsible for.

Getting it right—best practices from Icelandair Technical Services

Throughout the implementation process, ITS put a heavy emphasis on 'getting it right'. What this has meant to the organization is the establishment of a project office with dedicated key subject matter experts, vendor engagement on the implementation, and stressing the current and ongoing importance of clean data—all of which are key to a successful transition and reaping the benefits afforded by the new system.

Much like the situation framing the decision to replace a legacy maintenance system, the situation for implementation will also vary widely. However, there are commonalities and opportunities for shared experience that stand to benefit both the individual operators and the industry as a whole as we begin to evolve our maintenance operations.

In the ITS experience, the keys to getting it right fell into six categories:

1. **Data Cleansing—**There cannot be enough of an emphasis put on the importance of clean data when replacing a legacy MRO system. As the project progresses, corrupt data stands to be a significant bottleneck in the achievement of efficiencies and measurable ROI. This issue can be addressed to a large extent independent of system replacement, but the most realistic approach considers a detailed data migration strategy and a mix of data cleansing before and during migration. Following system go-live, the benefits of clean data are immeasurable in supporting confident decision-making and continuous improvement.

2. **Data Migration—**Again, investing time and effort into establishing a sound data migration strategy will be of significant benefit to the organization as the project progresses, as this is a key area where you do not want to underestimate the amount of effort required. Although it is difficult to anticipate everything that could happen during the process of data migration, a solid strategy will better prepare you to address unexpected events. Things to consider in your strategy include using legacy data vs. OEM-provided data and which source is best for a particular asset.

3. **Project Resources—**The biggest challenge faced by many organizations will be assigning and keeping the right caliber and number of people engaged throughout the life of the project. ITS' original plan was very aggressive and didn't reflect the resources that the organization had available as peripheral activities required a redirection of effort, including new aircraft introduction. However, this can be offset through partnership with your vendor who should be able to provide the project resources with the industry knowledge and experience to continue to drive the project forward.

4. **Processes and Use Cases—**MRO system replacement offers an excellent opportunity for the organization to properly document and evaluate their existing business processes and use cases. Although it may be a challenge to introduce business process re-engineering in tandem with system replacement, this may be required and it is important to stay open to the possibility of changing current processes in support of future efficiencies. It is important to consider tools for managing processes and system use cases to ease training and facilitate workflow improvements post go-live.

5. **Phased Implementation—**Choosing a phased implementation supported ITS' objectives for system replacement and accepted level of risk. Deploying the software in phases also provides the opportunity to polish the setup of baseline data and support processes before launching maintenance execution. However, the downside to a phased implementation is the interim duplication of work and temporary workflows. Ultimately, your choice to implement in

Getting it right—6 keys:

1. Data cleansing
2. Data migration
3. Project resources
4. Processes and use cases
5. Phased implementation
6. Cooperation among user and vendor

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phases or via a 'Big Bang' approach will come down to the culture of the organization and the accepted level of risk, but it is important that you weigh the pros and cons of either approach before settling on one over the other.

6. **Cooperation Among Users and Vendor**—Any vendor you choose will have a varying customer base with a range of operational profiles, however, it is important that you strive for standardization and build a consensus around the product and future roadmap that meets the needs of the community as a whole.

Conclusion

The aviation industry is in a constant state of evolution. New aircraft, new technologies, and new ways of doing business coupled with strategic growth or mergers have meant that the industry is constantly transforming. Fortunately, the technology exists today to achieve measurable efficiencies now and well into the future with adaptable MRO software that allows you to adhere to regulatory requirements and respond to this steady flux. Given this environment, the benefits of modernization and new ways of doing business quickly outweigh the effort of MRO system replacement.

When evaluating the present and future operating environment and the desired business direction for the maintenance organization, it begins to emerge that adapting to change makes more sense than delaying the adoption of new technologies until change is unavoidable. Dated legacy systems, disparate point solutions, and complex work-arounds are not sustainable options for modern maintenance organizations. Any costs avoided by not implementing a new system will quickly disappear as the labor required to manage or work within older MRO solutions begins to outweigh the projected savings.

Next-generation MRO software—of which IFS Maintenix is the leader in the industry—offers today's operators an opportunity to look at the maintenance function differently from both a technology and business-process perspective as a key element in enabling their overall business.

Find out more

Further information, e-mail **info@ifs.com,** contact your local IFS office or visit our web site, **ifs.com**

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