



Enhanced business operations

Implementing state-of-the-art MRO software, says **Jorma Ryske**, Director Finnair IT Aircraft Maintenance, will support greater efficiency, visibility and a competitive edge

Finnair uses badges with RFID-readers connected to AMOS. Transactions used are electronic user authentication to update work orders and time and attendance bookings.

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THE STRATEGIC DECISION to implement new MRO software is most often triggered by the continuing stresses and strains of operating the legacy system. Switching from a currently working system to a new one is, on the one hand, a financial and operational risk but, on the other hand, offers the opportunity of increasing one’s competitive edge.

Finnair and Finnair Technical Operations have for some time been searching the market for an off-the-shelf MRO software solution. This case study will focus on the various stages of the implementation of the solution that we settled on, its impact on day-to-day maintenance operations, the key factors for a successful switch over and some of the issues we discovered during the process.

INITIAL SITUATION AND OBJECTIVE

As its in-house built, almost 30 years old, mainframe based MRO software was outdated, expensive and resource wasting to maintain, Finnair was looking for a new MRO system. After an extensive market search, AMOS came into Finnair’s frame for consideration in light of its integrated approach, modern architecture and user friendliness. The large AMOS customer base (especially in northern Europe) was a further encouraging factor and Finnair / Finnair Technical Operations expected to gain additional efficiency in subcontracted maintenance operations.



CHALLENGES FACED DURING IMPLEMENTATION

Firstly, Finnair strictly adhered to a zero-customization policy during the definition phase, which meant that the company organization had to undergo several business process changes. And, as in almost every project, data transfer was the biggest challenge during the introduction of the new software. The quality of data from the legacy system made it complex for the data transfer team to extract and to transfer the data.

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AMOS

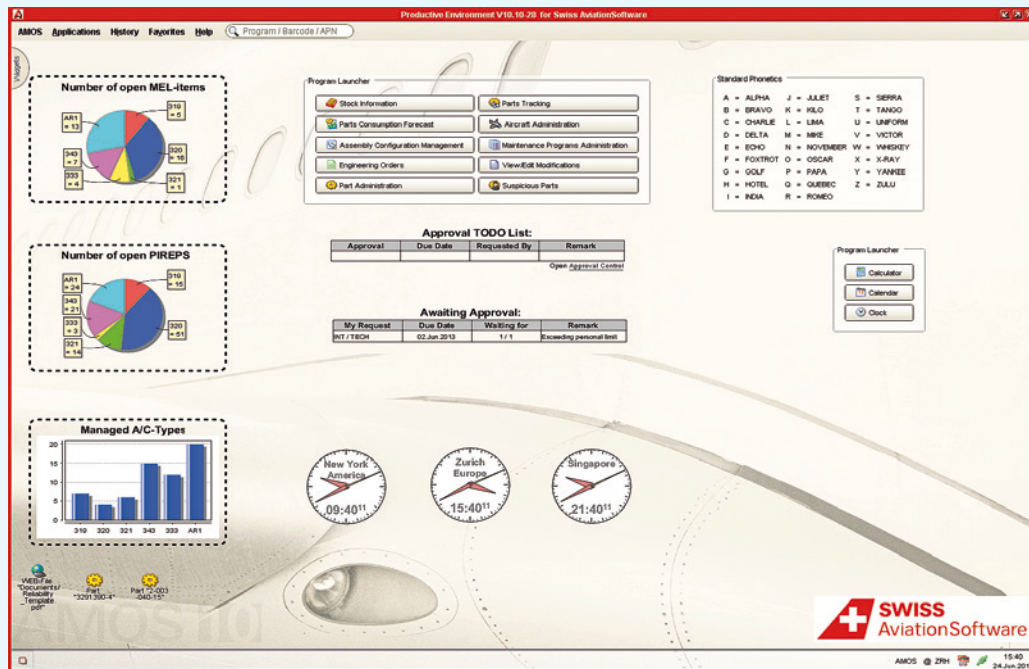
A Story of Success

“We assess AMOS as a top line product which is endeared and accepted as a fine tool by our users,” states Air Asia

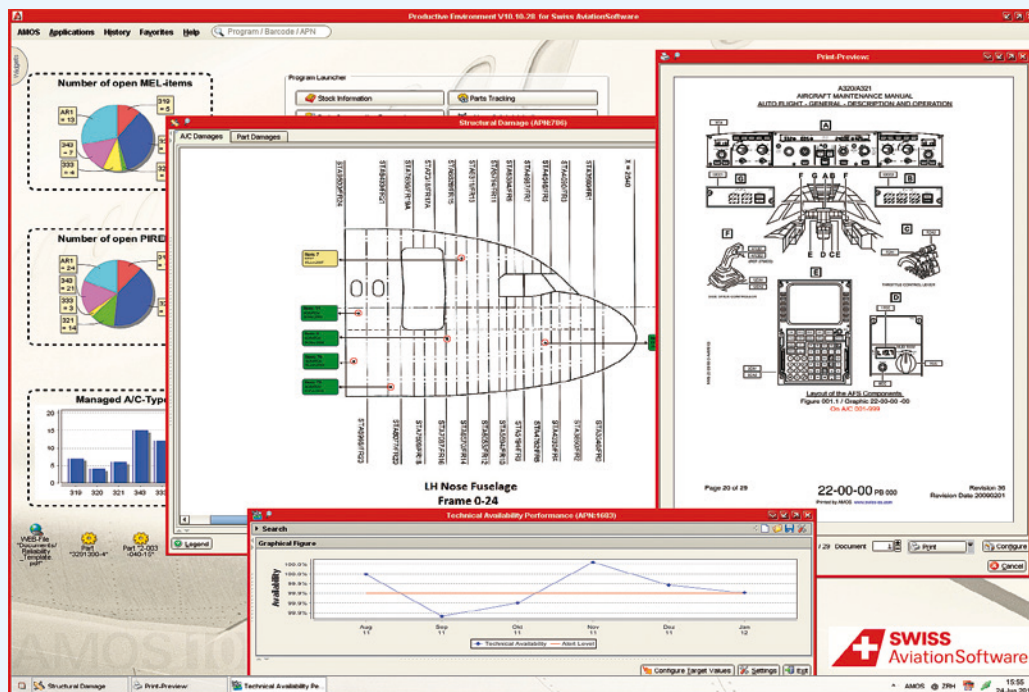
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AMOS 10 Main Screen



AMOS 10 Various Modules

“Process changes required as part of the internal enhancement project were fully supported by the MRO software’s functionality and AMOS, including the new processes, was effectively adopted during and after the implementation project without affecting the original project schedule or budget.”

During the implementation period between 2011 and 2012 and after the Go-Live, Finnair Technical Operations underwent significant structural changes as part of the corporate strategic project to enhance the competitiveness of Finnair Group. Services like heavy maintenance, component maintenance and warehouse operations were almost fully outsourced. These changes affected many internal processes and caused a significant reduction of employees in Technical Operations between 2011 and 2013.

SOLUTION, REALIZATION AND BENEFIT

In order to cope with the legacy system data, the data migration team followed a clear methodical approach. Finnair gave this task significant priority and so assigned a very skilled data transfer team. Several full data uploads were carried out during the project to test, analyze, and measure the data transfer process. This approach turned out to be a success since the ultimate data migration was performed on time and with high levels of accuracy.

Process changes required as part of the internal enhancement project were fully supported by the MRO software’s functionality and AMOS, including the new processes, was effectively adopted during and after the implementation project without affecting the original project schedule or budget. The project time line was divided into the project definition phase (six months) and the implementation

phase (twelve months). The first phase was dedicated to reviewing and defining the usage of the new MRO software in the context of Finnair. The implementation phase was started after approving the go-ahead project plan. The overall project was finished on time and within budget.

Finnair’s implementation strategy was to use the maintenance system without any non-standard, customer specific change requests. Nevertheless, some enhancements to the product were developed based on business requirements that were in line with best practice. In addition, Finnair was able to solve its own customer specific requirements by using the readily available tools in the new software solution, such as interface configurations, web-services, report-designer, etc.

Finnair, being open to new technology and with a tech-savvy reputation, has become an AMOS benchmark customer while being one of the most extensive users across the gamut of AMOS business functions including the most recent enhancements. The M&E software system supports continuing airworthiness, maintenance and other technical services for the Finnair fleet and is used for the management of component repair cycle using almost fully outsourced component repair services. Furthermore, Finnair makes full use of the software modules Shift Planning, Time and Attendance, OEM document management and all engineering related programs such as Weight&Balance.

A core key-user team of 15 personnel from Finnair Technical Operations departments was maintained throughout the duration of the project. Additionally, each Key-User was supported by subject matter experts. From the IT point of view, Swiss-AS was and still is supporting Finnair’s internal IT department with the ‘AMOS Operational Service’ (AOS) package and thereby helping Finnair to administer the application and its database.

AMOS USAGE TODAY

As an outcome of the switch-over from the legacy system, many business processes have been optimized in order to adhere to the maintenance software’s industry best practice approach. The feedback within Finnair (600 users in total) in this regard was very positive. The users value the new software as an integrated, user friendly MRO system.

“AMOS provides excellent visibility about fleet maintenance demand that enables effective alignment of aircraft operation and maintenance. The maintenance management system has enabled Finnair Technical Operations to make a huge step towards transparency for required resources (consumables, rotables, special tools special requirements, etc.) related to forecast and planned maintenance. Now we have a spare part forecast about needed parts, based on scheduled future maintenance. Also we plan our labor capacity within the new system which allows us to create an overview from one system for aircraft maintenance production, planned workload and labor capacity,” says Mikko Timlin, Director of Maintenance Planning.

One of the most remarkable enhancements was the new process in

which the complete airworthiness related data must be updated in the M&E system prior to releasing the aircraft back to service. Essentially, this means that checks, workorders, taskcards, and rotatable labels must be updated by the mechanics before they certify the release of the aircraft. The MRO software itself is not prescriptive in this context, but due to the user-friendliness and visibility of data across departmental boundaries, Finnair decided to adopt this process to reap the benefits of up-to-date data made quickly available to all related operations departments.

Furthermore, maintenance production staff processes are all managed in the newly deployed software solution from badge-in/badge-out for time and attendance bookings, to direct data entry and electronic user authentication to update work orders while performing aircraft work based on software generated paper work including AMM (Aircraft Maintenance Manual) tasks, all while using hand-held barcode devices to track working times.

Another highlight is the integrated Spec2000 ordering process (Chapters 2, 3 and 4) which is fully supported

by the MRO software system. Further interfaces were established between the M&E software and the existing SAP / Finance and HR. Finally, the rollout at Finnair included integration between the existing aircraft e-TechLog system and the new maintenance software to archive 'dirty finger prints'. The documents are integrated and linked to AMOS on taskcard level. This real-time integration ensures an efficient defect control and planning process.

Although AMOS has a lot of reports built in, many reports still have to be created to fulfill special needs in any organization. Special reports at Finnair Technical Operations are typically created for logistics, manpower handling, defect and reliability reporting areas. The internal Service IT team is creating these new reports with the AMOS Report Designer tool or an external reporting tool.

In terms of cost reduction the decision to go for a new M&E software package was also a success since the implementation of the new software has reduced the costs for hosting and license fees for the legacy system by about 75%.

SUMMARY AND LESSONS LEARNED

The implementation is considered a success by Finnair and Finnair Technical Operations as the risk taken and effort of changing to a newer MRO software system have paid off and the phrase 'Never touch a running system' has been proven wrong in this context.

The project review identified several lessons learned from which three major factors contributing to success are explained below:

- Having sufficient and skilled project resources, especially for the data transfer: the amount of time the key users spend on the project should not be underestimated and easily amounts to 80-100% during peak phases. As data transfer is one of the main reasons for project delays, this task was taken very seriously, which was reflected in the selection and number of data transfer experts.
- Having a committed software provider who is also a strong implementation partner: it is of great help if one can fall back on the provider's experience in introducing the software and its expertise in view of state-of-the-art processes.
- Deployment of the MRO software as-is: in order to reduce the complexity of an IT project it is advisable to avoid customer specific software adjustments (at least prior to the go-live). Experience has shown that early defined customizations often become obsolete or former requirements have shifted once the software is in daily use. In case of AMOS, the needs and requirements of more than 100 customers are covered and Finnair was in the comfortable position of being able to implement a proven off-the-shelf system without the need for major customizations.

In conclusion and summing up the selection, implementation, go-live and subsequent use of the new system, Päivi Mononen, Manager, Resource Planning at Finnair explained that, "The most important improvements when working with the new MRO software system are the additional functions, data reliability and enhanced data availability compared to the old way of doing resource planning with MS Excel. Also for planning purposes, it is a big benefit to be able to monitor workload and capacity with competencies in the same system.

The real time visibility for shift changes and absences is available for all users, and amongst other things, it helps us to keep the working hour calculation up to date." ■



FINNAIR AND FINNAIR TECHNICAL OPERATIONS

Finnair (one of the world's oldest operating airlines) and its maintenance organisation were established in 1923. The Finnish national carrier offers passenger flights to more than 70 destinations worldwide. Today approximately 600 experienced Finnair Technical Services professionals perform aircraft maintenance at Helsinki Airport. The 70 aircraft fleet comprises of the following aircraft types: Airbus A340/330, A320 family and Embraer E170/190.



JORMA RYSKE

Jorma Ryske has been in Finnair Technical Operations and in Finnair IT since 2008 as IT Director. The main task in FTO in addition to normal IT management has been to replace the

old legacy mainframe and ERP based MRO system to modern one by leading the new MRO system selection and implementation project. Before 2008 Jorma Ryske has been working 20 years in electronic component manufacturing industry at Aspacomp Group Plc responsible of company's global ERP, Supply Chain, multi plant production control and IT Infrastructure systems.

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Item	AC Reg.	Chart	Workorder	Description	Damage Type	Damage No.	Location FR	Location ST	Location CR	Dimension	Notes	Entry Date	Entry Sign	Final Date	Final Sign
4	JHC	10RH	2136152	DEIT RH	DEIT	UNKNOVN	Frame 8364	Stinger 43	LH WING		Deit in	no L	09.Jan		
4	JHC	08RH	2140043	VING LH	DEIT	UNKNOVN						no L	17.Jan		
4	JHC	08RH	2140045	AFT CAR	SCRATCH	UNKNOVN	FR 6566	STOR 306		A. DIA		2 U	17.Jan		
6	JHC	12RH	2140050	RH WING	DEIT	UNKNOVN			OUTBD F			2 U	17.Jan		
6	JHC	08RH	2140052	REVCOMP	SCRATCH	UNKNOVN	FR 68	STOR 3506	DOOR AL	LENOT		2 U	17.Jan		
7	JHC	07LH	2136959	DEIT AF	DESTORSE	UNKNOVN						2 U	17.Jan		
8	JHC	08RH	3144797	SCRATCH	SCRATCH	UNKNOVN	FR 6869	STRO 35RH				2 U	17.Jan		
9	JHC	12RH	3352201	RH Inbd F	DEIT	UNKNOVN			RH INBD F			2 U	20.Jan		
10	JHC	05LH	2143011	HOLE RH	HOLE	UNKNOVN	FR 67 RH		BELLY FA	15mm	PRFS	no L	03.Feb		
10	JHC	08RH	6023911	BLK CA	DEIT	UNKNOVN	FR 16-16	STOR 26	BEAM NO. 5	40 mm		2 U	19.Jan		
12	JHC	02RH	6055699	FUSELA	SCRATCH	UNKNOVN	FR 16 - 16	STOR 26				2 U	28.Feb	PVEB	
13	JHC	08RH	2138149	AFT CAR	CRACK	UNKNOVN			DOOR PA	30 x 1	OPRO	no L	28.Feb	PVEB	
14	JHC	12RH	3513069		DEIT	UNKNOVN						no L	27.Aug		

AMOS 10 Structural Damage



SWISS AVIATIONSOFTWARE AND AMOS

AMOS - developed and distributed by Swiss AviationSoftware - is a comprehensive, fully-integrated software package that manages the maintenance, engineering and logistics requirements of modern airlines and MRO providers by fulfilling all airworthiness standards. Swiss-AS has more than 120 customers worldwide, including pure operators of all sizes, major low-cost, regional and flag carriers, large airline groups and MRO providers. The fact that none have ever replaced AMOS with an alternate system speaks for itself. Swiss-AS has its headquarters in Basel, Switzerland and is also represented in Miami, USA and Singapore.