

# aircraft IT

## MRO

V5.3 • JULY-AUGUST 2016

**PAPERLESS  
MAINTENANCE**  
IATA drives standards

**MERGERS AT ENDEAVOR AIR  
REQUIRE A SINGLE APPROACH**

The challenges of digital system integration

**AIR INDIA BRINGS ALL  
MRO INTO ONE SOLUTION**

Leveraging opportunities from change



White Paper: IATA Case Studies: Endeavor Air and Air India

PLUS... How I see IT, News and technology updates, On-demand Webinars, MRO Software Directory



# Aviation maintenance gets unplugged

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# Welcome...

## Change is a constant of life in MRO IT so managing it is an important business issue: also, paperless working is becoming a necessity so a set of standards is a welcome development



We're not great believers in change. Think about the motto, 'If it ain't broke, don't fix it', credited to Bert Lance, Director of the Office of Management and Budget in the administration of US President Jimmy Carter. Lance was railing against government's and big business's habit of not changing what needs to be changed (that's difficult) but changing things that are easier to change, even when there's no need for it, simply to create the appearance of activity.

That said, some changes cannot be ducked: in truth, nothing stays the same and that would certainly be true for the world of airlines, engineering and IT. Mergers, acquisitions or just re-organizations often bring disparate entities together within one structure to realize the benefits of scale but, in an age where processes are always underpinned by technology, they can also bring together varied and sometimes incompatible systems. That makes it more difficult to realize the benefits of scale unless there is a clear program to unify the

processes and systems in the various component businesses: change might be needed but it's often difficult to achieve.

Two articles in this issue look at the changes necessary to bring together different components in a merged or reorganized business; the challenges faced in making such a move and, importantly, the benefits derived as a result of all the efforts. Importantly, both articles are case studies based on real experience.

Another topic that can't be ducked is the move to paperless operations. It's good for the environment to use less paper but it's also good for business with higher levels of accuracy, easier and more rapid accessibility, a better range of tools to leverage value from the information in records and the space/cost saving of not having to store millions of records in hard copy format. Add to that the improvements when transferring aircraft between lessees and lessors and the ability to respond to regulator enquiries at the click of a button and the paperless case is compelling. In this issue, you'll read about the efforts of IATA to develop a set of standards and templates which will add compatibility to all of the other benefits of going paperless.

As well as excellent and relevant articles, we have the regular overview of news and information affecting your sector plus details about on-demand webinars recently added to our growing library of the market as well as a focus on the larger 'On-Demand Webinar' library; not forgetting, of course, how Paul Saunders sees IT. In this issue, he reflects on the demise of filing and printing.

**Aircraft IT MRO: covering your IT priorities.**

Ed Haskey

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### 04 LATEST NEWS AND TECHNOLOGY UPDATES

Keeping up with developments in your world can be a challenge. But simply go to [www.aircraftit.com/MRO/Index.aspx](http://www.aircraftit.com/MRO/Index.aspx) or here in the Aircraft IT MRO e-journal to keep up to date with the latest developments.

### 12 WHITE PAPER: PAPERLESS AIRCRAFT MAINTENANCE INITIATIVE

*Iryna Khomenko, Manager Operational Efficiency, IATA*

With the objective to support members' with initiatives and standardized templates that will improve their businesses, it is entirely in keeping that IATA is seeking to bring further order to the drive for a paperless environment in commercial aviation.

### 16 ON-DEMAND WEBINAR FOCUS PART 1: END-TO-END MRO / M&E IT SOLUTIONS

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### 24 CASE STUDY: MANAGING LEGACY SYSTEMS

*Chris Oot, Tech Ops Systems Support Business Manager, Endeavor Air and Robert Gatzke, Aircraft Maintenance Programs, Endeavor Air*

Endeavor Air consolidated various legacy MRO systems after several mergers. The article outlines the original consolidation as well as the project challenges and lessons learned plus a look to the future and digital content management integration.

### 28 ON-DEMAND WEBINARS: THE KNOWLEDGE LIBRARY FOR MRO IT SOLUTIONS

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### 31 VENDOR JOB CARD: HOW DOES SAVISCON.COM STAY AT THE FOREFRONT?

In the latest of our Q&A pieces, Ingo Simon, of Savison, completes his 'Vendor Job Card' and lets us in on the secret of the company's success.

### 32 CASE STUDY: A FIVE YEAR SUCCESS STORY TOGETHER

*Dinendra B Kadam Deputy Continuing Airworthiness Manager -IT-MRO for Air India*

How Air India use their end-to-end ERP MRO software to manage the maintenance and engineering requirements of their entire mixed aircraft fleet, from next generation aircraft such as the 787 to region aircraft such as the ATR72.

### 37 COLUMN: HOW I SEE IT

*Paul Saunders: The death of an icon*

The power and the capacity of cloud applications is rendering some IT artifacts and functions redundant. Saving files and printing will soon be unnecessary (already are in many cases) but we'll get used to it.

### 38 MRO SOFTWARE DIRECTORY

A detailed look at the world's leading MRO IT systems.

## Latest news on MRO IT software and systems

**HERE** is where readers will learn about the latest developments in M&E / MRO IT... not only the latest technical developments but also who is doing what; who has developed what; and who is working with whom. Some of the latest ideas in this busy and technology heavy sector are here along with explanations of the logic that lay behind the development so readers can scan a large part of the market and keep themselves informed by simply reading what follows.

Aircraft IT will always be as good as the people who contribute and our Vendor panel always figures large in that. So it's a great pleasure to welcome Lufthansa Industry Solutions to the Aircraft IT MRO Vendor panel.

### Lufthansa Industry Solutions

Lufthansa Industry Solutions is an IT service company for process consulting and system integration. This wholly-owned subsidiary of Lufthansa Group supports its customers with the digital transformation of their company. Its customer base includes companies within Lufthansa Group as well as more than 150 companies in various other industries.

The products EFOM and DocSurf Mobile were developed together with Lufthansa Airlines based on 15 years of

common experience and excellence in electronic flight operations manuals and processes to fulfil both current and future requirements.

EFOM — a manufacturer independent Content Management System is functionally mature and based on 17 years of experience. EFOM makes it possible to fulfil Flight Ops requirements, e.g. expandable for new publishing back ends; flexible to integrate new documents; open for customized enhancements or to integrate business processes such as Compliance Management.

DocSurf Mobile — A Library Viewer for MRO and FlightsOps documents is available as a native iOS app or Windows application. The revision service allows change lists to be checked and content to be compared with a previous version. Navigation is intuitive and includes a fast and easy search. A user independent management of favorites and notes is provided, keeping this information revision safe and available.

Welcoming the business to the Vendor panel, Ed Haskey, Publisher and Editor of Aircraft IT said; "As readers increasingly appreciate, it is having our roots in the market we serve that makes Aircraft IT MRO so relevant to its readers. Therefore it is with particular pleasure that I welcome Lufthansa Industry Solutions to join the vendors whose expertise ensures the publication is always up-to-date with the latest developments relevant to our readers and their businesses."

## AerData UK relocation reaches new heights

**AERDATA**, a Boeing Company, and the provider of lease management, records management and engine fleet planning software, was delighted to announce at the very start of June 2016 the relocation of their UK office to a newly refurbished, larger facility in the Manor Royal Business District, Crawley, West Sussex.

A striking seven floor landmark building, Astral Towers is one of the best known offices in Crawley. Located immediately off the A23 arterial road in central Crawley, it is nine miles from the M25, 30 minutes by train from Central London and five minutes by taxi from London Gatwick Airport.

Commenting on the announcement, Vincent van der Gulik, Director Products and Services, AerData said, "We are thrilled to have finally moved our 70 UK employees into our new offices after years of planning. This is a much larger office space, allowing us to bring our colleagues closer together and more room for manoeuvre as we grow as an organisation."



This move continues the growth of Boeing in the UK, delivering enhanced prosperity to the UK economy. Boeing has doubled its UK workforce since 2011.

The new address is: AerData UK, Astral Towers, Betts Way, London Road, Crawley, West Sussex, RH10 9UY. Telephone: +44 1293 226 810. Website: [www.aerdata.com](http://www.aerdata.com)

## LST (ex-GTLLot) sign an agreement to migrate to DigiMAINT NG / DigiReports / DigiPLAN

IN early June 2016, LST (ex-GTLLot) sign an agreement to migrate to DigiMAINT NG / DigiReports / DigiPLAN with major MRO functional enhancements, re-affirming to the AeroSoft Systems Inc. and their unwavering emphasis to customer support.

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## 2MoRO Solutions

### AERO ONE® CHOSEN BY WESTSTAR AVIATION SERVICES

2MoRO was really proud to announce at the beginning of June 2016 that Weststar Aviation Services Sdn Bhd has chosen Aero One® to provide the CAMO features (Part M) and the MRO features (Part 145) for its activities in Malaysia, Thailand and Indonesia. Weststar Aviation Services Sdn Bhd (WASSB) is an industry leader in offshore helicopter transportation services and rotary wing aviation services sectors. WASSB has been catering to the oil and gas industry in Malaysia since 2008 and operates a modern fleet of Sikorsky S-76C++, AgustaWestland AW139, AgustaWestland AW139 VIP and AgustaWestland AW169.

Aero One® software will be implemented with SAP® Business One to form one unique information system to manage all the needs of the company. This new solution will replace the legacy systems composed of heterogeneous software.

This new reference highlights how important is the connection between the ERP system and the Aviation software for Aviation companies who are looking for reliable, efficient and cost-effective software. The combo 'SAP® Business One + Aero One®' builds one unique system to help customers optimize purchasing and stock level, to follow their fleet, secure airworthiness and perform their maintenance as well as the creation of financial reports based on maintenance activities and the tracking of their asset values.

### A FOURTH AIRBUS HELICOPTERS SUBSIDIARY CHOOSES AERO ONE® TO MANAGE ITS MRO ACTIVITY

ALSO at the start of June 2016, 2MoRO was very pleased to add the Saudi Arabian subsidiary of Airbus Helicopters to the Aero One® users community. 2MoRO is the preferred MRO software supplier of the Airbus Helicopters Group for its small



and medium sized subsidiaries. Airbus Helicopters in the Kingdom of Saudi Arabia (ECKSA) has decided to implement Aero One® software so as to use cutting edge software, enabling a better reliability and a higher efficiency by integrating the MRO activities' processes to its ERP, SAP® Business One.

2MoRO has already successfully implemented Aero One® in three Airbus Helicopters subsidiaries on time and in budget (Malaysia, Kazakhstan and Chile).

Thanks to the integrated solution "SAP® Business One + Aero One®", Airbus Helicopters in the Kingdom of Saudi Arabia will be able to manage all its business processes in one unique solution (Aircraft & equipment receiving, repair projects management, maintenance tasks management, work orders, time tracking, inventory, finance, purchasing and sales, HR, and so on).

Aero One® and SAP® Business One form the most suitable integrated solution for the midsize Aviation companies looking for a full ERP coverage enhanced with specialized modules for their aviation businesses:

- Maintenance execution management;
- Continuing airworthiness management;
- Referential data management;
- Flight scheduling and crew management.

## Cervino Consulting and EXSYN sign partner agreement

IN early June 2016, Cervino and EXSYN were delighted to announce that they have signed a partner agreement concerning bilateral cooperation, software sales and pooling of resources for projects in the MRO-system and aviation market. Cervino's long-time experience and strong background in providing consulting services in the MRO-market and EXSYN's bespoke Aviation software solutions and in-depth knowledge of IT and aircraft maintenance provide a strong base for this partnership.

"We think that EXSYN's IT solution platform is a brilliant tool to use in our projects and that we will get a lot of leverage in the AMOS and MRO-system market from this partnership," said Cervino Managing Director Fredrik Ekstrand.

"With the partnership agreement we are truly 'EXploring SYnergies' as Cervino's approach to MRO-optimization and aviation adds value to our services and we believe that Cervino can help us to reach new markets for our products", said Sander De Bree, CEO at EXSYN.

The agreement is effective from the second quarter of 2016 and covers sales of resources and software as well as mutual marketing campaigns and projects.



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## Flatirons Danmark A/S signs new Collaboration Agreement with Airbus Defense and Space in support of Eurofighter Typhoon Danish fighter replacement program entry

**FLATIRONS** Solutions, provider of technical information management solutions for knowledge-driven industries including aviation, aerospace, shipping, rail, energy, and defense, announced in mid-April 2016 the signing of a new teaming agreement with Airbus Defense and Space, a subsidiary of Airbus Group, one of the world's leading providers of aeronautics, space, and defense services and technologies.

The agreement formalizes the team's entry of the Eurofighter Typhoon, produced by a consortium that includes Airbus Group, Alenia Aermacchi, and BAE Systems, for meeting the Danish Fighter Replacement Program's (DFRP) requirements. The DFRP is evaluating entries on behalf of the Danish government to support the replacement of the Royal Danish Air Force's (RDAF) aging F-16 fleet, which is due to be phased out of service.

As part of the agreement, Flatirons will provide CORENA Suite® software for production and ongoing management of Danish Eurofighter Typhoon maintenance publications,

including airframe and engine manuals. The CORENA Suite-powered Flatirons Multi-Spec Solution software included as part of the entry provides full content lifecycle management for mobile maintenance and technical operations. The teaming agreement builds on a long-term partnership between Flatirons and Airbus Group, including collaboration in support of Airbus's NH90 and Tiger programs since 2001.

Flatirons CEO Geoffrey Godet welcomed the teaming agreement, stating that "Flatirons has enjoyed a productive relationship with Airbus Group through our work on defense helicopter programs, and we are gratified to extend our partnership in support of the Eurofighter Typhoon entry for the Danish Fighter Replacement Program."

CORENA Suite is extensively adopted worldwide to make task performers in the field more productive, with customers that include nearly half of the world's top ten airlines, leading aviation and defense Original Equipment Manufacturers (OEMs), and defense operators.

## airberlin takes off with AMOS



### At a glance:

- **AMOS satisfies complex business needs.**
- **Use of AMOS Multi-Financial-Entity capabilities.**
- **Excellent cooperation between airberlin and Swiss-AS.**

**APPROXIMATELY** two years ago the airberlin group decided to replace its legacy system and to implement AMOS as the best fit to support the maintenance and engineering activities of the group. Austrian based carrier NIKI, a member of the airberlin group and an AMOS customer since 2006, encouraged the selection of AMOS. Now, since April 2016, all members of the airberlin group (airberlin, NIKI, Belair and airberlin Technik) take full advantage of the wide spectrum of

AMOS functions to fulfill the complex business requirements of the group.

### ANOTHER GROUP RELYING ON AMOS MULTI-FINANCIAL-ENTITY CAPABILITIES

The airberlin group is an additional AMOS customer who relies on the AMOS Multi-Financial-Entity capabilities which were designed to allow airline groups to share one AMOS productive environment but still separately maintain and monitor the financial data of each entity within the group.

### EXCELLENT COOPERATION DURING IMPLEMENTATION

The project was well managed by the airberlin and Swiss-AS teams to satisfy a range of complex tasks such as data migration, data harmonization between the different entities, and the detailed definition of the future processes employed by the group. Thanks to an excellent cooperation between the parties, AMOS was successfully implemented within the allocated time and budget frame, including its full integration with the Finance and OPS applications.

"It is wonderful to have the airberlin group on board and additional proof that our continuous software developments constantly attract new customers," expressed Ronald Schaeuffele, CEO of Swiss-AS

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## IFS supports Affinity in UK MOD Military Flying Training System

IFS Applications 9 and IFS Managed Cloud on Microsoft Azure are to support Affinity Flying Training Services managing aircraft maintenance for pilot training as part of wider £1.1 billion UK Ministry of Defence investment into modernisation of fixed-wing military flight training

IFS, the global enterprise applications company, announced in early May 2016 that Affinity Flying Training Services has chosen IFS Applications™ 9 and IFS Managed Cloud™ as one integrated solution for aircraft maintenance and Enterprise Resource Planning (ERP). The agreement with IFS, including licenses, is valued at approximately £1.2 million for the first six years of the 18-year contract.

Affinity Flying Services Limited secured a GBP500 million (USD721 million) contract in February to provide the UK Ministry of Defence (MOD) and its Ascent Flight Training partner with the aircraft for the fixed-wing portion of the UK Military Flying Training System (UKMFTS) programme.

Affinity, an Elbit Systems and Kellogg Brown & Root joint venture, will replace legacy MOD fleets with 38 modern training aircraft as well as simulators and classroom learning for aircrew across the Royal Air Force, Royal Navy Fleet Air Arm, and Army Air Corps. The contract includes the designing, delivering, and managing of the fixed-wing training service until 2033 and is expected to provide around 200 new jobs across training bases in the UK.

As part of this, IFS Applications 9 and the IFS Managed Cloud solution will provide Affinity with maintenance, repair and overhaul (MRO) and ERP software for the business as an end-to-end solution — supporting aircraft operations and maintenance, supply chain, HR, and finance. Affinity



will provide fixed-wing training aircraft and maintenance to support UK fixed-wing military flying training to deliver an optimised training service and ensure availability of Grob G 120TP 'Prefect', Beechcraft 'Texan' T-6C and the Embraer 'Phenom' 100 training aircraft.

"Affinity plays a key part in the seamless progression of military personnel through fixed-wing flying training and, with the help of IFS, will help support a more modern and efficient training pipeline for UK aircraft pilots," Ian Chalmers, Managing Director at Affinity Flying Training Services said. "The IFS solution is a perfect fit for us as it provides an agile



and responsive system to better ensure the maintenance and availability of our aircraft for the duration of our partnership with Ascent and the MOD, as well as supporting the running of our JV business."

IFS aerospace and defence industry director Graham Grose said, "We are delighted to have been selected to be part of this important £500 million MOD and Ascent Flight Training investment for fixed-wing training. The solution provides Affinity with a powerful and easily deployed service to streamline the maintenance process of aircraft and to focus on training the future generation of military aircraft pilots. By using the solution, Affinity can maintain the aircraft and prepare future UK aircrew for duty, as well as making sure strict airworthiness and safety standards are met alongside the running of the business from day to day with traditional finance, HR and procurement."

## Fokker Services B.V go live with Envision



IN late May 2016, Rusada was delighted to announce that Fokker Services B.V were now live with Envision software. Fokker Services have chosen Envision to enable them to replace several of their legacy systems with a pure play, top of the shelf software system.

Fokker's contract with Rusada consists of six of our seven software modules, annual maintenance support and professional services. Modules include Fleet Manager, Materials Manager, Maintenance Manager, Finance Manager, Quality Manager and Configuration and Resource Manager.

A Fokker Services Director was quoted in saying: "A major achievement has been reached, thanks to all of you involved. Good preparation, good teamwork and right spirit did pay off. Let's maximize use of new ERP system and capture needed benefits."

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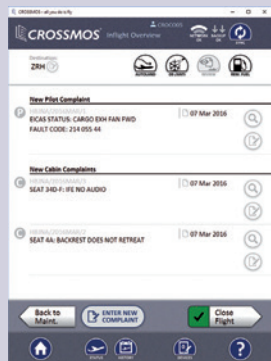
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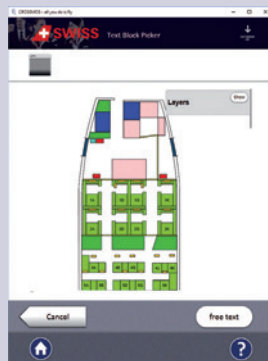
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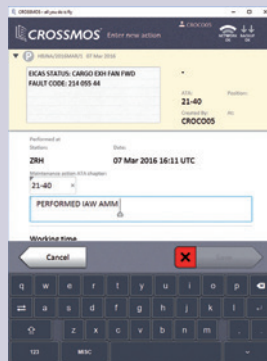
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## Ramco Aviation to power Scandinavia's leading helicopter MRO provider, Patria Helicopters AB (PHAB)

**RAMCO** Systems, the global Aviation software provider on Cloud, Mobile & Tablets, announced in late May 2016 that it has secured an order from Patria Helicopters AB (PHAB), the authorized service centre in the Nordic region for a mixed fleet of AgustaWestland, Bell and Airbus Helicopters, to implement Ramco Aviation on Cloud.

Patria Helicopters AB is Scandinavia's leading helicopter MRO service and equipment centre, and is part of Finland-based Patria Group, that offers defence, security and aviation support services and technology solutions to Nordic and international defense and civil customers.

PHAB will be implementing Ramco's complete suite which includes Maintenance, Materials Management, MRO Sales, Engineering & Programs and Compliance & Quality, coupled with Finance & Accounting. With Mobile enabled features, Ramco Aviation Suite will help the company seamlessly track and monitor activities and inventory across its MRO and engineering services. The suite is expected to reduce costs, improve service and minimize revenue leakage for PHAB.

"We were using multiple disparate IT systems which often yielded inaccurate data and required extensive manual labour to rectify. This was potentially leading to revenue leakage as there was lack of visibility of parts, and components in stores vs sales and invoicing. With a mobile-ready completely

integrated system from Ramco, we will be better equipped to address these challenges and benefit from a scalable, integrated and web-architected Cloud based system. A sound technology backbone will ultimately help us improve customer satisfaction with better visibility and quicker turnaround time," said, Jouni Majuri, Managing Director, Patria Helicopters AB



Virender Aggarwal, CEO, Ramco Systems, said, "Having built a strong track record in the global helicopter industry, we are delighted to have been chosen by Patria Helicopters. This partnership has expanded our reach in Europe's MRO network, and

underscores our position as the preferred next-gen vendor of choice in aviation MRO. Having recently set up a dedicated MRO Innovation Lab, we're confident that Ramco's advanced Aviation offerings are all set to transform the Aerospace industry."

With 70+ Aviation leaders onboard, Ramco is the solution of choice for several large airlines and top heli-operators as well as multiple MROs in the world. Designed to be accessible on cloud, mobile and tablets, Ramco Aviation Software continues to add technological innovations with wearable devices offering hands-free computing, and launch of 'Anywhere' apps amongst others that help significantly reduce transaction time both during AOG conditions and critical aircraft turnarounds.

### Vendors in the News

**2MoRO SOLUTIONS**  
2MoRO Solutions is an Aerospace software development company operating in over 17 countries with multiple Airlines and Operators with their own MRO center. The firm is also a SAP® Partner for Airlines, Aircraft Operators, MRO centers and OEMs.

**AERDATA**  
AerData, a Boeing company and part of the Boeing Edge, provides lease management software, CMS, engine fleet planning software, records scanning software, fleet and valuations data and technical and back office services for operators, lessors and MROs.

**AEROSOFT SYSTEMS**  
AeroSoft Systems Inc. delivers software solutions and services for maintenance and engineering in aviation. Over 900 aircraft depend on the AeroSoft software support environment.

**CERVINO CONSULTING**  
Cervino Consulting is a consulting company that applies proven expertise and the experience of senior business consultants and project managers with offices in Stockholm, Gothenburg and Oslo.

**EXSYN**  
EXSYN is an Amsterdam based IT Solutions Company for the aviation industry whose solution platform focuses on data processing, data analytics, data storage and related consulting services.

**FLATIRONS SOLUTIONS**  
Flatirons Solutions provides consulting, technology, and outsourcing services for content lifecycle management turning Content into Knowledge®. Flatirons operates from offices in Asia, Europe, and the United States.

**FOKKER SERVICES B.V.**  
Fokker Services is an integrated, knowledge based services organisation that partners with manufacturers, owners and operators of aircraft in the continued competitive operation of their fleet by increasing technical dispatch reliability (TDR) and passenger comfort while reducing direct operating cost (DOC).

**IFS**  
IFS Applications offers flexible, module based business solutions that manage the entire civil aviation lifecycle. Being component-based it is easier to implement and can be incremental to align with the growth of a business.

**RAMCO**  
Ramco Systems provides enterprise solutions built on the firm's proprietary platform—Ramco VirtualWorks®. All products are cloud architected by design and address the entire business cycle from transaction to analytics.

**RUSADA**  
An aviation software solutions company headquartered in Switzerland, with operations in the Middle East, Asia, Europe and the Americas, Rusada currently serves 50 major customers worldwide with software that manages more than 1,500 aircraft in 20 countries.

**SWISS AVIATION SOFTWARE AND AMOS**  
Swiss-AS boasts more almost 120 customers worldwide. AMOS is a comprehensive, fully-integrated software package that manages the maintenance, engineering and logistics requirements of modern airlines and MRO providers.

### Airlines, Operators, OEMs and MROs in the News

**AIR BERLIN**  
Air Berlin's fleet includes Boeing, Airbus and Bombardier aircraft and is always at the cutting edge of technology to be safe, economical and environmentally sound.

**AIRBUS HELICOPTERS**  
Airbus Helicopters, formerly Eurocopter, is a subsidiary wholly owned by the Airbus Group. Operated by more than 3,000 customers, the company's range of civil and military helicopters is the world's largest.

**PATRIA HELICOPTERS AB**  
Located at Stockholm-Arlanda International Airport, Patria Helicopters is an authorized Service Center for Bell, Agusta and Eurocopter taking technical responsibility for overhaul and maintenance of helicopters and modifications.

**WESTSTAR AVIATION SERVICES**  
Weststar Aviation Services Sdn Bhd (WASSB) operates offshore helicopter transportation services and rotary wing aviation services in five countries namely Malaysia, Thailand, Indonesia, Morocco and Mauritania.





## Airline & Aerospace MRO and Operations IT Conference – EMEA – Amsterdam, The Netherlands, 14th & 15th June 2016

**THE** Amsterdam conference was well up to the usual standard that the industry has come to expect from Aircraft Commerce events as the world's leading aviation IT conferences dedicated to MRO/M&E and Flight Operations IT Solutions.

This 2016 conference featured all of the key features to ensure that the more than 550 aviation IT professionals in attendance were well informed about the latest developments with vendors from 59 leading MRO / M&E & Flight Operations IT software and hardware vendors. Presentations were grouped into dedicated Flight Operations and Maintenance IT tracks with case studies, workshop sessions and Vendor Showcases on a range of topics. Notable subjects addressed included Paperless Aircraft Maintenance and Flight Deck; e-Signatures; Aircraft Connectivity; Big-Data Analytics; Mobile Line Maintenance; eTechLog; RFID; EFB Case Studies; Fuel and Operational Efficiency; Aircraft eEnablement; MRO Software Selection and Implementation; Live Flight Tracking solutions; Live Weather Data; Paperless Aircraft Manuals; Advanced Flight Planning Solutions; Predictive Maintenance; Latest Innovations, plus lots more.



### ALL THE INFORMATION AT ONE EVENT

The Airline & Aerospace MRO and Operations IT Conferences are the only events in the world that provide airlines, aircraft operators, MROs and OEMs with a one-stop shop to review and demo the latest cutting edge technology, designed to streamline and increase aircraft maintenance and flight operations efficiency, as well as reduce costs dramatically. From the latest Paperless/Tablet solutions for the Flight Deck or Hangar to a complex maintenance management system; they were all there.

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The conference provided superb opportunities for attendees to discover more about the solutions available, how they have worked in practice and to chat with other like-minded professionals facing or who have faced the same challenges. A large exhibition area allowed attendees from airlines, aircraft operators, OEMs and MROs the opportunity to try out the major software and hardware IT systems from fifty nine of the world's leading vendors. The two day agenda of presentations, case studies, interactive workshops and vendor showcase sessions given by industry experts and the airline/MRO IT users themselves, discussed the latest trends and innovations in this rapidly developing sector of the industry. Particularly popular were the EFB, Fuel Efficiency and MRO/M&E Software Vendor Showcases. As

important as any formal conference events, attendees had the opportunity to network with colleagues from other airlines and MROs from across the EMEA region. They were able to learn from each other's experiences and recommendations, and exchange ideas among the more than 550 attendees.

#### LIVE SOFTWARE DEMONSTRATIONS:

A key benefit of Aircraft Commerce conferences is that they offer airlines, aircraft operators, MROs and OEMs an excellent chance to review and demo all the major software and hardware solutions in one place, over two days, and Amsterdam upheld that tradition. Extended refreshment breaks during the presentation program allowed

lots of time to browse the exhibition area, and find out about the solutions available. Attendees could try out all the major MRO/M&E and Flight Operations Software and Hardware solutions from the world's leading vendors and see how they might be of benefit. They could also discuss with the vendors best practice and how to overcome any problems they might be having with current systems plus try out all the latest upgrades and add-ons to compliment current systems.

#### MRO /M&E

Software that attendees were able to demo included fully integrated End-to-End MRO/M&E solutions as well as Supply Chain Solutions Software; Digital Documentation Management Solutions/CMS; MRO Solutions Linked to Enterprise Wide Software (ERP etc.); Paperless Maintenance Solutions, including e-Signatures; and Mobile Solutions for the Hangar and Line Maintenance.

#### FLIGHT OPERATIONS

Software and Hardware solutions that attendees were able to demo included Digital solutions for the Flight Deck; EFB (Electronic Flight Bag); Flight Planning solutions; Fuel Saving solutions; ETL (Electronic Technical Log); Live Flight Tracking solutions; and Aircraft Connectivity / e-enablement solutions.

#### DELEGATE APPRECIATION

This is what attendees had to say about Airline & Aerospace MRO and Operations IT Conference – EMEA – Amsterdam

*"An interesting and very useful conference" – Royal Air Maroc.*

*"Very impressed by the variety of vendors, their products and very high level of organization. The experience gained here is priceless." – Rossiya Airlines.*

*"Always a good Place to See what is happen on the market." – Lufthansa Technik.*

*"Great platform." – DHL Aviation*

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**A CONTINUING AND EXCITING PROGRAM FOR 2016**

Aircraft Commerce has developed 'Airline & Aerospace MRO and Operations IT' conferences into highly targeted events specifically for maintenance and operations personnel within airlines. There is always an agenda of highly relevant presentations focusing on issues that are important to airlines right now. All of these events give airline and aerospace personnel responsible for reviewing, selecting and using MRO

& Operations IT systems the opportunity to hear and discuss the latest trends and technologies with their peers and meet with and demo software from vendors in attendance.

Further conferences are scheduled for 2016 which will be every bit as valuable as the Amsterdam event reviewed here...

- [Airline & Aerospace MRO & Flight Operations IT Conference - APAC, 26th &](#)

[27th October 2016, Bangkok, Thailand. Website Coming Soon.](#)

- [10th Annual Flight Operations Conference, 29th & 30th November 2016, London Heathrow, UK. Website Coming Soon.](#)

For more information on any Aircraft Commerce conferences, please email Stephen Keeble at [stephen@aircraft-commerce.com](mailto:stephen@aircraft-commerce.com) or visit the events website: [www.aircraft-commerce.com/conferences/default.asp](http://www.aircraft-commerce.com/conferences/default.asp)

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# IATA Paperless Aircraft Maintenance Initiative

Iryna Khomenko, Manager Operational Efficiency at IATA, provides an update on the initiative to promote paperless aircraft maintenance



**B**EFORE ADDRESSING THE key topic for this white paper, IATA's Paperless Operations Initiative, it will be useful to offer readers a brief introduction to IATA. It's a global trade association for the world's airlines with some 260 passenger and cargo airline members who, between them, account for 83% of global air traffic. IATA works principally to meet the needs of members; representing them, protecting their interests and leading the industry, with various initiatives, to make their businesses better and more straightforward. The association was formally founded in 1945, since when and to date it has focused very clearly on supporting safety, sustainability and profitability in the airline business. The division in which the paperless operations initiative is managed is Safety & Flight Operations (SFO).

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<b>Regions</b>	<b>Organizational Divisions</b>
North Asia (Beijing)	Member & External Relations (MER)
ASPAC (Singapore)	Financial & Distribution Services (FDS)
AME (Amman)	Airport, Passenger, Cargo and Security (APCS)
Europe (Madrid)	<b>Safety &amp; Flight Operations (SFO)</b>
Americas (Miami)	Marketing & Commercial Services (MACS)

The continuous improvement of aviation safety is the cornerstone of Safety & Flight Operations' goals plus striving to ensure that membership delivers increased value through partnership, to protect the interests of the industry and to work towards a reduction in the environmental impact of aviation.

**PAPERLESS AIRCRAFT OPERATIONS (PAO) INITIATIVE**

Safety & Flight Operations division embarked on this initiative in 2011 encompassing a number of areas including:

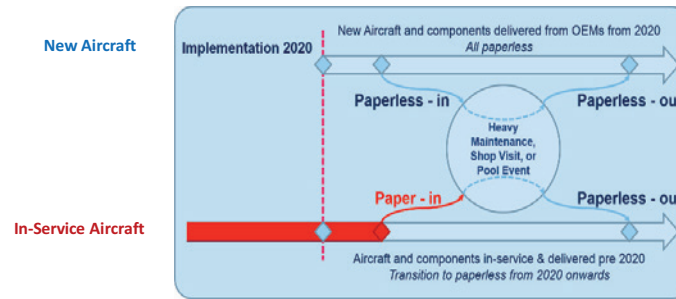
- Auto-ID for aircraft parts tracking and as an alternative means of compliance;
- The use of digital signatures in technical operations;
- Electronic maintenance record keeping;
- Electronic aircraft lease transfers;
- IATA standardized maintenance agreement templates;
- Aircraft lease best practices;
- Support for use of electronic regulatory documents (XML FAA 8130-3 / EASA Form 1 and others).

The list is by no means exhaustive plus new topics are being added every year as suggested by members; but the topics listed are the ones on which the division is currently working.

*"IATA works principally to meet the needs of members; representing them, protecting their interest and leading the industry, with various initiatives, to make their businesses better and more straightforward."*

**PAPERLESS 2020 VISION**

As part of the overall initiative, IATA has developed a vision for aircraft operations becoming paperless and has accepted, in its airline and industry working groups, that the target implementation year for this should be 2020. So, what is this vision?



The above chart shows that, in line with the initiative, aircraft and components manufactured from 2020 will have all of their initial records and documentation in electronic format from the outset, 'paperless in and paperless out'. Aircraft in service before 2020, with an associated paper trail, will initially go through the maintenance processes such as heavy maintenance, shop visit, or pool events for components, and will have their documentation digitalized during that process to come out paperless, 'paper in and paperless out'. This is, of course, a simplified version of the vision and there is a great deal of work that has to be undertaken and completed in order to deliver this overall objective. In order to ensure that the whole move to paperless is properly managed, a 'Transition Roadmap' has been developed.

FOCUS AREA	NEAR TERM				MEDIUM TERM		LONG TERM	
	2013	2014	2016	2018	2020	2022	2024...	...2030
ASSET OWNERSHIP AND AIRCRAFT REGISTRATION	UNIFIED LIST OF REQUIRED AIRCRAFT OWNERS ON ALL NEW SITES		ICAO-IATA AIR OPERATOR CERTIFICATE REGISTRY		STANDARDISED REGISTRATION / REGISTRATION PROCESS		MULTILATERAL REGISTRATION OF AIRWORTHINESS CERTIFICATE	
MAINTENANCE ORGANIZATION RELATED PROCESSES	ELECTRONIC SUBMISSION AND APPROVAL BY NATIONAL AVIATION AUTHORITIES				ELECTRONIC SAFETY AUDITS			
MAINTENANCE PLANNING	XML MAINTENANCE SCHEDULE XML MAINTENANCE PROGRAM		XML WITH AUTHOR ENABLED TASKS		ON LINE XML UPDATES TO MMR, MFD		AUTOMATIC REGENERATION OF AIRWORTHINESS DIRECTIVES TO MAINTENANCE PROGRAM	
LINE / BASE / COMPONENT MAINTENANCE	ACCESS TO DIGITAL TECHNICAL PUBLICATIONS		XML COMPONENT REPAIR DOCUMENTS		AUTOD / RFID		E-SIGNATURE	
WAREHOUSE AND SUPPLY CHAIN	XML PROCUREMENT FORMS		XML SHOP REPORTS		XML INVENTORY		XML INVENTORY	
CONFIGURATION CONTROL	ELECTRONIC CONFIGURATION DATA RECORDS		ELECTRONIC READINESS LOG		XML INVENTORY		XML INVENTORY	
AIRCRAFT TRANSFERS	STANDARDIZED LEASE TRANSFER REQUIREMENTS		STANDARDIZED PARTS TRANSFER RECORD		ELECTRONIC INSPECTION WITH E-RECORDS		REGULATORY INSPECTION WITH E-RECORDS	

*"... in line with the initiative, aircraft and components manufactured from 2020 will have all of their initial records and documentation in electronic format from the outset, 'paperless in and paperless out.'"*

The roadmap identifies the focus areas to be tackled in order to achieve the target date and the tasks to be completed within each focus area during the near- medium- and long-terms. It also shows where and how focus areas are interconnected and how work in one area will link with tasks and achievements in another. Note that the Roadmap is a 'living' document and is updated as and when new information becomes available.

So, everybody wants operations to be paperless; the big question is; 'how can that be achieved?' This is also the interesting part.

**ENABLERS OF PAPERLESS OPERATIONS**

There are a number of technologies and processes that will have to be understood and considered for their suitability in this sector as well as how they could be adapted to work in the highly regulated and safety focused civil aviation environment.

**RFID**

Initially, the initiative looked into Auto ID/RFID technology which became popular in other industries more than ten years ago and has made significant progress in the pharmaceutical and retail sectors. IATA has considered the application of RFID technology in connection with:

- Tracking the expiry date, presence and security of emergency equipment;
- Warehouse location and logistics;
- Tooling;
- Ground support equipment;
- Chemicals expiry date;
- Assembly (OEM).

Plus there are IATA RFID initiatives with regards to baggage tracking and ULD (unit loading device) tracking.

However, in commercial aviation the RFID development rate has been slow in light of the heavily regulated nature of the sector. Every transaction completed in maintenance has to be airworthiness compliant which is why the levels of security are very high. For that reason, to introduce RFID parts tracking for airworthiness compliance as well as for warehouse management is challenging but the PAO group is working on it.

Three years ago, IATA produced a guidance to introduce RFID into airline operations and that guidance will be updated during 2016 because there are a few regulators' documents being updated that will be included in the revised IATA guidance plus some new use cases are also being developed.



### DIGITAL SIGNATURES OR E-SIGNATURES

Looking at the records themselves, the PAO group has considered digital signatures which are now incorporated in many software solutions used in the sector. However, it can be challenging to make those modules fully functional in any MRO IT system so the PAO initiative has identified this as a main element that has to be enabled. Of course, there are in-house solutions that have been implemented in specific companies or airlines but the airline industry is very international in its scope and when a component or electronic maintenance record leaves an airline for another one in a different part of the world, then the question arises of standardization, harmonization and security. So this is what is being addressed by the initiative. What is known is that in, for instance, passenger records, thanks to IATA's e-ticketing initiative, the airline industry saves about \$2 billion each year. So this is an initiative well worth pursuing.

Some examples of use cases where a digital signature can be applied in our sector would include:

- The registration documents of the aircraft;
- Manuals' revisions (Maintenance program, Maintenance Schedule, etc.);
- Maintenance Records:
  - Task cards;
  - Work orders;
  - Component overhaul / repair tag (8130, Form 1);
  - Supply chain and procurement documents.

In 2015, IATA, with support from industry experts, developed a White Paper on an 'Aviation Identification & Authorization System', which describes the main principles and the concept of electronic authorization for aircraft operations. The idea is to enable such a system to be universally understood and accepted. The paper, which can be found on the IATA website, is the starting point for a unified industry approach to fully electronic maintenance records and is open for comments.

Most electronic signature solutions on the market offer users a PKI (Public Key Infrastructure) based solution. It's an agreed solution, very secure and adopted by government entities; however, when it comes to the airline sector, PKI has proved to be expensive and something of a burden with a problem regarding scalability; so the PAO group considered what alternatives, options and concepts might be available. In doing this, IATA has established a joint project with Georgia Tech in Atlanta, USA, looking into Domain Name System (DNS) based electronic signatures. The project has developed Domain Name System Security Extensions (DNSSEC) to offer the same level of security as PKI plus the advantage of the new system is that it will use the Internet 'dot' as a route and a signature will be an IP address or a computer (as against using a private or public key) that will use Internet protocols. Also the DNSSEC Security tool will help to ensure the security of the process. The PAO group is just at the beginning of this development and

*"... when it comes to the airline sector, PKI has proved to be expensive and something of a burden with a problem regarding scalability; so the PAO group considered what alternatives, options and concepts might be available."*

IATA is evaluating whether more resources can be devoted to that. It has also been presented to various airline groups and industry groups from which the feedback has been very positive. The promise is that the new system should be less expensive but no less and probably more secure and reliable.

### ELECTRONIC RECORD KEEPING

One important step in this initiative has been to establish collaboration with ICAO (International Civil Aviation Organization); getting them on board and explaining how important was their involvement and to incorporate their guidance as well as that of national aviation authorities in achieving the introduction of electronic record keeping. As part of this, in 2015 ICAO agreed to the IATA initiated proposal for amendment of the Doc 9760 Airworthiness Manual, with guidance to, "... provide acceptable methods for the development of States' requirements, and facilitate the implementation and acceptance of Electronic Aircraft Maintenance Records." This guidance will be further developed over the next year or more so that, hopefully soon, there will be a more solid document to work with for airlines and aviation authorities to overcome the initial fear of and resistance to change by offering some useful plans on how to do it.

### STANDARDIZED CONTRACTS

Another task within the paperless initiative is aiming for the standardizing of maintenance contracts. Mostly the users of these documents are the smaller or mid-sized airlines who do not have large legal departments and don't wish to spend money on legal consultants to draw up legal contracts. Standardized maintenance contracts are off-the-shelf documents that airlines and MROs can use as the basis for an agreement. These standardized documents are now available for a growing number of the engineering needs of airlines and engineering businesses and are available on the IATA website, free to [download](#). Currently, IATA is working on a standard engine maintenance agreement and a shop visit agreement. These standard contracts are developed by a group of experts including airlines, MRO companies, regulators and legal experts. The

next job on the list will be to develop a 'power by the hour' agreement for components. All the documents that have been developed are free to [download](#) from the IATA website (Legal Committee page).

### ELECTRONIC LOG BOOK

Finally, there will be a sub-group created in this initiative that will take care of Electronic Log Book issues. Over the past three to five years, there has been a number of airlines who were trying to install fully functioning and operable electronic log books (ELB) but there have been some challenges and struggles with that. Almost every year, when an airline took delivery of a new type of aircraft from an OEM they would try to use an electronic log book and then would stop and revert to the paper log book. So IATA is planning to assemble an expert group drawn from airlines and to develop a survey to get airline feedback on the challenges and the process of ELB implementation. It is hoped that by the end of 2016, the first results will be available and the IATA group will be able to address them to the regulators and original equipment manufacturers (OEMs).

### IATA WORKING GROUPS

There are a number of groups working at the moment.

### PAPERLESS AIRCRAFT OPERATIONS

There is a group working with paperless aircraft operations which was, for some years, in the form of a think tank drawn from 20 airlines that met twice a year. It produced industry position papers, action items and standardized industry documents, and harmonized definitions, etc. But it was decided that the group and its work needed to be better known beyond just the airline community. So, the think tank became the Paperless Aircraft Operations Conference comprising more than

100 people drawn from airlines, regulators, lessors, OEMs and selected representatives of other industry stakeholders.

**AIRCRAFT LEASING ADVISORY GROUP**

This group produces guidelines for efficient aircraft leasing including:

- A focus on maintenance and technical issues encountered with aircraft leasing from delivery to redelivery;
- A detailed proposed redelivery process timeline;
- Transfer records and document lists;
- Incident clearance statement (formerly known as non-incident statement template);
- Life Limited Parts (LLPs) tracking template – for use when LLPs are used across the industry.

**AIRLINE COST MANAGEMENT GROUP**

This group collects airline cost data other than for maintenance, i.e., crew costs, overhead costs, other flight operations costs (ground handling, catering...). The group, which is governed by a Steering Committee drawn from 10 airlines, currently collects data from more than 60 airlines, reports every year and:

- Shares best practices on airline cost management, while providing an industry platform for effective cost benchmarking;
- Collects cost data from 60 airlines;
- Produces an annual benchmark report, exclusively available to its members free of charge; and
- Organizes an annual Airline Cost Conference (more than 40 airlines attended in 2015).

**MAINTENANCE COST TASK FORCE (MCTF)**

This task force has been operating for more than ten years and:

- Includes more than 50 airlines;
- Includes OEMs (Airbus, Boeing, Snecma, etc.);
- Collects maintenance cost data and publishes an annual benchmark report for its members;
- Works towards the harmonization of maintenance cost definitions;
- Produces best practices and guidance material, e.g. component maintenance, inventory management, etc.;
- Organizes the annual Maintenance Cost Conference (MCC) with more than 60 airlines (150 individual delegates) participating in 2015 and sharing experiences on how to improve maintenance costs and effectiveness.

**OVERVIEW OF WORKING GROUPS AND COMMITTEES AT IATA**

As well as working with its own members, IATA groups and committees also work with ATA e-Business on some topics. And, of course, welcomes participation by any of our members in these activities and by non-

members in supporting sectors such as MRO.

Finally, I'd like to share a quote on this topic from Ray Valeika, former SVP at Delta Tech Ops, "The Aircraft needs to be a standalone data system carrying its own records like a medical file."

We all believe in this vision and are trying to enable it; and, together with our members at IATA, we will achieve it in the future.

**IATA PAPERLESS AIRCRAFT OPERATIONS TEAM**

- Chris Markou, Head, Operational Cost Management, Flight Operations, on initiative's oversight and e-signatures;
- Dragos Budeanu, Manager, Paperless Operations, Flight Operations on ICAO and electronic aircraft maintenance records approval;
- Elentinus Margeirsson, Manager, Operational Efficiency, Flight Operations on aircraft record transfers as it relates to aircraft leasing;
- John Synnott, Manager, Flight Operations Information Technology, Flight Operations on Electronic Flight Bags;
- Dave Edwards, Senior Consultant, IATA, with coordination amongst the various stakeholder groups.

**IRYNA KHOMENKO**



Iryna has been coordinating the Paperless Aircraft Operations initiative since 2011. Before joining IATA, she worked for six years as manager of the Maintenance & Engineering finance department at Aerosvit Airlines, Ukraine. Her responsibilities embraced financial and economic aspects of the airline's Technical Operations. Iryna started her career as an economist in Ukrainian — Mediterranean Airlines after obtaining her master's degree in Management and Economics.

**IATA**



The International Air Transport Association (IATA) is the trade association for the world's airlines, representing some 260 airlines or 83% of total air traffic. It supports many areas of aviation activity and helps formulate industry policy on critical aviation issues. A guiding concept of IATA's structure is 'Global Development, Regional Delivery', where the Head Office divisions drive the development of global standards, systems and advocacy positions, while the regional and country offices are responsible for implementation.

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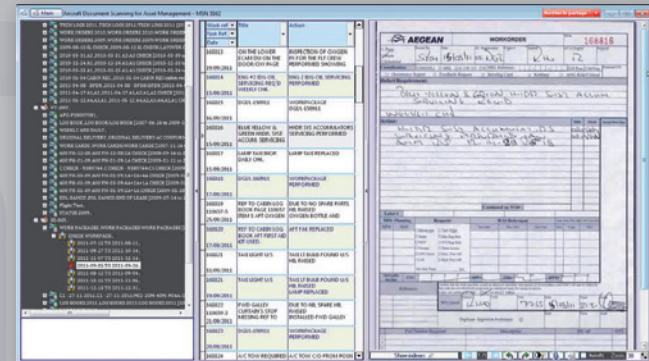
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In the next issue of Aircraft IT MRO we'll be focusing on MRO Point Solutions that address specific MRO processes and challenges.

In this first of two parts, we're focusing on End-to-End solutions that can transform MRO IT from a group of, often, separate solutions for different process into a single solution. End-to-End IT solutions can deal with the IT needs of each engineering and support process, support the integration of MRO activities in order to realize the greatest efficiencies and can integrate MRO within the wider enterprise in order not only to realize efficiencies but also to take advantage of all data generated in the airline, from whichever source. End-to-End solutions break down corporate silos and make all of the enterprise's capabilities and resources available throughout the business.

Using the Aircraft IT On-Demand Webinar library, users can browse an enormous range of solutions from world leading software developers and vendors who know the MRO / M&E market well and apply that knowledge to their products. With each On-Demand Webinar taking an hour and being available online, readers can view as many as they want, when they want and in a place that's convenient; they can even call together a group of interested colleagues concerned with understanding the market or moving towards the selection of a new system. As a preliminary step, this will save many man hours while exposing users to all of the solutions that might match their requirements.

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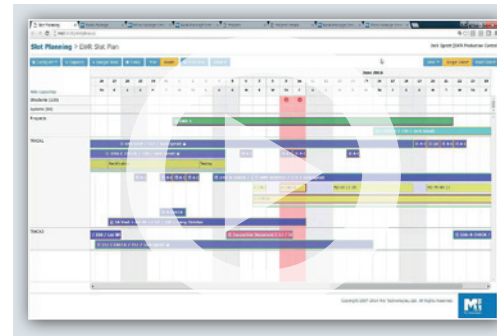
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9th June 2016

**Maintenix Aviation M&E / MRO Software Demo On-Demand Webinar: Earning Customer Confidence - How greater interoperability between airlines and third-party MRO providers can deliver on the flight operations promise.**



### SESSION OVERVIEW

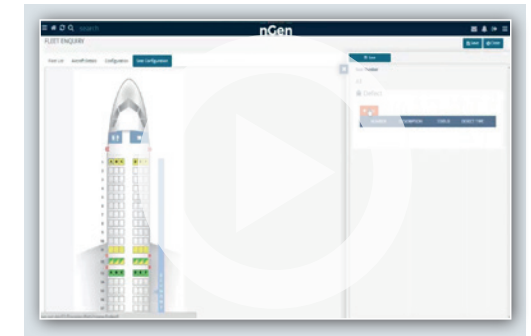
Register to view this On-Demand Webinar (recorded 9th June 2016) for a great opportunity to see a full overview and demo of one of the industry's leading Aviation M&E / MRO Software Solutions: Maintenix from Mxi Technologies. As the Webinar will show you, Maintenix is a comprehensive, fully integrated software package used by large airlines, regional carriers, low-cost airlines, aircraft operators, MRO facilities and OEMs throughout the world. During the Webinar the Mxi experts take you on a tour of Maintenix and the rich functionality the system provides as well as covering the latest developments to the system.

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19th May 2016

**Rusada Envision Aviation MRO / M&E Software Demo & Overview On-Demand Webinar (inc: Mobile / Paperless M&E; Latest & Future Developments).**



### SESSION OVERVIEW

Register to view this On-Demand Webinar (recorded on 19th May 2016) for an excellent chance to see a full overview and as live online demo of one of the industry's leading Aviation M&E / MRO software solutions: Envision, from Rusada - as used by over 110 customers worldwide of all sizes - from large national carriers, low-cost and regional airlines to heli-operators, business aviation, MRO facilities and CAMO providers. During the Webinar Rusada experts demo some of Envision's latest developments and show how the system assists working in a mobile and paperless environment, including raising non-routines, requesting parts and electronic signatures.

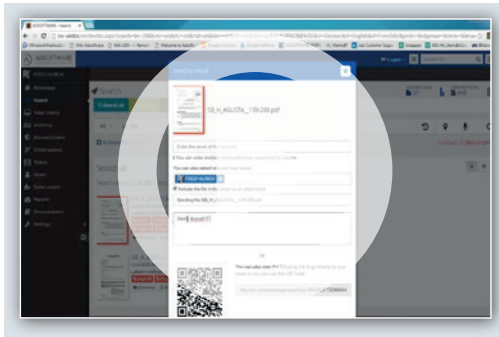
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21st April 2016

**Live Aviation Maintenance Software Innovations & Plug-ins On-Demand Webinar (inc: Digital Document Manager / Processor; Maintenance Reserves Calculations; Reliability Reporting; Data Migration & Back-up).**



**SESSION OVERVIEW**

Register to view this On-Demand Webinar (recorded 21st April 2016) for an excellent chance to discover how the latest Aviation M&E / MRO technology innovations from ADSOFTWARE provide plug-ins and add-ons that can greatly enhance any Maintenance Information System. This includes a demo of a unique, next-generation digital document manager / processing solution that ensures all received documents (SBs, ABs, AMM Updates, Invoices, etc.), in any format, are automatically sent to and then updated in all relevant company-wide software solutions and apps. As you will see this ensures key personnel always have quick access to the most up-to-date information.

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3rd March 2016

**Electronic TechLog (ETL / ELB) and Paperless & Mobile Aircraft Maintenance Software Demonstration On-Demand Webinar (including efbTechLogs™, Mobile Mechanic™, and Mobile Inventory™).**



**SESSION OVERVIEW**

Register to view this this On-Demand Webinar (recorded 3rd March 2016) and join Ultramain Systems for an as live software demonstration of their latest ground-breaking and popular paperless and mobile solutions, including efbTechLogs, Mobile Mechanic, and Mobile Inventory. During the Webinar you see how Ultramain software is used by airlines, aircraft operators and MROs across the world to fully replace paper technical logs, task cards and other forms, and can transform your organization into a fully paperless operation.

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18th February 2016

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### SESSION OVERVIEW

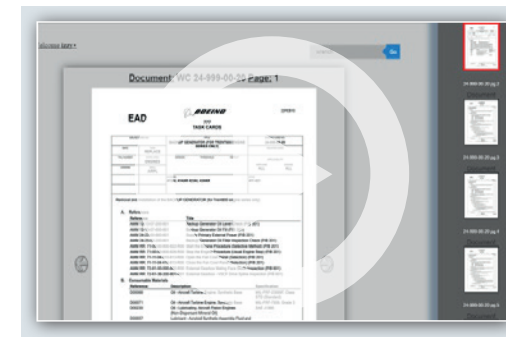
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21st January 2016

**Paperless Aviation Manuals Masterclass & Software Demo On-Demand Webinar (including Central Data Repository, XML, Editing, Revision Control, Tagging, more...).**



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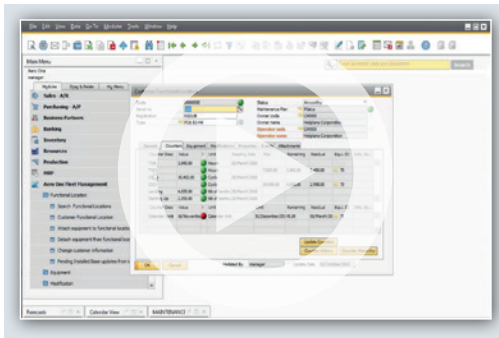
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19th November 2015

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**Aviation M&E / MRO Software Demonstration of OASES On-Demand Webinar (including System Highlights Demos, Overview of Mobile M&E App & e-Signatures).**



**SESSION OVERVIEW**

Register to view this On-Demand Webinar (recorded 8th October 2015) for an excellent chance to view a full system overview and as live online demonstration of one of the industry's leading and most cost effective end-to-end aviation maintenance and engineering management software solutions: OASES from Commssoft, as used by over 90 customers worldwide of all sizes from national flag carriers and regional airlines to specialist MRO facilities and CAMO providers. During the Webinar you will see some cutting-edge new developments in M&E Software and OASES System highlights including: Repetitive Defect Investigations; Electronic Technical Log; AD / SB & Engineering Document Control and Reporting; as well as an exclusive first look at the new M&E e-Signatures OASES mobile M&E App features.

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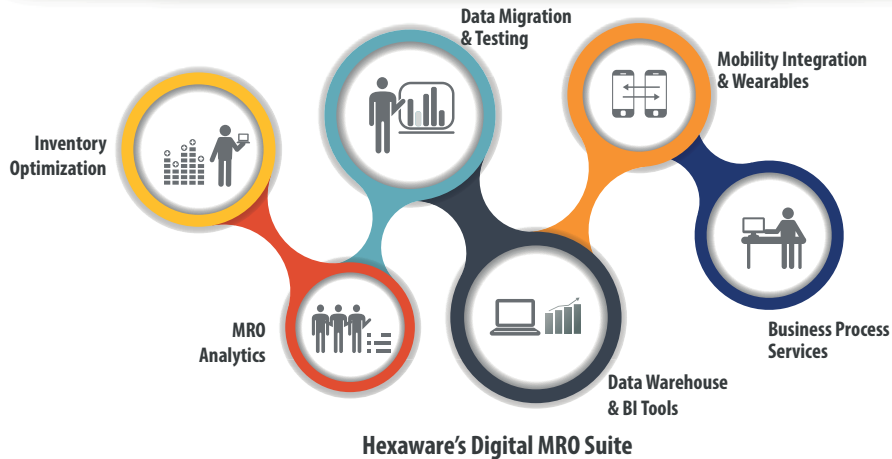


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24th September 2015

**Trax M&E / MRO Software Demonstration On-Demand Webinar (including Mobile Solutions; Latest Developments & Upgrades; Paperless M&E).**



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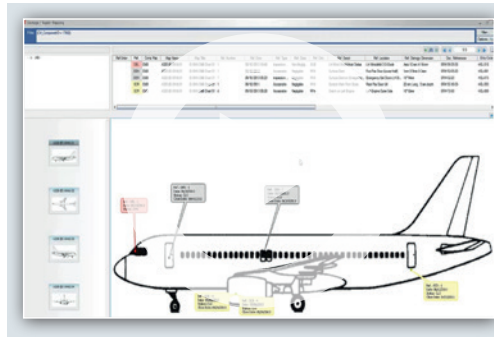
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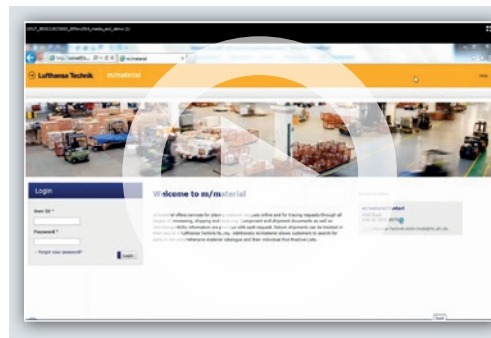
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20th November 2014

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22nd May 2014

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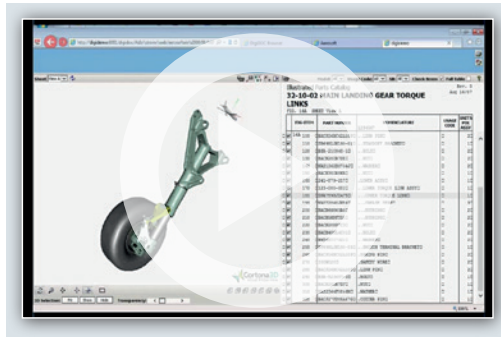
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12th December 2013

**Digital Technical Documentation / Publications Management Masterclass Webinar (inc. iPad / Mobile Software demo)**



**SESSION OVERVIEW**

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29th November 2012

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**SESSION OVERVIEW**

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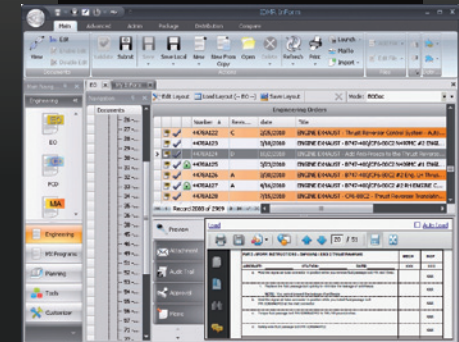
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# Endeavor Air: Managing Legacy MRO Systems

Chris Oot, Tech Ops Systems Support Business Manager, and Robert Gatzke, Aircraft Maintenance Programs tell Endeavor Air's story of consolidating an assortment of MRO systems into one





**IN THIS ARTICLE** we hope to give readers a flavor of the trials and challenges involved when transitioning a number of aircraft from one MRO system to another; in our case, Aerosoft's PMI (Purchasing, Maintenance and Inventory) system.

**ENDEAVOR AIR**

The airline is a wholly owned subsidiary of Delta Airlines flying as Delta Connection with a fleet of Bombardier CRJ-900 and CRJ-200 aircraft. Endeavor Air is a significant business operating 650 flights a day with 3,700 employees and with nine maintenance bases in the mid-West, North East and mid-South of the USA.

**HISTORY – MULTIPLE MRO SYSTEMS**

The airline's history embraces a number of airlines including one, Mesaba, whose own history reaches back to 1944. But, in more recent times, a number of corporate acquisitions and mergers have created Endeavor Air within Delta from several legacy regional carriers. The challenges that these mergers generated would be familiar to anyone working in a merged, acquired or acquiring business but, in this case, with the additional complicating factor that, with these various regional airlines came a number of different MRO systems and associated different business processes. Figure 1 illustrates the cumulative challenges that come with multiple systems all aiming to achieve the same ends but by different routes and processes.



*“The challenges that these mergers generated would be familiar to anyone working in a merged, acquired or acquiring business but, in this case, with the additional complicating factor that, with these various regional airlines came a number of different MRO systems and associated different business processes.”*

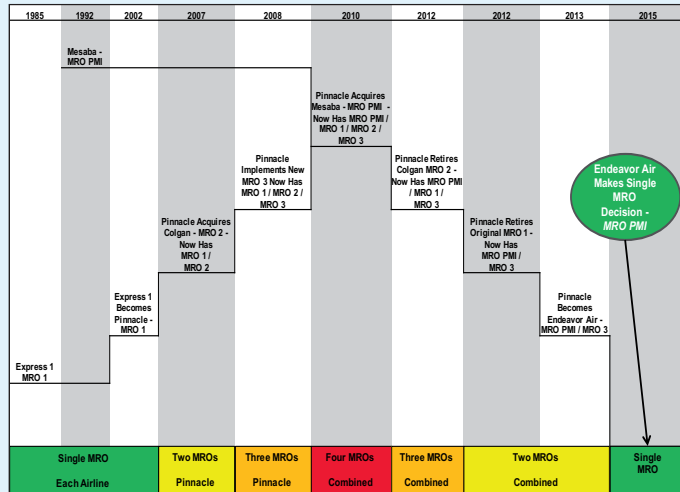


Fig 1

Starting on the left, in the period 1985 to 2002 there was a simple situation. Then, moving through time to 2007 things became more complicated with the inclusion of a second MRO system and a third one in 2008. The acquisition of Mesaba Aviation in 2010 meant that there were then four MRO systems working in the business (albeit, in some cases, in different airlines but with the intention to bring them together) which meant a great deal of complexity within the engineering organization. In 2012, two of the four systems were retired leaving just two systems in two component airlines. However, at this time, the two airlines were merging, which resulted in operating two distinct airlines under one FAA approved Operating Certificate, making for yet more complexity. It was a difficult situation.

**THE EFFORT**

In 2015, Endeavor Air made the decision to move to a single MRO system and selected Aerosoft's PMI because the airline knew the system well, it was stable, had significant growth potential and the airline owned it. The effort involved was considerable with the task to transition 41 aircraft (Endeavor's operating Bombardier CRJ-200 fleet) from their then current MRO system into PMI within six months. The actual transition cutovers for all 41 aircraft were accomplished within a two-month window.

**THE PROCESS**

Operating multiple MRO systems in one airline is very difficult. Readers probably don't need us to tell them that, but it was what underpinned the challenge at Endeavor Air. It was challenging for the maintenance crew and for the Planning Department; it was an all-round unsatisfactory situation that happens when airlines merge. To leverage the best value from future MRO opportunities, it is best to be working from a stable position in the first place. The first challenge is the transition itself – during any change or development, it is still necessary to maintain an operational environment, the airline needed to continue to fly passengers.

Over some years, Endeavor Air and its component airlines had worked with multiple MRO systems. The systems were markedly different resulting in significant challenges in terms of corporate continuity with people that could not readily be moved between systems. It is also hard in this industry to change people.

**STARTING THE CHANGE**

Endeavor Air had operated the current fleet of CRJ-900s within the PMI system for many years. In the long run, this experience in PMI was a real asset because during the corporate move of Pinnacle to Endeavor and the accompanying physical move from Memphis to Minneapolis, a lot of expertise was lost when many people did not make the move. This meant that the new system was starting with a new team but in an environment where Endeavor already had experience. Much of the Engineering Department, planning groups and even the maintenance groups were already using the PMI system.

At one point, Endeavor considered moving to another MRO system but it was concluded that would take a great deal of time and expense to develop and the airline needed to get into a one MRO situation sooner rather than later. Having made that decision to go with PMI, the first step was to upgrade the version of the PMI System software (version 4.06-4.08). The airline went through the version upgrade, not a complete PMI MRO change. This effort did not entail a data migration but was more like going from Windows 7 to Windows 10. All data remained the same making it very easy to audit the data and ensure that it went over from the previous version to the current version. Working with AeroSoft, the upgrade was accomplished seamlessly and efficiently. During the upgrade, Endeavor also had the backing of Delta IT, the Endeavor IT group and the support of PMI AS400 platform. An onsite rep from AeroSoft helped us through the version upgrade.

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*"This required multiple data sources in both MRO systems to be kept synchronized for as long as a week until that aircraft was fully transitioned. These data included flight logs, part changes, task completions and defects."*

### THE CHANGE

The software solution was upgraded to the latest version. This was initially performed in a test environment, which will be familiar to most readers. This is one area of the overall effort where the vendor really assisted the airline in understanding what it had and how the whole system would fit together after the upgrade. After the upgrade, step one was to establish a 'perfect aircraft' inside the system as a baseline for content and for a template to be created. Fortunately, one of the previous sibling airlines had been using the system for CRJ-200 support in the past, so an existing 'perfect aircraft' that was already in the system was leveraged.

### DATA MIGRATION

After the data was extracted from the donor system, Endeavor worked with AeroSoft to establish loadable templates such as parts inventory, aircraft configuration, positions for components, etc. Tools, such as Excel and an Access database, were used to assist in data preparation. These templates enabled Endeavor to transition an aircraft every night. At any given point, Endeavor Air had eight people totally dedicated to the project, which included one maintenance person, one quality control person, a tech records person and a parts inventory person. There were also the IT Department representatives and an onsite rep for the PMI AS400 platform.

'Time apply' is arguably one of the most critical parts of data processing after the data has been moved because the transitioning aircraft were operational; therefore the data was dynamic. This required multiple data sources in both MRO systems to be kept synchronized for as long as a week until that aircraft was fully transitioned. These data included flight logs, part changes, task completions and defects. Additionally, the overall process required a 'catch up' of data on the night of the aircraft's transition cutover.

After Endeavor had uploaded the data using the templates and programs that AeroSoft had provided, they had to 'catch up' with each aircraft's current state to ensure that any changes (defects, task accomplishments, part changes, etc.) that had occurred during the transition were now captured and incorporated in the system. It's not difficult as long as the first part is properly completed.

### AUDITS AND JOB CARDS

The next part was that the migrated data had to be audited. For this project, audits were conducted at various points in the process. This is a part of the overall process where people can underestimate the amount of work that will be needed not only to transfer the data but then to audit all of it. In this project, it was necessary to audit approximately 1 million data points across the breadth of the entire project.

There were also Job Cards to be considered. Endeavor uses Adobe FrameMaker to create and manage Job Cards. For this project, the airline created more than 1,200 Job Cards formatted in FrameMaker using tech data from Bombardier which was then customized with Job Card data from the previous MRO Task Cards. Once this work was completed, the cards were audited and finally uploaded to the Job Card Server.

### LESSONS LEARNED

As with any project, whatever Endeavor might have known before the transition, the airline knew a great deal more after the event from the lessons that were learned as a result of the efforts covered above. Here is a selection of what was learned.

- Size the box: know what you're letting yourself in for which means quantifying the tasks because they'll always end up being bigger than you expected.
- Understand the functionality of your new MRO system: Endeavor was fortunate inasmuch as PMI was already familiar to the business.
- Purge legacy and dormant data to avoid transitioning to the new MRO system material that's already redundant. There was a great deal of legacy, dormant data in Endeavor's production environment that required purging.
- Involve and access all required internal resources and system vendor support so that everybody understands and is on board with how the project will proceed.
- Intimately understand the source data (where it is, how it is formatted, etc.) and have system vendor support to assist in data extraction and data load.
- Isolate the transition team members from daily operational requirements. It's very important that they're not involved in daily business activities.
- Right-size your configuration – in past implementations, the airline had initially tracked way too much creating transactions that did not need

to be done. Remember, each tracked part requires a transaction to be performed and, in many cases, audited by real, live people.

- Data cleansing: invariably, the data being pulled from the donor MRO system will have issues and so has to be cleaned.
- Test, test, test. We had two physical and isolated environments for testing and production. That allowed us to test and fine tune the processes so that when it came to the cutovers they could be completed efficiently and accurately.
- Test all processes for extracting and loading data to ensure accuracy and repeatability.
- Walk through the processes with all parties involved.

#### WHERE WE ARE TODAY

Endeavor is currently in MRO PMI version 4.08 for revenue operating aircraft while stored aircraft still reside in a separate MRO system. As aircraft are removed from LTS (Long-Term Storage), they are transitioned into PMI. The airline is exploring a future move into MRO PMI for all aircraft. At the same time, the airline is developing and improving the Endeavor Air PMI User Guide and improving the PMI System training – recurrent PMI training has been established for Maintenance, Stores and QC (Quality Control) Receiving personnel. There is a program to communicate between end users and AeroSoft to improve users' system knowledge and the functionality of the system. AeroSoft customer support was timely and effective throughout.

#### ONWARDS AND FORWARDS

Having now completed the heavy lift of the main transitions to the unified MRO system; Endeavor can look forward and start to plan what it can do in the future to leverage the opportunities now available. The airline is looking to enhancements to the system such as adding EFLIP to PMI. Other plans include WebPMI, DigiDOC and an Accounts Payable interface as well as an interface with Bombardier Advanced Diagnostics (the airline already enjoys ChronicX capabilities).

As with any development like this, Endeavor Air will not be standing still but will continue to use the new capabilities and functionalities of its unified MRO solution to enhance current processes and inform future developments.

*“Endeavor can look forward and start to plan what it can do in the future to leverage the opportunities now available.”*

#### CHRIS OOT



Chris Oot is the Tech Ops Systems Support Business Manager for Endeavor Air based in Minneapolis, Minnesota and responsible for all business support as related to the Aircraft Maintenance Computer System (AMCS) PMI (AeroSoft) and other related AMCS platforms. During more than thirty-three years in aviation, Chris has held numerous senior leadership positions within various airlines including 14 CFR 119.65 Director of Maintenance position at two large US regional airlines. He is a certified Airframe & Powerplant Technician with significant AMT experience and has been intimately involved in six AMCS implementations during his career.

#### BOB GATZKE



Bob Gatzke is the Aircraft Maintenance Computer System Support Specialist at Endeavor Air and responsible for implementing, updating and maintaining the Technical Operations maintenance computer system for Bombardier CRJ-200 and 900 aircraft. During 27 years in aviation, Bob has been a member of the Maintenance Programs, Quality Control, and Production level Line / hangar Maintenance groups. He served 10 years in the US Navy on fixed and rotary wing aircraft. His aviation experience includes MRO aircraft heavy check maintenance.

#### ENDEAVOR AIR



Endeavor Air is a wholly owned subsidiary of Delta Air Lines. Flying as Delta Connection, it operates regional jets on 850 daily flights to more than 100 cities in the United States and Canada. The Headquarters is located in Minneapolis, MN, with hub operations located in Detroit, MI, Minneapolis, MN, and New York, NY. The business operates 209 aircraft and employs approximately thirty-seven hundred people throughout the mid-West, mid-South and Northeast United States.

#### AEROSOFT SYSTEMS



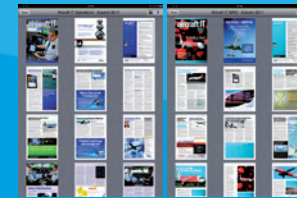
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**Boeing Mobile Maintenance Apps Demonstrations and Overview On-Demand Webinar (inc: Latest Performance Toolbox Innovations; Mobile Library; Mobile Parts; Maintenance Turn time).**  
14th April 2016



### SESSION OVERVIEW

Register to view this On-Demand Webinar (recorded on 14th April 2016) and join Boeing to see a full overview and Tablet demonstration of their next-generation suite of mobile maintenance apps, designed for airlines and aircraft operators of all sizes and operating any fleet or engine type including non-Boeing and mixed fleets. You will also see an outline of some of the latest innovations to the popular Maintenance Performance Toolbox Software Solution. In this Webinar the Boeing experts take you on a step-by-step walk through of their suite of mobile maintenance applications: Toolbox Mobile Library, Toolbox Mobile Parts and Maintenance Turn Time.

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**Innovations in Maintenance Performance Toolbox**  
Steve Jaffe, Bhavin Raval | Product Marketing  
April 2016



**Aviation Maintenance Software Innovations & Plug-ins On-Demand Webinar (inc: Digital Document Manager / Processor; Maintenance Reserves Calculations; Reliability Reporting; Data Migration and Back-up).**

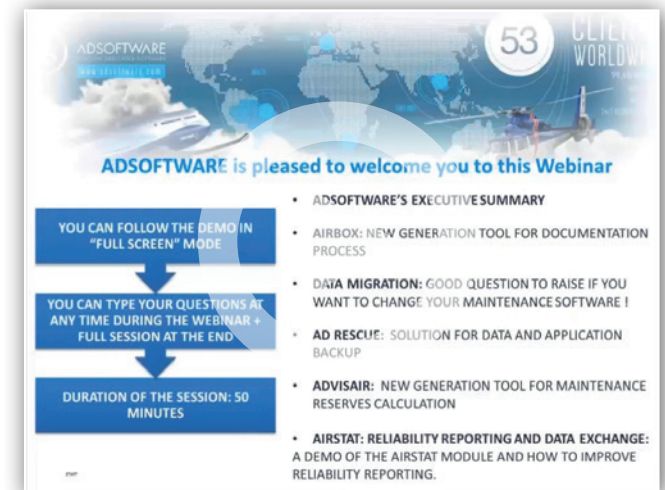
21st April 2016



### SESSION OVERVIEW

Register to view this On-Demand Webinar (recorded on 21st April 2016) for an excellent chance to discover how the latest Aviation M&E / MRO technology innovations from ADSOFTWARE provide plug-ins and add-ons that can greatly enhance any Maintenance Information System. This includes a demo of a unique, next-generation digital document manager / processing solution that ensures all received documents (SBs, ABs, AMM Updates, Invoices, etc.), in any format, are automatically sent to and then updated in all relevant company-wide software solutions and apps. As you will see this ensures key personnel always have quick access to the most up-to-date information.

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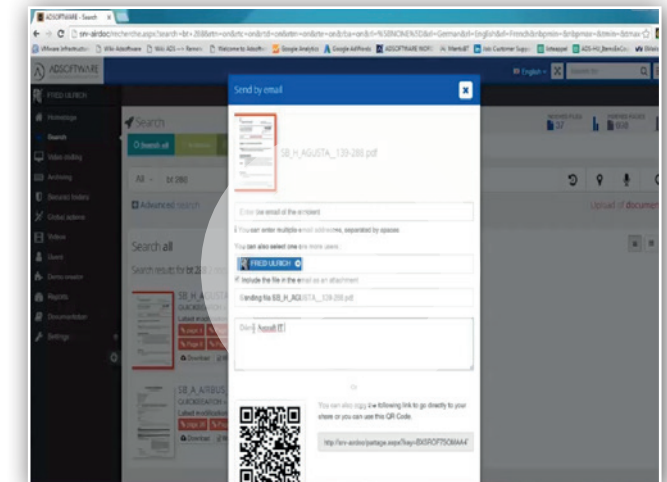
**ADSOFTWARE is pleased to welcome you to this Webinar**

- ADSOFTWARE'S EXECUTIVE SUMMARY
- AIRBOX: NEW GENERATION TOOL FOR DOCUMENTATION PROCESS
- DATA MIGRATION: GOOD QUESTION TO RAISE IF YOU WANT TO CHANGE YOUR MAINTENANCE SOFTWARE!
- AD RESCUE: SOLUTION FOR DATA AND APPLICATION BACKUP
- ADVISAIR: NEW GENERATION TOOL FOR MAINTENANCE RESERVES CALCULATION
- AIRSTAT: RELIABILITY REPORTING AND DATA EXCHANGE: A DEMO OF THE AIRSTAT MODULE AND HOW TO IMPROVE RELIABILITY REPORTING.

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**DURATION OF THE SESSION: 50 MINUTES**



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### Rusada Envision Aviation MRO / M&E Software Demo and Overview On-Demand Webinar (inc: Mobile / Paperless M&E; Latest and Future Developments).

19th May 2016



#### SESSION OVERVIEW

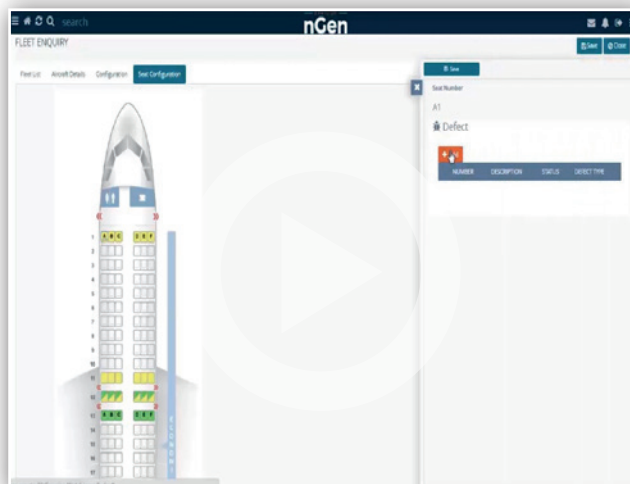
Register to view this On-Demand Webinar (recorded on 19th May 2016) for an excellent chance to see a full overview and as live online demo of one of the industry's leading Aviation M&E / MRO software solutions: Envision, from Rusada - as used by over 110 customers worldwide of all sizes - from large national carriers, low-cost and regional airlines to heli-operators, business aviation, MRO facilities and CAMO providers. During the Webinar Rusada experts demo some of Envision's latest developments and show how the system assists working in a mobile and paperless environment, including raising non-routines, requesting parts and electronic signatures.

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**Rusada ENVISION Aviation MRO / M&E Software Demonstration Webinar Inc. Paperless / Mobile M&E**

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### MRO IT Innovations: The MRO Lab Singapore Overview On-Demand Webinar – from Air France Industries KLM E&M and Ramco Aviation (inc: NextGen Tech: Internet of Things; Machine Learning; Analytics, Wearable Devices; Drones, more).

26th May 2016



#### SESSION OVERVIEW

Register to view this On-Demand Webinar (recorded 26th May 2016) to learn about the future of Aviation Maintenance technology with a full review and overview of The MRO Lab in Singapore - opened in early 2016 by AFI KLM E&M and Ramco, and designed as an innovation centre to develop advanced aviation IT solutions, such as wearables for ground engineers and drones to inspect aircraft on the tarmac. This Webinar outlines the objectives of the Lab plus looks at the next-generation applications and technology on which the Lab has been working, such as: Internet of Things, Machine Learning, Analytics, Robotics, Wearable devices, Drones, and more.

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**aircraft IT**  
MAINTENANCE - OPERATIONS



# How Saviscon.com will make its way to the forefront?



Ingo Simon shares with Aircraft IT the secrets of its success

Ingo Simon studied electrical engineering with a focus on communication technology and IT during his first career as an officer in the German Navy. After leaving the navy he was an IT manager at Lufthansa, later changing to the consulting side. Ingo has over 25 years managerial and leadership experience and conducted a number of projects for European Airlines and MROs as well as in the Middle East. He founded Saviscon in 2010.

## AIRCRAFT IT: How did SAVISCON get started?

**IS:** I had worked for ten years with aviation industry projects focusing on technical documentation, ERP integration and data migration. After spending two years as head of consulting in a complex project located in the Middle East, I felt it was time to return to Germany, to found Saviscon and share all the things I had learned in those years. I found strong development partners providing standardized ECM and integration solutions to other industries and we decided to work together on an aviation industry solution; today's WARPweb. After only a few months we had a reasonable showcase running and started to market it in the aviation industry.

## AIRCRAFT IT: What is the attraction of aircraft related IT?

**IS:** For us, it is both sides of the picture: on the one hand we love IT and are dedicated to developing sustainable and standardized applications which are applicable for any size of business as well as easy to use and to operate for customers. On the other hand, the engineering marvel of an aircraft and the required processes and organizations around it with all their complexity and legal requirements fascinate us. Consequently, we provide solutions to reduce complexity, mitigate risks and improve the processes of the organizations.

## AIRCRAFT IT: What is the guiding business principle that drives Saviscon?

**IS:** We are consultants: our advisory service is based on the assessment of all opportunities on the one hand and all the risks on the other hand. But we only advise on subjects where we have built expertise or we have vast knowledge and experience. However, we are far from being omniscient. We obviously need the contribution of our customers to challenge our ideas, because, even if they all do the same business, individual customers each follow their own processes. And they want those to be supported by our solutions. This is what it needs to successfully complete projects not only in time and budget, but also in terms of user acceptance and proven quality.

## AIRCRAFT IT: What has been Saviscon's greatest IT achievement to date and why?

**IS:** Our WARPweb solution is quite new in the market and when we started

defining the requirements for the solution, we only had a rough picture of the efforts to adapt the existing standard ECM solution. At the end we were surprised how fast we had a stable system running and could actually start to develop more industry specific and sophisticated functionality. This is the evidence for us and our customers that there is no need for a long and expensive development project to start with WARPweb. It will only take a few weeks to get it up and running for a new customer.

## AIRCRAFT IT: What has been Saviscon's greatest business achievement to date and why?

**IS:** I think that the trust and the confidence that our customers have in us is our greatest business achievement so far. Since Saviscon was founded at the end of 2010 we've had the chance to work in a number of projects. Most of the time the customers planned to use our advice for a short time and with only a narrow focus. We are proud to say that each customer who started working with us extended the contracts for years and was convinced by the results and solutions we elaborated for them.

## AIRCRAFT IT: What have been Saviscon's disappointments and what have you learned from them?

**IS:** Sometimes it can take a very long time for customers to make a decision for a solution provider. So you have to learn to be patient and illuminate the advantages of your tender. As a vendor you will then be disappointed, if you feel that a customer's decision does not consider the big picture and whole package you are offering, but seems to be focused on some detail features. Those may be nice, but are not essential compared to other subjects. But anyway, it is always the customer's choice and vendors have to accept this.

## AIRCRAFT IT: In a sentence, how would you summarize what Saviscon does for aviation customers?

**IS:** Saviscon's record management and collaboration platform WARPweb is applicable for small businesses as well as big enterprises and will, complemented by our WARPbridge EAI engine and our WARPservices, open the door to the digital future of the aviation business.

## AIRCRAFT IT: What is new on Saviscon's development horizon?

**IS:** We are currently developing an Adaptive Case Management module for the WARPweb. Compared to a relatively stiff corset of processes implemented in software solutions, Adaptive Case Management gives you flexibility to react to a certain situation without losing control or visibility of the project progress. This is a familiar challenge, e.g. in a lease return: issues come up which you have to manage according to the situation. In our case management module, users can flexibly add new tasks to an execution plan, delegate them to contributing stakeholders, set timelines and create placeholders for documents required in a later project phase. This is a real project management improvement, as we have already experienced in other industries.

## AIRCRAFT IT: What will be the next big thing in Aviation IT?

**IS:** We focus on Enterprise Application Integration. There is so much data around the industry, which needs to be exchanged between operators, MROs, lessors; plus, not to forget, asset management and CAMO organizations. Take, for example, a lessor. He may have several customers, all with different E&M and document management systems. Right now a lessor has a lot of work to do, if he wants all required data from the different sources to be consolidated in his own ERP and DMS applications. To avoid the work, he may delegate this to his customers or service companies. However, there is a lot of manual work, which is inefficient for all sides and also error prone. With our WARPbridge, we can bring this data together, in an efficient and automated, thus cost effective, way. Everybody is focusing on mobile devices nowadays and every modern software company can build adaptive design applications. The real challenge is data management and the integration of the vast numbers of data sources in the industry; not the user interface which only provides the view into the data.

## AIRCRAFT IT: What would you want your customers to say about Saviscon?

**IS:** 'Saviscon is our reliable partner and first choice to tackle the digital challenges of the present and future aviation industry.'

**AIRCRAFTIT: Ingo Simon, thank you for your time.**



# A five year success story together

**Dinendra B Kadam** Deputy Continuing Airworthiness Manager -IT-MRO for Air India offers a case study of how Air India worked with its software vendor to make the most of its MRO IT solution



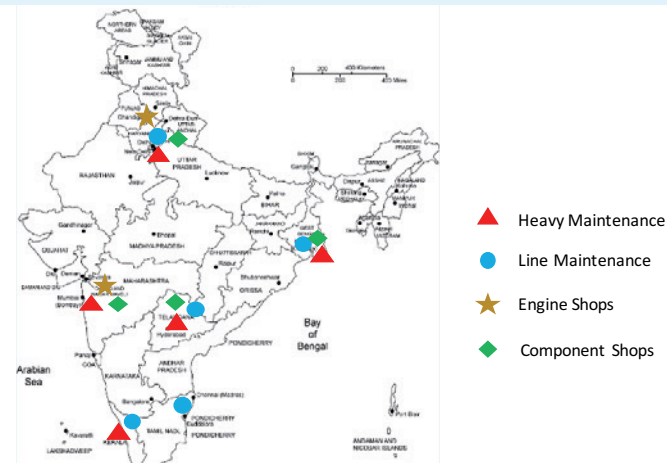
**IT'S ALWAYS A** good idea when a software vendor and an airline work together: this article is a success story about Air India and Ramco; working together to generate a great outcome. It's also about overcoming many problems around mergers and forming a new organization.

**ABOUT AIR INDIA**

Air India Limited is a Government owned company comprising four airlines formed at different times: from Air India formed in 1932, through Indian Airlines, Alliance Air and, most recently, AIX, formed in 2005. They were all independent airlines owned by the government serving different markets... Air India (international services), Indian Airlines (domestic services), Alliance Air (using smaller aircraft on regional sectors) and AIX (Air India Express) serving the burgeoning low-cost carrier market on both international and domestic sectors. In 2007, all of these airlines were operating under EASA Part M and Part 145 and the government decided that, as a developing economy, the airlines that it owned should undertake all maintenance within India and avoid too many foreign currency transactions.

**BUSINESS NEEDS**

At the time, all FOUR airlines had their overhaul shops and maintenance facilities at different locations with a mixture of Heavy Maintenance, Line Maintenance, Engine and Component Shops around the country...

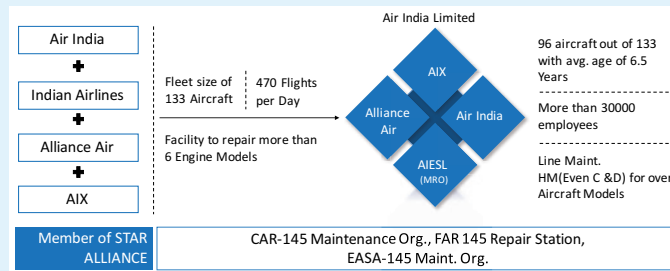


... to serve their various fleets which totaled 133 aircraft (96 of which had an average age of just 6.5 years). Altogether the four airlines were operating about 470 flights per day (including use of the B747-400 aircraft as Prime Ministerial and Presidential transport when needed) with more than 30,000 employees.

Aircraft Type	No. of Aircrafts
B777-300LR	3
B777-300ER	12
B747-400	5
B787	21
<b>Wide Body Total</b>	<b>41</b>
B737-800	17
A320-214	8
A320-231	15
A319-112	22
A321-211	20
CRJ-700	3
ATR42	3
ATR72	4
<b>Narrow Body total</b>	<b>92</b>
<b>Total Fleet</b>	<b>133</b>

There were facilities in India to repair more than six engine models. Line maintenance was carried out internally wherever possible but, in some cases, outsourced on overseas sectors. The four airlines could undertake heavy maintenance 'C' Check, 'D' Check in-house.

In 2007, Air India and Indian Airlines were merged as far as operations were concerned, Alliance Air continued with separate operations using smaller aircraft and Air India Express similarly remained a low-fare airline. However, the MRO-engineering functions of all four airlines were merged into a single company 'Air India Engineering Services Limited' (AIESL).



**IT SYSTEMS**

At the same time, management considered replacing the existing maintenance and engineering MRO IT solutions following the merger of the engineering functions of all four airlines. The country was divided into four regions (North, South, East and West) plus a central location in Hyderabad. For the MRO solution, the main objectives were to create a single harmonized platform across all the companies and locations; increase aircraft availability and utilization; achieve better and more accurate inventory planning with reduced costs; manage faster rectification of snags for a reduction in TAT (turn-around times); and have increased visibility of parts through all stages of the supply chain.

Harmonizing the processes had to take account of the fact that the culture in each of the companies was different. For instance, whereas Air India was a centralized business, Indian Airlines had been decentralized over



four regions. The fleets were also different with Air India using mainly wide body Boeings on its international services while Indian Airlines used mainly narrow body Airbus aircraft for its domestic services. When it came to approvals, Air India had delegated financial power to individuals while Indian Airlines worked through a committee structure. And, finally, on the critical matter of processes; in Air India they were mainly IT driven whereas Indian Airlines had a mixture of IT and manual driven processes.

**SELECTION PROCESS AND MILESTONES**

Once management had decided to introduce new software we started to compile our requirements and to list the shortcomings of the existing system as well as invite ideas from the shop-floor on new requirements. We then undertook a market survey of available solutions including feedback from other airlines and MROs because not only was Air India maintaining its own fleet but it was also maintaining engines and aircraft, and conducting line maintenance for the aircraft of other international airlines. Our next step was to draft specifications for what we wanted prior to issuing the RFP (request for proposal). When the proposals were in, we evaluated them all against our technical specification and, for technically acceptable bids, we then considered the commercial aspects of what was on offer.

The next task was to establish a Software Selection Team and, in this, the company demonstrated the seriousness with which it regarded this project with three Board members sitting on the steering committee which comprised:-

- Director- Engineering – Airframe;
- Director- Engineering – Engine & Components;
- Director- Finance;
- Executive Director –IT;
- Executive Director – Materials.

In the working group, as well as the overall project manager, there were expert members from all of the engineering areas that would be impacted by the software change:-

- Project Manager;
- Experts from...
  - Quality;
  - Maintenance;
  - Engine;
  - Component;
  - Contracts;
  - Training;
  - Material planning;
  - Material Procurement;
  - IT;
  - Tech Services;
  - Production Planning.

*“At the time, all FOUR airlines had their overhaul shops and maintenance facilities at different locations with a mixture of Heavy Maintenance, Line Maintenance, Engine and Component Shops around the country...”*

### SOFTWARE SELECTION STEPS

We identified more than thirty vendors of which nine met our technical requirements and, after our commercial evaluation process, three were shortlisted. Those three were invited to make detailed demonstrations of their solutions after which we selected one vendor, Ramco Aviation Solutions. Having made our final selection in October 2010, the project was started in December 2010 and we gave ourselves eighteen months to implement the new solution.

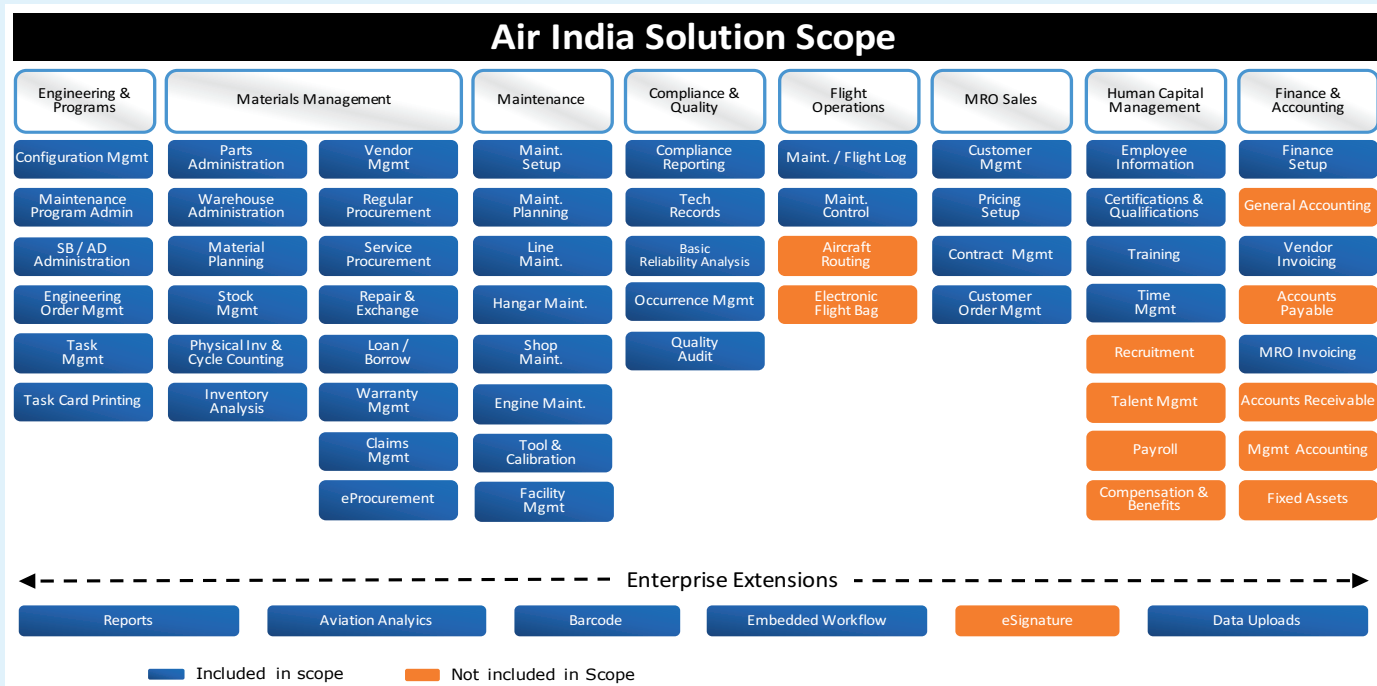
### SOLUTION SCOPE AND INTERFACES

In January 2011 we started with the business process stories for all four airlines. This was a crucial step because, with representatives from four companies' engineering, materials and finance functions as well as Ramco, we had to select just one business process that would be acceptable to all four companies. Our MRO IT provider played a very important role in this, demonstrating their application and explaining their clients' processes which we were comparing with our processes. Finally, after a month, we settled on a single and what we thought was the best aviation standard process. After that, we conducted a classroom pilot project at which the selected process was demonstrated for acceptance and sign-off by all four companies.

### IMPLEMENTATION CHALLENGES

By April 2011, we had completed the solution definition and started with the User Champion training at multiple locations. This was crucial for a successful change management while moving from disparate systems to one integrated solution.

At the same time, we conducted a country wide executive training program covering system administration and data migration to ensure Air



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**ramco** aviation

India's entire Boeing fleet was able to go-live before end of May 2012. Just six months later, on 26th November 2012, the Airbus fleet also went live.

With the Air India Solution Scope (see previous page) some of the modules, in orange, were not selected by us because we already had solutions which were operational for these modules or were in the process of implementation.

The Ramco solution covered our analytics requirements such as maintenance cost analysis, inventory service level analysis, shop TAT, procurement TAT and customer profitability among others. We also had to manage integration and replacement of existing systems.

### INTEGRATION

Integration with other systems including Sabre for flight times and routing information; SAP for financials; ESIS for SPEC2000 procurement, Softlink for exports and imports customs clearance and IDMR for technical documentation. Ramco's MRO suite replaced legacy systems such as Maxi Merlin and Oasis.

### CHALLENGES IN IMPLEMENTING RAMCO

We had to address a number of challenges. Permission from the Regulator required us to convince them that four existing systems could be merged into one solution; it was a difficult task but we needed their permission before starting the project. We took the people with best knowledge of the old systems and the people we had trained on the new system to form the change management team who went to each group to explain what was happening today, what was going to change (and how) and what benefit they would derive from implementing the new system. Data conversion was another challenge with some records in the old systems still on paper, as we have already seen: and then there was the challenge of data migration in which the templates provided by Ramco were a great help. IT infrastructure and meeting the target dates was a further challenge. We also made a parallel decision on company stationery which was to use only A4 size white paper; no more colored paper, no more pre-printed stationery. And we had to manage cutting off the old system which was another challenge because some people, even after change management, were not ready to move to the new system; so we had to draw a line for the change-over. And then, as at the beginning, we had to prove to the regulator the authenticity of the system: our regulator has required a control of two internal audits every year and one external audit every two years.

### OVERCOMING CHALLENGES

Challenges were not only in implementation of the solution but also extended to rationalizing the human and physical resources in the business. After implementing this solution we have 320 mechanics being trained on the Boeing 787, we have undertaken cross-planning and,

with Ramco's aid, we have started facing the line maintenance challenges. We handle a lot of aircraft for other customers, not only for Air India, so the main challenge was to be cost effective and to have a satisfied customer. In this we were helped through the integration with Sabre: every line maintenance planner or those in charge of the shifts started getting on-screen tasks for and defects on aircraft that would be arriving in the next eight hours, plus the maintenance due on those aircraft. As a result he was in a position to allocate manpower and material. The new system incorporated the skills and qualifications of technicians and mechanics in the system. That also helped our 145 system.

### KEY BENEFITS

- Built in process validations ensure that error free data is maintained in the system.
- Easy visibility of parts and components across fleet types.
- Complete tracking of components across various stores locations, on-wing, vendor repair, shop maintenance, etc. Therefore, easy float reconciliation.
- Parts have been distinctly classified into Components, Expendables, Consumables, Raw Materials, Tools and Kits. Components have further been classified into Repairable and Rotable.
- Automated Material Transfers between warehouses based on Warehouse Matrix settings & Reorder points.
- Seamlessly integrated Engineering, Materials & Finance, enables demand fulfilment and accurate Cost tracking.
- Controlled Scrapping Process resulting in efficient Float Management.
- Flight Hours and Cycles of an aircraft and its components is now readily available as the system automatically calculates the same based on actual flying of aircraft through Journey Logs which are interfaced with the Flight Operations System.
- Contract Management System takes care of MRO related work. All terms & conditions of the contract are defined in the system e.g.: material cost, labour rate, exchange cost, , fixed price / T&M based costing, etc.
- Streamlined Purchase process with reduced lead time using Spec 2000 transmissions for 100+ OEMS/vendors & periodic upload of ATA 200 Vendor Price Catalogue.

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Apart from the benefits mentioned above, after implementation of the IT MRO system, walls that had previously existed between the group companies were broken and we could utilize resources across the whole merged business.

### FUTURE ROAD MAP

- Integration with HUMS;
- Reliability Data - SPEC 2000;
- Mobility Implementation;
  - Maintenance and Warehouse Operations;
- Digital DFP;
- Intelligent Decision making System;
- LSAP (Loadable Software Aircraft Parts) Implementation.

### DINENDRA B KADAM



Dinendra is a Deputy Continuing Airworthiness Manager -IT-MRO for Air India. He is a Post Holder approved by D.G.C.A-India and is accountable for the IT-MRO system for the Airline as well the MRO. He has experience of 28 years in the Continuing

Airworthiness Management Organization.

### AIR INDIA



Air India is the flag carrier airline of India and is owned by Air India Limited, a Government of India enterprise and operates a fleet of Airbus and Boeing aircraft serving domestic and international destinations. Air India became the 27th member of Star Alliance on 11 July 2014 and uses ATR and CRJ aircraft plus the Airbus A319-320 family and Boeing 787 aircraft for selected domestic routes while long distance services use the Boeing 777-300ER, 747 and 787 aircraft.

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*"... after implementation of the IT MRO system, walls that had previously existed between the group companies were broken and we could utilize resources across the whole merged business."*

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**T**HE AIRCRAFT IT Tender Upload function allows Airlines, Aircraft Operators and MROs the opportunity to send their software requirements to 30+ of the world's leading MRO IT Vendors at the click of a mouse. It's all of a piece with Aircraft IT's mission to put readers in front of as many opportunities as possible to maximise their professional effectiveness; this time by linking to other professionals with a proven track record of matching complex requirements with effective software solutions.

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- Fill in the Tender Upload form and upload a PDF document of your requirements. Under the 'Software Type' section, which ever box you tick sends your Tender to all the IT Vendors in that section of the Aircraft IT website.
- Click 'Upload Tender' and your information will be sent to the key contacts at the IT Vendors. Once the Tender has been uploaded the IT Vendors will very soon send you details about their software and product solutions that would be suitable to address your requirements.

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11:00 AM



# How I see IT

## The death of an icon

Paul Saunders, Solution Manager, Flatirons Solutions writes...

**DID YOU HEAR** the story about the guy who dug a floppy disk out from his attic and showed it to his teenage son?

"Cool – you 3D printed a save icon." was the hilariously earnest response.

Material devices of my youth are becoming an increasing rarity in computing these days. The comedic reactions of our offspring when encountering artifacts that some of us take for granted are often priceless. I remember when my son, then aged around 7 or 8, first saw a vinyl record, his reaction was:

"Wow – you could get a million songs on there!"

I have found that the same confusion exists with more abstract technology artifacts... In particular files.

Saving and printing in my household is a painful exercise that occurs almost every day thanks to school homework. I learned all about files and file systems the hard way back in the early 90s. If anyone has ever tried writing a ten thousand word dissertation on a shared computer, with a fraction of the memory that my watch has, they'll attest to my student mantra of "back-up, don't f\*\*\* up." My kids unfortunately don't understand files one bit.

My kids can work on a project in whatever media of their choosing and switch seamlessly between devices plus distribute to the web without ever having to encounter the concept of a file. They don't need to save anything, as the application remembers everything they've done. They don't need to store the project in a tangible location when setting the work down, as the application simply presents to them what they were recently working on. For crying out loud! They

don't even need a search function.

So when they need to do something alien like print out a document or save it onto something portable to take into school, it's a total rigmarole. Whilst the process of getting homework authored on an iPad onto the one PC connected to a printer in our household is the subject of scorn for my kids, it's second nature to their old man. It's not the print icon that sucks for them – it's the save icon.

The whole concept of files and saving is becoming increasingly irrelevant. It's now a reassuring UI component akin to a comfort blanket that tends to mean, 'I'm done'; rather than explicitly saving the thing I'm working on. With web applications and collaborative systems, the notion of a file is somewhat outmoded, so 'saving' is a completely different concept under the hood and the button itself is a placebo. When storage and bandwidth was relatively expensive in the early days of the cloud, a save button was a sensible alternative to frequent auto-saves and micro-versions, but those days are long behind us. However, I must admit that it does feel odd using modern software that doesn't provide a save button, but in the same way that I am now comfortable with driving a car without a handbrake, it's something you get used to.

I'm not opposed to seeing that tiny bit of screen real-estate ring-fenced for our old friend the save icon, but I do have a greater appreciation for what it's actually doing for me... I'm publishing, sharing, distributing, or simply closing my work rather than writing ones and zeros to a spinning magnetic disk inside a three and a half inch square of plastic... or at least that's how I see IT.

### INTERACTIVE Have your say...

[Click here to send comments or questions to Paul](#)



# MRO Software Directory

Key 'at-a-glance' information from the world's leading MRO software providers.

There are three recognized categories of MRO software solutions:

- 1) Pure-play MRO solutions also known as Best of Breed (BoB)
- 2) Enterprise Resource Planning (ERP) Solutions
- 3) Specialist Point Solutions

Software solutions assigned to categories 1 and 2 offer a complete end-to-end MRO solution for airlines, MROs and aircraft operators and meet most business system requirements for MRO facilities and airlines of any size seeking a new MRO software solution or looking to replace or renew an existing one.

Pure-play systems are designed specifically for the aviation MRO industry and typically offer a complete solution to fit with the highly regulated nature of the industry. ERP MRO Solutions are part of a complete end-to-end enterprise wide software package and allow for extended capability with other systems such as Finance and Human Resources.

Specialist Point solutions are MRO systems that are particularly strong in certain niche areas and usually complement the pure-play solutions.

For ease of reference the directory below is divided into two sections: Pure-play and ERP MRO Solutions; and Specialist Point Solutions.



## 2MORO SOLUTIONS

**W:** [www.2moro.com](http://www.2moro.com)  
**T:** +33 (0)559 013 005  
**E:** [sales@2moro.com](mailto:sales@2moro.com)

Company formed: 2004  
 Office Location: France (HQ),  
 Canada and Malaysia

Number of Modules: 10+

### NAME OF PRODUCT MARKETED

- Aero One, Aero-Webb, BFly, 2Fly

### KEY BUSINESS/SOFTWARE AREAS

- MRO: Line, Base, Engine maintenance
- Airworthiness & Fleet Management
- Flight and Crew management
- Material Management
- ERP: Finance, Purchasing, Sales, HR

2MoRO Solutions is a software development company dedicated to the Aviation market. Our teams are located in America, Europe & Asia. We work with partners and resellers in 20 countries. Our solutions are operated in 24 countries and are available in 5 languages.

We have been providing cost-effective software to large aviation players as well as small and medium size enterprises for 12 years. We offer a panel of software to fit any types of aviation companies. Our solutions have been chosen by aircraft & engine manufacturers such as Airbus Helicopters or Safran Group but also by many aircraft operators, airlines or independent MROs. We are proud of our 95% retention rate achieved over twelve years of operation thanks to a superior customer service. 2MoRO Solutions works mainly on a fixed-price base and is ISO 9001 certified for aviation software development, maintenance and support.

Aero One® and Aero-Webb® are certified by SAP® and complement their ERP solutions for aviation & MRO needs. 2Fly® is our cloud solution to reduce emergency AOG, mitigate human error and facilitate continuing airworthiness management. BFly® is a new way to create customized software for aviation and enables to design personalized screens, workflows and business processes.

[Click Here for Product Details](#)

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## ADSOFTWARE

**W:** [www.adsoftware.fr](http://www.adsoftware.fr)  
**T:** +33 (0)4.50.89.48.50  
**E:** [contact@adsoftware.fr](mailto:contact@adsoftware.fr)

Company formed: 1998  
 Office Location: France, Thailand,  
 South Africa, Brazil

Number of Modules: 6

### NAME OF PRODUCT MARKETED

- AIRPACK

### KEY BUSINESS/SOFTWARE AREAS

- AIRTIME - Fleet management & CAMO
- AIRSTOCK - Inventory control & Logistic
- AIRDOC - Documentation management
- AIRSTAT - Reliability and statistic reports
- AIRWORK - Time Tracking Software

ADSoftware has developed an integrated fleet management system and logistic package called AIRPACK. This 6 modules system replies to the needs of aircraft and helicopters operators, as well as MRO and CAMO centres. It meets all requirements in terms of functionality, traceability, performance, aviation legislation and regulations. Today, ADSoftware counts more than 54 clients worldwide. The strength of ADSoftware is the simplicity of its products; they are Microsoft Windows® ready, Web-enabled, available in various languages and a complete training can be done in just five days. The company also provides a 24/7 online technical support and extremely competitive pricing conditions.

[Click Here for Product Details](#)

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## Pureplay, BoB and ERP MRO Solutions



## ADT – APPLIED DATABASE TECHNOLOGY

**W:** [www.adbtech.com](http://www.adbtech.com)  
**T:** +1 (425) 466-5013  
**T:** +1 (614) 377-9644  
**E:** [sales@adbtech.com](mailto:sales@adbtech.com)

Company formed: 1992  
 Office Location: Bellevue,  
 Tampa USA;  
 Istanbul, Turkey

Number of Modules: 14

### NAME OF PRODUCT MARKETED

- Wings NG

### KEY BUSINESS/SOFTWARE AREAS

- Fleet Management
- Maintenance Engineering
- Material Management
- Production Planning
- Labor Collection, Billing

APPLIED DATABASE TECHNOLOGY (ADT) is a professional services and software development firm that provides MRO software solutions for aircraft operators as well as aircraft repair and overhaul organizations. Our commitment to this business segment is proven with our software package, WINGS, designed specifically for aerospace companies. ADT has been in the software business since 1992 and has built an excellent customer reference base. Our first priority is always customer satisfaction thus we have obtained 100% customer satisfaction since 1992. ADT has a proven record to develop reference accounts in the Aviation industry along with other high technology companies which are considered to be leaders in their fields.

[Click Here for Product Details](#)

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## AEROSOFT SYSTEMS

**W:** [www.aerosoftsys.com](http://www.aerosoftsys.com)  
**T:** +1 905.678.9564  
**E:** [sales@aerosoftsys.com](mailto:sales@aerosoftsys.com)

Company formed: 1997  
 Office Location: Ontario, Canada;  
 Miami, FL, USA; Austria

Number of Modules: 5

### NAME OF PRODUCT MARKETED

- DigiMAINT, DigiDOC, WebPMI/DJM

### KEY BUSINESS/SOFTWARE AREAS

- Maintenance and Engineering Management
- Digital Document Content Management
- Business Intelligence Reporting
- Business 2 Business transaction interface
- Interface to Financials / Flight Operations

AeroSoft Systems Inc. is unique in MRO/IT, born in 1997, out of aircraft OEM digital document systems and the evolution of ATA iSPEC2200 and SPEC2000 standards. AeroSoft has two distinct MRO/IT products: DigiMAINT and WebPMI sharing a common set of optional modules for BI, B2B, Finance and Flight Operations, plus DigiDOC, a state of the art digital content management system. AeroSoft has the unique expertise to integrate DigiDOC with any competitive MRO/IT system. AeroSoft's strategic partners include Hexaware Technologies Inc. who are jointly going to market internationally offering large IT capacity at competitive rates.

[Click Here for Product Details](#)

[Click Here to Request Private Demo](#)

Pureplay, BoB and ERP MRO Solutions



**AVIATION INTERTEC SERVICES**

**W:** www.aviationintertec.com  
**T:** +1 807-625-9260  
**E:** info@aviationintertec.com

Company formed: 1997  
 Office Location: Canada, Thailand, India, Greece

Number of Modules: 9

**NAME OF PRODUCT MARKETED**

- RAAS & RAAS Express

**KEY BUSINESS/SOFTWARE AREAS**

- Production Planning and Management
- Inventory and Procurement
- Inspection Document Management
- Reliability and Performance Analysis
- Financial and Flight Operations Integration

AIS's RAAS system is a best-of-breed M&E solution for the evolving operator, MRO and CAMO. Our solution is 100% browser-based and tablet friendly, compatible with all major browsers including Apple Safari, Google Chrome, Firefox, and Microsoft Internet Explorer. RAAS includes industry-leading paperless functionality such as task-step level signature, parallel inspection program management per type, digital part certification handling, iPad/Android /Windows tablet-based EML, electronic maintenance status board, centralized document library, wireless barcode scanning, and much more. RAAS offers flexible pricing and system hosting options making it suitable for a wide range of customer types and sizes.

[Click Here for Product Details](#)  
[Click Here to Request Private Demo](#)



**COMMSOFT**

**W:** www.commssoft.aero  
**T:** +44 (0) 1621 817 425  
**E:** nsg@commssoft.aero  
 Company formed: 1971

Office Location: Tiptree, Derby, Norwich, Gatwick, UK; Brisbane, Australia; Coimbatore, India

Number of Modules: 10

**NAME OF PRODUCT MARKETED**

- OASES

**KEY BUSINESS/SOFTWARE AREAS**

- User Friendly: for all levels of expertise
- Excellent Support: full support throughout the product life cycle
- Scalability: can grow with your business
- Cost: low 'cost of ownership'
- Security: proven security

OASES from Commssoft covers all aspects of aircraft maintenance for airlines and third-party maintainers including: inventory control; rotatable tracking; demand handling; requirements planning; PO and RO processing; component and aircraft technical records; maintenance forecasting; aircraft check planning and documentation. Also, check accomplishment analysis; aircraft technical log recording; shop floor data collection; work in progress; time and attendance monitoring; and system and component reliability analysis, plus repetitive defects, sales order processing, full quotation management, invoice passing, advanced scheduling, line maintenance control, AD/SB evaluation and deferred defect management. The company provides electronic AMMs and IPCs linked electronically to, and accessible by, the system.

[Click Here for Product Details](#)  
[Click Here to Request Private Demo](#)



**EMPOWERMX**

**W:** www.empowermx.com  
**T:** +1 866-498-3702  
**E:** info@empowermx.com  
 Company formed: 1 999

Office Location: Frisco TX, USA  
 Number of Modules 9

**NAME OF PRODUCT MARKETED**

- FleetCycle® Execution Suite – MRO Manager (FCXM)

**KEY BUSINESS/SOFTWARE AREAS**

- FleetCycle® Execution Suite: Production Manager (FXPM), MRO Manager (FCXM) and Line Manager (FCXL)
- Maintenance Program Manager (FCMPM), Planning Manager (FCPM), Reliability Manager (FCRM), Material Manager (FCMM), and Maintenance Intelligence (FCMI), Electronic LogBook (FCELB)
- Coming Soon: FleetCycle® Executive Suite – Shop Manager (FCXS)

EmpowerMX is an aviation industry-recognized software development/consulting-services business. We are purely focused on empowering our customers with the ability to decrease the costs of making air travel safer by equipping their decision makers with reliable, real-time/globally available intelligence for minimizing maintenance turn times/OpEx while maximizing airworthiness/profits. FCXM allows MROs, airlines, and lessors to effectively control the entire maintenance lifecycle or only the portions for which they are responsible. Airlines can jointly manage their outsourced and insourced activities like engineering reliability, QA and maintenance programs at the line, heavy and shop levels with an expected reduction in cycle times and increase in labor productivity on the magnitude of 16-30 percent. Third-party MROs can run their entire operation from bidding through contracting to invoicing.

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**IFR SKEYES**

**W:** www.ifrskeyes.com  
**T:** +33 (0) 562 74 75 00  
**E:** commercial@ifrskeyes.com

Office location: HQ: Colomiers / France.  
 Offices in Moscow, Singapore and Quito (Ecuador)

Number of Modules: 13

**NAME OF PRODUCT MARKETED**

- AMASIS -> 7 core modules + 6 add-ons
- KEOPS -> 8 core modules + 11 add-ons
- IBIS -> 6 core modules

**KEY BUSINESS/SOFTWARE AREAS**

- Line Maintenance
- Base Maintenance
- Engineering
- Procurement / Stores
- Business Intelligence

AMASIS is a robust turnkey solution to manage and optimize the aircraft maintenance. With 80+ active customers, AMASIS is a reliable solution for operators with fleets of all sizes and MRO. The new interface and the integrated Business Intelligence module (optional) brings to users the right tools to improve the maintenance processes. Our experts propose high level services to assist users during the implementation phase and the day to day operations (customizations, data upload, training, audit).

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[Click Here to Request Private Demo](#)



**IFS**

**W:** www.ifsworld.com  
**T:** +44 (0)1494 428900  
**E:** info@ifsworld.com

Company formed: 1983  
 Office Location: 60+ Worldwide  
 Number of Modules: 70

**NAME OF PRODUCT MARKETED**

- IFS Applications

**KEY BUSINESS/SOFTWARE AREAS**

- Fleet and Asset Management
- Maintenance, Repair and Overhaul (incl Heavy Maintenance, Complex Assembly, Component Repair)
- Corporate Performance Management
- Supporting Processes (Backbone ERP such as SCM, Finance & HR, Document Management, Contract & Project Management, Facilities & Equipment Management, Call Center & Case Management)
- Product Lifecycle Management

IFS Applications offers flexible, module based business solutions that manage the entire civil aviation lifecycle of contracts, projects, MRO, assets and services. IFS Applications include functionality for contract and project management, risk management, budgeting and forecasting, engineering, material management, sub-contracting, document management, fabrication, service and maintenance management, as well as financials and human resources. Being component-based, i.e. built on a service-oriented architecture (SOA), it is easier to implement and implementation can be incremental to align with the growth and scope of your business - offering flexibility and agility to changing organizations through scale-up/down of operations as well as company acquisitions and divestments within one global, multi-country, multi- site, multi-language, multi model application.

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[Click Here to Request Private Demo](#)



**LUFTHANSA TECHNIK**

**W:** www.lufthansa-technik.com/ manage-m  
**T:** +49 69 696 91628  
**E:** info@manage-m.com

Company formed: 1995  
 Office Location: Worldwide

Number of Modules: 15

**NAME OF PRODUCT MARKETED**

- manage/m®

**KEY BUSINESS/SOFTWARE AREAS**

- Compliance Reporting
- MPD management and revision service
- Task scheduling and control
- Material management
- Management of technical findings (PiRep & MaRep)

Lufthansa Technik's unique Technical Operations WebSuite manage/m® allows commercial aircraft operators to manage all core functions of their fleet's technical operations as an entirely web-based system online – anytime and anywhere. manage/m® is provided at no extra costs to every customer holding a MRO contract with Lufthansa Technik. Rounding out Lufthansa Technik's all-encompassing portfolio of maintenance, repair and overhaul (MRO) services, the modules of manage/m® comprise a complete range of airline-proven support functions that permit operators to live up to their responsibilities towards the aviation authorities. Reflecting Lufthansa Technik's MRO competence in all of its facets, manage/m® provides you with the necessary information to live up to your responsibilities as an operator in full. Quality monitoring, reliability trends, status reports, documentation and tracking of shop events in real-time are just a few of the available WebServices.

[Click Here for Product Details](#)  
[Click Here to Request Private Demo](#)

## Pureplay, BoB and ERP MRO Solutions

**MXI TECHNOLOGIES****W:** [www.mxi.com](http://www.mxi.com)**T:** +1 613-576-2480**E:** [info@mxi.com](mailto:info@mxi.com)

Company formed: 1996

Office Location: Ottawa, ON, Canada  
Dallas, TX, USA

Number of Modules: 5

**NAME OF PRODUCT MARKETED**

- **Maintenix Operator Edition**
- **Maintenix MRO Edition**

**KEY BUSINESS/SOFTWARE AREAS**

- **Maintenance Planning**
- **Maintenance Execution (heavy & line)**
- **Materials Management**
- **3rd-party MRO Bidding, Quoting, Invoicing**
- **Business Support & Analytics**

Mxi Technologies is a leading provider of integrated and intelligent maintenance management software, support and services catering specifically to the global aviation industry, including commercial and defense operators, third-party MROs, and OEM aftermarket service providers. Mxi Technologies' suite of Maintenix® software is uniquely designed to help aviation organizations maximize the revenue potential of their aviation assets through standard, lean, and predictable maintenance. Mxi's global footprint of customers range from emerging, small to midsized organizations to the largest global enterprises, with single to multi-site deployments that scale as high as 6,000 users in a single instance.

[Click Here for Product Details](#)[Click Here to Request Private Demo](#)**RAMCO SYSTEMS****W:** [www.ramco.com/aviation-suite/](http://www.ramco.com/aviation-suite/)**T:** +91 89 3986 3986**E:** [Amrith@ramco.com](mailto:Amrith@ramco.com)

Company formed: 1996

Office Location: USA, Canada, Europe,  
Middle East, Africa,  
India, Asia-Pacific, ANZ

Number of Modules: 20

**NAME OF PRODUCT MARKETED**

- **Ramco Aviation M&E Solution, Ramco Aviation MRO Solution, Ramco Anywhere Apps, Ramco flyMORE**

**KEY BUSINESS/SOFTWARE AREAS**

- **Maintenance & Engineering**
- **Maintenance, Repair & Overhaul**
- **Planning & Optimization**
- **Maintenance Analytics**
- **Mobility Solutions**

Ramco offers Maintenance solution on cloud and on premise with multi-tenant capability and next-gen mobility catering to the needs of Airlines, Heli-Operators, MROs and Charter operations. Ramco's next-gen mobility solutions for maintenance operations is available through an app ecosystem where MRO supervisors, mechanics, pilots, storekeepers and customers can seamlessly execute critical operations on the go anywhere, anytime. Ramco Aviation Solution is comprehensive in its scope to cover the entire spectrum of organizational needs including Finance, HCM & Manufacturing functions all in one integrated platform.

Powering 4000+ aircraft and 17,000 end-users globally, Ramco is the solution of choice for Patria Helicopters AB, Malaysia Airlines, Republic Airways, Cobham, Columbia Helicopters and over 70 others. Ramco Series-5 delivers positive impact on reducing Turn Around Time (TAT) while increasing operational performance and compliance through full integration of Engineering, Supply Chain, Maintenance Planning & Execution, and Compliance modules via simple user-friendly interfaces. Ramco constantly innovates in the maintenance IT space with one basic objective - enable clients to focus more time on business-critical activities, while the solution performs the rest.

[Click Here for Product Details](#)[Click Here to Request Private Demo](#)**RUSADA SA****W:** [www.rusada.com](http://www.rusada.com)**T:** 03333 440730**E:** [sales@rusada.com](mailto:sales@rusada.com)

Company formed: 1987

Office Location: N America, UK,  
Switzerland, Dubai,  
India, Singapore

Number of Modules: 8

**NAME OF PRODUCT MARKETED**

- **Envision**

**KEY BUSINESS/SOFTWARE AREAS**

- **Maintenance & Engineering (M&E)**
- **Maintenance, Repair & Overhaul (MRO)**
- **Maintenance Planning & Scheduling**
- **Paperless & Mobile Solutions**
- **Offline Mobile Capabilities**

Rusada develops Envision - a MRO / M&E software system for the aviation industry. Envision is used by a range of different types of customer including airlines, helicopter operators, VIP fleet, MRO and line maintenance facilities. The latest version of Envision, Envision nGen, is a web-based solution that is browser, platform and device independent. The offline capabilities of Envision nGen is one of its unique selling points. We have tailor-made solutions configured for your needs from over 200 functions and 8 modules, across multiple platforms. Key elements of our new developments include: Integrated user defined workflows throughout the solution; Significant use of dashboards for alerting users of key outstanding actions etc; Integrated user definable templates throughout the solution; and provision of "off-line" support for certain key functions. Please don't hesitate to contact us for further information or to arrange a demo of the next generation of MRO / M&E software.

[Click Here for Product Details](#)[Click Here to Request Private Demo](#)**SEABURY MRO SOLUTIONS****W:** [www.seaburymro.com](http://www.seaburymro.com)**T:** +353 61 749 010**E:** [marketing@seaburymro.com](mailto:marketing@seaburymro.com)

Company formed: 2004

Office Location: Ireland; Argentina  
Number of Modules: 25+**NAME OF PRODUCT MARKETED**

- **Alkym, EPAS, eAuthority**

**KEY BUSINESS/SOFTWARE AREAS**

- **Technical Operations**
- **CAMO**
- **MRO**
- **Performance Analytics**
- **Regulator Applications**

Seabury Solutions is a leading global aviation software development and consultancy company. It was established in 2002 and forms part of the Seabury Group. Seabury Solutions has built a reputation in that time as the vendor who delivers cost effective world class aviation management software. The integrated product range includes solutions for Airlines, MRO Organisations, Aviation Regulators. Enterprise Performance Analytics Systems (EPAS) includes models used for Maintenance Analytics, Contracts and Invoicing, Flight Profitability, Budget Planning, Fuel Planning, Market Analytics and Sales / Distribution Analytics.

With our software products serving from over 80 customers in 35 countries globally they are suited from the largest to the small / medium sized operations.

Alkym Management and Control System for Aircraft Maintenance is a modular solution where each organisation can select which tools meet their requirements. This proven solution brings the top functionality in market leading implementation time scales. Typically, the average time to GO LIVE is between 8 and 15 weeks. With 24 / 7 professional support services to make sure your teams are getting the best from our systems Seabury Solutions should be on every short listing to compare the value proposition against the market.

[Click Here for Product Details](#)[Click Here to Request Private Demo](#)**SHEOREY DIGITAL SYSTEMS****W:** [www.sds.co.in](http://www.sds.co.in)**T:** (+91-22) 2281 9198/ 2281 1086**E:** [rohit.jha@sds.co.in](mailto:rohit.jha@sds.co.in)**E:** [vicky.sheorey@sds.co.in](mailto:vicky.sheorey@sds.co.in)

Company formed: 1993

Office Location: Ireland, Argentina,  
Netherlands,  
Philippines, USA

Number of Modules: 4

**NAME OF PRODUCT MARKETED**

- **ARMS®: Airline Resource Management System**
- **InfoPrompt®: Integrated Document Management System**

**KEY BUSINESS/SOFTWARE AREAS**

- **Engineering & Maintenance Sub-System (ARMS® - EMSS)**
- **Heavy MRO Sub-System (ARMS® HMRO)\***
- **Logistics & Inventory Management Sub-System (ARMS® LIMSS)**
- **InfoPrompt®: Integrated Document Management System**

\* Under development

Sheorey Digital Systems Ltd., (SDS), is an established, fast growing, ISO 9001:2008 Certified Software Company, focused on providing Software Solutions to the Aviation Industry. ARMS®: 'Airline Resource Management System' is an internet rich, current-generation, state-of-the-art Information Technology System that effectively addresses the extremely critical and cost sensitive nature of Airlines/Commercial Air Transport operations. ARMS® is one of the few cost-effective, fully integrated software solutions that seamlessly addresses - Flight Operations, Maintenance and Logistics functions of an air transport operator - designed and developed to control costs which is so very critical for Air Operators today! ARMS® is readily and easily 'customizable' to specific business & operational requirements.

[Click Here for Product Details](#)[Click Here to Request Private Demo](#)**SWISS AVIATION SOFTWARE****W:** [www.swiss-as.com](http://www.swiss-as.com)**T:** +41 61 582 72 94**E:** [marketing@swiss-as.com](mailto:marketing@swiss-as.com)Company formed: 2004 (project AMOS  
started in 1989)Office Location: Basel, Switzerland;  
Miami, FL, USA;  
Singapore

Number of Modules: 10

**NAME OF PRODUCT MARKETED**

- **AMOS**

**KEY BUSINESS/SOFTWARE AREAS**

- **Material Management**
- **Engineering**
- **Planning**
- **Production**
- **Maintenance Control**

Swiss AviationSoftware unites over 25 years of IT experience with profound MRO expertise and offers its customers the functionally unsurpassed and technologically state-of-the-art maintenance system AMOS. AMOS is a comprehensive, fully-integrated software package that successfully manages the maintenance, engineering and logistics requirements of modern airlines and MRO providers by fulfilling demanding airworthiness standards. Today, over 140 customers worldwide steer their maintenance activities with AMOS, which makes AMOS one of the industry-leading MRO software systems worldwide.

[Click Here for Product Details](#)[Click Here to Request Private Demo](#)



Pureplay, BoB and ERP MRO Solutions



**TRAX USA CORP.**

**W:** www.trax.aero  
**T:** +1 305.662.7400  
**E:** sales@trax.aero

Company formed: 1997  
 Office Location: Miami, FL, USA;  
 West Sussex, UK

Number of Modules: 23

**NAME OF PRODUCT MARKETED**

• TRAX Maintenance & Engineering Software

**KEY BUSINESS/SOFTWARE AREAS**

- Engineering & Planning
- Production & Shop
- Technical Records & Reliability
- TRAXDoc Document Control
- Supply Chain Management

TRAX is the global leader in the aviation industry for their MRO ERP software. TRAX is the most advanced maintenance software solution available and has been selected by over 150 airlines and MRO's worldwide with fleets consisting of all types of aircraft. TRAX Maintenance is a completely integrated product. Organizational efficiency gains can be substantial when using TRAX and ROI is quickly realized. TRAX maintains its advantage over the competition by developing software that works for customers through modern technology, world class support and strong customer relationships.

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**ULTRAMAIN**

**W:** www.ultramain.com  
**T:** +1.505.828.9000  
**E:** sales@ultramain.com

Company formed: 1980  
 Office Location: Albuquerque,  
 New Mexico, USA

**NAME OF PRODUCT MARKETED**

ULTRAMAIN® M&E / MRO - ULTRAMAIN Mobile Mechanics™ - ULTRAMAIN Mobile Inventory™ - efbTechLogs™ - eCabin™

- ULTRAMAIN for M&E / MRO: 28 Modules
- ULTRAMAIN Onboard Systems Software: 5 Modules

**KEY BUSINESS/SOFTWARE AREAS**

- Maintenance & Engineering
- MRO
- Maintenance Planning & Scheduling
- Paperless Customer Care on Tablets
- Electronic Aircraft Logbook

Ultramain Systems, Inc. develops M&E / MRO and EFB software for the aviation industry and is the only aviation software provider with customers running full, end-to-end paperless operations from the cockpit to the ground. ULTRAMAIN® v9™, featuring Mobile Mechanic™ and Mobile Inventory™, enables real-time paperless data collection for the full maintenance and inventory process. Combine ULTRAMAIN v9 with efbTechLogs™, the easy-to-use electronic logbook, and the entire maintenance process becomes paperless. Contact us to learn what you need to equip your organization with consumer mobile devices and see why elite aviation customers around the world are choosing ULTRAMAIN to reduce costs and increase aircraft up time.

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Specialist Point Solutions



**AERDATA**

**W:** www.aerdata.com  
**T:** +44 (0) 1293 226 845  
**E:** sharon.heaton@aerdata.com

Company formed: 2002  
 Office Location: Amsterdam, Crawley and Dublin

Number of Modules: 5

**NAME OF PRODUCT MARKETED**

• CMS, Financials, EFPAC, STREAM, GEARS

- KEY BUSINESS/SOFTWARE AREAS**
- CMS: Lease and Asset Management Software
  - Financials: Accounting and Procurement Workflow
  - EFPAC: Engine Maintenance Cost Planning
  - STREAM: Digital Aircraft Records
  - GEARS: Asset Review System

AerData provides integrated software solutions for lease management, engine fleet planning, records scanning as well as technical and backoffice services for aircraft and engine operators, lessors and MROs.

The company is a wholly owned subsidiary of The Boeing Company. AerData has an experienced team of 200 professionals across three offices in The Netherlands, UK and Ireland. Within AerData, software developers and aviation experts work together seamlessly in order to deliver exceptional software, product support and reliable back office services to the aviation industry.

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[Click Here to Request Private Demo](#)



**AIRCRAFT DATA SYSTEMS (ADS)**

**W:** www.technicalrecords.net  
**W:** www.adsfrance.net  
**T:** +33 (0) 975 333 675  
**E:** jalbrecht@technicalrecords.net

Company formed: 2005  
 Office Location: Nimes, France

**NAME OF PRODUCT MARKETED**

• ADS TRM (Technical Records Management), ADS TPA (Technical Publication Authoring)

Number of Modules: 5

**KEY BUSINESS/SOFTWARE AREAS**

- Searchable Dirty Finger Print
- 7 OCR engines
- 3 seconds or less to find a 25 years old log book page with its exact content
- Scan in Color, high definition
- EN-9100

Our software can be tailored upon customer requirement. This allows us to input and organize records in any architecture in order to meet the exact requirements and internal rules of our customers. The records presentation shape is established just as the customer wishes. A mechanic, a financial assessor or a leasing company representative don't have the same needs to collect and explore records but will be interested in the same content of data. Once scanned, the records can be presented, searched and exported in any customized way.

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**AVIIT**

**W:** www.aviit.com  
**T:** +44 (0) 1383 620922  
**E:** info@aviit.com

Company formed: 2004  
 Office Location: Dinfermline, UK (Head Office);  
 Sydney, Australia;  
 Fresno, California

Number of Modules: 2

**NAME OF PRODUCT MARKETED**

• eMan : Bluebox IFE: Archimedes

**KEY BUSINESS/SOFTWARE AREAS**

- Technical Library Management
- Technical Publication Distribution System
- Portable IFE solutions
- Fitted & Portable Wireless IFE
- ACARS Data Management

With over 40 of the world's leading aircraft operators and MROs on our client list, AviIT is proud of an outstanding reputation for high quality software solutions built up over 10 years.

AviIT is a specialist software provider, focused on improving productivity and reducing costs in the Aviation Sector. Through our in-depth understanding of the engineering and operational challenges within aviation we develop and deliver innovative, cost-effective software solutions. eMan™ greatly simplifies the challenges of managing an effective library of technical publications. Bluebox is the world's leading portable Inflight Entertainment solution.

eMan™ has been created in conjunction with aircraft operators and MROs to deal with the technical document management challenges facing today's maintenance organizations. eMan™ provides a central repository for technical documents and applications, streamlining the way you manage your technical library, guaranteeing version control and providing compliance statistics by user. Users access the central store from any device via the internet. eMan™ also offers an optional offline capability for situations where connectivity is not available. eMan™ is most popular as a managed service but can also be delivered as an enterprise application. You choose. eMan™ — your data available at any location on any device.

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**BLADEFIX**

**W:** www.bladefix.com  
**T:** +44 20 3440 4128  
**E:** paul.crabb@output42.com

Company formed: 2009 (Output 42);  
 2014 (BladeFix).  
 Office Location: UK, Denmark,  
 Poland and Iceland

Number of Modules: 1

**NAME OF PRODUCT MARKETED**

• BladeFix

**KEY BUSINESS/SOFTWARE AREAS**

- Easy, fast, mobile intuitive
- Selects optimal replacement blades from stock
- Choosing the best blade for balance
- Choosing the best blade for turnaround time
- Engineer can override if necessary

BladeFix selects the optimal replacement blades from your stock faster. Damaged fan blades in an engine are easily removed and replaced with new or refurbished ones by a skilled engineer. The difficult part is to choose the right blades from stock so as not to upset the balance of the engine. BladeFix knows the moment weights of all the engine's existing blades and also the moment weights of all the blades available in stock to solve the problem of selecting or swapping the right blades. Whenever possible, BladeFix offers blades from the closest location to minimise delivery time.

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## Specialist Point Solutions



## THE BOEING COMPANY

**E:** [TheBoeingEdge@boeing.com](mailto:TheBoeingEdge@boeing.com)  
**W:** [www.boeing.com/boeingedge/informationsservices](http://www.boeing.com/boeingedge/informationsservices)

Company formed: 1916

### NAME OF PRODUCT MARKETED

- Maintenance Performance Toolbox
- Airplane Health Management
- RFID Integrated Solutions

Boeing offers the industry's broadest range of aviation services to provide our customers the ultimate competitive advantage. We call this the Boeing Edge. In the information services field, we are keenly focused on addressing our customers' continuous need for integration and optimization of information. Using data, software, analytics and IT infrastructure, we connect airplanes, operators and data. We strive to enable smart and informed decision-making to take operational efficiency of their aircraft fleet and operations to the next level.

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## CONDUCE

**W:** [www.conduce.net](http://www.conduce.net)  
**T:** +44 333 888 4044  
**E:** [info@conduce.net](mailto:info@conduce.net)

Company formed: 2009

Office Location: Nuneaton Warwickshire

### NAME OF PRODUCT MARKETED

- eTechLog8, eCabinLog8

### KEY BUSINESS/SOFTWARE AREAS

- Electronic Tech Log
- Cabin Log
- Document Viewer

Conduce specializes in producing mobile applications for the aviation industry, writing native Win8/10 and IOS tablet "Touch" solutions and integrating these with responsive modern connected websites. The current flagship product eTechLog8 enables an airline to eliminate the traditional paper based tech log, cabin log and deferred defect books and is currently in differing stages of contract, trial & acceptance with various airlines. Several NAA's are also now involved with respect to monitoring these projects, enabling the necessary approval for the eventual roll out of paperless tech log systems with multiple EASA approved airline fleets.

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## CROSSCONSENSE GMBH & CO. KG

**W:** [www.crossconsense.com](http://www.crossconsense.com)  
**T:** +49 69 4035 7600  
**E:** [contact@crossconsense.de](mailto:contact@crossconsense.de)

Company formed: 2002

Office Location: Frankfurt Germany, Heusenstamm Germany

Number of Modules: 3

### NAME OF PRODUCT MARKETED

- CROSSMOS

### KEY BUSINESS/SOFTWARE AREAS

- Electronic Techlog Development
- Support
- Consulting
- Business Intelligence solutions
- App and dashboard development

"Since being established in 2002, we basically think from the perspective of the user. We are not pure IT geeks and it is exactly that which characterizes our services and products. Thus we distinguish ourselves from most of the specialists for the implementation of solutions. We can't do otherwise, because in the DNA of CrossConsense are many years of experience in Airlines, in the area of procurement, engineering and maintenance. We know your job as if it were ours. And THAT you will feel immediately!"

CrossConsense's portfolio stretches from AMOS Support, BI-Management, Data Migration and Hosting to the products CROSSMOS® (electronic tech log) and ACSIS (tool for predictive maintenance).

CROSSMOS® is an electronic technical logbook (eTL) developed with state-of-the-art methods and technologies. The CROSSMOS® ELB consists of a service oriented architecture with modular and exchangeable components, exchangeable interfaces and separately updateable software modules. CROSSMOS® includes a pilot client, a cabin client and a maintenance client. CrossConsense is already working with several international customers, gathering operational and legal requirements from all sources. CrossConsense also has a long tradition in providing support for AMOS. You have one single point of contact (no separated responsibilities for hardware, database or application support) for 1st and 2nd level.

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## EXSYN AVIATION COMPANY

**W:** [www.exsyn.com](http://www.exsyn.com)  
**T:** 0031-20-760 8200  
**E:** [info@exsyn.com](mailto:info@exsyn.com)

Company formed: 2011

Office Location: Amsterdam

Number of Modules: 7

### NAME OF PRODUCT MARKETED

- Avilytics, TITAN, Integrator, Creator, MaxQ

### KEY BUSINESS/SOFTWARE AREAS

- Aviation Analytics solution
- Data migration solution
- Universal data integration solution
- Customized application development
- Consulting Servicecy

EXSYN provides aviation IT solutions with one important mission: to develop reliable, simple, and user-friendly software solutions and digital technology so that the aviation industry benefits more from digital possibilities. Our solution platform focuses on data processing, data analytics, data hosting and related consulting services for Airline Maintenance & Engineering departments and MRO's. EXSYN's Avilytics solution is a 360° analysis software tool designed for aviation Maintenance & Engineering. Its capabilities span real-time, historic and predictive data analytics. It combines the fundament of aircraft reliability analysis & management with organisational performance analysis & optimization. EXSYN has developed TITAN, a source independent data migration solution, to seamlessly extract, manage and load airworthiness & maintenance data into and between any MRO software. Because of its unique technological framework TITAN eliminates most human intervention during migration of aircraft airworthiness & maintenance data and allows repetitive usage to directly migrate fleets between MRO software systems. EXSYN explores the synergy between aviation and digital technology to deliver solutions for improved competitiveness, efficiency, and sustainability. We support our customers in adopting innovative digital technology and work collaboratively with them to achieve measurable results and to develop reliable IT solutions that match their needs.

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## FLATIRONS SOLUTIONS

**W:** [www.flatironsolutions.com](http://www.flatironsolutions.com)  
**W:** [www.corena.com](http://www.corena.com)  
**T:** +1.303.627.6535  
**E:** [Julie.Fouque@flatironsolutions.com](mailto:Julie.Fouque@flatironsolutions.com)

Company formed: 1994

Office Locations: Europe, Asia, and the United States

Number of Modules: 10+

### NAME OF PRODUCT MARKETED

CORENA Suite

### KEY BUSINESS/SOFTWARE AREAS

- Content Management System (CMS)
- Interactive Electronic Technical Publisher (IETP)
- Maintenance & Engineering
- Flight Operations
- Tablet Solutions & Mobility

Flatirons provides consulting, technology, and outsourcing for content lifecycle management (CLM). For more than 20 years, we have served global Fortune 1000 customers in aerospace, automotive, electronics, financial services, government, healthcare, and publishing. Our customer engagements help organizations efficiently deliver the right information, at the right time, to the right people by leveraging structured content and digital media — Turning Content into Knowledge®. The CORENA Suite by Flatirons is the leading content lifecycle management (CLM) solution developed specifically for organizations that rely on mission-critical data to design, manufacture, operate, or maintain complex assets over their product and service lifecycles as well as across multi-echelon business networks. For more than 25 years, the world's leading airlines, aerospace manufacturers, OEMs, and defense organizations have relied on the CORENA product suite to create, manage, and deliver large volumes of technical information throughout its lifecycle. Today, CORENA customers rely on the CORENA suite to modernize their IT infrastructures, improve customer satisfaction, and maintain their competitive advantage.

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## HEXAWARE TECHNOLOGIES

**W:** [www.hexaware.com/travel-transport-hospitality-solution.htm](http://www.hexaware.com/travel-transport-hospitality-solution.htm)  
**T:** India: +91 22-67919595  
**T:** Americas: +1 609-409-6950  
**E:** [mro@hexaware.com](mailto:mro@hexaware.com)

Company formed: 1990

Office Location: Mumbai, New Jersey, London, Frankfurt, Singapore, Japan, Dubai, Mexico

### NAME OF PRODUCT MARKETED

- Hexaware is a Technology and Business Services Company providing end to end services to the Aviation market.

### KEY BUSINESS/SOFTWARE AREAS

- Risk Free Data Migration Tools & Services
- MRO Predictive Analytics & Big Data Framework
- Airline MRO Inventory Optimization
- Mobility & IOT Productivity Solutions
- MRO Systems Support

Hexaware's MRO practice leverages industry specific tools and services to fulfill its customers' need for efficient migration to newer M&E Systems, implementing industry specific Data Warehouses and Analytics and Independent Application Testing Suites. HMro Suite of Offerings include: HMro Analytics including more than 50+ Industry specific KPIs with prebuilt Dashboards and Reports HMro Data Migration Suite to ease your challenges in migrating to newer systems with specific Accelerators for ETL and mapping; HMro Test Suite for functional Testing of your M & E Applications; and HMro BPO Services for Technical Records Digitisation and Management.

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Specialist Point Solutions



**HONEYWELL**

**W:** [www.honeywellaidc.com/Pages/voice-inspections.aspx](http://www.honeywellaidc.com/Pages/voice-inspections.aspx)  
**T:** +49 211 536 013 19  
**E:** [Heiko.Krause@Honeywell.com](mailto:Heiko.Krause@Honeywell.com)

Company formed: 1906  
 Office Location: Germany, UK, USA  
 Number of Modules: 1

**NAME OF PRODUCT MARKETED**  
**Vocollect**

**KEY BUSINESS/SOFTWARE AREAS**

- Voice Solutions for MRO
- Hands-Free, Eyes-Free MRO

Vocollect solutions deliver a new level of documentation and compliance in your maintenance and inspection operations. The use of voice in a Hands-Free, Eyes-Free manner enhances the documentation of standard operating procedures and provides the continuity you need to provide better consistency across your various locations.

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**IDMR SOLUTIONS**

**W:** [www.IDMR-Solutions.com](http://www.IDMR-Solutions.com)  
**T:** +1-347-565-4367  
**E:** [sales@IDMR-Solutions.com](mailto:sales@IDMR-Solutions.com)

Company formed: 1998  
 Office Location: New York/Tel Aviv  
 Number of Modules: 20+

**NAME OF PRODUCT MARKETED**  
 • InForm

**KEY BUSINESS/SOFTWARE AREAS**

- Technical Publication
- Engineering Orders
- Task Cards
- Planning
- Maintenance Programs

IDMR is a global provider of easy to use and all encompassing Technical Documentation Management Solutions which have been designed exclusively for Fleet operators, MRO providers and OEM organizations. IDMR's Technical Documentation Management Solutions have proven success in increasing operational performance and decreasing operational cost while ensuring airworthiness, safety and regulatory compliance.

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**LUFTHANSA INDUSTRY SOLUTIONS**

**W:** [www.lufthansa-industry-solutions.com](http://www.lufthansa-industry-solutions.com)  
**T:** +49 40 5070 30000  
**E:** [marketing.sales@lhind.dlh.de](mailto:marketing.sales@lhind.dlh.de)

Office Location: Germany, Switzerland, USA

**NAME OF PRODUCT MARKETED**

- DocManage Product Suite, DocSurf Mobile, EFFOM, DocCreate

**KEY BUSINESS/SOFTWARE AREAS**

- IT Solutions and Process Consulting for MRO
- Electronic Flight Operation Manuals
- Airline Job Card Content Management
- Predictive Analytics and Maintenance
- RFID

Lufthansa Industry Solutions is an IT service company for process consulting and system integration. This wholly-owned subsidiary of Lufthansa Group supports its customers with the digital transformation of their company. Its customer base includes both companies within Lufthansa Group as well as more than 150 companies in various other industries.

The products EFOM and DocSurf Mobile were developed together with Lufthansa Airlines based on 15 years of common experience and excellence in electronic flight operations manuals and processes to fulfill both current and future requirements.

EFOM — A manufacturer independent Content Management System. Functionally mature and based on 17 years of experience, EFOM makes it possible to fulfill FlightOps requirements, e.g. expandable for new publishing backends; flexible to integrate new documents; open for customized enhancements or to integrate business processes such as Compliance Management.

DocSurf Mobile — A Library Viewer for MRO and FlightsOps documents is available as a native iOS app or Windows application. The revision service allows change lists to be checked and content to be compared with a previous version. Navigation is intuitive and includes a fast and easy search. A user independent management of favorites and notes is provided, keeping this information revision safe and available.

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**NVABLE**

**W:** [www.nvable.com](http://www.nvable.com)  
**T:** +44 141 280 0050  
**E:** [contact@nvable.com](mailto:contact@nvable.com)

Company formed: 2005  
 Office Location: Glasgow, UK  
 Number of Modules: 4

**NAME OF PRODUCT MARKETED**  
 • ConNVerge for Aviation

**KEY BUSINESS/SOFTWARE AREAS**

- Electronic Techlog
- Electronic Forms (Assessments)
- Document Management
- Operational Analysis
- Station Operational Compliance

The concept behind our ConNVerge platform is simple. We believe that businesses should have the flexibility to easily innovate and add new applications to their toolbox, without being stifled by legacy technology or a single technology brand.

ConNVerge is all about minimising risk, fuss and capital costs and maximising efficiency. Provided as a service, it combines a hosted environment and web portal with mobile applications and data interfaces to virtually any system.

The platform is easily integrated into your existing business systems and brings together the best tools to handle data acquisition and data analysis — all on scalable infrastructure. Best of all, we even take the day-to-day management off your hands.

Our ConNVerge platform is blazing a trail in the aviation sector. In a hi-tech industry, where the stakes are even higher, long-standing clients such as British Airways Cityflyer know they can rely on NVable and our custom-designed software to make things simple, safer, more secure and streamlined.

We provide airlines with technology solutions that reduce effort, improve processes and produce useful information, with one simple goal — to change things for the better.

Bring everything together and do IT better when you bring onboard ConNVerge and NVable.

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**ROLLS-ROYCE CONTROLS AND DATA SERVICES**

**W:** [www.controlsdata.com](http://www.controlsdata.com)  
**T:** +44 (0) 1332 777 100  
**E:** [info@controlsdata.com](mailto:info@controlsdata.com)

Company formed: 2010  
 Office Location: Germany, UK, USA, India, New Zealand

**NAME OF PRODUCT MARKETED**  
 • VisiumDIAGNOSTIC, VisiumFUEL, VisiumAQD

**KEY BUSINESS/SOFTWARE AREAS**

- Equipment Health Management
- Fuel Efficiency Management
- Emissions Monitoring
- Fleet Reporting
- Safety, Quality and Risk Management
- MRO Business and Parts Management

Today, in the aerospace sector only, over 1,300 customers are benefiting from Rolls-Royce digital services globally. Through our EHM services, we monitor around 10,000 engines, 24 hours a day, 7 days a week, 365 days a year, analysing billions of data points on-board per flight, and millions every day on the ground. Our digital services complement the Group's TotalCare® Service Solutions of Maintenance, Availability, Efficiency and Asset Value, allowing our customers to increase availability of their critical assets, minimising risk and operational disruption to ultimately improve their operational efficiency.

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**SAVISCON**

**W:** [www.saviscon.com](http://www.saviscon.com)  
**T:** + 49 40 80 90 81 44 6  
**E:** [info@saviscon.com](mailto:info@saviscon.com)

Company formed: 2010  
 Office Location: Germany  
 Number of Modules: 3

**NAME OF PRODUCT MARKETED**  
**WARPweb; WARPbridge; WARPservices**

**KEY BUSINESS/SOFTWARE AREAS**

- Scan, automated recognition & data entry services
- Collaboration & data exchange software in the cloud
- EAI data integration & migration engine & services in the cloud
- Target-oriented consulting & process enhancement
- IT-integration, project & change management

WARPweb enables lessors, operators and MRO companies to establish easy and efficient processes to manage aircraft records and lifecycle documentation. It integrates seamlessly into given MRO software using our WARPbridge integration engine and provides a safe data exchange and collaboration platform for all stakeholders of your aircraft. Our WARP services are the perfect supplements to WARP web. Scanning, automated document and data recognition as well as data entry and data quality checks will help you keeping your records in optimal condition, thus creating the fundament for smooth transition projects. IT-integration, project management and experienced aviation consulting complete the package for successful accomplishment of your projects.

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or call +44 1403 230 700 or +44 1273 454 235

## CASE STUDY...

The move from paper – Part 1

*Cameron Hood, CEO, NVable, Rob Woods, Head of Engineering, Air Arabia Maroc and Dave Cooper, Line Maintenance Manager, British Airways Cityflyer: One process that has remained resistant to change is the Technical Log (or Log Book). There is now a growing trend in the industry to digitize this key process as this article, built on the experience of airlines and a vendor, shows.*

## ...WHITE PAPER...

Fuel Efficiency Solutions

*Wayne Beardsley, Consultant - Fuel Efficiency Solution, Rolls-Royce: Interpreting and using the data leveraged before and during each flight to structure the ideal fuel efficiency program and further enhance operational efficiencies.*

## ...WHITE PAPER...

Putting the customer first

*Alexander Tatides, Sales Representative/ Assistant Sales Manager, Flygprestanda:*

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