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ascend

Taking your airline to new heights

A man in a dark pinstriped suit and tie is smiling and holding a small white model airplane. He is standing in front of window blinds. The background is a light blue sky.

World's Happiest Airline

A Conversation With ...
Enrique Beltranena, Volaris
Chief Executive Officer
and Managing Director
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Afriqiyah Airways knows when and where to expand

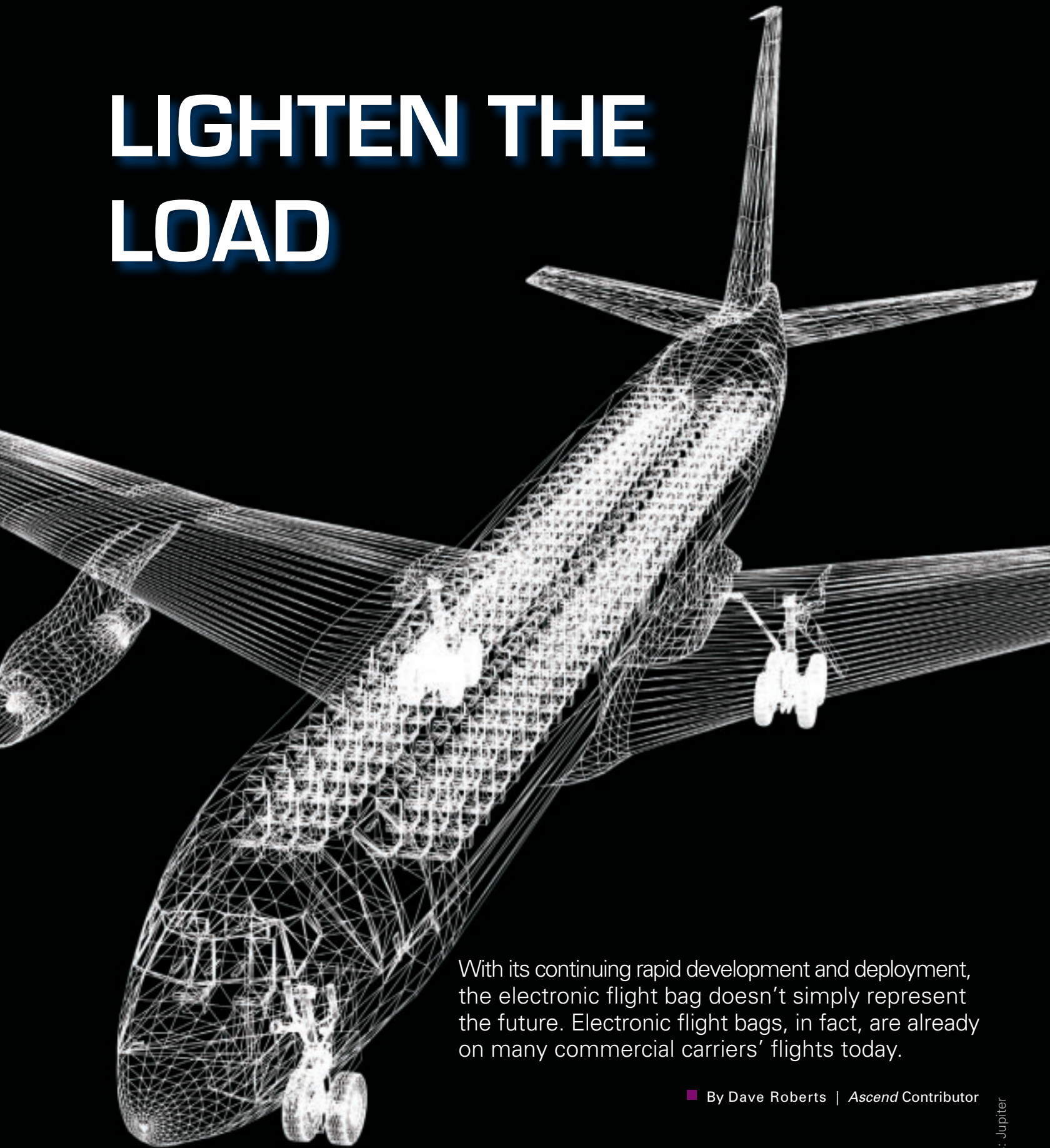
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Significant improvements to air traffic control systems

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Effectively diagnosing MRO issues and prescribing solutions

LIGHTEN THE LOAD



With its continuing rapid development and deployment, the electronic flight bag doesn't simply represent the future. Electronic flight bags, in fact, are already on many commercial carriers' flights today.

■ By Dave Roberts | *Ascend* Contributor

From the very early days of aviation, pilots have relied on information printed on paper — and with the increased complexity of air travel and the ability to fly longer distances, the large amount of paper necessitated a separate bag for the pilot to carry to and from the aircraft.

The “flight bag,” as it became known, is a physical satchel or briefcase in which the pilot carries numerous documents that may be needed during the course of a flight — documents including flight manuals, operation manuals and approach plates.

Today, evolving technology in aviation has transformed the physical flight bag into an electronic information storage unit that has come to be commonly referred to as the electronic flight bag.

And EFB has continued to grow — from simple solutions such as global-positioning-system capability and real-time weather display, to electronic approach plates and airfield diagrams.

EFB scope and capabilities are expanding daily. Government regulatory guidelines represent a clear indication of EFB acceptance by the airline community and those who oversee flight operations.

Aircraft manufacturers are closely involved, building new aircraft equipped with hardware and connectivity capabilities. Software and hardware suppliers are continually announcing new designs and development of new components for various EFB classes.

The technology evolution has become an EFB revolution, with more and more carriers expressing eager interest in the capability and potential of new technology onboard their aircraft.

New aircraft include EFB capability that is built into the avionics units onboard. Older aircraft are outfitted with ruggedized laptops that may either be mounted in the cockpit or removed from the aircraft after each flight.

Three main components comprise a successful EFB solution: hardware, software and communications, each with unique providers. Carriers are faced with a complex task of determining the best solutions for their airline operations as well as making difficult choices regarding hardware and software vendors.

These choices include the type of hardware and whether it should be removable, fixed or embedded in the onboard avionics system. A carrier must carefully evaluate the costs versus the hardware capabilities and the procedures used in its flight operations.

Software is equally difficult to select since there are many different functions that have been automated and can be

utilized as part of the EFB solution. Again, the carrier must carefully weigh the value of the solutions versus the cost.

Problem Solved

From the outset, *Sabre Airline Solutions*[®] recognized the super complexity of the electronic flight bag as well as the challenges carriers faced in deciding how to evaluate EFB vendors and making the right vendor choices for their specific airline operations.

As a result, *Sabre Airline Solutions* launched new technology called *Sabre*[®] *AirCentre*[™] *eFlight Manager*, a comprehensive approach designed to work with a carrier’s personnel using the technology company’s expertise in consultative processes, industry affiliations and project management to provide a complete EFB solution.

The vision included creation of a digital transformation effort merging several commercial and operational projects into a comprehensive business process. This effort reaches from the flight deck to ground-based systems, producing automated and lean processes across the entire airline system.

Automation in EFB development enables each carrier to measure, manage and develop a culture of constant improvement.

The foundation upon which *eFlight Manager* was built encompasses three core aspects:

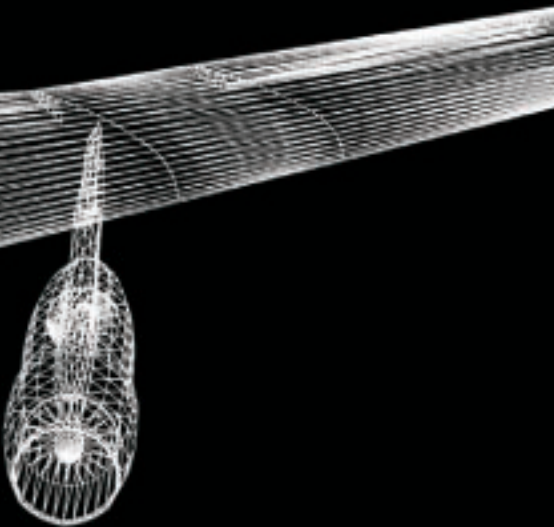
1. In-depth analysis of a carrier’s flight-operations processes and procedures,
2. Critical evaluation of how these processes and procedures can be leveraged in an EFB solution,
3. Determining which of these may be judged likely to be more effectively and efficiently changed using the EFB technology.

Sabre Airline Solutions experts apply their collective knowledge to begin the EFB project by developing a plan to introduce EFB into a carrier’s flight operations — including making recommendations to senior management in setting an EFB vision for the future.

Sabre Airline Solutions professionals also review EFB applications and brainstorm on required functionality for the carrier. Select functions of the EFB are based on what can be best described as “common sense” that should be inherent in the initial phase of implementation.

As part of this initial phase, a review is undertaken to determine the relative advantages of either continuing with an older, yet effective, procedure or changing to become more efficient.

Sabre Airline Solutions also works diligently to build an understanding of the





An Electronic Flight Bag includes all documentation and forms carried by pilots, such as aeronautical charts, manuals for fault reporting and operations, minimum equipment lists, and logbooks. Its weight-and-balance calculator enables pilots to instantly determine the ideal speeds and engine setting for an aircraft, in any weather, on any runway, with any payload.

data-management aspects as well as data readiness and education of carrier personnel about the difference between current paper processes and future electronic processes.

Advantages Accrue Quickly

Once *eFlight Manager* has been implemented, it enables a carrier to optimally manage items including digital content — from publishing through delivery — and the carrier can track content throughout its lifecycle.

In addition, the carrier has full capability to configure content — by tail and device — and for content archiving to satisfy both historical and regulatory purposes.

Overall, the solution consists of people, processes and tools — data-management tools for the administration of EFB content and EFB applications that actually drive value and safety improvements.

The *Sabre Airline Solutions* approach also encompasses a change-management process enabling crews to more easily replace the carrier's legacy paper culture as well as

expansion of the carrier's intranet services and document-management systems.

The solution has been designed with capabilities for identifying a carrier's optimum hardware and software solutions and a workshop approach to aid in determining the best processes through which the carrier can deploy and utilize EFB.

Additionally, *eFlight Manager* includes the "solution-proposal" process — encompassing the vision, solutions components, implementation phases, project timeline, system architecture for respective phases, data services, data management, communication infrastructure, software and cockpit hardware. The solution also includes an EFB readiness check, a high-level business-process review and identification of further cost-saving opportunities (based on the individual carrier's applications).

Cost-Savings Opportunities

Moving from a paper-based to a paperless process, the industry-average cost reduction is substantial: approximately US\$150,000 to US\$200,000 per year per aircraft.

The value depends on the applications selected in a carrier's EFB solution and varies by customer, region and type of operation.

A representative industry sample (with results calculated from process workshops) showed a 75 percent reduction in process time, a 36 percent reduction in flight-operations working time, a 28 percent improvement in ratio to total labor time and a 48 percent reduction in process costs.

Areas that can be readily identified for potential cost savings include a printing cost reduction, a significant paper-saving cost reduction, a weight reduction (a further positive result of which will be fuel savings), a communications cost reduction and a cost reduction related directly to the fact that there will be no more manual processing of trip-file information.

Also, savings opportunities materialize due to better payload distribution resulting from greater accuracy in takeoff-point calculations, reduced handling fees, optimized flight-planning results (compare actual versus planned costs to calculate specific savings), general process-cost optimization and cost reduction through selection of best-value vendors.

EFB results to date have shown that it is, in general, following the industry pattern previously observed in the evolution of ticketing (starting with paper-based tickets and various automation and paperless phases to even greater savings through wireless check-in and handheld boarding control through use of mobile phones).

Over many years of development effort, continually improving wireless capabilities resulted in greater convenience and improvement in ticketing, check-in and boarding processes for passengers.

And although EFB at various stages has been available in the industry for many years, it now exhibits the consistent potential for return on investment that is required to justify retrofitting aircraft currently in operation for EFB processes.

Making the correct choice about hardware, software, communications and implementation is a major decision for today's carrier — and the selection process and efficient deployment of EFB are vital to success that can be provided to an individual carrier by *eFlight Manager*. ■

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