



A new EFB adds real value to Jet Aviation

Juan Amestoy, Senior Director Flight Operations / NPFO at Jet Aviation, tells readers how the new EFB was implemented and what it has done for the business

Even in the time of a pandemic, companies in the aviation sector had to continue to look to the future and new technologies to lend greater efficiency to their operations. In fact, in some ways, the pandemic accelerated the adoption of new technologies and processes as businesses sought to improve their operations and services. This case study is about Jet Aviation's selection, implementation of and experience with a new electronic flight bag (EFB); Logipad from DextraData. But first, a few words about Jet Aviation.

JET AVIATION

There are three main branches to Jet Aviation, conducting flight services and aircraft management. One is in Asia, based in Hong Kong, one in the USA based in New Jersey and one in Zurich, Switzerland for Europe, the Middle East and Africa. The business has a global fleet of some 300 aircraft, mainly long-range and ultra-long-range business jets with which Jet Aviation operates commercial and non-commercial operations. Unlike scheduled operators, during the pandemic, Jet Aviation didn't experience a too drastic decrease in activity, and has already surpassed 2019 traffic levels.

THE DECISION TO SEEK OUT A NEW ELECTRONIC FLIGHT BAG (EFB)

In terms of flight documentation, Jet Aviation was experiencing increasing levels of bureaucracy in the documentation of flight operations. There were also increased numbers of health, safety and efficiency related processes to assure that flights were planned reliably and within the minimum parameters in terms of fuel calculation, efficiency, navigation, etc. Every operator has seen an increase over the last few years in the volume of tasks, requirements and associated documentation that need to be recorded for each flight. The main drive has been to increase efficiency and reduce back-office and cockpit paperwork as much as possible in order to reduce workload. By increasing situational awareness as well as reducing workload for the crew during critical flight phases and hot-spots such as the last hour before departure, which can be very hectic for crew members, a further benefit is gained in terms of increasing safety.

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DextraData 



Moving to a paperless solution drastically reduces the number of forms and avoids multiple data entries that pilots have been doing over the years. Jet Aviation has had other EFB solutions in the past but not to the extent that they made the system paperless. Now, we have seen the value of that and the possibilities that such tools can deliver to optimize processes as well as increase safety.

When a dispatcher is worried whether there are all the correct attachments with an email, instead of focusing on, say, how the weather is evolving over the North Atlantic, it is easy to miss the priorities. If there is a flight plan in preparation, there is a significant advantage when the entire briefing for crew members is assembled nearly automatically and delivered to the crew without having to use the handling company making sure that they have all the papers, making sure that the documents get into the hands of the crew with sufficient advanced time to perform a proper flight preparation.

Another thing is that aircraft Libraries are becoming huge. Jet Aviation has civil aviation authority approvals under more than twelve jurisdictions which means a very large number of certificates of approval and associated manuals. Combined with Jet Aviation's very large fleet, it means that everything needs to be managed electronically: so, another of the objectives was to have a proper, well maintained, easy to use aircraft library deployable across myriad different users.

THE CHOICE OF LOGIPAD FROM DEXTRADATA

The first step for Jet Aviation was to understand what were the actual requirements to be met by a new system. This was one of the most challenging steps; it is really important to know exactly what the organization needs, otherwise the huge array of possibilities offered by all the vendors in the market

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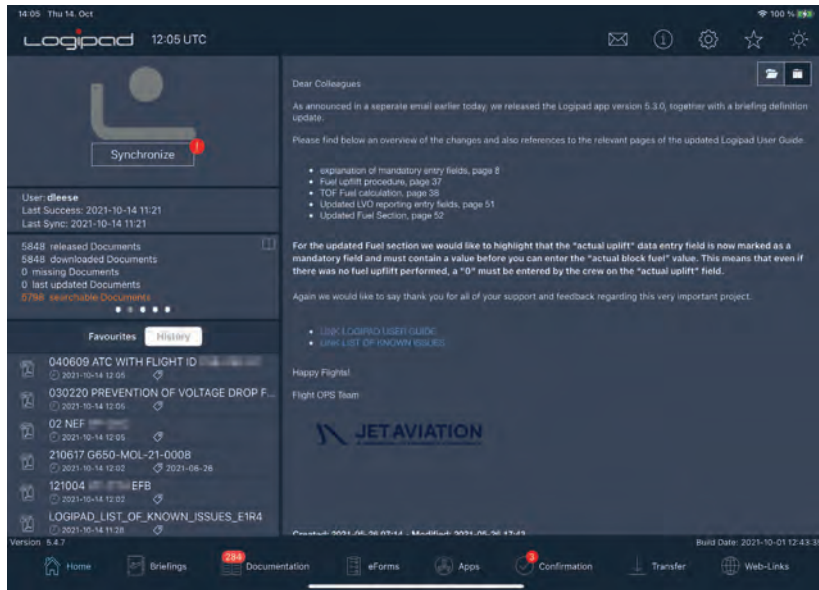
would make the selection process very confusing. We challenged ourselves to arrive at a very clear and solid definition based on the then current flight planning and execution process. It was very important, to first revisit our understanding of the processes and then derive the requirements for an EFB based on that thorough understanding.

Once the requirements had been defined, in order to select an EFB partner company, we developed and ran through an RFP (request for proposal) process in which DextraData recorded a higher score against Jet Aviation's defined requirements. The selection process also confirmed DextraData as a well-recognized aviation software provider with good provenance and a respectable portfolio of clients. Some of those clients gave very positive feedback about the service and the reliability of DextraData's tools. Added value was the offer of an in-house development and support team, and that the DextraData solution is highly modular and flexible. One more consideration was that the server output of Logipad enables Jet Aviation to really use big data technologies to optimize flight planning and supply the safety management system. As the system is deployed across the Jet Aviation fleet and as it is continually used, it is generating a bulk of data from which the business can learn by using big data technology.

The selection process ran for around three months but once it had been decided to use Logipad, things started to flow really well with an excellent and responsive support team. The implementation timeline decided on by Jet Aviation was very aggressive at less than six months from contract signature to the start of live operations with the trial phases required by the authorities.

The Logipad EFB

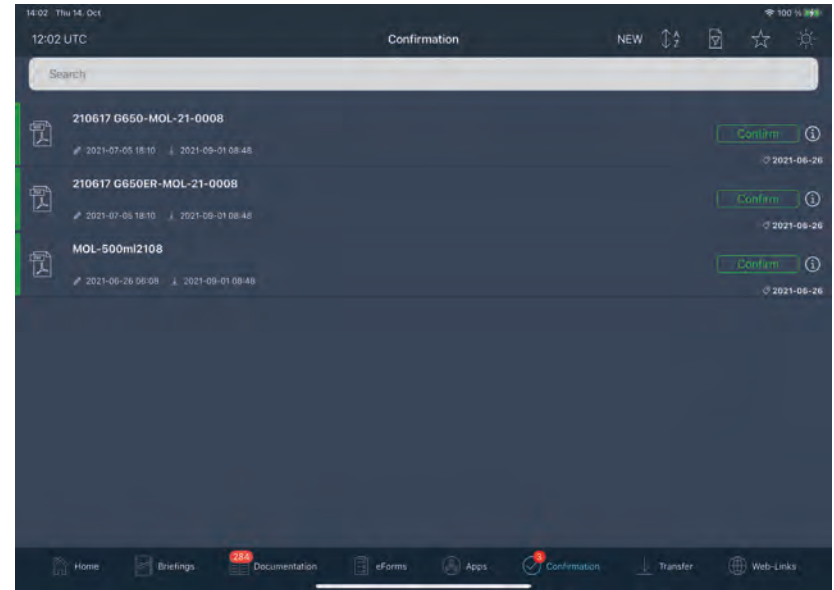
Logipad first emerged as a project in 2002 with the objective to deliver easy deployment for flight operations, for software and documents, and computer-based training. Following that initial step, the developers talked with many end-users, pilots, who had ideas on how to improve the software; ideas that were incorporated into the development. This is a continual feature with Logipad; even today, the developers continue to invite feedback from customers and users to further improve the software.



The first focus was on the library, the documentation, to support not only PDF documents but also html, xml... different types of documentation formats. Also, videos can be uploaded and managed with Logipad. Later, the solution was expanded to include electronic forms which have become increasingly popular not only in the aviation industry but everywhere that forms have to be completed. DextraData decided to implement form completion in the software with the background that they can start or optimize existing processes by taking the forms, saving the data from them in a local store on the system and using the DextraData system as a centralized system, connecting to other systems such as flight operations, flight planning and crew rostering.

The next stage saw a focus on an electronic flight folder (EFF), and eBriefing; the flight log, fuel information and weather information from the flight planning system can all be managed in Logipad. The idea is to keep the solution open and to make the software customizable. Logipad uses an ARINC 633 standard to present the EFF information so does not focus on one specific flight planning system. Because flight planning systems are able to export data through the ARINC 633 standard, that can then be presented and worked on in Logipad. This is the focus for the modules of documentation, eForms and the EFF.

From the operator's side, Logipad is seen as an EFB solution comprised of an



iPad application that connects to a cloud-based system which is synchronized with various Jet Aviation software tools such as the flight scheduling, SMS software, flight planning and the electronic library. All software tools are directly interfaced to Logipad via the cloud server which ensures that all iPad-based Apps are fully updated with the latest library and flight relevant data prior to the commencement of each flight. While in flight, the Logipad application assists flight crew in accessing and managing flight data and then, upon completion of the flight, they send that data to Logipad's cloud server which, in turn, distributes that data to specific software tools in an automated and near real time process. Also worth noting is that Jet Aviation didn't have to change any of its other systems as Logipad is able to interface with them.

THE COVID-19 IMPACT ON THE PROJECT

Jet Aviation was lucky in this in the sense that, by the time it was decided to implement Logipad, the pandemic was at its peak which meant that the business continuity adaptation, which was quite significant, had already been fully implemented. So, it was possible to efficiently collaborate with the Logipad team using online connectivity. The story might have been different if the project had been initiated in the early stages of the pandemic. The main protagonists from



Jet Aviation and DextraData only met in person once, before the project was initiated, to discuss the possible integration of all the information to get an idea of what was needed. However, there was little or no impact from the pandemic because the teams got to know each other quickly, had good communication points and, using Microsoft Teams, there were weekly calls during the project phase to cover any issues.

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DEALING WITH CHALLENGES ARISING DURING THE PROJECT

For Jet Aviation, the most critical challenge was change management, resistance to change. On the Logipad side, the workflows are well defined with an App that has been designed to work in the context of the flight preparation and execution processes. So, there was not really any issue with the solution but there were issues with the App challenging Jet Aviation's own processes which, in some cases, went back 25 or 30 years. It's amazing what you learn about processes in the business and we often came across the statement, 'well, it's always worked so why change something that is working?' When a system and processes have been mainly paper-based, there is a strong tendency to think that an electronic or digital solution must directly replicate those paper processes. So, motivating our experienced teams to look at well-established processes from new perspectives was probably the greatest challenge.

In terms of other difficult to control elements like the Swiss aviation authorities, in Jet Aviation's case, to obtain approval, we are fortunate to have an authority that uses very clear guidelines and was very supportive because they also understand the value of modern tools for aircraft operations.

ORGANIZING AND DELIVERING TRAINING

Most training for this implementation was conducted online with support from Logipad in the early stages. Quite soon, Jet Aviation decided to apply our own training philosophy and process. The introduction to the company includes a classroom simulation of a flight during two days using Logipad and doing real-time synchronization with the different tools used, in order to demonstrate to a pilot how a flight is created as soon as a flight request arrives at the dispatch offices, through to when the flight is fully planned with the briefing compiled and sent to each individual iPad. They then practice using the flight briefing and perform executing a full flight with some complications that they have to deal with, thereby using the full scope of Logipad and culminating with the flight completion and the crew having to send several occurrence reports to the back office.

It is a very straightforward training but, besides having to teach very specific actions and help the crew to understand the philosophy of using two iPads, only one of which can contain the editable briefing at any given time, explaining to pilots that they are transferring the briefing to each iPad when they are synchronizing the data has been an area of focus. That notwithstanding, Logipad is a very intuitive App to use; it is very difficult to miss anything.

Worth mentioning is that pilots give the feedback from each flight. Logipad starts with the base version of a flight planning system then, uses its own eForms for a feedback form in order to see what might need adjustment, from the pilots' standpoint, what is missing and what is good. This enables Logipad to quickly see what might need to change. Changes can then be made weekly, step-by-step, in an ongoing process. That process of change is continual as new ideas arise or new

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processes become available to be directly modified in the application.

The feedback from crews on using Logipad was very positive. Aside from having to explain in detail the virtual transfer of electronic briefing from iPad to iPad, Jet Aviation found that the whole user interface is highly intuitive, following a workflow that is not very different from the workflow the crews had before. However, now it is easier, with automatic calculations, data presented at the right time and in the right format, and that has generated the positive feedback. Of course, when an implementation goes live, there will still be some glitches revealed at certain times of day in specific time zones. Sometimes the synchronization between, say, the flight scheduling system and the data coming from the flight planning system will not arrive at the device at the same times. So, it has been important to work with the development team to clean these data synchronization issues, but the feedback has been overwhelmingly positive.

The bulk of the data that Jet Aviation has been generating during the trial phase in order to assure that the system performs reliably and in order to discover glitches or areas for improvement, has been generated by crew through Logipad. That includes an EFB feedback form which is easy to use and which always ensures that all aspects of the App are always being considered. Crew members have been very supportive in providing a very simple touch-screen based feedback on the performance of each module.

APPROVALS: EXTERNAL AND INTERNAL

Fortunately, I had gone through the approval process with the Swiss Civil Aviation Authority in 2012 and, at that time, some of the guidance material coming from EASA and the local civil aviation authorities were somewhat less clear than they are today. Today, things are much easier with the Civil Aviation inspectors more familiar with the different tools that airlines and operators use, and it seems that the philosophies of all those solutions are converging to some extent given the clarity of the available guidance material from the authorities. So, the external approvals process was quite easy.

Internally, the business case for a paperless EFB solution at existing prices on offer is nearly self-evident. EFB is no longer a ‘nice to have’ tool; it is fast becoming a ‘must have’ for all operators. It’s difficult to imagine how, by deciding not to take



such a solution, any organization could manage growth as well as increasing complexity, let alone, during a pandemic which generated lots of complexity for which aircraft operators were absolutely not prepared.

LESSONS LEARNED

Jet Aviation, on reflection, was optimistic in the six-month time line that was set. Fortunately, the support from DextraData was fantastic. The six-month timeline was too short and I would now be inclined to consider a full year for the implementation but, of course, timelines are not always in our favor. So, it is important to use windows of opportunity as well to go ahead and implement such projects. One strong piece of advice that I would offer is to ensure that all departments and those involved fully understand the technology that is being adopted. Jet Aviation might have gained a lot had more time been spent providing in-depth descriptions of the EFB platform and its possibilities early enough to ensure that the majority of employees had a high level of situational awareness with which their contribution might well have been bigger. If time is not invested doing that, what happens is that you end up discovering obvious things but quite well into the implementation process.

What was found to be crucial and that any other airline or operator would benefit from knowing was to thoroughly understand the needs of the business. Just jumping into a nice-looking piece of software is not necessarily the best way to start. It’s important to make sure that the flight planning and execution processes

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are accurately described and that they really match what people are actually doing when they are taking a flight request and initiating the planning and then going into execution.

Also important is not to try to emulate old-fashioned paper workflows; challenge internal processes, embrace change, which is probably crucial and efficiencies can be gained at nearly every turn.

THE BENEFITS OF A NEW SYSTEM

Jet Aviation feels that the business is now on the way to establishing a long-term efficient and compliant paperless flight management process, using real-time data transfers, reducing workload and increasing situational awareness. A good example of that final point, increasing situational awareness, is in-flight fuel management: Jet Aviation has an electronic operational flight plan which is orders of magnitude better than a paper-based one because, every time the crew members do a fuel and time check, the entire flight plan is adjusted in real-time with the new values. It really is an effortless way to optimize the crew's workload and increase their situational awareness.

Another real benefit is that the system enables crews to have quick access to critical information in flight. In the electronic library, for example, Logipad offers Jet Aviation's Crew a fantastic search function that can quickly locate and present important data from all documents stored in their electronic library. The amount of information that we need to use, for example, when performing a flight over the North Atlantic, is just enormous: so, Logipad has generated a dramatic increase in efficiency and reduction of workload. Jet Aviation was also able to eliminate multiple data entries which, in turn, reduced the opportunities for human error. Back-office efficiency has been optimized with things like the automatic pre- and post-flight data uploads for the dispatch team and the CAMO team... these things speak for themselves.

NEXT STEPS AND FUTURE PLANS

Looking to the immediate future, the next step is that Jet Aviation is working to connect Logipad to an aircraft performance calculations tool so that the data will move automatically from the performance calculator to Logipad. Also, now, as deployment of the App across Jet Aviation's fleet increases, the plan is to make greater use of the eForms module which is a module that does not require any input from the developer or the service provider but is easily customizable by

the operator without any intervention or having to request any additional IT support. In the medium term, the vision is to extend the Logipad capabilities to cabin crew and for technical staff.

Flying is complex these days and flying ultra-long-range flights even more so. Jet Aviation's promise is to ensure that, for the client, everything is calm, that there is a fine layer of simplicity and elegance and that Jet Aviation can really be the effort behind an effortless experience. Logipad is crucial to the achievement and the delivery of that promise.

JUAN AMESTOY



Juan's professional aviation career spans over 25 years as a pilot and instructor in worldwide charter, scheduled airline, express cargo and business aviation segments. He holds an MBA in the field of Aerospace and has been directing flight operations for over ten years. He currently serves as Senior Director Flight Operations EMEA at Jet Aviation Business Jets and is a Captain on a commercially operated Gulfstream G650.

JET AVIATION



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DEXTRADATA



DextraData, an IT consulting company and independent software vendor located in Germany is the company behind Logipad. The Essen-based specialists for digitalization have understood the potential of the solution. Initially, Logipad was developed in 2002 and, over the years, has been further advanced and improved as a valuable solution for the aviation industry. Since that point, Logipad has been provided to airlines as an Electronic Flight Bag solution.

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