An EFB Case Study from SriLankan Airlines

Capt. Tharindu Palihawadana, Technical Pilot, SriLankan Airlines shares the experience of digital transformation to EFB as a standard Operations tool

As this article will be about SriLankan Airlines, it might be useful to first share with readers a brief profile of the business. SriLankan is a small airline with an all-Airbus fleet of 26 aircraft. There are 330 pilots and all Captains are mixed fleet, as are about half of the first officers, i.e. able to fly either of the main aircraft types on the fleet: there are also some 1,100 cabin crew. The route network (figure 1) connects with South India using the narrow-body fleet, and to Asia and the rest of the world using the widebody fleet.

OUR FLEET 26 Aircraft

x4 AIRBUS A320-200
x2 AIRBUS A321-200
x6 AIRBUS A330-200
x2 AIRBUS A320neo
x4 AIRBUS A321neo
x8 AIRBUS A330-300

OUR CREW

330- Pilots
1100- Cabin Crew

OUR ROUTE NETWORK 37 Destinations / 20 Countries
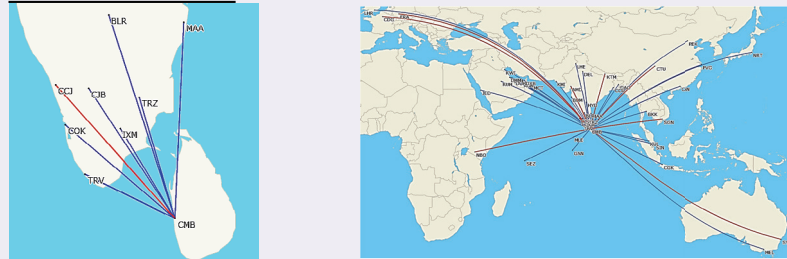
Figure 1

Sri Lanka was designated 'the best country to visit in 2019' by Lonely Planet and SriLankan Airlines is a proudly planet-friendly business with that philosophy at the core of the airline. We have been identified as one of the most conservation minded airlines in the world with initiatives such as banning illegal wildlife transport from our network and promoting eco-tourism.

"At the beginning, we started with Fly Smart EFB from Airbus and Jeppesen FliteDeck Pro. When phase 2 started in 2015, we had, by then, implemented Lido Flight 4D, the flight planning solution from Lufthansa Systems…"

THE EFB PROGRAM

Being a planet-friendly airline, transitioning into EFB was not so hard because we started very early, with SriLankan's EFB journey having commenced in 2012 when we were the first airline in Asia to use an electronic flight bag.

2012

Our regulatory body was also very supportive of this move. As far as the business case was concerned, at the time in question, we had placed some aircraft orders on which we planned to use mixed fleet capable pilots. The new aircraft were delivered with all the necessary electronics to support EFB which meant that the transition would only be a small matter with all the aircraft fitted with EFB devices.

EVOLUTION OF EFB -2012

- Phase 1 : Introduction
  - Asia's 1st Airline to use EFB flight bag.
  - Achievement
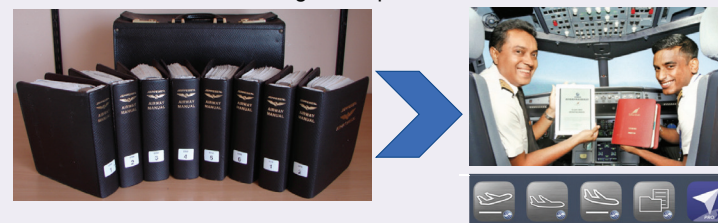   - Reduction of 84 Kgs of Paper Manuals onboard.

Figure 2

This was one of the major drivers of the program plus, of course, the drive to eliminate from the flight deck 84 Kgs (figure 2) in paper manuals which, over a number of flights, would also generate a massive saving of fuel.

2015
At the beginning, we started with Fly Smart EFB from Airbus and Jeppesen FliteDeck Pro. When phase 2 started in 2015, we had, by then, implemented Lido Flight 4D, the flight planning solution from Lufthansa Systems and we've used the PDF document package that could be put into a good reader and then we'll only have the flight plan in paper format (figure 3).

Figure 3
The achievement was more the process integration with the EFB which resulted in getting a lot more work with Fly Smart, the Charting and, of course, with the flight plan in PDF format.

"...the charts had been developed for a more airline oriented platform, significantly reducing heads-down time with the chart and content organization, and we were very impressed with that."

2019
The next phase was in 2019, when we migrated our Flight Management System (FMS) to Lido mPilot and Lido FMS Database, both from Lufthansa Systems (figure 4). The main reason behind this was our positive experience with Lido Flight 4D itself.
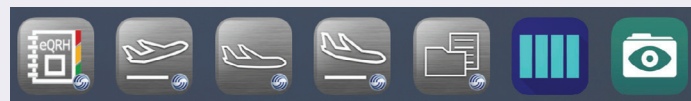

Figure 4
Throughout the three years when we were implementing the EFB solution, we already had Lido Flight implemented; we had already experienced good service support from Lufthansa Systems, which is part of an Airline group itself and due to its long-term experience in the aviation industry thinks like an airline. Thanks to Lufthansa Systems' many years of experience within an airline group, the company was able to keep its finger on the pulse of aviation and acquire extensive technical expertise. We also had a lot of support from training which has given us a very good impression of the product itself. So, when it was time to renew our charting, we had a very positive look at Lido mPilot and what we saw was, being part of the technical evolution team , that the charts had been developed for a more airline oriented platform, significantly reducing headsdown time with the chart and content organization, and we were very impressed with that. A small example that I have used was the number of charts for a pilot to select arrival from, especially when flying into the East such as to China when the arrivals tend to change a lot and we have to select between about eight or nine charts in general to search through the applicable arrival. In Lido, it was organized in a way that kept it all in four charts and it could be clearly seen that these charts were made for FMS flying aircraft.

Because of these numerous advantages, we decided to switch to Lido mPilot. Of course, we also saw the synergies between Lido mPilot, Lido Flight 4D and Lido FMS and as a result, we assigned Lufthansa Systems the task of its integration. And we had eQRH, an EFB application that enables users to display and to manage the Airbus QRH (Checklists, Procedures, and Operational Data), implemented as well as in-flight performance which was also implemented; it's on trial at the moment which, when complete, will let us complete our implementation.

IMPLEMENTATION

Going into a little more detail about the Lido Flight 4D implementation; the Lido Flight Planning Service (Lido FPLS) went live in Q4 2011 for all long-haul departures. After building our confidence, we moved to the complete Lido Flight Planning System which went live in Q1 2014 covering all Flight Dispatch with the objective of achieving route optimization and compliance. Looking at the Lido FMS implementation, we started off with the A330 fleet before expanding it to cover the entire fleet. The objective, and what we achieved, was complete system integration which was an advantage because the data solutions came from the AIP (Aeronautical Information Publication) to the database and then, from the database, the same data is provided to the flight planning system and also to the mPilot solutions: so there cannot be any discrepancies in these systems.

"We've now come a long way in making the EFB the standard for Operations at SriLankan Airlines and we can see that there will be a huge safety enhancement from this project with easy access to all the data using Flight Smart and the integration…"

EFB AS STANDARD FOR OPERATIONS

The Lido mPilot induction in which I was involved went live in Q1 2019. Of course, there was an initial resistance to change from the pilots but we had very rich training material which could be accessed on the iPads that the pilots were using with better support services to once again thank. As we've already noted, the new solution offers reduced heads-down time as a result of the better display of information on the Lido Charts.

We've now come a long way in making the EFB the standard for Operations at SriLankan Airlines and we can see that there will be a huge safety enhancement from this project with easy access to all the data using Flight Smart and the integration between, for example, MEL / CDL (Minimum Equipment List / Configuration Deviation List) and performance applications, the time it takes to select and the cross-integration between applications. What we now see is the importance and significance in sharing user experience. We are all aware about the fact, that strategic alliances and international collaboration are fundamentally important in the world of aviation. In the context of the Aviation Campus, Lufthansa Systems' environment for digital innovation, we are able to exchange ideas and share knowledge. The opportunities to talk with other users in a common forum such as the Lido User Group conferences run by Lufthansa Systems were an informative occasion for users to talk about the challenges. We're really thankful for these opportunities because that's what helps everyone to fly their aircraft safely.

THE FUTURE FOR THE EFB

What we see for the future of the EFB is as an ultimate communication tool. We are planning to deploy a flight operations App to replace the conventional reports and we are also planning to deploy a flight operations magazine to give the pilots more inside information on how things are done and detail as to why

particular things are happening. For the future, we aim to implement Lido mBriefing, a tool to replace the paper flight plan, and we'd like to thank all the applications by the manufacturer, Airbus, giving us more rich content and training for the changes.
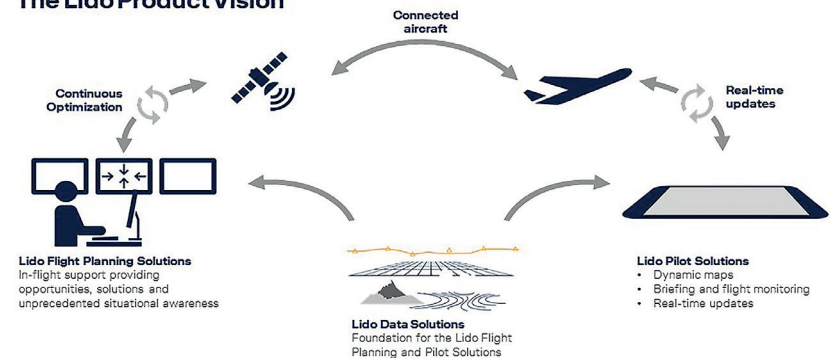
The Lido Product Vision

Figure 5

What we hope for the future is to convince our management to invest in the AIDS (Aircraft Integrated Data System) and then have further in-flight optimizations possible (figure 5) which is supported by Lido as Lido Total Mission Optimization where, for a flight plan after the flight has been dispatched, when the aircraft gets airborne, the data from the aircraft gets communicated to the flight planning system and the flight planning system re-calculates and communicates updated route information, optimized laterally and vertically, to re-plan the flight enroute and, of course, real-time updates.

I hope that this brief recap of our journey at SriLankan Airlines towards a wholly integrated flight operations based around the EFB, has proved useful to readers who might be considering a similar development in their own businesses.

CAPT. THARINDU PALIHAWADANA

Now the chief technical pilot for SriLankan Airlines, Capt. Tharindu Palihawadana joined SriLankan in 2007 as a cadet pilot and was promoted to Captain in 2014. He has also been serving as the airline's technical pilot since 2016. Tharindu was part of the project team for the transition to the Lido mPilot system and also the EFB standard operations transition.

SRILANKAN AIRLINES

Launched in 1979, Sri Lanka's National Carrier is an award winning airline with its hub is at Bandaranaike International Airport in Colombo, providing convenient connections to its global route network of 109 destinations in 48 countries. SriLankan Airlines currently has an all-Airbus fleet of 26 aircraft including: A330 (long haul), and A320/A321 (including neo versions) aircraft (short haul and medium haul).

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