Cargolux and TRAX eMOBILITY Q&A Part 1

Stephane Kastler, Director of Maintenance & Production, Cargolux, takes some time to talk to Aircraft IT about the how and why of their successful implementation of the TRAX eMobility Shop Control App

Aircraft IT: Thanks for joining us, Stephane and for sharing with us how Cargolux has implemented the TRAX eMobility Shop Control application. We have a few questions that we'd like to go through, so, to set the ball rolling, let's get straight to the first one of those. Can you start by telling us a little bit about your business case for implementing the app and how you've seen it maximizing your operation?

Stephane Kastler: Thanks for the opportunity to share our experience. The shop control app is used in our shop environment. In Cargolux we have ten back shops which support the airline and the maintenance organization, and their mission is to repair many 747 components for the fleet. At the same time, they also support the hangar and the line operation directly. So that's the position we have grown to in the last few years. We repair about 10,000 components every year. That's a lot of components, many of which are needed urgently or are required on an AOG basis. However, with so many components traveling through the different shops, we need to be able to track them and their progress.

With the increase of our fleet and the rise in the numbers of components that we are repairing, it has become very clear that we need to have a system which shows us an overall priority and progress tracking status on the parts that we are repairing. That is what the Shop Control app does for us. We are coming from a situation where components were coming off wing in need of repair, and we would just send them to the shop. The shops receive a lot of components and they have to figure out the priorities as well as figure out what needs to be done on those components. This creates a large backlog of parts for them, and with a large backlog comes issues of space, of priorities with other elements of the organization, etc. That had become a major problem for us.

At the same time when you have these ten thousand components which each sometimes requires a very small action in each of several different shops, it starts to be very difficult to know where you stand with all these components. So, some time ago we decided that we need to create a system – a process let's say – which could control the inductions of our parts into the shops system. We also need to control the induction of parts into our ten shops, and once the part is inducted into the system, we have to make sure that it has the right priority and that we can track it in real time. That's basically what the Shop Control project was for.

The Shop Control app gives us a way to decide when the part needs to be sent to the shop for repair, when is it needed, and when it has been released. We can track in real time what is happening to that part and that's extremely critical. By doing this we manage the parts, manage the parts 'in process', reduce turnaround time, and we are able to take the right decisions and to repair the right part at the right time. That is where the added value is, of course. The turnaround time is immediately linked to the number of parts that need to be held in stock. So, the better we are in turnaround time the better we are supporting the airline.

Aircraft IT: That was very clear, thank you. How, then, do you think that the maintenance digitization has impacted your profitability?

SK: What we are looking at in Cargolux is to have the best way possible for mechanics to focus on their core job which is to maintain and to repair the airplanes. We are trying to remove non-value-added time away from the work of these mechanics and that is what digitalization is doing for us. It is simplifying our processes and it is also bringing to the mechanics the right information at the right time in a real-time format so that we are able to cut down on some

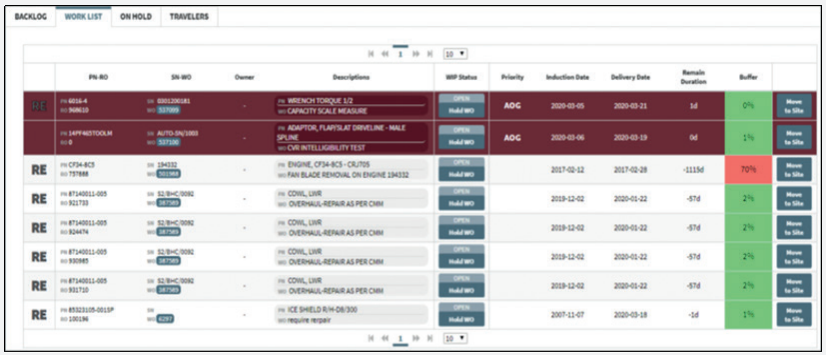

Figure 1

cumbersome processes. We are cutting down, for example, white boards which we used to have not too long ago in the different shops. They are now replaced by screens which display real-time information.

Digitization is also bringing a lot of opportunities which were just not possible before. A good example is task cards. We still have paper task cards today but soon they will be transferred to digital (figure 1). Interestingly, when a mechanic is doing a task and signing off on the paper task card, this process is not controlled. Somebody may have to come and check if this was the right mechanic with the right skill that has been stamping that task and confirm if he was authorized to do that. There are a whole lot of manual processes implied in the background of that manual stamping. Now that we are working digitally, we are able to control the task card. We issue the task on the iPad and only a mechanic with the right skill and a skill which is not expired can sign off. The system performs what is in effect an automated QA which replaces a very cumbersome manual process that was in place up to now. It is error free whereas we never managed to get there with a paper process.

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Aircraft IT: Again, thank you for that very good description. Now, what has been the response of your employee team to the introduction of this app and the adoption of new technology as part of your efforts to mobilize your maintenance operation?

SK: It has been extremely good. Not only because technicians can see something nice in appearance, but because it is immediately making their life simpler. They now have access to real-time information which means that they don't have to go in the system and look for it or call somebody to look for it. It is also creating data which provides them with an oversight of the situation of their shop or team. They don't have to go and look at all these components to check the status on a regular or weekly basis. It is on the screen right in front of them and it is always up to date. We have removed all that manual work of creating the status, which was the case up to now.

This solution also provides good visuals. If the status is bad, it is red and will show red from the time we decide we need to pay attention to the component. It provides easy visual management for everybody across the organization to see how we are doing. So, from the technician to the vice-president, they can come to the shop and see a screen with reds, and know that there might be something that we need to look at today.

Aircraft IT: Can you describe some features they're using and how they aid your team members and the company? In particular, how is the dashboard high level overview such as the shop indicator detail window helping with your managers for following the KPIs?

SK: The shop control app is now implemented in every one of our shops and is used daily. The Shop Work Order window (figure 2) displays specific Progress details for the chosen Work Order. I will demonstrate the features that they are using on the screen later, in Part 2.

It is a simple but effective system, and it is also very easy to understand, so it only needs a couple of hours' basic training. With a given situation, you click and enter the information and quickly see it. You don't have to print the task out, you don't have to print paperwork to sign, and it's all traced in the system. It's efficient, it's lean, and basically very good.

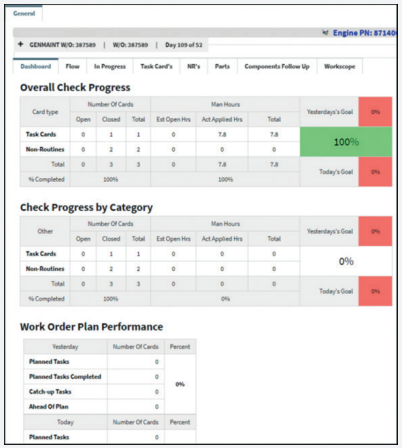

Figure 2

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The dashboard is extremely critical. It has proved to be very beneficial to have KPIs (Key Performance Indicators) which are compiled in a live format like this: we have come from a situation where we used to manually compile our KPIs. That was done maybe weekly or monthly, so we were already looking at something which had expired. We were looking at what we had been doing in the last week or in the last month and then trying to see if we needed to take corrective actions.

Now it's live, it's in front of you, it's up to date at any time, and this is extremely valuable because then we can take the actions which are necessary at the earliest point in time. This is extremely critical for a shop environment because the stock issued today is the stock shortage in terms of parts needed for tomorrow or the day after. If you have a component that is being held in the shop due to a dependency, and if it is not escalated, then this component keeps on being delayed which will ultimately create a stock shortage. If instead you react a few days in advance of the situation then you are in a much better position and not faced with zero stock.

Aircraft IT: Thank you for that very clear explanation. Now, drilling down into that, did your end users find the training to be helpful and the product to be intuitive and easy to learn?
SK: Yes, definitely. The training time was quite short and the user guides are very easy to understand because, basically, the app is intuitive, as I'm going to show you later, in Part 2. It is state of the art and what you would expect from such a software nowadays. There is a modern feel to it, and you get right to the function and information that you want with no questions asked. We have had very limited feedback or a very limited number of questions put to us because it was just a good implementation.

Aircraft IT: That's great, thank you. So how would you describe the implementation project support?
SK: The implementation of the project and support from TRAX was great. First of all, what I really appreciated was that they were really open and interested in developing something new. The shop control project that we had at Cargolux was an idea which was already a few years old. We were more or less stuck with the development of the real-time software which was linked to that project because it was a difficult tool to set up. Yet TRAX was really interested in developing an app. It was impressive how fast TRAX developers became familiar with the shops, our processes, how all our shops are working, and all aspects of the MRO environment. It was just a pleasure to work with TRAX on that. A huge added value of having an app developed by TRAX is that they access the database and pick up the information that is already there and they just make a new tool out of it. This is a huge advantage because when you do something in the system in one location then you find it back on the shop control window, it's just all integrated and that's what makes the added value of the Shop Control application.

Aircraft IT: **That's very interesting, thank you, and did your end users find the training to be helpful and the product to be intuitive and easy to learn?**
SK: Yes, definitely. The training was quite short. The user guides are also very easy to understand because basically the app is intuitive, as I'm going to show you later, in Part 2. It is state of the art and what you would expect from such a software nowadays. It has a modern feel to it, and you get right to it, no question about it. We have had very limited feedback or a very limited number of questions put to us because it was just a good implementation.

Aircraft IT: Do you see opportunity for further process improvements?

Figure 3

SK: Yes, there is. Right now, the Shop Control app is the application which is controlling the flow of work orders or repair orders in our shops (figure 3). There are already a lot of ideas coming from the shops themselves. One of the two greatest possibilities for improvements is to expand the support to the hangar or to the line. We do repair components in the shop, but we also work on work orders or task cards or projects which are directly linked to the airplanes we have in the hangar, or the airplanes that are on turnarounds on the line. So that would be a first potential improvement. A second improvement will be to continue to build on the Shop Control app and make the process in the shops fully digital, because right now we are at a stage where the management of the shop work orders is digital, but the shop work order itself is still a paper package. The Shop Control app already has the prime features to make that package digital and that would be a very interesting next improvement.

Aircraft IT: How has the Covid-19 crisis affected your organization and how has this software helped you?
SK: Specifically, at the start of the Covid crisis (because now we're getting accustomed to it, obviously), it was a big shock for us because in the cargo industry there was a dramatic increase of operations. The cargo airplanes picked up the freight left by the passenger belly market and also, they had to pick up all the PPE for the various countries. So, we had a dramatic increase in our operation and at the same time we had a dramatic change of working conditions in all our environments. We were affected by quarantine, and we were affected by leaves (vacations) when our employees had to take care of their kids because the schools were closed, etc. So, we really had to focus on that.

At our core we had to completely refocus ourselves on just primary operations. For the first six months we did not do any project development or 'nice to have' extra things in our duties. We just purely focused on operating and tried to get the airplanes flying. And in that context when you have a software which is supporting you, which is freeing you from doing all this work of analysis such as "where is my part", "what is the status of my part", etc., this is invaluable because you just get right to it, get to the point and get your job done. That was clear.

TO BE CONTINUED IN PART 2

This first part of the article has covered how the Shop Control Application came about, what factors were germane to it and how it was implemented in Cargolux. In Part 2 of this article, Stephane will go through a demonstration of the Shop Control Application for readers to learn how the application works in the MRO environment.

STEPHANE KASTLER


Stephane started his career at Cargolux in the engineering team as Structures Engineer, including as the airline's representative at the Boeing plant, overseeing the technical acceptance and delivery of 747-8 Freighters for Cargolux. In 2015, Stephane was appointed Assistant Production Manager at Cargolux and then, in June 2017, Director Maintenance & Production. He holds a Master's degree in Engineering and a Specialized Master's in Aeronautical and aerospace structures.

CARGOLUX

Cargolux is Europe's biggest all-cargo airline with a fleet of modern Boeing 747-8 and 747-400 freighters offering an extensive product range, from every-day cargo to shipments that require attention, special treatment and expert handling. Innovative concepts and the constant drive for quality have earned Cargolux a number of awards, including the 'Best All Cargo Airline'. Cargolux also offers third-party maintenance services at its modern two-bay maintenance hangar in Luxembourg specializing in 747 line and hangar maintenance up to and including C Checks.

TRAX

A global leader in the aviation industry for MRO ERP software, over 200 airlines and MROs use TRAX products. TRAX has the most advanced maintenance software solutions available for airlines and MROs worldwide with fleets consisting of all types of aircraft. eMRO is a completely integrated product, in addition, the eMobility suite offers a range of iOS apps to provide mobile accessibility. Gains can be substantial when using TRAX eMRO and eMobility, and ROI is quickly realized. TRAX develops software that works for customers.