



Cabin maintenance market has benefited from a higher demand for cabin retrofits.
Photo: Lufthansa Technik

The cabin equipment maintenance sector has grown significantly over the last decade. **Keith Mwanalushi** looks at how the sector is shaping up.

Industry events such as the Aircraft Interiors Expo in Hamburg have demonstrated the sheer magnitude of the cabin interiors sector as passenger expectations rise and cabin developers respond with new innovations that simplify cabin operations and reduce maintenance costs.

In the more recent years, there has been a persistent trend of increasing attention to the interior of the aircraft and the airlines are ready to spend more effort, time and money in this direction, therefore the aircraft interior market is growing rapidly.



Darmilo Sosa, MD, Wingbox Aviation

“Innovation is the constant word in the market,” states Darmilo Sosa, Managing Director at Wingbox Aviation. “Some of the aircraft manufacturers and suppliers now are providing all new line of products, like airplane Wi-Fi connectivity that is in the trend now on which also provides additional revenue to airlines.”

In terms of using technology to revolutionise cabin equipment maintenance and prevent maintenance disruptions, Sosa highlights that 3D printing is now gaining popularity - “Specially, those OEM plastic parts that have a long lead-time that normally give a headache to MROs.”

MAC Aero Interiors has also started to use 3D scanning in a move to distinguish itself as an industry leader in innovation. “The scanner was first used in January 2019 on a Boeing 767 aircraft as part of the latest partnership between MAC Aero Interiors and TUI, one of the biggest tourism companies in the world,” comments Petras Akstinas, Managing Director of MAC Aero Interiors. “This new four-year contract between the two companies includes the production of 20 lavatory units for TUI’s 767-300 fleet, and the scanner will play an integral role in achieving that.”

Chris Reed, Managing Director at TRAX reminds that the condition of cabin equipment and



Chris Reed, Managing Director at TRAX



Late deliveries by seating and cabin parts OEMs can result in significant delays.
Photo: S7 Technics

configuration directly impacts airline passenger comfort, satisfaction and safety and also, high capacity use of a fleet causes increased wear and tear. "Airlines need to stock galley and lavatory equipment, seating, lighting, interior panels, and IFE parts for rapid repairs and to maintain high passenger satisfaction standards.

"An airline cannot afford to have a passenger dissatisfied when they pay for a first-class seat, only to find their monitor is not working. This is where the introduction of a mobile maintenance system, such as TRAX eMobility, allows the cabin crew to report an issue before the aircraft has landed so that a repair can often be scheduled and completed in the short interval before the next take-off," Reed states.

TRAX has incorporated mobile and RFID technology to transform the maintenance process and prevent maintenance repair delays for cabin equipment and all other aspects of an airline or MRO operation. Reed says the suite of TRAX iOS eMobility applications allows users to manage aircraft maintenance via their mobile devices from wherever they are working (offline), with the ability to automatically synchronise the data when in Wi-Fi or cellular signal range.

One of the 10 intuitive and task-specific eMobility apps is CabinLog.b – "This app is used by cabin crew to record defect information on an interactive seat chart (LOPA) while either online or offline. Equipment maintenance issues can be recorded during a flight for cabin objects. When data is synced, the defect report will be available for the ground crew to manage," Reed explains.

For example, he says a cabin crew member can report a broken tray by identifying the location on the CabinLog app's seat chart. The pre-configured information includes the aircraft tail number, flight information, part number for the selected seat, etc. The app defaults this information into the defect report, leaving the cabin crew member only with the need to describe the damage (including the option to take a photo). "The maintenance crew will have all necessary information to

picklist a replacement part and be on hand to greet the aircraft upon arrival and rapidly fix the defect, thereby preventing flight and passenger disruption."

Robert Pearson, Head of Interiors at ACC Aviation Group observes there is now wider acceptance of PMA parts by both operators and lessors giving buyers greater choice as well as decreasing their lead times. "As a result, OEMs are starting to diversify to improve their aftermarket service offerings and keep pace with this change. This change also knocks on to the aftermarket sellers to ensure that they continue to add value through their customer service as well their product offering."

In the last few years, Pearson notes the cabin maintenance market has benefited from a higher demand for cabin retrofits from older generation aircraft. "The drop-in fuel prices have made these heavy fuel use aircraft more economically viable with airlines operating the aircraft longer and extending their leases. This has consequently created a demand for cabin updates and investment. As fuel prices level out, we may witness a drop-in demand and this work needing to be replaced."

He also cites that long lead times remain one of the key issues. "Late deliveries by seating and cabin parts OEMs has resulted in delays to aircraft line fit programmes and a loss of confidence in the industry. However, aircraft manufacturers are taking steps to improve this, which is already taking effect, Pearson adds.

At S7 Technics, due to the extensive experience in the aircraft maintenance, including the interior, the company is constantly improving the aircraft maintenance programme and adding items for additional checks of certain interior components – "we are introducing digital control systems such as RFID, AMOS, as well as using a reliability system," Maksim Akchurin – Project manager, S7 Technics tells this publication.



MRO processes should factor in function and form.
Photo: Lufthansa Technik

William F. Utset, President and CEO at MEKCO Group, Inc highlights several points saying as more technology is brought to the aviation industry, less personnel are used to monitor and maintain systems due to the higher reliability and predictable failures. Having overall visibility of each cabin system remotely, helps drive expedited solutions. With technology driven maintenance, it drives lower maintenance cost thus reducing the cost to the airlines - "A better method of our business is to be proactive having a good maintenance optimisation process means less passenger impact."

Cabin maintenance standards defined by OEMs and airlines may not be necessarily designed with passenger satisfaction in mind, some insiders believe. So, it's worth noting if MRO processes factor in procedures to better meet passenger and/or crew expectations for function and form.



Maksim Akchurin, Project manager, S7 Technics

"We definitely consider both passenger and crew expectations for function and form while performing cabin equipment inspections and maintenance activities," indicates Sam Habash, Training and Safety Manager at CAS Aircraft Maintenance. He says passenger and crew expectations are at the forefront of what they do and are an integral part to the success in maintaining cabin

equipment items. "Our team is trained to consistently place themselves in the shoes of both passenger and crew to determine whether an item is serviceable or not. Mediocre does not work for us and we excel in what we do through ensuring that every passenger and crew member has a most positive experience during their use of cabin equipment items."

Stringent regulatory necessities can compel airlines to pull an aircraft out of service or limit seating availability, mentions Reed from TRAX. "Maintaining maintenance and safety standards while balancing passenger satisfaction requires the capacity to rapidly repair or replace damaged or expired equipment," he notes.

Reed says the TRAX VisualCheck eMobility app for recording the current status of all emergency equipment is designed to work with an MRO or airline's processes and procedures. "The precise configuration of each aircraft in the fleet is uploaded, along with the listing of all emergency equipment installed on each aircraft. RFID technology is used to track any missing or expired equipment such as oxygen bottles, life vests, smoke masks, safety placards, etc. The easy to use interface has an interactive view of the cabin which allows the user to update



William Utset, President and CEO, MEKCO Group, Inc.



The cabin equipment MRO sector is growing.
Photo: S7 Technics

equipment status dynamically after each RFID scan.”

Sosa believes it is all about the cost and its projection to define what minima or maxima to follow. He feels airlines will be setting the standard that MRO’s follow. Sosa: “Operators can be super critical on the aesthetic value of the cabin on which giving peculiar guidelines to MRO, but this will definitely impact the budget or cost of maintenance.”

Utset says airlines, will need to shift from marketing to IT infrastructure to bring a better passenger experience. “Having IT ahead of a well structure marketing team will cause a negative impact. Too much technology on the planes without understanding your passenger needs will change the overall expectation of what the airline advertises over what they really mean to provide.”

Leasing interior equipment from seats to galleys and lavatories could be an avenue for airlines to upgrade their cabins but what implications might this have on MRO providers and do they see this as a growing trend?

“Perhaps for seats, leasing will be more in demand and the trend will go up if there is a wide range and affordable price, but for other interior components (galleys / lavatories / wardrobes) the need for reconfiguration is not very high,” Akchurin from S7 responds. He adds for MRO providers it is possible to increase the load associated with the cabin reconfiguration.

Pearson points out that leasing equipment does help with short term liquidity issues and cash flow. However, he notes that it is early days and we are still seeing the strategy of outright purchase being favoured as more beneficial in the long term, especially as there is limited choice on the market and the processes of personalisation is still endured – “It

will be interesting to see how this market develops over the next couple of years.”

Regarding leasing equipment, Utset argues that MROs will have a better impact and turnaround time because leased equipment will come pre-defined with the airline’s choices allowing for less ground time to refresh a cabin.

Habash from CAS believes that the leasing of aircraft interior equipment by airlines to upgrade their cabins is a source for a new revenue stream by MRO’s. “Due to the fact that the airline business is expected to grow significantly within the next decade, there will be major opportunities for MRO’s to network with cabin interior leasing companies to accomplish maintenance on their interiors.” Habash feels MRO’s can fully take advantage of this growing trend by obtaining contracts to accomplish the maintenance on cabin interior equipment that is under warranty, has been lease returned, and that requires maintenance. Leasing of aircraft equipment is a growing trend in general and he foresees that aircraft interior leasing will become a growing trend.

The fierce competition amongst airlines to deploy aircraft with the latest and greatest in cabin equipment and technology is in itself a driving factor which will sway airlines to lease interiors as opposed to purchasing, Habash indicates. “Leasing interiors will allow airlines much more flexibility in regard to upgrading their interiors once the lease is up as opposed to the upgrading of a purchased interior which has little value after it becomes outdated.”

Its expected that the cabin equipment maintenance market will grow at a very rapid rate which will allow for many more billions of dollars to be generated in the market within the next 10 years.