



Getting smart, with parts

Smaller, leaner inventories offer savings for both new and ageing aircraft.
Photo: CSAT

Aircraft operators are increasingly seeking solutions that will make spare parts management more efficient and cost effective. **Keith Mwanalushi** looks at how the industry is responding to calls for reduced inventory levels.

Spare parts inventory management is central to the operational efficiency of an airline, and it is critical to have the right part at the right time and to plan the inventory accordingly.

Via dedicated sales and customer service teams, AJW for instance offers fully flexible and competitive supply options, power-by-the-hour (PBH) agreements and component repair solutions that allow airlines to minimise their own spare parts inventory.



Darren Spiegel, VP OEM Aftermarket Solutions at AAR

“One trend we have observed is airlines working towards reducing and maintaining smaller inventories without impacting on service levels,” states Tom De Geytere, Chief Sales Officer, AJW Group. “Airlines are also using new technologies for the tracking of repairs and logistics, to manage their inventory more effectively.”

Airlines have also turned to AAR for onsite consignment stock and assistance with inventory planning. Darren Spiegel, Vice President, OEM Aftermarket Solutions, AAR

says on select components, AAR can either provide stock on site, or at one of their global distribution sites for just-in-time support.

“For airlines that want comprehensive component support for specific fleets, third-party providers like AAR also provide integrated solutions that offer not just access to rotatable parts pools but also management of component repair and warranties,” Spiegel tells.

The traditional airline model has in the past meant that capital was locked-up in slow-moving and expensive inventories.

“Inefficiencies occur for airlines when their supply chains and inventories are managed in isolation. Over inflated RSPL’s (Recommended Spare Part List) and key performance indicators around dispatch reliability can lead to excess inventory holding. The larger the inventory, the safer management teams feel. This has a ripple effect financially and leads to significant capital expenditure and bloated balance sheets,” De Geytere continues.



Tom De Geytere, Chief Sales Officer, AJW Group



Airlines face the greatest cost increases due to the lack of spares.
Photo: CSAT

He adds that the concept of owning and controlling their own inventories is part of a legacy mind set - "It is also an expensive and inefficient way to support a fleet."



Martin Houska, Head of Procurement at Czech Airlines Technics

Martin Houska, Head of Procurement at Czech Airlines Technics feels that, at this point, new solutions and digitalisation are of utmost importance, commonly referred to as Industry 4.0. New technologies, such as RFID, can track inventory.

He says automation of every individual procedure in the managing parts area, starting from receiving and stocking inventory to the final expedition is a challenge.

Airlines want to reduce cost by having smaller inventories, he states, there are certain ways, such as VMIs (Vendor Management Inventory), of achieving this goal. "However, I believe that airlines face the greatest cost increases due to the lack of spares and aircraft on ground (AoG) as a result. Using new technologies for predicting future consumption, airlines are able to optimise stock to a point where they can avoid additional cost," says Houska.

Moreover, inventory cost must be calculated based on total cost of ownership (TCO) as there are different results of calculations focused on cost of inventory from cashflow point of view and yet different, when you calculate cost of parts including the risk of grounding the aircraft. "Most vendors propose the mentioned programme for high removals of parts, but the key issue remains the question of how to manage parts with low utilisation or no movement but high risk of AoG situations," Houska adds.

In terms of trends in spare parts inventory management, Abdol Moabery President and CEO at GA Telesis (GAT) reckons there are three distinct strategies at play here that are operationally, financially, and digitally or rather data driven. He says the airline industry has lagged other industries as it relates to managing inventory levels for a multitude of reasons, but primarily because many airlines have had legacy systems and procedures that are unique to each operator and for a long time they were hamstrung by this.

"Then you couple in airline consolidation and the complexities became even more of a burden inventory-wise. However, over the past five or six years there has been a quantum leap as it relates to inventory management."

Moabery says the efficiency of cost-per-hour type programmes, inventory leasing and data driven just-in-time inventory management are the key drivers that will dominate the future of airline inventory management.

When it comes to airlines wanting to reduce costs by having smaller inventories Moabery argues that it isn't a question of having a small inventory, it is rather a question, of how an airline manages its operation with little to no inventory cost.

"Remember, it isn't owning the inventory that matters, but rather having access to it when the airline needs it. GA Telesis has made significant advancements in this regard and continues to lead the market with these innovations."



Abdol Moabery, President and CEO at GA Telesis



Daniel Stromski, Executive General Manager at Haeco ITM

Daniel Stromski, Executive General Manager at HAECO ITM Limited feels the key for efficient parts inventory management is controlling the supply chain of turning un-serviceable components into serviceable components – “There are many factors which play a critical role.”

Stromski explains that while the shop processing time (‘SPT’) of repair shops and OEMs is crucial and needs to be constantly monitored, the industry tends to neglect the transit time of components. “Transit time is not only the time the component is being shipped to or from the repair shop but should also consider the time needed to make the component ready for shipment or the time for the receiving process of the serviceable component.”

He says the industry is constantly pressuring the repair stations to reduce the SPT to a minimum but if airlines or pooling providers do not control the transit time, especially their own dispatch and receiving processes, the advantage of a swift SPT is quickly absorbed by inefficiencies in the remaining supply chain. “I believe that there is still a lot of value to be gained within the industry.”

Stromski emphasises that pooling is an ideal way to reduce inventory costs. He says Line Replaceable Units [LRUs] are getting more and more capital intensive. “Inventory management is not rocket science but if airlines want to keep control of their inventory I strongly suggest putting the right amount of resources and know-how into this task to control the supply chain, component engineering, float management, and so on.”



Daniel Adamski, Executive Vice President – Distribution at Kellstrom

Daniel Adamski, Executive Vice President – Distribution at Kellstrom Aerospace says airlines can achieve meaningful inventory reductions through partnership with an aftermarket channel partner, with whom they can contract for a performance-based outcome given forecasted inventory demand and a contractual commitment to purchase.

“The key to a successful partnership is the ability of the airline to share master consumption data and forecasting information al-

lowing the aftermarket channel partner to make good material provisioning decisions,” says Adamski.

Kellstrom Aerospace applies a practical approach to ensure the right blend of inventory whereby OEM parts are often supplemented by rotatable components in OHC condition with exchange options to give

operators choice and cost saving options while enjoying OEM quality repairs and exchanges. Adamski indicates that Kellstrom Aerospace’s approach is to offer complementary products and services and customer-focused solutions in every area of the aftermarket.

Historically spare parts inventory management has been a highly reactive business. KLX Aerospace Solutions is experiencing an industry wide trend in proactively managing spare parts with improved data from new tech aircraft and much improved analytics comments Tinalee Smallhorne, Senior Director Aftermarket Sales Americas and Israel at KLX Aerospace Solutions. “KLX has 40 years of MRO and airline historical data that is used to do predictive analysis to better prepare for change in industry trends.”

Smallhorne highlights that a great way to help reduce cost and working capital is better inventory management and that KLX has numerous services and solutions to support the aftermarket. With these solutions in place, KLX can reduce on hand inventory for an airline or MRO to as little as 30 days and take over the responsibility for part planning.

She reminds that an excess of spare parts inventory leads to a high holding cost and impedes cash flows, but inadequate spare parts can result in costly flight cancellations or delays with a negative impact on airline performance. “It is important to find an appropriate inventory model to achieve a right balance.”

One of the key trends observed in the aftermarket over the past few years has been the use of “Big Data” as a tool to incorporate more efficient inventory management strategies. As David Rushe, Director, Sales and Marketing, Europe at Megellan states, aircraft spare parts, depending on several reliability factors, have either on-condition or hard-time maintenance intervals.

“The huge volume of data being fed back to operators, OEMs and MROs from modern aircraft, such as the Boeing 787 and Airbus A350 and A380, is helping to determine the most efficient removal intervals for spare parts,” declares Rushe.

In time, Rushe predicts such data will get assimilated into revised maintenance check intervals, contributing to more efficient aircraft utilisation and minimised downtime. “What operators ideally want is reduced, predictable spare parts spend. Whereas aftermarket rota-



Tinalee Smallhorne, Senior Director Aftermarket Sales Americas & Israel, KLX Aerospace Solutions.



David Rushe, Director, Sales & Marketing, Europe at Megellan

ble parts can generate savings of up to 50% versus new parts in an airframe heavy check, operators are seeking further savings through minimised stock holdings."

A trend also developed in the last decade or so as Rushe describes, is whereby operators, OEMs and MRO organisations are disassembling aircraft themselves. He says operators such as British Airways, Delta and Turkish Airlines have torn down aircraft to support or "harvest" their own internal spare parts requirement. Airframe, engine and component OEMs as well as independent MROs have also pursued this strategy as a cost-effective way of supporting their customers.

Smaller, leaner inventories offer savings for both new and ageing aircraft, best evidenced by the flight hour agreement and pooling strategies. "In a scenario where five operators have small A320 fleets in the same geographical region, it clearly makes sense to pool the spare parts requirements of the individual operators at one location. Obviously, operators will want to keep certain stock at their main base and outstations. It must also be noted that in such combined pool locations, the

reliability of AOG support is of paramount importance," notes Rushe.



Gintautas Gruodis, Head of Sales, Magnetic MRO

Gintautas Gruodis, Head of Sales at Magnetic MRO has similar views saying new model aircraft come together with the "Internet of Things" industry, which together with smart IT solutions and analysis tools allows aircraft owners predict future needs of spare parts, by not keeping them in stock for long periods at the same time freezing money.

"Furthermore, OEMs now also offer solutions where together with purchased aircraft you get long service agreements in some cases for 10 years or more, so new aircraft owners can concentrate only on their core business, carrying passengers or delivering goods, by leaving the rest to manufacturers. These trends also influence independent spare parts suppliers."

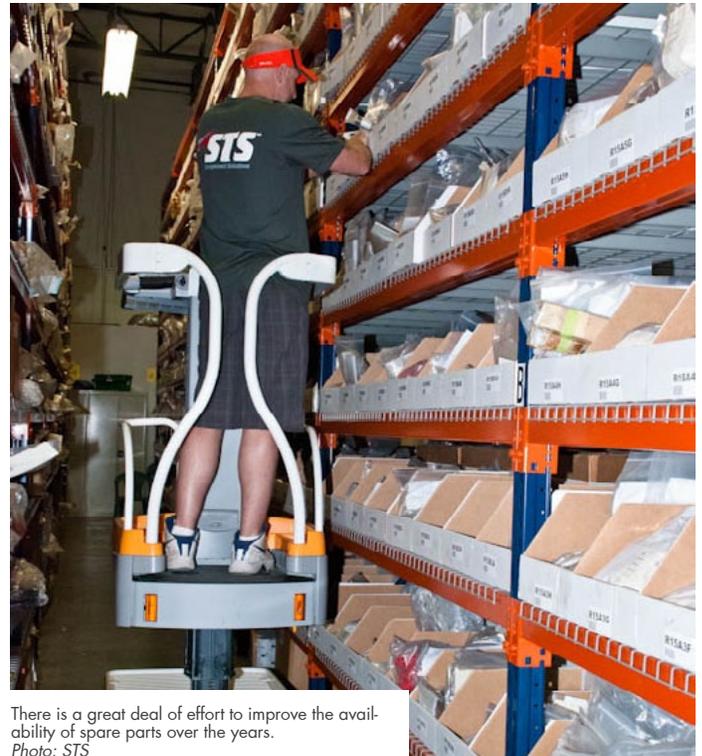
Gruodis insists its also vital for suppliers to invest in IT solutions to be able to manage inventories effectively, for example allowing their customers place quick orders online from any part of the world.



Tom Covella, Group President of STS Component Solutions

There has been a great deal of efforts to improve the availability of spare parts over the years, agrees Tom Covella, Group President of STS Component Solutions. "We have seen specific trends on both ends of the spectrum" he notes.

The most obvious has been the paradigm shift whereby the airlines have transferred a great deal of the ownership to the OEMs and third-



There is a great deal of effort to improve the availability of spare parts over the years.
Photo: STS

party suppliers. "This is a trend that has continued to grow over the past 3 to 5 years and I do not see this changing anytime soon."

The second trend as Covella explains, is the increased involvement in the airframe and engine OEMs and "system integrators" to support these spare parts requirements. He says both Airbus and Boeing have implanted themselves in this market and have established stand-alone entities to support this market and have taken a greater initiative to being engaged.

"The last major trend that we have seen is the growing importance of data analytics in the forecasting and trending in spare parts management. This is an area that STS has made a great deal of investment in and we utilise these tools to develop our inventory and forecasting models."

Covella says there are several ways in which airlines can reduce inventory costs. "Obviously the most effective is to drive this cost of ownership down to the OEMs whenever possible." He reveals that the second approach is to establish Consignment Stock via Vendor Managed Inventory programmes. "This allows the airline to gain immediate access to operational stock inventory with reduced transactional costs and consolidated freight. This has become a very common approach and STS is very active in establishing and managing these types of value-added programmes."

Mike Cazaz, CEO and President of Werner Aero Services also sums up by pointing to better technology, i.e. better and improved software and secondly, a shift on behalf of airlines to third party management to improve inventory management.

Cazaz advises airlines to simply do what they do best – fly passengers and provision their support to third parties and pay on a monthly or hourly usage basis. "They basically get to assign the inventory management, including stock levels, repairs, modifications, ADs and so on to a professional provider. In most cases, this has proven to improve the bottom line," he concludes.