



Sealing the deal

Singapore was the platform for many services contracts.
Photo: Airbus

The Singapore Airshow is Asia's largest aerospace and defence event. **Keith Mwanalushi** reports back on the significance of the platform and some of the developments from exhibitors.

Asia Pacific is on its way to become the world's largest aviation market, accounting for nearly 40% of the global fleet in 20 years, while the region is expected to account for US\$34.8b of total global MRO spending, representing about 35% of total MRO spend.

The Singapore Airshow has an impressive track record of attendance from high-level military and government delegations, leading industry players, airlines and airport operators from Asia and around the world. Some 600 companies from 50 countries showcased their latest innovations to close to 50,000 trade visitors from 150 countries and regions.

One of those notable companies is Air France Industries KLM Engineering & Maintenance (AFI KLM E&M), the main highlight of the 2018 Singapore Air Show was the opening of a new components repair and overhaul facility called Singapore Components Services (SCS), a joint venture company with Sabena Technics, located at Seletar Aerospace Park, and focusing on Airbus A320 and ATR components for Asian operators.

The opening of SCS marks another significant milestone in the development of a regional footprint in Asia, following the establishment of a repair and overhaul facility AFKLCSS in Shanghai (AFI KLM E&M Components China, a 100% subsidiary) focusing on the Chinese market, as well as MMS (Max MRO Services, a repair and overhaul joint venture based in Mumbai) addressing the needs of the Indian market.

SCS is in the heart of the Southeast Asian aviation market and will support AFI KLM E&M customers throughout the region. "The repair and overhaul facility will also strengthen the existing components ser-

vice center at Singapore Changi Airport managing an extensive inventory as well as related logistics supporting the operations of various regional customers," declares Dominik Wiener-Silva, Vice President Sales Asia Pacific at AFI KLM E&M.

In addition, AFI KLM E&M continues to invest in innovation with its dedicated programme "The MRO Lab" and their initiative in Singapore. "During the show, the innovation team showcased some innovations from The MRO Lab Singapore and Prognos - our industry-leading predictive maintenance platform developed by AFI KLM E&M," Wiener-Silva adds.

ST Aerospace was participating in the airshow as the aerospace sector of global defence and engineering group, ST Engineering. "We presented our wide range of solutions and aftermarket services for commercial airlines, airfreight and military operators," reports Lim Serh Ghee, President of ST Aerospace.

In the commercial aviation segment, the company showcased solutions covering airframe, engine and component MRO, cabin interior retrofit and modification. "Among the avia-



Wiener-Silva says Asia is a great opportunity.
Photo: AFI KLM E&M Patrick Delapierre



AFI KLM E&M Singapore Component Solutions.
Photo: AFI KLM E&M, Patrick Delapierre

tion displays are our in-house designed aircraft seats, passenger-to-freighter conversion offerings and C130 pilot training programmes," Mr Ghee continues.

"Our engineering and technological expertise was also demonstrated through presentations of our smart MRO initiatives on three broad fronts – digitisation and data analytics, automation and additive manufacturing – as well as proof-of-concept unmanned aerial solutions.

"Being featured for the first time at an airshow will be an end-to-end drone-agnostic solution that is capable of integrating highly autonomous and multi-function networks of unmanned aerial systems. Optimised for operating in the urban environment, it can be employed by users such as the police force and large-scale facilities management to enhance urban living, security and convenience." Ghee further explains.



Chaanine - We are proud of our Singapore customer service centre.
Photo: KLX Aerospace

Many in the industry are aware that KLX Aerospace Solutions are a key distributor of aerospace hardware, consumables, chemicals and specialty materials. "What we gain most from presenting at the Singapore Air Show is the opportunity to share and discuss our comprehensive supply chain services and logistics solutions with our customers and suppliers in attendance," states Marc Chaanine, Asia Pacific - Sales & Global Business Development

at KLX Aerospace.

The KLX Aerospace Solutions Asia-Pacific footprint continues to grow. "We are proud of our Singapore customer service centre which supports the southeast Asia market and stocks a full breath of consumable products, specifically chemicals and fasteners. We are fusing the best of the traditional aerospace distribution model with the best of the third-party logistics model to create an enhanced service model to serve both the OEMs and aftermarket," adds Michael Constantino also from KLX Aerospace.



Bart-Reijnen, CEO at Satair

Satair Group unveiled a new logo and brand plus visual identity to the market. The brand change marks the first step into integrating the two brands in the market: Satair Distribution and Airbus Material and Supply Chain Services. "The full integration will be ready by end of 2018 states CEO," Bart Reijnen.

"The world is changing – and so are we as a company," Reijnen indicates. "We are now finally ready to launch the new Satair to the market. The new Satair brand truly marks the beginning of something new – building on the old legacy of both channels."

At its Singapore stand, Satair showcased its capabilities in the format of a virtual reality solution where visitors could follow the Satair story and the celebration of their 60-year anniversary which was marked at the event.



Kent - StandardAero has grown into a company with 40 primary sites.

StandardAero was showing the combined capabilities of the industry's largest independent MRO services company. Since acquiring Vector Aerospace in November of 2017, StandardAero has grown into a company with 40 primary sites across five continents and more than 6,000 employees, with near \$3 billion annual revenue.

"The newly combined organisation is better positioned to provide the industry with more global services, expanded MRO capabilities some opera-

tional benefits to deliver faster, higher quality solutions to customers worldwide," says Clinton Kent, Vice President of Sales and Customer Service at StandardAero Components.

At the show, StandardAero promoted its one stop shop capabilities for comprehensive component repairs and service partnerships for engine MRO customers. "In addition, the company will continue to bring its OEM authorised custom solutions to the market place."

The Singapore show focused heavily on emerging technologies such as next generation MRO technology. More aircraft are coming into fleets in the Asia Pacific region and operating in areas where, at present, there are no or few qualified MRO facilities.

Mike Cazaz, President and CEO at Werner Aero Services hopes these emerging technologies will result in locally based, cutting edge MRO's that can overhaul/ repair, and certify components in the region, saving both time and cost in shipping parts out of the region which is what is currently happening.

"Further, the next generation MRO technologies will result in new materials being used in aircraft construction. Werner Aero Services constantly monitors new developments in aircraft components to take advantage of the new materials and their usage in Asia Pacific," says Cazaz.



Werner Aero CEO Mike Cazaz

In terms of new technologies, Universal Avionics Systems Corporation's flight deck upgrade display technology features highly advanced synthetic vision and a simplified user interface through centraliser control, at a lower cost to competing systems, according to the company.

Universal Avionics Systems was also promoting [at the show] its recently certified AHS-525 Attitude Heading Reference System (AHRS), SBAS-Flight Management

System (FMS), UniLink® UL-80X featuring embedded FANS/ATN, and digital Cockpit Voice/Flight Data Recorders (CVR/FDR).

"Our opportunities tend to centre around addressing the NextGen retrofit market," says Scott Campbell, Director of Airline and Military Sales at Universal Avionics Systems. Michael Choo, Universal Avionics Regional Sales Manager for Asia and Australia adds that the SBAS-Flight Management System (FMS) and InSight Display System offer great value and opportunity for the south east Asian civil and military retrofit and avionics upgrade market.



Campbell says Universal Avionics opportunities tend to center around addressing the NextGen retrofit market.

Emerging technologies, both in terms of product and repair processes, have always been at the heart of AFI KLM E&M market strategy, says Wiener-Silva. "As a leading airline-MRO, AFI KLM E&M has always been one of the first in adopting new technologies with the objective of providing comprehensive support to customers as well as offering an alternative to OEM solutions while benefiting from the experience of the Air France KLM fleet operations."

Today AFI KLM E&M is ushering in many new generation aircraft including the 787, A350, NEO or MAX. "Following the successful development of the GenX engine MRO capability, the AF KLM E&M Group has recently announced the development of comprehensive services for LEAP engines, including EIS support, on-wing services, as well as long-term support solutions," Wiener-Silva announces.

ST Aerospace has been investing in Smart MRO initiatives on three broad fronts – digitisation and data analytics, automation and additive manufacturing. A number of these SMART MRO capabilities are developed by partnering research institutes in Singapore such as the Agency for Science, Technology and Research (A*STAR).

AeroBook3 (AB3) for instance is ST Aerospace's solution in digitising its processes. It is an innovative, mechanic-centric platform that offers a full suite of applications to assist in MRO work via mobile devices. By combining multiple web-based applications that push essential maintenance information to the workforce, AB3 allows maintenance tasks to be performed on the move. The application of data analytics on all information inputted into AB3 from the MRO work performed will help facilitate prediction, forecasting as well as resource planning and optimisation, the company says.

As for emerging technologies, Satair has a newly appointed Head of Digital and Business Transformation onboard, Christian Agger. Mr Agger joined just last summer, and his task is to take Satair to the next level in terms of digitalisation.

"Digitalisation is one of our three main corporate strategic initiatives and hence, this has the utmost attention," confirms Reijnen.

The introduction of new technology aircraft and engines creates new challenges across the supply chain, not just from a capacity perspec-



Airbus predicts the Asia-Pacific MRO business alone will grow by 4.5 percent annually.
Photo: Airbus

tive but also a more competitive landscape as manufacturers compete for material content on the aircraft and maintenance rights thereafter. KLX has more than four decades of experience implementing new technologies as well as integrating into the operator's systems within the aerospace arena.

"We stock products that support legacy aircraft (like the MD80s) to next generational A350 and B787. We welcome and look forward to the ushering in of new and next generation technologies and aircrafts," says Constantino.

The next generation of MRO technology will enable the use of data streams to better predict maintenance requirements. "This data coupled with the KLX proprietary aftermarket parts planning tool translates to KLX being able to stock more accurately, as well as plan and anticipate the needs of the market in a more efficient and mutually beneficial manner," adds Chaanine.

StandardAero brings a broad certification authority through its various civil certifications, including STC authority to help field new technologies and developments in the aerospace industry. In addition, Kent says the company provides a wide variety of component repair development and engineering to help OEMs solve problems and modification programmes for operators to optimise engine maintenance and lower operating costs.

In terms of opportunities and prospects in southeast Asia, StandardAero sees the region as a growing and vibrant region for commercial fixed wing and rotary aircraft/aviation and the company continues to grow its services in the region.

Over the last few years, Southeast Asian airline operators have placed significant aircraft orders with a majority belonging to new generation aircraft. "This is posing new challenges for the airline operators as they strive for more higher cost efficiency and increased reliability. This is a great opportunity for AFI KLM E&M as an airline-MRO to further develop our support footprint by setting up repair facilities, intelligently positioning local parts inventory, streamlining logistics operations, and creating a community of operators who benefit from the significant fleet growth in the region," divulges Wiener-Silva.

He further states predictive maintenance continues to create opportunities. "Also for APU maintenance, our subsidiary EPCOR is in front of many challenges in Asia."

Cazaz from Werner Aero is seeing the emergence of second and third tier operators utilising fleets composed of aircraft in fairly new

condition. "Our focus is on fleets of between 5 and 20 aircraft which are presently being operated in the 10 ASEAN countries as well as the Pacific island nations and Australia/New Zealand.

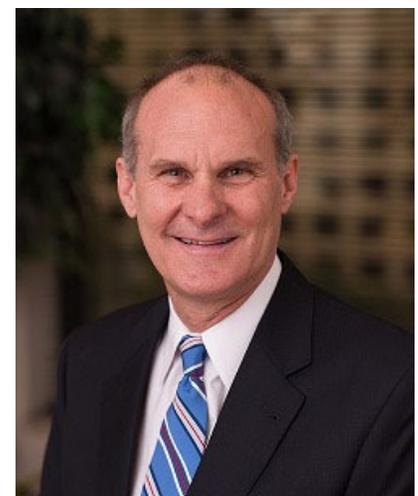
"These operators are mainly private and fill a much-needed niche as far as regional reach and low fare carriers are concerned. The aircraft that Werner Aero Services specialises in are a perfect fit for internal service as well as regional and medium haul. Also, they are not in a PBH or GMA programmes," Cazaz stipulates.

Considering growth in the region is bound to attract new MRO players to enter the market including airlines and OEMs, ST Aerospace is confident that, given its strong track record, global network and broad customer base, they are in a strong position to partake in the growing global MRO spend. "Our investments in smart technologies will further help enhance our capabilities, and lead to more value-add such as higher cost efficiency for our clients.

Apart from air travel, air cargo demand is expected to also continue enjoying a robust growth in the region. "We have decades of experience in Passenger-to-Freighter (P2F) conversions and have developed new conversion programmes for the Airbus platforms, A330 and A320/A321 in collaboration with the OEM. We are confident that our A330 and A320/A321P2F solutions will meet the needs of operators in the narrowbody and mid-sized freighter segments well, which will enable us to capture even greater market share in freighter conversions," Ghee says.

The show in Singapore also focused on the plight of start-up carriers. The barriers of entry are high in the airline market, and attention to costs and efficiency are paramount for any start-up carrier. "When looking at how KLX can support this effort, we must start at our roots: KLX's earliest mission and initial core competency was managing and simplifying the broad supply chain for commercial airlines and MROs to repair and overhaul aircrafts. Today, KLX sells product into every platform and nearly every airline in the world," states Chaanine.

Intelligent supply chains help start-up carriers efficiently manage their aircraft and ensure the right parts and components are at the right place at the right time. "With supply chain automation and collaboration technology, operators' aircraft can continue earning revenue by maintaining optimal inventory and service levels. Aeroexchange brings intelligent supply chain solutions that drive these transformations to the industry," tells Albert Koszarek



Albert Koszarek, CEO at Aeroexchange

Southeast Asia will continue to grow as a transport market year over year. The increase in trade attendance and new exhibitors at the Singapore Airshow certainly demonstrated that.