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Aerospace Magazine



Outlook 2023

Turning around
a turbulent industry

Regional Aircraft

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IATA GLOBAL MEDIA DAYS

Geneva, Switzerland
6-7 December 2022

Welcome



Airline industry expected to climb out of turbulence from 2023

Journalists from around the world gathered in Geneva, Switzerland earlier this month at the IATA regional offices to get an overview and outlook for the global aviation industry.

The good news is that IATA expects a return to profitability for the global airline industry in 2023, following the recent turbulence caused by the pandemic. IATA officials expressed confidence in the trends from 2022 but heeded that the industry headwinds were still significant. However, the aviation industry looks in better shape to deal with the realism of the challenges ahead.

IATA revealed that in 2022, airline net losses are expected to be \$6.9 billion which is significantly better than the performance of 2020 and 2021. Ofcourse, the effects of Covid were discussed in detail with all major regions now rising from the ashes of the pandemic with the exception of China. As several in the industry have suggested, it's probably still too early to talk about a post-pandemic world especially when you consider the ongoing situation in China. Industry figures suggest some 70 million people flew out of China in 2019 and until that situation recovers, there will be a continuing impact on global passenger travel, notably in Asia.

Sustainability was a major talking point in Geneva and Willie Walsh the Director General of IATA gave an outline of where the industry stands today and the goals for 2023 in the race to achieve net zero in aviation. Clearly, the push towards Sustainable Aviation Fuels (SAF) is a significant one that will continue but demand is outstripping supply. There is a promising trend for renewable fuels and SAF but as IATA noted, the biggest challenge over the next decade will be ensuring there is enough of it derived from RF capacity.

Read more about the findings from Geneva in our report in the January 2023 edition.

Finally, as another year comes to a close, on behalf of the entire team at AviTrader Publications, we wish our readers, advertisers and editorial partners safe and pleasant festivities and a profitable new year!

Keith Mwanalushi
EDITOR



Journalists gathered for the IATA global media days in Geneva, Switzerland.

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Collins Aerospace opens new engineering and global operations centres in India



© Collins Aerospace India Global Engineering and Technology Centre

As part of a significant investment to expand its engineering, digital technology and manufacturing operations in India, Collins Aerospace, a unit of Raytheon Technologies Corp., has officially inaugurated its new Global Engineering and Technology Centre (GETC) and Collins India Operations Centre in Bengaluru. The new sites are part of a long-term growth strategy for Raytheon Technologies in India and

globally to maximise collaboration and innovation providing cutting-edge solutions for customers and to provide additional STEM-based opportunities in the country. Approximately 3,000 engineers from three other Collins Aerospace locations in Bengaluru, as well as about 600 personnel from other Raytheon Technologies' group of companies will be moving into the 413,000 ft² GETC at Northgate Tech Park to facilitate collaboration across the company's businesses, with plans to expand its footprint on the three-acresite next year with new capabilities. Pratt & Whitney's United Technologies Corporation India Pvt Ltd. (UTC IPL) contract engineering services is also planned to open in early 2023 at the same location. "The opening of these new facilities in Bengaluru shows our continued commitment in India, expanding our capabilities and accelerating transformative technologies for a safer, more connected and sustainable world," said Dr Mauro Atalla, Senior-Vice President, Engineering & Technology for Collins Aerospace. "The GETC India organisation supports Collins' six strategic business units and is crucial to the continued success of our global businesses."

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Sabena technics delivers Bombardier G7500 modified with Leonardo MIYSIS DIRCM

European maintenance and modification centre Sabena technics has successfully delivered a Bombardier G7500 jet to an undisclosed VVIP-customer after a complete system modification campaign, to add Self-Defence System (SDS) capabilities. Thanks to its expertise in aircraft modification, Sabena technics has carried out the entire work in-house, under full EASA certification standards and delivered the aircraft right on schedule. A recognized expertise for SDS integration using its strong capabilities and partnerships with leading aircraft system manufacturers, Sabena technics has been taking part in integrating self-protection systems on various aircraft.



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Oriens Aviation expands at London Biggin Hill Airport

Oriens Aviation, the exclusive Pilatus and Tecnam aircraft distributor for the British Isles, will be expanding its MRO and customer support activities at London Biggin Hill Airport with a move to newly refurbished Hangar 170, providing an area of nearly 20,000 ft². The new facility, featuring hangarage and workshop areas as well as a modern office wing is the new home of Oriens' growing maintenance business. In addition to its Pilatus PC-12/PC-24 maintenance services, Oriens holds Authorised Service Centre status to provide full maintenance on Cirrus SR20X aircraft. In the near future it plans to further expand its MRO capability to the Tecnam P2012 Traveller aircraft, with more Tecnam models to follow. Edwin Brenninkmeyer, CEO at Oriens Aviation commented: "Demand for our aircraft sales and maintenance services is continuously increasing. This larger base at London Biggin Hill offers Oriens an excellent platform for growth."



Oriens' newly refurbished hangar at London Biggin Hill airport

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Nippon Cargo Airlines signs GEnx service agreement extension



Nippon Cargo Airlines B747 Freighter

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Nippon Cargo Airlines (NCA) has signed a six-year extension of its rate-per-flight-hour engine services agreement that covers the airline's GEnx-2B engines on its Boeing 747-8 freighter fleet. "The rate-per-flight-hour engine services agreement between NCA and GE strengthens our partnership and will ensure our GEnx engines are covered into the new decade," said Toshiaki Kobori, Managing Director of Engineering & Maintenance at NCA. NCA and GE have a long-standing relationship that began with the CF6 engine. Today, NCA operates an extensive fleet of aircraft powered by GE's CF6 and GEnx. The rate-per-flight-hour engine services offerings incorporates an array of GE capabilities and customisation across an engine's lifecycle. Each rate-per-flight-hour engine services offering is underpinned by GE's data and analytic capabilities and experience to help reduce maintenance burden and service disruptions for customers.



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TA Aerospace selects Wencor for global distribution partnership

TA Aerospace has selected Wencor as an authorised distributor supporting the global commercial aftermarket and OEM market segments, as well as selecting Wencor as the preferred channel for defence. The multi-year agreement allows Wencor to support these channels through its global stocking facilities and on-site service locations at key customers. The global agreement includes TA's full suite of metallic and elastomer clamping systems, moulded grommets, and thermal fire barrier insulation solutions for the worldwide aerospace and defence markets.

N3 Engine Overhaul Services expands product portfolio with fifth engine type

N3 Engine Overhaul Services (N3), the joint venture between Lufthansa Technik and Rolls-Royce for the overhaul and repair of aircraft engines, is now authorised to maintain Boeing 787 Dreamliner engines. The Luftfahrt-Bundesamt (LBA) granted N3 the approval to work as a maintenance organisation (Part 145) for large engines such as the Rolls-Royce Trent 1000 TEN. This operating license allows N3 to expand its product portfolio with a fifth engine type. This will help satisfy the growing demand for maintenance services for Rolls-Royce Trent engines and also provides the basis for further expansion projects at the site, located on the outskirts of the Thuringian municipality of Arnstadt, Germany. Going forward, service capacity is to be increased from the current 160 engines per year to at least 250 engines per year in the coming years. N3 Managing Director Carsten Behrens (CEO of N3 since April, representing Rolls-Royce) commented: "With the operating license for the Rolls-Royce Trent 1000 TEN engine, we are securing our future by expanding and increasing our capacities. As a result, we will be able to react with greater flexibility to future maintenance and repair demand concerning Rolls-Royce Trent engines and, thanks to our efficiency and reliability, we will continue to establish ourselves in the overhaul network of our parent companies. "The new engine type in the N3 portfolio also marks the entry into the Boeing world for the company. Until now, N3 has only looked after Trent models used on Airbus aircraft.



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GE Aerospace to develop Service Technology Acceleration Centre

GE Aerospace is developing a new site dedicated to advancing inspection repair and overhaul technology that will be used at aviation service shops around the world. GE plans to invest US\$14 million (£11.5 million) and bring 50 salary jobs over the next two years to the Services Technology Acceleration Centre (STAC), located in the Cincinnati suburb of Springdale, Ohio. The STAC facility will be dedicated to developing engine services technologies and work processes, allowing for collaboration between engineering and manufacturing. The teams work together to demonstrate a technology's manufacturing readiness before scaling it for use at service shops, accelerating the entry of new repairs into the market. The 85,000 ft² facility will also be used as a training centre for many of these state-of-the-art service technologies, as well as a GE Aerospace customer education centre. GE Aerospace Commercial Engine & Service franchise is globally responsible for on-wing support, repair, used materials and overhaul of global airlines' fleets. In the past five years, GE has developed and matured a number of technologies at its service shops, including GE 360 Foam Wash, AI White Light Inspection and Blade Inspection Tool (BIT).

3TOP Aviation Services acquires another Boeing 737-900 for disassembly

3TOP Aviation Services (3TOP), a renowned aviation asset management and trading company specialising in aftermarket inventory support solutions, has announced the acquisition of another Boeing 737-900 aircraft, its third in the last six months. Chris Emechete, CEO at 3TOP, commented: "We're focused on acquiring a select range of asset types which fit neatly within our growth plan, of which the 737NG platform features prominently. We continue to seek out the right opportunities to expand our inventory holding as we strive to maintain our position as a strong and reliable industry source for airframes, engines and their constituent material." The airframe will be disassembled at the Tarmac facility in France and material used to support 3TOP's worldwide network of customers. The associated CFM56-7B26 engines will augment 3TOP's expanding engine trading, leasing and material supply portfolio.

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International Aerospace Coatings (IAC Group) acquired by Tiger Infrastructure Partners

Tiger Infrastructure Partners (Tiger), a private equity infrastructure investor, has announced the acquisition of International Aerospace Coatings (IAC) Group, which includes Eirtech Aviation Services. IAC Group is one of the world's leading aviation services providers headquartered in Shannon, Ireland and Irvine, California. IAC's portfolio of 18 aircraft hangars is strategically located at seven airports and two customer sites in the United States and Europe, providing essential services to customers in the global aviation industry, including aircraft manufacturers, commercial airlines, aircraft leasing companies, air cargo carriers and governments. IAC Group employs more than 1,000 people worldwide, including more than 250 in Shannon, Ireland. "As a growth-oriented infrastructure investor, we were attracted to IAC because of its compelling growth prospects, leading market position, substantial asset base and stakeholder relationships along with its strong balance sheet," said Emil W. Henry, Jr., CEO of Tiger Infrastructure. "With operations in both the United States and Europe, IAC aligns well with Tiger's trans-Atlantic footprint and capabilities, which are a source of competitive advantage for us in the markets in which we operate." Tiger invests in sectors such as Digital Infrastructure, Energy Transition and Transportation in North America and Europe.

Jet Aviation extends Boeing 777 maintenance capabilities in Basel

Jet Aviation Basel is now approved for heavy maintenance on the Boeing 777 up to and including 15-year checks. The work scope extension required the company to invest in additional specialized tools and training for the Boeing 777 and was approved in late 2022. "The Boeing 777 is an important platform, and we are delighted to be able to offer heavy maintenance on this aircraft to our customers across the region and beyond. I look forward to welcoming more 777s to Basel in the future," commented Cyril Martinieri, VP MRO Europe and GM Basel. Jet Aviation Basel holds maintenance approval for over 50 aircraft types and is an authorised service centre for Airbus Corporate Jets, Boeing Business Jets, Gulfstream and Embraer. The facility comprises six hangars totalling over 36,700 m², with an additional 13,500 m² of workshops, and can accommodate aircraft up to the Airbus 380 and Boeing 747 in size.

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Rolls-Royce AE 2100-A Hydrogen Test
at Boscombe Down in the UK.
© Rolls-Royce

Hydrogen sets out new propulsion possibilities

Back in July, easyJet and Rolls-Royce announced a new partnership to develop hydrogen combustion engine technology capable of powering a range of aircraft, *AviTrader MRO* checks in on the latest progress in this sector.

In November, easyJet and Rolls Royce reported back that a ground test has now been conducted on an early concept demonstrator using green hydrogen created by wind and tidal power. In a media statement, the companies said this marked a major step towards proving that hydrogen could be a zero-carbon aviation fuel of the future and is a key proof point in the decarbonisation strategies of both Rolls-Royce and easyJet.

Following the news that Rolls-Royce and easyJet have successfully conducted the ground test, Harry Boneham, Aerospace Analyst at GlobalData, a data and analytics company, offers his view:

"The development is obviously good news for Rolls-Royce as it continues to forge ahead on zero-emission aircraft propulsion development. It is likely that a future commercial aviation market will be defined by sustainability concerns as consumer expectations and government



Harry Boneham, Aerospace Analyst at GlobalData

regulation continues to grow. Rolls-Royce is taking a leading role in the development of technologies that will be required to reach ambitious environmental targets such as net-zero emissions from commercial aviation by 2050.

"The test was conducted on a converted Rolls-Royce AE 2100-A regional aircraft engine. Now that the technology has been tested successfully, it is likely that Rolls-Royce will look to conduct further tests on larger, more powerful engines, allowing the firm to target a greater segment of the commercial aircraft engine market.

"The news that the hydrogen used in this test was derived from green sources—wind and tidal power—is a further success and demonstrates that hydrogen propulsion can be a credible solution for aircraft original equipment manufacturers (OEMs) looking to improve sustainability performance across their entire supply chains. It is likely that as zero-emission



Airbus ZEROe turboprop concept plane tank.

© Airbus

propulsion technologies such as hydrogen and all-electric aircraft reach maturity in the coming decade, scrutiny regarding 'green-washing' will mount. In order to prevent reputational damage in this area, manufacturers must consider emissions throughout supply chains and not just during flight."

While Rolls-Royce brings its expertise in engine development and combustion systems, easyJet is contributing its operational knowledge and experience and will also directly invest in the test programme.

Grazia Vittadini, Chief Technology Officer, Rolls-Royce, said: "The success of this hydrogen test is an exciting milestone. We only announced our partnership with easyJet in July and we are already off to an incredible start with this landmark achievement. We are pushing the boundaries to discover the zero carbon possibilities of hydrogen, which could help reshape the future of flight."

Johan Lundgren, CEO of easyJet, added: "This is a real success for our partnership team. We are committed to continuing

to support this ground-breaking research because hydrogen offers great possibilities for a range of aircraft, including easyJet-sized aircraft. That will be a huge step forward in meeting the challenge of net zero by 2050."

Meanwhile, at Airbus, hydrogen is key to the OEMs plan to bring zero-emissions aircraft to market by 2035, but it needs to be stored at an exceptionally chilly -253°C . To use this technology means developing innovative cryogenic hydrogen storage tanks. According to Airbus, storage tanks for a hydrogen-powered aircraft are therefore an absolutely essential component, but they are completely different to those found

on a traditional aircraft.

"It is a real testament to the teamwork across our sites to see this first tank being manufactured so quickly. We want to optimise the tank for greater efficiency and to further reduce its environmental footprint: after all, a zero-emission aircraft needs to be as close to zero emission as possible throughout its whole life cycle, said Chris Redfern, Head of Manufacturing, ZEROe Aircraft and Head of Propulsion Industrial Architect, at Airbus.

Airbus has established the Zero Emission Development Centre's (ZEDCs) in Nantes, France, and Bremen, Germany, with the task of designing and manufacturing the hydrogen tanks.

“ It’s likely that as zero-emission propulsion technologies such as hydrogen and all-electric aircraft reach maturity in the coming decade, scrutiny regarding ‘green-washing’ will mount. ”

Harry Boneham, GlobalData

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With demand, come challenges for **regional** aircraft support

MRO and aftermarket specialists say demand for regional aircraft support services remains buoyant, however, issues with pilot shortages and supply chain deliverables may lead to additional cost pressures.

By Keith Mwanalushi

Recent data and analysis from *IBA Insight* signals that the general availability of turboprop and regional jets has been decreasing since November 2021, but with significant variations between aircraft types.

IBA insights reveal the total number of parked and stored aircraft has decreased overall since November 2021, but with some exceptions. 46% of the Bombardier CRJ 1000 fleet was either parked or stored in November 2021, falling to 38.1% by November 2022. By contrast, 22.9% of the ATR 72-600 fleet was parked or in storage in November 2021. As of November 2022, this had increased to 30.3%. There is a duopoly in the regional and turboprop marketplace between the Embraer E175 and ATR72-600.

Since 2021, several regional aircraft have changed lessee's that's down to repossessions or end of lease and termination. At Fokker Services Asia, they see a significant increase in lease transfers but also in the of scope of services requested, such as painting new livery but also overhaul of major components.

"Lessors took the opportunity to go for engine and landing gear overhaul during these transitions and therefore we had to

support these requests," says Franck Scherer, Managing Director at Fokker Services Asia. In addition to the classic base maintenance scope, Scherer believes that as an MRO, they now need to take on more responsibility in the whole parts and component supply chain for lessors and operators, especially since their procurement teams have been significantly reduced due to the effect of Covid.

Scherer mentions that costs have increased significantly over the last 12 months, for instance freight and fuel costs have soared but also standard parts such as consumables and chemicals have all gone up.

In order to retain talent, Fokker Services Asia – like many other companies - had to increase salaries and maintain or even increase production capacity. "There is only one way to recover such manhour cost increases and remain competitive; we have to boost efficiency and productivity with digital solutions," he says. In recent years, technology has evolved tremendously with more digital solutions available for project management, part and



Franck Scherer, Managing Director at Fokker Services Asia

tooling. "At Fokker Services Asia, we are deploying many of these solutions in 2023, in order to compensate for a part of these maintenance cost increases and remain competitive in the base maintenance market for regional aircraft," Scherer states.

Andy Wheeler, DVP and Managing Director at AEM/AMETEK MRO reports that regional aircraft activity remains buoyant

OEM material and labour rates continue to rise.
© ATR



“ The new issue we must deal with is piece part shortages which is affecting both sides. It is partly the reason why the OEM’s have difficulties to ramp-up production and on the other hand also effecting the repair TATs on a massive scale. ”

René Popp, Spairliners

and as such, AEM [a division of AMETEK MRO] activities remain focused around supporting existing customers and market expansion opportunities.

“Being part of AMETEK MRO’s global MRO network affords us the opportunity to duplicate established capabilities to provide cost-effective regional support that

is specifically tailored to our customers’ needs. AEM’s capabilities within this regional sector are vast and comprise electrical power generation, safety equipment, hydraulic power and landing gear,” Wheeler says.

Quality, cost, and delivery play an essential part in this market as do loans and exchanges since operators do not carry surplus inventory and seek to minimise downtime. Wheeler adds that AEM has the right material on hand to support operators – “We do this by spending time to truly understand their precise requirements and establishing service level agreements that add real value. Our inventory levels are established through data analysis and complex algorithms within our ERP system,” he states.

The demands for flights of all kinds have pre-Covid niveous, suggests René Popp Head of Engineering, Asset and AOG at Spairliners. He says the demand for support is also at the same levels. “With the impact of Covid on the global supply chain, piece parts availabilities, and the tremendous reduction in the industry workforce, the already existing problems of aircraft

manufacturers to deliver new aircraft models to their customers increased exponentially.”

Popp observes that this led to a growing popularity of the in-service mature aircraft types and even a resurgence of the Airbus A380, with more airlines reactivating their fleets. Spairliners provides component



Andy Wheeler DVP and Managing Director at AEM AMETEK MRO



René Popp Head of Engineering, Asset and AOG at Spairliners

“There were significant supply chain issues in the regional jet space prior to the pandemic and they are only exasperated now due to Covid. Higher costs and little aftermarket alternatives are causing operators to rethink aircraft lifecycle time.”

Scott Butler, Ascent Aviation Services

REGIONAL AIRCRAFT MRO



Some MROs see a flat demand for heavy maintenance on regional jets.
© Ascent Aviation Services



Scott Butler, Chief Commercial Officer, Ascent Aviation Services

support for EJETs in Europe and specialist A380 component support. “In both segments we have already seen massive interest from airlines in component and repair flow support and we expect this to further increase in 2023 and with that stated, the EJET 170/190 is still a very popular aircraft model.”

Popp adds that component support for mature aircraft will play a major role in the coming years and will also challenge the parts manufacturers to keep up with the demand.

At Ascent Aviation Services in Arizona, they see a flat demand for heavy maintenance on regional jets,

predominantly because of pilot shortages. Scott Butler, the Chief Commercial Officer says maintenance costs are definitely increasing in this space as OEM material and labour rates continue to rise. Also, he highlights that more efficient aircraft on the market (like the A220s) are causing earlier than scheduled retirements of some classic RJs like the E170/190s and CRJs.

“There were significant supply chain issues in the regional jet space prior to the pandemic and they are only exasperated now due to Covid. Higher costs and little aftermarket alternatives are causing operators to rethink aircraft lifecycle time,” Butler indicates.

Within Europe, Vallair saw an increase in lease return activity as well as aircraft coming out of storage as leasing companies return their fleets to service with new customers. “Depending on the length of storage, the aircraft will require different degrees of maintenance to enable return to service, this could include engine and landing gear changes, other major component changes, modifications, re-paint and application of new livery, as well as re-registration,” Steve Pike, Aerostructures and MRO Services Sales Manager at Vallair explains.

Pike says other work required may include major airframe inspections, SB embodiment, avionics upgrades and engine borescope inspections. “Of course, these maintenance packages often drive additional works with corrosion findings, in particular, arising out of the larger airframe inspection packages, and on the other end of the scale, some aircraft are met with end-of-life teardown.”



Steve Pike, Aerostructures and MRO Services Sales Manager, Vallair

Dealing with supply chain pressures

Pike has noticed a global slowdown in supply chain deliverables caused by shortages of raw materials, parts and labour resulting in price increases on the manufacturing side. To manage this, Vallair accounts for prolonged shipping times and works in any required budgetary adjustments. "We plan well ahead to ensure the process runs smoothly from start to finish, placing orders, coordinating suppliers, and sourcing alternative solutions for parts that will not arrive within the required timeframe," he says.

What used to take a few days to exchange or procure can now take weeks, observes Scherer from Fokker Services. He says the AOG mode has become incredibly challenging to manage. "Therefore, we see that the impact on the overall TAT of the project is significant, especially on large maintenance projects."

Scherer reckons being located in Singapore is a good advantage as it remains a very strong logistic hub for the Asia Pacific market with parts flying to and from the US, Europe and Australia. "We have operators from as far as the Pacific islands who decided to give us their regional aircraft checks just because of this hub position. For them, the part supply chain was becoming too disturbing to handle from the remote location in which they operate."



Demand for regional aircraft support services remains buoyant.

© ATR

Scherer advises that the main counter measure to reduce these supply chain issues, is to get more part stock located closer to operators. "At Fokker Services Group, we continue to relocate and increase our inventory in Singapore to support our customers in the APAC region in order to reduce these long TAT logistic times and it is probably a trend for the next few years."

AEM/AMETEK MRO work closely with suppliers to ensure that material demand is accurate and scheduled so that they can service operator individual requirements

in a timely way to minimise any downtime and as a result, Wheeler reports that they rarely suffer issues of any consequence. "We are able to provide this service through the use of USM [used serviceable material] and exchange units in which we have invested heavily to better support our customers," he adds.

Popp from Spairliners echoes similar thoughts saying the pressure on the supply chain and on the repair of components is higher than ever before. "The new issue we must deal with is piece part shortages which is affecting both sides. It is partly the reason why the OEM's have difficulties to ramp-up production and on the other hand also effecting the repair TATs on a massive scale."

He concurs that parts with an average repair cycle of weeks are now not available even after a month and concurrently, the lead times for new parts are also increasing. Popp reasons saying this is matched with increased pricing as the demand is also constantly growing on a global scale. "Dealing with ageing fleets will of course also have an effect on the number of components you have to replace or repair," he says.

These are challenges for Spairliners but Popp assures that teams who working around the clock to find solutions for new parts on the market, to speed up repairs and in some cases even hunt down piece parts to secure the service levels for operators.



Prices have risen for standard parts such as consumables.

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There is a positive outlook in the heavy maintenance space.
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An optimistic **outlook** despite looming industry headwinds

Several MROs are upbeat about the general outlook for 2023 but a lingering pandemic in China, labour shortages, geopolitical issues in Europe and a strong US dollar are all discussions that will proceed in the new year.

By Keith Mwanalushi

Following a global airline industry loss of nearly US\$220 billion dollars since the start of the pandemic, a recent report by aviation analysts at *Cirium* shows that demand has been recovering, with global revenues up by 70% for the first six months of 2022, bringing the total to within 20% of 2019 levels.

The US industry is on course to return to profitability in 2022, with Delta Air Lines leading the profitability trail. In the first half of 2022, the European passenger demand was running at around 95% of pre-pandemic levels however, losses

appear to be worsening in China as the Covid pandemic resurges dampening growth in the recovery of the Asia-Pacific region.

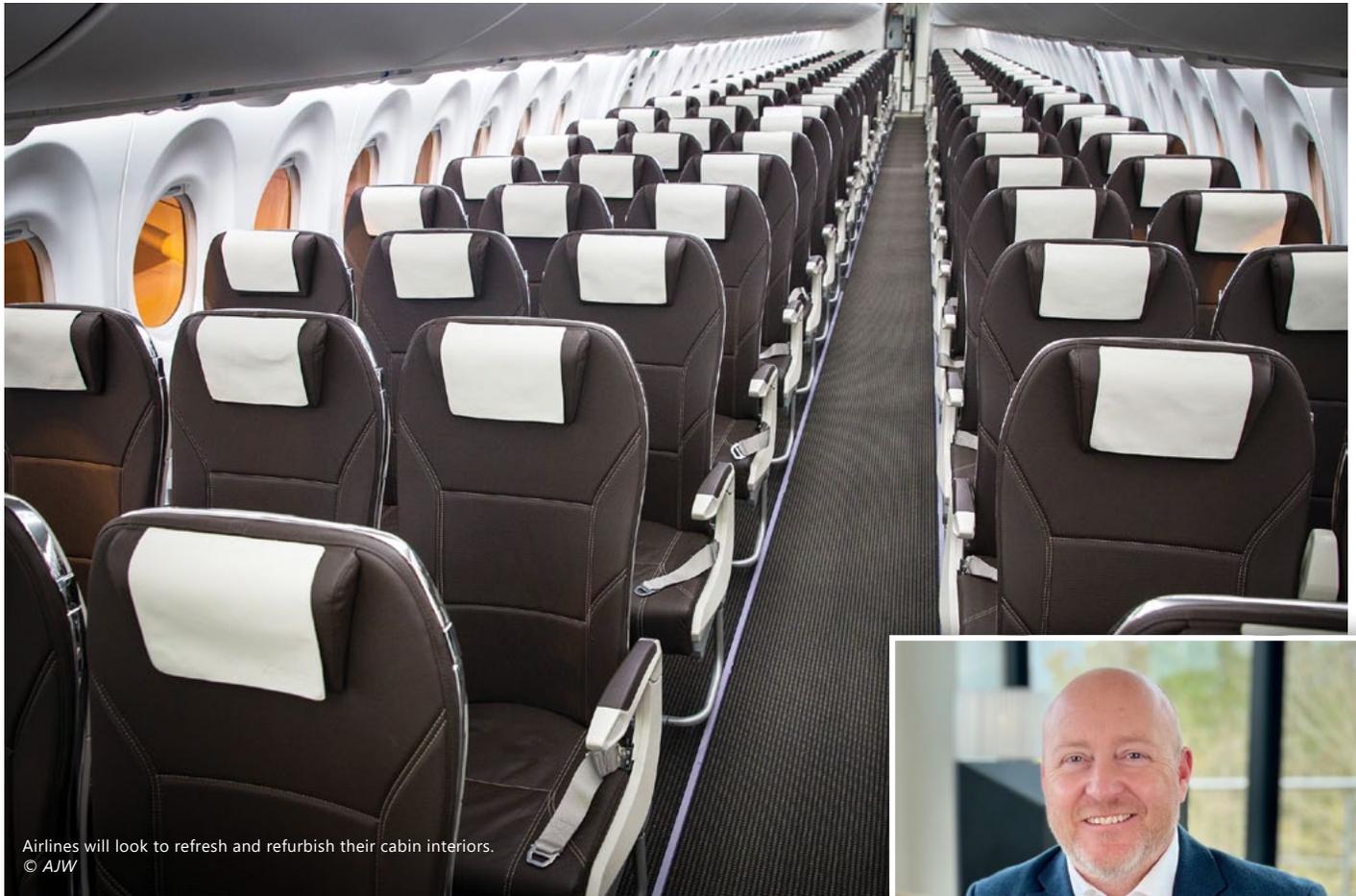
There is a strong possibility that the industry may break even in the second half of 2022, led by US and European airline groups, experts have suggested.

Recent surveys indicate that MRO sales are up across the industry, led by sales in Europe and Asia, which are the strongest they have been over the past year and continue to strengthen. This bodes well for the AJW Group as they expand MRO

capabilities establishing regional support hubs across Europe to meet the growing demands of operators in the region.

AJW Technique Europe has seen opportunities for growth beyond its centre for battery excellence in Slinfold, UK, and now has regional support hubs in AJW Remarketing, and AJW Türkiye, which provides full support services and solutions in the Eurasia region.

Clyde Buntrock, the Chief Executive at AJW Group tells *AviTrader MRO* he sees growing opportunities on the interiors side as airlines look to refresh



Airlines will look to refresh and refurbish their cabin interiors.
© AJW

and refurbish their cabin interiors, which have been neglected over the past few years. "With the renewed interest in travel, airlines are looking to upgrade existing fleets while still recovering from financial losses due to the pandemic. They are looking closely at their bottom line and using MRO services to entice customers with fresh-looking aircraft interiors. As such the remarketing and interior services provided by AJW Group, are in demand and this holds optimistic outcomes for us," he states.

AJW remains positive about the strength in commercial aircraft

maintenance and the services it offers to its global customer base, even though labour shortages, supply chain fracture, spare part availability and lead times, and the ongoing Russia-Ukraine conflict are still affecting recovery. "In conjunction, the impending economic pressures and weakening consumer confidence are also influencing the deteriorating MRO aftermarket sector, but the aviation industry is steadily growing, and we maintain an optimistic outlook for the coming year," Buntrock indicates.

Lewis Prebble, President for Airlines



Clyde Buntrock, Chief Executive at AJW Group

and Fleets at StandardAero agrees that the general outlook for 2023 is healthy, despite the headwinds faced on a number of fronts. "We see that 2022 has continued to witness a recovery in terms of passenger traffic, aircraft orders and MRO demand, and while some industry observers are now projecting a one-year slip in the date for a full recovery to pre-Covid levels of traffic, there is no indication that a full recovery won't be attained."

“The impending economic pressures and weakening consumer confidence are also influencing the deteriorating MRO aftermarket sector, but the aviation industry is steadily growing, and we maintain an optimistic outlook for the coming year.”

Clyde Buntrock, AJW Group



Technician shortages are most noticeably in North America.
© AAR

As Prebble places emphasis, the industry has again proven its resiliency by weathering the impact of Russia's invasion of Ukraine, the spike in Jet-A costs, and the pilot and technician shortages which have been seen most noticeably in North America. After several boom

years, the air cargo industry is now also reporting a softening of demand, due to both the increased availability of belly hold capacity – a direct consequence in the continued recovery in long-haul passenger flight – and to a weakening economic outlook in some areas.

"Some passenger airlines have also tempered their traffic expectations for the 2022 to 2023 winter period in response to the current economic outlook, though most operators continue to predict a continued return to health in 2023," Prebble notes.

James Bennett, AerFin's Senior Vice President Sales mentions that much of the maintenance activity that was deferred during the height of the pandemic is now either taking place or is scheduled for 2023.

"Our MRO customer base in particular has robust forecast activity to share and is now starting to purchase inventory in order to get themselves ready."

Bennett says this was not happening in volume through 2020, 2021 and the first half of 2022. Coupled with this is a much more cost-conscious operator base, keen to seek out options to reduce maintenance cost, one of the key drivers being material.

He indicates that companies like AerFin are well positioned to capitalise on these initiatives. Secondly, Bennett reminds that with increased demand, many of the MROs are struggling to ramp up labour and capacity. "As such, we are involved in discussions with some MROs as to how we can support activity through our quick



Lewis Prebble President - Airlines and Fleets
at StandardAero

“ As such, we would expect the CFM56-7B MRO market to remain robust, especially with the 737 NG family benefiting from a parallel surge in demand from cargo operators currently replacing their 737F classics. ”

Lewis Prebble, StandardAero



There is opportunity in the component overhaul sector.
© AFI KLM E&M Patrick Delapierre

turn engine maintenance capability we have in our Cardiff based facility. This is another key opportunity area for us," he states.

From a CFM56 engine MRO perspective, Aero Norway has recently observed that operators are pursuing the 'flying green time' strategy to a maximum i.e., flying down the core LLPs to zero.



James Bennett, AerFin's Senior Vice President Sales

From a design perspective and depending on where the engine is in operation, this is technically feasible. However, Ramon Peters, Global Sales and Marketing Director at Aero Norway explains that this policy has resulted in a shortage of used material on specific air foils and LLPs since few CFM56-5B and -7B have been dismantled for spare parts purposes and building the available pool of used serviceable material (USM).

"Currently USM is scarce and some new components and parts have long lead times. Also, we are seeing that some owners or operators prefer not to shop-visit their engine and seek an exchange engine to buy instead."

Peters further indicates that this market dynamic has two dimensions – "In the short term while there is a low market demand for heavy and core performance restoration shop visits, many operators are seeking lighter hospital repair visits. Over the longer term, the green time strategy will end and with little USM market availability, a higher demand and need for new material will be generated. This will result in lower shop visit costs in the short term, however higher cost will be inevitable for the longer run."

Meanwhile, there is lots of positive

outlook in the heavy maintenance space," comments Scott Butler, Chief Commercial Officer at Ascent Aviation Services. He says they have seen demand pick up in 2022 for narrowbody maintenance, but now also a resurgence in widebody work. "There is also a lot of opportunity in the component overhaul such as landing gears where costly maintenance was deferred during the pandemic," he observes.

The repercussions of a strong dollar

Industry experts are suggesting the strength of the U.S dollar will create additional cost challenges for global aviation, for instance, engine and component cost per flight hour agreements sold in \$USD will equal to higher maintenance costs in the coming year.

Obviously, for MROs based in the US, like Ascent Aviation, all their services are in USD but the higher rates will make it harder to compete with some international bases, and the maintenance will cost more for foreign carriers of which Butler is fully aware. "However, it is good when buying OEM components from Europe as our buying power is increased," he comments.



Ramon Peters, Global Sales & Marketing Director, Aero Norway



Higher US dollar rates will make it harder to compete with some international bases.
© Ascent Aviation Services

Elsewhere, the strength of US dollar is putting pressure on airlines by driving up the cost of everything from fuel to components, and aircraft themselves. "The knock-on effect of the strengthening dollar is that it has sent previously strong currencies such as the British pound and the Chinese yen plummeting this year," says Buntrock from AJW.

The pound has also been affected by the looming energy and economic crisis as well as ongoing geo-political unrest in the region.

As Buntrock mentions, aircraft purchase deals made before the pandemic, may have been pushed back due to lack of revenue, but the deals were signed, escalation clauses will have kicked in and the aircraft are currently more expensive than initially expected. "Airlines now need to deal with balancing flying schedules and pricing amidst reduced passenger confidence in the industry as it is. Cost per flight contracts signed a few years ago, will also have been escalated, again affecting countries who are balancing their revenue and expenditure currencies."

However, he says things look good for global companies who are making sales in dollars as their capital expenditure is paid in dollars as well, and this bodes well for their investors.

Buntrock adds: "Companies that receive payment in local currency but have capital expenditure expenses in dollars are the ones who will struggle in the current economic climate."

Foreign exchange rates will certainly be one of the considerations facing the industry in 2023, acknowledges Prebble from StandardAero. As a global MRO provider with locations on six continents, he feels the company is able to offer operators some relief from such foreign exchange impacts. Given the current strength of the U.S. Dollar, Prebble says the facilities outside of the country – including the CFM56/CF34 overhaul facility in Winnipeg and the PT6A/PW100 overhaul facility in Summerside – actually enjoy a competitive advantage when selling services to U.S.-based operators.



Steven Ades, AerFin's Chief Strategy Officer

StandardAero has already seen some operators temper their 2023 forecasts due to concerns over the economic outlook, reflecting the fragile state of the industry's recovery in some areas. As Prebble analysed, when combined with the supply chain issues which have been constraining the ramp-up in production of the 737 MAX and A320neo, this is likely to benefit the 737 NG family (and A320ceo) as some operators postpone capital investment in new platforms while others face delays in delivery of their aircraft.

"As such, we would expect the CFM56-7B MRO market to remain robust, especially with the 737 NG family benefiting from a parallel surge in demand from cargo operators currently replacing their 737F classics," Prebble states.

A strong USD undoubtedly adds an increased level of cost pressure for operators and owners of assets who generate income in other currencies.

AerFin sees continued strong demand for cost per flight hour agreements due to the visibility they give operators to better forecast their maintenance costs and put appropriate hedges in place to reduce currency risk.

Steven Ades, AerFin's Chief Strategy Officer indicates that on the whole, cost pressures experienced by operators, whether driven by currency, labour rates or the price of raw materials create an environment of cost consciousness which drives the need for operators to access AerFin's services which not only deliver demonstrable savings but also provide a range of options. Ades says USM can save in excess of 40% from buying new, and also allows partners to access piece part repair pricing through scale agreements. "Our MRO lite services extend the life of engines and defer costly engine overhauls to a time where cost pressures will hopefully be less pronounced," he highlights.

As Peters from Aero Norway sums up, European MROs that buy material in a strong USD market but have labour and general administrative costs in local currency, will likely see an effect on earnings as this cost dynamic is difficult to shift to customers.



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Q & A

In the
hot seat...

Marco Smit
Chief Executive Officer
Nayak Aircraft Services

Marco Smit, CEO at Nayak Aircraft Services

What attracted you to this industry?

Nayak is a company I was attracted to and subsequently the people that work there. My first contact with Nayak was at 18 years old while attending university where I helped for two weeks over the Christmas holidays. At the time, I was working part-time at my father's construction company, so I was able

to assist at Nayak during the busy period preparing for a new upcoming contract. I started working in admin processing invoices and that led to working several times per week there while completing my Bsc. Eventually, I headed several projects, optimising stores as well as IT and financial implementation projects. I also chose to proceed with another Msc and got the

opportunity to keep working while studying during the weekend. I had a strong work ethic from an early age. I enjoyed the combination of working and studying and the spirit of Nayak as a company. Everybody was working together, getting things done and moving the company forward. This team feeling made me realise that this was a company with a real passion

for aircraft maintenance. It is a feeling that remains to this day and makes me love working with everybody at the company.

What does a typical day involve in your new role as CEO?

There is no one typical day. During a typical week though I try to keep a fixed routine to ensure a good work-life balance. Mondays are usually spent in the office, with weekly meetings speaking to all the teams for the weekly progress discussions. During the week, I will either travel to meet customers, visit our network stations or work on strategic projects to get the company moving forward. Friday is normally a wrap up day to ensure actions of the week are completed. I like to fit my rhythm by working in blocks of one to two hours on topics, keeping the energy and focus optimal by starting with the most difficult ones and having 'lighter' topics worked on in the afternoon. Next to work, a typical day involves sports! I try to stay fit with CrossFit workouts every day of the week, with some mandatory rest days. Staying fit enables you to bring the best results every day to work and life.

What are your plans for the company?

Seeing the aviation market in Europe still needing to achieve consolidation, I see that the future for every segment comes down to 'sink' or 'swim' moment. My goal is to guide the company through the competitive landscape, helping Nayak grow further to stay ahead of the game and securing the knowledge of our quality and service mindset within our customers. Our company values lie at the very core of who we are as a company. We focus on the customer mindset, teamwork, flexibility, providing solutions, while always maintaining quality and reliability. Nayak is such a low hierarchy company, with a lot of synthesis from everyone working together.

Tell us about the key capabilities at Nayak.

As an airline independent MRO, Nayak is driven to serve our customers in the best way possible. Our strength is in having an around-the-clock mindset, even in the

hangar, so that we are effective for our customers. Our aim is to always offer a solution for any maintenance needs that may arise. As a company we must stay lean to keep the cost levels under control. This means that everybody must work together and help each other as needed.

Are you seeing a return in demand for MRO services, especially in Europe?

The market in 2022 has nearly grown back to pre-covid levels in Europe. Currently, the demand we are facing is even higher than in 2019 because of business growth. Over the Covid period, Nayak was able to keep nearly all its staff, unlike other companies that had to make cuts. We tried to align with all our customers on cost benefits with the intent for a long-term commitment, emphasising our reliability and customer-first mindset. Using this approach, the business has grown by more than 30% compared to 2019.

MROs are struggling with supply chain problems. What is the situation at Nayak?

As Nayak is a service provider, our main resource is the workforce. For materials and spares we are less dependent on the supply chain, but still experienced enough to stay on top of things and secure the critical items for our day-to-day job. However, when it comes to finding skilled technicians the current situation in Europe is a growing struggle. The aviation industry has been growing for many years and while there is a huge demand for maintenance, the average age and amount of retired technicians is also growing, resulting in less technicians being available on the market. To face our workforce needs, we must stay attractive as an employer. It is all about keeping a good balance, both in creating an excellent product for our customers at a competitive price level, while securing a safe working environment with a stable roster for our technicians.

There is huge demand for technical skills. What impact is this having on your technical training business?

As our main asset is staff, it is key to invest in our staff and make sure that everyone is trained to do their job. Therefore, a part 147 training school for us is a key asset to have in-house for our staff. It gives flexibility to organise training as and when required and gives options for training requests for technicians all over the world.

How is the line maintenance business performing?

For Nayak, the line maintenance business is the main form of revenue. It is all about creating volume and efficiency to give the right pricing and service level to our customers. For us, a key part of our services is our ability to make the ground time of the airlines as effective as possible for maintenance, so that the airlines or lessors concentrate on their core business. We even see a shift from base maintenance tasks towards the line. Overall, there is less demand for maintenance with the newer generation aircraft, but by making ground time effective we can perform more scheduled tasks on the line. By optimising the ground time through with a quick and efficient service, we create cost benefits for our customers and avoid unplanned ground time in the operations.

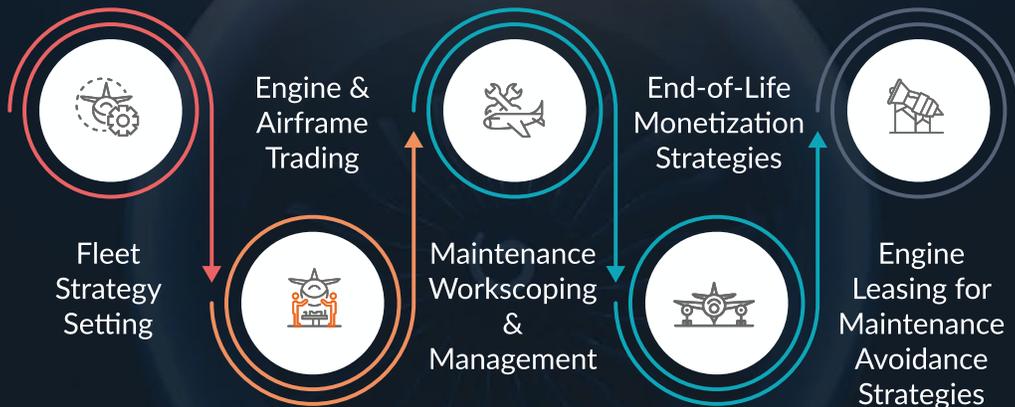
What are you most looking forward to in 2023?

I am looking forward to taking the next steps with the company. Nayak is currently making a transition to one centralised EASA approval and one operational AMOS system. By centralising the systems and procedures we are creating more efficiency throughout the company and can even increase the flexibility of the services we offer to our customers. I am also looking forward to a busy base maintenance season with several A320 and A330 in our hangar in Dusseldorf and the team there is doing an excellent job. We will keep on investing in training for our staff and tools to expand our capability on the newer generation aircraft types.

Additionally, some new line maintenance locations will be coming up so keep an eye out for those announcements!

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Maria Deacon

United Airlines has named **Maria Deacon** Senior Vice-President Technical Operations, overseeing the carrier's maintenance operations, ground service equipment and facilities maintenance, supply chain, technical services and planning and strategy. Deacon will also shape the continued growth and investment in United's Calibrate apprenticeship programme, helping the airline expand

and diversify its next generation of maintenance employees. Most recently, Deacon served as GE Aerospace's General Manager of Maintenance, Repair and Overhaul. In her new role at the airline, Deacon will report to United's Executive Vice President and Chief Growth Officer **Greg Hart**. At the helm of GE Aerospace's extended MRO network, Deacon was responsible for delivering revenue across a mix of more than two-dozen global GE and partner sites worldwide. As General Manager of CFM Services at GE, she managed the financial aspects of the largest in-service fleet in commercial aviation and the joint venture relationship for all CFM and LEAP engine services. In her role as General Manager of Supply Chain at GE, Deacon led the ramp-up of critical helicopter, fighter jet engines and spare parts for U.S. military operations among other key responsibilities.



Jeff Shaw

Pro Star Aviation, an innovative aerospace modification centre, has promoted **Jeff Shaw** to Director of Sales and Marketing. Shaw has served as Director of Business Development at Pro Star Aviation for over six years. He was responsible for programme development and company direction to maintain an edge in the avionics and installation upgrade industry.

He will lead a team of three regional sales managers, two inside sales managers and an administrative assistant in his new role. His primary function will be to lead the strategic efforts in growing Pro Star Aviation's footprint in the Northeast. Shaw's career in aviation spans over 25 years, starting as an Ops Agent with the airlines. He's served as an Avionics Technician and Chief Inspector and earned his BS in Aviation Management at Florida Tech and AS in Aviation Technology at NH Technical College. He holds an FAA Commercial Pilot-Instrument rating and A&P certificate.



Jürgen Sehne

Complete Aircraft Services GmbH (CAS) will start operations as part of the AeroVisto Group on January 1, 2023. At the same time, **Jürgen Sehne** will assume the role of Managing Director. After studying aerospace and industrial engineering in the '90s, Sehne worked for several well-known aviation companies, including Dornier, Airbus, Lufthansa, Condor and SWISS. During this time, he gained a great

deal of experience in various areas of the aviation industry – from aircraft development, engineering and controlling to operational planning and production management. In various management positions over the past 25 years, he has already built, led and developed several teams and has a comprehensive knowledge of both commercial aviation, and private and business aviation. Sehne will take over the management of a successful and well-organised company and will work with an experienced and high-performing team. Thus, from the very beginning, he can focus on leveraging the existing growth potential of CAS, ensuring its further positive development as part of the AeroVisto Group.



Terry Foley

LCI, a leading aviation company and a subsidiary of the Libra Group, has named **Terri Foley** to Chief Operating Officer (COO) and General Counsel, effective immediately. Foley has a long-established career with LCI, having joined in 2008 as the company's General Counsel. Based in LCI's Dublin head office, she has proven experience in aviation leasing, financing and investing, both as a legal advisor

and a commercial manager. As part of the executive team, Foley has been responsible for LCI's major transactions from a legal, tax, compliance and structuring perspective together with the company's HR and corporate development activities globally. Foley was admitted as a solicitor in England and Wales in 2001. She began her career with Dentons during which time she undertook long-term secondments to Airbus and to the corporate jet division of Barclays Bank. In her new role, she will be responsible for global operational management of the company, focusing on enhanced efficiencies and strategic initiatives to support its continued growth. Foley will continue as General Counsel and will focus on legal strategy and process, supported by a legal team.



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