CFM56 record time on wing
100,000 and counting

Aircraft foiling
Colors and signs

Landing Gear Services
Strong legs for the 777

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Your best business partner for 2017

"One of the joys at the start of a new year is the opportunity to say thank you! So we would like to express our gratitude to you, our customers, for your partnership in the past year and your continued confidence in Lufthansa Technik’s support. It has been an exciting and very successful year for Lufthansa Technik in a constantly changing market, and we are very grateful to our customers and naturally also to our employees around the world. We know that the foundation of our success is the trust of our customers.

We believe we are well prepared for the future and the changing requirements of our customers. Thanks in particular to our innovative power and our employees’ passion for aircraft, new aircraft types such as the Airbus A350, A320neo and Boeing 737 MAX are at home at Lufthansa Technik. What’s more, new, future-oriented technologies and the rapidly increasing digitalization of the MRO world are topics that we are driving forward with great commitment to the benefit of our customers. Being the best partner for our customers and doing everything to make sure their business remains profitable – at Lufthansa Technik, this will continue to be our common goal in 2017, too.

We wish you much success and many happy landings in 2017!"
OEM customer selects PTU NG

Original Equipment Innovation
Lufthansa Technik and Airbus Defence and Space have signed a contract that enables the purchase of an unlimited number of Lufthansa Technik’s Patient Transport Units Next Generation (PTU NG) – the optimum solution for transporting patients requiring intensive medical care and for medical evacuation missions (Medevac). The initial aircraft type fitted with the PTU NG is the C295 with four fully equipped units. This first program started in May 2016 with a scheduled delivery in Q1 2017. The PTU NG has already been integrated and installed in commercial Airbus A380 and several VIP aircraft. The unit combines a low system weight for quick conversions with outstanding robustness. Its modular design can be customized to the specific requirements of each individual customer with up to 13,000 liters of oxygen. The PTU NG can also easily be installed on any further Airbus aircraft types or those from other manufacturers.

25th anniversary in Malaysia

ASSB // Airfoil Service Sdn. Bhd. (ASSB), a Joint Venture between MTU Aero Engines and Lufthansa Technik, has reached the quarter of a century milestone. Initially a Joint Venture between MTU Maintenance (part of MTU Aero Engines) and Malaysian airlines, MTU Aero Engines and Lufthansa Technik teamed up in 2003 and each took on a 50 percent stake in the company. Over the last 13 years of collaboration, around 350 new local jobs have been created. ASSB is specialized in airfoil repairs, carrying out a large number of repair services on high-pressure compressor (HPC) and low-pressure turbine (LPT) airfoils for engines such as the CF6-80C and the CFM56 and V2500 engine families. The company’s over 450 employees repair approximately 450,000 parts per year. ASSB has over 80 customers worldwide and revenue has grown more than nine-fold since 2003. Derrick Siebert, Managing Director of ASSB, says: “Through ASSB, MTU and Lufthansa Technik have successfully achieved what they set out to do: combine extensive technical expertise, broaden their repair capabilities and grow. We are extremely proud of our technological portfolio and our 100 percent reliable delivery performance. ASSB is on a good path to the future and we are looking forward to the next 25 years!”

First A-check in Dubai

DC Aviation Group // Lufthansa Technik and DC Aviation Group have recently performed the first A-check for a narrowbody aircraft at Al Maktoum International Airport (Dubai World Central Airport) in Dubai. The services were provided for an Airbus A319 of an undisclosed customer from the region in the hangars and VIP facilities of DC Aviation Al-Futtaim LLC, a Joint Venture of DC Aviation and the Al-Futtaim Group. The workscope of about 350 hours included the check of all systems which are relevant for flight safety, the exchange of several components, the completion of service bulletins and as a special topic the test of the ram air turbine. As part of the cooperation agreement between Lufthansa Technik and DC Aviation Group, the product portfolio consists of regular checks as well as maintenance services, including unplanned repairs for example in the case of an AOG (Aircraft On Ground). It also features services for aircraft cabins, including small modifications. Moreover, plans call for a mobile aircraft and cabin service to serve the region. The offer is rounded off by extensive FBO services (fixed-base operator).

Second completed BBJ for Royal Jet

VIP & Special Mission Aircraft Services // The completion specialists in the Lufthansa Technik VIP & Special Mission Aircraft Services division have re-delivered the second Boeing Business Jet (BBJ) to Royal Jet, the leading VIP charter operator in the Middle East. Like the first aircraft, the second completion was finished on time after just nine months at Lufthansa Technik’s Hamburg location. The innovative cabin was designed by New York-based designer Edesse Doret and is characterized by a clear, minimalist aesthetic style, equally combining geometric shapes and organic structures. The two aircraft set new standards in the area of connectivity. They are the first BBJs worldwide to be fitted with the Ka-band antenna system as part of their initial completion. The system allows high-speed internet and TV connections just like at home. The integrated »niceview mobile« flight information system from Lufthansa Technik supplies passengers with the widest variety of travel information. The installation of a fully digital mobile phone network (GSM) also allows the use of mobile phones in flight. Because both BBJs require commercial approval as charter aircraft, the strictest approval requirements had to be met in terms of their completion, analog to those of an airliner.
FLYdocs signs long-term contracts

Digital Services // Wizz Air has awarded FLYdocs a long-term contract for its advanced aviation data and records management platform, making it the first operator to benefit from FLYdocs’ advanced aircraft compliance management services. The airline already uses the planning and maintenance software AMOS and, in entering into the agreement with FLYdocs, will become the first airline to benefit from the advanced interfaces between the two systems.

Earlier last year FLYdocs and AMOS started work to deliver the world’s first and full digital aircraft compliance on-demand. The interface between AMOS and FLYdocs offers a huge number of features that enable customers to substantially cut the time to manage aircraft compliance.

AMOS will feed all relevant maintenance data into FLYdocs which will automatically build compliance documentation in near real-time providing Wizz Air with fully digitalized end-to-end aircraft compliance management. Through selecting FLYdocs, Wizz Air will be well placed to proactively manage its forthcoming aircraft transition program and will enable smooth and efficient transactions. //

XEOS Joint Venture with GE Aviation

Engine Services // Lufthansa Technik and GE have chosen Poland as the location for their Joint Venture XEOS and will build a state-of-the-art aircraft engine service center focused on GE9x engines. The capability of servicing the new GE9x model, which is currently in development, will be established by 2021. Bernhard Krueger-Sprengel, Senior Vice President Engine Services at Lufthansa Technik, said: “The establishment of the XEOS engine shop with our partner GE is a major milestone in Lufthansa Technik’s growth strategy. The facility will create hundreds of technical and high-level jobs in Poland for a further evolving aviation industry.”

Bill Millhaem, Senior Executive at GE Aviation, said: “We, together with our partner, and the support of the Polish government and local authorities, are delighted to announce our latest investment in Poland. The facility is designed to be a world-class aircraft engine service center focused on the maintenance, repair and overhaul of GE’s technologically advanced next-generation engines. We look forward to the investment and contributing to the economic development in the region and the entire country.” //

First order for »chair« aircraft seat

Original Equipment Innovation // Lufthansa Technik has received the first order for its innovative »chair« aircraft seat from an undisclosed VIP customer. INAIRVATION, Lufthansa Technik’s Joint Venture with F/List, will coordinate the production of the »chair« seats by F/List. Oliver Thomaschewski, Head of Seating and Structures at Lufthansa Technik’s Original Equipment Innovation Division, said: “This order means the final breakthrough for our vision which we had when we started development of this highly innovative and flexible product a few years ago. We are extremely happy and proud that we have been able to bring this idea into the real VIP aircraft cabin world. My team has done a great job over the past years. Together with our partners from F/List and INAIRVATION we are in the best position to produce any of the several thousands of possibilities of the »chair« family in an absolutely top-end quality.” //

Connectivity solution for second 787

IDAIR // The Joint Venture between Lufthansa Technik and Panasonic Avionics Corporation has delivered its inflight entertainment (IFE), cabin management (CMS) and connectivity solution on its second Boeing 787 aircraft to an undisclosed customer represented by Kestrel Aviation Management. The project was completed at Greenpoint Technologies’ completion facility in Moses Lake.

IDAIR provided a tailored and high-end solution. Built-in room controllers, remote tablets and an elegant, intuitively designed graphical user interface let the end-user easily access and control the system. Individual means of control at each of the 16 VIP seat locations and power outlets for personal electronic devices complement the on-board experience.

Dr. Wassef Ayadi, CEO of IDAIR, said: “This new success is again evidence of the high quality and excellence of our team for this aircraft platform. We will continue our close collaboration with Greenpoint and customer representatives like Kestrel Aviation Management to ensure the best-in-class experience for our VIP customers.” //

Stay up to date!

Customer Newsletter // Lufthansa Technik’s online customer newsletter Connection Flash supplements our popular bi-monthly Lufthansa Technik Group Magazine Connection with first-hand news on innovative technologies and developments, new services and offers, and future events. //
Let’s talk A350!

The Airbus A350 is one of the aircraft types of the future. Lufthansa Technik already has a great deal of experience with the A350 and is therefore a partner of choice for all aspects of its maintenance – also for Lufthansa, which is now set to receive its first aircraft of this type.
when it comes to component supply. While the exact costs depend on how many part numbers are kept available in the pool, the level of investment is immense here, too. And there are also other challenges, such as the composite structure of the aircraft or the massive dimensions of the engine.

Ready for Lufthansa’s A350

Lufthansa Technik’s extensive experience with the new aircraft is now also beneficial to Lufthansa itself, since the airline is welcoming the first A350 into its fleet at the turn of the year. Lufthansa Technik is equipped to perform all work required for the complete maintenance of the new Lufthansa A350-900: The team is trained and ready to go, and the company is licensed by the German Federal Aviation Office (LBA). The recent handover of the Base Maintenance Approval certificate by the LBA brings to an end an intense period of preparation. The maintenance concept was developed in close cooperation between Lufthansa Technik Aircraft Maintenance in Munich and Engineering in Frankfurt. Engineers will relocate their offices from Frankfurt to Munich when the A350 operations commence. And there will also be employees from Airbus, Rolls-Royce and Panasonic on hand to provide support in the first few weeks so as to ensure a high level of technical reliability for the Lufthansa A350 fleet from the outset.

A number of different units are preparing the remaining upgrade of the new aircraft. Special fittings requested by Lufthansa, such as self-service racks, for example, are being specified by Engineering in Frankfurt and approved for installation by the Aircraft Modification unit at Engineering in Hamburg. And even an entire class is being newly installed within the framework of the remaining upgrade, since the OEM has supplied the aircraft without the Lufthansa Premium Economy Class. Because these adaptations classify as a modification, they have to be approved with a Supplemental Type Certificate (STC) by the European Aviation Safety Agency (EASA).

Design organization approval and more

Lufthansa Technik already received an extension of its approval as a design organization for the new Airbus A350 from EASA at the start of the year. According to the provisions of EASA Part 21/J (Design Organization Approval), Lufthansa Technik is authorized to develop and approve repairs and modifications to a limited extent under its own responsibility. What’s more, as the host of a unique collaborative platform, Lufthansa Technik shared its vast A350 know-how, expertise and foresight at the recent first A350 Community workshop (see page 9). Initiated by Lufthansa Technik, the A350 Community was established with the main goal of enabling airlines worldwide to exchange their experiences with their A350s and benefit from these exchanges.
The German Federal Aviation Office (LBA) awarded N3 the operating license as a Part 145 Maintenance Organization for the Rolls-Royce large engine type Trent XWB. Approval has been secured on schedule, before the planned delivery of the first Airbus A350 to Lufthansa. As part of Lufthansa Technik’s extensive maintenance concept for the new aircraft type, N3 Engine Overhaul Services is responsible for maintaining the Trent XWB engines.

It is expected that N3 will start receiving planned deliveries of Trent XWB engines in Arnstadt, Germany, in the coming years. N3 mechanics are currently using a Trent XWB training engine to test tools and to apply assembly processes approved by LBA. N3 Director and General Manager Alexander Stern stresses: “With the operating license for the Rolls-Royce Trent XWB engine we have secured our future. The A350 engine will become a dominant feature of N3 Engine Overhaul Services’ business in the coming years. Thanks to our high reliability and efficiency, we are an important partner in the maintenance network of our parent companies.”

The operating license for the Rolls-Royce Trent XWB adds a fourth engine model to the Thuringian company’s product portfolio. At the same time, N3 is also building up its repair capacity for engine components. For instance, the company has also become the first and only company in Europe to be awarded the right from Rolls-Royce to carry out blisk repairs on Trent XWB engines (a blisk is a component within the high-pressure compressor). N3 will also perform repairs to the components used to mount the Trent XWB engine to the Airbus A350. Investments are being made in specialized machinery for these new repair processes.

N3 Engine Overhaul Services, the Joint Venture between Lufthansa Technik and Rolls-Royce plc., has been authorized to maintain and repair the engines of the Airbus A350.

Opening of new warehouse space

Lufthansa Technik Logistik Services has reached a significant milestone by extending the warehouse building for the supply of spare parts for Airbus A350 at its site in Munich, Germany. The existing spare parts warehouse has been enlarged during the last months by an area of 3,200 square meters. The extension was necessitated by the material supply for the Airbus A350, providing some 700 different components.

“An important element in ensuring the extensive support and supply of the Airbus A350 is now complete. Thanks to this development, our customers are guaranteed optimum material supply for this aircraft type also,” says Dr. Christian Langer, Managing Director of Lufthansa Technik Logistik Services. In addition to the components for the new aircraft type, parts for 15 other aircraft types are also stored here. The extension is fitted out with modern warehouse technology, such as the automatic storage rack system. This technology is an important prerequisite for developing additional digitally supported optimization potential.

Thomas Weyer, Managing Director of finance and infrastructure of Flughafen Muenchen GmbH (right), handed over the key to Martin Kinzelt, head of the Lufthansa Technik Logistik Services site in Munich. The gentlemen are attended by Anna Henrichmann, Lufthansa Technik Logistik Services project engineer.
As an integrator, Lufthansa Technik has an unparalleled grasp of not only the A350 but other new aircraft types as well. Other airlines are therefore interested in benefiting from this expertise by receiving information that enables them to see the bigger picture. To optimally support the necessary exchange of information, Lufthansa Technik launched a new industry platform, the A350 Community, and invited the airlines to take part in a first workshop at the end of 2016. The response was overwhelmingly positive: Eight airlines from all corners of the world and with different levels of experience sent their participants to the venue in Frankfurt.

The six round-table discussions focused on three points in particular, starting with predictive maintenance in the form of the new product Condition Analytics. The concept was illustrated with the help of use cases and received considerable attention. Taken from the field of supply chain management, another focal point was the design of the rotatable storage parts list (RSPL). The third main topic was the eOps infrastructure required to be able to communicate with the A350 as an e-enabled aircraft. Lufthansa Technik was able to present a working solution here, which Lufthansa can rely on as it starts its own A350 operations.

Positive feedback

The cooperative approach of the first A350 Community workshop was very well received by the participants. Carsten Wortmann, who was responsible for planning and carrying out the event, emphasizes: “The project was a huge success, especially considering that there are already quite a few platforms for exchange on the A350.” He went on to add: “I would consider the A350 an attractive, reliable and efficient long-range bird – with technological challenges that make the MRO services for this aircraft somewhat special. We have had to stretch ourselves to seamlessly connect the required new-generation services, but the aircraft’s benefits definitely make the extra effort worthwhile. The services were built up in a project that is now facing its end with the establishment of our unique A350 Community. The feedback we have received gives us strength and self-assurance that handing out an open invitation to an unlimited exchange of experiences is the right approach to carry us and all participating operators forward.”

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Colors and signs for your aircraft

As an attractive alternative to painting, the application of foils to aircraft is increasing in popularity. Lufthansa Technik offers a complete range of services for aviation-certified foiling of almost every type of passenger or freighter aircraft.

Aircraft painting is both time-consuming and costly. This is why more and more operators have come to value the speed and flexibility offered by the use of foils. The method is especially valuable in situations where aircraft liveries often change, for example for short-term leases. Lufthansa Technik’s dedicated Graphic Solutions team handles every step from design development and certification (EASA Part-21J) to production (EASA Part-21G) and application/removal precisely according to customer wishes – as individual support step or as a complete process.

**Design development**

There are practically no limits to the designs and color schemes that can be used on aircraft. When it comes to developing and selecting a design, customers can rely on the expertise gathered by the graphics shop, as Lufthansa Technik has already developed and applied numerous design variants, with foils on the fuselage, the tail and even the wing.

Since foiling is a deviation from an aircraft type design, certification is compulsory for this process. As a Part-21J Design Organization, Lufthansa Technik ensures that all aviation authority requirements are met. Lufthansa Technik is authorized to approve designs for its customers, ensuring that a certified solution is created right from the start.

**High-tech production**

The Graphic Solutions team is able to provide every aircraft product imaginable based on foil technology – on the outside and in the cabin –, having several state-of-the-art printers, a laser cutting machine and a dedicated instrument capable of back printing available. The combination of state-of-the-art equipment and experience make Lufthansa Technik’s Graphics Solutions team the first choice when speed, flexibility and quality are needed.

The chosen design is printed on foil sheets with a width of up to 1.6 meters. The final step is the application of the foil to the aircraft – and with it one of the big bonuses of using foils. With a few exceptions, the foils can be applied to an aircraft during a single night shift – completely eliminating the ground times usually associated with aircraft painting. And as the removal of the foils is equally simple, livery changes become a job far more easier than a new paint job.

**Customer advantages**

- Certification and qualification (Part-21/J)
- Production according to EASA Part-21/G
- Lufthansa Technik quality standard
- Design development support
- High-tech foil printing shop
- Unlimited designs and colors
- Fast application
- Highly cost-efficient

Colors and signs for your aircraft

As an attractive alternative to painting, the application of foils to aircraft is increasing in popularity. Lufthansa Technik offers a complete range of services for aviation-certified foiling of almost every type of passenger or freighter aircraft.
Lufthansa Technik Landing Gear Services UK was the very first in the market to build capability and perform overhaul of the Boeing 777-300ER landing gear, the extended range Boeing 777 aircraft model. Already last August Lufthansa Technik Landing Gear Services UK celebrated the 25th complete landing gear overhaul for this aircraft type. It took the company just 15 months to double that figure. As part of this development, Lufthansa Technik Landing Gear Services UK acquired Civil Aviation Bureau of Japan (JCAB) approval in 2014 in order to support Japanese customers. As one of the highest quality recognitions in the industry, it allows the landing gear specialist in the Lufthansa Technik network to carry out the final inspection itself instead of an airline representative who would need to come over for inspection.

As the first in the market for 777-300ER landing gear overhaul, Lufthansa Technik Landing Gear Services UK went through a steep learning curve. The number above shows that a very stable overhaul process for this type of landing gears has been established in the meanwhile. Backed by the actual data from the overhauled shipsets, today the company is able to accurately predict the turnaround time (TAT).

New challenges

As the major structural parts of the 777-300ER landing gear differ from all predecessor versions, new part numbers were introduced for this Boeing 777 variant. These new parts brought major challenges to the overhaul process. For the first shipsets received for overhaul, a number of major components had to be scrapped due to unique defects, a phenomenon not found before during more than 200 overhauls of classic 777 landing gears. Sup-

Our customers expect to receive the most robust MRO solutions, maintaining the highest level of reliability and quality operations.

Sandra Eckstein

Lufthansa Technik Landing Gear Services UK has overhauled the 50th shipset of a Boeing 777-300ER landing gear. With the rapid build-up of capability and experience with the new type, the company has acquired a leading position in the world of 777 landing gear overhaul. This is underlined by a new contract signed by Air India.

Strong legs for the 777
ported by the outstanding relationship with the OEM, Lufthansa Technik Landing Gear Services UK helped to develop some major repairs, which are not part of the Component Maintenance Manual (CMM) of the 300ER type. The result: a significantly reduced scrapping rate and therefore lower costs for its customers.

A case in point are the main landing gear trunnion sleeves. The landing gear experts challenged the OEM to develop a repair solution to avoid scrapping costs of approximately 100,000 USD per part. After several months of negotiating, the OEM has developed a repair consisting of two oversized bearings, which became available in 2015.

Accurate analysis of scrapped material data is important to guarantee a smooth supply chain. After completing 50 shipsets of this aircraft type, Lufthansa Technik Landing Gear Services UK has a sufficient amount of technical data to provide accurate material forecast and knows exactly which components are the most likely to be scrapped. This allows reducing long lead times in the supply chain and providing accurate estimates of additional billing for the customers. “Our customers expect to receive the most robust MRO solutions, maintaining the highest level of reliability and quality operations,” says Sandra Eckstein, the Managing Director of Lufthansa Technik Landing Gear Services UK.

**Air India contract**

A new maintenance and repair agreement, signed in December 2016 by Lufthansa Technik and Air India, underlines the success of this approach. The four-year contract covers a total of 19 shipsets. Lufthansa Technik Landing Gear Services UK will overhaul five aircraft each year, starting 2017. “All of us here at Lufthansa Technik Landing Gear Services UK are honored to celebrate this important milestone in our operations and we are very proud to welcome and add Air India to our existing customer base, which currently includes major Boeing 777-300ER operators from Europe, Japan and the Middle East,” said Sandra Eckstein.

**Prepared for the future**

Lufthansa Technik Landing Gear Services UK forecasts a total market size for the next five years in excess of 350 shipsets. The successful experience on previous programs gives Lufthansa Technik Landing Gear Services UK a high level of confidence in their capability to support future demand and achieve performance criteria set by current and future customers.

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The proper function of an aircraft landing gear is an absolute must – after all, there is no built-in redundancy. When a call from Virgin Atlantic reached Lufthansa Technik, a demanding task was lying ahead. The Lufthansa Technik team performed the job with flying colors.

**WEDNESDAY, AUGUST 17**

**AOG call**

An urgent call from Virgin Atlantic Airways: The shock strut of the right-hand wing landing gear (RH WLG) of a Boeing 747-400, callsign G-VBIG, needs to be exchanged. Pressure is high. Looking for a suitable location, Lufthansa Technik evaluates the situation at its Frankfurt and Hamburg facilities to determine where it can perform the job as soon as possible.

**THURSDAY, AUGUST 18**

**Organizing AOG support**

A possibility has been identified in Hamburg starting Monday, August 22. The availability of special tooling is checked and preparations are ongoing. Virgin Atlantic asks for an early arrival to speed up the process and prepares to send two technicians to Hamburg to support the strut exchange. The aircraft is flown to Hamburg, but must be parked on the apron, since the bay in question is being used for work on a government aircraft.

**FRIDAY, AUGUST 19**

**Increasing pressure**

As G-VBIG is urgently needed to fill the flight plan of Virgin Atlantic Airways, pressure is increasing. The Lufthansa Technik team starts preparations for the planned workscope. To make room for the AOG work, the government aircraft is pulled out of the hangar and G-VBIG is hangared. With the help of mechanics who volunteer to work over the weekend, Saturday and Sunday are used to finalize all the preparations. During the Sunday night shift, G-VBIG is jacked up, ready for the job.

**MONDAY, AUGUST 22**

**Performance demonstration**

In the Jumbo Jet bay in Hamburg, work starts on the strut exchange. At the same time, a new idea to reduce the turnaround time surfaces: Virgin Atlantic suggests changing the workscope from a strut exchange to a complete WLG replacement, made possible by the availability of a spare strut actually intended for another aircraft. Monday afternoon the change is agreed upon, with the necessary work starting immediately. Lufthansa Technik provides a new work plan with the return of G-VBIG to Virgin Atlantic Airways flight status by Wednesday, August 24, 2016 at 2:30 p.m. in Hamburg. The task on hand is a challenge, but the Lufthansa Technik team proves its spirit, with engineers and technicians volunteering to work extra hours.

**WEDNESDAY, AUGUST 24**

**Successful completion**

At 2:00 p.m., G-VBIG is flight-ready, with the work completely done, all checks successfully completed and the necessary paperwork executed.

**MONDAY, AUGUST 29**

**Thank you**

Dierk Behncke from Lufthansa Technik Hamburg, the organizer responsible for the layover event, receives a letter via e-mail from Peter Hayward, Technical Operations Engineer, Virgin Atlantic Airways Ltd. Peter Hayward writes:

I would like to take this opportunity to thank you and all the Lufthansa Technik engineers for last week’s Virgin Atlantic input at the Lufthansa Technik Hamburg base for G-VBIG’s RH WLG replacement. When the work got started on Monday VAA made the operational decision to switch from an outer cylinder replacement to a full gear assembly swap. We could not have been more impressed with Lufthansa Technik in accommodating our new request. The expertise and willingness to help us with our AOG aircraft was quite exceptional, we always felt as if nothing was too much to ask and that you all had a can-do attitude. We fully appreciate the extra efforts for the engineers on the shop floor to swap their shift patterns around (start early and stay late) and make sure the aircraft was delivered back to us on Wednesday afternoon. Many thanks.

You are welcome, Peter.

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www.lufthansa-technik.com/aog
FM56-5C engine serial number ESN 740146 began its career on November 16, 1993, on one of the first Airbus A340 aircraft. The engine was first used in position 3 (inside right) on the Lufthansa A340-200 D-AIBF (“Bravo Foxtrot”, MSN 006), an aircraft that was later sold. Today the engine flies in position 1 (outer left) on the A340-300 D-AIGS (“Golf Sierra”) and is thus operated on flights around the globe. “The outstanding reliability of the CFM56 is once again demonstrated by this number of flight hours,” says Bernhard Krueger-Sprengel, Senior Vice President Engine Services at Lufthansa Technik. “We are very proud of the close and trusting cooperation developed over the decades with CFM International.”
Connection: When your own “baby” achieves such results, do you feel proud?
Florian Weinz: Naturally, this is not the achievement of just one person, but I am definitely proud of the entire team that has contributed to this success.

How does the recorded number of 100,000 flight hours rank on an international level?
The CFM56-5C and the entire CFM56 family were the first in the world to achieve this record with the ESN 740146, but we have meanwhile reached this benchmark with this engine type at Lufthansa with four additional engines. In essence, the lifetimes achieved with the CFM56-5C gave Lufthansa a head start over the competition years ago. We expect that this trend will continue and that the lifetimes keep developing positively.

Were or are there special features in relation to maintaining and overhauling the engine?
Lufthansa Technik pursued new approaches for the first time with this engine type in terms of an improved analysis of engine behavior, which allows more strategic maintenance and overhaul of the engine. This condition analytics not only resulted in extended engine lifetimes, these new approaches also allowed us to increase cost-effectiveness.

The approaches we applied for the first time to this engine type delivered such promising results that they have since been transferred to other engine types supported by Lufthansa Technik, and are also leading there to an improved understanding of engine behavior.

Was work also done on the engine in between overhauls?
The OEM stipulations generally provide for ongoing strict inspections of the aircraft and the engines during operation in order to ensure that airworthiness is maintained. In addition, Airworthiness Directives (ADs) specified by the authorities or modifications or inspections urgently recommended by the manufacturer can also be performed to an extent on wing. Unplanned on-wing work can, of course, also become necessary – for example engine checks using a boroscope following a bird strike. Any damage that has occurred can then be resolved on wing or may result in the engine being removed, depending on the findings. However, there has been no unplanned on-wing work in the history of this record-breaking engine.

Are there other engines under the responsibility of Lufthansa Technik that can boast the same lifetime?
Long lifetimes in relation to flight hours can be found naturally in the long-haul types. For example, the 100,000 flight-hour mark was likewise reached some time ago with the CF6 engine type. And the lifetimes achieved by customers supported by Lufthansa Technik with this engine type are also well above the average for the world fleet.

What can you say about the LEAP engine?
We are really looking forward to the LEAP – to the new technologies, but also the new challenges that this engine will bring. It will expand our know-how and demand new solution approaches for maintenance, repair and overhaul. We are already working on this and continuing to develop our expertise with the LEAP on a daily basis.

“Lifetimes significantly longer than the industry average”

Florian Weinz, Propulsion Systems Engineer CFM56-3/-5C/CFM LEAP, on the exceptional performance of Lufthansa Technik Engine Services in achieving lifetimes that far exceed the industry average.
A great milestone

Lufthansa Technik has been working closely together with CFM International since 1986, then as now with a pioneering spirit to make the product as reliable as possible. “We are very proud to be sharing this great milestone with Lufthansa,” said Jean-Paul Ebanga, president and CEO of CFM International. “This airline has historically been known for the technical excellence of its fleet, and its CFM56 engines continue to maintain world-class reliability. We believe we build the most reliable engines in the air, but we know that it is our customers who keep them flying. On behalf of the entire CFM team, I extend our warmest congratulations to everyone at Lufthansa.”

Longer time on wing

The engine was fully overhauled four times at Lufthansa Technik over the course of its career. Florian Weinz, Propulsion Systems Engineer with responsibility for this engine type, explains what is special about the overhaul at Lufthansa Technik:

“The lifetime of the ESN 740146 engine, that is to say, the flight hours between the individual overhaul events (First Run, SV1, SV2, etc.) has improved over time. The ‘first run’ recorded the shortest maturity at 8,500 hours. In contrast, the lifetime between the last two overhauls was more than three times that value.”

Expertise accumulated

Florian Weinz explains the secret behind this exceptional performance: “We have been able to collect valuable information at Lufthansa Technik on the behavior of the engine over the years we have spent maintaining and overhauling the CFM56-5C. That knowledge has meant that the engines we support have achieved significantly longer lifetimes between overhaul events in comparison with the world fleet.”

While this engine type’s technology is no longer state of the art, the extended lifetimes and smart planning of the maintenance and overhaul activities continue to ensure optimum cost efficiency. And the lessons learned in maintaining and overhauling this type form the basis for comparable programs with other engine types – to the benefit of all customers of Lufthansa Technik Engine Services.

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We are very proud of the close and trusting cooperation developed over the decades with CFM International.

Bernhard Krueger-Sprengel

The Airbus A340-300 “Golf Sierra” is one of the aircraft powered by the record engine.
"The journey is the reward"

Corporate Innovation Manager for cabin projects and site manager at the ZAL TechCenter – backed by his large network, Sven Taubert helps drive innovative projects forward at Lufthansa Technik.

get bored quickly when things stay the same," says Sven Taubert about himself. From a glance at his numerous tasks as a Corporate Innovation Manager at Lufthansa Technik in Hamburg, there is little chance of this happening at the moment, because as a project manager for "Cabin 4.0" and site manager for Lufthansa Technik at the Center of Applied Aeronautical Research (ZAL TechCenter), Taubert faces many challenges every day and has to deal with all sorts of different people. "I really enjoy not knowing what awaits me the next day," he says. "Research projects always involve twists and turns, and the journey is the reward."

His path into research

These words also describe Taubert's own career path. "My decision to go into aviation was initially a matter of common sense," he reflects. His other passion was and is art. He studied aerospace engineering in Stuttgart and spent nine months at the University of Tokyo. When he finished his degree in 2010, he found it difficult to decide on a professional career, but ultimately he opted for a project management office (PMO) position with Airbus. As part of his tasks there, he helped introduce a new, transnational research system. Soon he was leading a couple of research projects for the cabin area as project manager and commuting between Toulouse and Hamburg for this purpose.

But by 2014, he saw no further development opportunities for himself where he was. "My grand plan was to embark on a one-year world trip, but it ended up as just two months in Asia," he says. He had meanwhile received an offer from Lufthansa Technik to become a project manager in the newly established Corporate Innovation Management and Product Development division. "My division is amongst other things responsible for all innovation projects at Lufthansa Technik that cannot be assigned to a specific business division," explains Taubert. He and his colleagues report project progress directly to the Executive Board. Initially, he was responsible for the eTaxi project, in which Lufthansa Technik and its partners tested an electric motor for driving an aircraft on ground.

Digitalization in the cabin

Sven Taubert was also given the task of starting a LuFo call for the cabin area, for which funding was requested from the German Aviation Research Program (LuFo) of the German Federal Ministry of Economics and Energy. "That was a very exciting time. I was new to the company and had the job of identifying eligible projects to receive funding throughout the entire Lufthansa Group that could be implemented with partners such as Airbus," he says. When the decision was made in Lufthansa Technik's favor, the "Cabin 4.0" project was launched. It involves identifying and progressively developing the topics of future concern for the aircraft cabin across all divisions. "Digitalization is a major topic right now. Which data from the aircraft cabin can deliver a real benefit? What sorts of technical solutions are possible here?" In this context, Sven Taubert and his colleagues take into account the different perspectives of the mechanic, the crew and the passengers. "The technology has opened windows of opportunity. But we need to tread wisely and find out what actually makes sense."

When the ZAL TechCenter opened in Hamburg, Sven Taubert additionally took on the role of local site manager for Lufthansa Technik. "My role at the ZAL is a mix of partnership manager and caretaker," he notes with a wink. His first priority is networking and following up strategic topics with the other companies based at the ZAL. When events are held at the research center, he makes sure that the appropriate representative from Lufthansa Technik is available on site or takes on the role of representative himself. But he also ensures a pleasant working environment for the Lufthansa Technik employees, and plans the room layout down to the ordering of furniture and coffee. Because it is detached from everyday business, the ZAL offers the necessary calm for cross-division projects and the physical proximity to other companies in the aviation sector. "A building like the ZAL is unique in the world and promotes active collaboration."

A building like the ZAL is unique in the world and promotes active collaboration.
Sven Taubert

"The technology has opened windows of opportunity. But we need to tread wisely and find out what actually makes sense."
The Center of Applied Aeronautical Research is the technological research and development network of the civil aviation industry in the metropolitan region of Hamburg, Germany. It is the interface between science, industry and the city of Hamburg with the aim to continuously secure and expand the world’s third largest site of civil aviation. In close coordination with Hamburg Aviation, ZAL brings together the city’s technological skills at one central facility (ZAL TechCenter), thus creating synergies.

ZAL was established by nine partners. The shareholders are the Free and Hanseatic City of Hamburg, Airbus Operations GmbH, and Lufthansa Technik AG, each with a 20 percent stake; the Association for the Promotion of Applied Aeronautical Research, with an 18 percent stake; the German Aerospace Center (DLR), with a 10 percent stake; and four Hamburg Universities, each holding 3 percent.

See Sven Taubert in this ZAL video clip: www.lufthansa-technik.com/zal

ZAL – Center of Applied Aeronautical Research

Promotes active collaboration. I want us to come together even more often and ultimately develop better products for all those involved. 1+1 can add up to 3 in this regard, and not just 2.” As far as Taubert is concerned, research means questioning yourself repeatedly, maintaining objectivity and reflecting on your work – so as to create added value at the end of the day. And as the responsible program manager for the Lufthansa Group for research topics related to “All Electric Aircraft” and “Cabin & Cargo” and a permanent member of the SAE Electric Aircraft Steering Group, he also represents Lufthansa Technik at the highest level internationally. In keeping with his nature, he “still enjoys engineering activities from time to time” despite all of these tasks. For example, he only recently filed for a patent together with a student. 😊
Hydraulics contamination mystery solved

Hydraulic systems are an essential part of commercial aircraft for safe and comfortable flight. When unexpected contamination was found in the hydraulic fluid of certain aircraft types, a project was launched to understand the phenomenon and find a remedy. Lufthansa Technik’s Laboratory Services provided the answer.
All modern commercial aircraft are equipped with several hydraulic systems. According to handbook requirements, hydraulic fluid must be inspected on a routine basis. A sample is taken from each of the systems and tested for contamination. Particular attention is paid to what are called microparticles. They are an indicator of metallic abrasion, which can impair the performance of a hydraulic system or even damage components such as pumps or actuators. If an excessive number of particles is measured, the fluid of the hydraulic system in question must be replaced – a time-consuming and rather costly task.

Starting in 2014, Lufthansa Technik’s aircraft maintenance technicians found an increasing number of particles in hydraulic fluid samples. At the end of 2015, almost every customer aircraft of the Airbus A320 aircraft series had at least one system in which the particle limit was exceeded. Replacing the hydraulic fluid solved the problem only for a short time. Since the root cause of the contamination was not clear, Lufthansa Technik’s Laboratory Services division in Frankfurt, in collaboration with Frankfurt System Engineering and Innovation Management, launched an InnoBoost-project to investigate this issue.

**Joint research effort**

The project started in April 2016 with the aim of classifying the particles in the hydraulic fluid in order to gain an understanding of the causes of the excessive particle levels. Methods and maintenance approaches were then to be derived from these findings with the ultimate goal of reducing the need for hydraulic fluid replacements. At the same time, the sampling and measurement procedures were analyzed to determine potential for optimization. Mobile test devices from different manufacturers were tested and the results compared with the laboratory-based measurement process. A special hydraulic fluid sample kit, which avoids contamination of the samples, has already been in use since 2011. In the end, the test results provided decisive indications of the cause of the excessive particle numbers. The laboratory specialists managed to define the microparticles in question: For the most part, they are soft particles that are introduced into a hydraulic system when assembly grease is used, for example. They affect the particle counter instrument, with the result that more particles are counted than there actually are in the fluid – a classic measurement error.

**Improved measurement**

The measurement process was therefore altered using the combined know-how of Lufthansa Technik’s System Engineering and Materials Technology. As the soft particles are completely harmless from an engineering point of view, the measuring process now masks them in such a way that they are no longer registered and have no influence on the measurement result. It goes without saying that the new measurement process complies with all applicable norms and regulations. The result: A significant reduction in the number of measurements with excessive particle count – and a corresponding reduction in hydraulic fluid replacements.

The exact source of the soft microparticles is difficult to identify. Hydraulic systems are built from a large number of individual components, such as motors, valves, lines and actuators. In addition, the search is even more difficult given the many suppliers and workshops involved. Clarification is thus needed as to whether the use of assembly grease for hydraulic systems must be prohibited or an appropriate upper limit for such soft particles in hydraulic fluid needs to be established.

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On the pulse of time for 70 years

SAS Scandinavian Airlines is celebrating a special anniversary: Steeped in tradition, the innovative airline has been a firm fixture of the aviation industry in Europe since 1946. Today, SAS enjoys a long-standing partnership with Lufthansa Technik in many aspects of technical support.

It all began with a flight between Stockholm and New York and 28 passengers on board a DC-4. This was September 17, 1946, when the “Dan Viking” took off on its maiden flight for the newly founded SAS, with stopovers in Copenhagen in Denmark, Prestwick in Scotland and Gander in Newfoundland. This transatlantic flight laid the foundation for the tradition-steeped airline. SAS Scandinavian Airlines has celebrated its 70th birthday in 2016 and the three hubs of Copenhagen Kastrup, Stockholm Arlanda and Oslo Gardermoen still remember the early days. The consortium of three Scandinavian Airlines was formed originally from Svensk Interkontinental Lufttrafik, Det Norske Luftfartselskap and Det Danske Luftfartselskab to merge the transatlantic operations of Sweden, Norway and Denmark. Initially servicing North and South America, a round-the-world-service was added just a few years later. When the airline reflects now on its early days, it is with great pride in this outside-the-box thinking. What followed in the intervening decades was also innovative and pioneering in the aviation industry.

In October, SAS has taken delivery of its first of 30 A320neo aircraft ordered. Configured in a comfortable single class layout with 174 seats, the aircraft is powered by CFM International LEAP-1A engines.
In 1954, SAS (Scandinavian Airlines System) became the world’s first airline to fly the Copenhagen to California polar route (destination: Los Angeles); this was followed three years later by flight operations to Tokyo, Japan, passing over the North Pole with a stopover in Anchorage, Alaska. The Scandinavians were forerunners in the use of green technology in the aviation sector and it was in a SAS cockpit that the first female commercial pilot sat. Not to forget the first aviation alliance. SAS was one of the five founding members of the Star Alliance in 1997.

**IT integration for data exchange**

The airline enjoys a long-standing partnership with Lufthansa Technik. This included a partnership with the SAS component shop, from which Lufthansa Technik originally purchased services itself. Later SAS sourced out services to third parties including Lufthansa Technik. Among the contracts in place between the two partners at present, for example, is the component supply contract, which Lufthansa Technik has taken on for the entire SAS fleet. Lufthansa Technik supplies spare parts under this contract to the airline’s Scandinavian hubs. Moreover, IT integration allows electronic exchange of job and process data between the two partners – a procedure that supports productivity increases on both sides.

In addition to the 24/7 AOG Material Desk, Lufthansa Technik provides dedicated customer service for SAS. Employees from Lufthansa Technik are on the ground in Copenhagen, Stockholm and Oslo and are also in close contact with SAS.

**Lufthansa Technik is also responsible for**
 **base maintenance and maintenance of composites structures (Airframe Related Components, ARC*)** for a majority of the fleet – at present 135 aircraft, including 12 Bombardier CRJ, 28 Airbus A320 family aircraft (the first three of the 30 A320neo ordered were added in 2016), 79 Boeing 737, eight Airbus A330 and eight Airbus A340. Added to this is landing gear overhaul for the Airbus A320 and A330/A340 types. This is all possible thanks to Lufthansa Technik’s international MRO network of 30 locations around the globe.

One thing is certain: There is great trust between the partners, with the SAS fleet relying on the high-quality work of the MRO experts at Lufthansa Technik. Perhaps it is the geographical proximity of Scandinavia and Germany or perhaps it is the fact that both SAS and Lufthansa Technik are aviation companies that are steeped in tradition and that are definitely on the same wavelength in terms of their cooperation when it comes to finding and implementing solutions.
Lufthansa has played an active role on the African continent for some time now with a number of long-standing customers such as Air Namibia, Arik Air, Egypt Air, Ethiopian Airlines, Kenya Airways, Tunis Air and South African Airways. This commitment is now being further strengthened with the new contracts with Ethiopian Airlines and RwandAir – both good examples for the flexible solutions from Lufthansa Technik for its African customers.

A dynamic aviation market

China, the U.S. and all of Europe would comfortably fit in the geographic area covered by Africa – a vastness that is often underestimated. “Africa is the second most populated continent on earth after Asia with an estimated population of 1.2 billion people spanning 54 countries,” says Richard Haas, Director Corporate Sales Middle East & Africa for Lufthansa Technik. Some 260 airlines are operating on this continent at present and are expected to have more than 2,000 aircraft in operation by the year 2025.

A five percent fleet growth rate is estimated for the aviation market in Africa. “This is almost as fast as the expected fleet growth rates for the Middle East and Asia Pacific regions, but naturally at a lower level,” says Richard Haas. The aircraft currently operated in Africa are often no longer the youngest or the most modern. “A major revitalization is set to take place that will add significant impetus to the market.” Moreover, the transport infrastructure is in part very poor and the distances very vast. “This virtually cries out for more flight connections,” says Richard Haas. “The development of air traffic in Africa in general offers enormous potential for MRO providers such as Lufthansa Technik.”

Lufthansa Technik has all the technical solutions and appropriate partnerships in place to meet the different needs of the airlines on the continent – as the recently concluded agreements with Ethiopian Airlines and RwandAir clearly demonstrate.

The African aviation market is changing dynamically. Lufthansa Technik has all the technical solutions and appropriate partnerships in place to meet the different needs of the airlines on the continent – as the recently concluded agreements with Ethiopian Airlines and RwandAir clearly demonstrate.

Three questions to Richard Haas, Director Corporate Sales Middle East & Africa.

What is the significance of the African aviation market for Lufthansa Technik?

Richard Haas: The African continent with its dynamic aviation market is a very important emerging opportunity for us. Air traffic will continue to develop strongly owing to the growth, the special topography and the lack of transport infrastructure in many regions. We would like to support the African airlines in their growth with our varied and tailored services.

Why do African airlines opt for technical support from Lufthansa Technik?

Lufthansa Technik has a good reputation for being a reliable partner. We are ready to accompany our customers along paths that will deliver benefits for them – and this is also the case for small airlines. We focus especially here on customer requirements and are very flexible despite the size of Lufthansa Technik.

What special services can Lufthansa Technik offer to support African airlines?

We offer more than pure technical services. For example, we provide start-up support for small airlines in rolling out new types in their fleets. Depending on requirements, we support the setting up of facilities on site, provide qualified staff and offer training. Moreover, there will be major fleet upgrades in Africa in the coming years, since some of the current aircraft are getting on in years. We are very familiar with the latest aircraft generations and can offer the best solution for every operator in this respect.

Committed to a dynamic continent

RwandAir uses manage/m®

For its new fleet of Airbus A330 aircraft, RwandAir has contracted Lufthansa Technik’s Total Technical Support (TTS®), with the associated engineering services also comprising the use of the Technical Operations WebSuite manage/m®. The maintenance management system enables the airline to live up to its responsibilities towards the aviation authorities. Initial customer support and phase-in commenced last year in Kigali, Rwanda. The manage/m® team is looking forward to support the new customer in Africa.

“Flexible services”
It is therefore very important to consider the special characteristics of the continent and its airlines. The examples of the two recently concluded contracts show how different the solutions can be.

**Working together in partnership**

The close and long-standing cooperation with Ethiopian Airlines is one example of this. The services of Lufthansa Technik for Ethiopian Airlines include an extensive Total Component Support (TCS®) for the carrier’s Boeing 787 fleet as well as material support for its Bombardier Q400 regional aircraft fleet. Now, Ethiopian Airlines has contracted Lufthansa Technik to also provide comprehensive component support for the airline’s A350 fleet. The TCS® agreement will run for a period of ten years and includes 14 aircraft. The contract covers component maintenance, repair and overhaul as well as access to a pool of spares.

Mesfin Tasew, COO of Ethiopian Airlines, commented: “We are delighted that we were able to extend our business with Lufthansa Technik to include our newest A350 fleet. Our partnership with Lufthansa Technik, which dates back to the 1990s, will thus continue successfully into the future. We are convinced that we will receive the same professional and reliable support for our brand-new fleet.”

“Of all the airlines in Africa, Ethiopian Airlines plays a special role,” says Richard Haas. “They have a clear vision for strong growth on several business pillars. They are also the only airline on the continent to date to have the A350 and Boeing 787 in their fleet. And MRO services are a key component of their growth strategy.” Ethiopian Airlines now flies to 60 destinations on the continent and has established a very strong position for itself.

**Support for new aircraft types**

Another example is RwandAir, which recently contracted Lufthansa Technik to provide technical support for its new Airbus widebody aircraft. In the framework of a Total Technical Support (TTS®) contract, Lufthansa Technik will perform aircraft maintenance services, engineering support and ensure reliable component supply.

The agreement extends well beyond pure support for two A330s. Because the long-haul aircraft are the first of this type for the airline, Lufthansa Technik is providing start-up support for operations, which in addition to component supply and engineering also includes training, the establishment of an operating facility and employees of Lufthansa Technik at the customer’s base. “Such services are a good model for how we can no doubt also support many other airlines in Africa in rolling out new aircraft types in their fleets,” says Richard Haas.

While the agreements with RwandAir and Ethiopian Airways illustrate very different services and service models, both clearly show how Lufthansa Technik can provide partnership support for airlines in Africa in their day-to-day operations.
“Out, Off, On, In”

The process of transmitting aircraft counter readings is still performed manually by some customers of Lufthansa Technik. Now, a new MRO IT development will allow counter readings to be calculated on the basis of OOOI messages from the ACARS system.

Regular transmission of aircraft counter readings to Lufthansa Technik is a prerequisite for the maintenance programs of customers. In the past, manual processes were used to an extent by Lufthansa Technik customers to transmit counter readings, for example via the manage/m® application m/airborne, which records this data. This type of data input not only constitutes a potential source of error, rather the irregular input or verification of counter readings does not guarantee that the data is always up to date.

The transmission of aircraft movements (legs) to Lufthansa Technik and the automatic calculation of counter readings on the basis of the OOOI data is now possible using a relatively simple extension to the ACARS (Aircraft Communications Addressing and Reporting System) functionality. The ACARS system detects events in the on-board systems and sends the OOOI messages to the relevant system automatically – no manual efforts needed. Apart from the added convenience, the fully automatic transfer also ensures significantly enhanced data quality.

Lufthansa Technik has now implemented this process for a launching customer (Air Namibia). The effort required to fulfill the necessary technical conditions is very manageable: Apart from minor modifications of the ACARS software on board the aircraft, all that is needed is an agreement with the customer’s preferred communications provider, ARINC or SITA. This way the data packets sent from the aircraft are passed on to a Lufthansa Technik Telex address. This also means that the costs are kept within reasonable limits.

Instead of transmitting counter readings manually, the customer simply has to confirm the completeness of the transmitted data, for example at monthly intervals. The system also detects missing data itself and reports this to the customer. Since the automatic transfer generally only involves a delay of around 15 minutes, the new system ensures that all data is of high quality and up to date. In addition to this new function, the project team also concentrated on the creation of a new graphical interface (GUI) within the m/airborne application, which ensures an easier, more efficient use of the module. All customers who to some extent currently transmit counter readings manually will find these new functions extremely useful. The automation of this process means that noticeably less effort is required to provide the necessary counter readings.

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What is OOOI?

// A major function of ACARS is to automatically detect and report the start of each major flight phase, called OOOI events in the industry (Out of the gate, Off the ground, On the ground, and In parking position). These OOOI events are detected using input from aircraft sensors mounted on doors, parking brakes, and struts. At the start of each flight phase, an ACARS message is transmitted containing the flight phase, the time stamp and other related information. These messages are used to track the status of aircraft and crews. //
Working together as a team

Teamwork was the order of the day during the celebrations to mark the 15th anniversary of **Lufthansa Technik’s partnership with Air Europa** – and not just when it came to reflecting on recent years and reviewing the current 787 contract.

“Relocation full of trust and confidence” – this was the motto for the celebrations to mark the 15-year cooperation between Air Europa and Lufthansa Technik in October 2016. The Spanish airline inked its first contract with Lufthansa Technik on September 21, 2001, to overhaul its CF6-80 engines. That contract ran to 2012. Numerous other contracts then followed. Besides a far-reaching Total Component Support (TCS®) agreement for Air Europa’s Boeing 787 fleet these include the landing gear exchange and overhaul for several of the airline’s other fleets – i.e. the A330, Boeing 737 and Embraer 195.

Alberto Linés, Technical Director of Air Europa, said: “Through these 15 years Air Europa and Lufthansa Technik have progressively increased the level of cooperation. Not only the formal agreements, but also many other services, working parties, assistances and minor subjects – all raised in daily operations – have contributed to strengthen the relationship and our mutual confidence.”

“Following the initial engine contracts, the Boeing 787 component contract concluded in 2015 is one of the most important connections between our two companies,” stresses Markus Salzig, Sales Executive EUMEA for Lufthansa Technik. An intensive review of the current Boeing 787 contract was therefore carried out as part of the celebratory events in addition to a historical look back at the contracts over the past years.

The special collaborative partnership between the two companies was also evident from the subsequent joint sailing expedition on the Mediterranean Sea in front of Mallorca’s coast, where the importance of teamwork was clearly demonstrated. The day ended with a shared dinner. March 2017 will see the beginning of the next round of the collaboration with two lease return checks for Air Europa A330 aircraft at Lufthansa Technik Malta.

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- manage/m®
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Please follow this link for the complete MRO service portfolio and more details about Lufthansa Technik’s solutions for fleets of any size.
www.lufthansa-technik.com/services
**Boeing**

- **737 CL/NG**
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- **747**
- **757**
- **767**
- **777**
- **777X**
- **787**
- **MD-11**

**Regionals**

- **Bombardier Q400**
- **Bombardier CRJ**
- **Embraer**

**Business Jets**

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- **Bombardier CRJ**
- **Embraer**

**Products and services**

- **Boeing 737 CL/NG** Line Maintenance, Base Maintenance, Component Services, Engine Services: CFM56-7B, Completion
- **Boeing 737 MAX** Component Services, Further services in preparation
- **Boeing 747** Line Maintenance, Base Maintenance, Component Services, Engine Services: JT9D, PW4000, CF6-80C2, Completion
- **Boeing 757** Line Maintenance, Base Maintenance, Component Services, Engine Services: RB211-535, Completion
- **Boeing 767** Line Maintenance, Base Maintenance, Component Services, Engine Services: PW4000-94, CF6-80C2, Completion
- **Boeing 777** Line Maintenance, Base Maintenance, Component Services, Completion
- **Boeing 777X** in preparation
- **Boeing 787** Line Maintenance, Component Services, Engine Services, Completion
- **MD-11** Line Maintenance, Base Maintenance, Component Services, Engine Services: CF6-80C2, PW4000-94
- **Bombardier Q400** Line Maintenance, Base Maintenance, Component Services, Engine Services: PW100, PW150
- **Bombardier CRJ** Line Maintenance, Base Maintenance, Component Services, Engine Services: GE CF34
- **Embraer** Line Maintenance, Base Maintenance, Component Services, Engine Services: GE CF34
- **ACJ** Line Maintenance, Base Maintenance, Component Services, Engine Services: CFM56, V2500-A5, Completion
- **BBJ** Line Maintenance, Base Maintenance, Component Services, Engine Services: CFM56-7B, Completion
- **Bombardier** Challenger, Learjet, Global Express, Line Maintenance, Base Maintenance, Component Services, Engine Services: CF34
- **Embraer** Legacy, Lineage, Line Maintenance, Base Maintenance, Component Services, Engine Services: CF34
Let’s talk about solutions

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