Flying into tomorrow

25 years ago, Lufthansa Technik took off as an independent MRO company.

Lufthansa Technical Training
Quality based on experience
25 years of passion for people, a unique portfolio and state-of-the-art technologies

VIP & Special Mission Aircraft
Pushing the boundaries
Unconventional concepts take interior design to the highest possible level.

Component Services
“Fulfilment is everything”
Interview with Dr. Georg Fanta, Vice President Component Services
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25 years of excellence
Always in pursuit of excellence, Lufthansa Technik shaped the industry like no other MRO provider.

“A passion for people”
Rubin Siddique describes the driving force behind the commitment of Lufthansa Technical Training.

“We are pushing the boundaries of the possible”
Wieland Timm explains how Lufthansa Technik’s unconventional concepts take interior design to the highest level.

“Fulfilment is everything”
Dr. Georg Fanta highlights how Lufthansa Technik is further improving the material supply for its customers.
Flying into tomorrow

25 years ago, the foundation was laid for a unique success story. From the beginning Lufthansa Technik set out to become the industry’s most acknowledged independent maintenance, repair and overhaul provider.

The timing was perfect. Lufthansa Technik took off into the sky of the MRO world in January 1995, at a time when deregulation changed the world of aviation and many airlines decided to outsource the technical support for their fleets to external partners. Actively shaping the market and continuously growing closer to its customers, the company has been flying into tomorrow ever since.

There never was a standstill. Lufthansa Technik went on a path of global expansion, resulting in a powerful network currently comprising more than 35 subsidiaries and joint ventures in all regions. Lufthansa Technik celebrates its 25th anniversary as an established MRO partner to more than 850 customers all over the globe, supporting a fleet of more than 5,000 aircraft.

Drawing from the visionary focus of its management team and the commitment of its meanwhile 25,000 staff worldwide, Lufthansa Technik has never followed the beaten track. Instead, new trends in the MRO business were pursued, leading to new offerings unmatched by the competition and setting the benchmark for the industry. In line with this strategy, Lufthansa Technik created the product division Digital Fleet Solutions, responsible for the digitalization of existing business processes and the development of new, fully digital products. The Digital Operations Suite AVIATAR provides the basis for a truly predictive and proactive maintenance – the key to keeping Lufthansa Technik fit for the future.
**SAS renews and expands long-term contract**

TCS® // SAS Scandinavian Airlines has prematurely extended its existing component support contract with Lufthansa Technik and added further services. Under the new agreement running until December 2026, Lufthansa Technik will provide an integrated Total Component Support (TCS®) for the airline’s entire Boeing and Airbus fleet, including the carrier’s new A350s. In addition, Lufthansa Technik will provide Airframe Related Components (ARC®) services for the Boeing and Airbus fleets including LEAP-1A nacelle support.

“We are pleased to further expand our already close partnership with Lufthansa Technik and to include also the new Airbus A350,” says Marc Weber, Vice President SAS Technical Operations. “Based on our excellent and trusted relations, I believe that early extending and enlarging this successful cooperation will allow us to benefit even more from Lufthansa Technik’s technical expertise, competence and capabilities. Especially in view of the extensive renewal of our fleet, we continue to fully trust in this support.”

Under the contract, Lufthansa Technik supplies spare parts to the airline’s Scandinavian hubs. The contract expansion also covers nacelle support for the SAS fleet’s A320neo aircraft powered by LEAP-1A engines. Additionally, the agreement entails A350 wheels and brakes services.

**A320neo nacelle MRO license agreement**

Composites repairs // Collins Aerospace Systems and Lufthansa Technik announced a licensing agreement for nacelle MRO services on A320neo aircraft. Collins Aerospace, the original equipment manufacturer for the A320neo PW1100G nacelle, has more than 1,100 nacelles in service on this aircraft platform.

The agreement, which continues the collaboration between Collins Aerospace and Lufthansa Technik, calls for Collins Aerospace to provide Lufthansa Technik with technical and repair process information, access to OEM tooling and rotatable asset pools to support a full suite of A320neo nacelle MRO services. Building upon Collins Aerospace’s eight strategically located nacelle MRO facilities, the agreement now opens A320neo operators to Lufthansa Technik’s expansive MRO network around the world. “As a result of this agreement, A320neo operators now have access to multiple high-quality repair center locations for nacelle MRO services,” said Marc Duvall, president of Aerostructures at Collins Aerospace. “The collaborative relationship between Lufthansa Technik and Collins Aerospace, which also includes the 787 and A350XWB nacelles, ensures a high standard of quality while meeting the demands of airlines with full confidence.”

**Comprehensive services for Vistara’s 787 fleet**

Component support // TATA SIA Airlines Limited (Vistara) and Lufthansa Technik have signed a twelve-year component support agreement for the Boeing 787 fleet to be operated by Vistara. The Indian carrier has six firm orders and four options for this aircraft type. The agreement covers a wide range of aircraft components for the Boeing 787. Service provision has started in the first quarter of 2020.

Sisira Kanta Dash, Senior Vice President Engineering, Vistara said: “We are very pleased to partner with Lufthansa Technik to provide component support for our new 787 fleet. We have been working with Lufthansa Technik for the past three years on various projects and are looking forward to further deepening this successful cooperation. We are confident that Lufthansa Technik, with its extensive technical capabilities, fast response times and dedicated support, will optimally contribute to our 787 operations.”

Lufthansa Technik already supports the Indian airline with single component services, ad hoc composites repairs (Airframe Related Components, ARC®), consumables supply and AOG (Aircraft on Ground) support for the carrier’s Airbus A320 and Boeing 737 fleets. The new contract also contributes to consolidating Lufthansa Technik’s role as market leader for 787 component services in Asia Pacific.
EME Aero receives EASA certification

Engine Services // EME Aero (Engine Maintenance Europe), a 50/50 joint venture between Lufthansa Technik and MTU Aero Engines, has obtained EASA Part 145 certification as a maintenance organization. The EASA certification is a prerequisite for EME Aero to start operations and work for customers around the world. The completion of the site and the official opening of the company is planned for spring 2020. The company will initially perform shop visits for the Pratt & Whitney PW1100G-JM GTF engine model. In the following years, the PW1500G and PW1900G models will be added to the company’s portfolio. EME Aero was founded less than two years ago. Since then, the company has completed a number of milestones in the course of building one of the largest and most advanced MRO service centers for Pratt & Whitney GTF engines worldwide. Together the shareholders have invested nearly 150 million euro. The shop, which is based on an efficient flow line principle, is designed for an annual capacity of up to 450 shop visits. The EME Aero workforce will also gradually grow as the numbers of in-service GTF engines increase. By 2026, EME is expected to have a workforce of around 1,000 employees. //

Premiere for 5G networks

Innovation // Lufthansa Technik is one of the first companies in Germany to use its own private wireless networks based on the latest standard 5G. In February, the first 5G private wireless networks have been put into operation for two innovation projects in the field of VIP completion and engine overhaul at Lufthansa Technik’s Hamburg base. The company is thus the first outside Asia Pacific to operate a fully-fledged standalone 5G network based on the new standard (3GPP Release 16) in an industrial environment. This enables higher security and a completely free configuration, which allows the company’s own 5G networks to be adapted exactly to the requirements of the respective evaluation projects, for example in the ratio of upload and download bandwidth. //

Most outstanding performer

Award // Lufthansa Technik has been voted “MRO of the year”, based on an industry survey conducted among the readers of Airline Economics magazine. At the awards ceremony, which took place at a gala dinner held during the Airline Economics Growth Frontiers Dublin 2020 conference, Patrick Metz, Senior Sales Executive of Lufthansa Technik, accepted the award from Joe O’Mara, Head of Aviation of KPMG Ireland.

First Trent XWB overhaul

N3 Engine Overhaul Services // With the delivery of the first overhauled Trent XWB, N3 is adding a fourth engine type to its support portfolio – namely the most state-of-the-art Rolls-Royce engine currently in use. So far, the joint venture of Rolls-Royce and Lufthansa Technik has serviced the Rolls-Royce engines Trent 500, Trent 700 and Trent 900, powering the Airbus models A340, A330 and A380 respectively. N3’s future production program now also includes the most important engine type, the A350 engine Trent XWB. The company currently looks after the repair and overhaul needs of more than 50 national and international customers. What’s more, the N3 team not only repairs and overhauls Trent XWB engines. Following the launch of the new engine, N3 was the first and only company in Europe contracted by Rolls-Royce to carry out repairs both to the blisk components at the core of the Trent XWB’s high pressure compressor and to engine pylon components. The Arnstadt, Germany-based company also plays an important role in the production of this engine type: For quite some time now, new manufactured Trent XWB turbofans have been tested in N3’s state-of-the-art engine testing facility. //
25 years of excellence

25 years ago, Lufthansa Technik took off as an independent maintenance, repair and overhaul provider who shaped the industry like no other company. The pursuit of excellence is a recurrent theme throughout the years and forms the basis for a unique success story.

01.1995
With just over 10,000 employees, Lufthansa Technik starts operations as an independent MRO provider. One third of the business is already done with external customers, a figure that will continuously increase during the following years.

03.1999
Lufthansa Technik delivers four Airbus A310-300 airliners to the German Air Force after converting them into Multi Role Transport (MRT) aircraft. The widebody aircraft can operate as a freighter, a troop transport or a patient transport aircraft.

06.2003
Lufthansa Technik presents another innovative first by obtaining certification for Wireless LAN on board commercial aircraft. This provides passengers with an entirely new degree of freedom in making the best use of their personal digital devices on board.

08.1998
For the first time, a Lufthansa Technik Airline Support Team (AST®) travels on short notice to a customer to repair an engine on-site. The success of this idea leads to a wide range of on-site support services.

02.2002
Lufthansa Technik becomes an environmentally friendlier neighbor by opening the world’s largest and most advanced noise protection hangar at the Hamburg base. Accommodating aircraft up to the size of the Boeing 747, the facility protects employees and the airport’s surroundings from the noise of engine run-ups.

05.2006
German Chancellor Angela Merkel lays the foundation stone for N3 Engine Overhaul Services in Anstadt, Germany. The joint venture between Lufthansa Technik and Rolls-Royce specializes in the overhaul of Rolls-Royce Trent-family engines.
03.2008
One of the largest hangars in the world, Ameco’s A380 maintenance hangar in Beijing, enters operation. With a length of 350 meters and a width of 110 meters, the building provides space for four A380s at the same time.

03.2009
The research and development center of the Original Equipment Innovation division at the Hamburg base is inaugurated. Initially focused on cabin innovations, its offices are complemented by development, test and production facilities as well as a logistics department.

05.2010
Lufthansa takes delivery of the first Airbus A380. Substantial preparation work by Lufthansa Technik experts preceded the introduction of the new aircraft type.

11.2014
A top address for special mission aircraft, Lufthansa Technik delivers the evacuation jet “Robert Koch” to the German government. Featuring advanced medical technology, the A340 allows to safely evacuate infected or sick patients from crisis zones.

01.2015
Lufthansa Technik celebrates its 20th year as independent company. The dynamic growth continues with more than 3,700 commercial aircraft from 800 customers around the globe under contract. The footprint in the Americas grows as Lufthansa Technik Puerto Rico starts overhaul services for A320-family aircraft.

04.2017
The new division Digital Fleet Solutions launches the Digital Operations Suite AVIATAR. Airlines benefit from Lufthansa Technik’s unique combination of airline operation expertise, data science and engineering knowledge, optimizing the operation of their fleets.

09.2019
XEOS, the aircraft engine service center for General Electric GEnx-2B and GE9X engines, becomes operational. The joint venture of Lufthansa Technik and GE Aviation located near the city of Wroclaw in Poland is on course to service more than 200 engines per year.
“Quality based on experience”

With a passion for people, a unique service portfolio and state-of-the-art technology, Lufthansa Technical Training is a world-leading independent training provider for the MRO and airline industry. This year, the company celebrates its 25th anniversary.

“...” — Managing Director Rubin Siddique summarizes the ingredients of Lufthansa Technical Training’s success (see interview on page right). Lufthansa Technical Training was spun off in 1995 as a subsidiary of Lufthansa Technik parallel to its founding. Today, the company is a leading provider for personnel training in the MRO and aviation industry.

The highlights of the last year alone give testament to the wide range and quality of education and training and the experience the company has in this area. It is no coincidence their central customer promise is “Quality based on experience”.

• **The partner of Lufthansa Technik**: Lufthansa Technical Training, the central partner for Lufthansa Technik’s vocational training, is firmly rooted in the DNA of its parent company.

• **Airbus A220 training**: As a worldwide strategic training partner of Airbus for the A220, Lufthansa Technical Training conducted 74 entitlement trainings in 2019 for airlines such as Egypt Air, Air Canada and Air Tanzania. Within the Lufthansa Group, 20 training courses were held for SWISS.

www.ltt.aero
Rubin Siddique, the Managing Director of Lufthansa Technical Training, describes how his dedicated employees act as the driving force behind the company’s commitment to providing the best training possible.

Lufthansa Technical Training is currently celebrating its 25th anniversary. How would you describe the company today?

Rubin Siddique: In the market for technical training, we cover one of the broadest ranges of subjects that you will find – from classical vocational training to basic training and type training – and we provide it for just about every aircraft type that is used today in commercial aviation around the world. We turn “pedestrians”, as I often jokingly describe them, into qualified technicians. This job is performed by about 250 employees around the world, including approximately 140 instructors in Germany. We also work with a significant number of freelancers who help us meet the training needs of our customers.

Our company is shaped by these highly motivated and passionate people who share a strong commitment to the company and its values. As a pure service provider, we depend completely on our employees. Without their commitment, our business model would be worthless. We are a very close community filled with enthusiasm, a zeal that you also see at our global service centers and joint ventures. Our passion for training links people – a bond that connects us as a company to our customers and our employees to our company. Everyone who works at the company knows just how important our work is for our customers. Our parent company Lufthansa Technik relies heavily on our training capabilities in order to generate growth. We take this trust and responsibility very seriously, just as we do for our other customers – i.e. the technical departments of all Lufthansa Group airlines, our global airline and MRO customers and almost all aircraft manufacturers.

Looking back, how has your company overcome the challenges of a competitive market?

We were spun off 25 years ago as a subsidiary of Lufthansa Technik. But we are more than just a subsidiary. We are an independent company that has to earn its keep in the free marketplace. We also have no guaranteed place within Lufthansa and the Lufthansa Technik Group, and we have to take on the competition. In retrospect, I can say that we as a company have gone through some painful, but necessary restructuring processes in the past. For instance, we had to reexamine our business approach a few years ago. In the process, we conducted a careful analysis that showed us which products were marketable and competitive. We found out that the administrative effort for the training of individual participants, for example, was unreasonably high. As a result, we decided to withdraw from the business-to-client segment, that is, B2C, and began to concentrate completely on B2B.

Modern teaching techniques have always been one of the company’s calling cards. What role is digitalization playing in technical training today and what role will it play in the future?

We have really pressed ahead with the issue of digitalization over the past two years. We have intensified our use of modern media and new technologies, particularly in vocational training. Every trainee has an iPad and should use it to actively perform classwork. In one aspect of this approach, we have placed Jet Aircraft Maintenance Fundamentals (JAMF) online as an interactive self-taught program. This covers more than 400 hours of contact time. In areas where classrooms and paper documentation were once needed, students will be able to learn whenever and wherever they want in the future.
We are currently using interactive 3D solutions in vocational training as well. In these courses, the instructor can take the trainees to the training-relevant places on the airplane. We have also developed our first real virtual reality tool prototypes which will eventually be used in training as well. I would dare to say that we are on the forefront in this area and have addressed it to a degree that no one else has – and we have done so with a consistent, uniform look and feel of the entire content. What is slowing us down somewhat right now is the EASA approval to use certain technologies in certified training courses. But we are in dialogue with government officials through our industry forum EAMTC (European Aviation Maintenance Training Committee) as we work to establish state-of-the-art learning technologies in technical training.

From your perspective as a training provider, what do you think about the global shortage of skilled workers?
The situation is indeed very difficult. In its last Global Market Forecast 2019-2038, Airbus anticipates a need for 640,000 additional maintenance technicians. To grasp the real importance of this figure, you have to understand that it takes significantly longer for a technician to become fully trained and certified to release an aircraft to service than it does for a pilot to be prepared for his or her first flight as a co-pilot in the cockpit. As a training organization we face a shortage of trained personnel and qualified instructors throughout the market. Just like our competitors, we are searching for new instructors who not only have all certifications as technicians but who also are capable of sharing and teaching the didactically challenging subject of aircraft maintenance. I am talking about skilled employees who have at least eight to ten years of professional experience as well as all necessary qualifications – from the Aircraft Maintenance License to the B1 or B2 license. The unfortunate result of this shortage is that we cannot expand our capacities as easily as we would like and cannot fulfill every request.

Which instruments has Lufthansa Technical Training developed to address the shortage of technical personnel?
Among other things, we successfully launched a pilot project at the end of 2019 that we will use to expand the company’s value chain. In its simplest terms, training usually works this way: An airline or an MRO company will send its employees to us. We train them, and they return to their company. In Lisbon, we have launched a new form of training that involves 16 young people whom we as Lufthansa Technical Training selected ourselves. We are now working with local partners to train them to become aircraft maintenance technicians in an EASA Part-66 CAT A program. This program includes not only the legally required modules, but also Lufthansa-specific knowledge to facilitate rapid placement in MRO companies.

Bringing the aircraft into the classroom

For more and more aircraft types, Lufthansa Technical Training applies its own media concept. The primary objective is to strengthen the competence and skills of the trainees already in the classroom by using didactics as realistic as possible. The concept comprises the use of:
+ Interactive instructor presentations (use of multimedia-based elements)
+ Maintenance training devices such as virtual aircraft
+ System schematics and abbreviation handbooks
+ Spheric and panoramic views of aircraft
+ Cockpit panel descriptions

After completing the training program, the trainees will be in a position to apply as aircraft maintenance technicians – ideally at the companies of the Lufthansa Group or the Lufthansa Technik Group. More than 80,000 interactions with our online job ad on Facebook are a clear reflection of the extraordinarily high interest in this opportunity offered by Lufthansa Technical Training – particularly because we pre-finance the training costs much like for pilot training. Based on our experience in this pilot project, we plan to launch the next course in the summer of this year. We will then add a new seven-month course every three months. We are also thinking in very concrete terms about starting a similar program in Greece with a well-known partner. We are still a very successful provider of vocational and continuing training to the employees of our parent group. We are also an important training provider for other subsidiaries, including Lufthansa Technik’s engine services joint ventures XEOS and EME Aero in Poland. Our training program in Manila for Lufthansa Technik Philippines is another success story. We train about 460 technicians there each year, with the same approach and the same aim: to provide people with the training they need to work on aircraft as qualified aircraft maintenance technicians.

What is your current and future aspiration regarding technician qualifications?
In terms of the quality of training, we are very aware of our responsibility related to aviation law and are very strict about it. This will always be the case. Flight safety is relevant for the entire company. I would not think twice about flying a plane that had been maintained and approved by someone whom we had certified. You have to have this commitment.

With our slogan “Quality based on experience,” we have set a standard in vocational and continuing training in the MRO industry, and we feel obligated to carry it out. As a family member of Lufthansa Technik, which is, after all, the world’s leading MRO provider, we draw on the experience, knowledge and skill in aviation and aviation technology that we have acquired over many decades.
• Boeing 777X entry into service: Since the end of 2018, Lufthansa Technical Training has been cooperating with Boeing Global Services to develop the 777X type trainings. Lufthansa Technical Training instructors are lending their expertise to Boeing for the development of training material. By building 777X competencies at an early stage, Lufthansa Technical Training is securing the qualification of Lufthansa Technik maintenance and engineering personnel for this aircraft type. In return, Boeing is benefiting from the expertise of Lufthansa Technical Training and can thus ensure a practical training that fulfills the needs of Lufthansa and other airlines as the future operators of the 777X. The qualification program of Lufthansa Technical Training’s own technical personnel for the Boeing 777X already began in late 2018. Since the end of 2019, two instructors have been undergoing continuous qualification and since the beginning of 2020, further instructors are attending preparatory training in Frankfurt.

• Training for EME Aero in Poland: With a total amount of 424 training days and 55 training courses, Lufthansa Technical Training has qualified 170 trainees for the joint venture between Lufthansa Technik and engine manufacturer MTU Aero Engines in Jasionka. Scheduled to be up and running in 2020, the company has a planned annual capacity of more than 450 shop visits of PW 1000G engines.

• Airbus training partner in Tianjin: In 2019, the German training provider received an order from Airbus to train the production personnel involved in the production of the A320 in China. The courses were conducted by instructors of the Lufthansa Technical Training subsidiary in Taiwan. The training provider has thus also positioned itself for taking over the production training for the A350 in Tianjin.

• Innovative training initiative in Lisbon: After signing a memorandum of understanding with local partners (LAS Training-MTO and SLOT) in mid-2019, Lufthansa Technical Training is currently training 16 trainees to become qualified CAT A aircraft maintenance technicians in an innovative pilot project in Lisbon, Portugal.

• 15 years of Lufthansa Technical Training Philippines: The 15-year anniversary of Lufthansa Technical Training Philippines continues the success story. The Manila location is an important cornerstone in the Asia Pacific region, particularly for the qualification of Lufthansa Technik Philippines personnel.

Facts and figures

+ Founded: 1995
+ 100 percent subsidiary of Lufthansa Technik
+ Headquarters: Hamburg
+ Highly qualified advisors, instructors and supporting staff
+ Boeing 737-300 and -500 aircraft as well as a BO 105 helicopter available for practical training

Lufthansa Technical Training is a leading provider for personnel training in the MRO and aviation industry.
Scheduling maintenance events is a highly complex task. But it becomes a real challenge when unexpected events such as short-term changes in flight operations occur. Whether the airspace is congested, bad weather conditions prevail or a flight has to be canceled for technical reasons – continuously changing conditions require continuously updated maintenance plans. With Line Maintenance Planning, this resource-intensive process, which is mostly carried out manually today, is now supported by a new automated digital solution.

Optimized short-term decisions

The algorithm-based solution integrates data from various IT systems on the digital platform AVIATAR. The automated process makes it possible to instantaneously adapt plans for each maintenance location and for every aircraft in the fleet. Every change in the flight schedule or the maintenance requirements results directly in an updated plan, which can subsequently be transferred to a maintenance information system such as AMOS with a single click. Designed as a decision support tool, the solution makes planning conflicts transparent, allowing the planner to manually intervene and focus on issues where his expertise is required. The easy-to-implement solution is compatible with every common flight scheduling system and requires no additional authority approval.

Wizz Air becomes launching customer

A partner of AVIATAR since the introduction of the independent digital platform in 2017, Wizz Air is the first carrier to use the new planning tool to improve productivity, maximize aircraft availability and reduce the manual effort in the planning of its line maintenance tasks.

“Working with our partners from Lufthansa Technik and the AVIATAR team over the past few months was exciting. We are looking forward to operationalize the use of the new Line Maintenance Planning tool, because it helps us to reduce our human workload,” said Ljubomir Jesic, Maintenance Planning Manager at Wizz Air. “Especially for a fast-growing airline like Wizz Air, it is very important to establish efficient processes which can be scaled easily. We are proud to be the launching customer for this very innovative digital solution by AVIATAR.”

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Wizz Air is the launching customer for Lufthansa Technik’s new Line Maintenance Planning solution, available on the company’s digital platform AVIATAR. The solution is designed to automatically optimize aircraft short term maintenance planning.

Benefits
+ Improved productivity
+ Minimized planning effort
+ Easy to implement
+ Integrated solution

www.aviatar.com
“We are pushing the boundaries of the possible”

Wieland Timm, Head of Sales at VIP & Special Mission Aircraft, explains how Lufthansa Technik is mastering the newest technologies and customer needs to outfit the latest-generation VIP aircraft – and how unconventional concepts are taking interior design to the highest possible level.

How has the market changed from the perspective of Lufthansa Technik in its position as a leading provider of VIP cabin interiors?

Wieland Timm: In terms of large VIP aircraft, demand is shifting toward the A350, 787 and, in the future, the 777X. We have gained customers for both the Boeing 787 and the Airbus A350. This is really remarkable, particularly when you consider that both aircraft pose very special challenges in terms of cabin interiors as a result of the new technologies they use. The latest-generation aircraft have been optimized to perform their real role in their service life, that is, to be a highly efficient airliner. The requirements related to this task, including the lowest possible fuel consumption, are reflected in every aspect of the planes: in their structure as well as in the power supply and even in the amount of water carried on board.

In the past, one could simply attach furnishings and fixtures to the aircraft structure. But with today’s modern aircraft, you can basically only use the cabin floor. There is another issue involved as well: The electrical power that today’s engines generate is set exactly to meet the requirements that an airliner has for its passengers. The system is not designed to meet the greater needs of a VIP aircraft and all of its technical features – from in-flight entertainment, connectivity, larger displays, projection screens and lighting fixtures to galley equipment and spa installations.

An observation deck, extending the passenger cabin into the flight deck, is the centerpiece of the cabin concept SkyRetreat.
How has Lufthansa Technik met these challenges?

In structural terms, we install something that you might call a roll cage in the fuselage. We attach it at points of the cabin floor and fuselage structure that have been approved by the manufacturer. Forces can be introduced into the aircraft’s structure only at these positions and within permissible load limits. We have to come up with some fresh ideas for room size, walls and interior doors as well. Blow-out panels in the doors and floor designs that facilitate the air flow beneath the carpet are unobtrusive ways to address the structural requirements for rapid decompression.

The higher power consumption can be met by installing additional generators, for example. You also have to come up with clever ways to manage different circuits based on the specific consumption in the separate cabin sections. Displays, for instance, may have to be turned on only when someone is really in the room. And, of course, new energy-saving display technologies such as OLED help, too.

How do you work with aircraft manufacturers?

In the near future, there will be only three completion centers around the world capable of outfitting the A350. And we are the only company which has contracts right now. We will outfit three A350s as head-of-state aircraft for the Special Air Mission Wing of the German government. You also have to qualify for the 787 at Boeing. We have cleared this hurdle as well and are currently outfitting such an aircraft for a private owner. As a matter of fact, we are the first company in Europe to do such work. The completion is scheduled to be finished this year.

We have a good relationship with the engineers at both companies, who greatly appreciate working with us. Unlike competitors who only outfit the aircraft, it is our big advantage that we know how an aircraft behaves in operation. In the development of the A350, we also worked very closely with the manufacturer and thus have a completely different insight.

As a leading completion center, we must provide sound technical solutions – and provide them in such a way that they are based on the technical requirements of the
manufacturers and can be reviewed and approved by them. Implementation and adaptation for individual customers in the second step are our very own terrain.

How does Lufthansa Technik transport the potential of a modern VIP aircraft to the market?

There was a time when we worked with highly respected designers on design concepts, like the time that the 787 came on the market. In this work, the design itself and, frequently, the very personal style of the particular designer stood out. But taste is very individual. For this reason, such concepts often do not really meet the needs of individual customers.

We take a different approach today. In developing our concepts, we now consider what matters in life to specific customer groups, in a way that is completely independent of personal style. We transport these needs and functionalities – presented by our designer team as an exaggerated image – to the cabin. No matter whether you are talking about flooring, furniture, ideas for cabin management or entertainment systems – we have the most creative ideas and show just what is possible.

This amplified representation then serves as a nudge that makes customers want to make up their minds. Of course, the new concepts must also be creatively implemented – but by our own designers. What our customers get to see is pure Lufthansa Technik.

Why do customers buy VIP aircraft?

To many of our customers, flying is an experience that they want to share with their guests on board. With SkyRetreat, we recently developed a fresh and daring design concept that we based on super yachts. The centerpiece of the concept is the Observation Deck that, for the first time in VIP aviation, extends the passenger cabin seamlessly into the aircraft’s flight deck – allowing all occupants to relax in an enlarged cockpit and enjoy the unbelievable view of the pilots. We demonstrate here what we are capable of doing within this restricted area – and this is exactly what was approved by the EASA.

We showcased the entire concept last fall at the Monaco Yacht Show and were taken by surprise by one thing: We received lots of encouragement from boat designers who were inspired by our cabin. They were so impressed by the idea of literally providing more room for guests on board as a way of putting them in the middle of the action – for example allowing them to follow the communication with headphones, tablets etc. – that they are now planning to integrate the concept behind this work into a future yacht design. We certainly shook up the market with this concept. By adapting the design to the Airbus A220, we are entering a completely new business area in which the first owner of a VIP jet in particular will profit from a very elaborate VIP design as a reasonable investment. For this reason, the A220 could become a very interesting VIP aircraft in the future. It is equipped with state-of-the-art technology and looks modern, a major plus for our customers. Airbus is also planning to offer a version with an extended range in the foreseeable future.

What other customers groups do you have in mind?

One other important customer group is owners who consider an aircraft to be an elementary part of their lifestyle. I am not talking about VIPs who simply want to fly from point A to point B. I am talking about people who fly around the world and are rarely at home as they lead their globalized lives and pursue their worldwide investments. These customers in particular place a high priority on good health, diet and wellness. Family and friends frequently travel on the aircraft as well. We created our design concept Welcome Home for the A350 for this exact purpose. It is the first VIP cabin concept to have a spa and steam shower onboard as well as a provision for live cooking. The cabin is also equipped with the world’s largest TV display to be found in an aircraft, about the size of a panorama window. While VIP aircraft are usually segmented into rooms, our concept employs movable walls. You can basically see all the way from the cockpit to the aft of the cabin. With Welcome Home, we have clearly demonstrated that we can create a place like home above the clouds.

What other concept highlights does Lufthansa Technik have in its showroom?

Just like Welcome Home, our presentation of the Mercedes-Benz Style VIP cabin concept just a few years ago was a real highlight. The aircraft cabin design – especially the black panels inspired by the typical dashboard design found in Mercedes-Benz S-Class and AMG cars – mirrors cutting-edge technology. Last but not least, with our cabin concept Nature’s Touch for the Airbus ACJ320neo, we have taken the symbiosis between nature and technology to the very top. In the design process, we have set our eye on the young generation in Asia Pacific that will want to own a plane in the future. As a result, an abundance of smart technologies and digital interfaces are integrated into traditional Chinese design elements in a subtle and natural way. With this concept, we have once again shown what is possible today – we are pushing the envelope.

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With Welcome Home for the A350, Lufthansa Technik creates a place like home above the clouds.
Made in the Americas

During the past 20 years, Lufthansa Technik Component Services has become a strong partner for airlines in the Americas seeking the quality and dependability of Lufthansa Technik.

From humble beginnings to full-fledged component support: Twenty years ago, a team of three Lufthansa Technik employees established an office in Dallas. Assembling their office furniture themselves was among the first tasks. Today, the US-based subsidiary of Lufthansa Technik has a staff of more than 650 employees based at 14 different locations throughout North and South America.

Multicultural success story

Lufthansa Technik Component Services is managed by a highly diverse team of professionals from around the globe. “These leaders combine the best of all perspectives into a highly entrepreneurial and forward thinking company,” says Stephen Fondell who is based at the organization’s headquarters and production facility in Tulsa, Oklahoma.

Dirk Ripa is located in Miami and responsible for the company’s commercial aspects. He explains: “It is not just the fact that we have a full-fledged regional organization set-up, it really is our people that make us special. We have such a diverse, dynamic and passionate workforce. That is what truly makes an impact and that is what we are most proud of.”

So the start was rather modest, but by working together with relentless passion and a continuous focus on the customers, the company successfully grew year by year. After opening additional offices, e.g. in Ft. Lauderdale, San Francisco and Los Angeles, a major organizational consolidation came in 2012, when all production and engineering capacities were consolidated in Tulsa, and thus centrally located in North America.

One component organization

Due to its proximity to the Latin American market, the main fulfillment and product sales functions were transferred to the Miami area. In parallel, the logistics organization Lufthansa Technik Logistik of America based in New York with warehouses across the United States and Canada grew immensely. To unite their strengths and streamline operations, the two regional component and logistics entities merged and became one organization optimally set up for the needs of the customers in the Americas.

The growth of Lufthansa Technik’s component support in the Americas received a further push in 2015 in the frame of a global internationalization initiative by its mother organization in Germany. The goal was to mirror the set-up of the division at Lufthansa Technik’s headquarters in Hamburg in the two other major world regions, i.e. the Americas and Asia Pacific.
COMPONENT SHOP WITH

115,000 SQUARE FEET
This resulted in a significant empowerment of the regions – and Lufthansa Technik’s Aircraft Component Services division was enabled to continue writing its own success story, significantly extending the MRO provider’s footprint in the region.

**Competence and capacity increase**

In 2017 the company completed a major expansion project at its Tulsa facility. The new component shop provides 115,000 square feet, in effect doubling the size of the North American headquarters. But quantity is nothing without quality. In 2019 Lufthansa Technik Component Services became the first design department of Lufthansa Technik’s EASA 21/J Design Organization (DO) in the Americas. The Design Organization approval allows the company to create their own approved data, a big step towards developing proprietary repair methods to improve the component services of the company.

Stephen Fondell leaves no doubt about the importance of this achievement: “It goes without saying that the DO approval gives us an edge over many other repair stations.” In parallel with the Design Organization approval the company received the approval of the Civil Aviation Administration of China (CAAC), complementing the corresponding certifications by the FAA and EASA.

Lufthansa Technik Component Services has thus become the fastest growing and second largest Lufthansa Group subsidiary in the Americas. For its customers that means one thing: The company is focusing on regional customer needs with a dedicated team of passionate employees.

With its strong pool product, Lufthansa Technik is already today the market leader in the Americas in the field of power-by-the-hour services. For non-pool customers the team is strategically focusing on expanding its comprehensive services that consist of local repair capabilities for all major Airbus and Boeing aircraft types, a dedicated aviation logistics business unit, growing surplus and material services, a multilingual customer service team and a local 24/7 AOG desk.

The result of these developments is “a successful American family addition to the Component Services division of Lufthansa Technik growing substantially faster than the market. This has always been our target and we will continue to push forward as a trusted partner for our customers in the Americas,” concludes Stephen Fondell.
Faster, safer and more eco-friendly

Lufthansa Technik is now using a more environmentally conscious process to maintain aircraft fire extinguishers at its Hamburg component shop. A test facility for this work was dedicated recently and put into regular service.

The new process primarily reduces environmental risks while also significantly cutting turnaround times. The job of inspecting the fire extinguisher container no longer involves the time-consuming task of purging the ozone-depleting halon from the container (pressure bottle), temporarily storing it and externally processing it for reuse. Lufthansa Technik is the world’s first and only independent MRO provider that offers this service on the market.

The pressure bottles of aircraft fire extinguishing systems are usually ball-shaped metal containers that measure between ten and more than 40 centimeters in diameter. Their structural integrity and proper function must be regularly checked. Up to now, they have been emptied and inspected in a water bath using hydrostatic testing methods. As part of the work, the attachment parts on the container are removed and then welded back into place. The inspection also involves the purging of halon, an ozone-depleting chemical that is still used in aviation for this special purpose due to safety reasons and the lack of alternatives. The halon is then temporarily stored in containers at the Hamburg base. Authorized service providers then clean and certify it before it is refilled in the bottles. Each step in the process of purging the fire extinguishing agent, temporarily storing it and transporting it poses a potential risk to the environment.

Chemicals remain untouched

The new process enables the fire extinguishing agent to remain in the pressure bottle throughout the entire inspection, a change that eliminates the complex handling of the chemical. In the new inspection procedure, the filled pressure tank is placed into a special jig and then heated in a chamber. The pressure in the container rises, and the stress in its metal housing increases. This results in tension in the material, a process that triggers sound waves. Special sensors acting like microphones are attached to the exterior of the container before the heating process begins in order to pick up these sound waves. Similar to the system used to localize earthquakes in the crust of the earth the position of every sound source can now be calculated with the help of differences in travel times and conclusions drawn about possible damage to the pressure tank. These findings are promptly displayed to the inspector in a 3D model on a monitor, exactly localized and color coded on the basis of certain criteria. Afterwards, a decision regarding the continued use or disposal of the pressure tank can be directly made.

“The sensors being used are so sensitive that we can detect and localize very small events in the material structure,” explains Anna Balka, the head of the innovation project called EFFECT (Extreme Fast Fire Extinguisher Check and Test) that developed the new process. “Even though the inspection of the pressure bottles is much more sensitive, a complete test takes no more than 90 minutes. The maintenance work can now be completed much faster and more economically and environmentally consciously than with conventional processes, because many other process steps are no longer necessary.”

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“Fulfilment is everything”

As Vice President Component Services, Dr. Georg Fanta is heading one of Lufthansa Technik’s largest product divisions. Connection talked to him about the particular strength of this division, the role of digitalization and the goal of further improving material supplies for customers around the world.

What does Lufthansa Technik Component Services stand for?

Dr. Georg Fanta: Our basic attitude is clear: Every promise we make to a customer counts. I certainly don’t want to see an aircraft grounded because of us. In the end, every single case matters, because if an aircraft suffers an AOG situation, an airline has to pay compensation or passengers are forced to stay at a hotel because their flight has been canceled – that’s a real nuisance, to put it mildly.

How has your division developed in recent years?

Let me illustrate this by looking at our orders received. The number has gone up dramatically in the last years. We now repair well over 400,000 components a year, or to paint an even more striking picture: almost one component per minute. Much of the work takes place at our shops in Hamburg and Frankfurt, but also at our other repair locations worldwide and at external suppliers.

What impact does this high repair output have on quality?

Despite the increasing number of orders, our technical repair quality remains at a very high level. We have extremely few defective returns, and we put a lot of effort into ensuring it stays that way. Aircraft Component Services has more than 2,000 employees in Hamburg and Frankfurt – and about 3,400 worldwide. Each and every one of us works under the premise that safety and compliance allow absolutely no room for compromise. This high standard is also ensured by regular internal audits as well as random quality scan examinations. These identify potential for improvement through careful analysis of the products and processes. Our quality assurance systems are extremely powerful – after all, they are our backbone and essentially our DNA.

What challenges do you have to overcome to ensure customer satisfaction?

After some bottleneck supply situations, we have started to adjust our material inventories. Our goal is to further improve our already unique logistics together with our partner Lufthansa Technik Logistik Services and to leverage the potential for greater repair efficiency in order to accelerate the material cycle. And we have already achieved measurable improvements in speed, with time savings of around 20 percent. So we are pleased to say that we have a very high level of customer satisfaction today. Our investments in improved logistics processes have also paid off in the area of wheels and brakes. We have managed to stabilize operations and delivered good performance with positive customer feedback. The new shop in Frankfurt has gone into operation, and a dedicated shop for British Airways has been set up in London. We have also established a network of suppliers. In short, the entire material supply network for our customers is running smoothly.
How important is it for Lufthansa Technik to develop own innovations in the field of component repairs?

We are constantly investing in innovation. For example, our cost-efficiency program includes engineering projects that extend all the way to in-house component development. However, we are currently in an interim phase. Many older aircraft types are technically very mature, which means that finding new innovative repair procedures for their components becomes more challenging. At the same time, the latest aircraft types are still in their introductory phase, so demand for them has yet to grow. But developing alternative processes and materials for component repairs under our certification will remain an important part of our work in the future. We have to turn every stone and exploit our full innovation potential – from cooperation with OEMs to the development of our own components or repair procedures.

What role will digitalization play in component services in the future?

We want to reach a consistent digitalization of our core products. And we will make optimum use of all available data points created during the reliability monitoring and workshop processes. This will enable us to enhance the performance of our predictors and preventors of our digital platform AVIATAR and to offer improved component services. Both preventors and predictors recommend proactive measures to the customer. They help increasing the aircraft availability by avoiding critical component needs and support cost reduction and planning. A preventor uses historical life cycle data of the components to statistically analyze their behavior, taking into account the specific operating conditions. Removal recommendations by a predictor are based on sensor data that indicate a wear limit.

The ACM Predictor, for example, covers the components of the air-conditioning packs, from the air cycle machine (ACM) to the heat exchanger and condenser. It is currently available for the A320 family and A330/A340 aircraft and helps prevent failures, delays and smoke events. My goal for the future is that we won’t wait for an AOG to occur; instead, the aircraft itself will tell us when a part needs to be removed. So we will have a much higher prediction accuracy and thus a much more stable supply system. We are making great progress here: New predictors are being developed almost on a monthly basis, and they are all made available in the AVIATAR.

How will Lufthansa Technik’s proven integrated component services, such as Total Component Support, be developed further?

Total Component Support – or TCS® – is a very successful product, and we have achieved a high standard in this service. What comes next? I have no doubt that component failures – and thus spare parts, repair and logistics needs – will continue to exist in the future. But the way we use information and control the component flow will become fully digital supported, all the way to the interface with the customer and invoicing. Tomorrow’s TCS® will be active rather than reactive. Ideally, the component will be there before our customer even knows that it’s needed. This will be possible by using prediction and consolidating the information that is available in digital form. Perhaps the customer will only receive a text message indicating that the component has already been installed. But no matter how digital we are: We have to deliver absolute perfection from a repair point of view, especially when we send out 7,000 components per week or even more as we continue to grow. And each component delivery must be totally reliable both in terms of time and quality. Fulfillment is everything! We will continue to improve our controls and adjust the clockwork to excellence. Our goal is to get the most from the potential of digitalization. That is going to keep us busy for the next three to four years. So the strategy for TCS® will remain fundamentally the same. But as fleet sizes grow, our closed-loop product, Total Component Maintenance, will also become more important. We can already see this today: Large customers often have their own material inventories and choose closed-loop maintenance. So our focus on both open-loop and closed-loop products is just right.

How is the Component Services division strategically aligned for the future?

We already have a strong regional orientation with the three areas of the Americas, EMEA and Asia Pacific, which each have their own profit responsibility. This is the result of a very consistent focus on growth and availability in the regions. And it is also reflected in the fact that we now have four repair locations: Hamburg and Frankfurt as well as Tulsa and Shenzhen, each assigned to the relevant markets.

The second factor is the consistent implementation of our strategy with regard to OEMs, which is that we see manufacturers also as business partners, primarily when it comes to introducing new aircraft types such as the A350, the 787 or the 777X. We are constantly increasing our in-house capabilities for these aircraft types, either alone or in cooperation with OEMs. And we are doing this on a global basis: For example, as far as component services for the A350 are concerned – an aircraft type where we are already the market leader – we have now added capacities not only in Hamburg, but also in Tulsa. We have also built up capacities for Meggitt and Honeywell in Shenzhen.

And finally, we are growing at the Hamburg location as well, having hired more than 100 additional employees there last year. We have also invested in tools, workshop equipment and automation. In addition, we are constructing a new building that will house the hydraulic shop. Here, too, our aim is to combine greater efficiency and higher output. Ultimately, we want every aircraft in the world to operate with parts provided by Lufthansa Technik Component Services.
Lufthansa Technik has developed a solution for uncompromising and safe drinking water on board. A newly designed filter that relies on medical technology ensures germ-free potable water on board for the entire duration of its use.

The quality of potable water on board an aircraft is regulated by national requirements. Aircraft operators often struggle with microbiological contamination of the potable water system, as meeting the limits can be a time-consuming and financially costly challenge. Lufthansa Technik’s engineering was approached by a customer, asking for a reliable and sustainable solution for their recurring contamination issues. After partnering with “Aqua free”, a leading specialist for water hygiene, a jointly developed smart solution is now ready for series production. For the customer’s benefit, it is easily integrated into almost every modern aircraft type without further modifications.

The new filter fits into the existing filter housing, making the conversion extremely easy.

99.999999 percent germ-free
to conventional filters and consists of activated carbon segment. Whereas other filters rely purely on the properties of the carbon, the second stage of the new design makes all the difference: a hollow fiber membrane filter with extremely small pore sizes. This super-efficient membrane is capable of holding back everything bigger than 0.2 microns. As a result, no germs and no bacteria are able to pass through the filter.

The effectiveness of conventional filters also tends to decline after they have been in use for a certain amount of time. Once the activated carbon has been saturated, the enormous surface structure of existing carbon filters becomes a perfect breeding ground for germs and thus turns the former filter in a bacteria multiplier. Thanks to the second stage of the new filter, this will not affect the water quality, and the filter therefore meets the highest purification standards – sterile filtrated potable water is guaranteed for the entire duration of its use.

Hassle-free upgrade

Because the new filter fits in the existing filter housing, the conversion is extremely easy: Just replace the old filter cartridge with the new one. The filter is approved for any aircraft type using cartridge-housing filters. An upgrade therefore requires only replacing the filter cartridge and updating the documentation. The cabin crew particularly values the system’s low drop in pressure, which makes it easy to use. Other benefits include the longer lifetime and the new filter’s lower weight.

By transplanting medical technology to the aircraft, Lufthansa Technik has created an effective, cost-efficient solution for one customer that is now available to all aircraft operators. The project thus also illustrates Lufthansa Technik’s philosophy of listening to and understanding the needs and problems of every customer and creating solutions that are relevant for the entire aviation industry.

Taking the guesswork out of efficiency

Lufthansa Technik is using the findings from the “Retrofit Efficiency” project (RetroEff) conducted under the German Federal Aviation Research Program to determine the exact effects of fuel-saving measures in aircraft maintenance.

In light of rising fuel prices and demanding climate targets, saving fuel is becoming even more important. In the past, aircraft operators have been implementing a whole host of measures in order to save fuel – but the effects thereof were hidden in a myriad of flight data, as well as environmental circumstances and aircraft attributes like age and configuration. To make qualified decision on major fleetwide investments key questions need to be reliably answered: How exactly does a replacement of an engine, installation of an antenna or application of surface coating affect the fuel consumption of an aircraft?

In cooperation with research institutions involved in the aviation research project “RetroEff”, specialists at Lufthansa Technik have worked on finding exact answers. To this end, various instruments were designed. Aircraft full-flight data was used to create a complex model based on flight physics. This involved using different parameters to evaluate data records once a second. Further on a machine learning algorithm was developed. Thanks to the large number of data points and modern calculation methods, the experts were able to determine the effects of different fuel-saving measures up to an accuracy of 0.1 percent.

Hereafter these new instruments will help to support customers in selecting measures for improvement. The additional accuracy makes it possible to select the right modifications from the spectrum available. After all, small changes can have big effects, and the combination of seemingly secondary measures, such as the rigging of the landing flaps, can ultimately lead to a significant economic impact. By using the developed tools, it will be possible to restore the aircraft original performance with dedicated maintenance measures on basis of the acquired knowledge, which is continuously extended through further retrofits.

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Connectivity upgrade now

Twenty years after Lufthansa Technik introduced its successful **Two-In-One-Solution (TIOS)**, a very economical upgrade is now available, providing for the fastest internet connectivity: The TIOS+ radome and a Ka-band antenna comprise a highly effective solution offering state-of-the-art performance.

Internet on board of aircraft – for Lufthansa Technik customers this has been a popular option for two decades now. In 1999 Lufthansa Technik received a Supplemental Type Certificate (STC) for its first TIOS (Two-In-One-Solution) system for Boeing single-aisle aircraft. TIOS puts the antenna at the optimal point for reception and transmission: the top of the vertical stabilizer. Equipped according to the customer’s choice with one or two antennas, this system was suitable for use of the L-band and the Ku-band.

The rapid progress of high-speed data transmission has made this legacy system fall behind the current performance expectations of users. In cooperation with Honeywell, Lufthansa Technik therefore developed an upgrade solution, which offers customers several times the performance of the old system. With the new system TIOS+, state-of-the-art connections are available providing transmission rates of up to 33 MBps.

**More speed with more connectivity**

The upgrade solution is based on a Honeywell Ka-band antenna inside a suitable radome. This special radome is a proprietary development by Lufthansa Technik’s division dedicated to composites repairs and is manufactured in-house. For operators of legacy installations who would like more performance the new upgrade would be an excellent solution. Bea Rehberg, Product Manager TIOS+, says: “The customer is getting more speed with a lot more connectivity using the same aircraft infrastructure.” The upgrade is a highly economical solution. First of all, only antenna and radome are new parts – the entire infrastructure of the legacy installation remains. Furthermore, the installation offers low weight and low drag, just ten percent of the drag of a fuselage-mount antenna. The range of the aircraft is therefore not affected.

With the TIOS+ upgrade, operators take full advantage of the Ka satellite network. Thus, it is possible to enjoy live TV, high-speed broadband Internet access, high-quality voice calls, video calling and conferencing as well as email and large file transfer – at the fraction of the cost of a new system.
High-speed down under

Equipping an aircraft with high-speed internet on board is a job for specialists. Lufthansa Technik has now installed its patented TIOS antenna solution on-site in Australia in two Boeing 737s operated by the Royal Australian Air Force.

December in Hamburg is normally the opposite of summery. So a team of ten specialists from Lufthansa Technik was particularly lucky: As experts from VIP & Special Mission Aircraft Services, they traveled to sunny Canberra, Australia, to support the installation of a sat-com system for the Royal Australian Air Force (RAAF). As part of the project, the customer ordered the antenna solution TIOS (Two-In-One-Solution) from Lufthansa Technik for two of its Boeing 737-700 aircraft. And so a team of specialists, led by project manager Frank Nowack, flew half-way around the world to mount the system on the vertical stabilizer and install the associated cabling and electronics in the cabin.

As early as several months before the project began, the team had already discussed the technical coordination in an Initial Technical Coordination Meeting (ITCM), which was followed by the Preliminary Design Review and the Critical Design Review. Afterwards, the responsible engineers in Hamburg produced the job cards for the work on the aircraft in Australia. The documents were produced according to European EASA requirements and were subsequently sent to the Australian authority for the safety of military aircraft – the Defence Aviation Safety Authority (DASA) – to be transferred into the approval system valid there.

Meanwhile, around 600 items, from special screws to a furnace for the heat treatment of rivets, were prepared for shipping by employees of Lufthansa Technik Logistik Services in line with the relevant documents. At the same time and on the other side of the world, the employees of NG Industrial Solutions, the Royal Australian Air Force’s MRO provider, uncovered the structural elements of the first of the two Boeing Business Jets (BBJ) to prepare the aircraft for the installation of the TIOS antenna system.

Second BBJ converted

After a 16,000-kilometer flight, the Hamburg team – aircraft mechanics, electricians and engineers – worked with the Australian staff of NG Industrial Solutions to bring the RAAF a high-speed Internet connection. The team could not foresee every detail of the work any more than it could predict the Australian weather, and so some components had to be delivered subsequently from Hamburg.

After completing the work and documenting the results of the compliance and functional tests, the team was done with the most important part of its assignment. Following a few more days of on-site support in Canberra, Lufthansa Technik’s team flew back to Germany just in time for the holidays – only to head back down under in January 2020 for the smooth conversion of the second BBJ.

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For 15 years, Lufthansa Technik Services India has been operating in a very dynamic market. The growth of aviation in India has been impressive and the future fleet development remains a strong factor for investing here,” said Luigi Celmi, CEO, at the occasion of commemorating the company’s latest milestone.

Today, Lufthansa Technik Services India employs 180 people, who are involved in providing component support and maintenance services. The wholly-owned subsidiary of Lufthansa Technik is involved in several activities for the Lufthansa Technik Group, including loan control, materials management, spares provisioning, maintenance and layover material planning, account management, customer services, pool balancing and on-site logistics excluding sales functions.

The company’s local team is fully devoted to supporting airlines in every aspect of their component maintenance requirements. Using the extensive network of Lufthansa Technik, the company has been serving many local airlines, among them Go Air, Air India and Sri Lankan Airlines. New customers include Biman Bangladesh, Maldivian and Vistara (TATA SIA). The company also owns and manages the home base material stock for customers in India.

The local presence in India means that Indian and South-East Asian customers can count on a fast, local materials service for a growing number of aircraft types and rely on highly skilled customer services in their region. Lufthansa Technik’s main focus is on component services for Airbus A320 and A330 types and for Boeing 737, 777 and 787 aircraft. This also includes services related to the supply of consumables and expendables.

Lufthansa Technik Services India also offers Single Component Maintenance (SCM) in addition to the integrated products and is well positioned for the

15th anniversary in India

The recent opening of a dedicated AOG desk for the Asia Pacific region in Bangalore is the latest milestone in the 15 year-long history of Lufthansa Technik Services India.

A dedicated AOG Desk was recently opened in Bangalore, better serving the ad hoc supply needs of customers in the Asia Pacific region.
future in this expanding market. Customers enjoy access on a 24/7 basis to the full service spectrum of integrated Total Component Support (TCS®), ranging from the component pool and materials management to customer service and logistics.

**Dedicated AOG desk for Asia Pacific**

Lufthansa Technik Services India cooperates closely with Lufthansa Technik’s AOG Materials Desk in Hamburg to meet customer’s ad-hoc AOG requirements. What’s more, a dedicated AOG Desk was just opened in Bangalore, employing the company’s deep understanding of the region’s market and serving the ad hoc supply needs of customers in Asia Pacific even better; this new important service coincides also with the first celebration for the Company’s 15th anniversary.

“Moving forward, we would also like to grow our competence in engineering services, for which Bangalore is quite famous, without forgetting that there is also a great pool of digital professionals and digital start-ups that can be valuable for our group,” says Luigi Celmi. “We will continue to focus on fulfilment, customer service and AOG Desk services to support airlines in the region even better.”

Meet us at ...

**13 – 17 May 2020 | Berlin**

ILA (Berlin Air Show)

At ILA (Berlin Air Show), over 1,000 exhibitors showcase their expertise – from civil aviation to defense, security and space, and from major corporations to highly specialized suppliers.

**17 – 19 May 2020 | Cartagena**

ALTA CCMA & Aircraft MRO Conference

This four-day event organized by CCMA (Comité de Compradores de Material Aeronáutico or the Aeronautical Material Procurement Committee) brings together Latin American and Caribbean airline technical buyers and industry suppliers.

**20 – 21 May 2020 | Manchester**

ap&m Summit and Expo

ap&m Europe is the global MRO procurement expo, gathering the airline supply chain for three days of big business. Lufthansa Technik will join with a booth by Spairliners.

**3 – 4 June 2020 | Istanbul**

MRO BEER

MRO Baltics, Eastern Europe, and Russia (BEER) offers the opportunity to build new relationships and forge stronger partnerships to ensure short and long term success.

**3 – 4 June 2020 | Amsterdam**

MRO & Flight Operations IT EMEA

The Airline & Aerospace MRO & Operations IT Conference is the world’s only event to address the key issues relating to the development of IT and its key use for aircraft maintenance and flight operations.

www.lufthansa-technik.com/lht-services-india

To keep things as simple as possible for our customers all over the world, there is one central Lufthansa Technik AOG hotline. The AOG team is directly connected to the regions and customer enquiries from Asia Pacific are forwarded seamlessly to the new AOG desk in India.

All information stated here was correct at the time of printing, but is subject to change. Please visit our website for the latest updates.

Follow this link to find out more about Lufthansa Technik’s participation and presentations at upcoming fairs and conferences. www.lufthansa-technik.com/events
World of services

Total Support Services
Total Support Services customers enjoy cost-efficient and reliable flight operations while being able to focus on their core business.
- Total Operational Support (TOS®)
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- Total Material Operations (TMO®)
- Total Component Support (TCS®)
- Total Engine Support (TES®)
- Total Landing Gear Support (TLS®)
- Aircraft Leasing & Trading Support (ALTS®)

Single Services
Single Services, letter checks, engine overhauls and repairs of single components form a unique range of products and services.
- Aircraft Services
- Component Services
- Engine Services
- Landing Gear Services
- VIP & Special Mission Aircraft Services

Special Services
Lufthansa Technik offers products reaching beyond standard manual MRO services.
- Composite Repairs (ARC®)
- Engine Parts & Accessories Repair (EPAR)
- Maintenance Management Services (MMS)
- Logistics and maintenance training
- AOG services
- Surface treatment

Original Equipment Innovation (OEI)
Lufthansa Technik has successfully established a line of cabin products.
- Cabin management and IFE systems
- Aircraft and cabin equipment
- Connectivity
- Patient transport solutions

Digital Services
Lufthansa Technik provides innovative digital platforms to support technical operations.
- AVIATAR
- AVIATION DataHub
- manage/m®

Design Organization
Across all of its services, Lufthansa Technik supplements its offers with the capabilities of an Approved Design Organization:
- Major changes (STCs) in the areas of structures, systems, cabin and avionics
- Major repairs
- Minor changes and minor repairs
- Flight conditions

Airbus

Airbus A220
Line Maintenance
Component Services
Engine Services: PW1500G
Completion

Airbus A300/A310
Line Maintenance
Base Maintenance
Component Services
Engine Services:
PW4000-94, GE CF6-80C2
Completion

Airbus A318
Line Maintenance
Base Maintenance
Component Services
Engine Services:
CFM56-5B
Completion

Airbus A319
Line Maintenance
Base Maintenance
Component Services
Engine Services:
CFM56-5A, -5B; V2500-A5
Completion

Airbus A320/neo
Line/Base Maintenance
Component Services
Engine Services:
CFM56-5A, -5B; V2500-A5, LEAP-1A (in prep.), PW1100G
Completion

Airbus A321/neo
Line Maintenance
Base Maintenance
Component Services
Engine Services:
CFM56-5A, -5B; V2500-A5
Completion

Airbus A330
Line Maintenance
Base Maintenance
Component Services
Engine Services: CF6-80,
PW4000-100, Trent 700
Completion

Airbus A340
Line Maintenance
Base Maintenance
Component Services
Engine Services:
CFM56-5C, Trent 500
Completion

Airbus A350
Line Maintenance,
Base Maintenance
Component Services,
Engine Services:
Trent XWB
Completion

Airbus A380
Line Maintenance
Base Maintenance
Component Services
Engine Services: Trent 900
Completion

Hotline 24/7 AOG desk

Please enter any desired search item into the capability finder – products, aircraft/engine types or part numbers – to find the result quickly. The search can also be refined by regions or Lufthansa Technik facilities.
### Boeing

- **737 CL/NG**
  - Line Maintenance
  - Base Maintenance
  - Component Services
  - Engine Services: CFM56-7B
  - Completion

- **737 MAX**
  - Component Services
  - Further services in preparation
  - Engine Services: LEAP-1B (in preparation)

- **747**

- **757**

- **767**

- **777**

- **777X**
  - In preparation

- **787**

- **MD-11**
  - Line Maintenance
  - Base Maintenance
  - Component Services
  - Engine Services: CF6-80C2, PW4000-94

### Regionals

- **Dash 8-400**
  - Line Maintenance
  - Base Maintenance
  - Component Services
  - Engine Services: PW100, PW150

- **CRJ**

- **Bombardier CRJ**
  - Line Maintenance
  - Base Maintenance
  - Component Services
  - Engine Services: CF34-3,-8

- **ERJ/E-Jets**

- **De Havilland Dash 8-400**
  - Line Maintenance
  - Base Maintenance
  - Component Services
  - Engine Services: PW100, PW150

- **Embraer**
  - Legacy, Lineage.

### Business jets

- **Airbus Corporate Jets**
  - Line Maintenance
  - Base Maintenance
  - Component Services
  - Engine Services: CFM56-5A,-5B; V2500-A5

- **Boeing Business Jet**
  - Line Maintenance
  - Base Maintenance
  - Component Services
  - Engine Services: CFM56-7B

- **Bombardier**
  - Challenger, Learjet, Global Express
  - Line Maintenance
  - Base Maintenance
  - Component Services
  - Engine Services: CF34-3,-8

- **Embraer**
  - Legacy, Lineage.
  - Line Maintenance
  - Base Maintenance
  - Component Services
  - Engine Services: CF34-8,-10

- **ACJ**
  - Line Maintenance
  - Base Maintenance
  - Component Services
  - Engine Services: CFM56-5A,-5B; V2500-A5
  - Completion

- **BBJ**
  - Line Maintenance
  - Base Maintenance
  - Component Services
  - Engine Services: CFM56-7B
  - Completion

- **Boeing Business Jet**
  - Line Maintenance
  - Base Maintenance
  - Component Services
  - Engine Services: CFM56-7B
  - Completion

- **Embraer**
  - Legacy, Lineage.
  - Line Maintenance
  - Base Maintenance
  - Component Services
  - Engine Services: CF34-8,-10
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FLYING INTO TOMORROW

As we complete yet another milestone in our journey, we take a moment to thank all our customers, partners, and employees who supported us in becoming what we are today: the world’s most acknowledged MRO provider.