

More mobility for the world



**Lufthansa Technik**



Services for the A380

**The future is here**



## Ramped up for the largest long-haul

To the world, the A380's entry into service was the beginning of a whole new era in commercial aviation. At Lufthansa Technik, we were reminded of similar occasions in our history as launch partners of other great planes for which we've provided expert assistance over the past decades. With the A380, once again we helped turn the vision of a new aircraft into a working, profitable, enduring reality. From day one of its development, we took part in the design process, thus optimizing later maintenance operations of the aircraft. Drawing on our extensive experience helped us foresee problems and help avoid them, not least by establishing a constructive dialogue between all partners involved.



### **Thinking ahead**

Due to its size and the multitude of evolutionary technologies it features, the A380 represents a new class of aircraft. It's the largest long-haul aircraft ever built, and it demands equally large investments in infrastructure, equipment and training. In order to achieve these goals, we created partnerships with other airlines and selected manufacturers. We've also gone to great lengths to make sure all the necessary maintenance facilities and engine shops, component supply chains and engineering capabilities were up and running for the first A380 operators and in good time before Lufthansa took over the first A380 as the new flagship of its fleet.

### **Ready for take-off**

With the A380 quickly becoming a backbone of the high-capacity long-haul fleets of many leading legacy carriers, the initial euphoria is now giving way to established routines that ensure consistent quality and reliability.

At the same time, the systematic hunt for cost-saving potential is already underway. Visible preparations such as very large hangars and the less visible but equally important build-up of know-how and capability are already both going smoothly at Lufthansa Technik. The A380 may be a new and exciting plane, but to us, it's already an old friend.





## A fleet of services for the new flagship

### We've been there from day one

Lufthansa Technik chaired the Industrial Steering Committee in which representatives of the manufacturer, operators and civil aviation authorities jointly developed the maintenance schedule for the A380. In the process, we took care to find the optimal solutions to ensure uncompromised safety at minimum maintenance cost. Efficiency always works best if applied early and structurally.

### Production inspection ensures quality

Many carriers like to think of newly ordered planes as their "babies". If we stick with that metaphor, then Lufthansa Technik is like the ultrasound technician who keeps track of the development of your pride and joy. Our inspection staff is embedded in all major manufacturers' production facilities. These expertly trained and highly experienced employees keep a close eye on your A380 at every stage of its assembly – monitoring the quality and documenting any irregularity on your behalf. Because from our experience, nobody likes manufacturing surprises.

### Economies of scale in components

New plane, new components. Big new plane, big new components. To handle the ever-growing need for leading component services even before it arises, Lufthansa Technik and Air France joined forces and founded Spairliners, which ensures full component support from repair to AOG assistance for the fleets of A380s around the globe.

Spairliners offers A380 operators a one-stop shop solution that greatly reduces the complexities normally associated with the provision of spare parts, both at their home bases and at destination airports. This way, A380 customers enjoy cost benefits that are normally only achievable by large fleets of a single aircraft type.

### High quality starts with qualification

As important as the right equipment is, quality MRO depends on the skill of the technicians who carry out the work. But since training on an actual A380 is expensive and cumbersome, we borrowed an idea from our flying colleagues and programmed a 2-D maintenance simulator.

Our subsidiary Lufthansa Technical Training developed the training for Lufthansa in conjunction with Airbus and the airline. And when it came time to tackle the real thing, innovative measures were also needed to protect the safety of those who work on the world's largest commercial aircraft (for example, section 19, at the rear of the plane, is four meters above the ground). Special platforms were devised and installed to ensure that the Lufthansa A380 maintenance and repair environment constitutes a compliant workplace.

### Engineered for longevity

In the process of the A380's design and construction, Lufthansa Technik's engineers were able to suggest small changes in design that led to considerable improvements. The air generation unit, for instance, could originally only be removed as a whole. Now, the 400 kilogram heavy unit eases in and out of its fittings far more conveniently, with a new heat exchanger monitoring system reducing the need for removal in the first place.

Lufthansa Technik has gone to great lengths to make sure all the necessary maintenance facilities and engine shops, component supply chains and engineering capabilities were up and running for the first A380 operators.





### Dedicated maintenance hangars

And while we're on the subject of sizes, heights, and dimensions: With the Frankfurt A380 hangar we achieved a spot on the shortlist of Europe's biggest industrial buildings. Our hangar covers nearly four league-sized soccer fields and rises to 27 meters without a single column. The tail dock platform is reached by an elevator that passes seven levels to reach its peak. Furthermore, our Chinese affiliate Ameco Beijing has enough space in Asia's largest maintenance hangar to work on another four A380s simultaneously.

### Ultra-modern engine and avionics shops

To give you an idea of the accuracy required in supporting the A380's engine, keep in mind that due to the exceptional size of its Trent 900 engines, the tips of the fan easily reach Mach 1.5. That's why our N3 Engine Overhaul Services facility in Arnstadt, Germany – a joint venture with the engine's manufacturer Rolls-Royce – represents one of the world's most advanced and best-equipped engine shops worldwide. And as for avionics, the A380 is the first plane that features an

onboard maintenance terminal to control and monitor its integrated modular avionics system via a single interface, thus reducing costs, saving time, and ensuring quality. Lufthansa Technik is truly "e-ready".

### Efficient logistics and support

Located right next to the Frankfurt facility is the component warehouse. Expertly operated by Lufthansa Technik Logistik, it extends over 8,500 square meters of space and has an inventory of more than 70,000 items, including the A380 parts, ranging from the smallest screw to the biggest component. Another interesting detail in our A380 support portfolio – and a "small" example of our dedicated A380 ground support capabilities: We even had to start using larger tractors with 1,300 hp because regular tractors were no longer sufficient!

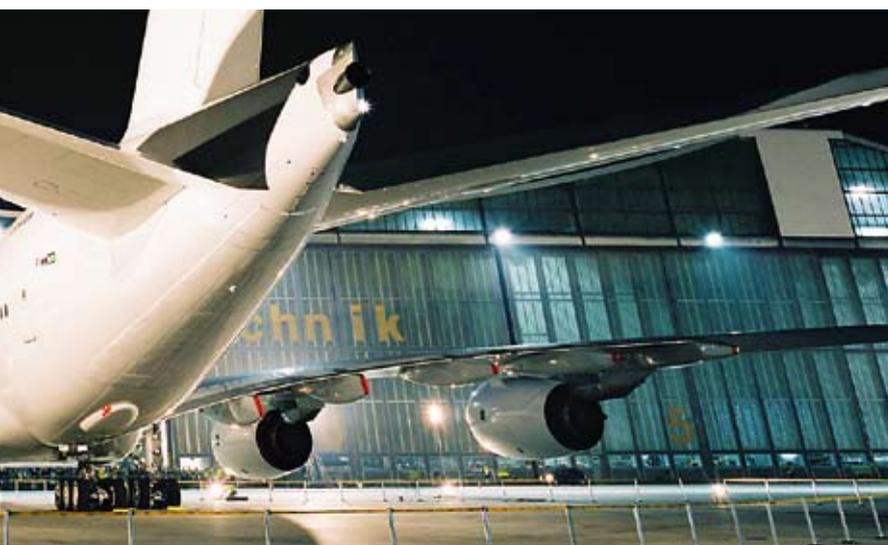
### Come fly with us

If your priorities lie with performance, engage our flagship services and put your A380 maintenance, repair and overhaul business in our hands. In return, we'll keep your future flying. That's a promise.

### A380 life cycle support

Lufthansa Technik offers an expanding suite of services for the A380:

- ✦ Aircraft Production Inspection
- ✦ Entry-into-service support
- ✦ On-wing services
- ✦ Trent 900 engine services
- ✦ Component repair services
- ✦ Component pooling concepts
- ✦ Material management and logistics
- ✦ AOG services
- ✦ Engineering/Troubleshooting
- ✦ Composite repairs
- ✦ Maintenance Management Services
- ✦ Line maintenance at home base/stations
- ✦ Aircraft/Cabin modification
- ✦ Completion
- ✦ Heavy maintenance
- ✦ Base maintenance
- ✦ Ground Support Equipment
- ✦ Painting
- ✦ Transitions/Phase-out
- ✦ MRO-related IT integration



For more information:  
[www.lufthansa-technik.com/a380](http://www.lufthansa-technik.com/a380)

