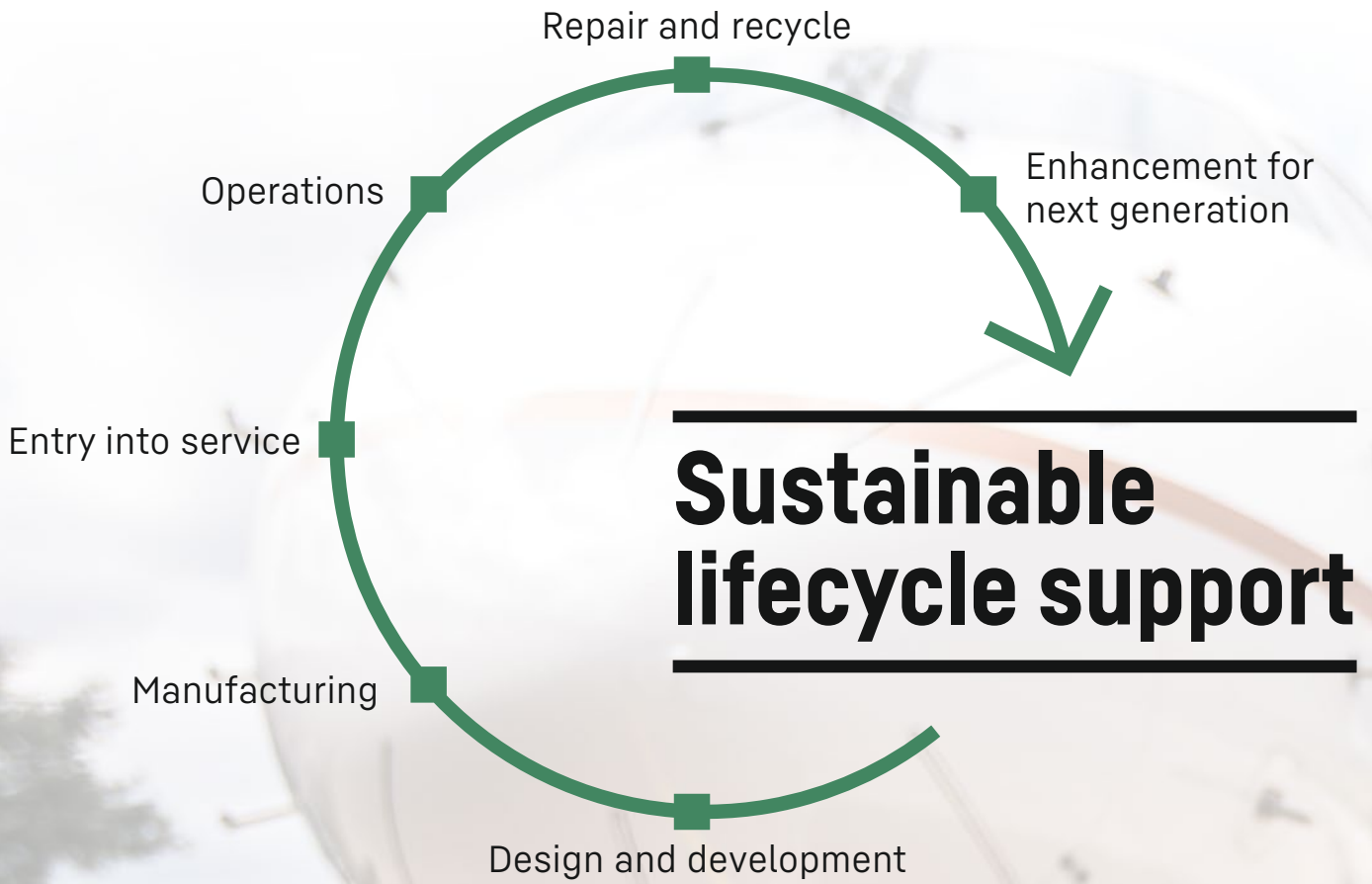

Customer Services

Experience sustainable lifecycle support

LIEBHERR

Aerospace





Introduction

Liebherr-Aerospace is a system provider for air management systems, flight controls, actuation, landing gears as well as gearboxes and electronics for civil and defense aircraft.

Our worldwide service network enables us to anticipate and understand individual customer needs with greener solutions and quick response times wherever required.

The wide range of our customer portfolio and services grants us a comprehensive overview of the aviation market and its local specifics. This diversity allows us to remain independent and to take decisions rapidly and autonomously.

To ensure that we are one step ahead, we continuously invest in our services portfolio, innovative technologies and facilities.

We base our relationships on loyalty and fair play through long-term close cooperation with you, our customers and partners.

Our success is founded on the degree to which our employees identify with our services, products, and the values from a family owned business.



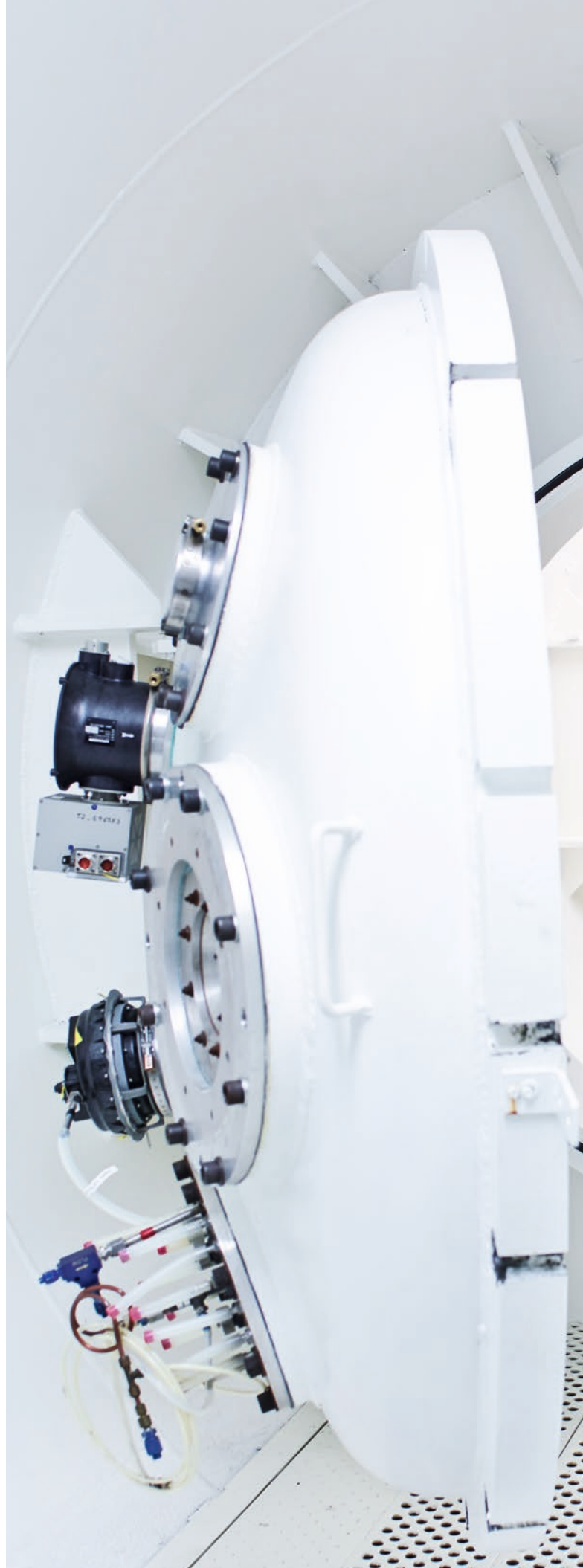
Design and development

At Liebherr-Aerospace, we strive to design the next generation of product and services. Using our system knowledge, gathered through millions of hours of real life data, we create equipment that is easy to test and maintain, reliable, and exceeds your expectations. Customer support and engineering design teams are paired to combine innovative ideas with field experience to develop a cost-optimized system that meets your demands and the competitive environment.

We design our systems and equipment with special care for

- Optimized cost of ownership
- High reliability
- Easiness to operate, test and maintain
- Friendly environmental impact

In two large altitude chambers at our site in Toulouse (France) we test air management systems and their components. With a volume of 70 m³ and 120 m³ and a weight of 20 tons and 48 tons, respectively, the chambers are connected to a high-performance compressed air and vacuum circuit, which is used to simulate pressure conditions that prevail at high altitudes.









Manufacturing

We expand and improve our production methods for the future while maintaining necessary machinery, tools, means, and skills to be able to support aircraft operations long after production has stopped. In our manufacturing process, characteristics such as flexibility, efficiency, quality, reactivity and also sustainability are mandatory: each site commits to ambitious targets of reducing environmental impact.

Having close ties with you, our customer, allows us to plan and anticipate your needs and to deliver services where and when you require them.

Our manufacturing processes are driven by

- Flexibility
- Quality
- Reactivity
- Sustainability
- Efficiency

High performance gearboxes and components for flight flight control and actuation systems are core competencies of our production facility in Friedrichshafen (Germany).

Entry into Service

Entry into Service is commonly considered as the transfer from the end of development of the aircraft to the first delivery to an operator. However, we understand that the first time you will operate an aircraft, regardless of its age, you will experience an Entry into Service.

Our entry into service package consists of

- Training to prepare your maintenance personal and familiarize with our global field service network
- Distributing technical documentation
- Providing recommendations for initial provisioning and strategically placing assets
- Suggesting tools and parts to maintain our systems
- Monitoring the components behavior while in operation

All of these initial steps are part of a structured and mature framework, overseen by frequent and direct contact with you.

Training

We believe that product and service training is paramount for the connection with you. Our dedicated training staff provides individual product and service training online, in-house and at your facility. Our multi-cultural team leads customer workshops per region to share expertise and establish a wide knowledge base on our products. These seminars offer an open forum for you and us to share experience and best practices.



Discover our Liebherr-Aerospace training center!

You can experience a whole range of training solutions especially designed to increase your knowledge of our products, their operation and maintenance via pocket training, eLearning, virtual and standard classrooms.

Log in to our training center at <https://aerospace.liebherr.com/training-center> to discover our full catalog and find the right sessions for you in the calendar.









Operations

More than 600 employees in customer services in our global network are dedicated to support you locally.

The stations, offering a wide range of services, are your regional focal points and your first point of contact for what ever your need.

Our in-service engineers work continuously on innovative repair solutions and product enhancements to reduce customers' maintenance costs and meet new airworthiness requirements.



Our service stations in Asia, Europe, Middle East and in the Americas are close to you. They provide local support with material and service solutions as well as technical support regarding air management systems, flight control, actuation, landing gears as well as electronic components and gearboxes.

Material and service solutions

We provide innovative solutions with practical value. With decades of experience in the competitive aftermarket, we know that each customer's business is unique. No matter the size of your operation, we are flexible exploring and adapting our commercial support to your needs.

Single Interface Service offers are provided through our partner companies: OEM Services*, focusing on civil

aircraft and OEM Defence Services*, specializing in comprehensive solutions for defense aviation.

Our global logistic package optimizes your stocks, reducing your assets and limiting your risk exposure.

These tailored pool programs as well as advanced exchange, rotatable supply, and spare sales are available at each station.

*Joint Venture companies, respectively 25 % and 20 % share held by Liebherr



Spare order status: you can track your part orders 24/7

This service enables you to follow the progress of your purchase orders online.

Connect to <https://aerospace.liebherr.com/spare-order/status> to access centralized information about all part orders you have with our worldwide sites.

Tracking information is provided in real-time, ensuring that what you see is always up to date. In full autonomy you can follow your current and forecasted deliveries, as well as download all the detailed data needed on a given purchase order.





Technical support

As a system designer, our technical support is a commitment to you, based on the original design criteria, to assist our equipment through its full lifecycle.

Dedicated experts answer your questions directly and provide guidance to determine sustainable operation solutions.

In addition, we also provide extensive repair and restoration solutions through our service network.

To predict operational trends and develop best practice methods, we collect and evaluate data to provide tools to communicate in-service recommendations.



Technical requests online:
ask for clarification on technical issues and exchange documents with our technical teams

At <https://aerospace.liebherr.com/technical-requests> create your own query concerning a technical issue in

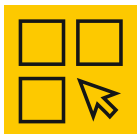
your fleet or regarding questions you may have about our technical publications. You can also exchange documents online with our technical support specialists. You have 24/7 access to all information. Keep track of the resolution progress at a glance and consult any request from your company that has already been treated.



Customer service centers

We constantly invest in training our staff to guarantee excellence and the same level of service within our network. Your benefit is a local representative who speaks your language, and understands your region and culture.

Our AOG support is locally organized, extends through the network, and is available 24/7/365. You can connect to our service platform and go on our website www.liebherr.com



Service platform

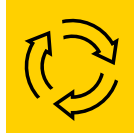
MyLiebherr

Aerospace

Welcome to our service platform!
Create your account on <https://aerospace.liebherr.com>,
and access our customer support and services with
24/7 availability worldwide.

On this platform you can manage your orders or
requests online, interact with us at any time in order to
ease day-to-day tasks.





Used Serviceable Materials

USM

Repair and recycle

We design our products to be repairable and recyclable to minimize “scrap and replace”.

The next major challenge for air transport will be to deal with aircraft coming to their end-of-life. We are largely involved in a recycling activity of Liebherr equipment removed from dismantled aircraft:

- During the repair process we reuse parts considering their life potential
- Recycled spares are also available as “USM by Liebherr”

We set-up a Used Serviceable Material service to help you to optimize operating costs. With USM by Liebherr, you benefit from a worldwide access to Liebherr’s serviceable parts with OEM quality standards at fair market value.

With our purpose-built facility in Saline, MI (USA) we have established capabilities to repair heat exchangers and other components of environmental control systems.

Enhancement for the next generation

Our in-service engineers work continuously on innovative repair solutions and product enhancements to reduce your maintenance costs, respond to your expectations, and meet new airworthiness' requirements. As a Design Organization Approved (DOA) company, we can use the wide range of test capabilities from our OE facilities to quickly develop and implement our enhancements. Our dedicated, experienced teams will help you to implement any enhancement with tools for planning and services to minimize impact on your operations. With predictive maintenance we improve customer experience and avoid flight interruption.

The long life of an aircraft represents years of accumulated experience and knowledge of systems and equipment performance. We channel this knowledge, compiled with innovative technologies, to push the boundaries of our future services.

We are thinking of tomorrow today.



Liebherr Analytics

With Liebherr Analytics Solutions you benefit from our set of predictive maintenance algorithms and other trend monitoring applications, combined with advanced technical support. This brings added value to the maintenance of the fullscope of Liebherr such as bleed, air management, landing gear and flight control system components.

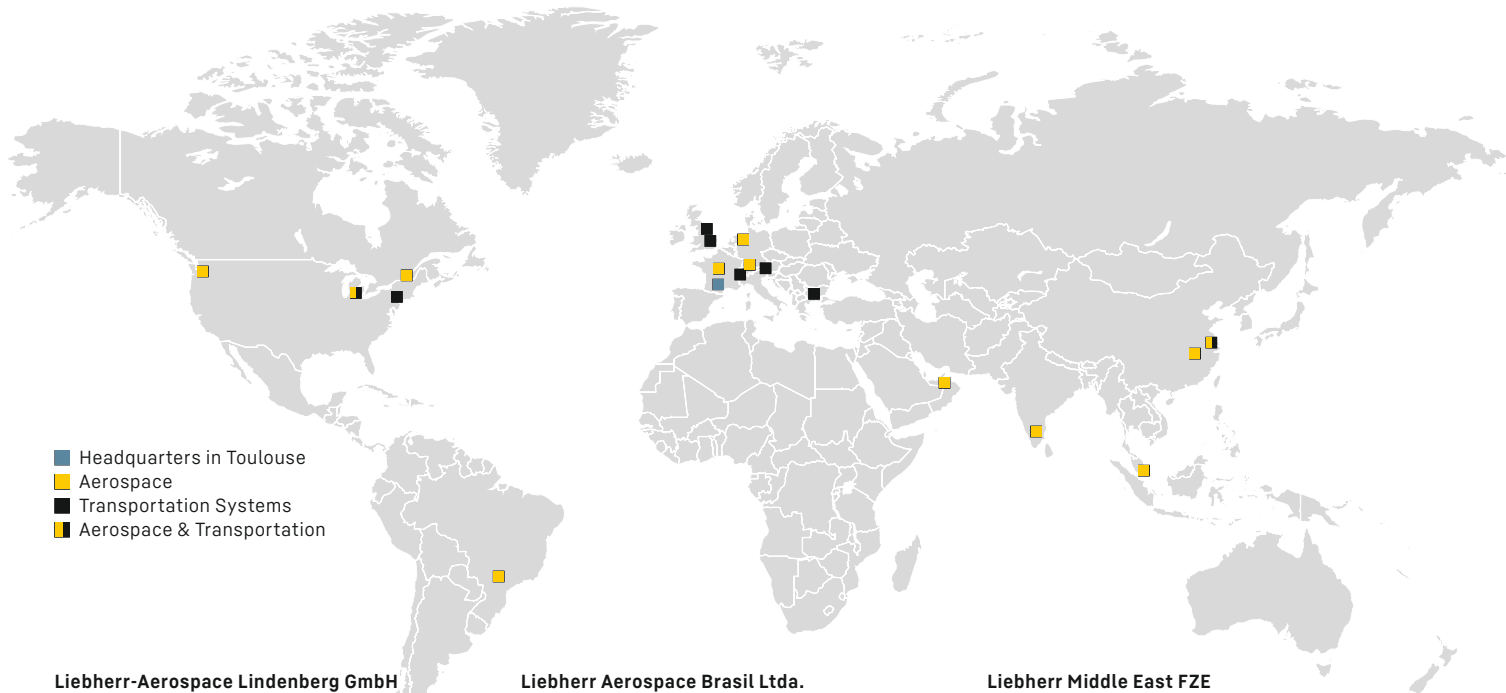
Smart glasses make it possible: A colleague in Shanghai (China) shows his team mates in Toulouse (France) in real time a part of the test rig for air management system components.





A global network

We are always close to where your needs are.



- Headquarters in Toulouse
- Aerospace
- Transportation Systems
- Aerospace & Transportation

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* 25 % share held by Liebherr-Aerospace
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