

ZEPPELIN[®]
WE CREATE SOLUTIONS

EVERYTHING IS POSSIBLE
Services for all fields
of quality management



Quality Service

www.zeppelin-qm.com

WE CREATE SOLUTIONS Zeppelin Quality Service

With its long tradition, Zeppelin has gained a good reputation in the aviation industry. Zeppelin is not only a world leader in the construction of turn-key plants for the handling of premium bulk material, it also operates in various business areas worldwide. We sell construction machines from Caterpillar and Hyster and rent all equipment for an efficient construction site operation. We are also specialists for engines and aggregates in the industrial sector.

Zeppelin Quality Service is part of the internationally successful Zeppelin Group. At the locations in Friedrichshafen and Rödermark near Frankfurt, we offer professional quality management services

to the aviation industry, the automotive industry and for mechanical and plant engineering.

We are continuing the legacy of Count Zeppelin, our founding father. His dedication, tenacity and visions have set the example for our everyday work. We are constantly working on improvement, deliver quality at the highest level and put our competence in the service of our customers. Many renowned companies appreciate the cooperation with us, such as EADS Germany, Liebherr Aerospace, Rolls-Royce Germany, Premium AEROTEC and ZF Luftfahrttechnik.

Our services

- Consulting and setup of management systems
- Staff training
- AÜG license for temporary workforce
- Aviation manufacturing and maintenance organization
- Pickling according to aviation standards
- Destructive and non-destructive testing procedures
- Welding technology
- Measuring technology
- Calibration service



EXCELLENT PERFORMANCE Accreditations and certificates

Signed and sealed. What others can only claim, we can actually prove. We have numerous relevant certificates, approvals and accreditations in our core business and are re-audited annually. Our customers in the fields of aviation, automotive, mechanical and plant engineering can therefore be sure they are dealing with a professional business partner.



Examples of certificates and approvals

- DIN EN 9100:2009
- DIN EN ISO/IEC 17025 accredited calibration laboratory
- Nadcap accreditation PT/MT/RT/ welding
- EASA Part-21G and Part-145

Customer certifications from

- EADS Germany
- Premium AEROTEC
- Liebherr Aerospace
- MT Aerospace
- Rolls-Royce Germany
- ZF Luftfahrttechnik
- Airbus Germany

ALWAYS AT THE TOP IS OUR TRADITION Aviation manufacturing

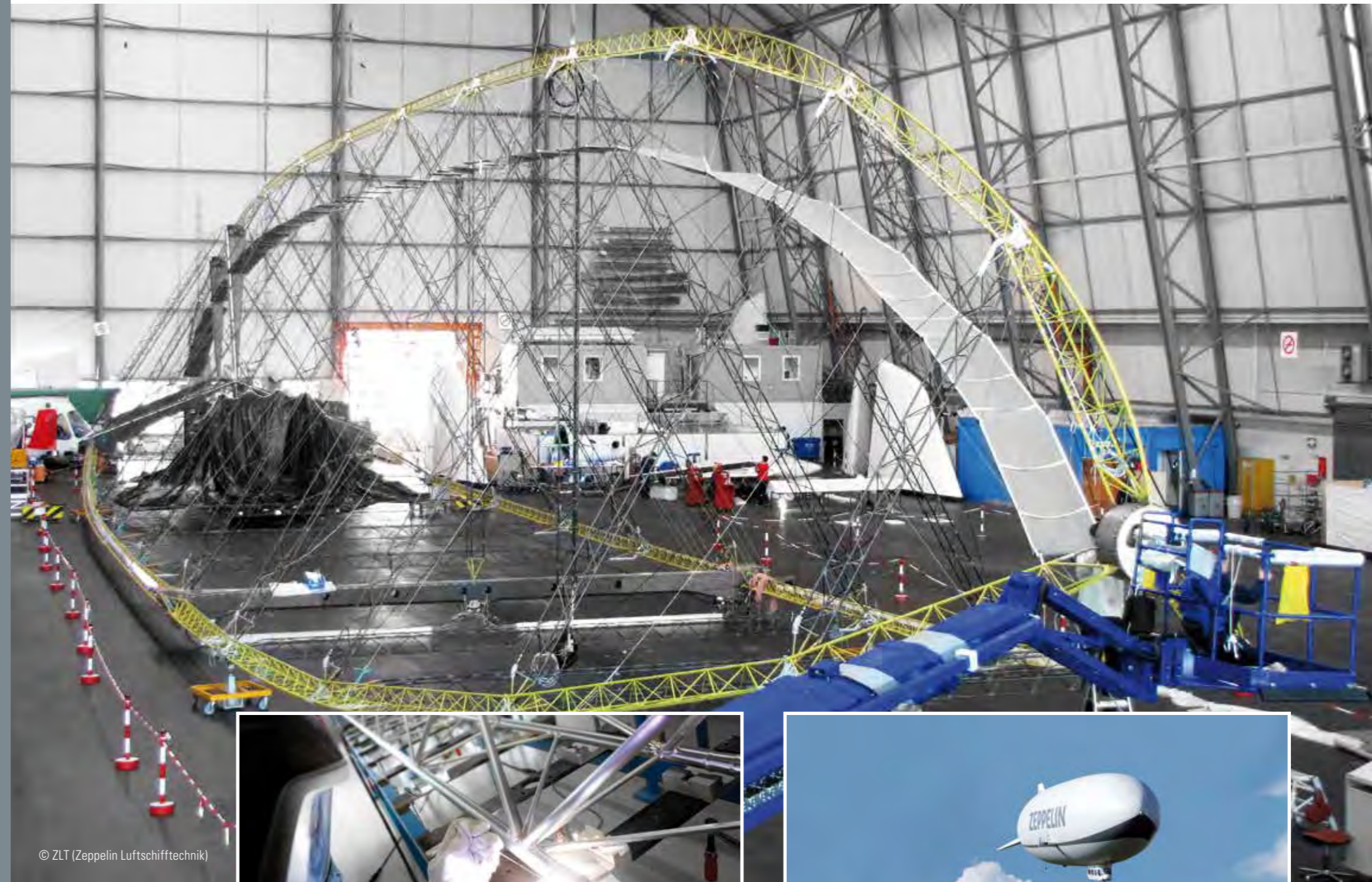
Bound by tradition. In our field of business, no one can compete with our decades of experience in building airships.

As an aviation manufacturing and maintenance organization, we are certified according to EASA Part-21G and Part-145 and therefore we know exactly what is important in the production of aviation components. Our welding technology is Nadcap approved. We can confirm the suitability of the components for the use in aviation with a "Form One" certificate. Another advantage of our work: production and testing of components are carried out without any interfaces by one single source.

Services in aviation manufacturing

- DC aluminium TIG welding
- Repair welding of components (DC TIG welding)
- Welder training according to DIN ISO 24394
- Welder certification according to DVS 2715-2
- Manufacture of aviation components according to EASA Part-21G
- Repair of aircraft components according to EASA Part-145
- Welding manufacturing according to DIN 2303
- Nadcap welding
- Pickling acc. to aviation standard
 - 80-T-35-0100 acidic pickling of Al and Al alloys
 - 80-T-35-0110 alkaline pickling of Al and Al alloys
- AÜG license for temporary workforce

A V I A T I O N K N O W - H O W



© ZLT (Zeppelin Luftschifftechnik)

P R E C I S E

WELDING AT ITS BEST Welding technology and welding inspection

The aviation industry is known for its top class welding. Whoever masters these high requirements is also optimally equipped for tasks in other fields. Zeppelin manufactures reliable high-quality aviation-specific welded constructions.

In addition to welding, one of our fields of activity is also the repair of components. As specialists in DC aluminium TIG welding, we can even repair sensitive components made from crack-prone magnesium or aluminium alloys virtually pore-free and with minimum distortion. We develop appropriate repair processes tailored to your needs.

We will gladly assist you with our wide range of welding experience. Our approvals enable us to train and certify welders according to DVS 2715-2 and DIN ISO 24394.





Types of destructive testing at Zeppelin

- Tensile test
- Bending test
- Hardness test
- Micro and macro structure (weld seam inspection)
- X-ray fluorescence spectroscopy (mobile)
- Determination of residual austenite (weld seam inspection)
- AÜG license for temporary workforce

TO THE LIMIT AND BEYOND Destructive testing

Destructive tests are essential to good quality management. Zeppelin tests your materials mechanically up to the limit of stress resistance. Among other methods, we test the strength, the elongation and the hardness of the materials used. We comply with the standard values or work according to individual customer specifications.

S A F E

NON-DESTRUCTIVE TESTING Including on-site operations

There are different test methods available for non-destructive material testing. For each testing technique there are two quality criteria. The quality of the equipment of the testing laboratories and the competence of the staff are essential for good results. We have the most modern testing facilities and extensive equipment. Every single one of our qualified inspectors (up to Level 3 in accordance to DIN EN ISO 9712/DIN EN 4179) is an experienced professional. For years, our processes have been regularly monitored by an independent institute (the Performance Review Institute) and we fully comply with Nadcap aerospace requirements. Our experts are also in demand for the construction of pressurized equipment (HP 5/3 DGR).

Our employees are not only highly qualified, they are also highly committed. For example, on-site jobs with our mobile X-ray tubes are naturally part of our scope of services.

M O B I L E

Types of non-destructive testing at Zeppelin

- Penetrant testing
- Fluorescent penetrant testing (water washable and post emulsifiable inspection systems)
- Magnetic particle inspection (stationary and mobile)
- Surface preparation (degreasing and pickling baths)
- Ultrasonic testing (composite aviation parts, welding seams also on site)
- Radiographic testing (X-ray bunker, microfocus tubes, direct emitter)
- Conductivity measurement (exchange testing)
- AÜG license for temporary workforce



PRECISE MEASUREMENTS Tactile metrology

Our fully air-conditioned measuring room is equipped with numerous modern high-precision measuring machines to enable a quick and reliable process of your measurement and testing requirements. With the help of extensive metrological softwares for CAD data processing we solve the most challenging tasks. Thanks to our Gon and Gear Pro supplementary packages we can measure components with all varieties of gear toothing. From single components to prototypes, small batch to mass production, we can provide you with the right solutions.



UNTOUCHABLE Optical metrology

In addition to tactile metrology, optical metrology is a proven instrument for quality control. The non-contact data capturing of the part surface is done by digitalization using a structured light scanner. The part surface data is evaluated and documented according to your individual requirements. We provide solutions customized to your needs, from simple 3D data generation and surface reconstruction to the most demanding feature analysis.

You can also count on us for measuring and inspecting industrial installations. We can establish an overall inventory and documentation of your plant including visualization using data acquired by measuring with a 3D terrestrial laser scanner or by performing aerial surveying with an octocopter.



Metrological services

- Tactile coordinate metrology (Zeiss)
- Optical 3D metrology (GOM also mobile)
- Surface roughness and outline measurements
- Initial sampling (ISIR)
- Surface reconstruction and reverse engineering
- Manual measurements
- Incoming goods inspection
- Contract measurements
- Gear geometry measurement (Gon, Gear Pro)
- Measuring machine maintenance and calibration
- 3D laser scanning surveys for plant engineering
- Inspection of industrial installations (aerial surveying with an octocopter)
- AÜG license for temporary workforce



ASAP Calibration services

Speed, flexibility and reliability are the assets of our calibration services.

We make sure that within 3 days your test equipment is made available again. And if it needs to get done quickly, we sometimes even calibrate over the weekend. On request we can also take over the entire test equipment management for you.

Calibration services, accreditation according to DIN EN ISO/IEC 17025

- Total test equipment logistics management including collection/delivery service and administration with timely information on calibration due dates
- Inspection of incoming and outgoing goods, visual and functional testing
- Cleaning and repair of slight damage
- Calibration of measuring and test equipment according to DAkkS VDI/VDE/DGQ 2618 guidelines, DIN standards and factory specifications
- Creation of DAkkS calibration certificates or factory calibration reports with measurement traceability to national standards
- Adjustment of measuring equipment

F A S T



IMPLEMENT QUALITY Efficient quality management

A quality management system tailored to your needs offers many advantages. We develop the right system and prepare your company for the certification. We place the highest value on practical relevance. We are your professional partner from the actual condition analysis to the implementation of workshops and internal audits. We also assist in the creation of documentation, staff training and certification. Take advantage of our competent consulting services and our many years of experience we have gained with our customers and within the company. You can also rely on other services of the Zeppelin Quality Service.

FLEXIBLE

Examples of our services and certifications

- DIN EN ISO 9001 (base standard quality management)
- ISO/TS 16949 and VDA 6.1/6.4 (automotive industry)
- DIN EN ISO 13485 (medical technology)
- DIN EN ISO 3834 (welding technology)
- DIN EN 9100 (aerospace and defense technology)
- DIN EN 14001 (environment management)
- DIN EN ISO/IEC 17025 (testing laboratories accreditation)
- Nadcap (accreditation of aviation specific processes)
- EASA Part-21G and Part-145 (manufacturing and maintenance of aviation products)
- Assumption of QMR tasks
- Conducting internal audits
- Conducting supplier audits
- Training





ZEPPELIN SETS A PRECEDENT Professional training

Our highly qualified employees are pleased to share their knowledge. With a wide range of training courses, we provide an excellent level of training to our customers. Our welding specialists provide practical training according to aviation standards. An aerospace training center for non-destructive testing is located at our facilities in Friedrichshafen. Our training center has been approved by NANDTB Germany and offers graduates practical experience with state-of-the-art testing equipment.

Types of welding and NDT trainings

- We carry out training sessions in cooperation with ZF Luftfahrttechnik
- Welder training and testing acc. to DIN EN 287 Part 1, DIN EN ISO 9606 Part 2 – 5, DIN EN 1418, DIN ISO 24394
- DC welding in-house training
- Magnetic particle testing Level 1 & 2
- Penetrant testing Level 1 & 2
- Radiographic testing Level 1 & 2
- Courses according to DIN EN 4179/DIN EN ISO 9712 and NAS 410
- As a specialist in the development and implementation of modern quality management systems, we also offer extensive training in this area in order for quality management to be used effectively and efficiently in the company

Types of QM trainings

- QM basics for newcomers
- QM methods for advanced learners
- Auditor training
- FMEA methodology (Failure Mode and Effects Analysis)
- APQP methodology (Advanced Product Quality Planning)
- PPAP methodology (Production Part Approval Process)
- Statistical methods
- SPC methodology (Statistical Process Control)

WE GIVE EVERYTHING
Customer satisfaction
is our philosophy



Offering serious and reliable quality services requires excellent employees, i.e. experienced specialists who know their business. We have such professionals in all fields. Excellent course instructors for training and consulting, certified Level 2 and 3 auditors and competent welders for demanding tasks.

As a service provider, we only have one goal: the satisfaction of our customers. This is why we fulfill orders and requests with the maximum flexibility. If necessary, we will work for you when others are long gone. Dedication, professionalism and motivation are in our blood.

Always in good hands: With the headquarters in Friedrichshafen and a subsidiary in Rödermark near Frankfurt, we are always near our customers.



THE BEST BUSINESS PARTNERS ARE BUSINESS FRIENDS

Good relationships are based on trust. How can you recognize satisfied customers? They keep coming back. Our customers appreciate our work and rely on our advice. We enjoy the confidence of our customers and we do everything to keep it that way.

“The Zeppelin Quality Service is not only a supplier to us; it is also a long-time indispensable partner who supports us by providing many quality management services.

The company Zeppelin is highly professional and customer-oriented and is always on top of our list of suppliers.”

Jürgen Pempera, Director of Production, Liebherr-Aerospace Lindenberg GmbH

ZEPPELIN[®]
Neue Technologie





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Quality Service

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