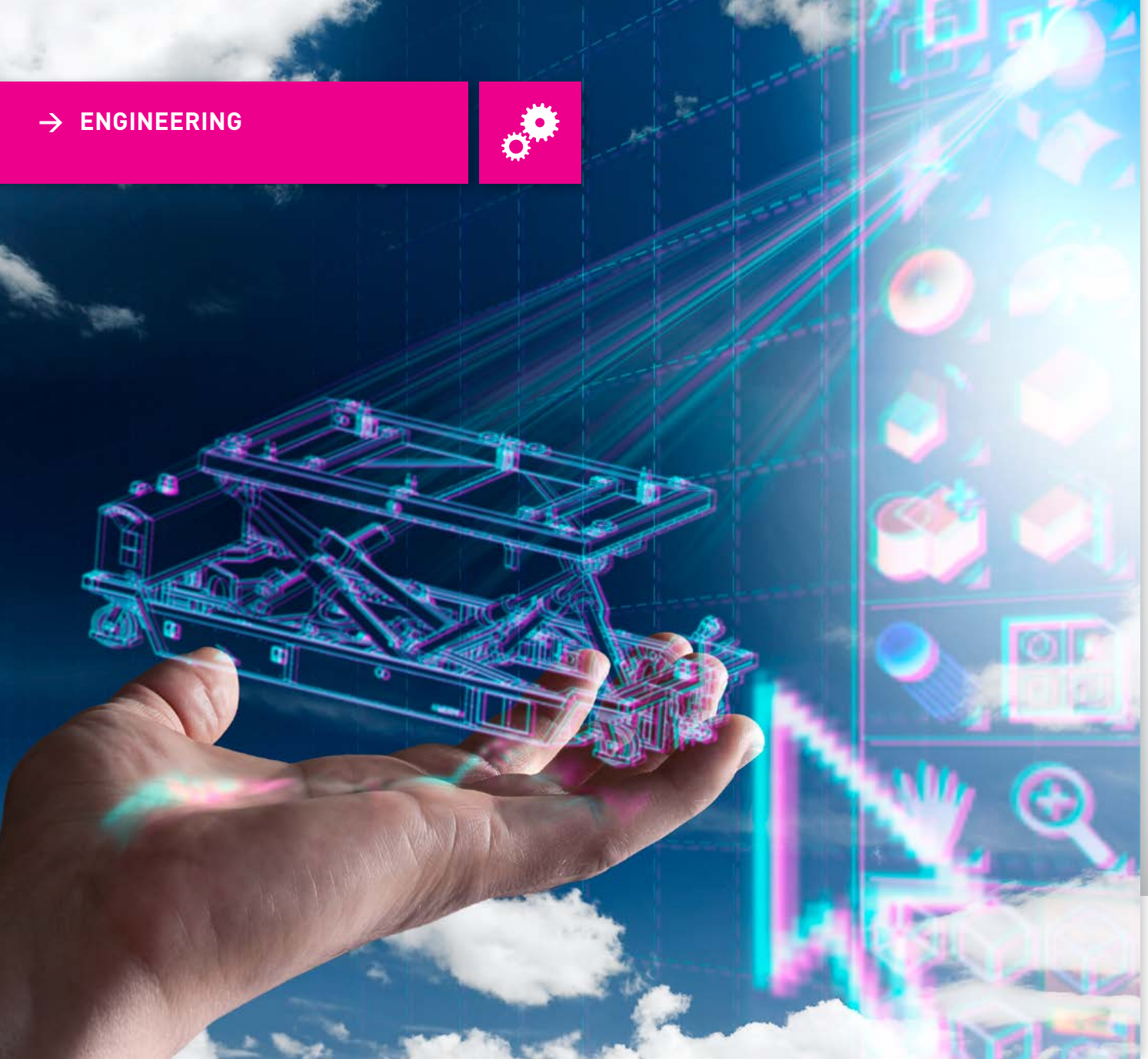


→ ENGINEERING



ENGINEERING

INDIVIDUAL SYSTEM SOLUTIONS



Precision in Aircraft Support



INDIVIDUAL SYSTEM SOLUTIONS

HYDRO is known worldwide as a developer of system solutions and a leading manufacturer of Ground Support Equipment and Maintenance Tooling for the maintenance and manufacturing of aircraft and engines. The trust placed in our products and services by more than 1,100 customers across 100 countries every day is based on the quality of our products, our ability to continuously innovate new solutions and our consistent customer focus.

Over 3,000 GSE products, 25,000 tools, numerous system solutions for almost all types of aircraft and countless individual bespoke developments for customers worldwide attest to the efficiency of our development department. More than a quarter of our staff are engaged in engineering and project management. Their expertise and experience enable us to develop valuable and sustainable solutions for safety, quality and efficiency in your own work processes.



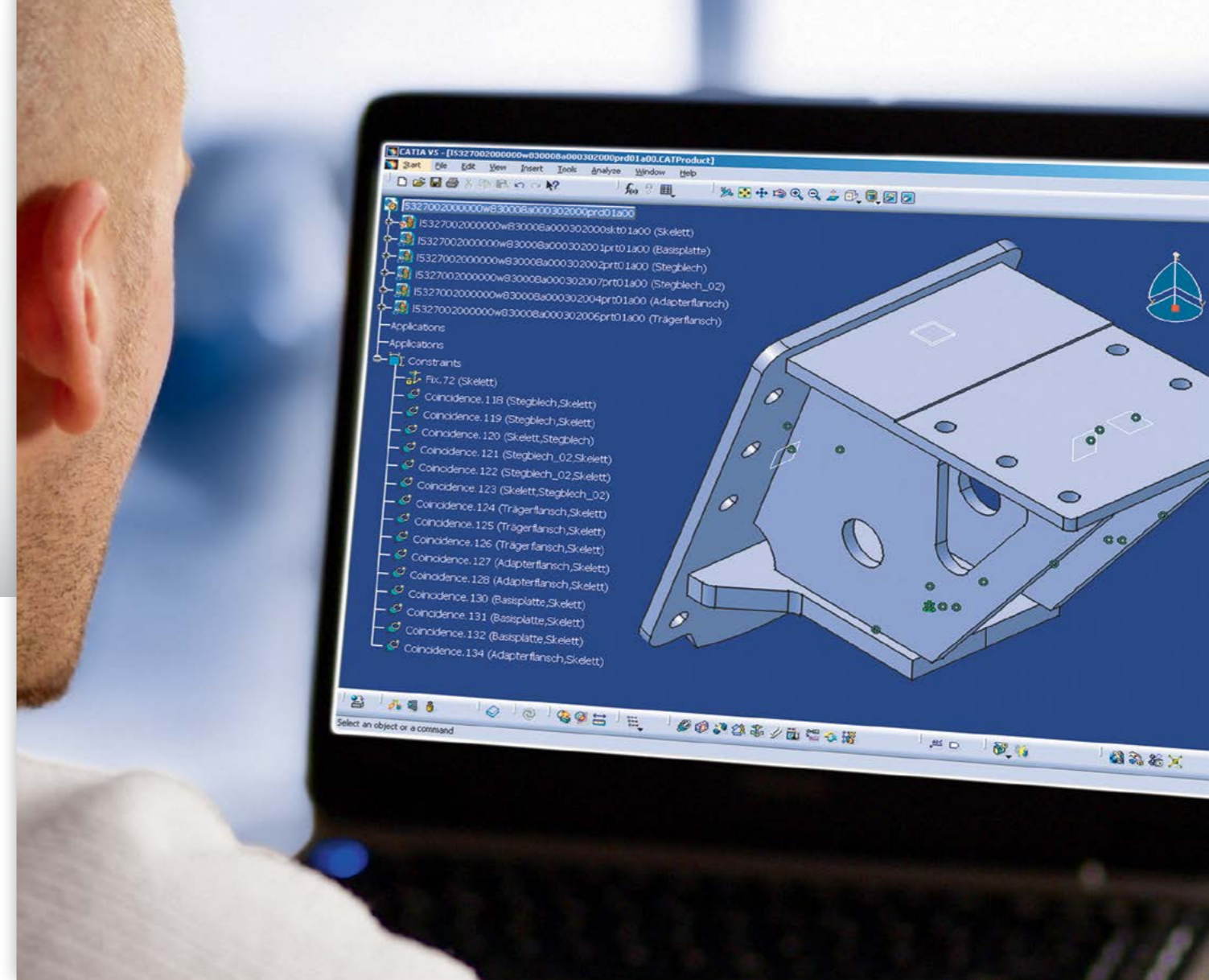
Outstanding technology: Trolley for removal and installation of main landing gear and structural aircraft parts

ENGINEERING SUCCESS

With our state-of-the-art system solutions, HYDRO offers you the highest level of security while also increasing the efficiency of your work processes. In creating the optimal customer solution, we make use of the know-how, technologies and innovations of other industries.

Our main landing gear trolleys for the assembly line of the A380 and A400M are an excellent example of this ability to offer our customers unique solutions through re-combining cross-industry technologies:

- Freely programmable to allow the highest level of flexibility
- Genuine 3-D motion
- Semi-automation of assembly processes
- Faster positioning of the landing gear (up to 30% time saving compared with conventional equipment)
- Multi-purpose tooling: positioning of main landing gear & structural aircraft parts
- Absolute positioning accuracy of 0.05 mm



HYDRO engineering and project management using the very latest CAD technology

LEADING INNOVATION

Ever more new technologies and increasing cost pressures are forcing manufacturers, aircraft operators and aviation service providers to continually adapt and optimize their processes. Those who do not develop their operations or invest in the productivity of their businesses will struggle in the future to meet the growing price and performance demands of the market. HYDRO has been operating successfully within this innovation-driven industry for almost half a century. Our success is based not least on the ability, through our system solutions, to consistently create a perfect synthesis of innovative quality, safety and economy.

A perfect customer solution does not necessarily require the extensive replacement of equipment and systems. In the first stage of the analysis phase, we check to see whether the desired outcome can be achieved on the basis of available equipment. Working closely with you from the start, we develop sustainable solutions that meet your needs not just in terms of quality, but also from a cost perspective.



EXTENSIVE SERVICE RANGE

Whether your need is for a detailed solution to optimize a sensitive maintenance task or the development of a complete production line, we can provide the ideal answer. Thanks to engineering capacities refined each year through hundreds of thousands of man hours, together with a global network of strategically located service centers, we are extremely versatile and flexible. A multidisciplinary team with broad expertise in mechanics, electronics and software design is available under

the guidance of an experienced project manager to meet your requirements quickly, thoroughly and efficiently. Thanks to our decades of experience in all aspects of the development and production of Ground Support Equipment and Maintenance Tooling, you are free to choose whether to entrust us with a pure engineering services alone, or to request a complete package including manufacture, global commissioning and on-site service.

OUR COMPETENCE - YOUR SAFETY

Our diversity results not least from a quality and depth of manufacturing competence that is virtually without equal in the industry. As a member of the European Standards Committee with responsibility for CE certification, we are always fully up to date in terms of international norms and standards. This puts us in a position to provide our customers with the optimal solution for any given need. At the same time, our advanced IT security guarantees 100% data protection.

HYDRO also has many years of development and production experience according to the UL standards used in the USA. Through the thorough testing of our system solutions under real-life conditions, using the world's largest GSE test stand, we give our customers the confidence to totally rely on the functionality and safety of the developments we implement for them.

KNOWLEDGE IS THE KEY

The success of our engineering division is based not only on our years of industry experience and close cooperation with our customers, but above all on the knowledge and skills of our staff, more than a quarter of whom work in engineering and project management. Our ability to cover all areas in-house – from mechanics, electronics and software programming to design and manufacture – makes us the “Single Source Supplier” of choice for challenging engineering projects. In this way, we avoid interface losses and uncontrolled outflows of knowledge. Our customers benefit from this versatility via fast response times, high flexibility and rapid and smooth project completion.

Key project phases:

- Technical study and scoping
- Feasibility study
- Project management
- Design
- Validation
- After sales service



Fuselage transportation trolley for A350

COST-LEADING DESIGN

Through our design partners, we are able to offer comprehensive engineering services to class-leading HYDRO quality levels at a highly attractive price-performance ratio. Simple, time-intensive engineering services are delegated to proven offshore partners in cost-leading countries. Demanding, complex engineering services are provided by our own highly skilled development specialists. There are clear benefits for you in this flexible arrangement. Regardless of the degree of complexity involved, we are always able to offer you the best value for money. At the same time, we assume full responsibility at all times for the quality and reliability of services provided in this way, while passing on our cost savings to you in full.

360° SERVICE AT ALL TIMES

Naturally, you can fully rely on HYDRO even after your project has been completed. With our worldwide service network, we are always available for you, whatever you might need:

- Service centers worldwide
- On-site service
- Technical support
- Multi-manufacturer customer service
- Retrofitting and modification of existing equipment
- 10-year spare parts guarantee
- Training
- Financing solutions



Main Landing Gear Trolley MLGT57-001



Trent XWB Split Engine Stand loaded with engine dummy



A400M FAL Station 35



EJAL-System SG251-001



FAL Casa CN-235 / C-295

GLOBAL EXPERIENCE

Our decades of successful work for OEMs, airports, airlines and MROs has earned us a high degree of confidence within the industry worldwide. In addition to the legendary quality and durability of our “Made in Germany” products, our problem-solving skills for individual, customer-specific requirements have convinced our customers time and again.

Through countless specific system solutions in the areas of Maintenance Tooling, handling equipment and removal/ installation devices to complete final assembly, we are today able to master even the most demanding of challenges efficiently and at the highest level of quality.

HYDRO PROJECT MANAGEMENT

The time and cost factors play a fundamentally central role in engineering projects. With our efficient project management, we give you the confidence of knowing that your projects will be properly processed, on time and on budget, exactly to your specifications. Working closely with you, precisely defined goals and project plans are rigorously implemented and subjected to continuous verification that they meet your requirements.

In this way, our project management processes protect your personal resources and ensure the timely and cost-effective implementation of your project.

- Definition of project goals
- Project planning and structuring
- Resource management
- Definition of milestones
- Progress and cost monitoring

REFERENCES

GROUND SUPPORT EQUIPMENT:

Main Landing Gear Trolley MLGT57-001

The dolly was designed, developed and manufactured for the removal and installation of the A350-900 MLG without brake and wheels. All movements are electrically driven.

Date: 2011
 Customer: Airbus France
 Location: Toulouse/France

GROUND SUPPORT EQUIPMENT:

EJAL System - SG251-001

This Electronic Jacking and Leveling System (EJAL) for helicopter is also usable for helicopter weighing. Jacking and weighing is possible in configuration with three or four jacks.

Date: 2013
 Customer: Eurocopter
 Location: Donauwörth/Germany

ENGINE TRANSPORTATION:

Split Engine Stand - SES

HYDRO designed, developed and manufactured the split engine stand for the transport of the A350 Trent XWB by road, sea or air. The SES consists of a fancase and a core stand for the transport of the engine in split configuration.

Date: 2011
 Customer: Rolls-Royce plc
 Location: Derby/United Kingdom

FINAL ASSEMBLY LINE:

FAL CASA CN-235/C-295

HYDRO designed, developed and manufactured the final assembly docks and handling equipment of the CN-235/C-295 military aircraft.

Date: 2014
 Customer: Indonesian Aerospace
 Location: Bandung/Indonesia
 Also 2001-2008 for EADS CASA in Seville/Spain

FINAL ASSEMBLY LINE:





A400M FAL Station 35

This test and assembly station was designed, developed and manufactured as part of the final assembly line of the Airbus A400M. HYDRO delivered over 75 devices for 5 out of 10 final assembly docks.

Date: 2007
 Customer: Airbus Military
 Location: Seville/Spain

INDIVIDUAL SYSTEM SOLUTIONS AT A GLANCE

- Customer-specific solutions from world renowned specialists
- Value Engineering for maximum customer satisfaction
- Worldwide engineering offices and service centers
- Sole supplier source for fastest reaction times
- Attractive financing models
- Top quality for rapid return on investment
- Cost efficiency through Design-to-Cost
- Professional project management
- Quality and reliability "Made in Germany"

- GROUND SUPPORT EQUIPMENT 
- MAINTENANCE TOOLING 
- SERVICE 
- ENGINEERING 



HYDRO_Engineering_1606

IN SAFE HANDS.

Strong. Leading. Worldwide. HYDRO means innovation, quality and reliability for aircraft and engine manufacturers, MROs, airlines and airports around the world. From the development of turnkey system solutions through to the manufacture of Ground Support Equipment and Tooling, including a diverse range of services, we provide all your requirements from a single source.

As the global market leader, HYDRO sets the benchmark. With our highly experienced development teams, our wide-ranging innovative product portfolio, modern production facilities and class-leading supply chains, you get genuine quality from HYDRO. Precise, reliable and without costly interfaces. HYDRO is truly your "One Stop Shop", a leader within its industry.

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Service Center
Pro Tech Engineering Solutions Ltd.-Paola

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Horiguchi Engineering Co.Ltd. - Tokio

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HYDRO USA
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Los Angeles, CA

HYDRO USA
Service Center
Washington D.C.

and more than 50 sales representatives located worldwide!