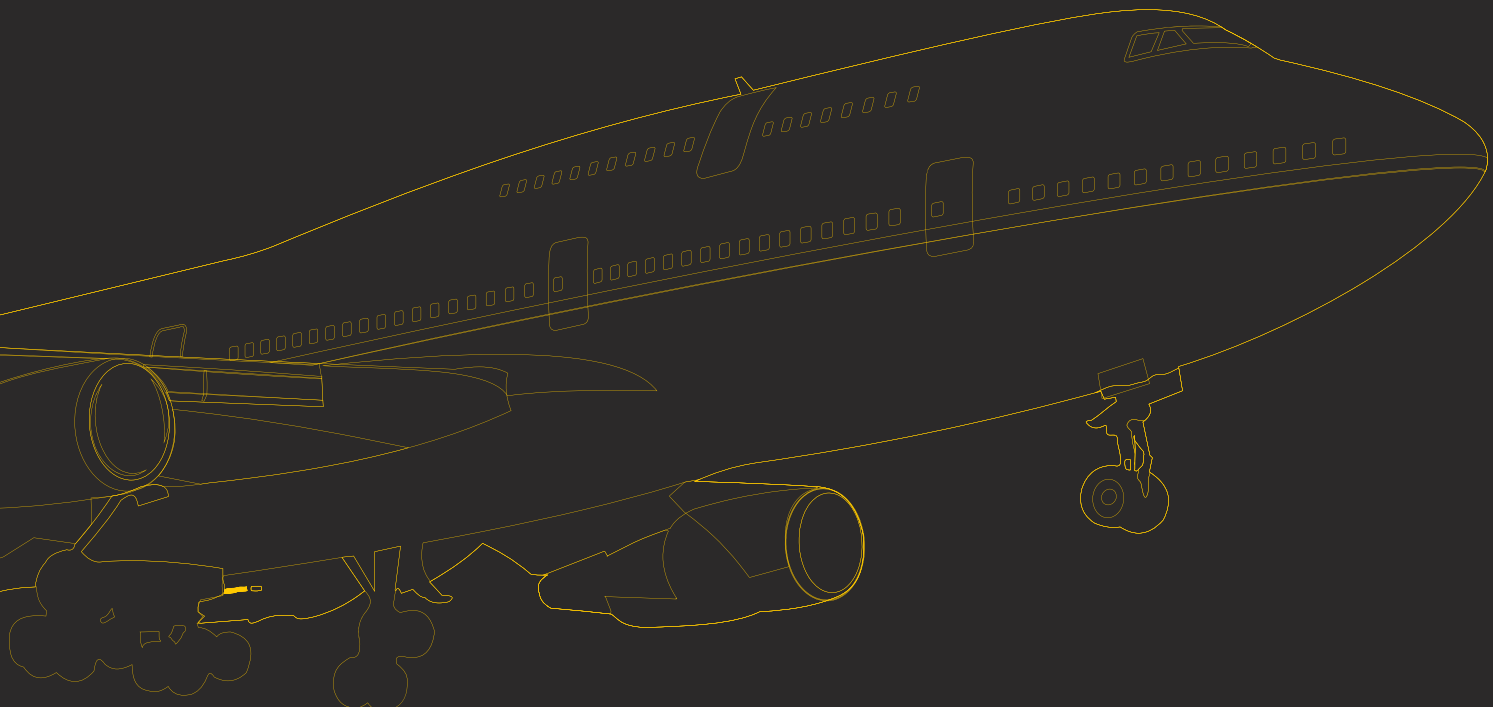


■ **GH** ■
CRANES & COMPONENTS



LIFTING SOLUTIONS FOR **AERONAUTIC INDUSTRY**

GH

CRANES & COMPONENTS



001

Certificate No. E199326



DESIGNED, ENGINEERED
& 100% KIT
MADE IN EUROPE

LIFTING YOUR WORLD

TRUSTED PARTNER : SATISFIED CLIENTS WORLDWIDE
HIGHEST QUALITY STANDARDS
VANGUARD TECHNOLOGY
PROCESS EFFICIENCY
RELIABILITY
SAFETY

Excellent Equipment



GH GROUP

GH is one of the global leaders in the lifting industry, who has been always driven by the following belief: "science and technology should serve to enhance the civilization of the mankind", sparing no efforts to promote mature technology in each lifting industry, which has been widely recognized and supported. over the course of more than half a century of development, GH has lead the industry, step by step, reinventing the business, each time more powerfully. In many industries, GH is recognized as the world's leading supplier for the lifting equipment, spare parts and services.



GH is a family owned company with deep roots on its business basics: safety, efficiency, robustness and environmental protection, designing user-friendly low-in-maintenance products, persevering on integrating all these elements into every single aspect of GH products' development and manufacturing.



Focused on continuous R&D and innovation, GH MISSION is to PROMOTE our CUSTOMERS' EFFICIENCY & PROFITABILITY by offering suitable SOLUTIONS TO THEIR NEEDS, minimizing our clients' operating costs and easing adverse environmental impact involved in the industrial production.

GH choice is to design completely its products in house and promote commercial components to maximize parts' interchange ability, and doing so mitigate end users' risks. Behind this it is a clear belief: GH proposal is to provide high quality and high value added service to enhance users' experience offering the lowest risks and best performance in the market.

EXPERIENCE

GH wide EXPERIENCE in developing optimal solutions for aeronautic industry makes a difference when driving our worldwide clients in this sector. GH's skilled team delivers our global expertise in this industry helping our clients to select suitable lifting equipment for the typical processes involved in the sector.

INTEGRAL SOLUTIONS

From design stage we offer tailor made solutions to our customers being able to supply all the cranes involved in the typical installations of the sector. INTEGRAL SOLUTIONS delivered, according to the complete process needs demanded by our clients.



PROCESS EFFICIENCY

The aeronautic industry uses vast different processes in parts manufacturing to later on assemble them. GH's products and services ensure optimal lifting solutions for all of them. Customers in this demanding sector have an obsession: EFFICIENCY. GH provides tailor made solutions specially designed to meet our customers' demanding processes ensuring efficiency and enlarging the cranes life span with GH complete turnkey solutions.

DELIVERED EXPERTISE

GH brand in Aeronautic industry means "trusted partner" for the main players in the sector. Satisfied clients support GH tailor made solutions. Our expertise obtained along many years allows us to drive our clients towards efficiency improvement whichever process/es they are in.

GH wide range of lifting solutions delivers big savings in construction costs:

- Optimized I beams calculation: increasing available lifting height .
- Compact designs optimizing side approaches.

Furthermore we shorten working cycles by using PLCs driven automatic and semi-automatic cranes, increasing our clients' productivity.



Multipoint double girder special crane allowing 4 movements



MAIN ADVANTAGES OF AVAILABLE SOLUTIONS FOR AERONAUTIC INDUSTRY

- **Semi-automatic and Fully automatic cranes:** PLC controlled cranes ensuring needed shortened working cycles, target positioning avoiding manual controlled inefficiencies and including electronic anti-sway system.

- **Multipoint hanging cranes:** Single girder and double girder cranes running thru 3 or more hanging I beams including:

- Pin connection in one of the hanging end carriages avoiding hyper static forces,
- Long travelling horizontal rollers favoring stable running,
- Close loop long travelling inverter controls avoiding crane crossing effects.

- **Transfer cranes** aligned by WIFI permitting elements/parts bay crossing. Very precise alignment is ensured carrying out the processes safely and reliably.

- **Vast range of speeds available:** big lifting speeds (up to 15 m/min in STD hoists) and translation speeds (up to 100-120 m/min) to cover big distances in long hangars. Micro speeds (incremental) for precise positioning.

- **Zone restriction:** Protected areas kept safe, eliminating human errors and avoiding damages in your equipment or injuries to your staff.

- **Synchronization in hoisting:** Closed loop controlled (encoder) avoiding load slipping and ensuring a precise and safe loading when using 2 or more lifting points.

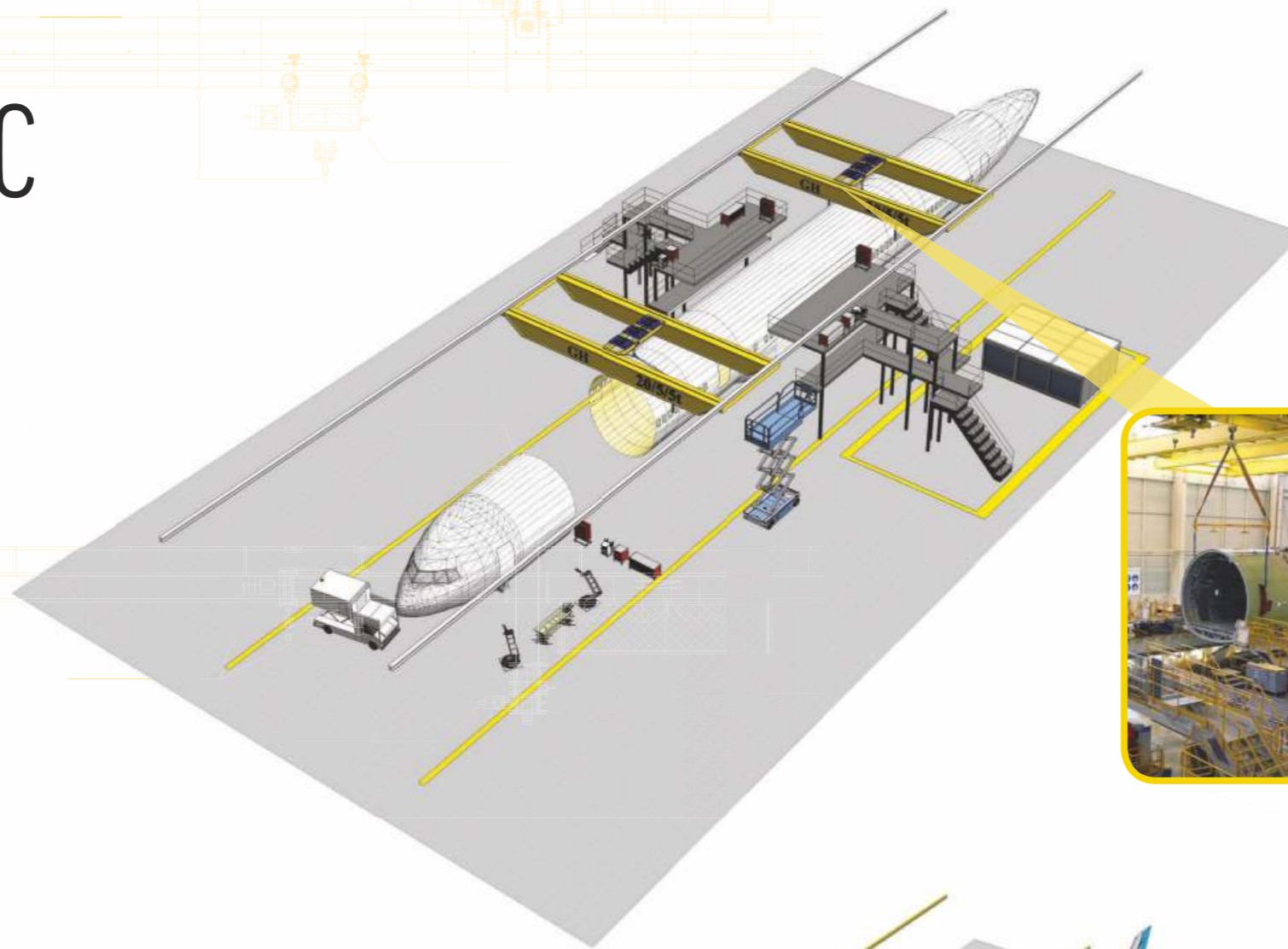
- **Overload electronic device as standard:**

- Lifting device loading spectrum and overloads record (black box)
- Safety working period (SWF) control
- Alarm activation for preventive inspections
- Lifting motor over temperature control input/connection.
- Control of starting and braking lifting movement towards movement smoothness, avoiding abrupt movements and increasing life span of motor, brakes and contactors.

- **Friendly use:** Remote controls including informative display showing black box info and ergonomic design.

- **Regenerative inverter controls** saving up to 5% energy, feeding it back to grid.

AERONAUTIC INDUSTRY CRANES



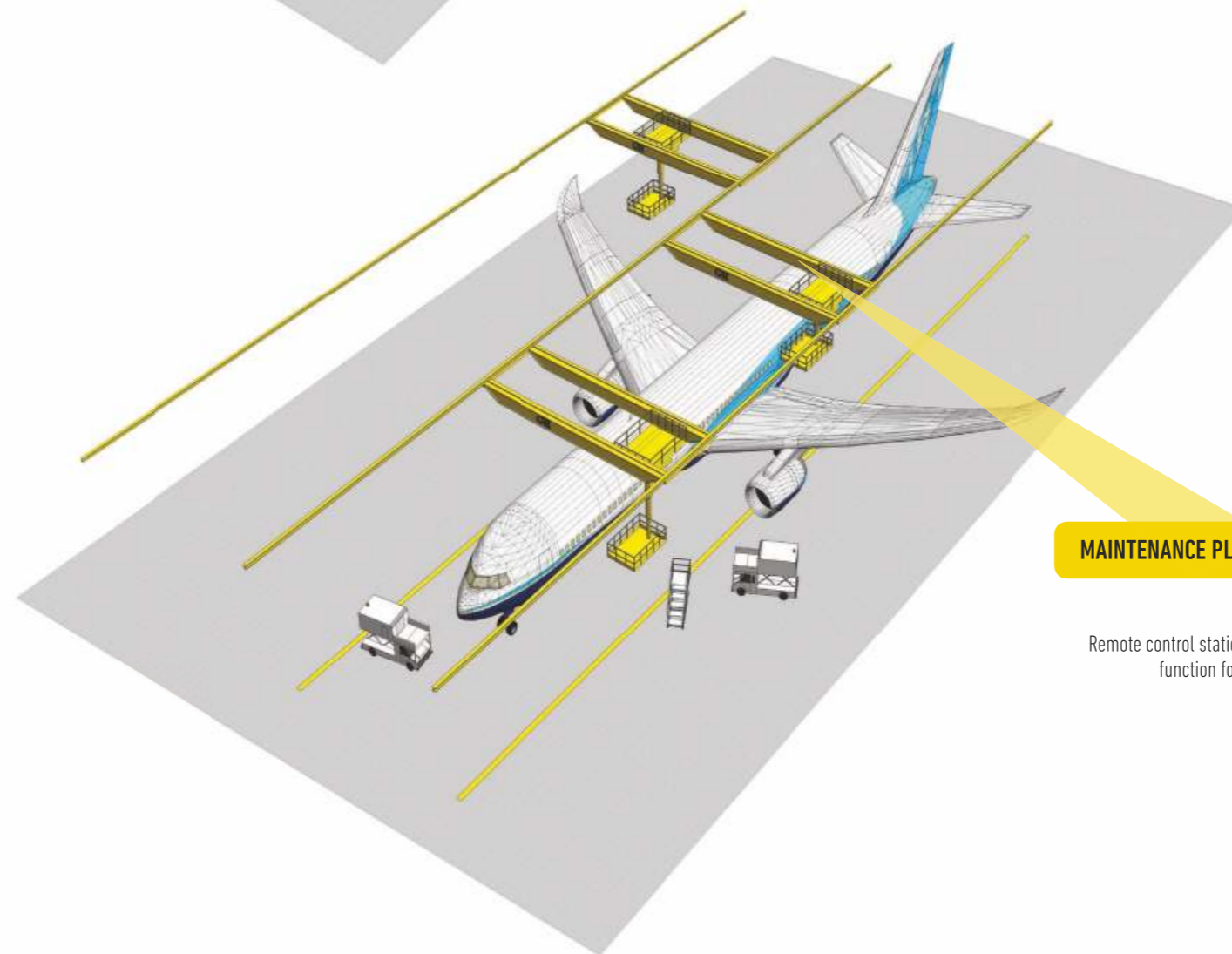
DOUBLE GRINDER MULTIPOINT HANGING CRANES

Up to 20 ton capacity.
Horizontal rollers and close loop encoders correcting crane crossing effects.
4 movements (Lifting, cross travelling 1, cross travelling 2, long travelling) as possible solution.
One end carriage with pin connection avoiding hyper static forces in the structure.
Remote control stations including inching function for precise maneuvers.

GH

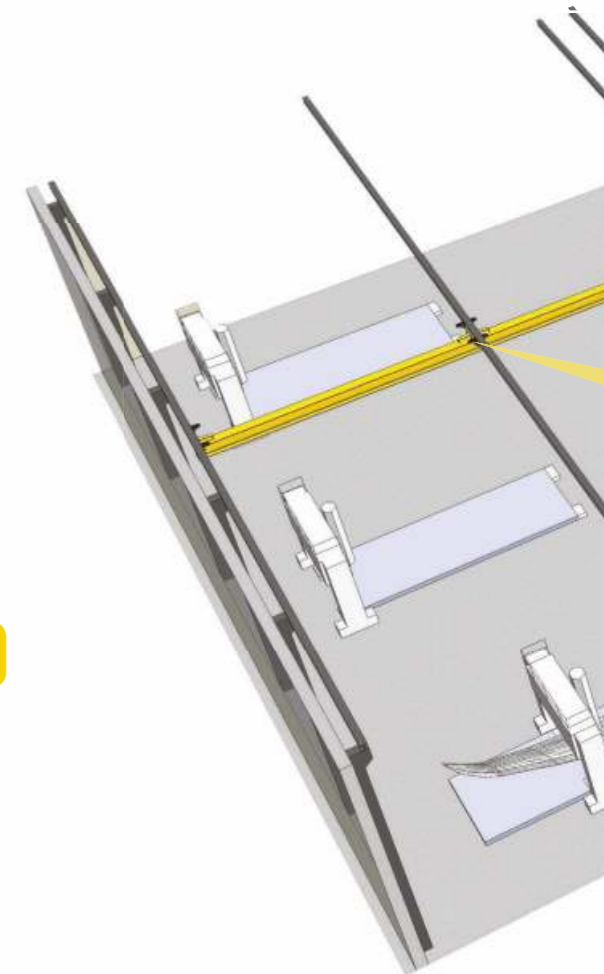
YOUR PARTNER

GH is aware of the important role of the cranes, that must be operational 24/7 and efficient due to the very demanding processes and thus short cycles required. Layout and complete working cycle are key elements taken into account by our sales team and expert engineers. GH offer includes automated cranes including latest technology to maximize the return on investment of our customers.



MAINTENANCE PLATFORM CRANES

Telescopic arm.
Remote control stations including inching function for precise maneuvers.



INSTALLATION TRANSFER LINE

Controlled by PLC Ethernet module.
Communication via WIFI and remote control, controlling access points.
Cranes weighing control ensuring correspondent maximum load in each crane.
Acoustic and visual signals.

SINGLE GRIDER 2 POINTS

Up to 20 ton capacity (10 + 10t).
Horizontal rollers and close loop encoders correcting crane crossing effects.
Remote control stations including inching function for precise maneuvers.

TRANSFER UNIT DETAIL

±3 mm tolerance in transfer unions.
Power line fast plug connections ensuring appropriate feeding.
Hoist travelling speed automatically decreased for safe transfer maneuver.
Sensors for "close door" detection.

TYPICAL INSTALLATIONS

PARTS MANUFACTURING

AIRBUS HAFEI
8 Bays plant for A350 XWB wings manufacturing

PLANE ASSEMBLY

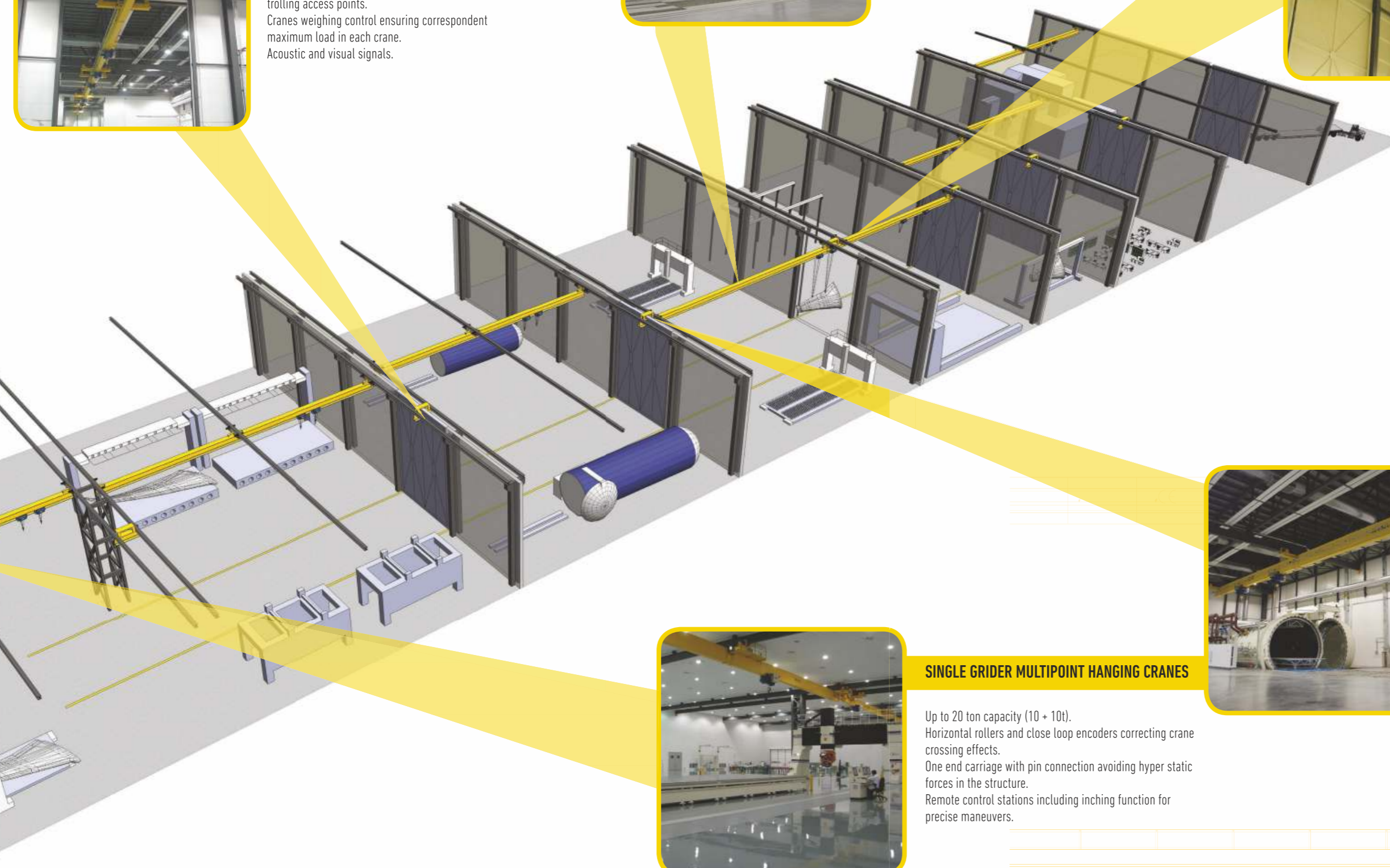
Multipoint double girder cranes

PLANES MAINTENANCE

Maintenance platform cranes

SINGLE GRIDER MULTIPOINT HANGING CRANES

Up to 20 ton capacity (10 + 10t).
Horizontal rollers and close loop encoders correcting crane crossing effects.
One end carriage with pin connection avoiding hyper static forces in the structure.
Remote control stations including inching function for precise maneuvers.



Airbus Group: a worldwide partner



AIRBUS (FRANCE)



AIRBUS MILITARY (SPAIN)



AIRBUS CASA (SPAIN)



AIRBUS-HAFEI (HAERBIN-CHINA)

Global Experience



EMBRAER (BRAZIL)



PORTUGAL AIR FORCE



ETIHAD (UAE)



HEATHROW LONDON AIRPORT





RELIABILITY

GH cranes are known due to their durability and reliability, which are important in any industry given but even more important when dealing with process cranes as the ones installed in aeronautic sector. The whole process depends on those cranes and only best performance can be accepted.

SERVICE

Service and maintenance plays a key role in our GH product strategy. The Crane should be inspected and maintained before any problem appears in order to avoid stops, and reduce the impact of the operating costs on our customers' profits. GH Cranes uses the best design, delivering a higher quality product, meeting higher requirements than most of the competitors to ensure additional features, reduce the maintenance cost and extend the working life of the investment.

SAFETY

We are not just concerned about the safety of the lifting equipment and the load handled, we are committed to improve the safety performance of the entire production system.



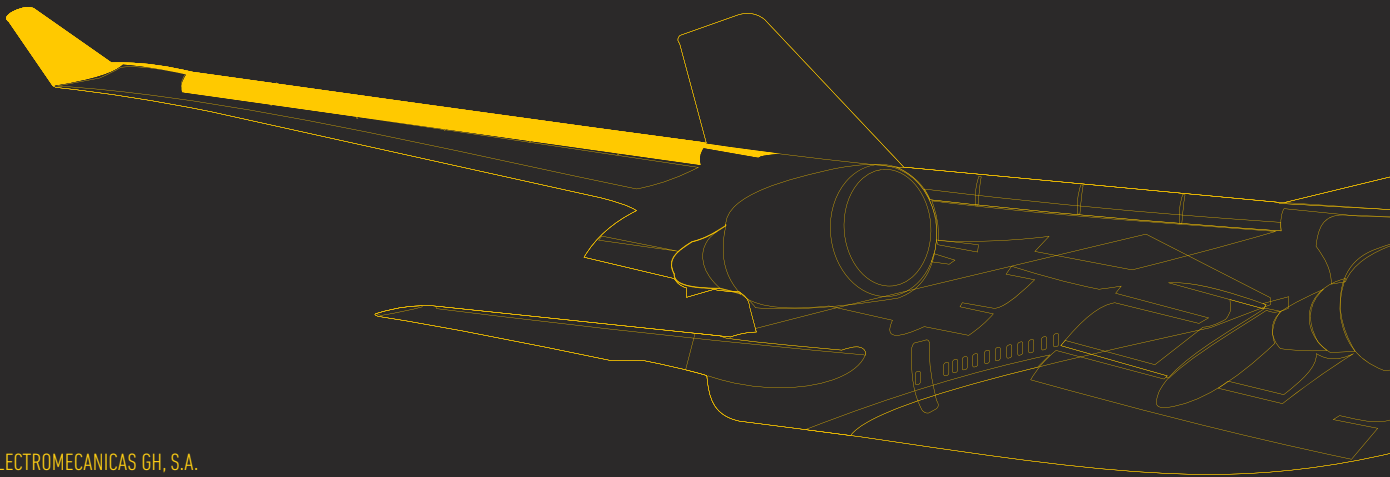
INTERNATIONAL REFERENCES LOCATION





■ GH ■

CRANES & COMPONENTS



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