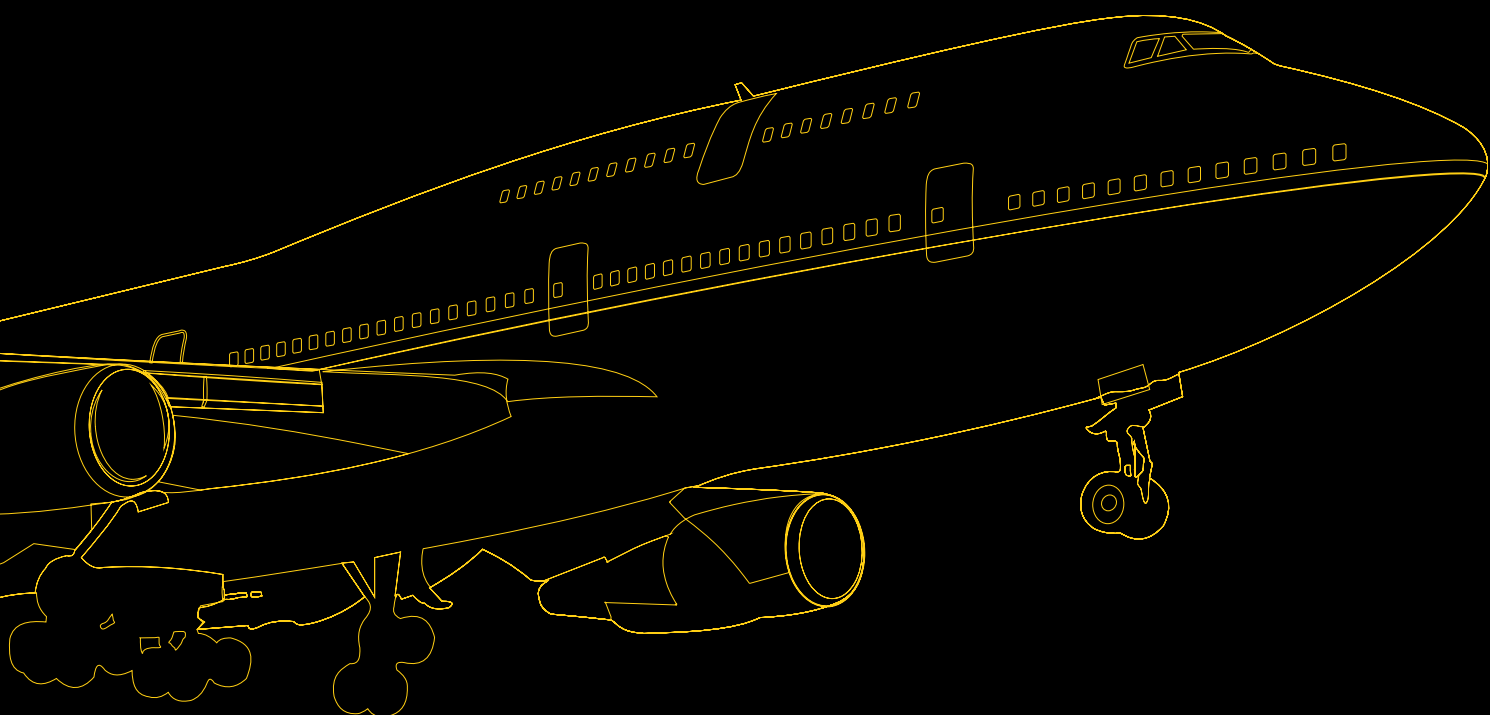


■ **GH** ■

Cranes & Components



LIFTING SOLUTIONS FOR **AERONAUTIC INDUSTRY**  
航空业起升解决方案

# LIFTING YOUR WORLD

## 提升你的世界

**GH**  
Cranes & Components



Certificate No. E199326



DESIGNED, ENGINEERED  
& 100% KIT  
MADE IN EUROPE

TRUSTED PARTNER : SATISFIED CLIENTS WORLDWIDE  
安全  
可靠  
高效流程  
领先技术  
最高质量标准  
值得信赖的伙伴：全球客户满意反馈

HIGHEST QUALITY STANDARDS  
VANGUARD TECHNOLOGY  
PROCESS EFFICIENCY  
RELIABILITY  
SAFETY



## GH GROUP GH集团

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是全球起重行业的主要制造商之一，我们一贯坚持“科技应该为提升人类文明服务”的信念，并始终不遗余力地推动将每一项成熟科技应用于起重行业，并得到了广泛的认可和支持；在长达半个多世纪的发展历程中，GH一步一个脚印，引领这个古老的行业一次次焕发出青春和活力；在诸多行业被公认为起重设备和备件及服务的全球顶尖供应商。



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.

GH是一家家族企业，深谙起重设备必备要素：安全、效率、耐用、环保、用户友好、维护率低，并持之以恒把这些要素的考虑融入进公司从产品研发到设计制造的每一个细节。

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.

通过持续不断的研发和革新，GH致力于向各行业用户提供最适合其业务需求的产品和服务，在极力提高用户的商业效率和盈利能力的同时，降低用户的长期运营成本，减少工业生产对环境带来的负面影响。



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.

GH主要使用自主开发设计的零部件，同时也采用商业部件最大程度提高部件互换性以降低用户顾虑和不可控风险。因为我们深信：GH的报价方案旨在提供高质量和高附加值的产品和服务，最大程度降低风险，优化性能，以提高用户体验。

## EXPERIENCE 丰富经验

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. GH在航空业拥有丰富的经验，可为全球各国的客户提供最优化的解决方案。GH团队拥有该领域的专业知识技能，可协助客户做出最适合的起重设备选择。

## INTEGRAL SOLUTIONS 全方位解决方案

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. 从设计阶段起，我们就为客户提供量身定制的方案。我们可提供各行业典型工程中所需的各类起重机，根据客户提供的完整流程需求，提供全方位解决方案



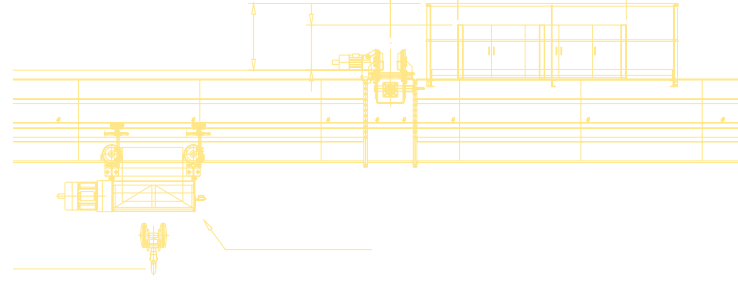
空客军事使用的4吊点双梁起重机

AIRBUS military double girder 4 point hanging crane

## PROCESS EFFICIENCY 高效流程

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.

航空业涉及多个流程，如飞机部件的制造、组装。GH起重机的产品和服务能确保最佳的工作流程。航空业各流程都要求严格，客户需要的是：效率。GH可按照客户需要，提供量身定制的产品，确保生产流程的高效运行。使用GH提供的整套交钥匙解决方案，有利于提高产品使用寿命。



## DELIVERED EXPERTISE

### 专业呈现

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.

对于航空业中的主要参与者来说，GH品牌意味着“值得信赖的伙伴”。客户对于GH提供的定制方案深表满意。我们多年积累的经验可以有效帮助客户提高流程效率。

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

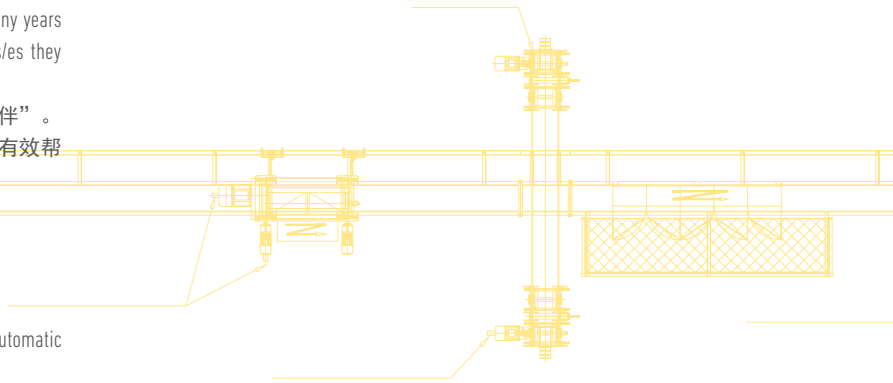
- Optimized I beams calculation: increasing available lifting height .
- Compact designs optimizing side approaches.

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

GH起升方案可有效降低厂房建设成本：

- 优化工字钢计算：提高有效起升高度
- 紧凑型结构设计，优化侧边极限尺寸

此外，我们使用PLC驱动的全自动和半自动起重机，缩短工作周期，提高客户生产力。



Multipoint double girder special crane allowing 4 movements

带4个运行机构的多吊点双梁特殊起重机

# AERONAUTIC INDUSTRY CRANES

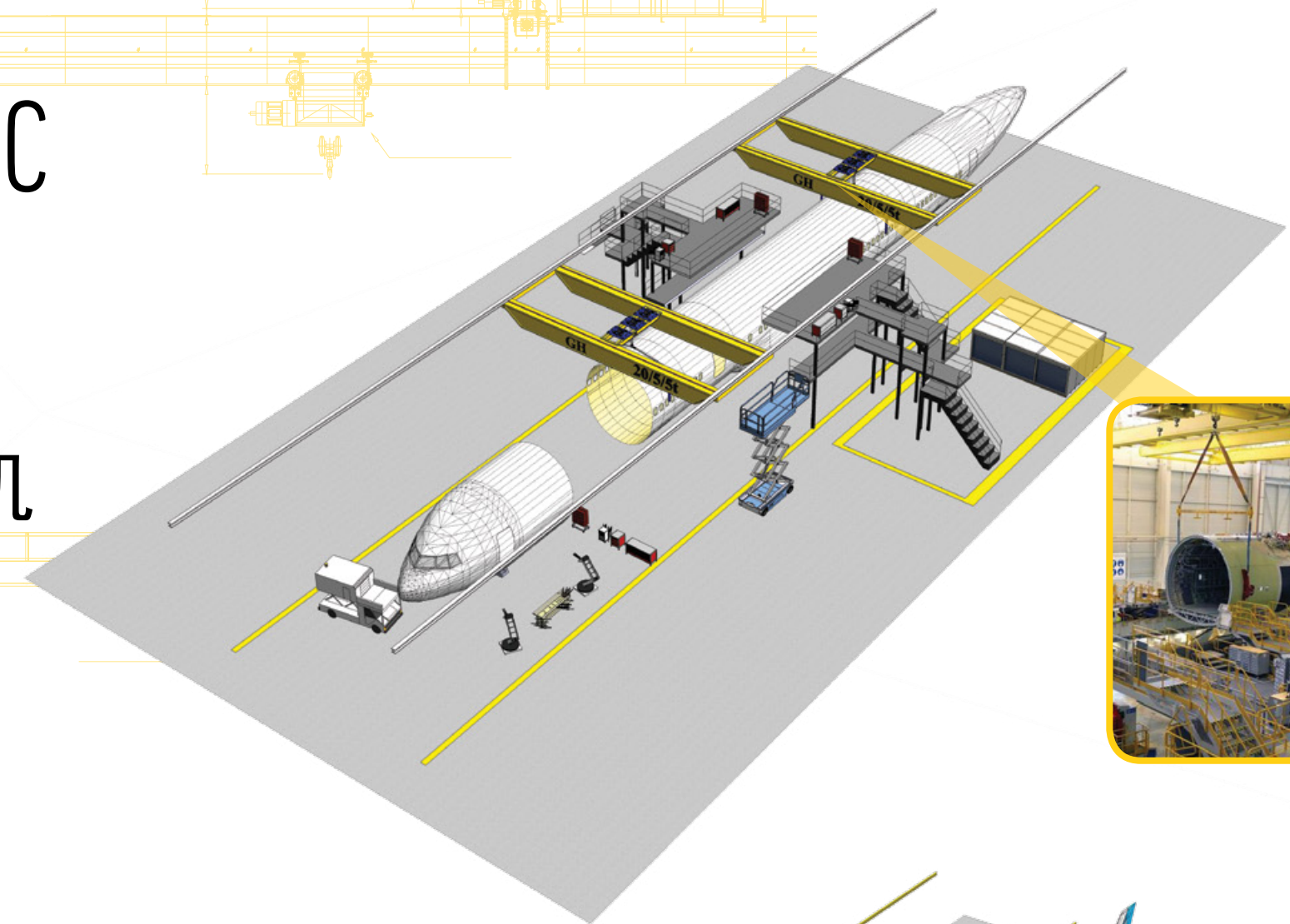
## 航空业起重机

# 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.

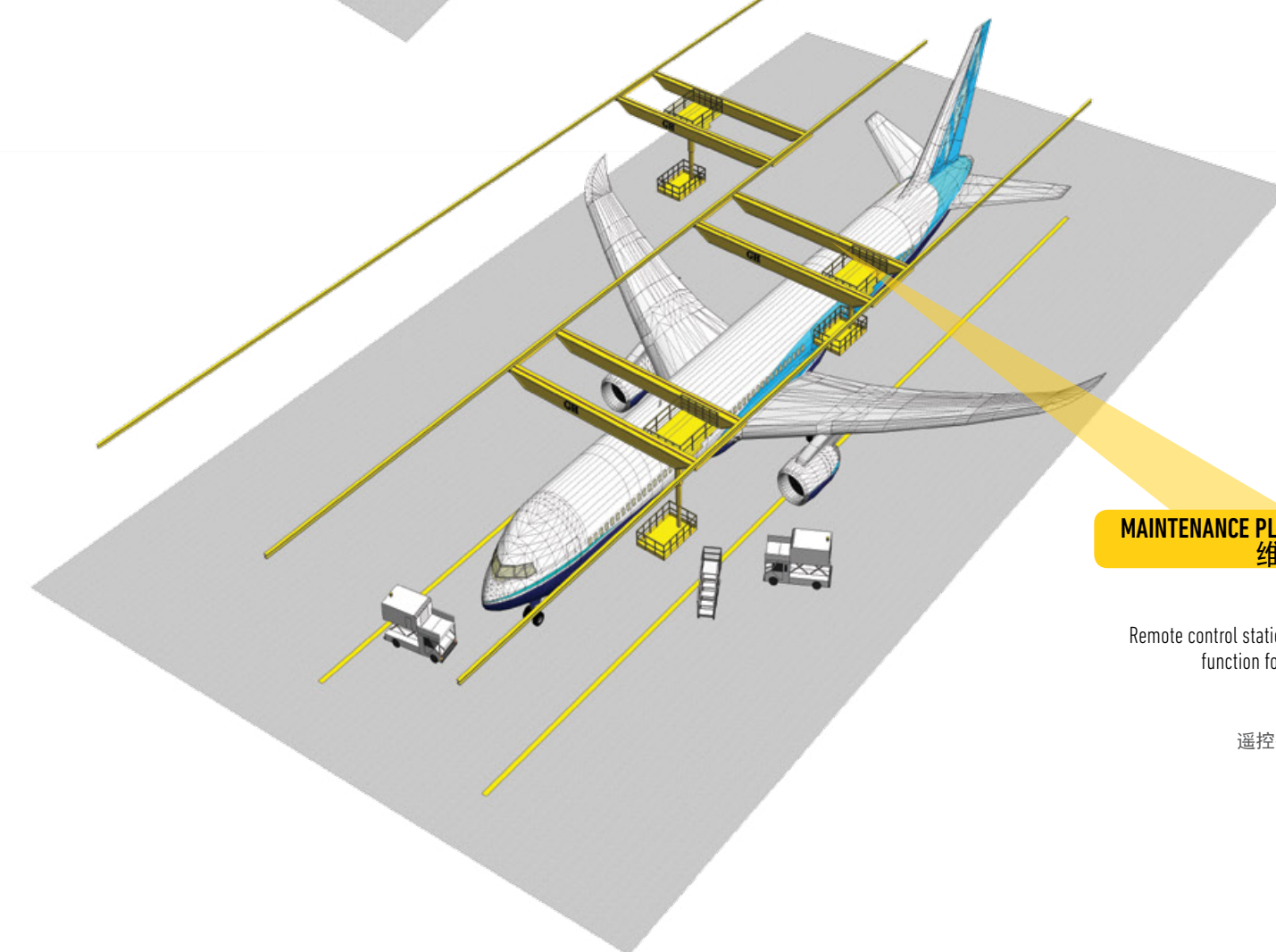
GH十分理解客户对起重机的要求。起重机最重要的方面就是能24/7正常操作。在高度流程依赖的行业中高效运行，以缩短所需周期。工厂布局和完整的工作周期是我们的销售团队和工程师团队面对客户需求时考虑的重要因素。GH可提供全自动运行的起重机，配备最先进的技术，以最大程度提高客户投资回报。



### DOUBLE GIRDER MULTIPPOINT HANGING CRANES 双梁多吊点起重机

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.

起重量可至20吨。  
水平滚动轮和闭环编码器可防止起重机啃轨。  
可提供4机构运行方案（起升运行、小车运行1、小车运行2、大车运行）。  
端梁通过销轴连接，防止钢结构产生超静态力。  
遥控器带点动功能，可实现精确操作。



### MAINTENANCE PLATFORM CRANES 维护区起重机

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

伸缩臂  
遥控器带精确操作功能



### INSTALLATION TRANSFER LINE 全套过跨线

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.

PLC以太网控制。  
通过WIFI和遥控器实现通讯，控制接入点。  
起重机称重控制系统，确保每台起重机的负载不超过额定载额。  
声光报警。



### SINGLE GIRDER 2 POINTS 单梁双吊点起重机

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.

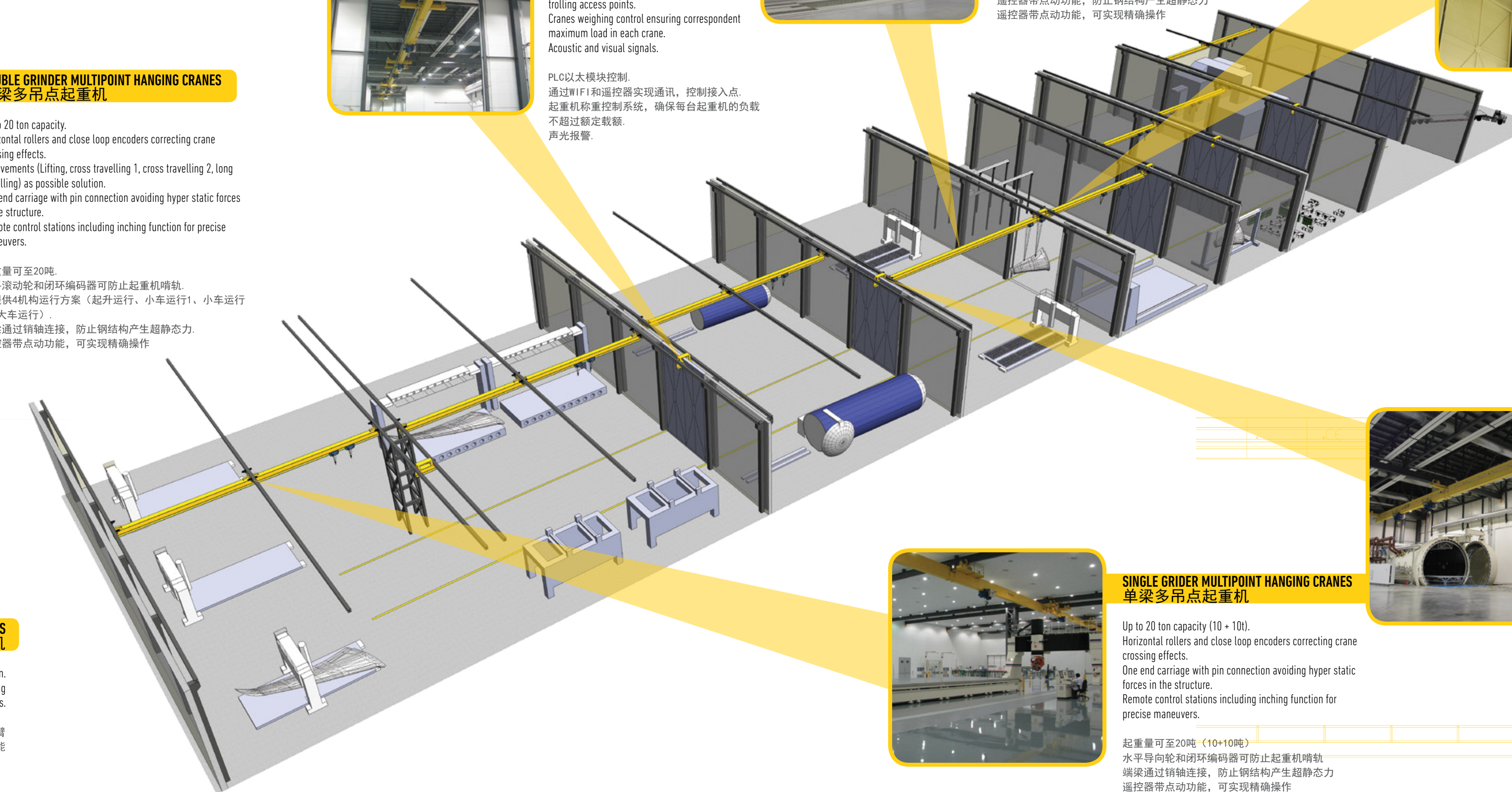
起重量可至20吨（10+10吨）  
水平滚动轮和闭环编码器可防止起重机啃轨。  
遥控器带点动功能，防止钢结构产生超静态力。  
遥控器带点动功能，可实现精确操作。



### TRANSFER UNIT DETAIL 过跨单元

±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.

过跨器误差为±3 mm  
滑线快速连接，确保正常供电。  
小车运行速度自动降低，确保安全过跨操作。  
“关门”检测感应器



## TYPICAL INSTALLATIONS

### 典型工程

#### PARTS MANUFACTURING

零部件制造

AIRBUS HAFEI  
8 Bays plant for A350 XWB wings manufacturing  
哈飞航空  
制造A350 XWB机翼的8跨车间

#### PLANE ASSEMBLY

飞机组装

Multipoint double girder cranes  
多支点多梁悬挂起重机

#### PLANES MAINTENANCE

飞机维护

Maintenance platform cranes  
维护平台起重机



### SINGLE GIRDER MULTIPPOINT HANGING CRANES 单梁多吊点起重机

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.

起重量可至20吨（10+10吨）  
水平导向轮和闭环编码器可防止起重机啃轨。  
端梁通过销轴连接，防止钢结构产生超静态力。  
遥控器带点动功能，可实现精确操作。



## MAIN ADVANTAGES OF AVAILABLE SOLUTIONS FOR AERONAUTIC INDUSTRY

### 航空业方案优势

• **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.

半自动和全自动起重机：PLC控制，确保更短的工作周期；目标定位，防止手动控制的低效率，带电子防摆系统。

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

多支点悬挂起重机：悬挂在3个或以上工字钢上的单梁和双梁起重机，其中包括：

- Pin connection in one of the hanging end carriages avoiding hyper static forces, 在一个下悬端梁上使用销轴连接，防止超静力
- Long travelling horizontal rollers favoring stable running, 大车水平导向轮，确保平稳运行
- Close loop long travelling inverter controls avoiding crane crossing effects. 闭环大车运行变频器，防止大车交叉效应

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

过跨起重机，通过WIFI信号对齐过跨。精准对齐确保流程安全可靠。

• **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.

多种可选速度：高起升速度（标准葫芦可至15m/min）和高大车运行速度（可高达100-120 m/min），用于长运行距离机库。精确定位可使用微动速度（增量式）。

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

区域限制：保护区保证安全，减少人工实物，避免对设备或工作人员造成意外损伤。

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

起升同步运行：闭环控制（编码器），防止货物滑落，并且当使用2个或以上吊点时保证精确和安全的装载

• **Overload electronic device as standard:**

标配电子超载限制器：

- Lifting device loading spectrum and overloads record (black box) 起升设备载荷谱以及超载记录（黑匣子）
- Safety working period (SWF) control 安全工作周期控制
- Alarm activation for preventive inspections 预防性检测警报提醒
- Lifting motor over temperature control input/connection. 起升电机过热控制输入/连接
- Control of starting and braking lifting movement towards movement smoothness, avoiding abrupt movements and increasing life span of motor, brakes and contactors. 启动和制动缓速控制，防止急剧变速，提高电机、制动器、接触器使用寿命。

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

人性化设计：遥控器上带显示屏，显示黑匣子信息，设计符合人体工程。

• **Regenerative inverter controls** saving up to 5% energy, feeding it back to grid. 再生能源变频控制，可节约5%能源，实现能源再利用。

Airbus Group: a worldwide partner  
空客集团：全球合作伙伴

Global Experience  
全球业绩



**AIRBUS (FRANCE)**  
空客（法国）



**AIRBUS MILITARY (SPAIN)**  
空客军事（西班牙）



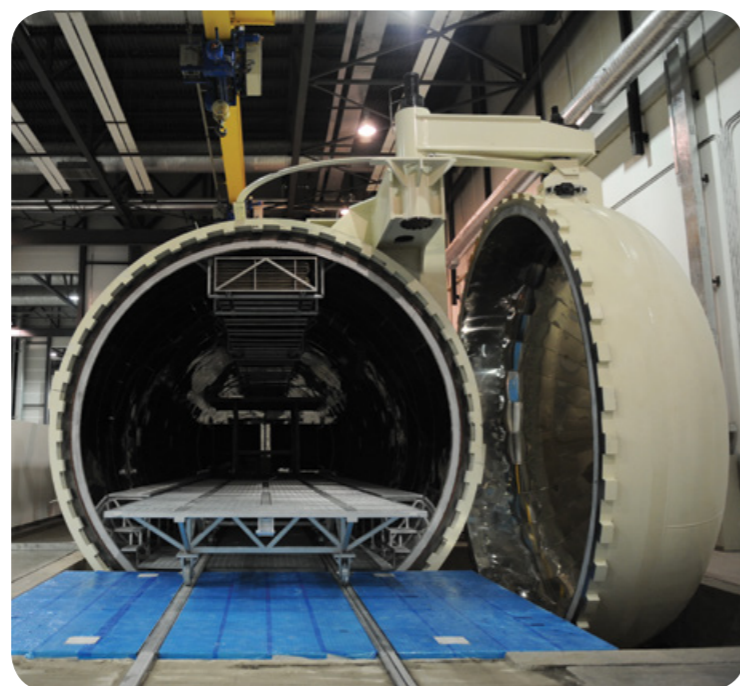
**EMBRAER (BRAZIL)**  
巴西航空工业公司



**PORTUGAL AIR FORCE**  
葡萄牙空军



**AIRBUS CASA (SPAIN)**  
空客CASA（西班牙）



**AIRBUS-HAFEI (HAERBIN-CHINA)**  
空客哈飞（中国哈尔滨）



**ETIHAD (UAE)**  
阿联酋ETIHAD航空公司



**HEATHROW LONDON AIRPORT**  
伦敦西斯罗机场



# INTERNATIONAL REFERENCES LOCATION

全球业绩分布

## RELIABILITY

可靠

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.

GH起重机以耐用可靠著称，对于任何一个行业应用来讲，这点都是非常重要的，尤其是对于航空业的起重机。整个流程的效率很大程度上取决于这几台起重机，因此它们一定要有最佳的运行表现。

## SERVICE

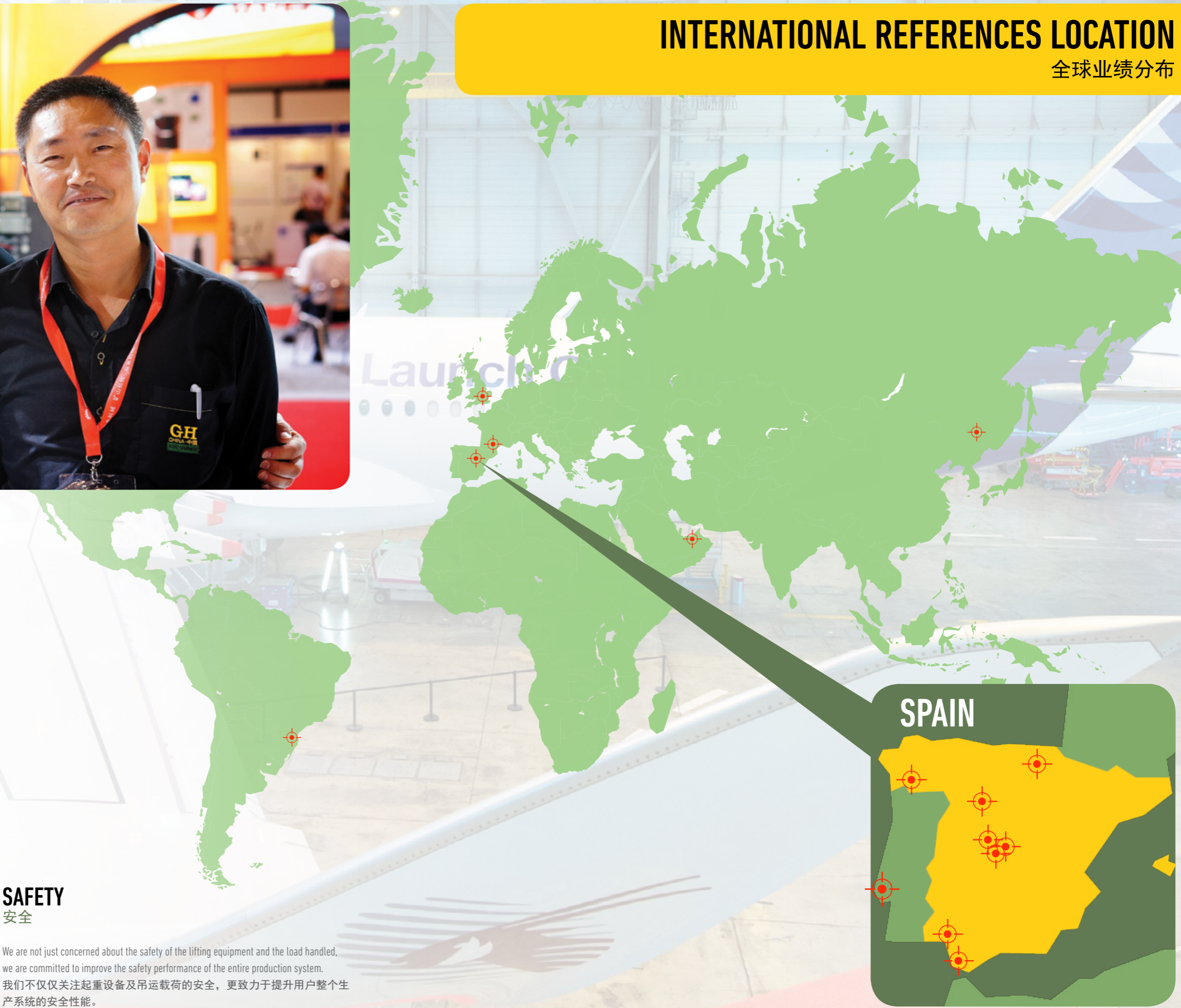
售后服务

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. 起重机的售后服务和维护保养一直是GH产品战略的重要组成部分。起重机应进行定期的检查和保养，以避免不必要的停机，由此减少客户运营成本。GH 起重机设计合理、质量可靠、性价比高、维护成本低、使用寿命长。

## SAFETY

安全

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. 我们不仅仅关注起重设备及吊运载荷的安全，更致力于提升用户整个生产系统的安全性能。



## SPAIN





■ **GH** ■  
Cranes & Components

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