

# Game to do more



As airlines in most parts of the world tighten their seatbelts for market turbulence, Asia remains a bright spot for global aviation. The region's airlines now carry a quarter of the world's air travellers and 40 per cent of global air freight – and growing – according to the Association of Asia Pacific Airlines, with Chinese airlines alone accounting for 20 per cent of new aircraft deliveries in 2010. Having anticipated this trend, Hutchison's Chinese joint venture for aircraft maintenance, GAMECO, is ready to fly higher.

In flight, an aircraft stretches by around 15 centimetres.

A GOOD REASON FOR OPTIMISM is that Asian aviation markets still have plenty of space to grow. The staggering extent of China's potential, in particular, is best illustrated when compared to more mature markets; in North America, there are 17 aircraft per one million people, while in China, the figure is only 1.3 aircraft per one million people. Clearly, China has a long way to go before it matches the density of networks and passenger numbers currently seen in the United States, presently the world's largest domestic aviation market, yet the distances are similar to those between Chinese cities, making the potential plain to see. To some extent, this potential is being realised already, with the ranks of Chinese domestic air travellers continuing to swell year-on-year, reaching an average of 679,500 per day in 2010.

Of course, there are significant challenges ahead for Chinese aviation in particular. The emergence of high-speed railways as a major development priority would seem the biggest long-term threat. Recent high profile incidents, such as the fatal train collision near Wenzhou in June 2011, may cast some doubt on the future of high-speed rail as a viable alternative to air travel – unsurprisingly, the accident caused a sudden spike in demand for tickets on domestic air routes. Yet despite these setbacks, surely the undeniable glamour and rapid growth of high-speed rail poses a real test of durability and competitiveness to the domestic aviation industry.

According to Norbert Marx, General Manager of Guangzhou Aircraft Maintenance Engineering Co (GAMECO), a Guangzhou-based aircraft maintenance joint venture between HWL and China Southern Airlines (China Southern), overall growth in demand for transport services is such that

the airline industry can afford a degree of optimism:

“Of course, there will be competition on some routes, but ultimately there will be enough volume for both systems – rail and air – and they will complement each other as passenger numbers grow. High-speed rail is also costly to build, and there are some connections where air travel is more competitive, so it won't slow down development too much.”

As airlines expand their networks and capabilities, so too must aviation support services. Compared to a global growth rate of around 3.5 per cent, Chinese demand for such services is increasing at an annual rate of around 10 per cent. With such promising growth prospects, HWL's 50 per cent stake in GAMECO seems a particularly astute holding – recognising that no airline can operate without the assistance of leading edge maintenance services to keep their aircraft in top condition.

GAMECO's history is intertwined with China's development miracle. During the 1980s, increasing numbers of new aircraft, including the latest Airbus and Boeing models, arrived in the country to meet the rapidly growing demand for air travel. Previously focused on Soviet-produced aircraft, China's aviation industry lacked the domestic technical capability to service all these new models. Hutchison Whampoa (China) Limited (Hutchison China), recognising the huge business potential, came to an agreement with the Civil Aviation Administration of China (CAAC) to develop and expand such capabilities. The result was the establishment in 1989 of GAMECO – a joint venture partnership between Hutchison China, Lockheed Martin and China Southern.

In 2002, following Lockheed Martin's sale

Airlines need leading edge maintenance to keep aircraft in top condition.

Big aircraft like the Boeing 747 require up to 600 kilogrammes of paint.

of its 25 per cent stake, HWL became a 50 per cent shareholder in the company. Today, GAMECO is one of the top three aircraft maintenance companies in Mainland China and has bold plans for growth within this highly competitive industry.

Reflecting the varied nature of its offering, the company's business can be divided into three distinct segments: line maintenance, heavy maintenance and component maintenance. Additionally, the company provides a range of engineering services, upgrades to airline components and provision of training for mechanics.

The first service offering – line maintenance – generates about a quarter of revenue. This segment comprises technical services provided by GAMECO engineers to airlines during the course of their operations; in other words, performing crucial checks on aircraft during turnaround time – usually overnight – to ensure they are safe to fly the next day.

“Our objective is to develop capabilities in all areas, so that we can eventually provide our customers with a total service package.”

Equally important to the safety of air passengers are GAMECO's heavy maintenance services, accounting for around half the company's revenue. This segment covers more extensive maintenance, such as cabin refurbishment, repainting and, most importantly, regular 'deep checks' as required by national regulations or aircraft manufacturers, conducted on aircraft which have been taken out of operation for a period of time and parked in GAMECO's hangars at Guangzhou International Airport.

The rest of their revenue is derived from component maintenance, which comprises checks and repairs, carried out in specialised workshops, to many components critical to the safe and efficient operation of a modern aircraft. These include anything and everything from instrumentation, avionics and navigation devices to safety vests, oxygen equipment and life rafts.

GAMECO's partnership with China Southern – HWL's joint venture partner, also holding a 50 per cent stake in the business – virtually guarantees an exciting and fast-

moving future. The airline currently accounts for around 70 per cent of GAMECO's revenue. Such reliance is no hindrance, considering China Southern's significant clout in the Chinese aviation market; in terms of fleet size and passenger numbers, it is the largest airline in Asia – perhaps surprising, given its lower profile as compared to some other major Asian carriers.

China Southern is also at the cutting edge of aircraft developments, meaning GAMECO must keep pace with ever-changing maintenance requirements. The airline's brand new Airbus A380 entered operation with its maiden flight taking off in October 2011 – in tandem, GAMECO ensured that its engineers were ready, assisting them to attain full technical capability and clearance to service the enormous aircraft. China Southern will also be the first Chinese customer, and only the fourth airline in the world, to operate Boeing's new Dreamliner, set to enter operation in 2012 – presenting another new challenge for GAMECO's experienced mechanics to meet and overcome.

China Southern is not the only airline reliant on GAMECO for efficient and effective maintenance services. Since moving its Asian hub to Guangzhou, FedEx has been another major customer for both line and heavy maintenance. Other international airlines, such as Qantas and AeroMexico, have also called upon GAMECO in the past year, simultaneously highlighting the recognised quality of the company's services and the growing importance of Guangzhou as an international aviation hub.

Like most modern Chinese companies, GAMECO has its sights set firmly on building growth momentum over the coming years. How does it aim to achieve this, especially in a historically closed and regulated aviation market such as China's?

“Of course it is not always easy to grow, especially considering the protective tendencies of the industry here,” admitted Mr Marx. “One advantage we have is our strong partnership with China Southern, and we will continue to leverage this relationship.”

Mr Marx went on to explain how the company aims to drive growth in three areas: volume, capabilities and reach. Increased volume can be achieved primarily through building new aircraft hangars and hiring more mechanics. Construction of a new eight-bay hangar is underway at Guangzhou airport, expanding GAMECO's capacity to provide heavy maintenance services to more aircraft simultaneously.

In terms of technical capabilities, safety concerns are such that the aircraft mechanical servicing industry is necessarily subject to heavy regulation and stringent training requirements. GAMECO is presently investing heavily in training its mechanics and improving its facilities to deliver maintenance services for certain components, notably landing gear, which are currently outsourced to specialist sub-contractors. Similarly, the complex carbon-fibre





Aircraft painting requires two primers, a top coat and sometimes a clear coat.

composite materials found in Boeing's new Dreamliner aircraft produce a range of completely new

maintenance requirements. As such, GAMECO is working hard to ensure that it can provide top quality servicing once the new aircraft comes into operation later this year.

Interestingly, GAMECO is not simply a maintenance company bound by aircraft manufacturers' manuals. In 2009, the company received approval from the CAAC to devise proprietary repairs and modifications, leading to the accrual of a number of worldwide patents. Such innovations should serve the company's overall objective of providing its customers with a streamlined, high quality 'one stop shop' for all services and components.

GAMECO also aims to expand its reach, providing a greater range of services at a greater number of different airports. As Mr Marx pointed out, "No airline wants to locate and manage 20 different suppliers of various maintenance services. Our objective is to develop capabilities in all areas, so that we can eventually provide our customers with a total service package."

The main benefactor of this strategy will be GAMECO's airline customers, particularly international airlines operating routes into multiple Chinese airports, which will not need to source different maintenance suppliers or relocate their aircraft to the company's Guangzhou hub every time they require maintenance. A step in this direction, GAMECO has stationed a team of engineers at Shanghai's Pudong International Airport for the last two years, primarily to service China Southern's fleet of Boeing 777 cargo aircraft, in addition to presences at several other airports, including Changsha and Urumqi. In April 2011, the company established a maintenance base at Chongqing, the company's first such facility outside Guangzhou, a significant step towards broadening its geographical scope. These are exciting times for aviation in China and Asia, and with its strategy in place, GAMECO seems well positioned to reap the benefits of continued growth.



GAMECO mechanics hard at work on members of the China Southern Airlines fleet of aircraft, ensuring they are in top shape for their next voyage.

# The People Factor

To match growing demand for its services, GAMECO's workforce has expanded rapidly over recent years. The addition of around 400 new employees in 2011 brought the total workforce to 4,300 and growth looks set to continue in the coming year.

In light of the demanding and highly technical nature of the work on offer at GAMECO, recruitment is competitive and training rigorous. Engineering candidates are typically graduates of China's eight aviation universities and 12 colleges. After joining, they are subject to five years' additional training, both in the classroom and on the job, during which they apply to receive their official licences from CAAC.

Aviation is usually seen as a man's world. To challenge stereotypes, GAMECO is keen to increase diversity and attract more women to work in technical roles. Two female employees at the company's Guangzhou facility – Mayy Du (Manager, Onboard Software Development & Management) and Yili Yu (Manager, Airworthiness Management) – were more than happy to tell us about their experiences at GAMECO. 



Ms Mayy Du performing troubleshooting procedures in an aircraft cockpit.

## Why did you choose this career?

**Mayy Du:** I first became interested in aviation as a child, listening to the heroic tales of an uncle who lived next door, a retired military pilot. When the university entrance exams came around, my preference was for aeronautical engineering colleges. In 1996, I graduated from Nanjing University of Aeronautics and Astronautics and joined GAMECO soon after.

**Yili Yu:** As my background is originally in liberal arts, starting a career in aviation maintenance at GAMECO was quite unexpected. After joining in 1995, however, I found a place for myself to follow a path of development suitable for my own skills, especially my language skills. As English is the lingua franca of the aviation industry, and since GAMECO's ultimate goal is to internationalise through receiving overseas certifications and attracting foreign customers, I found that good English language skills are essential to the business.

## What do you most enjoy about working at GAMECO?

**Yili Yu:** I really enjoy the work environment at GAMECO, which is always frank and open. My colleagues are honest, down-to-earth people who believe in a common goal of maintaining the highest standards of aircraft safety. Our work is directly related to public safety, so as aircraft maintenance specialists, we must always conduct ourselves in a pragmatic and responsible fashion, based on sincere relationships and direct communication. For me, this is one of the best features of GAMECO and helps us maintain the respect of our industry peers.

**Mayy Du:** The atmosphere at GAMECO is friendly and collaborative. Although everyone has a different role, there is definitely a sense of common dedication to high safety standards, and working efficiently together to make sure aircraft are delivered back to the operators on time.

Boeing's new Dreamliner is constructed out of carbon fibre composites.

### What would you say has been your biggest achievement while working for GAMECO?

**Yili Yu:** When I first joined the company, we relied heavily on the expertise of our foreign joint venture partner, Lockheed Martin, to secure maintenance certifications issued by US and European civil aviation authorities. My supervisor at the time said to me, “Our aim should be to develop our own capabilities, so that one day, we need not rely on outside help and can cope with meeting international quality standards ourselves.” Since Lockheed’s withdrawal in 2002, we have made great progress in this regard; we have now secured maintenance certifications for over 20 different countries.

**Mayy Du:** Over the past 15 years, I have gained experience in a number of different roles, from parts repair shop technician, to reliability analysis engineer, to electrical engineer, to my present role as onboard software manager. Each time, I had to adapt quickly to new requirements and continue to develop myself and my technical skills. In 2010, GAMECO acquired the Civil Aviation Administration of China’s DIMOR qualifications and since then I have been involved in a number of successful high-end economy class modifications, which are among the leading design projects of their kind in the country. I am very proud of these achievements.



Ms Yili Yu reviewing airworthiness processes with a colleague.

### Do you feel that your male colleagues are accepting of you as a female?

**Yili Yu:** There is a saying in Chinese: ‘with men and women together, the work becomes lighter’. While aircraft maintenance remains a male-dominated industry, I have found that at GAMECO, our male colleagues accept us and treat us well. In addition, within my own division, which is focused on adherence to quality principles and standards, a softer, ‘female’ approach is often appropriate, and through our combined mixed team approach GAMECO can deliver better overall team results.

**Mayy Du:** In this male-dominated industry, women certainly must work harder to carve out a position for themselves and gain the acceptance of male colleagues. I remember in 1998, on an overseas training trip, our Taiwan counterparts were curious and surprised to find women among the visiting engineers. But at GAMECO, I find the atmosphere friendly and welcoming. Since being here, I have seen more and more women entering traditionally male technical roles in production and maintenance, working alongside men. Through their own hard work, perseverance and flexibility, I believe women are able to gain the respect of their male colleagues. At GAMECO, more and more female engineers, like myself, have found room for continued development.

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GAMECO is constantly developing expertise in innovative maintenance requirements.