ASIAN SKY

Infrastructure Report

ASIA-PACIFIC REGION 2021

COVER FEATURE
BEIJING DAXING FBO

INDUSTRY INSIGHTS
DASSAULT AVIATION
METROJET
OCEANIA AVIATION
SINO JET
CBM

SPECIAL FEATURES
MRO SURVEY
OEM SUPPORT NETWORKS
FBO OVERVIEW
WHAT MAKES A GOOD MRO

CBM
DASSAULT AVIATION
METROJET
Oceania Aviation
華龍航空 SINO JET

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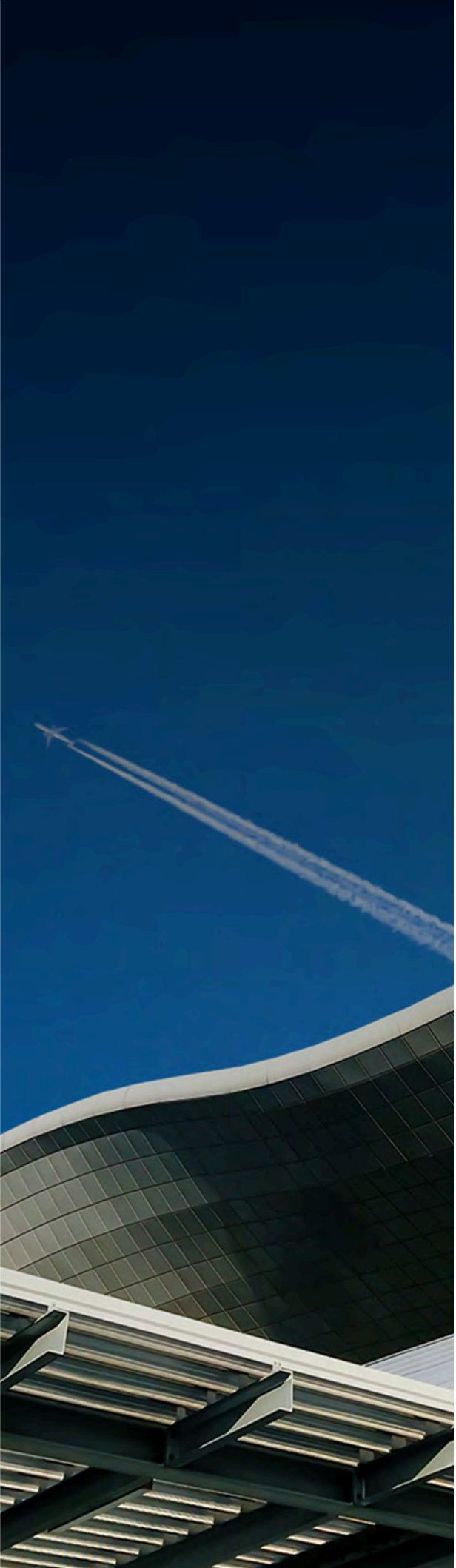
DASSAULT AVIATION



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Infrastructure Report

Asia-Pacific 2021

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EDITOR'S NOTE

If you were to ask people what some of the main barriers for growth have been for business aviation in China, then a lack of infrastructure to support its operations will be at the top of most people's lists.

Unlike in Europe, or the US, which are both considered mature markets for business aviation, China lacks the facilities needed for business aviation to expand. However, that is changing, by the opening of a new FBO at Beijing's Daxing International Airport in early 2022. The new facility, operated by the same company that runs the FBO at Beijing's Capital Airport, will have space for 85 business aircraft when it opens, as well as four large-sized hangars for aircraft parking, plus one more solely dedicated to maintenance. It remains to be seen what effect that opening the FBO at Daxing will have on the business aviation traffic at Capital, but as of now, there isn't a plan in place to move all business jet flights to the new airport.

The opening of the new FBO will have a very positive effect on business aviation movements into and out of Beijing. This has long been a bugbear of operators. Capital Airport has restricted slots for business aviation movements, and those that are available are often at unfavorable hours. This often means that it is easier to fly commercial, rather than fly privately.

The opening of the new Daxing FBO is only one of the features that we have in the 2021 Asia-Pacific Infrastructure Report.

This issue includes the results of an MRO satisfaction survey that we ran for the first time. This has been split into two different sections: The first being a 'soft' rating, which includes on-time delivery and customer support, whilst the second focuses on the 'hard' part – the number of facilities and country approvals, etc.

The first part is the most interesting section of the survey, as it really gets to the heart of what people think about the MROs they use. We debated long and hard on how to score the answers and make it fair for everybody. We also realized early on that the bigger companies would automatically take the top spots, just because of the number of approvals and facilities that they have.

To overcome this, the first question in the survey asked respondents to rank in order of importance, how important each one of the remaining categories is. This then allowed us to weigh the answers, ensuring that there was a level playing field for everybody.

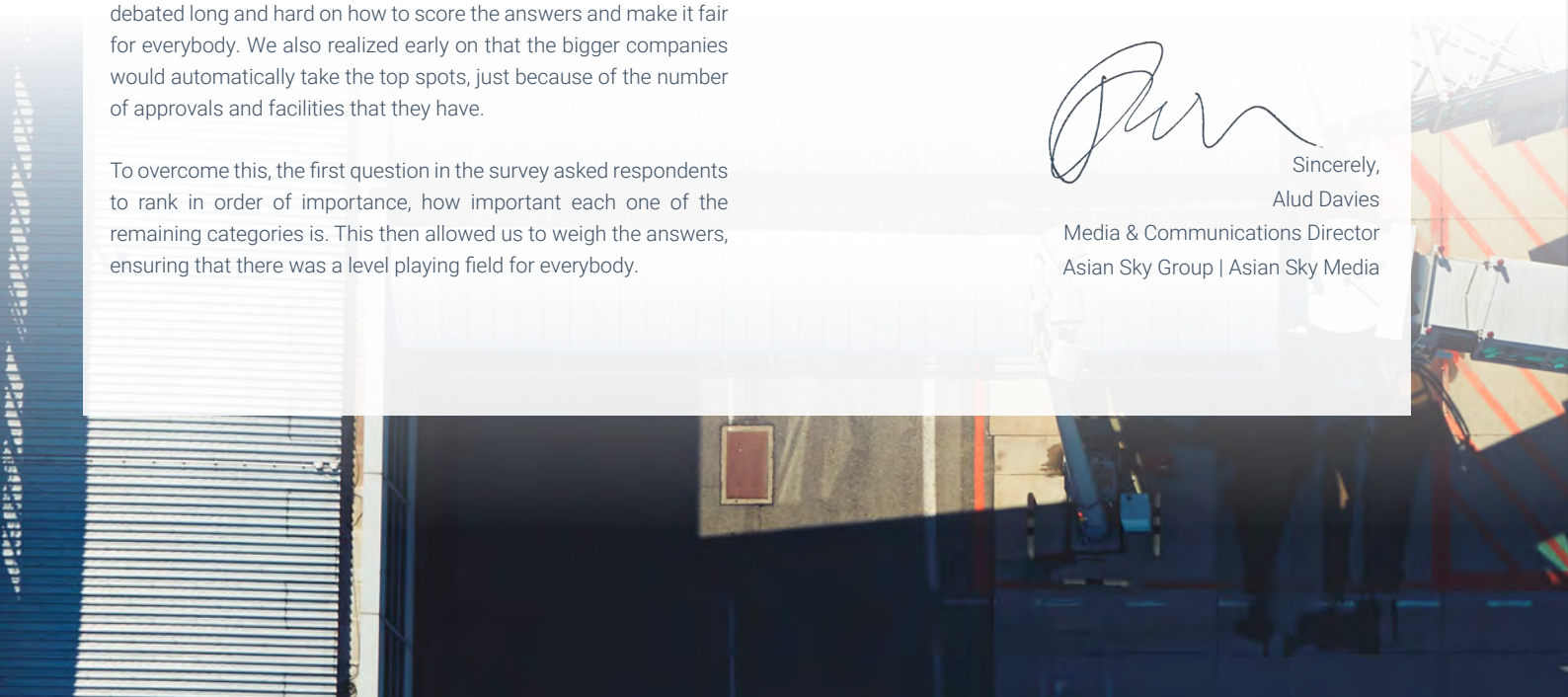
Elsewhere we have all of the usual data and analysis that you have come to expect from Asian Sky Media. We take a look into the FBOs and MROs in each country, as well as the density of general aviation airports per capita.

Our own Tiffany Tong presents an article looking into what makes a good MRO, and we take a deeper dive into some of the MROs that made it to the top of our satisfaction list.

Elsewhere, Sino Jet and Oceania Aviation talk us through their maintenance approvals and facilities, Metrojet talks us through the capabilities of its new Clark hangar, and Dassault rounds everything off with an update on its Falcon 6X.

As always, we would like to thank everybody that has provided information and advice when it came to preparing this report.

Sincerely,
Alud Davies
Media & Communications Director
Asian Sky Group | Asian Sky Media



EXECUTIVE SUMMARY

As of November 2021, there were 3,588 airports in the Asia-Pacific region – including Commercial and GA airports with runways and airstrips. These airports have a total of 71 Fixed-Base Operators (FBOs), 122 Maintenance, Repair and Overhaul (MRO) facilities providing business jet maintenance, 115 facilities providing turbine helicopter maintenance, as well as 68 facilities providing engine maintenance to the region's growing business jet and helicopter markets.

Airports play an important role for the public travelling around the world. Amongst the total of 3,588 airports, general aviation airports accounted for around 70% of the market. In Asia-Pacific, Australia is the country with the most general aviation airports, whilst mainland China has the most commercial airports.

Of the 71 FBOs in the Asia-Pacific region, Australia is home to the most - 22. Following Australia, mainland China has the second highest number of FBOs in the region with 15, which are primarily located in major cities including Beijing, Shanghai, and Shenzhen. Jet Aviation and Deer Jet have the largest FBO networks in the region.

The charge of basic FBO service varies greatly between different countries in the region. FBOs in Japan charge the highest, with an average of $10,300 for an international flight using a Gulfstream G550, including arrival and departure fees. Southeast Asia and Australasia countries charges are relatively low, with most charging under $4,000 per visit.

An Authorized Service Facility (ASF) is a MRO facility authorized by an OEM to provide warranty service to its aircraft. OEM-owned Service Centres usually have the strongest maintenance capabilities and cover most aircraft models of the OEM. On the business jet side, Dassault and Textron have the most factory-owned service centres in Asia-Pacific – five, helped by the acquisition of ExecuJet and Premiair, respectively. Embraer, despite not having any factory-owned service centres in the region, has the largest network of authorized service facilities – 14.

In 2021, the ASF networks of Airbus, Boeing and Dassault all contracted in the region, whilst Gulfstream grew its network by adding one ASF. The number of Bombardier ASFs remain unchanged at eight in 2021, although there were changes through the year. This included the additions of two ASFs in Australia and one (1) in Macao, whilst ASFs were removed from the network in China, Japan and Malaysia.

In the Asia-Pacific Region Top Business Jet MRO Ranking, Jet Aviation and ExecuJet had the highest scores when it came to the number of country and type approvals, whilst Hongkong Jet and ExecuJet Haite came first and second in our MRO satisfaction survey.

On the turbine helicopter side, Bell Flight and Airbus Helicopters have a strong presence in the region, with Bell having two factory-owned MROs and 17 authorized service facilities, whilst Airbus Helicopters has seven factory-owned MROs and 13 authorized service facilities.

There are around 40 different business jet authority approvals in the Asia-Pacific region - a stark difference from the US and European markets where the maintenance facilities are either FAA or EASA approved. The Bombardier Service Centre holds 22 authority approvals, which is the most in the region. Jet Aviation comes second, with 21 authority approvals.

INFRASTRUCTURE OVERVIEW

BY THE NUMBERS:

AIRPORTS[1]
3,588

BUSINESS JET MROs[2]
122

FBOs
71

TURBINE HELICOPTER MROs
115

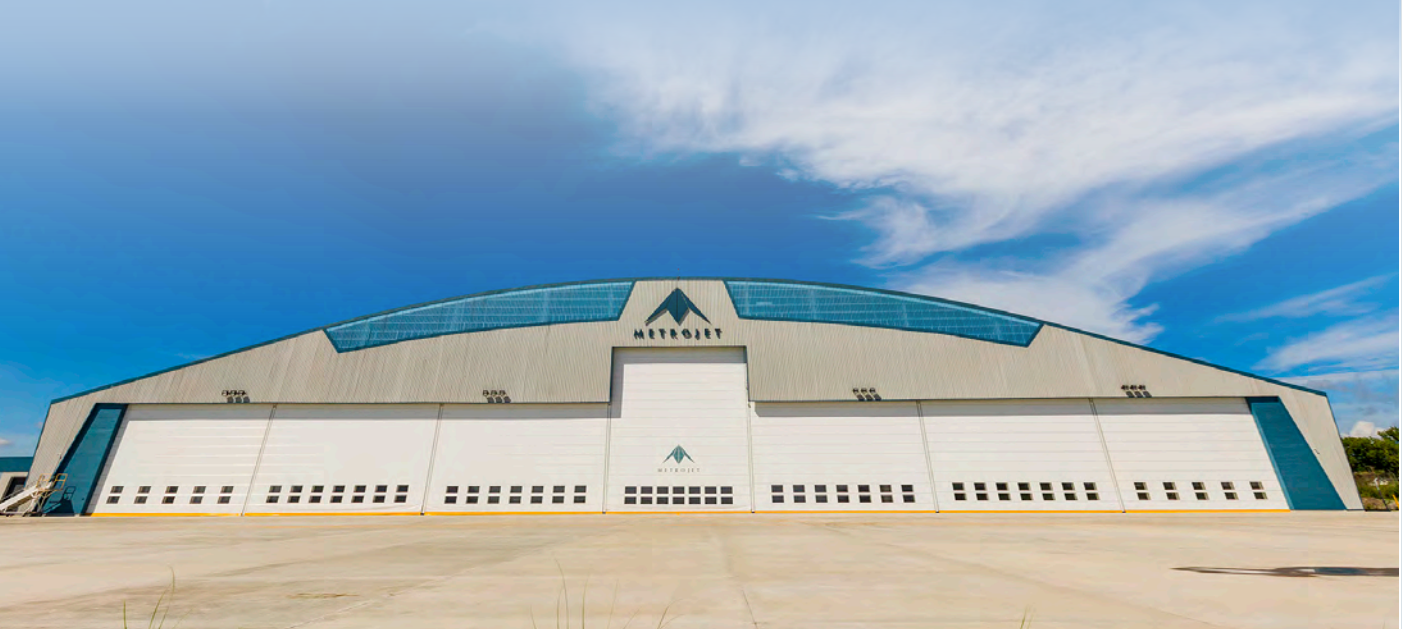
ENGINE MROs[3]
68

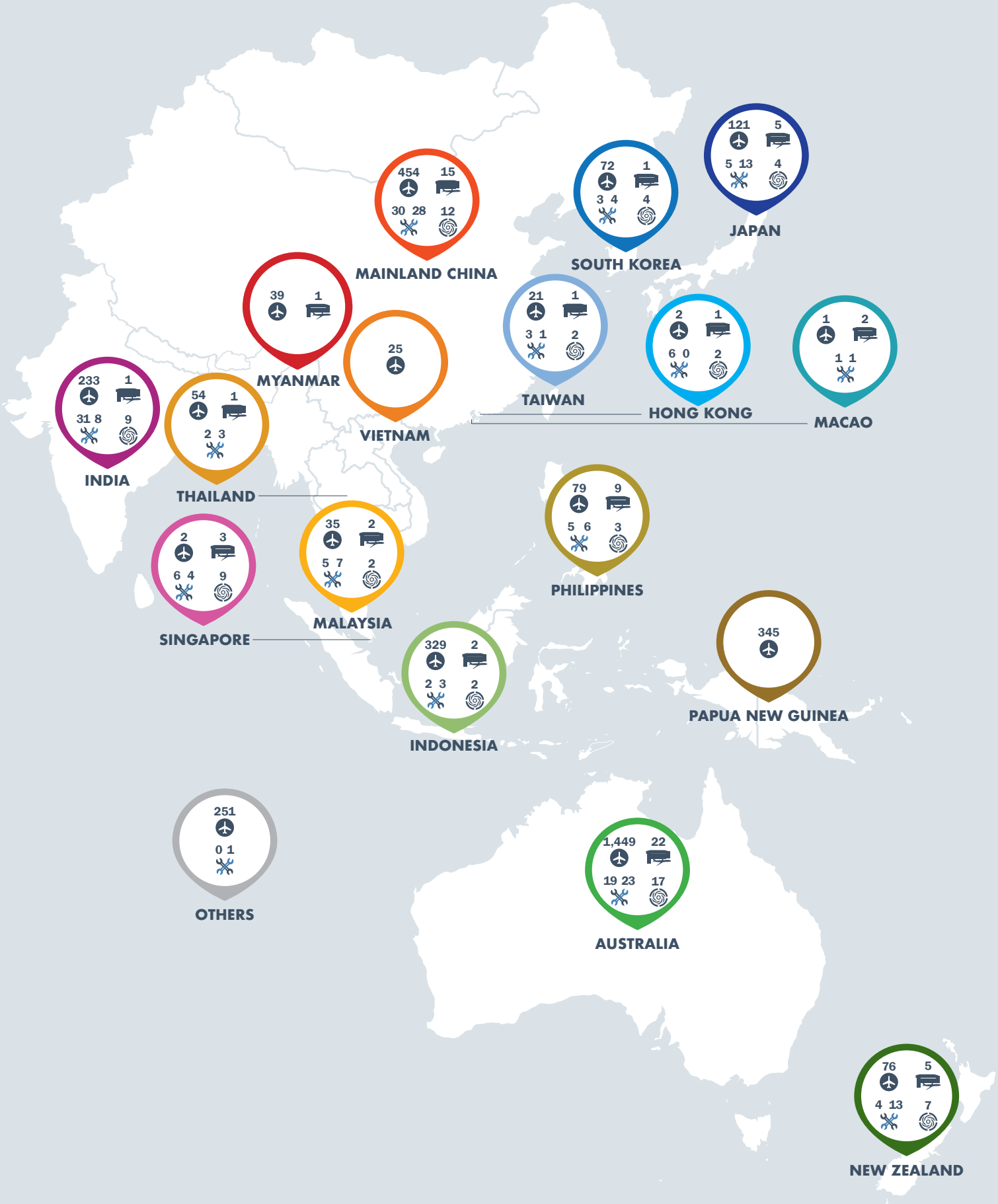
(Only facilities in operation are included in this map.)

[1] Includes Commercial and GA Airports with runways and airstrips.

[2] Includes an estimate of MRO facilities with ACJ and BBJ capabilities.

[3] Includes MRO facilities with business jet and turbine helicopter capabilities only.




454 15
30 28 12
MAINLAND CHINA
72 1
3 4 4
SOUTH KOREA
121 5
5 13 4
JAPAN
39 1
MYANMAR
25
VIETNAM
21 1
3 1 2
TAIWAN
2 1
6 0 2
HONG KONG
1 2
1 1
MACAO
233 1
31 8 9
INDIA
54 1
2 3
THAILAND
79 9
5 6 3
PHILIPPINES
2 3
6 4 9
SINGAPORE
35 2
5 7 2
MALAYSIA
329 2
2 3 2
INDONESIA
345
PAPUA NEW GUINEA
251
0 1
OTHERS
1,449 22
19 23 17
AUSTRALIA
76 5
4 13 7
NEW ZEALAND

COVER STORY

BEIJING DAXING AIRPORT FBO

Passenger & Crew Services

One-Stop CIQ
Separate Security Check
VIP Lounge
Conference Room
Snooze Room
Crewing Service
Ground Agency
Security Service
Baggage Service
Catering Coordination
Hotel & Transportation Booking
Other Services: Airshow Undertaking

Aircraft Ground Services

Dedicated Facilities and Equipment
Dedicated Apron
Hangar Parking
Fuel Arrangement
Aircraft Maintenance
Cabin Cleaning

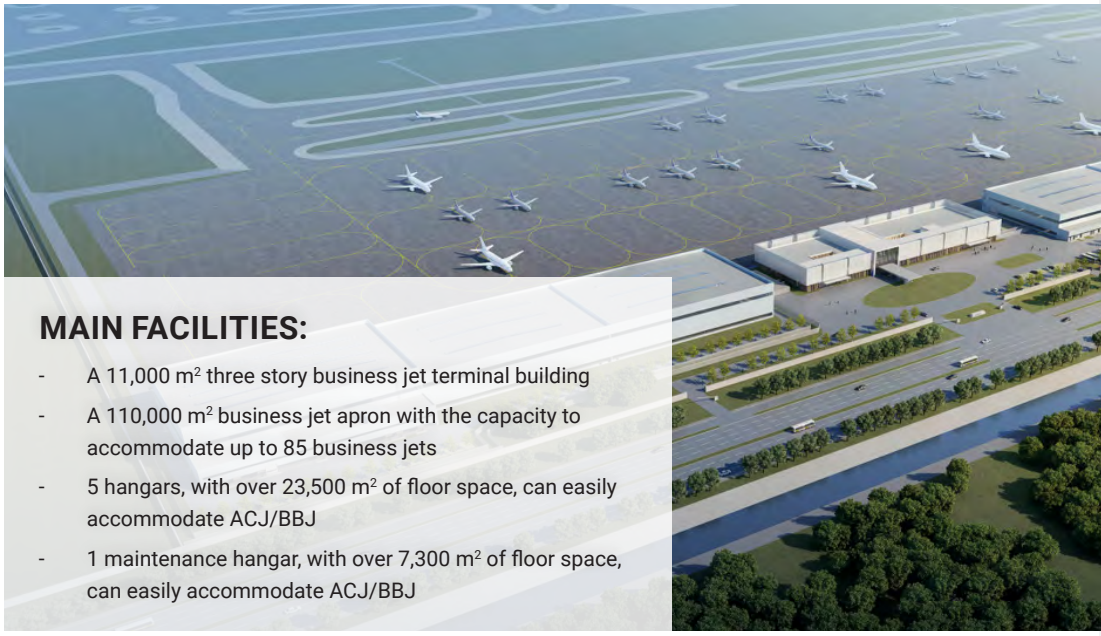
More Information

Inauguration Time: Early 2022
Operating Hours: 24 Hours
Main Runway Length: 3,800m

Situated in the southeast of Daxing Airport is a new FBO managed by CBM (Capital Airports Holding Business Aviation Management Co. Ltd) its focus solely on business aviation.

CBM is a wholly-owned subsidiary of CAH (Capital Airports Holdings Limited) and is the only company to get approval to operate FBOs at Beijing Capital International Airport and Beijing Daxing International Airport. Being committed to serving heads of state, senior government officials, and business celebrities at home and abroad, CBM offers diversified services covering ground handling, maintenance, parking, spare parts and other services. Its Beijing Capital International Airport FBO was officially launched in July 2008.

The FBO in Beijing Daxing Airport will officially be inaugurated at the start of 2022. Its 11,000 m^2 building space encompasses VIP lounges, joint inspection channels, leisure bars, courtyard gardens,



MAIN FACILITIES:

- A 11,000 m^2 three story business jet terminal building
- A 110,000 m^2 business jet apron with the capacity to accommodate up to 85 business jets
- 5 hangars, with over 23,500 m^2 of floor space, can easily accommodate ACJ/BBJ
- 1 maintenance hangar, with over 7,300 m^2 of floor space, can easily accommodate ACJ/BBJ

guest rooms, and other facilities. With a 110,000 m^2 apron, CBM can accommodate up to 85 aircraft. Furthermore, there are five (5) hangars and one (1) maintenance hangar occupying a total area of 30,000 m^2. Upon the completion of the FBO, CBM will be able to offer a premium and seamless travel experience for global customers.

CBM will constantly improve and perfect the modern enterprise management system, as well as build a leading business aviation operation base and management brand in China and Asia. We plan to adapt to the rapid development of the civil aviation industry of China and the constant expansion of the market demand for business aviation to ensure the sustainable, stable and healthy development of the company, as well as enhance the level of safe operation.

首都机场集团商务航空管理有限公司
Capital Airports Holding Business Aviation Management Co.,Ltd.

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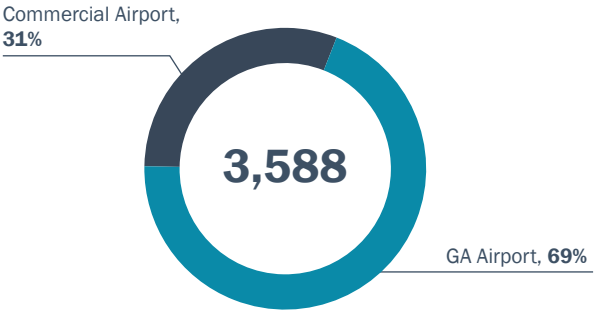
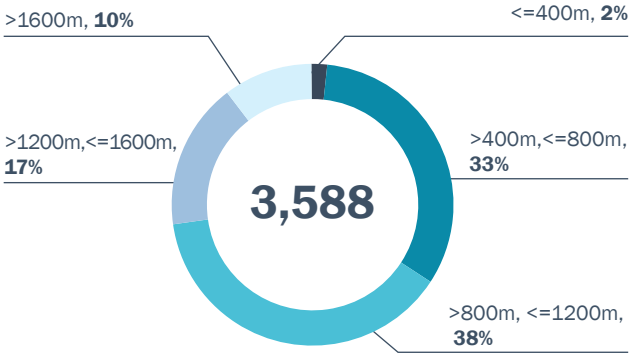
Address: Beijing Daxing Airport, Da'an Road

AIRPORT OVERVIEW

ASIA-PACIFIC AIRPORT BY TYPE & RUNWAY LENGTH

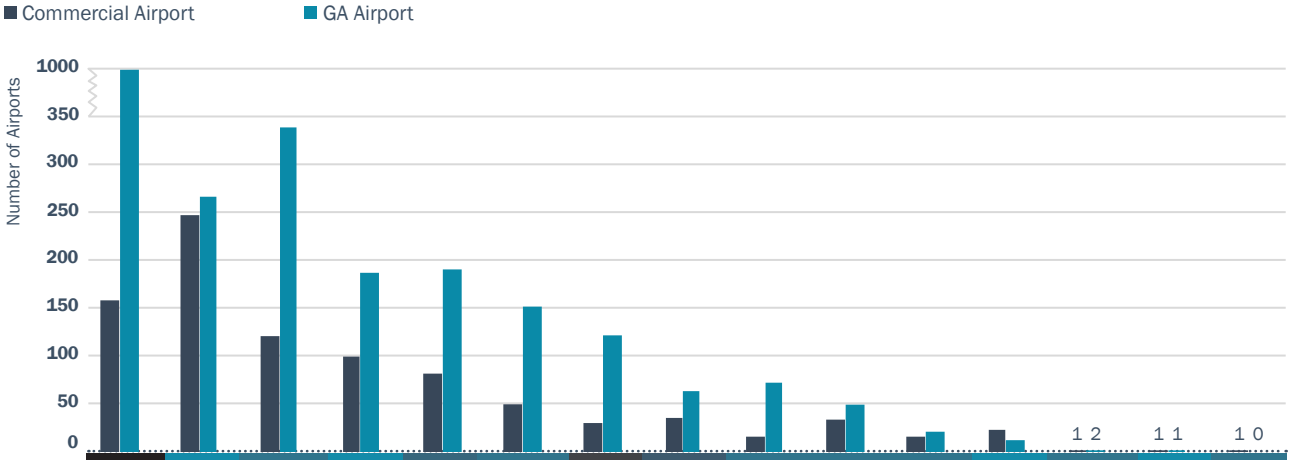




Airports in the Asia-Pacific region are experiencing rapid growth in the number of passengers that they handle. As of November 2021, there were a total of 3,588 airports, airfields and landing strips in the Asia-Pacific region. Amongst these airports, the number of general aviation airports accounted for 69%, whilst the remainder are commercial airports.

In addition, airports can be categorized according to a variety of different runway lengths. GA airports with runways less than 800 meters (which are adequate for 98% of general aviation aircraft) account for 35% of all airports. However, most business jets require at least 1,600 meters for safe operations. The general aviation airports that satisfy that condition only account for 10% airports in the Asia-Pacific region.

MAJOR REGION AIRPORT TYPE & AIRPORT DENSITY



	Australia	Mainland China	Indonesia	India	Japan	Philippines	New Zealand	Malaysia	South Korea	Thailand	Taiwan	Vietnam	Singapore	Hong Kong	Macao
Airport Density	6.89	0.04	0.17	0.02	0.22	0.18	3.05	0.30	0.17	0.12	0.17	0.03	0.15	0.03	0.15

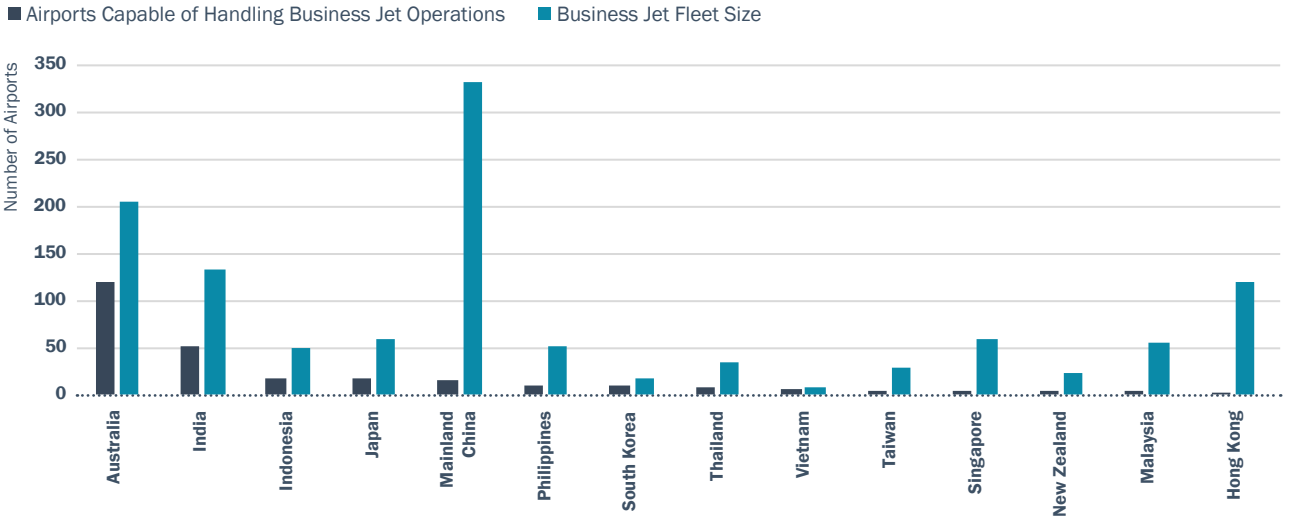
Airport Density = Number of Airports / Ten Thousand Square Kilometers. Airports include commercial and GA airports.

In Asia-Pacific, Australia has the most general aviation airports, whilst mainland China has the most commercial airports. The population in Japan is less than one tenth in India, however, the number of both commercial airports and general aviation airports in both India and Japan are quite similar.

Moreover, the ratio between the number of commercial airports and general aviation airports is one to four in New Zealand and one to five in South Korea. On the other hand, the ratio between the number of commercial airports and general aviation airports is only 1 to 1.1 in mainland China.

Per capita airport density is used to estimate how many airports there are per 100,000 citizens in a region or country. Australia and New Zealand are the two countries with most airports per capita in the Asia-Pacific region. On the other hand, mainland China, Hong Kong, India, and Vietnam have the fewest airports per capita.

ASIA-PACIFIC MAJOR BUSINESS JET MARKETS



For a business jet to take-off and land, the runway length must be at least 1,600 meters according to international standards. Australia has the most airports capable of business jet operations, whilst mainland China has the largest business jet fleet size in the Asia-Pacific region.

When comparing the number of airports in a county to the size of its business jet fleet, Hong Kong, mainland China and Singapore have the least airports compared to the size of their business jet fleets. Australia, South Korea and Vietnam on the other hand have the most.

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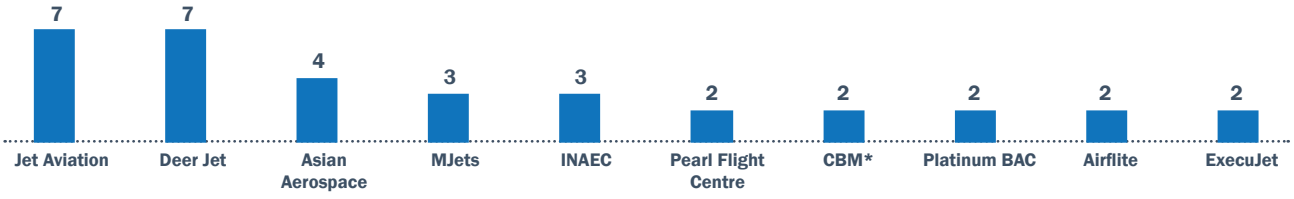
Gulfstream | Bombardier | Dassault | Embraer | Boeing

華龍航空
SINO JET

FBO OVERVIEW

Fixed-base operators (FBOs) are typically located at, or in vicinity of, an airport, with an operational objective of providing a hassle-free experience to business jet passengers during departure and arrival. Common FBO services and facilities include an executive lounge and flight planning, as well as ground handling services, such as fuel arrangement, aircraft marshalling and permit applications.

TOP FBO OPERATORS BY NUMBER OF FACILITIES



** CBM (Capital Airports Holding Business Aviation Management) and CJET (Beijing Capital Jet) are both subsidiaries of Capital Airports Holdings - CBM operates the FBO in Daxing Airport and CJET operates the FBO in Capital Airport.*

AVERAGE BASIC FBO CHARGES PER COUNTRY*

** Charges are based on an international flight using a Gulfstream G550, and include arrival and departure fees. Basic FBO charges include landing, parking, handling and business terminal fees, as well as commission payable to service providers and miscellaneous compulsory expenses.*

ASIA-PACIFIC FBOs

COUNTRY/REGION	FBO NAME	CITY
AUSTRALIA	Airflite	Adelaide | Perth
	Archerfield Jet Base	Brisbane
	Ausjet Aviation	Melbourne
	AVWest	Perth
	Cobham	Adelaide
	ExecuJet	Melbourne | Sydney
	Executive Airlines	Melbourne
	Jet Aviation	Brisbane (2) | Cairns | Darwin | Perth | Sydney
	Maxem Aviation	Perth
	Pearl Flight Centre	Darwin | Perth
	Platinum BAC	Gold Coast | Melbourne
	Rossair Charter	Adelaide
	Shortstop Jet Charter	Melbourne
MAINLAND CHINA	CBM	Beijing Daxing (opening in early 2022)
	Deer Jet	Changsha | Guilin | Haikou | Hangzhou | Nanning | Sanya | Xi'an
	Shanghai Hawker Pacific	Shanghai
	Shenzhen Joyee	Shenzhen
	Guangzhou Yitong FBO	Guangzhou
	Qingdao Airport FBO	Qingdao
	Sino Jet	Nanchang
	Tianjin Airport BAC	Tianjin
HONG KONG	Hong Kong BAC	Hong Kong
INDIA	MJets	New Delhi
INDONESIA	Travira	Jakarta
	Wira	Jakarta
JAPAN	Chubu Centrair Airport BAC	Nagoya
	Fuji Dream Aviation	Shizuoka
	Haneda Airport BAC	Tokyo
	Hirata Gakuen	Kobe
	Narita Airport BAC	Tokyo
MACAO	Macao BAC	Macao
	TAG Aviation	Macao
MALAYSIA	Senai Airport Terminal Services	Johor Bahru
	SkyPark	Kuala Lumpur
MYANMAR	MJets	Yangon
NEW ZEALAND	Air Centre One	Auckland
	Air Napier	Napier
	Capital Jet Services	Christchurch
	ExecuJet/Capital Jet Services	Wellington
	Queenstown Corporate Jet	Queenstown
PHILIPPINES	ACTSI	Subic Bay
	Asian Aerospace	Cebu | Clark | Davao | Manila
	INAEC	Cebu | Clark | Manila
	Miascor	Manila
SINGAPORE	Bombardier/Jetex	Singapore
	Jet Aviation	Singapore
	Wings Over Asia	Singapore
SOUTH KOREA	Avjet Asia	Seoul
TAIWAN	EVA SKY JET CENTER	Taipei
THAILAND	MJets	Bangkok

INTERVIEW WITH MA YIN

General Manager and President of Capital Jet Company Limited (CJET)

Executive Director and General Manager of Capital Airports Holding Business Aviation Management Co. Ltd (CBM)

Interview by Casper Zhuang

Mr. Ma joined CJET in 2015 having previously worked for Beijing Capital International Airport Co., Ltd and the Construction Office of Beijing Daxing International Airport. An aviation expert with over 20 years of relative civil aviation management experience, Mr. Ma also has extensive experience when it comes to airport and business jet operation management.

Funded and established by Capital Airports Holdings Limited (CAH) in November 2019, CBM is in charge of FBO operations at Beijing's Daxing Airport which is scheduled to begin operations in early 2022. Mr. Ma serves as its Executive Director and General Manager.

During his tenure at CJET, Mr. Ma has been devoted to aligning efforts with world-class FBOs, thus further expanding the company's impact on the international business aviation industry. In 2019, CJET attained IS-BAH approval and was evaluated as "the most improved FBO" by AIN.

WHAT ARE THE ADVANTAGES OF DAXING AIRPORT?

Situated at the center of Beijing-Tianjin-Hebei, Daxing Airport has built a "five vertical and two horizontal" transportation network. This integrated communication hub linking Beijing's central district with Xiong'an new district can effectively promote a link for the coordinated development within the Beijing-Tianjin-Hebei Region.

The FBO base in Daxing has an independent apron of 110,000 m^2, which can accommodate up to 85 aircraft. This area is also equipped with five (5) hangars and one (1) maintenance hangar allowing us to provide strong support for customers that require long-term parking and maintenance.

The brand new business jet building has a construction area of about 11,000 m^2, with a commercial area of about 3,000 m^2, that has been designed to provide a comfortable customer experience.

In addition, Daxing Airport has fewer limitations for aircraft landing and departing, so operators and end-users can enjoy effective and accessible service.

WHAT ARE THE UNIQUE DESIGN FEATURES OF THE FBO BASE AND TERMINAL BUILDING IN DAXING AIRPORT?

The whole FBO base design adopts a simple and spacious philosophy. With high regard for the localized and environmental-friendly concepts, we seek to pursue a green and energy-efficient design in the whole building process.

> *"Featuring regional characteristics, the FBO base building is enhanced with ecological, cultural, and intelligent elements in its culture galleria, business zone, theme lounge, and central courtyards."*

The concept behind the design of the Terminal is to achieve "two kinds of separation", which means it has separated international travelers from domestic travelers as well as passengers from crews. Setting up special passages for international passengers means that going through customs is clearer and more convenient. Airport staff are required to be separated to speed up inspections for a better customer experience. All in all, these two separations can improve the level of service and utilization of resources.

WHAT IS THE FUTURE ARRANGEMENT OF 'CBM' AT DAXING AND CAPITAL AIRPORT?

In business aviation, "Dual Airports in One City" means that one city has two civil airports available to business aircraft, shouldering the transportation business within the city or region. Compared to one airport, "Dual Airports" with coordinated and integrated management can achieve an effective operation by implementing the right mix of intensive systems, integrated management, and modular operation. This can meet the needs of business aviation development.

In recent years, with urban development and government construction planning adjustments, followed by the progressive improvement of Daxing Airport's supporting facilities, the air-ground network has become more important, which will advance mutual development among the Beijing-Tianjin-Hebei region. Furthermore, it can promote the construction of the 'dual-hubs' international commercial gateway.

Presently, Beijing's "Dual Airports" can satisfy the needs of customers with different flexibilities. We are also prepared to establish the i-Jet system to serve the two airports. The system is more conducive to the management and control of the "Dual Airports" sector.

WHAT IS YOUR VIEW ON THE FUTURE DEVELOPMENT OF BUSINESS AVIATION IN CHINA AND BEIJING?

I am positive regarding the future development of Chinese business aviation. Firstly, the rapid improvement of China's overall national strength, as well as its widely acknowledged economic environment and development will provide the impetus for comprehensive

development of the business aviation industry. Additionally, many policies that have been implemented by the Chinese government may positively affect the industry's development.

With the advent of the "Dual Airports" operating model, the development of business aviation in Beijing has seen a major shift. Notable progress will be made in its operating resources, environment, and service quality to provide an all-new experience for our customers both in the Asia-Pacific region and worldwide. During these two years with the pandemic, the number of domestic business flights has remained relatively stable, indicating that charter flights as a more effective and safer way to travel, have attained greater market recognition. We believe this trend will continuously expand in the post-COVID era and Beijing will be busiest airport city around the world following the comeback of international flights.

WHAT IS CBM'S PLAN FOR THE NEXT FEW YEARS?

CBM is a wholly-owned CAH (Capital Airports Holdings Limited) subsidiary, bearing the main responsibility of managing the resources for business jet ground handling. CBM should firstly lead the way in managing the two airports in Beijing and gradually integrate the ground handling resources within CAH. At the same time, we should work to implement the application of a standardized service system in all airports and further create a business model that can be up-scaled or replicated. We will spare no efforts to build CBM as a first-class domestic and internationally renowned FBO brand.

WHAT MAKES A GOOD MRO?

Words by: Tiffany Tong

Whether it's a fixed-wing or prop, a light, midsize or ultra-long-range jet, sooner or later there comes a time where every business aircraft will need the care of an experienced maintenance crew. But with so many options out there, which one is best suited for a company's needs? Asian Sky Media set out to find out what makes a good MRO.

When talking about aviation, MRO is a term that comes up often. Standing for Maintenance, Repair, and Overhaul, the label is widely used to describe several aircraft maintenance activities. These generally include but are not limited to any specific repairs, services, or inspections of an aircraft to ensure its safety and airworthiness. This is especially important for business aircraft, as engines, systems, and other parts age as well as wear and tear over time. Thus, having regular check-ups with an MRO can help reduce the chances of any unexpected failures.

With aircraft heavily depending on MROs to keep them in tip-top shape, it stands to reason that picking the right MRO provider is also an equally important task. So what factors should be considered when deciding what MRO facility to use?

CAPABILITIES:

Unsurprisingly, the capabilities of an MRO facility remain one of the most important factors when operators are thinking of choosing an MRO. MJets' CEO Natthapatr Sibunruang agrees, stating, "I think, first of all, the quality of the service and also the capability with proper personnel training is the most important thing."

> *The quality of the service and also the capability with proper personnel training is the most important thing.*
>
> – Natthapatr Sibunruang, CEO of MJets

For Paul Desgrosseilliers, General Manager of ExecuJet Haite Aviation, when it comes to capabilities he says to focus more on what can be done in-house; "An MRO might say they have interior repair capabilities, while that's not necessarily having a full shop." He goes on to highlight that MROs may say they can do a certain service, when in fact they actually outsource the maintenance part to someone else. "I can take a battery out and ship it to the shop in Beijing and put it back in," Paul elaborates. "But that's different than having my in-house battery shop with battery approvals."

According to Paul, the capabilities of an MRO need to be explicitly clear, "So they [MROs] don't say, 'I worked on 20 different aircraft', when in fact they only worked on a Global and Citation."

> *MROs may say they can perform a certain service, when in fact they actually outsource the maintenance part to someone else.*
>
> – Paul Desgrosseilliers, General Manager of ExecuJet Haite Aviation

Metrojet's CEO Gary Dolski says that it is important to have personnel trained properly so they are "good and current" assuring up-to-date services. "It's one thing to say I can do these ten different kinds of planes in these ten different registries, but if you're not seeing this type of plane for four years it doesn't really matter, does it?"

In addition, Hongkong Jet's Director of Engineering and Maintenance, Romand Xu, further notes that a wide range of capabilities is needed to cover different authorities and types of aircraft such as MROs who have been authorized by OEMs. For example, Jet Aviation, can perform an Aircraft Circuit Breaker Maintenance (CB), which is extremely difficult to implement without authorization.

Richard Wolfskeil, Director of Maintenance at Aviation Concepts Technical Services Inc. (ACTSI), also agrees that capability of an MRO remains a major factor. According to him, when an MRO progresses tooling, they progress their experience level and the jobs they can do. He cites Gulfstream as a good example – not only are they reliable, its services are of high quality and its engineers have advanced professional maintenance skills. "They [Gulfstream] have the engineering support there," Richard clarifies. In addition, surprise maintenance is another factor when it comes to MRO capabilities – when something suddenly breaks and needs to be repaired or replaced as soon as possible, not many MROs are capable of handling that, especially with a high quality of craftsmanship. "So now you just narrowed your whole work scope as to where you're going to go," Richard says. He further adds that aside from knowing the exact capabilities of an MRO facility, it is also important to know who are the people in charge of running it, and what kind of reputation the provider has. In Richard's eyes, "A lot of that word of mouth, as you know, goes a long way in aviation."

> *It is also important to know who are the people in charge of running it, and what kind of reputation the provider has.*
>
> – Richard Wolfskeil, Director of Maintenance at Aviation Concepts Technical Services Inc. (ACTSI)

CUSTOMER SERVICE

For other operators, Asian Sky Media found that they prioritized customer service instead. "It's important for me running my business to give feedback all the time on customer service," Paul mentions. "You can have the best engineers in the world. But if you don't react to the customers, if you're not quick with customer reaction, return to service, listen to the customers and meet their requirements, the best engineering in the world doesn't make up for those shortfalls." When it comes to asking for feedback, Paul asks questions such as "What are we doing right?" and "What are we doing wrong?" to compare responses.

Sarith Vaikuntan, General Manager at Metrojet Engineering Clark, agrees. To him, the best way to determine a good MRO is its customer satisfaction. "So the way I would do it is there's a score from one to five with five being the highest," he explains. "Anything that is below a three, I will try to personally call the customer and get their feedback." Sarith believes that as customers who come to the facility pay good money to for their servicing, meeting their expectations is the yardstick for any professional MRO. As he repeatedly emphasizes, "the amazing customer experience remains the gold standard."

> *The amazing customer experience remains the gold standard.*
>
> – Sarith Vaikuntan, General Manager of Metrojet Engineering Clark

MAINTENANCE PERIODS

The maintenance period of an MRO refers to the period an MRO is working on an aircraft – up until its completion. As such, the amount of time taken during maintenance can not only affect costs but also schedules and the reputation of an MRO. As Gary says, "If I'm the customer, what do I want out of an MRO? I want to get my plane in on time. I want to get it out on time." This is why he believes that scheduling is so important. This is also affected by geographic regions – as Gary puts it, why should an operator based in the Philippines fly back to the US instead of doing maintenance in Asia? Moreover, Gary wants to be transparent. "They [customers] want to know how it [maintenance] is progressing. So I want to minimize my surprises and give them a nice, clean, understandable invoice that in the end is fair." He continues, "It doesn't have to be the lowest, but it has to be fair and explainable. And if you do that most customers will walk away reasonably pleased to come back again."

Qiu Dong, Vice President of Maintenance at Amber Aviation, believes that the maintenance period and costs are highly positively correlated. For example, he cites the Gulfstream G450's emergency rail as usually having a corrosion issue. As he explains, despite Beijing's Gulfstream MRO facility being closer, their efficiency is lowered if they cannot completely remove the corrosion, as the MRO needs to spend time sending the maintenance results back to headquarters. Compared to Savannah, which is more efficient and has an overall shorter maintenance period. Therefore, despite being farther, their shorter maintenance period would mean fewer costs in the long run.

> *The maintenance period and costs are highly positively correlated.*
>
> – Qiu Dong, Vice President of Maintenance at Amber Aviation

Richard has a similar view. As he points out, "If an MRO only has one or two people, and you're going in for a big job, you're going to be having an extended maintenance visit." Regarding Bombardier, Richard says, "they're going to be a lot quicker because they have all the trained personnel." This is especially true when it comes to dealing with larger planes like an Airbus. Again, in his point of view, "you're not going to go to a small place that can't handle that kind of airplane." With Richard's previous experience of changing MRO facilities to HAECO, he justifies it reiterating, "they have a lot of experience, they've got engineering, they've got the manpower, so our visit can go a lot smoother because of that."

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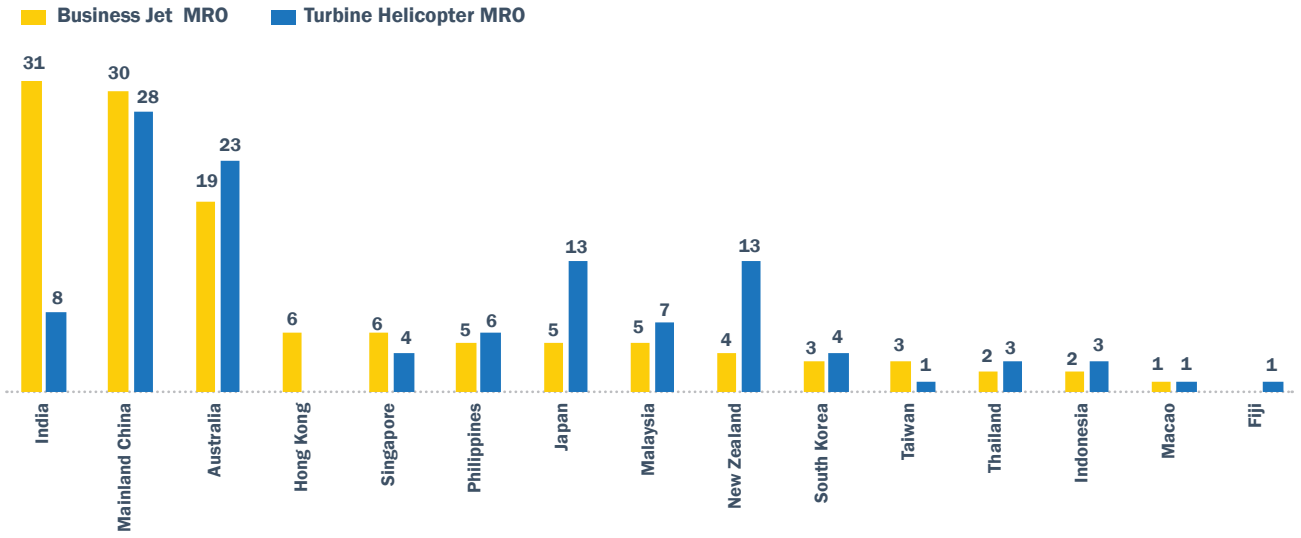
MRO OVERVIEW

Maintenance, Repair and Overhaul (MRO) services were established to secure the proper working and safety of aircraft; they can be carried out as a preventive measure before the emergence of trouble, or as troubleshooting for existing problems. MRO is generally broken down into two main categories: line maintenance and base maintenance.

MRO FACILITIES BY COUNTRY/REGION



ASIA-PACIFIC REGION TOP BUSINESS JET MRO RANKING

Infrastructure remains a central issue for business aviation in the Asia-Pacific region. MRO has been one of the most active segments over the past two to three years, with Dassault acquiring ExecuJet, Jet Aviation acquiring Hawker Pacific, other OEMs significantly increasing their footprint in the region and new independent entrants coming into the market.

To answer what the most important service criteria is when choosing an MRO, and which is the best MRO in Asia-Pacific, Asian Sky Media created a survey to collect the opinions from a variety of respondents, including MRO service providers, business jet operators (flight departments), aircraft owners and other stakeholders.

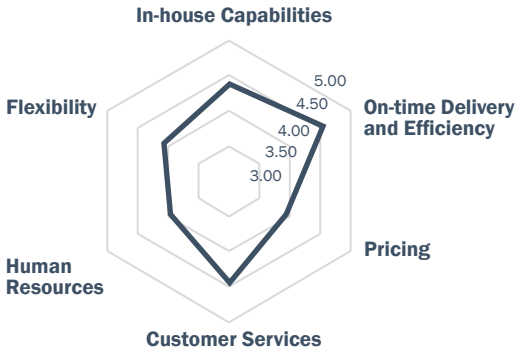
The aim of the survey is to find out who is the best MRO in the Asia-Pacific region. But how does one define the "best"? To do this, we split the survey results into two distinct sections, with the 'hard' section looking at how many facilities, country, and type approvals that an MRO company has, and the 'soft' section focusing more on the quality of work and customer service that the MRO gives: so size versus service.

If we were to simply combine the sections into one, it stands to reason that the winners would be the MROs with the most facilities and approvals i.e. the biggest size. However, this would not necessarily give a true picture of the best MRO i.e. the best service provider, as the smaller MRO facilities with fewer country and type approvals would be excluded.

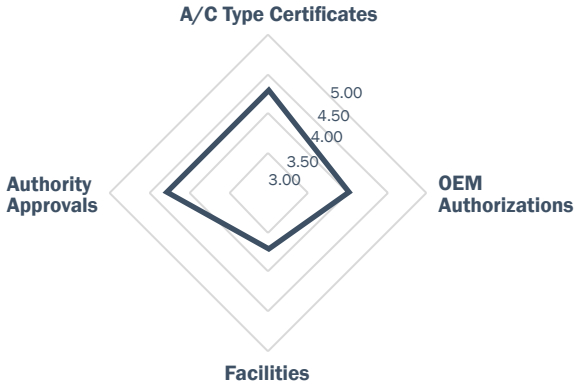
So yes, in the second section we are trying to ensure the little guy, if he's offering outstanding service, gets due recognition.

The survey is divided into two phases. In the first phase, a respondent is asked to weigh the importance of ten criteria - six 'soft' ones and four 'hard' ones; each with the score range from zero to five. The average score of each criteria is used to weight the final average score calculation.

'Soft' Criteria Importance



'Hard' Criteria Importance



Asian Sky Media received 189 valid responses for the importance of ten criteria. According to the result, on-time delivery and efficiency is the criteria that respondents value the most, giving an average importance score of around 4.6. The second and third important criteria are customer service and in-house capabilities, each with around 4.5 and 4.4 respectively.

In the 'Hard' category, based on ASM's MRO research, the number of Facilities, Authority Approvals, A/C Type Certificate and OEM Authorizations of different MROs are linearly scaled from zero to five, and then MRO facilities are ranked with the weighted average score. Jet Aviation and ExecuJet rank first and second with an average score of 3.60 and 3.44, respectively.

RANK	Company Name	Facilities	Authority Approvals	A/C Type Certificate	OEM Authorizations	Weighted Average Score
		Num. (Score)	*Num. (Score)*	*Num. (Score)*	*Num. (Score)*	*Score*
1	Jet Aviation	7 (2.1)	21 (4.8)	54 (5.0)	2 (2.5)	**3.65**
2	ExecuJet	7 (2.1)	13 (3.0)	41 (3.8)	4 (5.0)	**3.47**
3	Air Works	17 (5.0)	5 (1.1)	32 (3.0)	4 (5.0)	**3.45**
4	Bombardier Service Centre	2 (0.6)	22 (5.0)	11 (1.0)	1 (1.3)	**2.02**
5	Shanghai Hawker Pacific	1 (0.3)	10 (2.3)	12 (1.1)	2 (2.5)	**1.57**
6	ExecuJet Haite	1 (0.3)	8 (1.8)	16 (1.5)	2 (2.5)	**1.55**
7	Airflite	1 (0.3)	11 (2.5)	18 (1.7)	1 (1.3)	**1.47**
8	Metrojet	2 (0.6)	12 (2.7)	9 (0.8)	1 (1.3)	**1.38**
9	TAG Aviation	2 (0.6)	5 (1.1)	12 (1.1)	2 (2.5)	**1.34**
10	Cessna Service Centre	1 (0.3)	10 (2.3)	14 (1.3)	1 (1.3)	**1.31**

'Hard' Criteria Definition

- **Facilities:** Number of different facilities in Asia-Pacific region.
- **Authority Approvals:** Approvals from different authorities.
- **A/C Type Certificate:** Number of A/C types covered.
- **OEM Authorization:** Is the MRO an OEM Authorized Service Facility that can provide warranty service?

Jet Aviation has the most A/C Type Certificates - 59, which means it covers most aircraft models from different OEMs, whilst ExecuJet and Air Works can provide warranty service to most OEMs' aircraft. Although Air Works has 17 facilities, only three are base maintenance facilities, with the remaining 14 all being line maintenance bases. All the facilities are located in single country – India.

In the second phase, a respondent is required to score the MRO facilities he/she has had experience with for six "soft" criteria; each also with the range from zero to five. ASM carefully verified all responses one by one, and excluded those that were clearly self-assessed, multiple responses from the same person, and suspicious responses from people that did not leave verifiable contact details.

There were a total of 119 valid responses from business jet operators and owners. According to the responses, Hongkong Jet ranks first 'soft' category, with an average score of 4.88. Execujet Haite came next, with an average score of 4.35. ExecuJet Haite also received the most responses in the survey, indicating a wide user base of the company in the region. Although fewer responses were received for Hongkong Jet, it doesn't make them less valid, as all responses are carefully verified by ASM.

RANK	Company Name	In-house Capabilities	On-time Delivery and Efficiency	Pricing	Customer Services	Human Resources	Flexibility	Weighted Average Score
		Score	*Score*	*Score*	*Score*	*Score*	*Score*	*Score*
1	Hongkong Jet	4.8	5.0	4.5	5.0	5.0	5.0	**4.88**
2	ExecuJet Haite	4.0	4.7	4.2	4.5	4.4	4.4	**4.35**
3	MJets	4.3	4.2	3.8	4.2	4.1	4.2	**4.15**
4	Bombardier Service Centre	4.3	3.8	3.6	4.1	3.7	3.7	**3.86**
5	Jet Aviation	3.9	3.8	3.2	3.7	3.6	3.6	**3.66**
6	Gulfstream Beijing (JV)	3.8	3.5	3.3	3.5	3.0	3.3	**3.39**
7	Metrojet	3.3	3.4	3.2	3.2	3.3	3.3	**3.27**

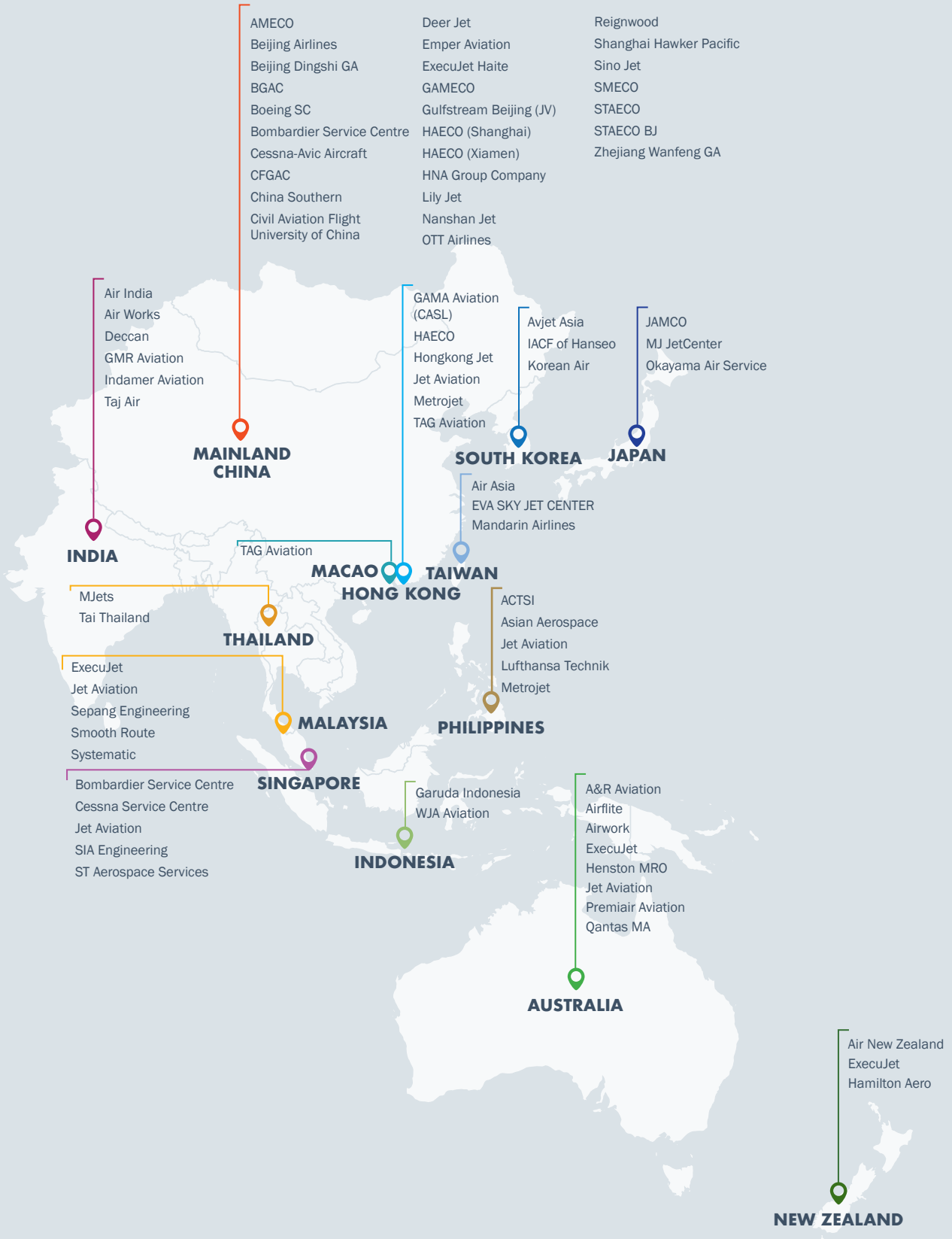
'Soft' Criteria Definition

- **In-house capabilities:** Does the MRO have other capabilities outside of the type and country approvals that it holds? (This category includes interior repair, NDT, Painting, component repair, sheet metal repair, etc.)
- **On-time delivery & efficiency:** Does the MRO complete the work in a timely and efficient manner and to your expectations?
- **Pricing:** Does the MRO offer competitive and transparent pricing, and accurate and timely invoicing?
- **Customer Services:** Does the MRO provide constant feedback on the progress of work it is undertaking and does the service level meet or exceed your expectations?
- **Human Resources:** Does the MRO provide professional and courteous certified staff?
- **Flexibility:** Is the MRO able to react well to unexpected issues or unplanned services?

Overall, Jet Aviation, ExecuJet Haite and Metrojet rank highly in both the "Soft" and "Hard" lists, suggesting that they are the top MROs in the region.

Some other MROs, including ExecuJet, Air Works and Shanghai Hawker Pacific all have very strong capabilities in approvals, certificates and authorizations. However, ASM did not receive enough valid responses for them in the survey, and therefore they are not listed in the 'soft' criteria ranking.

ASIA-PACIFIC MRO NETWORKS - BUSINESS JETS



TOP BUSINESS JET MRO PROFILES

AIR WORKS

Established in 1951, Air Works remains India's largest privately-owned integrated provider of aviation services. With over 70 years of experience, the MRO has over 1,300 employees including nearly 900 technical experts. Air Works also has EASA and DCGA certified facilities and is certified by CEMILAC and DGAQA.

Air Works operates five (5) hangars in India at Hosur (Tamil Nadu), Mumbai (Maharshtra), and Kochi (Kerala). Together, the facilities can accommodate as many as six (6) Narrow-body aircraft or more than 15 Executive jets simultaneously. Aside from commercial aircraft, other aircraft it works on include Bombardier, Learjet, Dassault, Embraer, Gulfstream, and Textron. Moreover, Air Works is the only OEM Approved Centre for Bell and Leonardo Helicopters in the ASEAN region.

Other services Air Works provide include line maintenance, integrated maintenance, painting, as well as avionics. Air Works also offers specific and select services on request to customers, such as resource attachment, end-of-lease services, aircraft recovery, managing assets' end of life, and much more.

Maintenance Capabilities

◉ Both ● Base ○ Line

Business Jet and Engine Only

TYPE	OEM	MODEL	Hosur	Mumbai
AIRFRAME	Airbus	ACJ319	○	○
		ACJ320	◉	◉
		ACJ330	○	○
	Boeing	BBJ	◉	◉
		BBJ2	◉	◉
		BBJ3	◉	◉
	Bombardier	Learjet 40/45/45XR	◉	◉
		Learjet 60/60XR	◉	◉
		Challenger 300/350	◉	◉
		Challenger 604/605/650	◉	◉
		Challenger 800/850	◉	◉
		Global 5000/5000 GVFD/5500	◉	◉
		Global Express/XRS/6000/6500	◉	◉
	Dassault	Falcon 900EX EASy/DX/LX		◉
	Embraer	Phenom 100/100E/100EV	◉	◉
		Phenom 300/300E	◉	
		Legacy 600	◉	
		Legacy 650/650E	◉	
	Gulfstream	G100 (1125/1125SP/1125SPX)		○
		G200		○
		G280		○
		GIV (G300/G400)		○
		GIV-SP		○
		GV		○
		GV-SP (G500/G550)		◉
	Textron	Beechcraft Premier I/IA		◉

TYPE	OEM	MODEL	Hosur	Mumbai
		Hawker 4000		◉
		Hawker 700/750		◉
		Hawker 800/XP		◉
		Hawker 850XP		◉
		Hawker 900XP		◉
		Citation 550		◉
		Citation 560/XL/XLS		◉
		Citation CJ2 Series		◉
ENGINE	Honeywell	TFE731		○

** Kochi base maintenance facility is waiting for approvals. There are 14 more Airworks facilities providing line maitenance in India, which are located in Ahmedabad, Bangalore, Bellary, Chennai, Hyderabad, Jaipur, Kolkata, Lucknow, Madurai, Nellore, New Delhi, Patiala, Pune and Vijayawada.*

Authority Approvals

AUTHORITY	Hosur	Mumbai
Cayman Isd.	✓	✓
EASA	✓	
India	✓	✓
San Marino	✓	✓
UAE	✓	✓

OEM Authorizations

TYPE	OEM	Hosur	Mumbai
AIRFRAME	Dassault		✓
	Embraer	✓	✓
	Gulfstream		✓
	Textron		✓
ENGINE	Honeywell		✓

EXECUJET

Founded in 1991 and headquartered at Zurich Airport, Switzerland, ExecuJet MRO specializes in airframe, avionics, and engine maintenance with aircraft engineers trained and certified on aircraft including Bombardier, Dassault, Cessna, Embraer, Gulfstream, Hawker, and more. Complying with the world's most stringent regulatory requirements, ExecuJet also has OEM associations with Satcom Direct, Ingenio Aerospace, and William's International. The MRO boasts 450 employees worldwide, who are responsible for the maintenance of more than 300 aircraft. ExecuJet MRO Service became a member of the Dassault group of companies in March 2019.

With up to 15 global locations, the facilities hold multiple approvals including the National NAA, EASA, and FAA certifications. In addition, ExecuJet holds six fixed-wing and one rotary Air Operating Certificates (AOCs) for Switzerland, the United Kingdom, Denmark, the United Arab Emirates, South Africa, Australia, and Mexico.

Regarding Avionics support and upgrades, ExecuJet has formal relationships with Honeywell, Collins Aerospace, Universal Avionics, and Garmin. ExecuJet also services all major engine types and has representations with General Electric and Rolls-Royce to support any warranty and maintenance programs. Moreover, ExecuJet includes a Honeywell MSP Propulsion plan, which covers periodic inspections, unscheduled maintenance, as well as enhances aircraft resale value.

Maintenance Capabilities

◉ Both ● Base ○ Line

Business Jet and Engine Only

TYPE	OEM	MODEL	Auckland	Brisbane	Kuala Lumpur	Melbourne	Perth	Sydney	Wellington
AIRFRAME	Bombardier	Learjet 35/36				◉		◉	
		Learjet 40/45/45XR			◉	◉		◉	
		Learjet 60/60XR		○	◉	◉		◉	
		Challenger 300/350			◉	◉		◉	
		Challenger 601/-3A/-3R			◉	◉	◉	◉	
		Challenger 604/605/650			◉	◉	◉	◉	
		Challenger 800/850			◉	◉			
		Global 5000/5000 GVFD/5500			◉	◉	◉	◉	
		Global Express/ XRS/6000/6500			◉	◉	◉	◉	
		Global 7500				◉	○		
	Dassault	Falcon 10						◉	
		Falcon 20						◉	
		Falcon 50						◉	
		Falcon 100						◉	
		Falcon 900/B				◉		◉	
		Falcon 900C/EX			◉	◉	◉	◉	
		Falcon 900EX EASy/DX/LX			◉	◉		◉	
		Falcon 2000DX/LX/LXS/ EX EASy	○		◉			◉	
		Falcon 7X/Falcon 8X		○	◉	◉		◉	
	Embraer	Phenom 100/100E/100EV	○	○		◉	◉	◉	○
		Phenom 300/300E		○		◉	◉	◉	
		Legacy 450/Praetor 500						◉	
		Legacy 500/Praetor 600						◉	
		Legacy 600				◉	◉	◉	
		Legacy 650/650E				◉	○	◉	

TYPE	OEM	MODEL	Auckland	Brisbane	Kuala Lumpur	Melbourne	Perth	Sydney	Wellington
	Gulfstream	G200			◉				
		GIV (G300/G400)			◉	◉	◉	◉	
		GIV-X (G350/G450)			◉	◉	◉	◉	
		GV			◉	◉	◉	◉	
		GV-SP (G500/G550)			◉	◉	◉	◉	○
		GVI (G650/G650ER)				◉		◉	○
		GVII (G500/G600)				◉	◉	◉	
	Textron	Hawker 700/750				◉	◉	◉	◉
		Hawker 800/XP		○		◉	◉	◉	◉
		Hawker 850XP		○		◉	◉	◉	◉
		Hawker 900XP		○		◉	◉	◉	◉
		Citation 500				◉	◉	◉	
		Citation 550				◉	◉	◉	
		Citation 560/XL/XLS				◉	◉	◉	
		Citation 650				○		○	
ENGINE	GE	CF34			◉	◉	◉	◉	
		Passport				◉			
	Honeywell	TFE731						○	
		HTF7000						○	
	Rolls-Royce	BR700			◉	◉	◉	◉	

Authority Approvals

AUTHORITY	Auckland	Brisbane	Kuala Lumpur	Melbourne	Perth	Sydney	Wellington
Australia	✓	✓		✓	✓	✓	✓
Bermuda	✓	✓	✓	✓	✓	✓	✓
Cayman Isd.	✓	✓	✓	✓	✓	✓	✓
Mainland China			✓				
EASA			✓				
FAA	✓	✓	✓	✓	✓	✓	✓
Indonesia	✓	✓	✓	✓	✓	✓	✓
Isle of Man	✓	✓	✓	✓	✓	✓	✓
Malaysia	✓	✓	✓	✓	✓	✓	✓
New Zealand	✓	✓		✓	✓	✓	✓
San Marino	✓	✓	✓	✓	✓	✓	✓
Thailand			✓				
Vietnam	✓	✓	✓	✓	✓	✓	✓

OEM Authorizations

TYPE	OEM	Brisbane	Kuala Lumpur	Melbourne	Perth	Sydney	Wellington
AIRFRAME	Bombardier			✓		✓	
	Dassault	✓	✓	✓	✓	✓	
	Embraer			✓		✓	✓
	Gulfstream			✓	✓	✓	
ENGINE	GE		✓	✓	✓	✓	
	Honeywell					✓	
	Rolls-Royce		✓	✓	✓	✓	

EXECUJET HAITE

Founded in 2010 and headquartered at Binhai International Airport in Tianjin, China, ExecuJet Haite has a 58,000 m^2 hangar providing 2,700 m^2 of hangar space, in addition to a 6,600 m^2 apron. Complying with the world's most stringent regulatory requirements, ExecuJet also has OEM associations with Satcom Direct, Ingenio Aerospace, and William's International. The MRO boasts 450 employees worldwide, who are responsible for the maintenance of more than 300 aircraft. In 2019 ExecuJet MRO Service became a member of the Dassault group of companies in March 2019.

Execujet Haite has approvals from the Civil Aviation Administration of China (CAAC) Part-145, European Aviation Safety Agency (EASA) Part-145, FAA Part-145 repair station, Cayman, Hong Kong, Macao, Bermuda, and Aruba. The facility also offers line and base maintenance on multiple Embraer Executive Jets, Dassault, Bombardier, and Gulfstream models.

Regarding Avionics support and upgrades, ExecuJet has formal relationships with Honeywell, Collins Aerospace, Universal Avionics, and Garmin. ExecuJet also services all major engine types and has representations with General Electric and Rolls Royce to support any warranty and maintenance programs. Moreover, ExecuJet includes a Honeywell MSP Propulsion plan, which covers periodic inspections, unscheduled maintenance, as well as enhances aircraft resale value.

Maintenance Capabilities

◉ Both ● Base ○ Line

Business Jet and Engine Only

TYPE	OEM	MODEL	Tianjin
AIRFRAME	Bombardier	Learjet 60/60XR	○
		Challenger 300/350	◉
		Challenger 601/-3A/-3R	◉
		Challenger 604/605/650	◉
		Challenger 800/850	◉
		Global 5000/5000 GVFD/5500	◉
		Global Express/ XRS/6000/6500	◉
	Dassault	Falcon 7X/Falcon 8X	◉
	Embraer	Phenom 300/300E	◉
		Legacy 600	◉
		Legacy 650/650E	◉
		Lineage 1000/1000E	◉
	Gulfstream	GIV (G300/G400)	◉
		GIV-X (G350/G450)	◉
		GV	◉
		GV-SP (G500/G550)	◉
ENGINE	Rolls-Royce	BR700	◉
		AE3007	◉

Authority Approvals

AUTHORITY	Tianjin
Aruba	✓
Bermuda	✓
Cayman Isd.	✓
Mainland China	✓
EASA	✓
FAA	✓
Hong Kong	✓
San Marino	✓

OEM Authorizations

TYPE	OEM	Tianjin
AIRFRAME	Dassault	✓
	Embraer	✓
ENGINE	Rolls-Royce	✓

ExecuJet MRO SERVICES
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HONGKONG JET

A management and charter operator based in Hong Kong, Hongkong Jet started operations in 2011. Part of the HNA Group of Aviation – which also includes Asia Jet, Deer Jet, and UAS International Trip Support, the operator provides clients with professional business aviation services including aircraft management, maintenance, charter, and consultancy.

Furthermore, Hongkong Jet has achieved the International Standard for Business Aircraft Operations (IS-BAO) Stage 3 certification, the highest level issued by the International Business Aviation Council.

With regards to maintenance, Hongkong Jet has extensive line and base maintenance capabilities, along with a growing number of national aviation authority approvals. These include FAA, Bermuda, Cayman Islands, and HKCAD. The MRO provides services to Gulfstream aircraft, the Bombardier Challenger 604/605/650 and Global 5000/5500/Express/XRS/6000/6500, Dassault Falcon 7X, BBJ as well as the ACJ.

Maintenance Capabilities

◉ Both ● Base ○ Line

Business Jet and Engine Only

TYPE	OEM	MODEL	Hong kong
AIRFRAME	Airbus	ACJ318	◉
		ACJ319	◉
	Boeing	BBJ	◉
	Bombardier	Challenger 604/605/650	◉
		Global 5000/5000 GVFD/5500	◉
		Global Express/XRS/6000/6500	◉
	Dassault	Falcon 7X/Falcon 8X	○
	Gulfstream	GIV-X (G350/G450)	◉
		GVI (G650/G650ER)	◉
		GV-SP (G500/G550)	◉
	Textron	Citation CJ4	◉

Authority Approvals

AUTHORITY	Hong Kong
Bermuda	✓
Canada	✓
Cayman Isd.	✓
Mainland China	✓
FAA	✓
Guernsey	✓
Hong Kong	✓
Isle of Man	✓
Macao	✓
San Marino	✓

HONGKONG JET

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JET AVIATION

Since being formed in 1967, Jet Aviation now has 50 locations worldwide and has a fleet of approximately 300 aircraft, privately managed across the globe. The MRO features dedicated maintenance technicians that are experts in Fixed Wing and Rotary Wing. In addition to scheduled checks for both line and base maintenance, AOG call-outs, and After-Market services – mainly for unplanned maintenance, Jet Aviation has also been named Designated Maintenance Facilities by Pratt & Whitney Canada and has an Aerospace Standards EN 9110 certification in recognition of its quality management system. Locations of MRO facilities include Australia, Switzerland, the USA, the United Arab Emirates, Hong Kong, Saudi Arabia, Malaysia, the Philippines, mainland China, Singapore, and Austria.

Jet Aviation's services include an in-house engineering department and design studio, full aircraft painting, VIP cabin refurbishment, and much more. It also does on-site fleet support, troubleshooting, structural repairs, as well as helping aircraft buyers and sellers make informed decisions through their pre-purchase inspections. These independent documentation reviews are backed by a commitment to quality and safety.

Jet Aviation further includes advanced manufacturing services, focusing on new parts and specialized tooling. Made using OEM-approved data, services comprise of model creation, heat treatment of materials, aviation paint removal, and much more.

Maintenance Capabilities

◉ Both ● Base ○ Line

Business Jet and Engine Only

TYPE	OEM	MODEL	Bankstown	Cairns	Hong Kong	Kuala Lumpur	Manila	Singapore
AIRFRAME	Airbus	ACJ318						◉
		ACJ319						◉
		ACJ320						◉
		ACJ321						◉
	Boeing	BBJ						◉
	Bombardier	Learjet 35/36						◉
		Learjet 40/45/45XR						◉
		Learjet 60/60XR						◉
		Challenger 300/350						◉
		Challenger 601/-3A/-3R						◉
		Challenger 604/605/650			◉			◉
		Challenger 800/850						◉
		Global 5000/5000 GVFD/5500			◉			◉
		Global Express/ XRS/6000/6500			◉			◉
	Dassault	Falcon 10						◉
		Falcon 20	◉					◉
		Falcon 50	◉					◉
		Falcon 900/B	◉		◉			◉
		Falcon 900C/EX	◉		◉	◉		◉
		Falcon 900EX EASy/DX/LX	◉		◉	◉		◉
		Falcon 2000	◉					◉
		Falcon 2000DX/LX/LXS/ EX EASy	◉			◉		◉
		Falcon 2000EX	◉					◉
		Falcon 7X/Falcon 8X	◉		◉	◉		◉
	Embraer	Legacy 450/Praetor 500						◉
		Legacy 500/Praetor 600						◉

TYPE	OEM	MODEL	Bankstown	Cairns	Hong Kong	Kuala Lumpur	Manila	Singapore
	Gulfstream	G100 (1125/1125SP/1125SPX)						◉
		G150						◉
		G200						◉
		G280						◉
		GII/GIIB/GIII						◉
		GIV (G300/G400)			◉			◉
		GIV-SP			◉			
		GIV-X (G350/G450)			◉			◉
		GV			◉			◉
		GV-SP (G500/G550)			◉			◉
		GVI (G650/G650ER)			◉			◉
		GVII (G500/G600)			◉			◉
	Textron	Hawker 400						◉
		Hawker 4000						◉
		Hawker 700/750						◉
		Hawker 800/XP						◉
		Hawker 850XP						◉
		Hawker 900XP						◉
		Citation 500		◉				
		Citation 550	◉					◉
		Citation 560/XL/XLS	◉	◉			◉	◉
		Citation CJ1 Series	◉	◉				
		Citation 650	◉					
		Citation 750	◉					
		Citation CJ2 Series	◉					
		Citation Longitude	◉					
		Citation Mustang	◉					
		Citation Sovereign	◉					
ENGINE	**CFE**	CFE738	○					○
	CFM	CFM56						○
	GE	CF34			○			○
	Honeywell	TFE731	○		○			○
		ATF3						○
	P&W	PW300	○	○	○			○
		PW500						○
		PW600						○
	Rolls-Royce	BR700			○			○
		Tay			○			○
		AE3007						○

Authority Approvals

AUTHORITY	Bankstown	Cairns	Hong Kong	Kuala Lumpur	Manila	Singapore
Aruba			✓			✓
Australia	✓	✓				✓
Bermuda			✓			✓
Canada			✓			
Cayman Isd.			✓			✓
Mainland China			✓			✓
EASA	✓	✓	✓			✓
FAA	✓	✓	✓	✓		✓
Guernsey						✓
Hong Kong			✓			✓
India						✓
Indonesia	✓	✓				✓
Isle of Man			✓			
Macao			✓			✓
Malaysia				✓		✓
Philippines		✓			✓	✓
PNG	✓	✓				
San Marino			✓			
South Korea						✓
Thailand	✓	✓				✓
Vietnam						✓

OEM Authorizations

TYPE	OEM	Bankstown	Hong Kong	Singapore
AIRFRAME	Embraer			✓
	Gulfstream		✓	✓
ENGINE	CFE			✓
	Honeywell	✓		✓
	P&W		✓	
	Rolls-Royce			✓

JET AVIATION
A GENERAL DYNAMICS COMPANY

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METROJET

A Hong Kong-based business jet operator established in 1997 as part of the Kadoorie Group, Metrojet has MRO facilities in both Hong Kong and the Philippines. Aside from Gulfstream, Metrojet also holds authorities to work on the Bombardier Global family, with engineers holding Pratt & Whitney, Rolls-Royce, GE, and Honeywell aircraft engines and APU type ratings. Furthermore, Metrojet is recognized as a Pratt & Whitney Authorised Service Facility and Mobile Repair Team (for PWC 306 series engines line maintenance services), a Rolls-Royce Authorised Service Facility (BR710 engine types) and a Honeywell Authorised Service Facility and Authorised Dealership.

Metrojet's MRO services include line and base maintenance, Avionics, Interior/Exterior cleaning and detailing, technical appraisal, registration, and much more. They also have approval from the FAA, HKCAD, JMM as well as the Leather Institute.

With Metrojet Engineering Clark's (MEC) state-of-the-art integrated hangar parking and maintenance facility opening in the Philippine's Clark International Airport, Metrojet can ensure long-term hangar parking and heavy maintenance services with Clark's 7,100m^2 of hangar floor space. The location is typhoon-rated, with a private taxi-way and an 11,000 m^2 apron. Ideally, it is designed to meet business aviation needs in Asia-Pacific for the next 50 years.

Authority Approvals

AUTHORITY	Clark	Hong Kong
Aruba		✓
Bermuda		✓
Canada		✓
Cayman Isd.	✓	✓
Mainland China		✓
FAA	✓	✓
Hong Kong		✓
Isle of Man	✓	✓
Macao		✓
Philippines	✓	
Qatar	✓	✓
San Marino	✓	✓

Maintenance Capabilities

◉ Both ● Base ○ Line

Business Jet and Engine Only

TYPE	OEM	MODEL	Clark	Hong Kong
AIRFRAME	Boeing	BBJ		◉
	Bombardier	Challenger 300/350	◉	
		Challenger 604/605/650	◉	
		Global 5000/5000 GVFD/5500	◉	◉
		Global Express/ XRS/6000/6500	◉	◉
		Global 7500	○	
	Gulfstream	GIV-X (G450)	◉	◉
		GV-SP (G500/G550)	◉	◉
		GVI (G650/G650ER)	◉	◉
ENGINE	GE	CF34		◉
	Honeywell	TFE731		○
	P&W	PW300		○
	Rolls-Royce	BR700		◉
		Tay		◉

OEM Authorizations

TYPE	OEM	Clark	Hong Kong
AIRFRAME	Gulfstream		✓
ENGINE	Honeywell		✓
	Rolls-Royce		✓

METROJET

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MJETS

Established in 2007 and based in Thailand, MJets is a charter operator that also does maintenance. Currently operating the first and only FBO and private jet terminal in Thailand, MJets has two hangars of 4,800 square meters, in addition to a US FAA certification as a Part 145 Repair Station. MJets also provides round-the-clock AOG (Aircraft on Ground) services for aircraft owners and operators. Recently the MRO was also awarded the International Standard for Business Aircraft Operations (IS-BAO) Stage 3 certification by the International Business Aviation Council (IBAC).

Furthermore, MJets is an Authorized Service Center for Garmin Aviation Products in Thailand, and also has partnerships with Honeywell, Collins Aerospace, and Michelin.

Authority Approvals

AUTHORITY	Bangkok
FAA	✓
Thailand	✓

Maintenance Capabilities

◉ Both ● Base ○ Line

Business Jet and Engine Only

TYPE	OEM	MODEL	Bangkok
AIRFRAME	Airbus	ACJ318	○
		ACJ319	○
		ACJ320	○
		ACJ321	○
	Boeing	BBJ	○
		BBJ2	○
		BBJ3	○
	Bombardier	Challenger 604/605/650	○
		Global 5000/5000 GVFD/5500	○
		Global Express/ XRS/6000/6500	○
	Dassault	Falcon 900/B	○
		Falcon 900C/EX	○
		Falcon 900EX EASy/DX/ LX	○
		Falcon 2000	○
		Falcon 2000DX/LX/LXS/ EX EASy	○
		Falcon 2000EX	○
	Gulfstream	GIV-X (G350/G450)	○
		GV-SP (G500/G550)	◉
		GVI (G650/G650ER)	◉
		G200	◉
		G280	○
		GII/GIIB/GIII	○
		GIV (G300/G400)	○
		GV	◉
		GVII (G500/G600)	◉
	Textron	Citation 500	○
		Citation 550	◉
		Citation 560/XL/XLS	◉
		Citation 650	◉
		Citation 750	◉
		Citation CJ1 Series	○
		Citation CJ2 Series	○
		Citation CJ3 Series	◉
		Citation Mustang	◉
		Hawker 125	◉
		Hawker 400	◉
		Hawker 700/750	◉
		Hawker 800/XP	◉
		Hawker 850XP	◉
		Hawker 900XP	◉

SHANGHAI HAWKER PACIFIC

Shanghai Hawker Pacific is one of the leading product support companies in Asia, and also the largest independent companies of its type. Boasting over 600 employees, the MRO includes a wide range of structural modification and support services to fixed and rotary-wing aircraft. Other services include aircraft and engine maintenance, repair and overhaul, special mission aircraft modifications, design engineering as well as avionics parts and services.

Shanghai Hawker Pacific also has certifications and accreditations such as the CASA, EASA and FAA. Moreover, it holds ISO 9001 Bureau Vertias accreditation, in addition to OEM customers and airworthiness approvals from 26 major global suppliers and authorities.

Maintenance Capabilities

◉ Both ● Base ○ Line

Business Jet and Engine Only

TYPE	OEM	MODEL	Shanghai
AIRFRAME	Bombardier	Challenger 604/605/650	○
		Global Express/ XRS/6000/6500	◉
		Global 5000/5000 GVFD/5500	◉
	Dassault	Falcon 900EX EASy/DX/LX	◉
		Falcon 2000DX/LX/LXS/EX EASy	◉
		Falcon 7X/Falcon 8X	◉
	Gulfstream	GV-SP (G500/G550)	◉
		GIV-X (G350/G450)	◉
		GVI (G650/G650ER)	◉
	Textron	Hawker 800/XP	◉
		Hawker 850XP	◉
		Hawker 900XP	◉
ENGINE	GE	Passport	○
	Honeywell	TFE731	○
	P&W	PW300	○
	Rolls-Royce	BR700	○
		Tay	○

Authority Approvals

AUTHORITY	Shanghai
Aruba	✓
Bermuda	✓
Cayman Isd.	✓
Mainland China	✓
FAA	✓
Guernsey	✓
Hong Kong	✓
Isle of Man	✓
Macao	✓
San Marino	✓

OEM Authorizations

TYPE	OEM	Shanghai
AIRFRAME	Dassault	✓
	Gulfstream	✓
ENGINE	Honeywell	✓

SHANGHAI HAWKER PACIFIC
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VIRTUAL INFRASTRUCTURE

Infrastructure is a very broad word. The dictionary defines infrastructure as "the fundamental facilities and systems serving a country, city, or area, as transportation and communication systems, power plants, and schools."

But whilst infrastructure in business aviation has traditionally meant physical infrastructure, there has been a shift towards virtual infrastructure, which has accelerated in recent years due to the COVID-19 pandemic. This shift has not only taken place in business aviation but is also happening in other industries as well.

Before the pandemic, the use of VR in business aviation had been picking up pace, although its use had been limited to a few select roles. These included maintenance training, where a trainee mechanic can don a VR headset, and explore the inner workings of a business jet, all from the comfort of his or her desk. It is also used by larger charter operators to show potential clients around the inside of aircraft that they could charter, again by potential clients using heavy and uncomfortable VR headsets.

One company that has been at the forefront of using Virtual Reality in business aviation is Dassault. As well as training mechanics using the aforementioned VR headsets, the French manufacturer was the cornerstone OEM at the recent Asian Sky Group Virtual Exhibition and Conference (ASGVEC).

ASGVEC was the first business aviation event to be held in the Metaverse – where users have their own avatar and can wander freely around a world without the need to use a cumbersome VR headset. Dassault, as one of the exhibitors, saw the potential of the Metaverse early and designed its own section of ASGVEC where it could display 3D virtual models of its business jets. These were faithfully recreated from the manufacturer's own CAD files, and were photo-realistic, even down to the double stitching in the seats.

> *Whilst the models looked fantastic from the outside, they looked even better on the inside, as attendees could go onboard the aircraft and have a good look around. Attendees could even sit in any of the seats and start up a conversation with anybody inside using their own webcams which appeared on the face of their avatar - all from within the Metaverse, without the need for any eternal programs*

Dassault's experience during ASGVEC led it to sign a lease on its part of ASGVEC for a full year. Rather than leave Dassault World gathering virtual dust until the next ASGVEC event, Dassault will use its world as a permanent online showroom. Dassault can now take potential clients on board an aircraft within five minutes of meeting them, rather than having to wait for an air show or demonstrator aircraft to visit them. By doing this Dassault can not only speed up the sales process but save thousands and thousands of dollars each year, as it will be able to host meetings in its own world, without having to send its sales team out to all but the most serious of prospects.

Dassault's early adoption of the Metaverse shows just one of its potential uses and what can be achieved. As well as a digital showroom, the Metaverse can be used for many different purposes, some temporary, and some more permanent.

One of those temporary uses was realized recently, with a company hosting an internal meeting in the ASGVEC auditorium. Another company will host an upcoming press conference using the ASGVEC platform and will have a 3D virtual version of its new product on display so that attendees can see and walk around it, rather than just seeing pictures and videos of it.

Metrojet Inaugurates New Clark Hangar

Building on the success of its Hong Kong operation, Metrojet recently inaugurated a new facility in Clark, the Philippines. The Hong Kong-based management company has replaced its previous facility at the airport with the addition of a new state of the art hangar complete with significant ramp parking space that more than doubles the number of aircraft that can be worked on simultaneously.

In total, the new facility is 26,000m^2, which includes 7,100m^2 of hangar space, 11,000m^2 parking space for aircraft, and an additional 2,500m^2 annex building that houses customer, crew and staff offices with back shops and room for an FBO. With the new hangar up and running, Metrojet Engineering Clark can house up to ten (10) long range business jets at the same time, including one ACJ/ BBJ sized aircraft.

Metrojet Engineering Clark has the Gulfstream 6C approvals on the G450, G550, G650 and G650ER, and Bombardier 4C approvals on the BD700-1A Global family that the company received since the FAA approved the new facility in April 2021. The Clark company is working with both the Philippines CAA as well as the US FAA to get approvals in place by the first quarter of 2022 to work on the Challenger 300 and 350 and the Challenger 604, 605 and 650. It is working alongside the San Marino CAA to obtain line maintenance approvals to enable AOG support to the Bombardier Global 7500 which the facility currently has one parked inside. There will be an increasing number of long-range aircraft such as the Gulfstream G700/800, Bombardier Global 7500 and Dassault 8X/10X in operation around the world and the region that would benefit from utilizing the Clark facility. The hangar itself includes a state-of-the-art fire suppression system

In total, the new facility is 26,000m^2, which includes 7,100m^2 of hangar space, 11,000m^2 parking space for aircraft, and an additional 2,500m^2 annex building that houses an FBO, offices and a backshop.

and is officially rated as typhoon and earthquake resistant. Part of the reason that Metrojet chose Clark to be a maintenance facility is due to the low humidity in the area. Humidity in the region has caused real problems for aircraft owners and operators in the past, however, by parking an aircraft in the protected environment of a hangar can significantly reduce the effects of corrosion. This in turn improves the reliability of the aircraft as less downtime is needed and helps to maintain the value of the aircraft.

> *During the pandemic with significantly reduced flying, MEC is a great location to park aircraft safely at a much reduced cost as compared to Hong Kong or Singapore while maintaining airworthiness and dispatch readiness.*

Says Sarith Vaikuntan, General Manager, Metrojet Engineering Clark. "We also offer competitive long-term parking packages including an enhanced corrosion protection regime. It is cheaper to park in our climate-controlled hangar than to park on the ramp in Hong Kong."

Overall, the facility currently holds six aviation authorities' approvals, from the US FAA, Philippines, Cayman Islands, Qatar, Isle of Man and San Marino. Work is also underway to attain approvals from the China Aviation Authority of China, which the company is hoping to receive soon.

METROJET

www.metrojet.com

ASIA-PACIFIC MRO NETWORKS - TURBINE HELICOPTERS

ASIA-PACIFIC TOP MRO SERVICE PROVIDERS - TURBINE HELICOPTERS

FACILITY	AIRCRAFT MODEL
AIRBUS HELICOPTERS	
Airbus	BK117 | B0105 | H120 | H125 | H130 | H135 | H145 | H155 | H175 | H215 | H225 | AS355 | AS365
HELIFLITE	
Leonardo	AW109 | AW119 | AW139
Robinson	R66
JET AVIATION	
Bell	Bell 430 | Bell 505 | Bell 205 | Bell 206 | Bell 212 | Bell 230 | Bell 407 | Bell 412 | Bell 427 | Bell 429 | Bell 204
Leonardo	AW109 | AW119
MD	MD 500 | MD 600
AGUSTAWESTLAND	
Leonardo	AW109 | AW119 | AW139 | AW169 | AW189
AERO ASAHI	
Airbus	BK117
Bell	Bell 430 | Bell 206 | Bell 412
Leonardo	AW109 | AW139
MD	MD 500 | MD 900
Sikorsky	S-76C | S-76D | S-92
COMPOSITE TECH	
Airbus	BK117 | B0105 | H120 | H125 | H130 | H135 | H155 | H215 | AS355 | AS365 | SA315
Bell	Bell 430 | Bell 205 | Bell 206 | Bell 212 | Bell 222 | Bell 230 | Bell 407 | Bell 412 | Bell 204
Leonardo	AW109 | AW119 | AW139
Sikorsky	S-76C
NAKANIHON AIR	
Airbus	H135
Bell	Bell 430 | Bell 206 | Bell 407 | Bell 412 | Bell 427 | Bell 429
Leonardo	AW109 | AW139
OCEANIA AVIATION	
Airbus	BK117 | B0105 | H120 | H125 | H130 | H135 | AS355
Bell	Bell 505 | Bell 205 | Bell 206 | Bell 212 | Bell 222 | Bell 407 | Bell 412 | Bell 429 | Bell 204
MD	MD 500 | MD 530 | MD 600 | MD 900
Robinson	R66
Sikorsky	S-76A++ | S-76B | S-76C+ | S-76C++ | S-76D

FACILITY	AIRCRAFT MODEL
AIR WORKS	
Airbus	H135 | AS365
Bell	Bell 206 | Bell 407 | Bell 412 | Bell 429
Leonardo	AW109
STATE GRID GA	
Airbus	H125 | H225 | AS332C
Bell	Bell 429
AIR ASIA	
Bell	Bell 205 | Bell 206 | Bell 212 | Bell 412 | Bell 204
MD	MD 500 | MD 600 | MD 900
SUBARU	
Bell	Bell 205 | Bell 206 | Bell 412 | Bell 204
Leonardo	AW139
UI HELICOPTER	
Bell	Bell 430 | Bell 205 | Bell 206 | Bell 212 | Bell 222 | Bell 230 | Bell 412
Leonardo	AW119 | AW139
Sikorsky	S-76C | S-92
JAMCO	
Airbus	B0105 | H135 | H215 | AS365
Bell	Bell 412
Sikorsky	S-76C | S-76D | S-92

COMING SOON

25.01.2022

CUSTOMER SERVICE NETWORKS - BUSINESS JETS

- **AUTHORIZED SERVICE FACILITY (ASF):** An authorized service facility is defined as an organization that has been deemed qualified by the Original Equipment Manufacturer (OEM) to perform maintenance, repair operations and alterations on an aircraft, airframe, or any part for which it is related and within the terms and conditions with the OEM. The degree of maintenance (line, base or both) that the ASF can perform for any aircraft is determined by the OEM. ASFs have a special relationship with the OEMs and provide the same level of maintenance, for which they are authorized, as any OEM, with the additional convenience of being local.

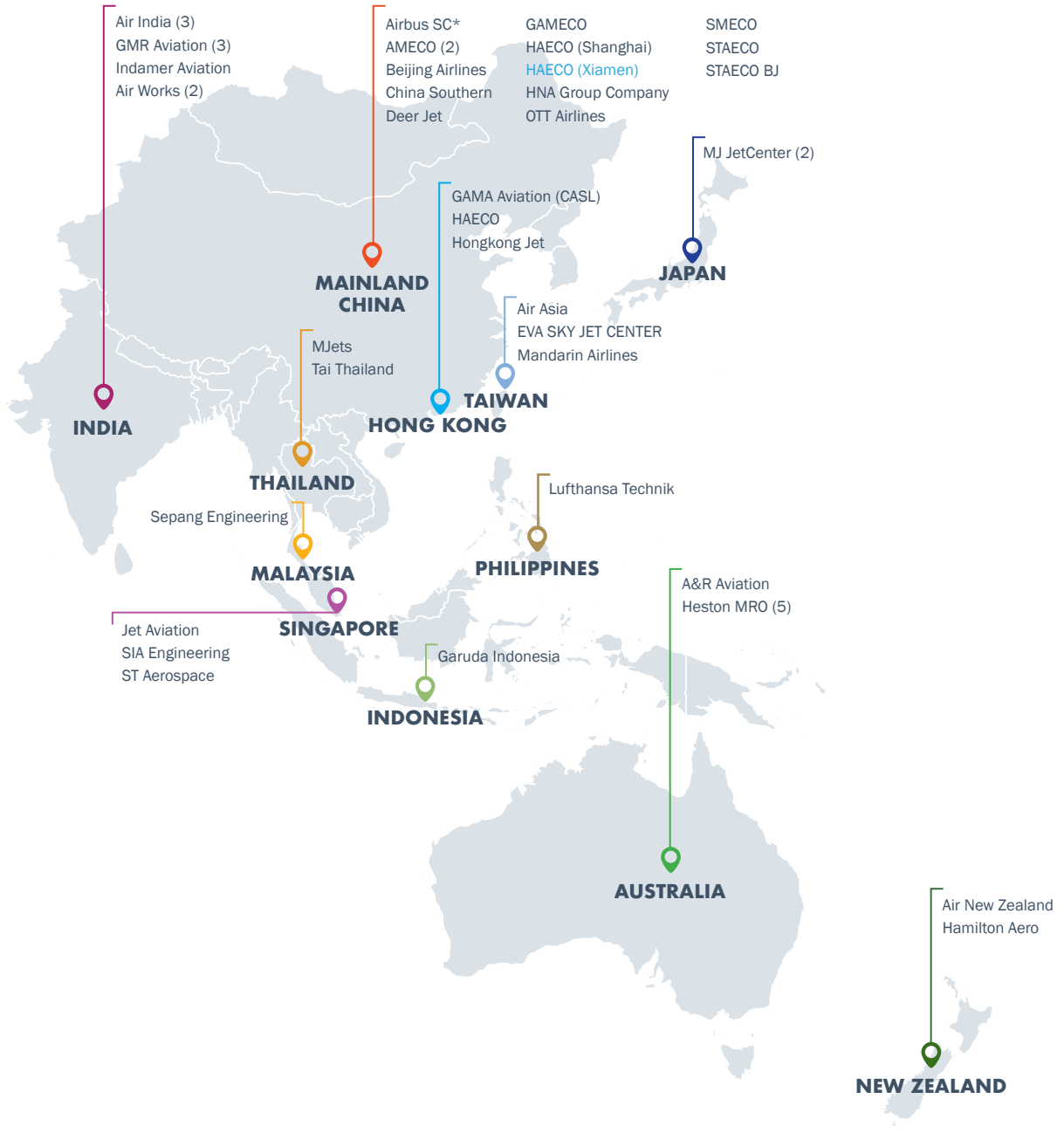
- **ORIGINAL EQUIPMENT MANUFACTURER OWNED (OEM):** OEM facilities are maintenance and repair facilities that have been set-up in different countries to provide factory level MRO services to operators locally. These facilities are owned by the OEMs themselves and thus have many benefits over other facility types, faster procurement and replacement of damaged parts, factory-level guaranteed service, etc.

- **THIRD PARTY:** Third Party facilities are neither owned by the OEMs nor have the authorization to provide maintenance and repair services by the OEMs. Although not directly authorized by the OEM, these facilities have the capabilities to provide maintenance services locally and at cheaper rates.

- **LOGISTIC CENTERS:** Strategically placed OEM authorized facilities aimed at providing replacement of after sales parts to operators or MRO facilities located in the region. Logistic centers are key to continued maintenance operations and can drastically reduce the lead time for sourcing of replaceable aircraft parts.

AIRBUS

■ ASF | ■ OEM | * Logistic Center | Unless otherwise indicated all are third-party providers



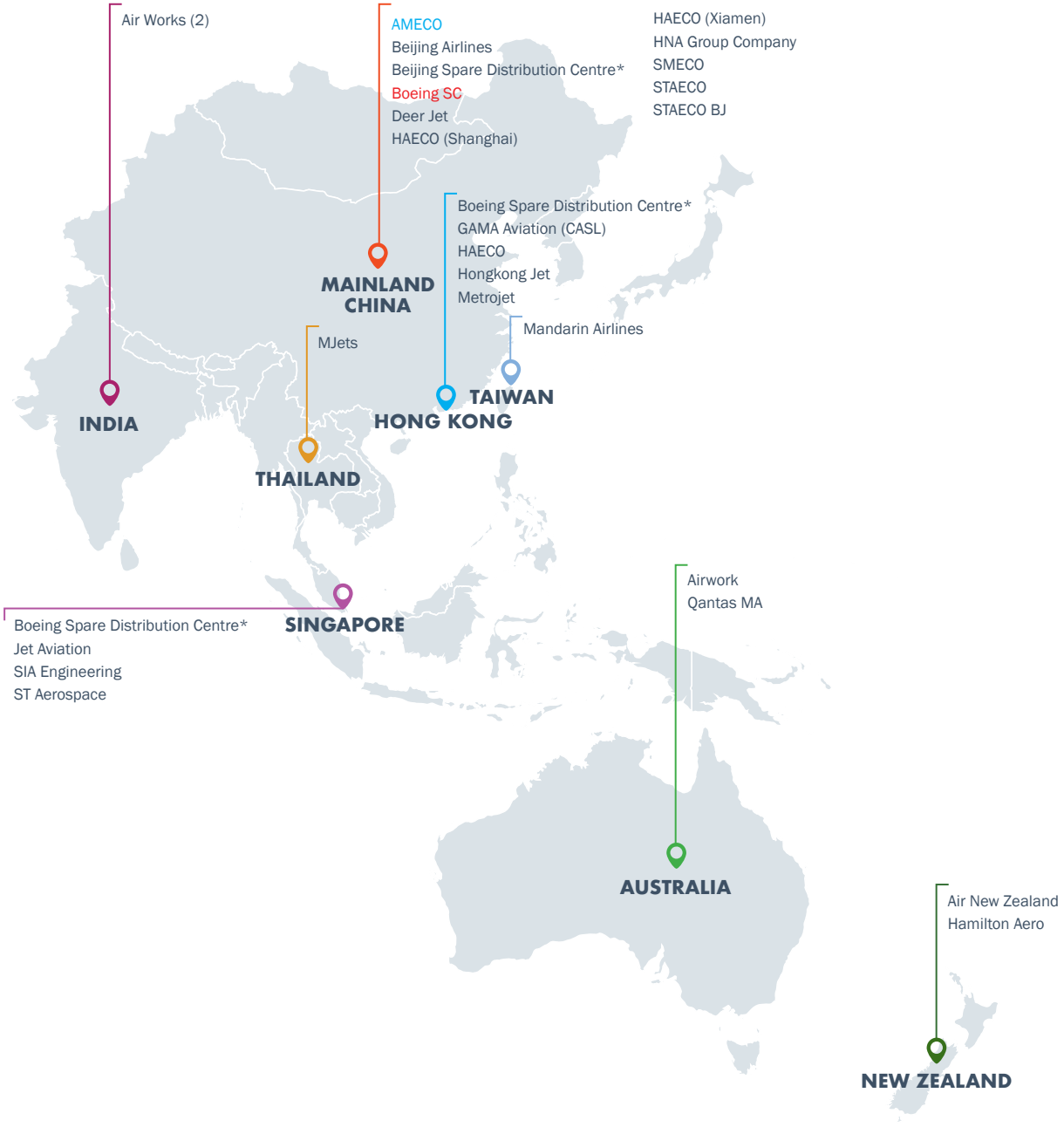
■ ASF | ■ OEM | * Logistic Center ○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	AUTHORITY APPROVALS	ACJ318	ACJ319	ACJ320	ACJ321
MAINLAND CHINA						
XIAMEN	**HAECO (Xiamen)**	AU | BM | CN | EASA | FAA | HK | ID | JP | KH | MY | SG | TH	◉	◉	◉	◉

Note: Only OEM owned or authorized service facilities, and their authorized aircraft type capabilities are listed.

BOEING

■ ASF | ■ OEM | * Logistic Center | Unless otherwise indicated all are third-party providers



■ ASF | ■ OEM | * Logistic Center ○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	AUTHORITY APPROVALS	BBJ	BBJ2	BBJ3
MAINLAND CHINA					
BEIJING	AMECO	CN	◉	◉	◉
SHANGHAI	Boeing SC	BM | CN | EASA | FAA | KR | MV | TH | UA	◉	◉	◉

Note: Only OEM owned or authorized service facilities, and their authorized aircraft type capabilities are listed.

BOMBARDIER

■ ASF | ■ OEM | * Logistic Center | Unless otherwise indicated all are third-party providers

■ ASF | ■ OEM | * Logistic Center ○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	AUTHORITY APPROVALS	LEARJET 35/36	LEARJET 40/45/45XR	LEARJET 60/60XR	LEARJET 70/75	CHALLENGER 300/350	Challenger 601/-3A/-3R	Challenger 604/605/650	Challenger 800/850	Global 5000/5000 GVFD/5500	Global Express/XRS/6000/6500	Global 7500
AUSTRALIA													
MELBOURNE	ExecuJet	AU | BM | FAA | ID | IM | KY | MY | SM | VN	◉	◉	◉		◉	◉	◉	◉	○	○	◉
SYDNEY	ExecuJet*	AU | BM | FAA | ID | IM | KY | MY | SM | VN	◉	◉	◉		○	◉	◉	◉	◉	◉	
MAINLAND CHINA													
TIANJIN	Bombardier Service Centre	AR | BM | CN | EASA | GG | HK | IM | KY | SM | MO			◉		◉		◉	◉	◉	◉	
HONG KONG													
HONG KONG	TAG Aviation	FAA | HK | IM | KY | SM							○	○	○	○	○
MACAO													
MACAO	TAG Aviation	FAA | HK | IM | KY | SM									○	○	
SINGAPORE													
SINGAPORE	Bombardier Service Centre*	AR | AU | BM | CA | CN | EASA | FAA | GG | HK | IM | IN | KR | KY | MY | PH | PK | QA | SG | SM | TW | UAE	◉	◉	◉	◉	◉	◉	◉	◉	◉	◉	◉

Note: Only OEM owned or authorized service facilities, and their authorized aircraft type capabilities are listed.

DASSAULT

■ ASF | ■ OEM | * Logistic Center | Unless otherwise indicated all are third-party providers

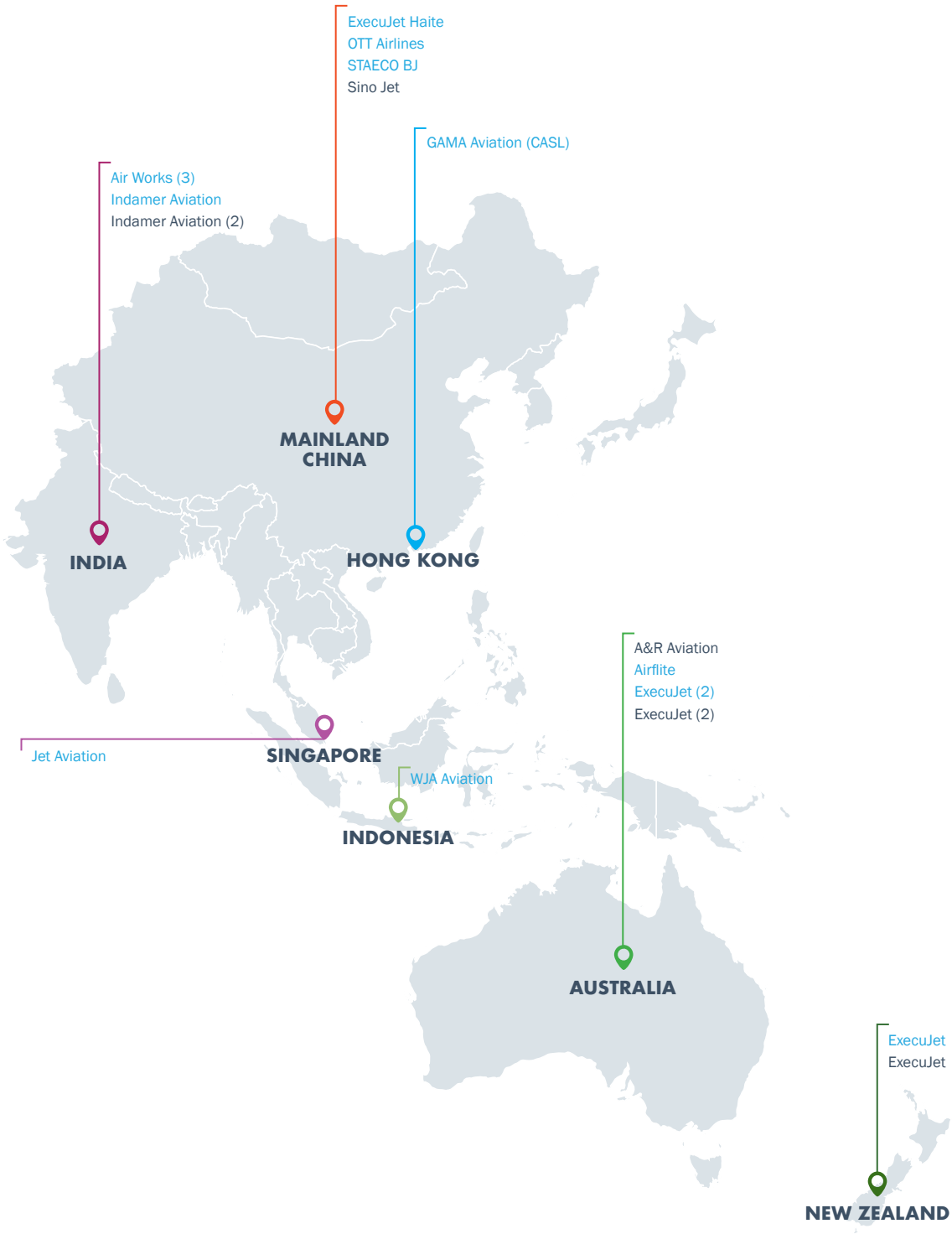
■ ASF | ■ OEM | * Logistic Center ○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	AUTHORITY APPROVALS	Falcon 10	Falcon 20	Falcon 50	Falcon 200	Falcon 900/B	Falcon 900C/EX	Falcon 900EX EASy/DX/LX	Falcon 2000DX/LX/LXS/EX EASy	Falcon 7X/Falcon 8X
AUSTRALIA											
BRISBANE	ExecuJet	AU | BM | FAA | ID | IM | KY | NZ | SM | VN	○	○	○	○	○	○	○	○	○
MELBOURNE	ExecuJet	AU | BM | FAA | ID | IM | KY | NZ | SM | VN	◉	◉	◉	◉	◉	◉	◉	◉	◉
PERTH	ExecuJet	AU | BM | FAA | ID | IM | KY | NZ | SM | VN	◉	◉	◉	◉	◉	◉	◉	◉	◉
SYDNEY	ExecuJet	AU | BM | FAA | ID | IM | KY | NZ | SM | VN	◉	◉	◉	◉	◉	◉	◉	◉	◉
MAINLAND CHINA											
SHANGHAI	Shanghai Hawker Pacific	AR | BM | CN | FAA | GG | HK | IM | KY | MO | SM							○	○	○
TIANJIN	ExecuJet Haite	AR | BM | CN | EASA | FAA | HK | KY | SM									○
HONG KONG											
HONG KONG	TAG Aviation	FAA | HK | IM | KY | SM									○
INDIA											
MUMBAI	Air Works	IN | KY | SM | UAE							○		
MUMBAI	Taj Air	IN								○	
MALAYSIA											
KUALA LUMPUR	ExecuJet	BM | CN | EASA | FAA | ID | IM | KY | MY | SM | TH | VN							◉	◉	◉

Note: Only OEM owned or authorized service facilities, and their authorized aircraft type capabilities are listed.

EMBRAER

■ ASF | ■ OEM | * Logistic Center | Unless otherwise indicated all are third-party providers



■ ASF | ■ OEM | * Logistic Center ○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	AUTHORITY APPROVALS	Phenom 100/100E/100EV	Phenom 300/300E	Legacy 450/Praetor 500	Legacy 500/Praetor 600	Legacy 600	Legacy 650/650E	Lineage 1000/1000E
AUSTRALIA									
MELBOURNE	ExecuJet	AU | BM | FAA | ID | IM | KY | NZ | SM | VN	●	●			●	●	
PERTH	Airflite	AU | FAA | ID | PH | TH	◉	◉					
SYDNEY	ExecuJet	AU | BM | FAA | ID | IM | KY | NZ | SM | VN	◉		◉	◉	◉	●	
MAINLAND CHINA									
BEIJING	STAECO BJ	AR | BM | CN | FAA | HK | IM | KY | MO | SM					○	○	○
SHANGHAI	OTT Airlines	CN					○	○	
TIANJIN	ExecuJet Haite	AR | BM | CN | EASA | FAA | HK | KY | SM		◉			◉	◉	◉
HONG KONG									
HONG KONG	GAMA Aviation (CASL)	CN | HK					○	○	○
INDIA									
CHENNAI	Air Works	IN	○	○					
HOSUR	Air Works	EASA | IN | KY | SM | UAE	◉	◉			◉	◉	
MUMBAI	Air Works	IN | KY | SM | UAE	◉						
MUMBAI	Indamer Aviation	IN					◉	◉	
INDONESIA									
JAKARTA	WJA Aviation	FAA | ID | SM					●	●	
NEW ZEALAND									
WELLINGTON	ExecuJet	AU | BM | FAA | ID | IM | KY | NZ | SM | VN	○						
SINGAPORE									
SINGAPORE	Jet Aviation	AR | AU | BM | CN | EASA | FAA | GG | ID | IM | IN | KY | PNG | SG | SM | TH | TW | VN	◉	◉	◉	◉	◉	◉	◉

Note: Only OEM owned or authorized service facilities, and their authorized aircraft type capabilities are listed.

GULFSTREAM

■ ASF | ■ OEM | * Logistic Center | Unless otherwise indicated all are third-party providers

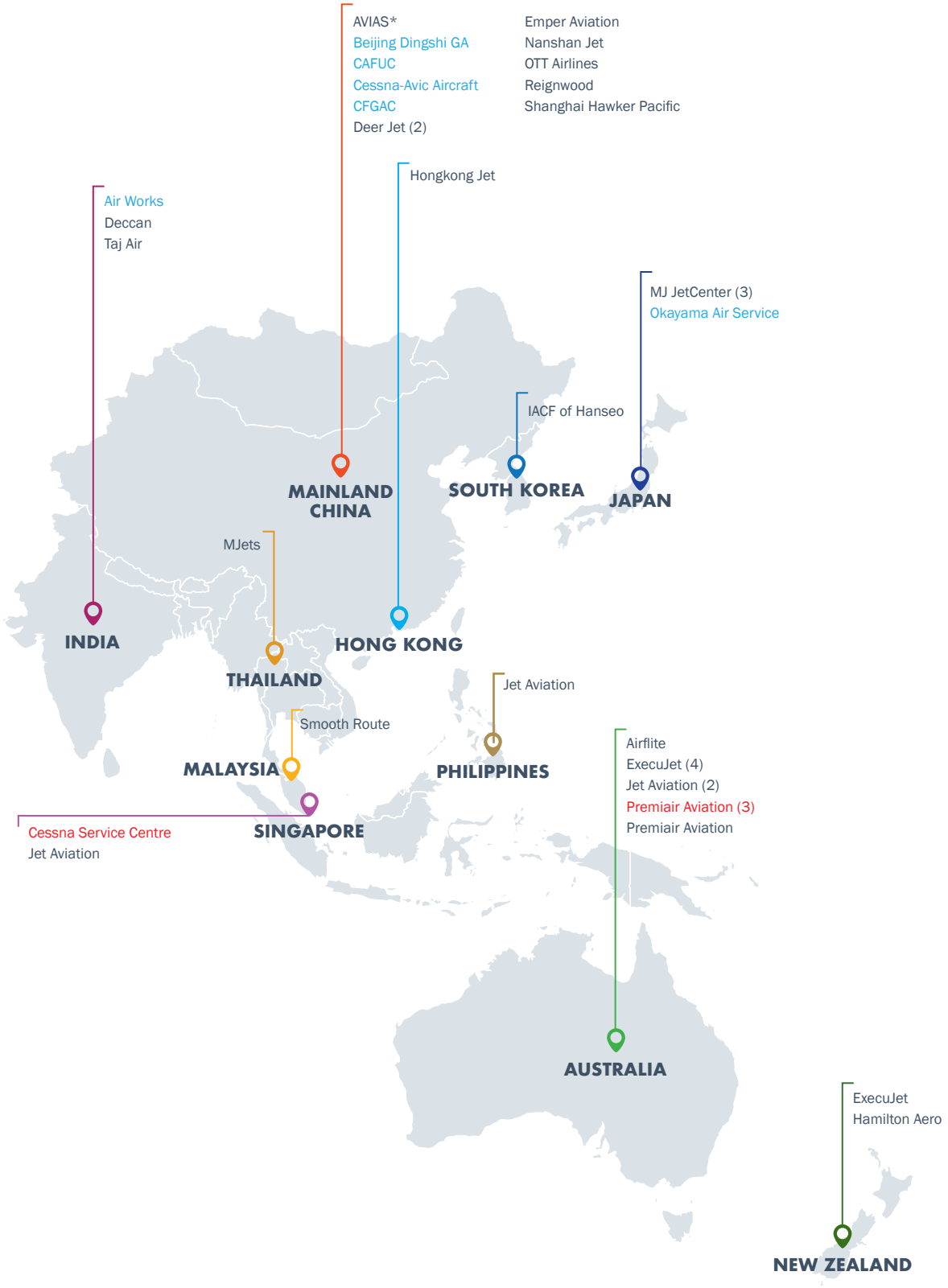
■ ASF | ■ OEM | * Logistic Center ○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	AUTHORITY APPROVALS	G100 (1125/1125SP/1125SPX)	G150	G200	G280	GII/GIIB/GIII	GIV (G300/G400)	GIV-SP	GIV-X (G350/G450)	GV	GV-SP (G500/G550)	GVI (G650/G650ER)	GVII (G500/G600)
AUSTRALIA														
MELBOURNE	ExecuJet	AU | BM | FAA | ID | IM | KY | SM | VN								◉	◉	◉	◉	◉
SYDNEY	ExecuJet	AU | BM | FAA | ID | IM | KY | SM | VN						◉		◉	◉	◉	◉	◉
MAINLAND CHINA														
BEIJING	Gulfstream Beijing (JV)	CN | FAA | GG | HK | IM | KY | MO | SM			◉	◉				◉	◉	◉	◉	
SHANGHAI	Shanghai Hawker Pacific	AR | BM | CN | FAA | GG | HK | IM | KY | MO | SM								◉		◉	◉	
HONG KONG														
HONG KONG	Jet Aviation	AR | BM | CA | CN | EASA | FAA | HK | IM | KY | MO | SM						◉		◉		◉	◉	◉
	Metrojet	AR | BM | CA | CN | FAA | HK | IM | KY | MO | QA | SM	◉	◉	◉	◉		◉		◉		◉	◉	
INDIA														
MUMBAI	Air Works	IN | KY | SM | UAE	○		○	○		○	○		○	◉			
SINGAPORE														
SINGAPORE	Jet Aviation	AR | AU | BM | CN | EASA | FAA | GG | HK | ID | IN | KR | KY | MO | MY | PH | TH | VN	◉	◉	◉	◉	◉	◉	◉	◉	◉	◉	◉	◉	◉

Note: Only OEM owned or authorized service facilities, and their authorized aircraft type capabilities are listed.

TEXTRON

■ ASF | ■ OEM | * Logistic Center | Unless otherwise indicated all are third-party providers



■ ASF | ■ OEM | * Logistic Center ○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	AUTHORITY APPROVALS	Beechcraft Premier I/IA	Hawker 400	Hawker 4000	Hawker 700/750	Hawker 800/XP	Hawker 850XP	Hawker 900XP	Citation 500	Citation 550	Citation 560/XL/XLS	Citation 650	Citation 750	Citation CJ1 Series	Citation CJ2 Series	Citation CJ3 Series	Citation CJ4	Citation Latitude	Citation Mustang	Citation Sovereign
AUSTRALIA																					
GOLD COAST	**Premiair Aviation**	AU	◉	◉	◉	◉	◉	◉	◉	◉	◉	◉	◉	◉	◉	○	◉	◉	◉	◉	◉
MELBOURNE	**Premiair Aviation**	AU	◉	◉	◉	◉	◉	◉	◉	◉	◉	◉	●	◉	◉	○	◉	◉	◉	◉	◉
PERTH	**Premiair Aviation**	AU	●		●	○	○	○	○	●	◉	●	●	●	●	○	◉	◉	●		●
MAINLAND CHINA																					
BEIJING	**Beijing Dingshi GA**	CN										◉		◉							◉
GUANGHAN	**CAFUC**	CN													◉						
SHIJIAZHUANG	**Cessna-Avic Aircraft**	CN																	◉		
XI'AN	**CFGAC**	CN									◉	◉			◉						
INDIA																					
MUMBAI	**Air Works**	IN | KY | SM | UAE	◉		◉	◉	◉	◉	◉		◉	◉				◉					
JAPAN																					
OKAYAMA	**Okayama Air Service**	FAA | JP								◉	◉	◉			◉	◉		◉	◉	◉	◉
SINGAPORE																					
SINGAPORE	**Cessna Service Centre**	AU | CA | FAA | ID | IN | KR | KY | PH | SM | TH		◉			●	●	●		●	●		●	●	●	●	◉	●	●	●

Note: Only OEM owned or authorized service facilities, and their authorized aircraft type capabilities are listed.

SINO JET

HOLDER OF NINE BUSINESS JET MAINTENANCE LICENSES

Chinese business jet management company Sino Jet recently announced that it holds nine sets of business jet maintenance licenses, issued by authorities in China, the United States, Europe, the Cayman Islands, Bermuda, Aruba, Isle of Man, Guernsey, and San Marino, covering major aircraft registration areas that are popular to owners in the greater China region. Sino Jet is currently top in the market in terms of the number of maintenance licenses as well as diversity in aircraft registration location.

The Chicago Convention signed in 1944 stipulates that any aircraft must acquire a unique number that indicates the aircraft's country of registration, and functions like an automobile license plate. Among different aircraft registries, the national aviation authorities could have vastly different regulations on operating the aircraft. It is paramount for business jet owners to register their aircraft in a country in accordance with their needs.

Sino Jet Maintenance Licenses

According to the "Asia-Pacific Business Jet Fleet Report 2020" published by Asian Sky Group, as of the end of 2020, mainland China "B-" is the most popular aircraft registration prefix in the Asia-Pacific region, with a total of 254 business jets (accounting for 21% of the total number of business jet in the region), followed by the US "N", with 244 business jets (20%). For tax exemption, tax concession, or confidentiality reasons, the number of business jets in offshore registration locations has been increasing in the past two years, from 144 in 2018 to 185 in 2020.

To meet the foreseeable diversifying needs of business jet owners, Sino Jet has been continuously strengthening and improving its aircraft operation and maintenance capabilities. Sino Jet has obtained operation and maintenance qualification licenses issued by many civil aviation administrations around the world, including Part 135/91 Air Operator Certificates, Part 145 maintenance unit qualifications and China - Hong Kong - Macao joint maintenance management qualifications issued by the Civil Aviation Administration of China (CAAC); Part 91 operation qualification and Part 145 Repair Station Operator qualification issued by the Federal Aviation Administration in the US; third-country operation certificates issued by the European Aviation Safety Agency; as well as airworthiness management qualifications and maintenance unit qualifications issued by the Cayman Islands, Bermuda, Aruba, Isle of Man, Guernsey, San Marino, with a total of nine sets of 18 operation and maintenance qualification licenses.

Safety has always been regarded as the foundation of corporate development in Sino Jet. Sino Jet strives to continuously push through the already highest safe operation standards in business aviation. Notably in 2018, when Sino Jet passed the rigorous five-year safety audits by International Business Aviation Council and other recognized bodies, Sino Jet became the first operator in mainland China to obtain the highest level of IS-BAO Stage 3 certification, recognition of the industry-leading standards for safety and best practice in business aviation. Three years on, Sino Jet has successfully renewed its recognition again this year, among the very few qualified operators in the world.

Certificate of Registration
issued by the
International Business Aviation Council
to

Sino Jet (Beijing) Co., Ltd.
Beijing, China

for the successful implementation of the
International Standard for
Business Aircraft Operations
(IS-BAO)

International Standard for IS-BAO REGISTERED COMPANY STAGE 3 Business Aircraft Operations

華龍航空 SINO JET

Unique Operator ID	706
Initial Issue	31 July 2014
Latest Renewal	31 July 2021
Valid Until	31 July 2024

Sino Jet is awarded with
IS-BAO Stage 3 Certification

As a leading management company in the Chinese business aviation market, Sino Jet was the first to adopt the "Accompanying Strategy", to accompany their clients throughout their business jet ownership journey. This means wherever their new clients' bases are, Sino Jet will actively expand their operating network to cover the location; whichever aircraft registrations their new clients opt for, Sino Jet will progressively work to earn the relevant operation and maintenance licenses accordingly; which aircraft model their clients choose, Sino Jet will enhance their in-house maintenance capabilities before induction.

To date, Sino Jet has already established operating bases in 20 cities within China and overseas. A comprehensive business network can allow flexibility in resource allocation. This is particularly important to overcome the strict border controls by countries these days. During these unprecedented challenging times, Sino Jet has never ceased to provide effective support domestically for their entire fleet regardless the aircraft model and aircraft registration.

Sino Jet is an operator with the highest degree of modern information technology in the market. Sino Jet has developed its own Integrated Information Management System – interconnecting several customized advanced information systems to effectively manage the entire life cycle of an aircraft. Every piece of information is efficiently and accurately documented, stored, and transferred to ensure that every piece of valuable information about the aircraft is securely managed, so that the largest financial value of their managed business jets is upheld. Deservedly, Sino Jet was granted the Annual Industry Creativity Award at the International Sci-Technology Innovation Festival in 2021 for setting a benchmark for the industry; and for its contribution towards safety in the business aviation.

Sino Jet's
Integrated Information
Management System

Multinational maintenance capability, top safety standards and advanced information technology systems, Sino Jet rightfully continues to grow its client base. With a growing fleet size for consecutive years, Sino Jet's fleet size is ranked first in Asia-Pacific region, and is recognized as one of the top five operators in the same region that sustains continuous annual growth.

www.sinojet.org

華龍航空 SINO JET

CUSTOMER SERVICE NETWORKS - TURBINE HELICOPTERS

AVICOPTER HELICOPTERS

■ ASF | ■ OEM | * Logistic Center | Unless otherwise indicated all are third-party providers

■ ASF | ■ OEM | * Logistic Center ○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	AC311	AC312	AC313
MAINLAND CHINA				
HARBIN	**AVIC HAIG**		◉	
JINGDEZHEN	**AVIC CAIC**	◉		◉

Note: Only OEM owned or authorized service facilities, and their authorized aircraft type capabilities are listed.

AIRBUS HELICOPTERS

■ ASF | ■ OEM | * Logistic Center | Unless otherwise indicated all are third-party providers

■ ASF | ■ OEM | * Logistic Center ○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	B0105	SA 341	AS355	AS365	H120	H125	H130	H135	BK117	H145	H155	H215	H225	H175
AUSTRALIA															
BRISBANE	Airbus Helicopters			◉	◉	◉	◉	◉	◉	◉	◉		◉	◉	
MELBOURNE	Microflite Helicopter			◉		◉	◉	◉	◉		◉				
PERTH	Helicopter Logistics			◉		◉	◉	◉	◉	◉	◉				
SUNSHINE COAST	Pacific Crown Helicopters			◉		◉	◉	◉							
SYDNEY	John Cameron Aviation			◉		◉	◉	◉	◉		◉				
MAINLAND CHINA															
BEIJING	Beijing Capital Helicopter						◉		◉						
HUBEI	State Grid GA						◉								
SHENZHEN	COHC		◉		◉		◉						◉		
INDONEDISA															
JAKARTA	Airbus Helicopters				◉	◉	◉	◉	◉		◉				
JAPAN															
NAGOYA	Nakanihon Air								◉						
TOKYO	Airbus Helicopters			◉	◉	◉	◉	◉	◉		◉	◉	◉	◉	
MALAYSIA															
KUALA LUMPUR	Airbus Helicopters			◉	◉	◉	◉	◉	◉		◉	◉	◉	◉	
NEW ZEALAND															
AUCKLAND	Airbus Helicopters			◉		◉	◉	◉	◉		◉				
AUCKLAND	Airwork			◉			◉	◉	◉	◉	◉				
LUGGATE	Heli Support NZ					◉	◉	◉	◉						
PHILIPPINES															
MANILA	Airbus Helicopters	◉		◉	◉	◉	◉	◉	◉	◉	◉	◉			
SINGAPORE															
SINGAPORE	Composite Tech	○		○	○	○	○	○	○	○		○	○		
	ST Aerospace Engineering			◉			◉						◉		
	ST Aerospace Services												◉		
THAILAND															
BANGKOK	Airbus Helicopters			◉	◉		◉	◉	◉		◉	◉			◉

Note: Only OEM owned or authorized service facilities, and their authorized aircraft type capabilities are listed.

BELL FLIGHT

■ ASF | ■ OEM | * Logistic Center | Unless otherwise indicated all are third-party providers

■ ASF | ■ OEM | * Logistic Center ○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	Bell 204	Bell 205	Bell 206	Bell 212	Bell 222	Bell 230	Bell 407	Bell 412	Bell 427	Bell 429	Bell 430	Bell 505
AUSTRALIA													
COFFS HARBOUR	Eagle	○	○	◉	◉			◉	◉				
LONSDALE	Leader Aviation	●	●	●	●			●	●				●
PERTH	Heliwest			◉				○					
REDCLIFFE	Eagle	○	○	◉	◉			◉	◉				
BANKSTOWN	Jet Aviation	○	○	◉	○			◉	○		○		
MAINLAND CHINA													
ZHENJIANG	State Grid GA										○		
ZHENJIANG	Zhenjiang Bell			◉				○					
ZHUHAI	China Southern GA							○					
INDIA													
MUMBAI	Air Works			○				○	○		○		
INDONEDISA													
BALIKPAPAN	Black Diamond HeliAero								○				○
JAKARTA	Kalimasada Pusaka		◉	◉	●			◉	◉	○	○	●	
JAPAN													
NAGOYA	Nakanihon Air			◉				○	◉	○	○	◉	
TOCHIGI	Subaru	◉	◉	◉					◉				
TOKYO	Aero Asahi			◉					◉			○	
NEW ZEALAND													
AUCKLAND	Oceania Aviation			◉									◉
PHILIPPINES													
MANILA	Jet Aviation		◉	◉	◉		○	○	◉	○	○	○	◉
SINGAPORE													
SINGAPORE	Bell Flight		◉	◉	◉			◉	◉		◉		◉
SOUTH KOREA													
SEOUL	UI Helicopter		◉	◉	◉	◉	◉		◉			○	
TAIWAN													
TAINAN	Air Asia	◉	◉	◉	◉				◉				

Note: Only OEM owned or authorized service facilities, and their authorized aircraft type capabilities are listed.

LEONARDO HELICOPTERS

■ ASF | ■ OEM | * Logistic Center | Unless otherwise indicated all are third-party providers

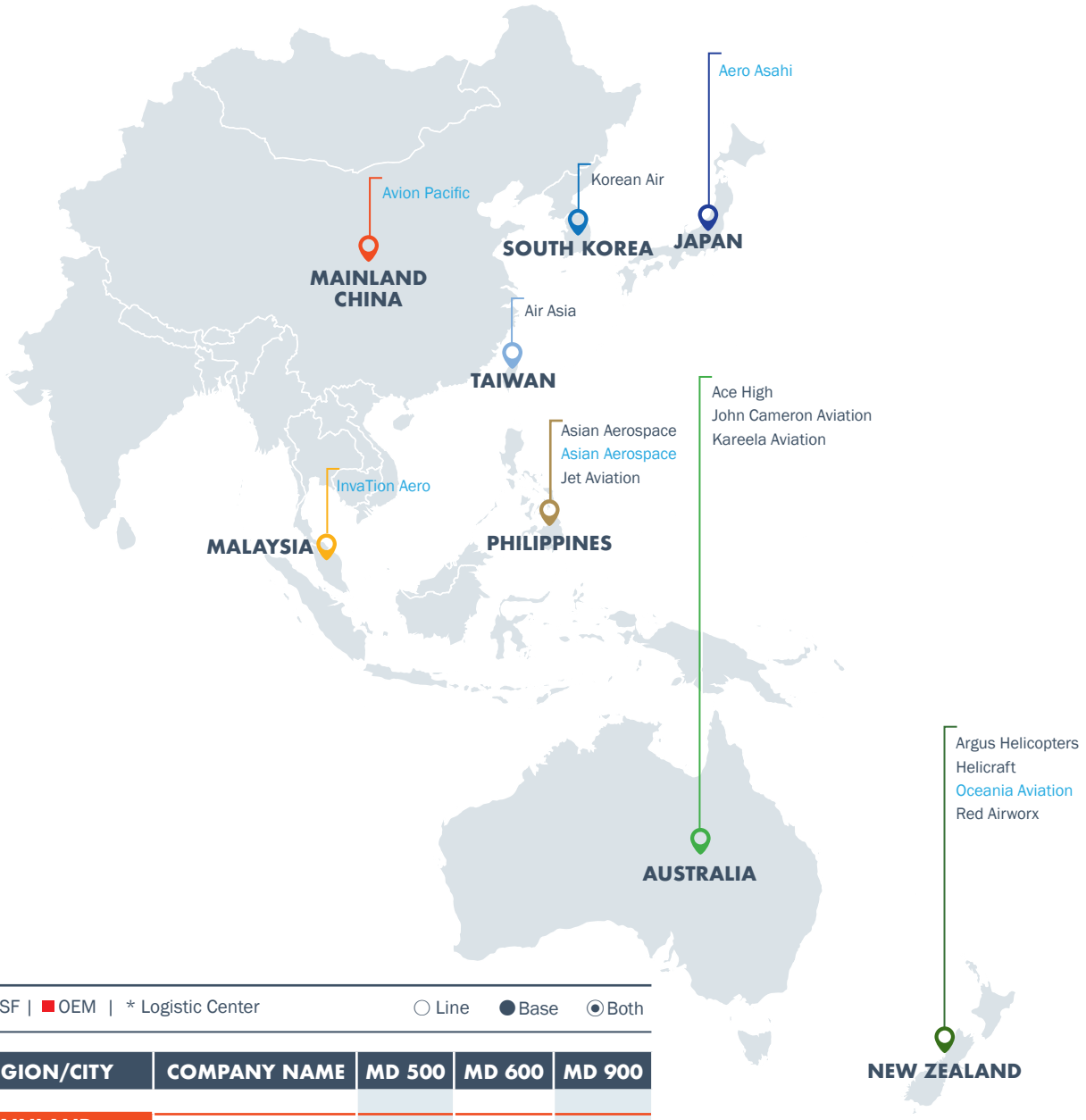
■ ASF | ■ OEM | * Logistic Center ○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	AW109	AW119	AW139	AW169	AW189
AUSTRALIA						
MELBOURNE	AgustaWestland*	●	●	●	●	
SYDNEY	Heliflite	◉	◉	◉		
MAINLAND CHINA						
JINGDEZHEN	Jiangxi Changhe Agusta	◉	◉	◉		
INDIA						
MUMBAI	Air Works	○				
MUMBAI	Global Vectra			◉	◉	
NEW DELHI	OSS Air	◉	◉	◉		
JAPAN						
KAGOSHIMA	Kagoshima Int'l Aviation	◉				
NAGOYA	Nakanihon Air	●		◉		
TOCHIGI	Subaru			●		
TOKYO	Aero Asahi	●		◉		
MACAO						
MACAO	Skytech Engineering			◉		
MALAYSIA						
KUALA LUMPUR	AgustaWestland*	◉		◉		◉
NEW ZEALAND						
NELSON	Helicopters (NZ)	●		●		
PHILIPPINES						
MANILA	Royal Star Aviation	◉	◉	◉		
SOUTH KOREA						
SEOUL	UI Helicopter		●	●		

Note: Only OEM owned or authorized service facilities, and their authorized aircraft type capabilities are listed.

MD HELICOPTERS

■ ASF | ■ OEM | * Logistic Center | Unless otherwise indicated all are third-party providers



■ ASF | ■ OEM | * Logistic Center ○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	MD 500	MD 600	MD 900
MAINLAND CHINA				
SHENZHEN	Avion Pacific	●	●	●
JAPAN				
TOKYO	Aero Asahi	●		●
NEW ZEALAND				
AUCKLAND	Oceania Aviation	◉	◉	◉
PHILIPPINES				
MANILA	Asian Aerospace	◉	◉	◉
MALAYSIA				
SUBANG	InvaTion Aero	●	●	

Note: Only OEM owned or authorized service facilities, and their authorized aircraft type capabilities are listed.

SIKORSKY HELICOPTERS

■ ASF | ■ OEM | * Logistic Center | Unless otherwise indicated all are third-party providers

■ ASF | ■ OEM | * Logistic Center ○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	S-76C	S-76D	S-92
AUSTRALIA				
NOWRA	Sikorsky Helitech	◉		◉
JAPAN				
TOKYO	Aero Asahi	●	●	●
TOKYO	JAMCO	●	●	●
THAILAND				
BANGKOK	Tai Thailand	◉	◉	◉

Note: Only OEM owned and authorized service facilities, and their authorized aircraft type capabilities are listed.

THE LIGHT AT THE END OF THE TUNNEL: COVID-19 INSIGHTS AND OPPORTUNITIES WITH OCEANIA AVIATION

The COVID-19 pandemic has undoubtedly changed the operating environment for aviation operators around the world - dramatically, and in more ways than one. From ongoing supply chain challenges, to extensive sustained border restrictions, to adapting to the infamous 'new normal' and planning for sustainable growth, the needs of operators and MROs alike continue to constantly evolve. Oceania Aviation, a full-service MRO provider which also has significant aircraft and parts sales divisions, is based in New Zealand and thus has had to navigate the impact of borders which have been largely shut off from the rest of the world for almost two years now – despite having a global customer base. Asian Sky Media's Alud Davies sat down (virtually) with the CEO of Oceania Aviation and its parent company Salus Aviation, Greg Edmonds, to discuss the impacts that the pandemic has had on the business and the markets that they operate in. They also chat about the current operating environment and the plans for growth in 2022 and beyond.

FIRST, TELL US A LITTLE MORE ABOUT OCEANIA AVIATION – HOW BIG ARE YOUR FACILITIES, AND WHAT CAPABILITIES DO YOU OFFER THE APAC REGION?

Oceania Aviation is one of Australasia's largest and most recognized MRO support providers. The business delivers a comprehensive range of specialist services across both rotary and fixed wing aircraft from our five facilities throughout New Zealand, with our capabilities spanning almost all major helicopter and piston-powered fixed-wing OEMs. Alongside line and heavy maintenance, we have purpose-built facilities that offer blade and composite repairs, turbine and piston engine overhauls, dynamic component overhaul, propeller repair and overhaul and even engineering and plating. Oceania is unique in the fact that it provides turnkey aircraft support solutions, so that our customers can use us as their "one-stop-shop" for all their aircraft MRO needs. The business also designs and manufactures helicopter role equipment via our composites manufacturing division, providing solutions to operators who need to add functionality to their aircraft in order to maximise revenue. These include cargo pods, agricultural spray systems, cargo swing systems and much more. Our facilities range in size and purpose,

with five facilities in the upper North Island and one in the South Island. Our largest current hangar is our 1,000 square metre Harvard Lane hangar, which is New Zealand's leading specialist rotary maintenance facility – offering maintenance, upgrades and reconfigurations, customizations and component overhauls to a significant global customer base.

HOW MANY HELICOPTERS CAN YOU WORK ON SIMULTANEOUSLY?

That's a really good question, and a hard one to answer given we have facilities across the country! Our Harvard Lane hangar houses up to around five or six helicopters at any one time, and then our North Shore hangar can work on an additional two to three helicopters at a time.

> *Alongside our full airframe work, we are also constantly working on a number of major helicopter components within our repair and overhaul workshops, such as sets of blades, turbine engines and specific dynamic components.*

HOW HAS 2021 BEEN SO FAR FOR OCEANIA AVIATION AND THE NEW ZEALAND AVIATION INDUSTRY?

To be completely honest, 2021 has been a very challenging year for Oceania Aviation, the wider Salus group and certainly

for the Australasian aviation industry as a whole. While Oceania Aviation has largely been able to continue operating during the ongoing lockdowns in New Zealand thanks to essential work with agricultural and aeromedical operators, the company has had to adjust to some major changes off the back of the changing activity and needs of the operators we work with. COVID-19 has had a notably differing impact between local fixed-wing and helicopter operators, and even within those two camps, some responses were quite varied. In terms of our global customer base (many of whom are based in the APAC region), we have been lucky to still see some strong demand continuing for our more specialised overhaul and repair services - such as helicopter blade repairs, role equipment manufacturing, and helicopter upgrades and reconfigurations. The biggest issues for us around our global customers have been the ongoing supply chain challenges, which have made lead times a lot longer and have required us to be super flexible, nimble and adaptable to an ever-changing logistics environment.

Oceania Aviation Rotary MRO Services

CATEGORY	CAPABILITY	MAIN OEMS
Avionics	Install, Repair, Maintenance, Inspections	All Aircraft
Helicopter Blades	Repair & Inspection	Airbus/Eurocopter, MD, Schweizer, BK117, Cabri G2
Helicopter Dynamic Components	Repair, Overhaul, Exchange, Supply	Bell, Dunlop, MD Helicopters, Schweizer
Role Equipment	Spray Systems, Cargo Pods, Cargo Swing Systems, Seat Sliders	Airbus/Eurocopter & MD Helicopters
Airframes	Maintenance, Repair, Overhaul, Modifications, Projects	Airbus/Eurocopter, Bell, MD, Schweizer, Robinson
Piston Engines	Repair & Overhaul, Diesel Upgrades, Exchange	Textron Lycoming, Teledyne Continental Motors, Rotax
Turbine Engines	Repair & Overhaul, Inspection, Lease/Exchange	Rolls Royce M250 Series
Parts Supply	New & Used Parts & Components	Airbus/Eurocopter, Bell, MD, Robinson, Schweizer, Lycoming, Rolls Royce

CAN YOU TALK TO THE DIFFERENCES BETWEEN ROTARY AND FIXED-WING OPERATIONS IN THE CURRENT MARKET?

Regarding the fixed-wing industry in New Zealand, many mid and larger-sized operators are flight training academies - and some schools have been deeply affected by international border closures, not being able to bring in new students from overseas. We even saw one of our clients, L3 Harris Flight Academy, completely shut down and exit New Zealand in early 2021. So that side of the business has been more challenging from a COVID-induced demand perspective. Demand for our rotary services has been more stable, given that agricultural and EMS fleets which are considered essential, haven't slowed down. MRO requirements are based on cycles and hours flown, so since these sectors don't shut down during lockdowns, neither do we. Obviously the aerial tourism sector in New Zealand, which relies heavily on international visitors, has taken a significant hit both in terms of international demand and also from being forced to shut down during lockdowns. However, an interesting trend has emerged here where several tourist operators have been pivoting to adapt to the market, turning to alternate mission types such as agriculture, longline or other similar work. This has allowed them to keep some of their fleet operational despite the ongoing downturn, and in turn also contributes to keeping Oceania's rotary MRO divisions steadier.

HOW ABOUT THE SUPPLY CHAIN THAT YOU HAVE BRIEFLY TALKED ABOUT; HAS THIS HAD A LARGE IMPACT IN 2021?

Absolutely, I don't think there's a country around the world that hasn't seen the impact of the unprecedented challenges facing the aviation supply chain. The industry normally relies on an aircraft-supported freight network, and the global lockdowns which have continued since the onset of the pandemic and greatly reduced commercial flights (which used to be the primary carrier of aviation supplies) meant that everything basically came to a grinding halt. The industry has largely pivoted towards sea freight as a more reliable, albeit much slower alternative to the strained air freight system – however, this has caused major impacts around longer lead times and delays, which were exacerbated by the Suez Canal blockage, as well as local New Zealand port challenges. To add further fuel to the fire, there are other issues occurring at all the links within the supply chain – for example, India (which is a major supplier for raw materials and sub-components for OEMs), has seen a severe manufacturing shortage due to the Delta variant, which means that parts manufacturers are sourcing these materials from a much smaller supply pool. This makes it all the more essential for both MRO providers and their customers to plan well in advance and keep a really steady and open line of communication going around their future needs which weren't previously so important. We are doing everything we can to keep our customers from being AOG, but it's very much based on how open that communication and planning can be.

ALONGSIDE THE OBVIOUS CHALLENGES, HAS COVID-19 PRESENTED ANY OPPORTUNITIES FOR OCEANIA AVIATION?

Yes I think there's always opportunities available to take the most of from challenging situations, if your business is open to adapting and learning. For the Salus group, our partnership with Air Methods Corporation to provide fleet management services was implemented during the pandemic. Although we already had a long-standing relationship with the global EMS operator, the COVID-19 situation made it even more important for them to reduce their direct maintenance and manage operating costs, which we now help facilitate by divesting their legacy aircraft and parts inventory (as well as sourcing new aircraft when required). The need to work closely with our OEMs to mitigate supply chain challenges has also presented the Oceania business with opportunities to form stronger partnerships, which is illustrated by our appointment as a regional distributer for MD Helicopters (covering New Zealand, Singapore and Indonesia), alongside our existing service centre authorisation with MD. We have also renewed and strengthened relationships with several other OEM partners such as Bell, Garmin, Schweizer and Lycoming – all of whom we're either an authorised service centre, distributor (or both) for.

More recently, we took the opportunity to bring our composites manufacturing (to produce helicopter role equipment) in-house, via the acquisition of the manufacturing equipment from a local business that designs and manufactures composites for the aerospace industry. Via a new strategic partnership, Aero Composites and Aero Design will focus on composite developments to bring new innovative aviation products to the industry, which Oceania Aviation will then manufacture from our new production facilities currently being set up. This will allow our business to expand and improve on the composite products we offer to the market, as well as providing more efficient

turnaround times to our customer base. Part of this acquisition is the opportunity to focus on and expand the range of role equipment that we currently manufacture – very exciting things to come in this space!

SO ARE YOU OPTIMISTIC ABOUT THE MARKET IN 2022?

From a rotary perspective, I am cautiously excited about what 2022 will bring for the industry and for the Salus group companies. The global aviation market is very quickly gearing up in terms of aircraft purchases, operational activity and looking to the future of the industry (including sustainability and technology). I think that in the shorter term, it will take some time to see fixed-wing activity return to pre-COVID levels, especially in the local General Aviation sector where flight training schools and commercial operators are so reliant on international visitors. For Oceania Aviation, we will be focusing in 2022 on significant opportunities for growth in the rotary sector, via our new Composites manufacturing division, the expansion of our Oceania Aviation capabilities into the US market, and a core focus on our specialised repair and overhaul services which we offer to the APAC region. Fleet management is also proving a significant opportunity for growth within our Aircraft Sales division, and we will be looking to partner with further operators to help efficiently manage their aircraft fleets. We've seen a strong pick-up in demand for our helicopter listings in the past quarter, which we predict will only increase as we move into more open borders and a rebuilding market in 2022.

www.oceania-aviation.com

Oceania Aviation

CUSTOMER SERVICE NETWORKS - ENGINES

GENERAL ELECTRIC

■ ASF | ■ OEM | * Logistic Center | Unless otherwise indicated all are third-party providers

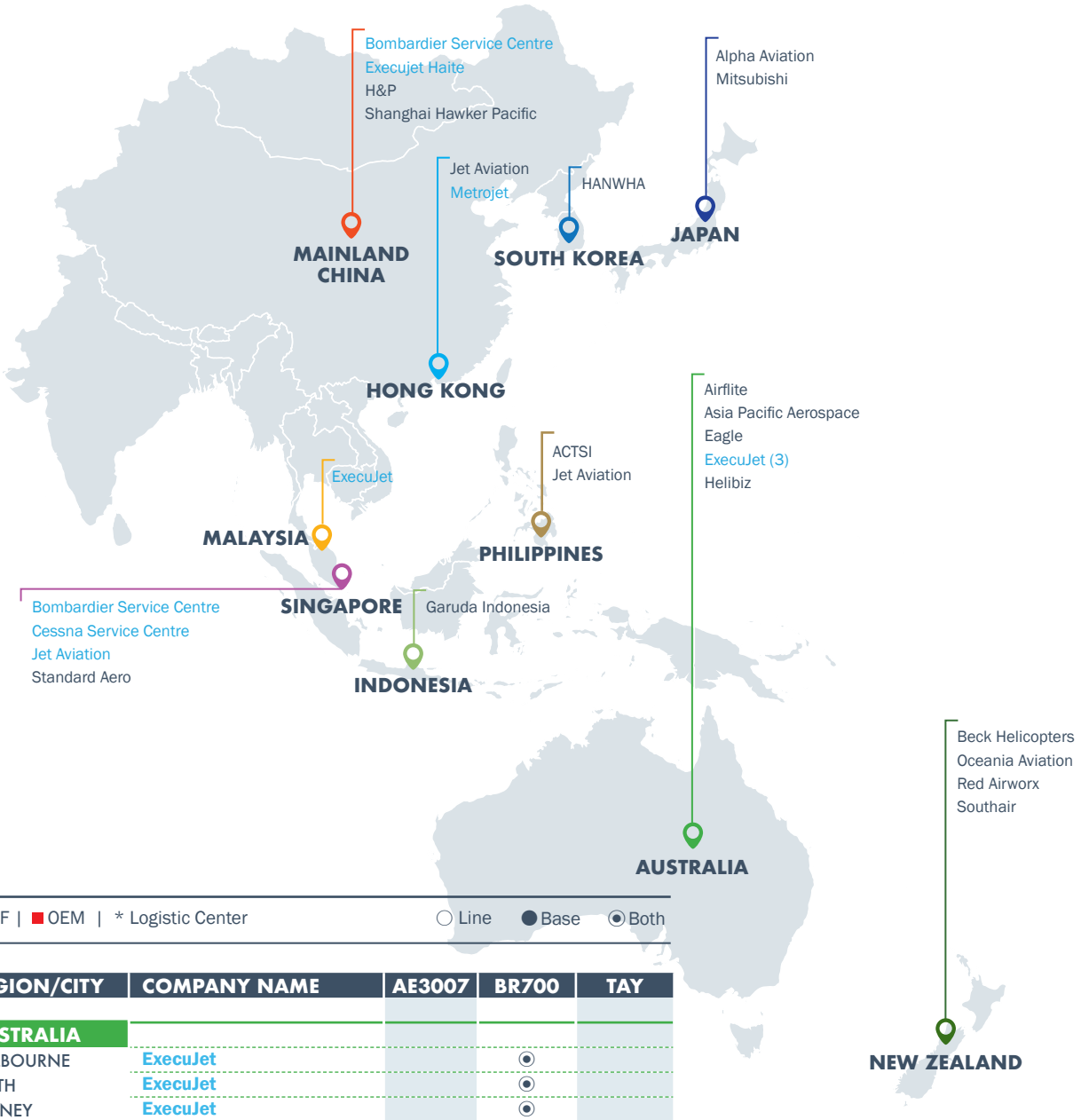
■ ASF | ■ OEM | * Logistic Center ○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	CF34	PASSPORT	GENX
AUSTRALIA				
MELBOURNE	ExecuJet	◉	◉	
PERTH	ExecuJet	◉		
SYDNEY	ExecuJet	◉		
MAINLAND CHINA				
SHANGHAI	General Electric Capital Corporation	◉		◉
TIANJIN	Bombardier Service Centre	◉	◉	
MALAYSIA				
KUALA LUMPUR	ExecuJet	◉		
SINGAPORE				
SINGAPORE	Bombardier Service Centre	◉	◉	
SOUTH KOREA				
SEOUL	General Electric Capital Corporation	◉		◉

Note: Only OEM owned or authorized service facilities, and their authorized aircraft type capabilities are listed.

ROLLS-ROYCE

■ ASF | ■ OEM | * Logistic Center | Unless otherwise indicated all are third-party providers



■ ASF | ■ OEM | * Logistic Center ○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	AE3007	BR700	TAY
AUSTRALIA				
MELBOURNE	ExecuJet		◉	
PERTH	ExecuJet		◉	
SYDNEY	ExecuJet		◉	
MAINLAND CHINA				
TIANJIN	Bombardier Service Centre		◉	
TIANJIN	ExecuJet Haite	◉	◉	
HONG KONG				
HONG KONG	Metrojet		◉	◉
MALAYSIA				
KUALA LUMPUR	ExecuJet		◉	
SINGAPORE				
SINGAPORE	Bombardier Service Centre		◉	
SINGAPORE	Cessna Service Centre	◉		

Note: Only OEM owned or authorized service facilities, and their authorized aircraft type capabilities are listed.

PRATT & WHITNEY CANADA

■ ASF | ■ OEM | * Logistic Center | Unless otherwise indicated all are third-party providers

■ ASF | ■ OEM | * Logistic Center ○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	PT6C	PW100	PW200	PW300
AUSTRALIA					
EAGLE FARM	Standard Aero	◉			●
MAINLAND CHINA					
HARBIN	AVIC HAIG	○			
SHENZHEN	COHC	○			
HONG KONG					
HONG KONG	Jet Aviation				○
INDIA					
MUMBAI	Taj Air				○
JAPAN					
KOMAKI	Mitsubishi	◉		◉	
SINGAPORE					
SINGAPORE	Pratt & Whitney	○	◉	○	○
SINGAPORE	Standard Aero		◉		

Note: Only OEM owned or authorized service facilities, and their authorized aircraft type capabilities are listed.

HONEYWELL

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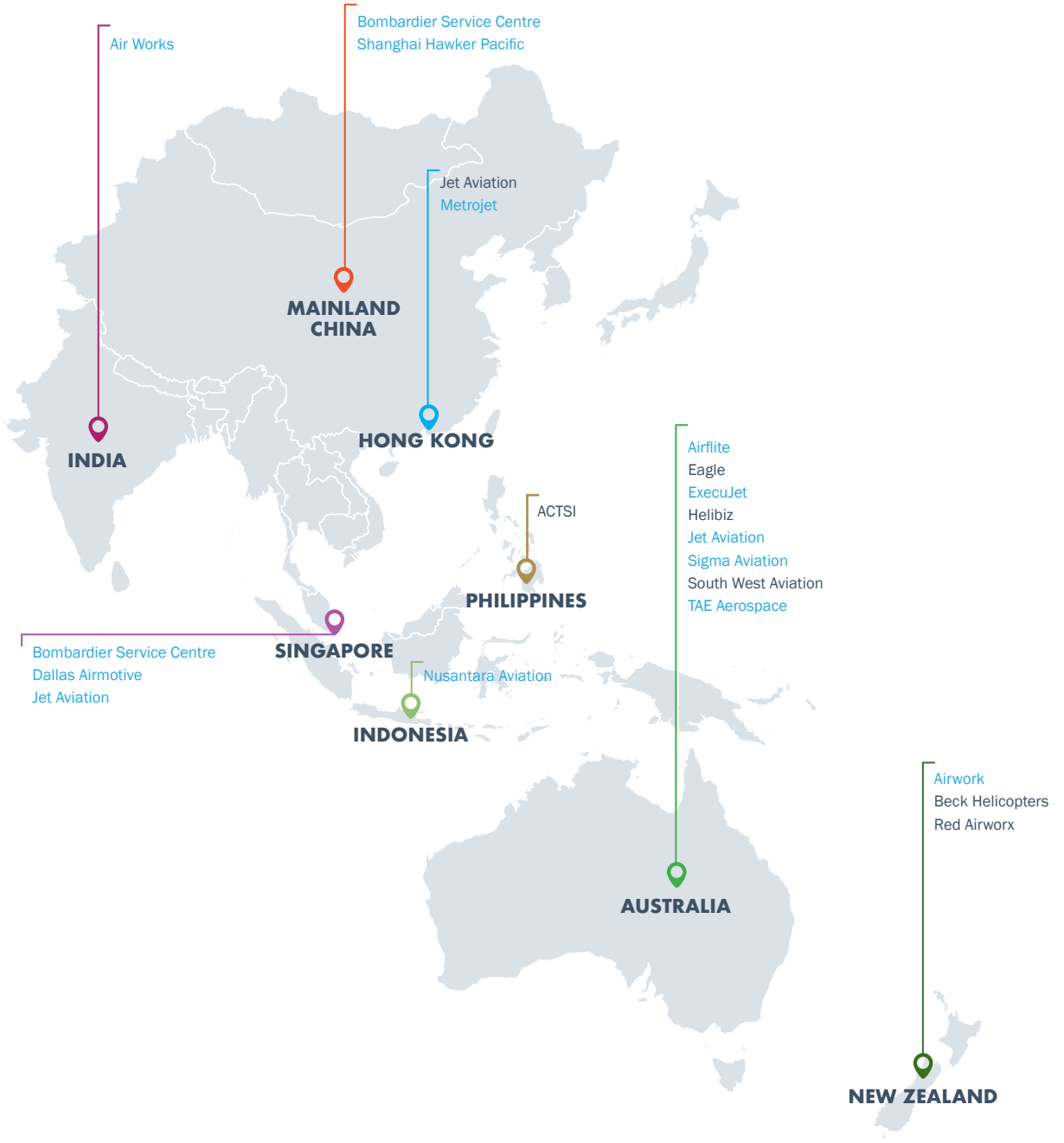


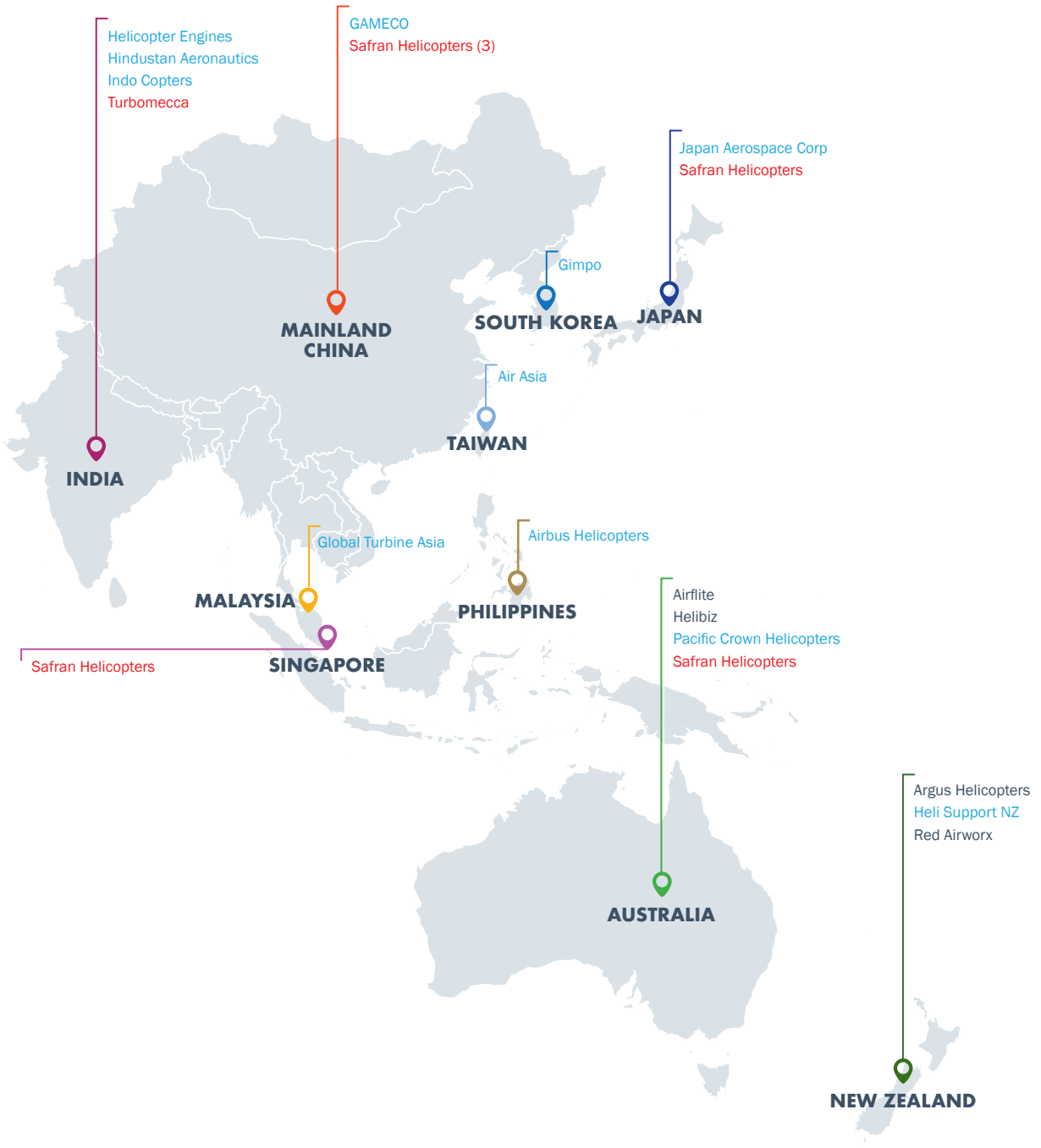
■ ASF | ■ OEM | * Logistic Center ○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	ATF3	HTF7000	TFE731	TPE331
AUSTRALIA					
ADELAIDE	TAE Aerospace			◉	
PERTH	Airflite			○	
SYDNEY	ExecuJet		○	○	
BANKSTOWN	Jet Aviation			○	
TAMWORTH	Sigma Aviation				●
MAINLAND CHINA					
SHANGHAI	Shanghai Hawker Pacific			○	
TIANJIN	Bombardier Service Centre		○		
HONG KONG					
HONG KONG	Metrojet			○	
INDIA					
NEW DELHI	Air Works			○	
INDONESIA					
BANDUNG	Nusantara Aviation				◉
NEW ZEALAND					
AUCKLAND	Airwork				●
SINGAPORE					
SINGAPORE	Bombardier Service Centre		○		
SINGAPORE	Dallas Airmotive			●	
SINGAPORE	Jet Aviation	○		○	

Note: Only OEM owned or authorized service facilities, and their authorized aircraft type capabilities are listed.

SAFRAN

■ ASF | ■ OEM | * Logistic Center | Unless otherwise indicated all are third-party providers



■ ASF | ■ OEM | * Logistic Center

○ Line ● Base ◉ Both

REGION/CITY	COMPANY NAME	ARRIEL	ARRIUS	ARTOUSTE	ASTAZOU	MAKILA	TM 333
AUSTRALIA							
SUNSHINE COAST	Pacific Crown Helicopters	○	○				
SYDNEY	Safran Helicopters	◉	◉				
MAINLAND CHINA							
BEIJING	Safran Helicopters	◉	◉			◉	
CHENGDU	Safran Helicopters	◉	◉			◉	
GUANGZHOU	GAMECO	○	○	○	○	○	○
SHANGHAI	Safran Helicopters	◉	◉			◉	
INDIA							
BANGALORE	Helicopter Engines						◉
BANGALORE	Hindustan Aeronautics	●	●	●	●	●	●
BANGALORE	Turbomecca						◉
NEW DELHI	Indo Copters	◉					
JAPAN							
TOKYO	Japan Aerospace Corp	○				○	
TOKYO	Safran Helicopters	◉	◉			◉	
MALAYSIA							
SUBANG	Global Turbine Asia	○	○	○	○	○	○
NEW ZEALAND							
LUGGATE	Heli Support NZ	○	○	○	○	○	○
PHILIPPINES							
MANILA	Airbus Helicopters	○	○	○	○	○	○
SINGAPORE							
SINGAPORE	Safran Helicopters	◉	◉	◉	◉	◉	◉
SOUTH KOREA							
GYEONGGI-DO	Gimpo	○	○	○	○	○	○
TAIWAN							
TAINAN	Air Asia	◉	◉	◉	◉	◉	◉

Note: Only OEM owned or authorized service facilities, and their authorized aircraft type capabilities are listed.

● *Dassault Falcon 6X*

The Falcon 6X is a designer's dream—a clean sheet airplane allowing Dassault Aviation engineers to use the latest in digital design technologies, aerodynamics, propulsion and more. Plus the ability to optimally size the cabin for the way passengers want to fly today.

AIRCRAFT SPOTLIGHT

FALCON 6X EXCELS AT LONG-RANGE COMFORT AND EFFICIENCY AND IS ALREADY DEMONSTRATING ITS BIOFUEL CAPABILITY

For aircraft designers, the chance to design an all-new jet may be a once-in-a-career opportunity. That's because many aircraft are derivatives to keep development costs relatively low.

The Falcon 6X is a designer's dream—a clean sheet airplane allowing Dassault Aviation engineers to use the latest in digital design technologies, aerodynamics, propulsion and more. Plus the ability to optimally size the cabin for the way passengers want to fly today.

Dassault's engineering department, famed for developing both front-line fighters and business jets, seized the opportunity to build a jet with a big, big cabin that flies easily in and out of small airports. And one with exceptional fuel efficiency.

The cabin height is 1.98 meters and its width is 2.58 meters. The cabin can seat up to 16 passengers, but, as with most business jets, will usually fly with far fewer for maximum passenger comfort. The 6X is the leader in the long-range segment in terms of size and also range, which is 10,200 km. You might think such a big plane would only be landing at big city airports. But, in fact, the wing is designed with high-lift devices (as are all Falcons) to permit slow and stable approaches to runways of less than 1,250 meters. This lets the 6X use all sorts of small airports close to city centers and also in small towns.

The 6X has been in flight test since March 2021 in Istres in the south of France, where Dassault tests all its fighters and business jets. The production line in Mérignac (just outside of the city of Bordeaux) is ramping up, with the 12th aircraft already on the assembly line.

Three test aircraft are flying in a campaign that has proceeded very smoothly according to test pilots. They also report that the 6X has perhaps the best handling qualities of any Falcon they have flown (and all Falcons are famous for their precise handling). This assessment from the test organization should not be a surprise. The 6X has the latest generation of Dassault's world-leading digital flight control system. These controls were pioneered on Rafale fighters and have been in use on business jets since 2005, when the Falcon 7X became the first business jet with a fly-by-wire system. The result has been easier flight management for pilots plus safeguards that prevent overspeeds, stalls and overstressing of the airframe.

The 6X goes to the next level with a digital flight control system that manages more control surfaces, including flaps, slats and a new device called a flaperon, which does double duty as a flap and aileron. The system also helps control nosewheel steering for better tracking in wet and gusty conditions.

A fourth 6X with a full interior will embark on a world tour next year as part of a campaign to test the aircraft in the field far from home, including rigorous use of all cabin systems, including Satcom, entertainment systems, galley, environmental controls and lavatory.

Recently, one of the flight test aircraft made its first appearance at Le Bourget Airport outside of Paris, where it became one of the first jets on the field to be refueled with a blend of sustainable aviation fuel supplied by TotalEnergies. The company's SAF reduces lifecycle CO2 emissions by 90 percent. The 6X (and all current Falcons) can operate on a 50/50 blend of SAF and conventional Jet A fuel.

The 6X will continue to use SAF throughout the remainder of the test program, which will extend into 2022. It's part of Dassault's intensive effort to reduce its CO2 footprint.

The 6X will be certified before the end of 2022 and will soon be seen in countries around the world, including Asia. The Dassault service organization (rated number one for the last three years by the readers of Aviation International News) is training technicians and positioning $100 million in spare parts inventory to make sure first customers are well supported right from the start.

In the meantime, customers wishing to experience the size and comfort of the 6X cabin will have a chance to tour a mockup at the Singapore Air Show in February.

www.falcon6X.com

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CONTRIBUTION

ASG would like to acknowledge the gracious contributions made by numerous organizations, including aviation authorities, MROs, OEMs and FBOs in providing data for this report.

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ABOUT ASIAN SKY GROUP

ASIAN SKY GROUP (ASG), headquartered in Hong Kong with offices throughout Asia, has assembled the most experienced aviation team in the Asia Pacific region to provide a wide range of independent services for both fixed and rotary-wing aircraft. ASG also provides access to a significant customer base around the world with the help of its exclusive partners.

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The acclaimed Asian Sky Fleet Reports are produced by ASG's market research and consulting team, in collaboration with Asian Sky Media — a branch of ASG focusing on media and publications.

Asian Sky Media has a growing portfolio of business aviation reports designed to provide valuable information to readers for a better understanding of the market. Included in the portfolio is the Asia Pacific Fleet Reports for civil helicopters, business jets, business jet charter, as well as comprehensive reports on regional training schools and aviation infrastructure. Asian Sky Media also has a focus report on general aviation in China, with the China GA Report, while Asian Sky Quarterly provides a reader-friendly look at market dynamics within the pre-owned markets of civil helicopters and business jets.

DISCLAIMER

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APPENDIX

ABBREVIATION

AE	UAE	GG	Guernsey	MO	Macao	QA	Qatar
AR	Aruba	HK	Hong Kong	MY	Malaysia	SG	Singapore
AU	Australia	ID	Indonesia	NZ	New Zealand	SM	San Marino
BM	Bermuda	IM	Isle of Man	PG	Papua New Guinea	TH	Thailand
CA	Canada	IN	India	PH	Philippines	TW	Taiwan
CN	Mainland China	KY	Cayman Islands	PK	Pakistan	VN	Vietnam

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