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ASIA-PACIFIC REGION

2022

Cover Feature

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SPECIAL MISSIONS TRAINING A look at the number of schools within Asia-Pacific that offer special missions training to helicopter pilots.

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> An in-depth look at the customer service networks for business jets within the Asia-Pacific region.

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APPENDIX



EDITOR'S NOTE



In 1989 a farmer in Dyersville, lowa, set to work building a baseball diamond in one of his cornfields, after apparently hearing disembodied voice whispering "If you build it, he will come."

Whilst the farmer's motivation for building the diamond might

have been questionable, he decided to build the field anyway, and eventually completed the work. However, the diamond remained unused for months, until one night 'he' finally came to play, bringing along several of his friends.

The notion that you can build something first in the hope that people will use it does not translate well in aviation, with Madrid South Airport as a perfect example.

Known locally as Ciudad Real, Madrid South cost more than EUR €1 billion to build and was due to be a reliever for Madrid's overcrowded Barajas Airport when it was due to open in 2004. But there was a problem. Actually, there were many problems. Not only was the airport built in a special protection area for birds, but it was also built on an inactive volcanic field. These two issues delayed the opening of the airport by four years, by which time Barajas Airport had already completed an upgrade project and opened new facilities to alleviate its overcrowding. Consequently, a lot of the airlines that were planning to launch scheduled services at Ciudad Real changed their minds and continued their operations at Barajas. The airport did attract

a very small number of services, however they soon stopped, forcing the airport into bankruptcy in 2013. Whilst they did come, they did not come in any great numbers.

The story of Madrid South goes part way to explain why on a year-to-year basis, business aviation infrastructure does not change too much. Building airports, runways and hangars take a lot of planning to ensure that they are being built in a place that they will be used. As the original owners of Madrid South found out, making a mistake can be very costly. Their Field of Dreams cost EUR €1 billion to build and was eventually sold for just EUR €56.2 million.

For this edition of the Infrastructure Report we have decided to include what was previously the Training Report. Whilst changes have happened since the previous editions of both reports, we felt that it would be better to combine the two reports into one.

So this combined Infrastructure and Training Report takes a deep dive into the Asia-Pacific region, and includes FBO data meticulously researched and verified by Liana Liu, who also worked on the MRO section along with Xiangyun Ning, whilst the training data and commentary was compiled and analysed by Qianyun Zhou. We also include several special features, as well as a look into airframe and engine customer service networks for both business jets and helicopters.

Our own Mia Yao takes a look at the Hong Kong Business Aviation Centre, which, along with preparing to celebrate its 25th anniversary in 2023, has just begun work on expanding and modernizing its facilities. We also spoke with Metrojet, which

SPECIAL THANKS TO OUR CONTRIBUTORS









recently opened up its new Clark, Philippines facility, and asked how it manages the work load between its Clark and Hong Kong locations, and if different facilities have different authorizations

We also include contributed articles by both Sino Jet and Dassault. Sino Jet, Asia's biggest operator, explains its green credentials, whilst Dassault gears us up for its Falcon 6X, the first of which should be handed over to its new owner half way through 2023.

Traditionally, the Infrastructure Report has focussed on the infrastructure needed to support business aviation operations, but with the advanced air mobility (AAM) revolution well underway, our own Jeremy Chan covers what infrastructure will need to be in place before AAM operations can begin.

Last, but definitely not least, we spoke with Juan Mas Casals, TAG Aviation's Chief Pilot, about transitioning from commercial aviation to business aviation, and the main differences between the two.

As always we would like to thank everybody that has contributed to the compilation and production of this report.

Sincerely, Alud Davies Editor-in-Chief Global Sky Media

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This year, Global Sky Media has decided to combine the aviation infrastructure and pilot training reports, into just one single report. This is to give a broader picture of all the facilities and resources supporting the development of civil aviation in Asia-Pacific. In this newly combined report, we provide an overview of airports, Fixed Base Operators (FBOs), Maintenance, Repair, Overhaul (MRO) facilities, pilot training schools, and training aircraft.

As of September 30, 2022, the Asia-Pacific region had 3,529 airports with runways longer than 400 meters. General aviation airports accounted for 69% (2,423) while commercial airports made up 31% (1,106).

FBOs cater to the needs of business jets by offering a wide variety of aviation services to aircraft, passengers, and crew. In 2022, 71 FBOs are found across the Asia-Pacific region, with 21 FBOs located in Australia exclusively.

MRO services ensure an aircraft satisfies safety regulations and standards, and proactively looks for defects or potential issues with the aim of taking preventive actions. Asia-Pacific has 96 business jet MROs, 120 turbine helicopter MROs and 69 jet/turbine engine MROs, with 50 MROs serving more than one type of these products. The majority of business jet MRO facilities, which account for 68% of the total number of facilities, are located in mainland China, Australia, and India.

In this report, we provide rankings for all business jet MROs and turbine helicopter MROs in Asia-Pacific, based on the number of facilities, authority approvals, original equipment manufacturer (OEM) authorizations, and aircraft type approvals. To ensure the rankings are fair, we separated those MROs operated directly by OEMs from independent ones. Of the independent business jet MROs, ExecuJet and Jet Aviation ranked first and second, respectively. Boeing, Bombardier, Textron, and Gulfstream directly operate MRO service centres in Asia-Pacific.

Aero Asahi and Oceania Aviation took the first two places on the turbine helicopter MRO ranking list. With regard to OEMs, Airbus has the lead over its competitors in supporting customers through its seven self-operated facilities.

There were a total of 349 training schools in Asia-Pacific in 2022, including 271 schools offering only fixed-wing aircraft training, 58 schools offering only helicopter training courses, and 20

schools providing both fixed-wing aircraft and helicopter training. Overall, 3,150 fixed-wing aircraft and 525 helicopters were used for training across the whole region. Australia had the most flight training schools and mainland China had the largest training fleet. Combined, Australia and mainland China were the biggest flight training markets in the Asia-Pacific region. With the largest number of fixed-wing and helicopter training schools, Australia has the most well-developed aviation training industry in the region.

With 1,560 aircraft available for training, Cessna's market share of 50% makes it the most popular fixed-wing aircraft OEM in the Asia-Pacific region. This was followed by Diamond and Piper, which had a market share of 20% and 12%, respectively. Unsurprisingly, the Cessna 172, which is regarded as the most popular training model in other parts of the world, was also the most popular fixed-wing training aircraft in Asia-Pacific. Due to their relatively efficient fuel and maintenance costs, as well as

their ease of operation, single-engine piston aircraft continue to dominate the Asia-Pacific training market.

Robinson, Airbus, and Bell were the top three helicopter training aircraft OEMs in Asia-Pacific, accounting for market shares of 32%, 29%, and 24%, respectively. With a four-seat configuration, the Robinson R44 was the most popular helicopter training model among instructors in flight schools. Although single-engine turbines and piston helicopters had a similar market share of 41%, they were used in different kinds of training programs and had differences in the number of hours used for actual flight training.

With the expansion of the emergency medical services (EMS) and search and rescue (SAR)-configured helicopter fleet from 288 in 2014 to 505 in 2021, the need for special missions training syllabuses is also expected to grow across the region.



INFRASTRUCTURE AND TRAINING OVERVIEW

BY THE NUMBERS:



COMMERCIAL AIRPORTS

1,106



BUSINESS JET MROs

96



GA AIRPORTS

2,423



TURBINE HELICOPTER MROs

120



FB0s

71



ENGINE MROs

69



FIXED-WING TRAINING SCHOOLS

291



HELICOPTER TRAINING SCHOOLS

78



FIXED-WING TRAINING AIRCRAFT

3,150



HELICOPTER TRAINING AIRCRAFT

525

Definitions and Criteria:

Airports: Commercial and GA airports with known runways longer than 400 meters, data sourced from OurAirports.com and AOPA China. Commercial airports are publicly owned airports with at least 2,500 annual enplanements and scheduled air services, whilst the remainder are considered GA airports.

MRO: Facilities providing airframe and/or engine maintenance, repair, and overhaul services to business jet and turbine helicopters. Commercial airliner MROs that provide maintenance services only to airliner-converted business jets (such as ACJ/BBJ), but not to any other purposed-built business jets, are not included in this edition of the report.

FBO: Fixed Base Operators providing aviation services to crew/passengers using private and/or business aviation aircraft and ground handling services from fixed facilities in an airport.

Training School: Facilities providing pilot training using training aircraft. Only schools under Part 141 or equivalent licenses are included in the report. Organizations only providing simulator or theory training are not included.

Training Aircraft: Normal aircraft used for (but not limited to) pilot training. Recreational light spot aircraft (LSA is defined by local CAAs in different countries and has no worldwide standard) are not included in the report.

Note

The total number of business jet MROs and the total number of turbine helicopter MROs includes those facilities that also service both.

The total number of fixed-wing aircraft training schools and helicopter training schools includes those schools that also provide training for both.



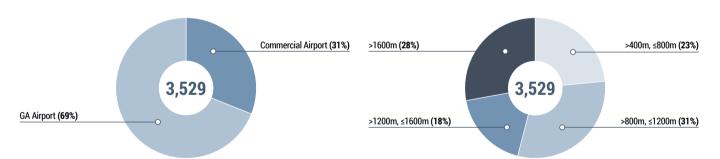


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ASIA-PACIFIC AIRPORTS¹ **BY TYPE**

ASIA-PACIFIC AIRPORTS BY RUNWAY LENGTH

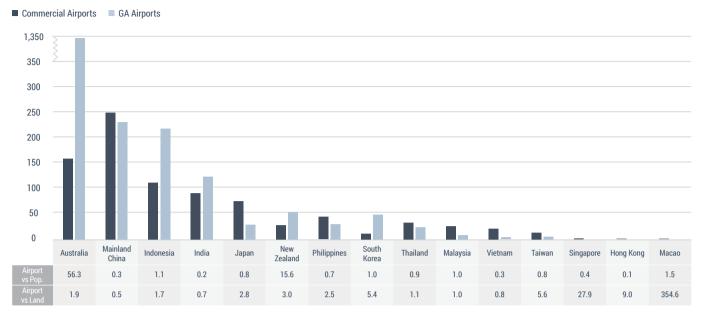


NOTE: 1. Airport: Commercial and GA airports with known runways longer than 400 meters, data sourced from OurAirports.com and AOPA China. Commercial airports are publicly owned airports with at least 2.500 annual enplanements and scheduled air services, whilst the remainder are considered GA airports.

Whenever aviation infrastructure is mentioned, usally the first things that come to mind are airports. Commercial airports and general aviation airports are the two main categories. In this report, commercial airports are publicly-owned airports with at least 2,500 annual enplanements and scheduled air services, whereas the remainder are classified as general aviation (GA) airports. There were 3,529 airports with runways longer than 400m in Asia-Pacific as of the end of September 2022. Of these, 69% (2,423) were general aviation airports, whilst the remaining 31% (1,106) were commercial airports.

The length of a runway dictates what types of business jets can use the airport. Only very few Very Light business jets, including the Eclipse 500 and Vision Jet SF50 can take off and land on a runway shorter than 800m, which accounts for around 23% of the total airports in APAC. The majority of airports, 31%, have runways between 800m - 1.200m, which is suitable for most Light iets to take off and land, whilst a 1,600m runway can serve most Medium and some Large jets. Larger aircraft need a runway longer than 1,600m to operate safely, but airports with runways longer than this only account for 28% (995) of all airports in Asia-Pacific.

COMMERCIAL AND GA AIRPORTS BY COUNTRY/REGION



Notes

- 1. Airport versus population is a ratio calculated by number of airports divided by population in millions.
- 2. Airport versus land is a ratio calculated by number of airports divided by land in thousand square kilometers.

Australia has the most airports in Asia-Pacific. Almost 90% are GA airports, with the majority having runways shorter than 1,200 meters, which mainly serve small turboprop and piston aircraft. This is in line with Australia's vast and sparsely populated geographic environment, where general airports are often the best option for connecting remote areas. Mainland China has the most commercial aviation airports and the second-highest number of general aviation airports. Australia, Indonesia, India, New Zealand, and South Korea have more GA airports than commercial airports, indicating GA infrastructure is more well-developed in these countries.

When comparing the number of airports with the population, the statistics from Australia and New Zealand are marginally better,

with an average of 56.3 and 15.6 airports per million people, respectively. This is good for travelers from those two countries as this presents more airports for them to choose from, and ones that are usually less crowded.

Comparing the number of airports with land area usually provides a better picture of how efficiently people can access airports in different countries and regions. Mainland China has the lowest ratio although it has the second largest total airport number, because of its vast territory. Smaller countries/regions like Singapore, Macao, and Hong Kong have the highest ratio despite having only a few airports.





For a lot of people, turning 25 is when things start to change. There is a greater sense of urgency that wasn't present in one's late teenage years or early 20s; there's an arguable need to think bigger and make a few key changes that will aid in growth years down the road.

The same could be said for the Hong Kong Business Aviation Centre (HKBAC), the city's only Fixed-base Operator (FBO) located at Hong Kong International Airport, which will be celebrating its 25th anniversary in 2023. It, too, is aiming for greater things. For one, the HKBAC started its USD\$50 million expansion project in October, 2022, which will see the FBO expand its existing facility by five times and double the size of its existing parking lot.

The decision coincided with Hong Kong finally scrapping its mandatory hotel quarantine, a move that reignited some hope in both the city's business and general aviation sector, providing both industries with the opportunity to recover.



A long-term solution

All was in full swing in the city prior to the pandemic - Hong Kong International Airport handled about 71.5 million passengers and 4.8 million tonnes of cargo in 2019, according to official airport data, but only a small number of these were business aircraft.

This, however, is not due to a lack of demand, but the difficulty that comes with getting a runway slot, as well as a shortage of landing permits and parking spaces at the airport.

The Civil Aviation Department and the Airport Authority Hong Kong designed a joint application system in September 2016 to ensure that there would be a number daily slots available for business aviation users, and allocated a daily average of over 20 slots to general aviation or business aviation aircraft.

But the increase in slot availability couldn't address the root of the problem. Hong Kong needed a long-term solution to keep up with market demand whilst also driving development within the local aviation sector.

To solve the shortage of runway slots, a USD\$18.2 billion expansion at Hong Kong International Airport began in 2016 and is expected to be completed in 2024. One of the first stages was completed earlier in 2022, which saw the airport open its much needed third runway.

Unparalleled advantages

HKBAC is the first international FBO in Asia that has a co-location Customs, Immigration and Quarantine (CIQ) arrangement, making it more convenient for passengers by shortening the arrival procedure.

HKBAC aims to be a world-class FBO facility through its expansion plans, which also includes building a new all-weather canopy to shield private jets from various weather conditions.

New facilities also include a new CIQ Hall for passengers arriving or departing, a more spacious VVIP lounge and suites, an airside facility for transit passengers, a helicopter support facility, and a covered passenger and visitor car park, which comes with electric charging stations and an enhanced crew lounge.

HKBAC will also leverage Hong Kong's strategic location in Asia. As Lam Sai-hung, Secretary for Transport and Logistics pointed out during a groundbreaking ceremony held by the HKBAC on October 18, 2022 to announce the Expansion Project, "Hong Kong is blessed to be located in the heart of Asia. From Hong Kong International Airport, we can reach most major Asian cities within four hours of flight, and cover half of the world's population within five hours.

"With a robust economy both in Hong Kong and in the Greater Bay Area, as well as Hong Kong's status as a premier international financial and trading centre, Hong Kong is a particularly fertile ground for business aviation development, and our continued success in business aviation is exemplified by nothing better than the HKBAC," Lam added.

Hong Kong's large pool of ultra-high-net-worth individuals (UHNWIs), a large number of whom prefer to travel via business jets, may also aid in the recovery of the city's business aviation sector and general aviation industry at large. According to World Ultra Wealth Report 2021, a study by wealth intelligence solutions provider Wealth-X, Hong Kong has the second-most UHNWIs in the world, with 9,530, just behind New York's 11,475 in 2020.

HKBAC was also named the "Best Asian FBO" in the 2022 Professional Pilot Magazine PRASE Survey 15 consecutive years in a row, making it the only FBO in Asia to win the award. The annual survey itself is a compiled from customer opinions of aviation ground services. Executives in charge of flight departments, aviation managers, chief pilots, chief executive officers, and other qualified subscribers are polled once a year in order to determine the PRASE Winners List.



Aiming for the future

With nearly 100 aircraft based in Hong Kong at its peak in 2017, the HKBAC has seen a drastic fall in the number and movements of aircraft as a result of COVID-19 related travel restrictions and border closures since 2020. The number of business travelers in Hong Kong is expected to pick up in light of easing restrictions, but a more pronounced recovery of the industry – which relies on the mainland China market – will depend on when the mainland will drop all restrictions and open up to the rest of the world.

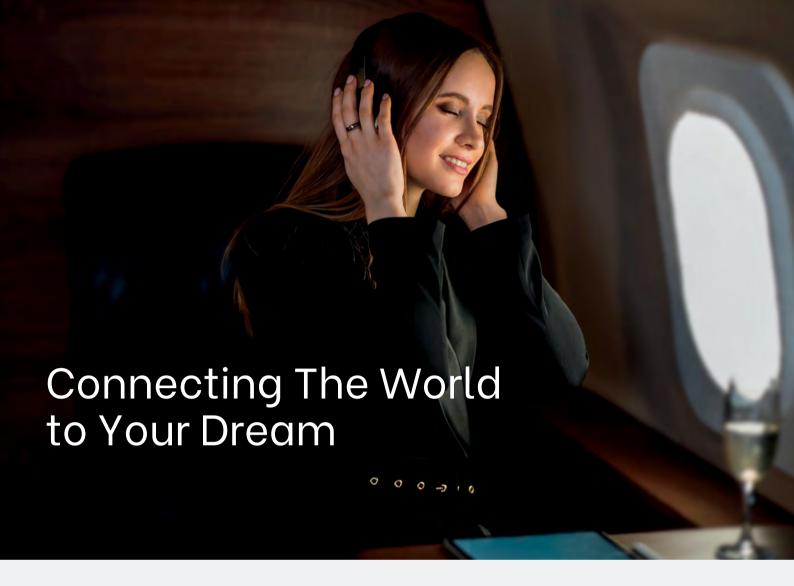
HKBAC is also exploring greener initiatives, including the use of sustainable aviation fuel (SAF) by working closely with Airport Authority Hong Kong (AAHK)."

AAHK has been working with fuel suppliers to procure SAF for trial flights in 2022.

"HKBAC has the technical and operational capacity to support this emerging change and will ensure [that] we can fulfil our customer's needs once available. In addition, we are working with our fuel suppliers to provide options for carbon offsetting programs which can allow our customers to uplift fuel and offset their carbon emissions prior to SAF being fully available in HKIA," according to HKBAC.

With Hong Kong starting to dial back its COVID-19 restrictions, and the airport finally opening its third runway in 2022, the FBO has many reasons to celebrate its 25th anniversary in 2023. And with work already underway to increase the size of its footprint, the HKBAC is future-proofing its facilities to ensure that it will be ready for the next 25 years and beyond.





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With the combined efforts of major economies around the world, finding ways to reduce carbon emissions and eventually achieve carbon neutrality has become a global mission. As a pioneer in building sustainable green aviation, Sino Jet attended the 27th United Nations Climate Change Conference (the 27th Conference of the Parties to the United Nations Framework Convention on Climate Change, hereafter "COP27"). In the "China Corner" of COP27, Sino Jet cooperated with government departments, the business sector, think tanks and other organizations in the aviation industry to suggest ways to address climate change.

During her speech at the COP27 conference, Wu Bing, President of Sino Jet Beijing, said that of all transportation means, air transport still remains the fastest, most accessible and most time-efficient in terms of human economic activity, that it plays an irreplaceable role in the development of the global economy and trade. "To achieve sustainable development within the aviation industry, one has to reduce carbon emissions as much as possible from all aspects, while increasing the economic benefits brought by carbon emissions per unit."



Sino Jet will promote global climate governance by pushing for sustainability and green initiatives within the aviation industry and connecting the industry chain."



Sino Jet is the largest business jet company in the Asia-Pacific region in terms of fleet size, and provides integrated business jet travel solutions. Under the overall carbon neutrality target of the aviation industry, Sino Jet is the first to announce its carbon neutrality target in the Chinese business aviation industry. It hopes to achieve carbon neutrality in its own fleet, ground support operations and office operations by by driving more than 20% of its managed aircraft to achieve carbon neutrality in flight operations by that date, and then ultimately achieve carbon neutrality in its overall business by 2035.

In April 2022, Sino Jet introduced a Dassault Falcon 7X business jet from France that aims to achieve carbon neutrality throughout each flight through various energy saving and emission reduction measures, paving the road for China's business jet industry to implement sustainability initiatives. Based on the aviation industry's goal to reduce carbon emissions and its own advantages in digital technology, Sino Jet has set a scientific path to achieve carbon neutrality. By mainly relying on saving energy, reducing emissions, and offsetting carbon, Sino Jet is able to work towards achieving carbon neutrality from six different aspects: digitalizing aircraft operations and processes, the use of sustainable aviation fuel,

COPT CORN VINE CTEAM ENTERPRISE Sino Jet shared its views on building sustainable and green aviation implementing green initiatives within its offices, reducing emissions through transportation, ensuring its supply chain meets green initiatives, and carbon offsetting.

Data shows that the largest source of carbon emissions in the aviation industry comes from fuel combustion, which accounts for 79% of total emissions. It is therefore crucial to find solutions that address how fuel is used. "As a business aircraft operator, Sino Jet is managing fuel consumption from a scientific standpoint and digitalizing aircraft operations and processes. We are committed to operating at airports that can provide sustainable fuel refueling services, and will always choose sustainable fuel," Wu Bing said.

Sino Jet's business ecosystem connects the whole industry chain, including aircraft and parts manufacturers, maintenance centres, airports, fuel suppliers, ground transportation, accommodation and food supply companies, etc. Sino Jet will gradually achieve carbon neutrality by promoting the development of technology and innovating across all aspects in saving energy and reducing emissions. At present, Sino Jet has reached agreements with several companies in the supply chain to start applying more low-carbon products and collaborating on researching technology to reduce carbon emissions.

"In addition, we have begun research into the manufacturing of new energy aircraft driven by electricity and hydrogen. The aviation industry will look into related technologies and measures to promote a circular economy in aviation operations to achieve green and sustainable development." Sino Jet says that reducing carbon emissions within the aviation industry is a gradual, longterm, complex and diversified process, requiring technological breakthroughs, changes to company business models, regulatory rule upgrades, as well as the need to continuously explore solutions.

www.sinojet.org





Fixed base operators (FBOs) provide a wide range of aviation services for private and business aviation aircraft, passengers, and crews, including but not limited to, customs procedures, ground VIP services, flight planing and flight permit applications. Australia and mainland China have the most FBOs in Asia-Pacific, with high-quality facilities and services for business jet travel.



Note: 1. CBM (Capital Airports Holding Business Aviation Management) and CJET (Beijing Capital Jet) are both subsidiaries of Capital Airports Holdings, whilst CBM operates an FBO in Daxing Airport and CJET operates an FBO in Capital Airport.



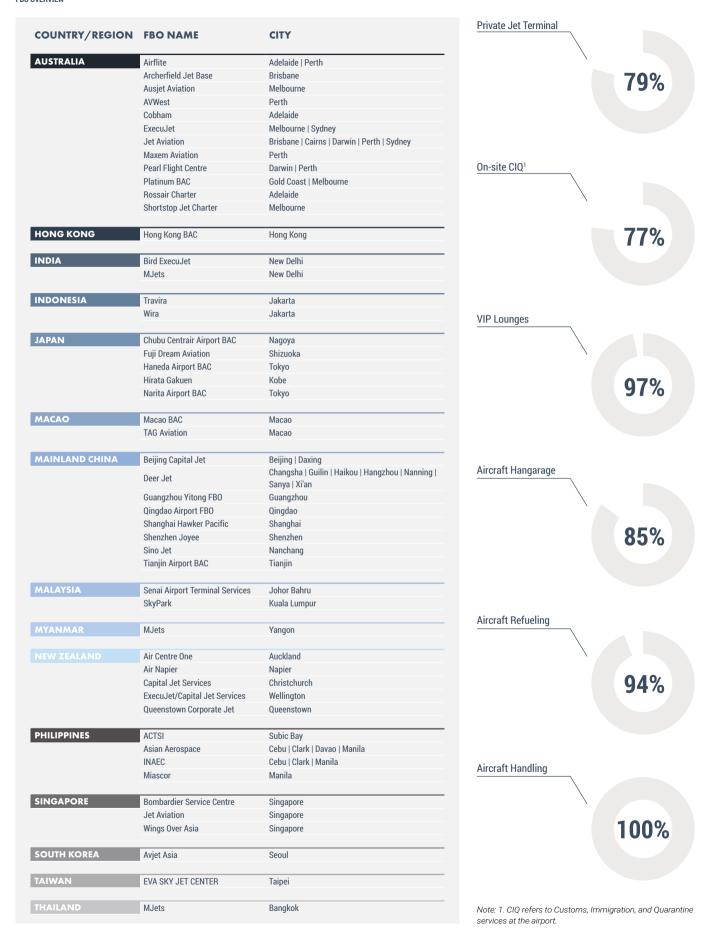
Notes: Data is based on a FBO charge research conducted by Global Sky Media. The basic FBO charges are for a typical international flight using a G550 for both arrival and departure, including landing, parking, handling, and business terminal fees, as well as commissions payable to service providers and miscellaneous compulsory expenses.

ASIA-PACIFIC FBOS¹





Note: 1. FBO: Fixed Base Operators provide aviation services to crew/passengers using private and/or business aviation aircraft and ground handling services from fixed facilities at an airport.





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- DISCRETION
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- PROFESSIONALISM
- ACCESS
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Maintenance, Repair, and Overhaul (MRO) services ensure that an aircraft meets the standards and requirements for safe flight, and is used as a preventative mechanism by identifying defects and potential issues before they take effect. MRO services are generally broken down into two main categories: line maintenance and base maintenance.



Notes

1. MRO: Facilities provide airframe and/or engine maintenance, repair, and overhaul service to business jet and turbine helicopters. Commercial airliner MROs that provide maintenance services only to airliner-converted business jets (such as ACJ/BBJ), but not to any other purposed-built business jets, are not included in this edition of the report.

2. 16 of the 28 MRO facilities in India are Air Works' business jet line maintenance facilities.

There were 96 business jet MRO facilities and 120 turbine helicopter MRO facilities at the end of September, 2022. Mainland China, Australia, and India had the most business jet MRO facilities, accounting for 68% of the total number, which is consistent with them having the largest business jet fleets in the region.

Similarly, mainland China, Australia, and Japan had the most turbine helicopter MRO facilities and the largest turbine helicopter fleets.

Although India had the most business jet MROs, as shown in the graph, 19 of the 28 MROs belong to one company — Air Works, India's largest MRO for commercial airlines and business jets, and only three are base maintenance facilities while the remaining 16 only provide line maintenance to business jets.

ASIA-PACIFIC TOP BUSINESS JET MRO RANKING

RANK	COMPANY NAME	FACILITIES	AUTHORITY APPROVALS	A/CTYPE APPROVALS	OEM AUTHORIZATIONS	OVERALL SCORE
		Num.	Num.	Num.	Num.	Score
1	ExecuJet	7	18	45	4	4.21
2	Jet Aviation	5	21	57	2	3.73
3	Air Works ²	19	5	36	4	3.44
4	Shanghai Hawker Pacific	1	10	14	2	1.57
5	Premiair Aviation	4	1	24	1	1.56
6	ExecuJet Haite	1	8	17	2	1.55
7	Metrojet	2	12	14	1	1.52
8	TAG Aviation	2	5	13	2	1.48
9	MJets	1	2	42	0	1.23
10	Airflite	1	5	18	1	1.12

Notes:

- 1. Independent MRO refers to facility that is not directly operated by OEMs.
- 2. 16 of the 19 Air Works facilities provide line maintenance only for business jets and are all located in India.

In our previous Infrastructure Report in 2021, we grouped all of the MROs together for the rankings. This time we have split the rankings into two different groups - one is "Independent MROs", which are not directly operated by an OEM, and the other is "OEM Operated MROs". Independent MROs can be owned by OEMs but still run independently and are not restricted from servicing other OEM's aircraft. The rankings use only "hard" criteria, including how many facilities, authority approvals, and type approvals that the MRO company has.

ExecuJet and Jet Aviation took the first two places on the ranking list. ExecuJet's facilities are mostly concentrated in Australia with only one in Malaysia, whilst Jet Aviation's facilities are more evenly distributed in Australia, the Philippines, Singapore, and Hong Kong.

Ownership or strong commercial ties with an OEM is crucial for MROs, given that nine of the top ten independent MROs have received at least one authorization from an OEM. It is worth highlighting that four of the top five MROs have a very strong OEM backgrounds: ExecuJet is owned by Dassault, Jet Aviation, which acquired Shanghai Hawker Pacific, is owned by General Dynamic, and Premiair Aviation is owned by Textron. We treat Shanghai Hawker Pacific and ExecuJet Haite as separate entities despite having ties with Jet Aviation and ExecuJet, given the fact that they are controlled by other groups.

Of the top ten MROs, three obtained more than ten authority approvals, while only two have less than five. Jet Aviation has the most, with 21 authority approvals, covering almost all aircraft in Asia-Pacific with different registrations.

OEM OPERATED BUSINESS JET MROS									
OEM	COMPANY NAME	FACILITIES	AUTHORITY APPROVALS	A/C TYPE CERTIFICATE					
		Num.	Num.	Num.					
Boeing	Boeing Service Centre	1	8	3					
Bombardier	Bombardier Service Centre	3	23	11					
Textron	Cessna Service Centre	1	14	15					
Gulfstream	Gulfstream Beijing	1	8	8					

Four OEMs provide MRO services through their self-operated facilities in Asia-Pacific, which are the Boeing Service Centre, the Bombardier Service Centres, the Cessna Service Centre, and Gulfstream Beijing. With its new service centre opened in 2022 in Melbourne, Australia, Bombardier now has three OEM facilities in Asia-Pacific. In addition, it also has the most authority approvals in Asia-Pacific.

ASIA-PACIFIC TOP TURBINE HELICOPTER MRO RANKING

	Maintenance Only COMPANY NAME	FACILITIES	A/C TYPE APPROVALS	OEM AUTHORIZATIONS	OVERALL SCORE
		Num.	Num.	Num.	Score
1	Aero Asahi	3	11	4	3.59
2	Oceania Aviation	1	26	3	3.40
3	Heliflite	4	6	2	2.82
4	State Grid GA	3	7	2	2.49
5	Jet Aviation	3	12	1	2.41
6	Nakanihon Air	1	10	3	2.32
7	Air Works	2	8	2	2.16
8	UI Helicopter	1	12	2	2.04
9	Airwork	2	11	1	1.95
10	Asian Aerospace	2	10	1	1.88

Different to business jets, most helicopters are registered, operated, and maintained locally because of regulatory requirements and high ferry costs, which is why authority approvals for helicopter MROs are not as important as for business jet MROs. For this reason, we have not used authority approvals for the rankings calculation. Only helicopter airframe maintenance is considered in the ranking, whilst component and blade repair are not included.

All of the MROs in the table have one or more OEM authorizations. Aero Asahi has the most OEM Authorizations with four, whilst Oceania has the most type approvals with 26. Heliflite has the most facilities located in Australia, New Zealand and mainland China.

DEM	COMPANY NAME	FACILITIES	A/C TYPE APPROVALS
OLM	COMPART NAME	Num.	Num.
Airbus	Airbus Helicopters	7	14
AVIC	AVIC CAIC	1	2
AVIC	AVIC HAIG	1	1
Bell	Bell Helicopter	1	7
Sikorsky	Sikorsky Helitech	1	6
Leonardo	AgustaWestland	2	5

All major helicopter OEMs, including Airbus, AVIC, Bell, Leonardo, and Sikorsky have self-operated MRO facilities in Asia-Pacific. Airbus Helicopters have the most facilities, which are located in Australia, Indonesia, Japan, Malaysia, New Zealand, the

Philippines, and Thailand. Bell's acquisition of Zhenjiang Aerochine in China and Eagle Copters Maintenance in Australia also demonstrates its determination to grow further in the Asia-Pacific region.

TOP INDEPENDENT TURBINE HELICOPTERS MROS - CAPABILITIES

ANK COMPANY	OEM	MODEL CAPABILITY
1 AERO ASAHI	Airbus	BK117
	Bell	Bell 412 Bell 430 Bell 206
	Leonardo	AW109 AW139
	MD	MD 500 MD 900
	Sikorsky	S-76C S-76D S-92
2 OCEANIA AVIATIO	ON Airbus	BK117 B0105 H120 H125 H130 H135 AS355
	Bell	Bell 412 Bell 429 Bell 505 Bell 204 Bell 205 Bell 206 Bell 212 Bell 222 Bell 407
	MD	MD 500 MD 530 MD 600 MD 900
	Robinson	R66
	Sikorsky	S-76A++ S-76B S-76C+ S-76C++ S-76D
3 HELIFLITE	Leonardo	AW169 AW189 AW109 AW119 AW139
	Robinson	R66
4 STATE GRID GA	Airbus	H125 H215 H225 AS332C AS332L AS332L1
	Bell	Bell 429
5 JET AVIATION	Bell	Bell 412 Bell 427 Bell 429 Bell 430 Bell 505 Bell 204 Bell 205 Bell 206 Bell 212 Bell 407
	Leonardo	AW109 AW119
6 NAKANIHON AIR	Airbus	H135
	Bell	Bell 412 Bell 427 Bell 429 Bell 430 Bell 206 Bell 407
	Leonardo	AW189 AW109 AW139
7 AIR WORKS	Airbus	H135 AS365
	Bell	Bell 412 Bell 427 Bell 429 Bell 206 Bell 407
	Leonardo	AW109
8 UI HELICOPTER	Bell	Bell 412 Bell 430 Bell 205 Bell 206 Bell 212 Bell 222 Bell 230
	Leonardo	AW109 AW119 AW139
	Sikorsky	S-76C S-92
9 AIRWORK	Airbus	AS355 AS365 BK117 H120 H125 H130 H145
	Bell	Bell 222 Bell 427 Bell 206
	MD	MD 500
10 ASIAN AEROSPAC	Airbus	BK117 H130
	Bell	Bell 412 Bell 427 Bell 205 Bell 206 Bell 407
	MD	MD 500 MD 600 MD 900



Metrojet Limited is a Hong Kong-based business jet operator that provides both air and ground-based business aviation services, including aircraft management, maintenance, and consulting services. After being established in 1997, the company expanded its footprint into the Philippines in 2012 by setting up Metrojet Engineering Clark, a Maintenance, Repair and Overhaul (MRO) station based in Clark, about 80 km from Manila.

How has 2022 been so far for Metrojet?

Overall it has been a good year so far. Outbound flight activity has picked up since Hong Kong relaxed its quarantine restrictions. The maintenance side of the business is also doing well, in both Hong Kong and Clark in the Philippines.

In Hong Kong, we completed five base checks and engine changes in October, and have committed base checks through to the end of March 2023; whilst at Metrojet Engineering Clark our hangar parking is now up to six aircraft, which benefits the subsequent maintenance business as well. Other than parked aircraft, we also provide base maintenance and aircraft on ground support to regional customers. Clark also has approvals to rebuild wheel assemblies and perform aircraft battery overhauls.

Are there any emerging trends that you've seen so far this year?

Clients appear to be more willing to consider parking their aircraft in the Southeast Asia region, which is likely due to continuously improving service standards, a focus on corrosion protection and better infrastructure.

Is Metrojet Engineering Clark running at its full capacity?

We have just obtained Federal Aviation Administration approvals for the Global 7500 airframe and some other capabilities. We have been monitoring market needs and aim to offer the best level of services and capabilities for our clients.



future as traffic and workload dictates."

How do you manage the workload between Hong Kong and Clark?

We do it based on the customers' needs and their best interests, so we plan according to their operations and adjust to accommodate their needs.

Does Clark have any approvals that Hong Kong doesn't?

There are a few, but generally our services are geared towards aircraft that are operated in the country or region. For example, Clark has the Civil Aviation Authority of the Philippine's approval whilst Hong Kong does not. To support different customer groups, Clark is also capable of maintaining jets such as the Gulfstream V, Bombardier Challenger 300 and the Bombardier Global 7500, which Hong Kong doesn't have. Conversely, Hong Kong has Civil Aviation Authority of Vietnam (CAAV) approval and Boeing Business Jet capabilities, while Clark doesn't.

Are there any authority or type approvals that you are currently working on?

We are the first maintenance, repair and overhaul company in Hong Kong to obtain Vietnam CAAV approvals, as we see the fleet there blooming.

We had previously tried to apply for our Civil Aviation Administration Of China (CAAC) approval but due to the Covid situation, the process has been delayed. We are now aiming to attain CAAC approval in early 2024.



Do you see a plan for more space at Clark?

This is however something that we will work closely on with the Clark **Development Corporation and Luzon International Premier Airport** Development.

Given the popularity of our hangar parking business in Clark, this could be a plan we will need to address in the future – we need to align this with our maintenance business and grow synergistically together.

Over the past few years, we've seen quite a lot of consolidation in the MRO space. Are you looking at acquiring other MRO companies?

Instead of acquiring other MRO companies, we are actually working with Execujet Haite in Tianiin, China, Earlier in the year, we set up a joint venture (JV) and acquired Funian Aviation, and are looking at other expansion opportunities in mainland China.

This JV provides both Haite and Metrojet with a chance to step into the China market by tapping into each other's expertise in MRO and aircraft management. In time, this could be even more beneficial as we can learn from each other and grow our service spectrum wider.

www.metrojet.com



Dave Yip Managing Director



Sarith Vaikuntan General Manager



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 has 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.

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.

Business Jet a	nd Jet Engine	Only							
ТҮРЕ	OEM	MODEL	Melbourne	Auckland	Brisbane	Kuala Lumpur	Perth	Sydney	Wellington
AIRFRAME	Bombardier	Global 5000/5000 GVFD/5500	•			•	•	•	
		Global Express/ XRS/6000/6500	•			•	•	•	
		Challenger 300/350/3500	•			•		•	
		Learjet 31	•					•	
		Challenger 600/601	•			•	•	•	
		Challenger 800/850/ CRJ100/200	•			•			
		Learjet 40/45/XR	•			•		•	
		Learjet 60/XR	•		0	•		•	
		Learjet 35/36	•					•	
		Challenger 604/605/650	•			•	•	•	
		Global 7500	•				0		
	Dassault	Falcon 10						•	
		Falcon 20						•	
		Falcon 2000EX/EX EASy/DX/LX/LXS/S		0		•		•	
		Falcon 50						•	
		Falcon 7X/Falcon 8X	•	0	0	•	•	•	
		Falcon 900/B	•	0				•	
		Falcon 900C/EX	•	0		•	•	•	
		Falcon 900EX EASy/ DX/LX	•	0		•		•	
		Falcon 100						•	

TYPE	OEM	MODEL	Melbourne	Auckland	Brisbane	Kuala Lumpur	Perth	Sydney	Wellington
	Embraer	ERJ135	•					•	
		ERJ145	•					•	
		Legacy 600	•				•	•	
		Legacy 650/650E	•				\circ	•	
		Phenom 100/100E/100EV	•	0	0		•	•	
		Phenom 300/300E	•		0		•	•	
		Legacy 450/Praetor 500						•	
		Legacy 500/Praetor 600						•	
	Gulfstream	G200				•			
		GIV-X (G350/G450)	•			•	•	•	
		GIV (G300/G400)	•			•	•	•	
		GV	•			•	•	•	
		GVI (G650/G650ER)	•	0				•	0
		GVII (G500/G600)	•				•	•	
		GV-SP (G500/G550)	•	0		•	•	•	0
	Textron	Hawker 700/750	•				•	•	
		Hawker 900XP	•		0		•	•	
		Citation 500	•				•	•	
		Citation 550	•				•	•	
		Citation 560/XL/XLS	•				•	•	
		Citation 650	0					•	
		Hawker 800/XP	•		0		•	•	
		Hawker 850XP	•		0		•	•	
ENGINE	GE	CF34	•			•	•	•	
		Passport	•						
	Honeywell	HTF7000						0	
		TFE731						0	
	Rolls-Royce	BR700	•			•	•	•	

AUTHORITY APPROVALS										
AUTHORITY	Auckland	Brisbane	Kuala Lumpur	Melbourne	Perth	Sydney	Wellington			
Australia	Ø	•		0	Ø	•	0			
Bermuda	Ø	Ø	•	Ø	Ø	Ø	•			
Cayman Islands	•	•	•	Ø	Ø	Ø	•			
China			•							

AUTHORITY	Auckland	Brisbane	Kuala Lumpur	Melbourne	Perth	Sydney	Wellington
EASA			•				
FAA	•	Ø	•	Ø	Ø	•	•
Guernsey			•				
Indonesia	•	Ø	•	Ø	Ø	•	Ø
Isle of Man	•	Ø	•	Ø	Ø	•	Ø
Libya			•				
Malaysia	•	Ø	•	Ø	Ø	•	Ø
New Zealand	Ø	Ø		Ø	Ø	Ø	Ø
Papua New Guinea		Ø		Ø		•	
Philippines			•				
Portugal			•				
San Marino	•	Ø	•	Ø	Ø	Ø	Ø
Thailand			•				
Vietnam	Ø	Ø	Ø	Ø	Ø	Ø	0

TYPE	OEM	Brisbane	Kuala Lumpur	Melbourne	Perth	Sydney
AIRFRAME	Bombardier					0
	Dassault	•	•	•	Ø	•
	Embraer			•		0
	Gulfstream			•	Ø	•
ENGINE	GE		Ø	Ø	Ø	0
	Honeywell					9
	Rolls-Royce		Ø	Ø	Ø	Ø

JET AVIATION

Since being formed in 1967, Jet Aviation now has 47 locations worldwide. 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, aircrafton-ground (AOG) callouts, 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, 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 prepurchase 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.

TYPE	nd Jet Engine Or OEM	MODEL	Bankstown	Cairns	Hong Kong	Manila	Singapore
AIRFRAME	Airbus	ACJ318	Daines of the		• • • • • • • • • • • • • • • • • • •	7710111101	• • • • • • • • • • • • • • • • • • •
	7111540	ACJ319			•		•
		ACJ320			•		•
		ACJ321			•		•
	Boeing	BBJ					•
	Bombardier	Challenger 600/601					•
		Challenger 604/605/650					•
		Global 5000/5000 GVFD/5500			•		•
		Global Express/XRS/6000/6500			•		•
		Challenger 300/350/3500					•
		Challenger 800/850/CRJ100/200					•
	Dassault	Falcon 20	•				
		Falcon 50	•				•
		Falcon 2000	•				•
		Falcon 900/B	•				•
		Falcon 900C/EX	•		•		•
		Falcon 900EX EASy/DX/LX	•				•
		Falcon 2000EX/EX EASy/DX/LX/LXS/S	•				•
		Falcon 7X/Falcon 8X	•		•		•
	Embraer	ERJ135					•
		Lineage 1000					•
		Legacy 450/Praetor 500					•
		Legacy 650/650E					•
		Phenom 100/100E/100EV					•
		Phenom 300/300E					•
		Legacy 500/Praetor 600					•

TYPE	OEM	MODEL	Bankstown	Cairns	Hong Kong	Manila	Singapore
	Gulfstream	G280			•		•
		GV					•
		GII/GIIB/GIII					•
		GIV (G300/G400)					•
		GIV-SP					•
		GIV-X (G350/G450)					•
		GVI (G650/G650ER)			•		•
		GVII (G500/G600)			•		•
		GV-SP (G500/G550)			•		•
		G100 (1125/1125SP/1125SPX)					•
		G150					•
		G200					•
	Textron	Beechcraft Premier I/IA					•
		Hawker 400					•
		Hawker 4000					•
		Hawker 700/750				•	•
		Hawker 800/XP				•	•
		Hawker 850XP					•
		Hawker 900XP				•	•
		Hawker 1000					•
		Citation Longitude	•				
		Citation Mustang	•				
		Citation Sovereign	•				
		Citation 500		•			
		Citation 550	•				
		Citation 560/XL/XLS	•	•		•	
		Citation 650	•				
		Citation 750	•				
		Citation CJ1 Series	•	•			
		Citation CJ2 Series	•				
ENGINE	CFE	CFE738	0				0
	CFM	CFM56					0
	GE	CF34			0		0
	02	CF700					0
	Honeywell	TFE731	0		0		0
	noney wen	ATF3					0
	Pratt & Whitney	PW300	0	0	0		0
	riate & Williamey	PW500					0
		PW600					0
						0	
	Dollo Douge	JT15D			0		0
	Rolls-Royce	BR700			0		0
		Tay AE3007					0

AUTHORITY	Bankstown	Cairns	Hong Kong	Manila	Singapore
Aruba			Ø		•
Australia	Ø	•			•
Bermuda			•		•
Canada			Ø		
Cayman Islands			•		•
China			•		②
EASA	Ø	•	•		•
FAA	Ø	•	•		•
Guernsey					•
Hong Kong			•		②
India					•
Indonesia	Ø	•			②
Isle of Man			•		
Macao			•		•
Malaysia					•
Papua New Guinea	0	•			
Philippines		•		•	•
San Marino			•		
South Korea					•
Thailand	Ø	Ø			•
Vietnam					Ø

ТҮРЕ	OEM	Bankstown	Hong Kong	Singapore
AIRFRAME	Embraer			0
	Gulfstream		Ø	•
ENGINE	CFE			Ø
	GE			•
	Honeywell	Ø		•
	Pratt & Whitney		Ø	
	Rolls-Royce			Ø



AIR WORKS

Established in 1951, Air Works remains India's largest privatelyowned 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 operates five hangars in India at Hosur (Tamil Nadu), Mumbai (Maharshtra), and Cochin (Kerala). Together, the facilities can accommodate as many as six 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.

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.

TYPE	EM	MODEL	Cochin	Hosur	Mumbai
AIRFRAME	Airbus	ACJ319		•	•
		ACJ320		•	•
		ACJ330		0	0
		ACJ321		0	0
	Boeing	BBJ		•	•
		BBJ2		•	•
		BBJ3		•	•
	Bombardier	Challenger 604/605/650		•	•
		Global 5000/5000 GVFD/5500		•	•
		Global Express/XRS/6000/6500		•	•
		Learjet 40/45/XR		•	•
		Learjet 60/XR		•	•
		Challenger 300/350/3500		•	•
		Challenger 800/850/CRJ100/200		•	•
	Dassault	Falcon 900EX EASy/DX/LX			•
	Embraer	Legacy 600	•	•	•
		Legacy 650/650E	•	•	•
		Phenom 100/100E/100EV	•	•	•
		Phenom 300/300E	•	•	
	Textron	Beechcraft Premier I/IA			•
		Hawker 700/750			•
		Hawker 800/XP			•
		Citation 550			•
		Citation 560/XL/XLS			•
		Citation CJ2 Series			•

TYPE	OEM	MODEL	Cochin	Hosur	Mumbai
		Hawker 850XP			•
		Hawker 900XP			•
	Gulfstream	G100 (1125/1125SP/1125SPX)			0
		G200			0
		G280			0
		GIV (G300/G400)			0
		GIV-SP			0
		GV			0
		GV-SP (G500/G550)			•
ENGINE	Honeywell	TFE731			0

^{*} There are 16 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, Noida, Kerala, and Vijayawada.

AUTHORITY APPROVALS					
AUTHORITY	Cochin	Hosur	Mumbai		
Cayman Islands		Ø	Ø		
EASA		•			
ndia	Ø	•	②		
San Marino		Ø	②		
Jnited Arab Emirates		O	Ø		

OEM AUTHORIZATIONS					
OEM	Cochin	Hosur	Mumbai		
Dassault			Ø		
Embraer	•	Ø	0		
Gulfstream			•		
Textron			•		
Honeywell			Ø		
	Dassault Embraer Gulfstream Textron	Dassault Embraer Gulfstream Textron	OEM Cochin Hosur Dassault Embraer		



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 150 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.

Business Jet	and Jet Engine Only		
TYPE	OEM	MODEL	Shanghai
AIRFRAME	Bombardier	Challenger 604/605/650	•
		Global 5000/5000 GVFD/5500	•
		Global Express/XRS/6000/6500	•
	Dassault	Falcon 900EX EASy/DX/LX	•
		Falcon 2000EX/EX EASy/DX/LX/LXS/S	•
		Falcon 7X/Falcon 8X	•
	Gulfstream	GIV-X (G350/G450)	•
		GVI (G650/G650ER)	•
		GV-SP (G500/G550)	•
		G280	•
	Textron	Hawker 800/XP	•
		Hawker 850XP	•
		Hawker 900XP	•
		Hawker 4000	•
ENGINE	Honeywell	TFE731	0
	Pratt & Whitney	PW300	0
	Rolls-Royce	BR700	\circ

AUTHORITY	Shanghai
ruba	Ø
Bermuda	Ø
Cayman Islands	Ø
China	•
FAA	Ø
Guernsey	②
Hong Kong	Ø
sle of Man	②
Масао	Ø
San Marino	•

OEM AUTHORIZATIONS					
TYPE	OEM	Shanghai			
AIRFRAME	Dassault	Ø			
	Gulfstream	Ø			
ENGINE	Honeywell	0			



PREMIAIR AVIATION

Premiair Aviation Maintenance, founded in 2002, is an MRO based in Jandakot, Western Australia, with two more facilities in Essendon and the Gold Coast, respectively. In 2020, Textron acquired Premiair Aviation Maintenance. Premiair Aviation joined the Textron Aviation global support network to service Beechcraft,

Cessna, and Hawker products as part of the agreement. Premiair Aviation obtained other OEM approvals and authorized service dealers or distributors in addition to Textron. Besides providing MRO service for airframes, Premiair Aviation also offers avionics installations and aircraft pre-purchase inspections.

TYPE	OEM	MODEL	Gold Coast	Karratha	Melbourne	Perth
AIRFRAME	Bombardier	Challenger 600/601	•	•	•	•
		Learjet 31	•	•	•	•
		Learjet 35/36	•	•	•	•
	Gulfstream	GIV-X (G350/G450)	•	•	•	•
		GIV (G300/G400)	•	•	•	•
	Textron	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	•	•	•	•
		Hawker 400	•	•	•	•

AUTHORIT	AUTHORITY APPROVALS						
AUTHORITY	Gold Coast	Karratha	Melbourne	Perth			
Australia	•	0	Ø	0			

OEM AUT	THORI	ZATIONS			
ТҮРЕ	OEM	Gold Coast	Melbourne	Perth	
AIRFRAME	Textron	0	0	0	



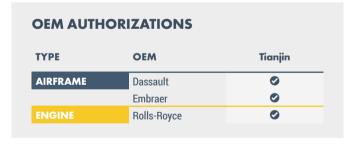
EXECUJET HAITE

ExecuJet Haite Aviation Services opened its new hangar at Tianjin Binhai International Airport in 2014. The facility in Tianjin offers line and base maintenance for business jets, along with services like structural and composite repairs, avionics

upgrades, interior and exterior cleaning, pre-purchase inspections inspection, and aircraft painting. The company also also provides line maintenance, aircraft-on-ground (AOG) support, and Nondestructive Testing (NDT) in Beijing and Shenzhen.

Justificus oct (and Jet Engine On	у	
TYPE	OEM	MODEL	Tianjin
AIRFRAME	Bombardier	Challenger 600/601	•
		Challenger 604/605/650	•
		Global 5000/5000 GVFD/5500	•
		Global Express/XRS/6000/6500	•
		Learjet 60/XR	0
		Challenger 300/350/3500	•
		Challenger 800/850/CRJ100/200	•
	Dassault	Falcon 7X/Falcon 8X	•
	Embraer	Legacy 600	•
		Lineage 1000	•
		Legacy 650/650E	•
		Phenom 300/300E	•
	Gulfstream	GV	•
		GIV (G300/G400)	•
		GIV-X (G350/G450)	•
		GV-SP (G500/G550)	•
ENGINE	Rolls-Royce	BR700	•
		AE3007	•

AUTHORITY	Tianjin
Aruba	Ø
Bermuda	•
Cayman Islands	Ø
China	Ø
EASA	Ø
FAA	⊘
Hong Kong	Ø
San Marino	•





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 General Electric Authorised Service Facility (CF34 engines), 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, and mainland China JMM. Metrojet partners with the Leather Institute for interior care in Asia as well.

With Metrojet Engineering Clark's (MEC) state-of-the-art integrated hangar parking and maintenance facility opening in the Philippines' Clark International Airport, Metrojet can ensure long-term hangar parking and heavy maintenance services with Clark's 7,100m² of hangar floor space. The location is typhoon-rated, with a private taxi-way and an 11,000 m² apron. It is ideally designed to meet business aviation needs in Asia-Pacific for the next 50 years.

	and Jet Engine Only			
TYPE	OEM	MODEL	Clark	Hong Kong
AIRFRAME	Boeing	BBJ		•
	Bombardier	Challenger 604/605/650		•
		Global 5000/5000 GVFD/5500	•	•
		Global Express/XRS/6000/6500	•	•
		Challenger 300/350/3500	•	
		Global 7500	0	
	Gulfstream	GIV-X (G350/G450)	•	•
		GVI (G650/G650ER)	•	•
		GV-SP (G500/G550)	•	•
ENGINE	GE	CF34		•
	Honeywell	TFE731		0
	Pratt & Whitney	PW300		0
	Rolls-Royce	BR700		•
		Tay		•

AUTHORITY	Clark	Hong Kong
Aruba		Ø
Bermuda		Ø
Canada		Ø
Cayman Islands	②	Ø
China		•
FAA	Ø	Ø
Hong Kong		Ø
Isle of Man	Ø	Ø
Macao		Ø
Philippines	•	
Qatar	•	Ø
San Marino	Ø	Ø

OEM AUTHORIZATIONS				
TYPE	OEM	Hong Kong		
AIRFRAME	Gulfstream	9		
ENGINE	GE	Ø		
	Honeywell	Ø		
	Pratt & Whitney	Ø		
	Rolls-Royce	Ø		



TAG AVIATION

TAG Aviation established its presence in the Asian market in 2006 and currently operates one of the largest Asia-Pacific business jet fleets under its aircraft management and charter program. TAG Engineering is the division dedicated to providing maintenance and cleaning services. It has facilities located in Hong Kong and Macao. TAG Aviation also established an FBO in Macao in 2019, offering VIP lounges and on-site customs and immigration clearance.

	IANCE CAP nd Jet Engine Onl	○ Line ■ Base ● Both			
ТҮРЕ	OEM	MODEL	Hong Kong	Масао	
AIRFRAME	Bombardier	Global 7500	0		
	_	Challenger 604/605/650	0		
		Global 5000/5000 GVFD/5500	0	\circ	
		Global Express/XRS/6000/6500	\circ	0	
		Challenger 800/850/CRJ100/200	0		
	Dassault	Falcon 7X/Falcon 8X	0		
		Falcon 900/B	0		
	Gulfstream	GIV-X (G350/G450)	0	\circ	
		GVI (G650/G650ER)	0	0	
		GV-SP (G500/G550)	\circ	0	
		GV	\circ	0	
		GVII (G500/G600)	0		

AUTHORITY APPROVALS								
AUTHORITY	Hong Kong	Macao						
Cayman Islands	0	Ø						
FAA	Ø	Ø						
Hong Kong	Ø	Ø						
Isle of Man	②	Ø						
San Marino	Ø	Ø						

OEM AUTHORIZATIONS									
OEM	Hong Kong	Macao							
Bombardier	Ø	Ø							
Dassault	Ø								
	Bombardier	Bombardier •							



MJETS

Established in 2007 and based in Thailand, MJets is a charter operator that also performs 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. In 2021, the MRO was also awarded the

International Standard for Business Aircraft Operations (ISBAO) Stage 3 certification by the International Business Aviation Council (IBAC).

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

TYPE	OEM	MODEL	Bangkok	TYPE	OEM	MODEL	Bangkok
AIRFRAME	Airbus	ACJ318	0			GV-SP (G500/G550)	•
		ACJ319	0		Textron	Hawker 700/750	•
		ACJ320	0			Hawker 800/XP	•
		ACJ321	0			Hawker 850XP	•
	Boeing	BBJ	0			Hawker 900XP	•
		BBJ2	0			Citation Mustang	•
		BBJ3	0			Hawker 1000	•
	Bombardier	Global Express/ XRS/6000/6500	0			Citation 500 Citation 550	
		Challenger 600/601	0			Citation 560/XL/XLS	•
	Dassault	Falcon 2000	0			Citation 650	•
		Falcon 900/B	0			Citation 750	•
		Falcon 900C/EX	0			Citation CJ1 Series	0
		Falcon 900EX EASy/ DX/LX	0			Citation CJ2 Series	0
		Falcon 2000EX/EX EASy/DX/LX/LXS/S	0		British Aerospace	Citation CJ3 Series BAE 125	•
	Gulfstream	G200	•			BAE 700	0
		G280	0			BAE 750	0
		GV	•		Embraer	Embraer ERJ 170	0
		GII/GIIB/GIII	0			Embraer ERJ 190	0
		GIV (G300/G400)	0			ERJ135	0
		GVI (G650/G650ER)	•			ERJ145	0

AUTHORITY APPROVALS									
AUTHORITY	Bangkok								
FAA	②								
Thailand	②								

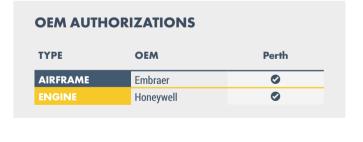


AIRFLITE

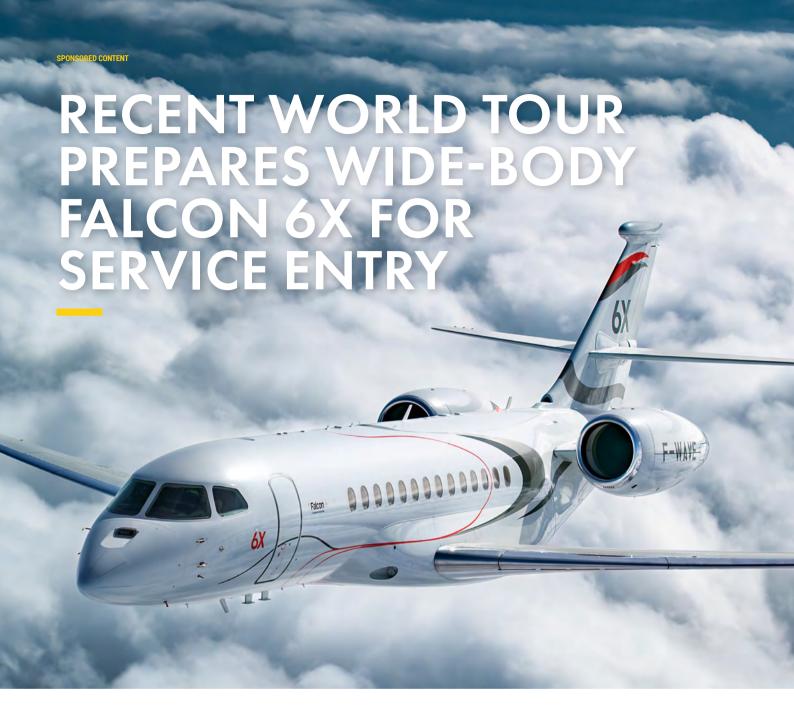
Airflite, founded in 1981, is a company based in Australia that offers various aviation-related services. The company can provide MRO services to business jets and helicopters. As an air operator certificate holder of the Civil Aviation Safety Authority (CASA), Airflite also provides leasing and charter services. In its facility at Perth Airport, Airflite has Fixed Based Operations (FBO) with VIP lounges. Airflite operates a training school called Airflite Flying College, which has granted Part 141 and Part 142 approval from the CASA.

ousilless Je	t and Jet Engine On	'y			
TYPE	OEM	MODEL	Perth		
AIRFRAM	E Bombardier	Challenger 604/605/650	•		
		Global 5000/5000 GVFD/5500	•		
		Global Express/ XRS/6000/6500	•		
		Challenger 600/601	•		
		Learjet 35/36	•		
		Learjet 60/XR	•		
	Embraer	Phenom 100/100E/100EV	•		
		Phenom 300/300E	•		
	Textron	Citation 550	•		
		Citation 560/XL/XLS	•		
		Citation CJ1 Series	•		
		Citation CJ2 Series	•		
		Citation Mustang	•		
		Hawker 400	•		
		Hawker 700/750	•		
		Hawker 800/XP	•		
		Hawker 850XP	•		
		Hawker 900XP	•		

AUTHORITY APPROVA	ALS
AUTHORITY	Perth
Australia	0
FAA	Ø
Indonesia	Ø
Philippines	Ø
Thailand	Ø







Dassault Aviation is down to the final flight test campaigns before achieving certification and placing the Falcon 6X into service with customers. Those deliveries will take place in mid-2023 with first aircraft already undergoing cabin completion at the company's Little Rock centre.

The 6X is Dassault's most advanced aircraft yet and its largest and most comfortable. The cabin cross section (6.6 feet tall and 8.6 feet wide) eclipses any other business jet - with the exception of the Falcon 10X now in development. The 6X is the largest aircraft in the long-range segment, and has the capability to fly over 11 hours and 5,500 nautical miles nonstop. It is a big jet that retains Dassault's trademark short field capabilities, in large part due to the wing's moveable slats that extend to provide high lift and low approach speeds.

The 6X also retains typical Dassault efficiency through aerodynamics and the aircraft's recently certified Pratt & Whitney 812D engine, which provides double digit fuel efficiency gains over comparable earlier generation engines. The aircraft can operate on a blend of up to 50 percent sustainable aviation fuel.

The 6X has marched through a certification program that began with first flight on March 10, 2021. As of writing in October 2022, Dassault Aviation test pilots are finishing verification flights with EASA and FAA pilots, which is the last step toward certification.

Flight envelope expansion (including to .97 Mach, brushing the sound barrier) has been complete for months.

In August, a flight test aircraft baked in the Tunisian desert at temperatures up to about 50°C to assure proper functioning in high heat and proper cooling while flying circuits at 10,000 feet over the desert. These were bookend tests to cold soak trials in the winter near the Arctic Circle in Canada, which involved aircraft operations after cold soaking overnight to -38°C.

A full flight simulator for the 6X is up and running at CAE Burgess Hill in the UK and will be ready for training the first customer crews soon. Pilots will have a chance to train on the most advanced avionics yet installed in a Falcon. Its new EASy IV flight deck includes safety alerts to prevent runway overruns and detailed airport moving maps to make it easy to taxi in limited visibility, especially in complex airports with multiple runways and a maze of taxiways. Owners can now order dual head-up displays with the FalconEye combined vision system. Already, FalconEye operators with a single HUD can descend to within 100 feet of the runway in limited visibility.

The toughest test of all - the real world

To give the 6X the kind of work out it can expect in customer operations, Dassault planned a grueling world tour to evaluate reliability far from testing bases in France.

Within the month of July, the first production 6X touched down in more than 50 cities on five continents (all but Australia and Antarctica), over 150 flight hours."

Serial number 004 experienced no aircraft-on-ground (AOG) issues and no delays.

The aircraft was crewed over that time by a dozen pilots and several flight attendants. Also along to assess more than 250 reliability items were dozens of engineers doubling as test passengers on various legs.



SPONSORED CONTENT

At times, every seat was full, with 14 passengers dining; working; reclining, swiveling and tracking seats; video conferencing; adjusting the air conditioning; and running the water and lav systems.

Connectivity was reported as excellent in remote parts of the world. Pilots gave all systems, including the 6X's advanced digital flight controls, high marks and assessed performance as "spot on." Measurements and passenger perceptions confirm the 6X as the quietest Falcon yet, even at high cruise speeds (which can generate more slipstream noise) up to Mach .88. The Falcon 8X is currently reputed to be the quietest business jet.

The 6X operated at a high tempo, accomplishing four or five flights on some days. It's longest leg was Paris to Los Angeles in

11 hours and 20 minutes. The route flown was 5,150 nautical miles against headwinds and was completed with an hour's reserve fuel.

One hundred and twenty hours in a month is very high usage for a business jet, and is usually achieved only by some high-volume charter and fractional businesses. That a brand new, not-yet certificated business jet can sustain this level of activity speaks to its maturity. That its toughest critics—the engineers who designed it—give it high marks as passengers, also speaks well of the airplane.

For Dassault, the 6X is just embarking on its most important mission, asserting its status as the largest and most capable jet in the popular 5,000 nautical miles—range category.

www.dassaultfalcon.com





VERTICAL TAKE OFF

By Jeremy Chan

When Groupe ADP and Skyports unveiled their advanced air mobility (AAM) test vertiport in Paris, France on November 11, 2022, the event marked two arguably important milestones in the AAM world.

Firstly, not only did the take-off and landing facility become Europe's first fully integrated vertiport terminal, but more strikingly so, it was the first time people physically saw what an actual vertiport - complete with a passenger terminal - looks like. "The vertiport contains the key infrastructure and operating systems that we hope to deploy in permanent vertiports," Damian Kysely, Head of Infrastructure, EMEA, Skyports, points out. "This includes a fully functional terminal building, airside environment, landing area, taxiways, an aircraft area for charging, and a hangar. It also includes sensing technology, and technology to help with passenger processing, scheduling, and resource management."

AAM INFRASTRUCTURE

The unveiling, which included a five-minute demonstration flight of German aircraft manufacturer Volocopter's 2X electric vertical takeoff and landing (eVTOL) aircraft, took place at Pontoise-Cormeilles, an airfield owned and operated by Groupe ADP, 16 miles northwest of Paris. The facility will be used as a testbed to trial both the entire customer experience at a vertiport such as biometric check-in processes and boarding, and to test eVTOL take-off and landing processes such as aborted take-offs and rejected landings. "This new passenger building prototype completes the infrastructure work realized earlier this year in terms of the airside, and comes with a dedicated eVTOL take-off and landing area," explains Joyce Abou Moussa, Strategy and Development Lead, AAM, Groupe ADP. "This will allow us to further accelerate the testing campaigns in 2023, while focusing on the infrastructure planning and passenger experience aspects."

The terminal is also tangible proof of progress within the AAM industry, which has made marked headway in recent months. In addition to Groupe ADP and Skyports' new testbed, VPorts, a Quebec-based AAM infrastructure company, announced plans in November to create an eVTOL flight route between Quebec, Canada and New York, setting the stage for eVTOLs to fly passengers or cargo between Syracuse Hancock International Airport in New York and VPorts' planned vertiport in Mirabel, Quebec. Over in Australia, the country's Civil Aviation Safety Authority released a draft advisory circular on vertiport design, providing guidelines such as site selection, physical characteristics and visual aids for designers and developers. US-based aerospace company Archer Aviation also announced plans to launch a new AAM flight route in partnership with United Airlines in 2025, providing passengers with the ability to one day board an eVTOL from a vertiport at Newark Liberty International Airport and fly to Downtown Manhattan.

But what exactly are vertiports?

A portmanteau of "vertical" and "airport," vertiports are platforms that will be used by aerial vehicles such as eVTOLs for a vertical take-off and landing. Many of them will come with facilities to charge eVTOLs and, just like Groupe ADP and Skyports' vertiport, will come with a terminal to allow for passengers to check-in. For example, AAM infrastructure company UrbanV signed an agreement with Romebased electric mobility company Enel X Way in November to integrate sustainable charging solutions within UrbanV's future vertiports. Many vertiports will also offer the option to refuel hybrid VTOL aircraft.

There is a pressing need for vertiports to be built and ready in time, notes Dr Fethi Chebil, Chief Executive Officer and Founder of VPorts. While investors and the public have been largely focused on eVTOL

companies, especially ones that have gone public within the past two years, many might overlook the fact that the success of the AAM industry is also contingent upon the infrastructure that will facilitate their operations. Chebil says:



The challenge now is to get vertiports and infrastructure ready in time. Because soon. people are going to say: 'okay, we have the machines ready to fly. But where can we go?' "

Challenges to overcome

Many AAM companies are hoping to get their eVTOLs certificated as early as 2024. But even after the Federal Aviation Administration (FAA) certificates the first few aircraft, there will be other regulatory hurdles to clear before the industry can fully take off, notes Abou Moussa, with one main challenge being airspace integration. "We are talking about an infrastructure and airspace network that will be integrated in cities where eVTOLs will be taking off and landing within low-altitude airspace. Today, this airspace is neither structured nor regulated to integrate any form of flying vehicle transporting passengers or cargo," she says. "We are currently working with the French Civil Aviation Authorities to set up this network as well as any operational guidelines and processes to allow for safe and secure operations within an urban environment in 2024 in the Paris Region."





Though eVTOLs and vertiports aim to increase convenience and decrease traveling time for those residing in packed cities, the population and building density of some areas may present a challenge, Kysely says. "Retrofitting aviation infrastructure into older cities such as London will be quite difficult," he explains. "There's simply not enough space, or it comes at a premium within city centres where there is a large concentration of people. But at the same time, this is exactly where we want to be, because this is where demand is."

It is therefore imperative for AAM operators to join forces with related local governments and regulators to promote the use of eVTOLs and vertiports and earn favor from the public at the outset. "We need to slowly introduce to the public what the benefits of eVTOLs are and why these aircraft are entering the community and surroundings. Using data and operations, we can illustrate how they won't disrupt their community or cause any risks," adds Kysely. "Vertiports should ideally be agnostic, or able to serve the needs of different eVTOLs and even helicopters. They have to be open access, as this will help the industry to grow."

Public acceptance of eVTOLs is vital, Abou Moussa notes, adding that she hopes Groupe ADP and Skyports' new testbed will be able to clearly demonstrate to the public the significance of AAM and the benefits the industry will bring to society.

Though Groupe ADP and Skyports' vertiport and passenger terminal were unveiled this month, both companies had in fact been conducting tests for well over a year and inviting relevant individuals to their testing campaigns. Doing so, Abou Moussa adds, allowed the public to see for themselves what an eVTOL is and how a vertiport will function, and provided a platform for both companies to explain the facility's uses and future commercial eVTOL services to key stakeholders. "Throughout this year, we've had more than 1,000 invitees from government institutions, civil aviation authorities, non-governmental organizations advocating for noise

impact assessments, academics, the surrounding communities and their mayors, as well as French and international press," she says. Proactively informing the necessary parties about the testbed has helped Groupe ADP and its partners to garner favor and also led to largely positive feedback in the media so far, Abou Moussa notes.

Location matters

AAM infrastructure companies must strive to address three main areas to increase their chances of success before the first eVTOL commercial flights take place, explains Chebil. "Firstly, the business model must make sense economically. Second is the technical aspects, such as airspace configuration and air traffic management integration, and third is social acceptance," he says. Chebil notes that a vertiport's location will be instrumental in gaining social acceptance, as will be attaining approval from regulators. "Regulation will provide some assurance to the public in terms of the vehicle itself, but I believe the biggest challenge will be putting the infrastructure in the right place."

Abou Moussa, who has a background in urban planning and urban innovation, which is the practice of finding new ways and means to meet the social, economic, environmental and governance challenges that cities face, agrees and points out that integrating vertiports within dense urban areas will also present complexities from an urban planning perspective. "Even if reaching mass deployment is a much longer-term ambition, taking into account the various regulatory, technical and business viability challenges, cities must plan for the scaling-up of AAM services and explore ways of integrating new infrastructure that is both useful and meaningful for all citizens, including the ones who will not be using eVTOLs as a means of transportation," she stresses.

AAM-related operations have to cause as little disruption to the public as possible, Kysely emphasizes. "We envision first flying



AAM INFRASTRUCTURE

over rivers or parks instead of residential areas. Luckily, most if not all eVTOLs are significantly quieter than a helicopter, but they still generate some noise, perhaps equivalent to a car passing by," he says. This will require careful and considerate urban planning from all corners of the AAM industry to ensure success and avoid any potential backlash. "People have to see a purpose in our business."

Hope in the air

As the AAM industry works towards realizing its hopes and dreams in 2024, there is an understandable level of excitement in the air over the potential use cases for eVTOLs and the opportunities they will unlock. "I'm looking forward to seeing how AAM will impact hard-to-reach areas such as Northern Quebec or East Africa," says Chebil, adding that in addition to transporting passengers, eVTOLs can also be used to make it to inaccessible areas. "As part of our strategic plan, we aim to deploy a network of vertiports to connect communities that aren't as well connected today."

Abou Moussa is eager to see Groupe ADP and Skyports' new fully integrated vertiport put to the test in the upcoming year, which she

hopes will help address the questions and challenges involving operations and airspace integration. "I believe that Paris will be the first region in the world to launch a fully comprehensive eVTOL service in time for the Paris Olympic and Paralympic Games in 2024," she says.

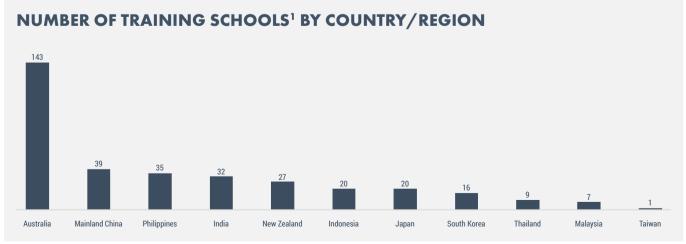
Kysely is also looking forward to working on the new vertiport and having different eVTOL operators trial the facility. "We hope to continue regular testing, especially among multiple original equipment manufacturers in the same environment, which will be critical – for example, seeing companies such as Volocopter, Joby and Vertical Aerospace using our airfield for testing. That's one milestone I'm looking forward to," he says. Kysely also hopes to expand the company's vertiport network in the United Kingdom. "So I really look forward to the first A to B route or the first A to B to C route," he says, referring to eVTOL flight routes involving multiple stops. "We hope to see this by 2025."

But there is one thing that Kysely is anticipating the most – his first trip in an eVTOL. "I've seen a lot of eVTOLs fly, but I've never actually been in one," he laughs. "That's what I'm most excited about."





As a result of the COVID-19 pandemic and the strict border restrictions that were put in place. a large number of commercial airlines had little choice but to reduce their schedules, which led to an increase in the number of unemployed pilots. Many of these pilots chose to retire early or change jobs. However, with the aviation industry now in recovery, the pilot shortage in Asia will become even more apparent towards the end of the decade, and airlines or other operators will have to attract pilots by offering higher compensation in order to fill the gap, according to Oliver Wyman – a global management consulting firm headquartered in US. This provides an opportunity for aviation training schools to recertify pilots returning from COVID-related career breaks and also train new candidates.



Note: 1. Training School: Facilities provide pilot training through training aircraft. Only schools under Part 141 or equivalent licenses are included in the report. Organizations only provide simulator or theory training are not included.



Note: 1. Training Aircraft: Normal aircraft used for (but not limited to) pilot training. Recreational light spot aircraft (LSA is defined by local CAAs in different countries and has no worldwide standard) are not included in the report

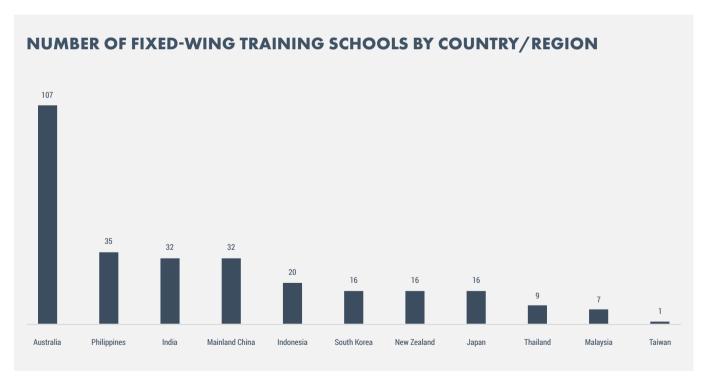
In 2022, there were 349 training schools in Asia-Pacific in total, operating 3,150 fixed-wing aircraft and 525 helicopters. With a total of 143 training schools, Australia had the most schools in the region. According to international education consultants Sunsea Aviation Services and Nix Study Abroad, there are great advantages to studying in Australia. The country's aviation training industry is globally recognized and boasts an excellent training environment, including diversified flying programs, highquality education, well-maintained technologically advanced facilities, and a wide range of weather conditions to help to sharpen flying skills. It is also a pilot training base for many international airlines. This was followed by mainland China and the Philippines, with 39 and 35 training schools, respectively. However, with 1,075 training aircraft, mainland China had the largest training fleet in the Asia-Pacific region. Australia came second with a total of 997 training aircraft.

In the Asia-Pacific region, students that have completed fixedwing aircraft training mainly engage in civil aviation, while most students that have completed helicopter flight training tend to work in general aviation. Since the fleet volume of civil aviation is much larger than that of general aviation, the demand for fixed-wing aircraft pilots will also be greater than that of helicopter pilots. Among the 349 training schools in Asia-Pacific, there were 271 schools offering only fixed-wing aircraft training, whilst 58 offered only helicopter training courses. Schools that can provide both fixed-wing aircraft and helicopter training were very limited, with only 20 in this category.

Overall, the majority of the training schools (64%) in the Asia-Pacific region were small-scale, meaning that they had less than ten aircraft. Medium-sized training schools – ones with ten to 40 training aircraft – accounted for 33% of total training schools, while large training schools – those with more than 40 training aircraft – only made up 3%, which were mainly located in mainland China and Australia.



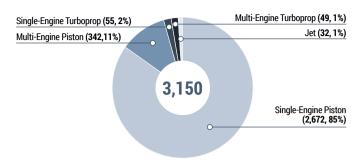




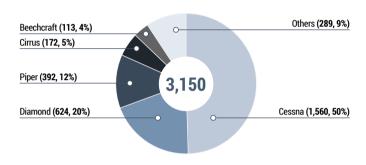
A total of 291 training schools offered fixed-wing aircraft training which includes schools that can provide both fixed-wing aircraft and helicopter training. The top four countries/regions with the most fixed-wing training schools were Australia, the Philippines,

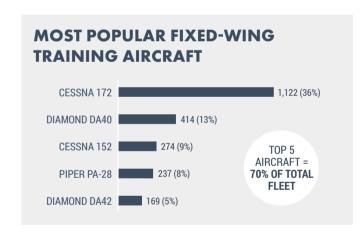
India, and mainland China. Australia had the biggest number of fixed-wing training schools – 107 schools – accounting for 37% of the total fixed-wing training schools in the Asia-Pacific region.

FIXED-WING AIRCRAFT SIZE CATEGORIES



FIXED-WING AIRCRAFT OEMS



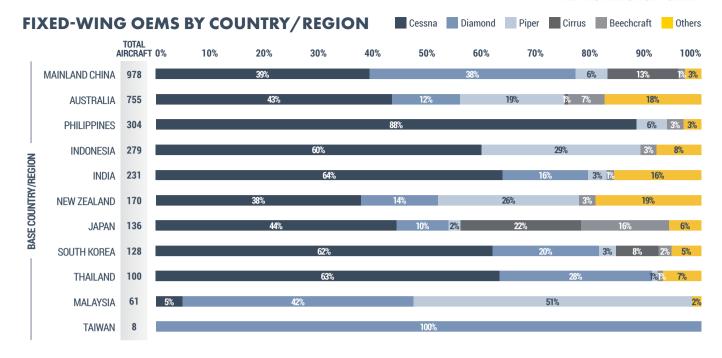


Compared to turboprop aircraft (3%) and jet aircraft (1%), piston aircraft (96%) was the most popular size category in the region. Chief among the fixed-wing aircraft size category was the single-engine piston with 85% market share, followed by the multi-engine piston with an 11% market share, which was in line with the rest of the world. We believe most schools tend to use single-engine piston aircraft for Private Pilot License (PPL) courses, which typically require 40 flight hours, and Commercial Pilot License (CPL) courses, which typically require 250 flight hours, since they are a good choice for beginners with better cost performance in terms of maintenance and fuel, and with fewer controls, is relatively easier to operate. Turboprops and jets are mainly used for high-performance endorsement rather than initial training.

In 2022, there were 1,560 Cessna fixed-wing training aircraft in the Asia-Pacific region, equivalent to a market share of 50%, making Cessna the most popular fixed-wing OEM. Diamond took second place, making up 20% of total fixed-wing aircraft with 624 units. With a market share of 12%, Piper ranked third. The top three fixed-wing OEMs together accounted for 82% of the market share. Additionally, the top five most popular fixed-wing training aircraft models were all produced by these top three OEMs. Cessna and Diamond each had two of the most popular models, while Piper had one.

The Cessna 172, with 1,122 units for training in Asia-Pacific, was the most popular fixed-wing training model in Asia-Pacific and reportedly worldwide. According to California Aeronautical University (CAU) and Business Insider, the Cessna 172 is one of the most successful and bestselling training aircraft in the world. The plane is described as "the easiest airplane in which to learn to fly" and has "a great safety record", according to the United States AOPA and Jeff Air Pilot Services – an FAA Part 141 flight school. Jeff Air Pilot Services believed that the balance between stability and speed, high-wing design for better visibility, and tricycle landing gear that helps reduce crookedness when landing makes the Cessna Skyhawk the ideal aircraft for student pilots in flight training.





Most countries/regions used fixed-wing training aircraft made by different OEMs to provide comprehensive training. Cessna was the most popular fixed-wing training aircraft OEM in almost all countries/regions, except for Taiwan and Malaysia. Taiwan was the only place that exclusively used Diamond aircraft, while Piper

and Diamond were the major OEMs in Malaysian training schools, comprising 51% and 42% of the entire training fleet, respectively. As for Cirrus's aircraft, they were only used by training schools located in mainland China, Australia, Japan, and South Korea.

FIXED-WING SIZE CATEGORIES BY COUNTRY/REGION



Single-engine piston aircraft were the first choice for training schools in Asia-Pacific. Popular models including the Cessna 172, Cessna 152, Diamond DA40, and Piper PA-28, represented 77% of total single-engine piston aircraft. The multi-engine piston aircraft category was the second choice, 50% of which were Diamond DA42 fixed-wing aircraft. Unlike the piston aircraft used for initial training, turboprops and jets were only available in a few training schools in the Asia-Pacific region.

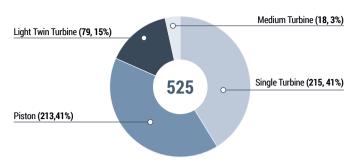




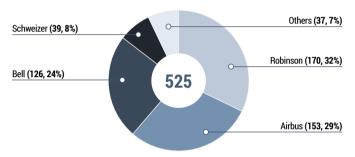
There were 78 training schools offering helicopter training including schools that can provide both fixed-wing aircraft and helicopter training. Australia had the largest number of helicopter training schools – 39 in total, followed by New Zealand, mainland China and Japan, with 11 schools in both New Zealand and mainland China, and 10 in Japan. The top four countries had 91% of the total helicopter training schools in Asia-Pacific.

Although there were at least a hundred helicopters in Indonesia, South Korea, Malaysia, Thailand, India and the Philippines, there were very few Part 141 helicopter training schools in these countries. It is because unlike fixed-wing aircraft training – most students in Asia-Pacific aim to become airline pilots and tend to choose Part 141 schools with a more structured flight training environment, helicopter training is more commonly carried out by non-Part 141 training schools (also helicopter operators), with a more flexible curriculum schedule.

HELICOPTER SIZE CATEGORIES



HELICOPTER OEMS



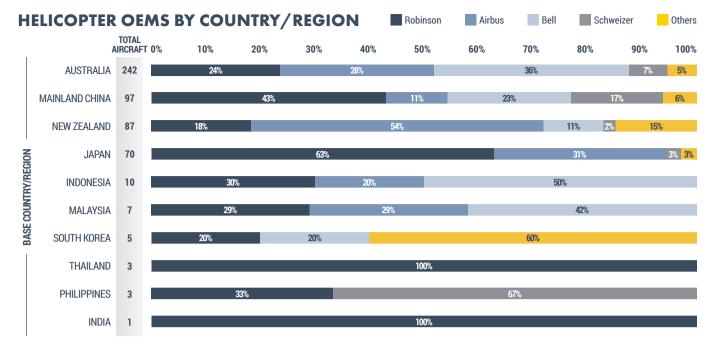
MOST POPULAR HELICOPTER TRAINING AIRCRAFT 89 (17%) R44 BELL 206 78 (15%) R22 68 (13%) TOP 5 AIRCRAFT = **62% OF TOTAL** H125 59 (11%) FLEET S-300 33 (6%)

Although the number of single-engine turbine helicopters and piston helicopters were very close – each occupying about 41% market share, they were used in different training programs and had differences in the actual flight training hours. Compared to piston helicopters, which are more commonly used for training by training schools, single-engine turbines are mostly used by operators for multiple mission types as well as type rating and special missions training. In addition, the cost of single-engine turbines is much higher than that of piston-engine helicopters, resulting in fewer flight training hours with single-engine turbines than with piston helicopters. The light twin helicopter and the medium-sized helicopter, which are mainly used for type ratings and more advanced training such as instrument ratings, only had a combined market share of 18%.

Robinson was the most popular helicopter training aircraft OEM in the Asia-Pacific region in 2022, with 170 helicopters, giving it a market share of 32%. Airbus ranked second with 153 helicopters, comprising around 29% share of the market. Bell came next with a market share of 24%. The top three helicopter OEMs together accounted for 85% of the market share.

The most popular piston helicopter models were the Robinson R44 (89 units) and R22 (68 units). Although the purchase price and direct operating costs of the R22 are lower, the R44 is more popular in Asia-Pacific as it is more stable and comes with in a four-seat configuration, which can accommodate two more students over the 2-seater R22, which offers them the opportunity to observe other pilots flying the helicopter while sitting in the rear seats. As for the Bell 206 and H125, they are single-engine turbine helicopters and are mainly used for type ratings and advanced training.

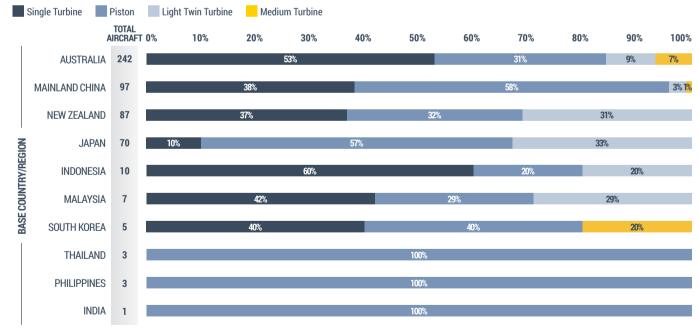




Unsurprisingly, Robinson-made helicopters can be found in every country in Asia-Pacific. The number of Part 141 training schools in India and Thailand was limited and their small training fleets were made up entirely of Robinson R44s. Compared to those built by Robinson, helicopters produced by Airbus, Bell and Schweizer were less widely-used. Of all training schools in the Asia-Pacific

region, only six countries had Airbus and Bell helicopters on their training list, while only five included Schweizer. Although Enstrom helicopters are seldom used for training in Asia-Pacific, they were heavily adopted by schools in South Korea, representing 60% of its training fleet.

HELICOPTER SIZE CATEGORIES BY COUNTRY/REGION



For training schools within the Asia-Pacific region, piston helicopters are the go-to helicopters, especially in mainland China, Japan, Thailand, the Philippines and India, with popular models such as the R44, R22 and S-300 comprising 89% of the piston helicopter fleet. Single-engine and light twin-engine

helicopters are widely used for type ratings and more advanced training by Part 141 training schools in most countries. It is very common to see a Part 141 training school being an actual helicopter operator in these countries.



There is an overwhelming sense of freedom that comes with flying a private jet, says Juan Mas Casals, Chief Pilot at TAG Aviation. As a private jet pilot, he tells Global Sky Media about his affinity for the skies, and the challenges and opportunities he sees for business aviation.

What sparked your interest in learning to fly?

Since I was a child I dreamed of flying, so it was easier to become a pilot than to work in a circus as a Bullet Man. At 14, I had the chance to fly as a passenger in a Cessna 150 Aerobat, and by 17, I was the pilot in command of the same aircraft.

What was the most challenging part of your training?

There are no challenges when you are young and following a dream - I see it as part of the learning process. But now, aviation in general has become more challenging and regulated, and pilots are not just aviators anymore. Pilots need to know about meteorology, laws, engineering, firefighting, physiology, economy, medicine, and on top of that they have to stay fit and perform safe landings.

How did you get your first job in a commercial airline?

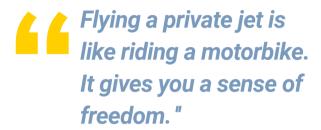
I started in general aviation as a firebomber pilot, later flying cargo on small aircraft and private jets. Then I saw an advertisement posted by a regional airline that was hiring, and it was an excellent opportunity to have a more stable life. I passed the hiring process, and I stayed for two years. I was delighted doing what I was doing in that job.

What attracted you to business aviation?

While flying for the airline, my mind was always on private aviation, and somehow I realized that I didn't belong to the airline world, I had a feeling it wouldn't be as exciting. Then an old friend asked me if I wanted to join his team flying a Bombardier Global, and before knowing the conditions, I had accepted the offer.

How does flying commercial airliners differ from flying business jets?

It is like comparing driving a car to riding a motorbike.



Pilots in the airline world provide excellent service safely taking passengers from A to B. However, in private aviation, more is needed; we have to go the extra mile, and not just in front of the passengers. A lot is going on behind the scenes. In many cases, we are also in charge of coordinating ground transport for the passengers, baggage, aircraft ground services, catering etc. In the end, getting the aircraft from A to B is the easiest part.

Is there any conversion training required?

A pilot flying for an airline has the same qualifications as a pilot who flies private jets and vice versa; they both hold an ATPL (Airline Transport Pilots Licence) license. No conversion training is required. A Type Rating is needed later to fly a specific aircraft. Usually, the initial type rating takes between three to four weeks



of ground school and simulators. Whether the aircraft is in a private or commercial category will also determine the added ground school or annual simulator components. At TAG, we train our crews to a commercial standard which is well above the industry norm, even if the aircraft is not on an AOC (Air Operator's Certificate). It is an investment in safety and what every discerning customer would expect.

Would companies usually cover the training and type rating fee?

Most companies are looking for type-rated pilots, but there are some exceptions. Visa constraints, client preference and experience requirements may open the door for a client to invest in a pilot. If a client upgrades their aircraft, it usually comes with a training entitlement, and the client will keep their existing crew. Newer type ratings are expensive, and there is a trend whereby a pilot will sign a training loan agreement when the company or client pays the type rating. This ensures mutual protection in case circumstances change.

What is your most memorable or rewarding moment as a private jet pilot so far?

I've had many memorable moments, but the most rewarding was flying air ambulance missions on a Falcon 20. Long nights in the aircraft with no heat or air conditioning, waiting for the doctors to finish surgery and knowing that the patient survived is gratifying. It felt that you were providing your expertise to a good cause.

What are your views in the current business aviation market in Asia?

It's been a turbulent ride for pilots in Asia. Due to COVID-19, many private jets are grounded or shorthanded, so a lot of talent has left the region. We must look forward to mainland China opening up again to get back to normality in our region.

What challenges are business aviation pilots facing? Where do the opportunities lay?

Historically, business aviation pilots have uncertain futures; we serve aircraft owners and depend on their financial circumstances. As fortunes change, it is common to see a CV with three, four or five different employers. However, I note a growing trend in business aviation in India, which means it can be the next place for business aviation pilots to migrate.

What does the future hold for business aviation?

Faster and "greener" aircraft are the future of business aviation. Our industry demands immediacy, and flexibility is essential in private/business aviation. To achieve this, regulations, airspace design and management, as well as infrastructure, must evolve to achieve this goal.

Can you talk about your job-related training as Chief Pilot in TAG?

My position as Chief Pilot at TAG Aviation was a progression from my previous role as Lead Client Aviation Manager (CAM). In that role, I was tasked to train newly-appointed CAM's at TAG for their positions or to help other members navigate. This system is unique as we have a team leader managing the account for a client. My position gave me insight into the responsibilities of the Chief Pilot. With my appointment as Chief Pilot, I became the lead of an experienced group of professionals that I learn from every day.

For my training in the role, I was fortunate enough to be instrumental in gaining TAG's Cayman AOC. This involved leading the team to ensure regulatory compliance, investigating new regulations and tailoring our procedures so they meet the expectations of the regulator. I also vet new training material, online or in person, which gives me great insight and helps me stay ahead of new trends. Lastly, I am in line to undergo a training refresher course with a major airline in Hong Kong to gain insight into the latest training techniques. This is sponsored by TAG as an investment in its staff.





For a sector of aviation that frequently plays such a vital role in society, there are relatively few schools that offer special missions training for helicopter pilots.

Despite this, special mission flights are some of the most challenging flight profiles that a pilot will ever face. From power line inspections to medical evacuations, and from operations in adverse maritime conditions to extreme heat during firefighting missions, special mission flights regularly test the skills of even the most experienced pilots.

There are, however, several options that potential helicopter pilots could choose, which are split into two different categories: commercial and military training, both of which have their own advantages and disadvantages for future pilots.

To become a pilot in the military, candidates must first enlist, and then spend a long time studying, both in the classroom and in the air. Although a long-term commitment is required, this method produces very skilled and competent pilots, with the added advantage being that the entry barrier for potential recruits is relatively low.

The second approach is through commercial training, which can be very expensive. Helicopter schools that teach special missions training are few and far between, although there are some schools in Australia and New Zealand that offer these

types of courses. Other countries, like Indonesia and Malaysia, do not have sufficient commercial flight schools to adequately train pilots in a variety of specialties. Special mission training in these countries can be carried out in-country by local government agencies such as coast guard, fire or police departments, but pilots may have the option of studying abroad. In North America, there are numerous professional helicopter training schools that offer specialist courses such as search and rescue, firefighting, and power line inspection.

In China, Avion Pacific was the first company to offer special missions training for helicopter pilots, which it does through its Kings Aviation subsidiary in Yangjiang, Guangxi province. Chinese pilots can also participate in helicopter special mission training abroad where many trainees are sent to the United States to participate in comprehensive helicopter training.

Although special missions training in Asia-Pacific is still in its infancy, the region's reliance on helicopters to perform special missions is increasing. Through our own Helicopter Fleet research data, Asia-Pacific has seen an increase in the number of helicopters utilized for EMS or SAR missions from 288 in 2014 to 505 in 2021. The need for special missions training also growing accordlingly.

SPECIAL MISSIONS TRAINING SCHOOLS BY COUNTRY/REGION

Only including commercial special missions training schools

COUNTRY/ REGION	SCHOOL	Powerline	Firefighting	EMS	SAR	Police	Int'l Students
Australia	Aero Power Flight School	0					Ø
Australia	Air T&G		•				
Australia	Airwork		•				•
Australia	Becker Helicopters Pilot Academy		•	Ø	•	Ø	•
Australia	CareFlight		•	Ø	•		0
Australia	Helicraft				•		
Australia	KESTREL		•				
Australia	Life Flight			Ø	•		0
Australia	Precision Helicopters	Ø	•		•		•
Australia	Professional Helicopter Services	Ø	•	Ø	Ø		Ø
Australia	Rotorlift		•	Ø	•		•
Australia	Specialist Helicopters		Ø				Ø
Australia	Tasmanian Helicopters		•				•
Australia	Toll			Ø	•		•
Australia	United Aero Helicopters		•				•
India	Hatsoff			Ø		Ø	•
Indonesia	SMTC			Ø			•
Mainland China	Kings Aviation		Ø	Ø	•	Ø	Ø
Malaysia	Helang Flying Academy				•		
New Zealand	Christchurch Helicopters		Ø		0		Ø
New Zealand	Frontier Helicopters		Ø				
New Zealand	Heliworx Wakaito		•				Ø
Singapore	Airbus		•	Ø	•		Ø
Thailand/ New Zealand/ Hong Kong/ Australia	CCAT			Ø			

Powerline: Power line inspection missions performed from a helicopter at a high attitude.

Firefighting: Most commonly used for forest fire protection in mountainous areas.

 $\textbf{\textit{EMS}}. \ \ \text{Helicopter emergency medical services, used for emergency medical transportation or medical assistance.}$

SAR: Search for and provision of aid to people who are in distress or imminent danger using aircraft.

Police: Mainly uses airspace to solve crimes, hunt for fugitives, maintain public security, dredge traffic, and participate in major activities for security.

Int'l Students: Whether the schools accept international students. Institutions that didn't specify if they accept international students are left blank in the column.



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 (OEM) OWNED: 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.
- · LICENSED COMPLETION CENTRES (LCC): Licensed completion centres are organizations that have experience designing, installing and certifying executive/VIP interiors for transport-category aircraft.
- 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 CENTRES: Strategically placed OEM authorized facilities aimed at providing replacement of after sales parts to operators or MRO facilities located in the region. Logistic centres are key to continued maintenance operations and can drastically reduce the lead time for sourcing replaceable aircraft parts.

ABBREVIATION

AW Aruba

CN China

JP Japan

PK Pakistan

SG Singapore

AE United Arab Emirates

AU Australia

FJ Fiji

LY LIBYA

PG Papua New Guinea

SB Solomon Islands

GB United Kingdom

BM Bermuda

GG Guernsey

MO Macau

PH Philippines

KR South Korea

VU Vanuatu

KH Cambodia

HK Hong Kong

MY Malaysia

PT Portugal

LK Sri Lanka

VN Vietnam

CA Canada

IN India

MV Maldives

QA Qatar

TW Taiwan

KY Cayman Islands

ID Indonesia

MN Mongolia

SM San Marino

TH Thailand

CL Chile

IM Isle of Man

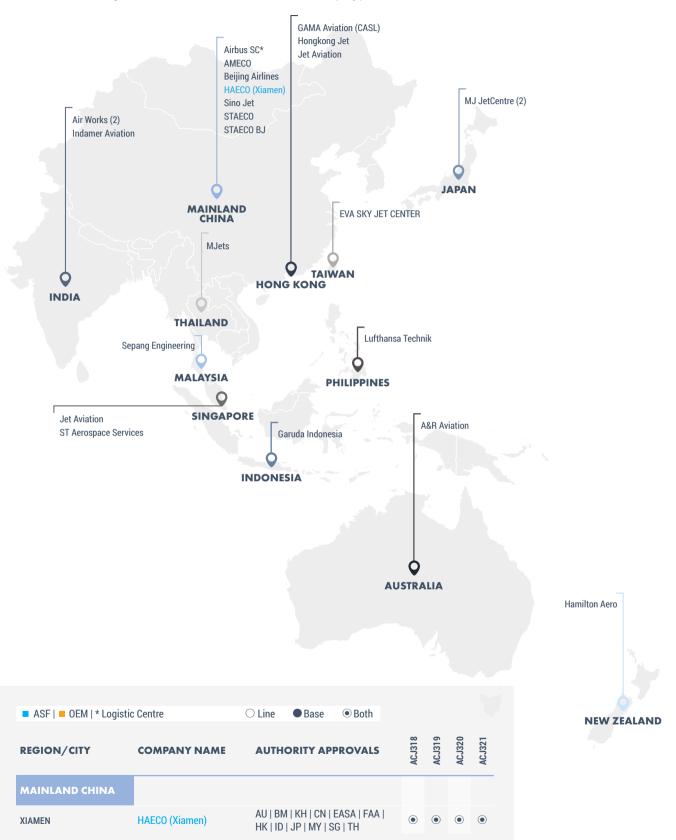
NZ New Zealand

SA Saudi Arabia

UA Ukraine

AIRBUS

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



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

BOEING

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



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

Hamilton Aero

BOMBARDIER

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

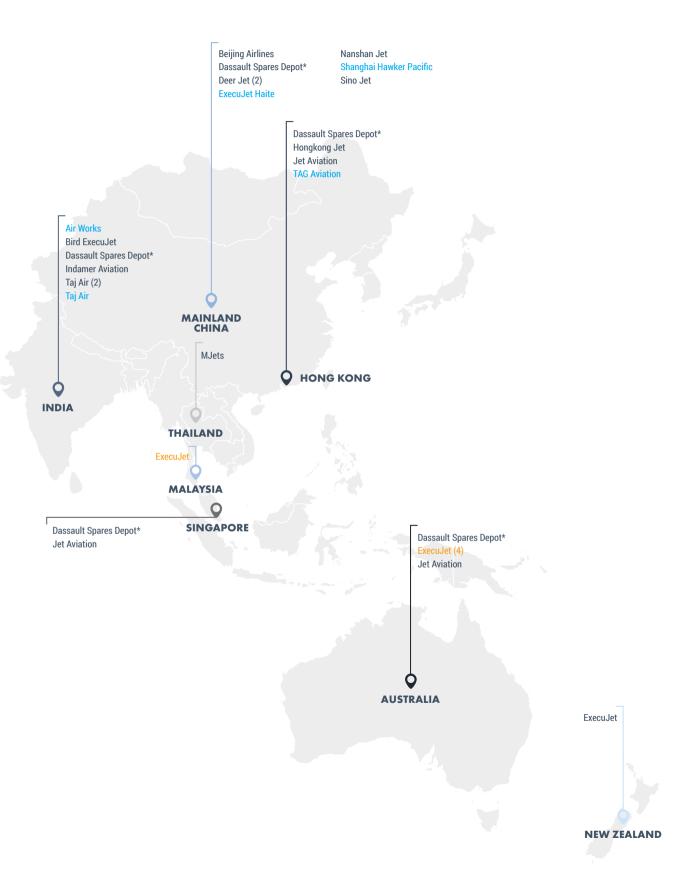


■ ASF ■ OEM * Logist	COMPANY NAME	Line Base Both AUTHORITY APPROVALS	Challenger 300/350/3500	Challenger 600/601	Challenger 604/605/650	Challenger 800/850/CRJ100/200	Global 5000/5000 GVFD/5500	Global 7500	Global Express/XRS/6000/6500	Learjet 35/36	Learjet 40/45/XR	Learjet 60/XR	Learjet 70/75
AUSTRALIA													
SYDNEY	ExecuJet	AU BM KY FAA ID IM MY NZ SM VN	•	•	•	0	•		•	•	•	•	
MELBOURNE	Bombardier Service Centre	AU BM KY FAA SM	•		•		•	•	•			•	
HONG KONG													
HONG KONG	TAG Aviation	FAA KY IM HK SM	0		0	0	0	0	0				
MACAO													
MACAO	TAG Aviation	FAA KY IM SM HK					0		0				
MAINLAND CHINA													
TIANJIN	Bombardier Service Centre	AW BM KY CN EASA HK IM MO SM FAA	•		•	•	•	•	•			•	
SINGAPORE													
SINGAPORE	Bombardier Service Centre*	BM CA CN FAA PH KR TW AU KY IM MY SM EASA IN AE GG HK QA SG AW PK ID GB	•	•	•	•	•	•	•	•	•	•	•

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

DASSAULT

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

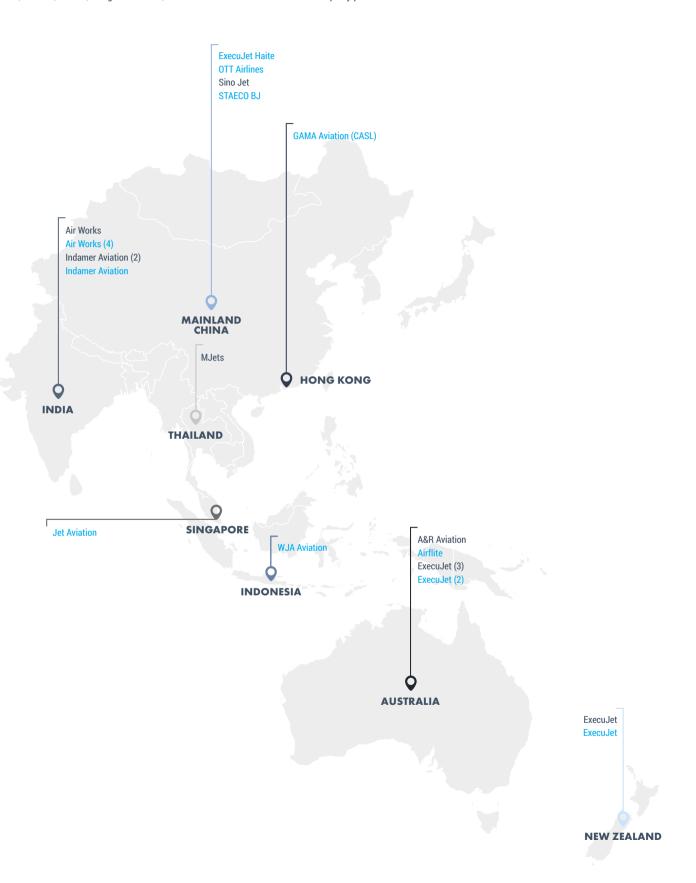


■ ASF ■ OEM * Logis	COMPANY NAME	○ Line ● Base ● Both AUTHORITY APPROVALS	Falcon 10	Falcon 20	Falcon 200	Falcon 2000EX/EX EASy/DX/LX/LXS/S	Falcon 50	Falcon 7X/Falcon 8X	Falcon 900/B	Falcon 900C/EX	Falcon 900EX EASy/DX/LX
AUSTRALIA											
MELBOURNE	ExecuJet	BM FAA ID NZ AU KY IM MY SM VN	•	•	•	•	•	•	•	•	•
SYDNEY	ExecuJet	AU BM KY FAA ID IM MY NZ SM VN	•	•	•	•	•	•	•	•	•
PERTH	ExecuJet	AU BM KY FAA ID IM MY NZ SM VN	•	•	•	•	•	•	•	•	•
BRISBANE	ExecuJet	AU BM KY FAA ID IM MY NZ SM VN	0	0	0	0	0	0	0	0	0
HONG KONG											
HONG KONG	TAG Aviation	AU BM KY FAA ID IM MY NZ SM VN						0			
INDIA											
MUMBAI	Air Works	KY SM VN IN SA AE									•
MUMBAI	Taj Air	IN				•					
MAINLAND CHINA											
TIANJIN	ExecuJet Haite	BM CN FAA KY SM EASA HK AW						•			
SHANGHAI	Shanghai Hawker Pacific	BM CN FAA KY IM SM GG HK MO AW				•		•			•
MALAYSIA											
KUALA LUMPUR	ExecuJet	BM CN FAA ID TH KY IM MY SM VN EASA				•		•			•

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

EMBRAER

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



■ ASF ■ OEM * Logis	and defined	centre ○ Line ● Base ● Both			Legacy 450/Praetor 500	Legacy 500/Praetor 600	00	50/650E	000	Phenom 100/100E/100EV	Phenom 300/300E
REGION/CITY	COMPANY NAME	AUTHORITY APPROVALS	ERJ135	ERJ145	Legacy 4	Legacy 5	Legacy 600	Legacy 650/650E	Lineage 1000	Phenom	Phenom
AUSTRALIA											
PERTH	Airflite	FAA ID PH TH AU								•	•
MELBOURNE	ExecuJet	BM FAA ID NZ AU KY IM MY SM VN	•				•	•		•	•
SYDNEY	ExecuJet	AU BM KY FAA ID IM MY NZ SM VN	•	•	•	•	•	•		•	
HONG KONG		DWILVALCHIERCALEVALINA									
HONG KONG	GAMA Aviation (CASL)	BM KY CN EASA FAA HK MO MN KR TW					0	0	0		
INDIA											
CHENNAI	Air Works	IN						0		0	0
MUMBAI	Air Works	IN					•	•		•	
MUMBAI	Indamer Aviation	IN	•				•	•			
HOSUR	Air Works	IN					•	•		•	•
COCHIN	Air Works	IN					•	•		•	•
INDONESIA											
JAKARTA	WJA Aviation	KY FAA ID SM					•	•			
MAINLAND CHINA											
SHANGHAI	OTT Airlines	CN					0	0			
TIANJIN	ExecuJet Haite	BM CN FAA KY SM EASA HK AW	•				•	•	•		•
BEIJING	STAECO BJ	BM CN FAA KY IM SM HK MO AW					0	0	0		
WELLINGTON	ExecuJet	AU BM KY FAA ID IM MY NZ SM VN								0	
SINGAPORE											
SINGAPORE	Jet Aviation	BM CN FAA ID KR TH AU KY MY VN EASA IN GG HK			•	•	•	•	•	•	•

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

GULFSTREAM



■ ASF ■ OEM * Logis REGION/CITY	COMPANY NAME	○ Line ● Base ● Both AUTHORITY APPROVALS	G100 (1125/1125SP/1125SPX)	6150	6200	6280	GII/GIIB/GIII	GIV (G300/G400)	GIV-SP	GIV-X (G350/G450)		GVI (G650/G650ER)	GVII (G500/G600)	GV-SP (G500/G550)
			15			62	<u></u>	5	5	15	QV	- 6	3	GV
AUSTRALIA														
MELBOURNE	ExecuJet	BM FAA ID NZ AU KY IM MY SM VN								•	•	•	•	•
SYDNEY	ExecuJet	AU BM KY FAA ID IM MY NZ SM VN			•			•			•	•	•	•
PERTH	ExecuJet	AU BM KY FAA ID IM MY NZ SM VN											•	•
HONG KONG														
HONG KONG	Jet Aviation	BM CA CN FAA KY IM SM EASA HK MO AW				•				•		•	•	•
HONG KONG	Metrojet	BM CA CN FAA KY IM SM HK QA MO AW	•	•	•			•		•	•	•		•
INDIA														
MUMBAI	Air Works	KY SM VN IN SA AE	0		0	0		0	0		0			•
MAINLAND CHINA														
SHANGHAI	Shanghai Hawker Pacific	BM CN FAA KY IM SM GG HK MO AW				•				•		•		•
BEIJING	Gulfstream Beijing	KY CN FAA GG HK IM MO SM		•	•	•		•		•	•	•		•
SINGAPORE														
SINGAPORE	Jet Aviation	BM CN FAA ID PH KR TH AU KY MY VN EASA IN GG	•	•	•	•	•	()	•	()	(e)	•	•	•

TEXTRON



■ ASF ■ OEM * REGION/CITY	COMPANY NAME	AUTHORITY APPROVALS	Beechcraft Premier I/IA	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 Longitude	Citation Mustang	Citation Sovereign	Hawker 700/750	Hawker 800/XP	Hawker 850XP	Hawker 900XP
AUSTRALIA																	_	_	_	
PERTH	Premiair Aviation	AU	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•
MELBOURNE	Premiair Aviation	AU	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•
GOLD COAST	Premiair Aviation	AU	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•
INDIA																				
MUMBAI	Air Works	KY SM IN AE	•		•	•			•	•										
NEW DELHI	Bird ExecuJet	IN				•				•								•	•	•
JAPAN																				
OKAYAMA	Okayama Air Service	FAA JP		•	•	•			•	•		•	•	•	•	•				
MAINLAND CHINA																				
BEIJING	Beijing Dingshi GA	CN				•		•					•			•				
XI'AN	CFGAC	CN			•	•			•											
GUANGHAN	Civil Aviation Flight University of China	CN							•											
SHIJIAZHUANG	Cessna-Avic Aircraft	CN											•							
SINGAPORE																				
	Cessna Service	CA FAA ID PH KR						•												



AVICOPTER HELICOPTERS

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



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

AVIC HAIG

AVIC CAIC

HARBIN

JINGDEZHEN

AIRBUS HELICOPTERS



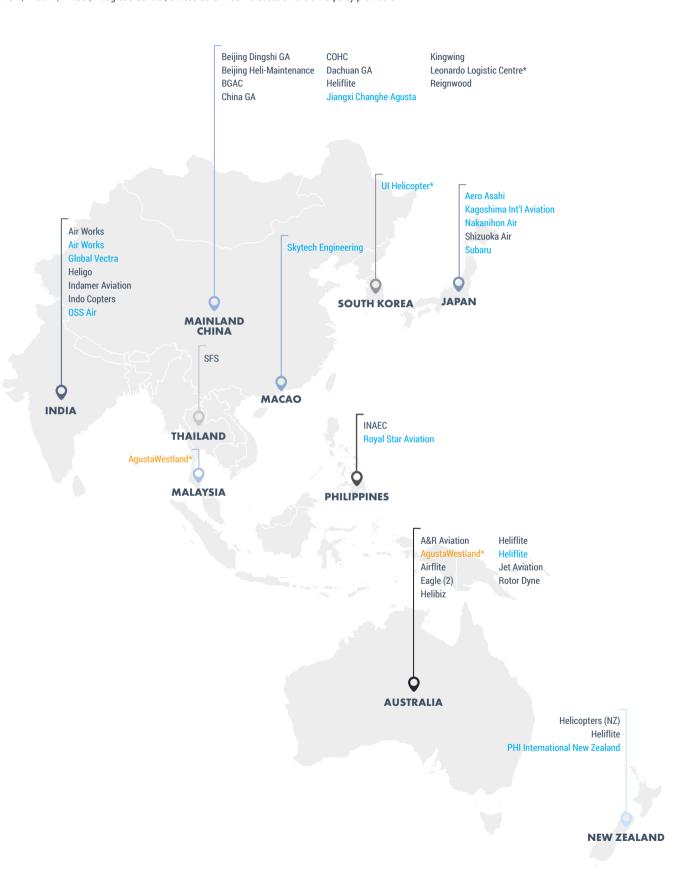
REGION/CITY	COMPANY NAME	AS355	AS365	BK117	B0105	H120	H125	H130	H135	H145	H155	H160	H175	H215	H225	SA 341
AUSTRALIA																
BRISBANE	Airbus Helicopters	•	•	•		•	•	•	•	•				•	•	
MELBOURNE	Microflite Helicopter	•				•	•	•	•	•						
PERTH	Helicopter Logistics	•		•		•	•	•	•	•						
SUNSHINE COAST	Pacific Crown Helicopters	•	•	•	•			•	•					•		
SYDNEY	John Cameron Aviation	•				•	•	•	•	•						
INDONESIA																
JAKARTA	Airbus Helicopters		•			•	•	•	•	•						
JAPAN																
NAGOYA	Nakanihon Air								•							
токуо	Airbus Helicopters	•	•			•	•	•	•	•	•	•		•	•	
MAINLAND CHINA																
SHENZHEN	СОНС		•				•							•		•
HUBEI	State Grid GA						•									
MALAYSIA																
KUALA LUMPUR	Airbus Helicopters	•	•			•	•	•	•	•	•			•	•	
AUCKLAND	Airbus Helicopters	•		•		•	•	•	•	•						
AUCKLAND	Airwork	•	•	•		•	•	•		•						
QUEENSTOWN	Airwork	•	•	•		•	•	•		•						
LUGGATE	Heli Support NZ					•	•	•	•							
PHILIPPINES																
MANILA	Airbus Helicopters	•	•		•	•	•	•	•	•	•					
SINGAPORE																
SINGAPORE	ST Aerospace Engineering													•		
THAILAND																
BANGKOK	Airbus Helicopters		•				•		•		•		•			

BELL FLIGHT



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			_					_					_
SYDNEY	Jet Aviation	0	0	•	\circ			•	0		0		•
COFFS HARBOUR	Eagle	0	0	•	•			•	•				
ONKAPARINGA	Leader Aviation	•	•	•	•			•	•				•
PERTH	Heliwest			•				0					
REDCLIFFE	Eagle	0	0	•	•			•	•				
INDIA													
MUMBAI	Air Works			0				0	0		0		
INDONESIA													
BALIKPAPAN	Black Diamond HeliAero								0				0
JAKARTA	Kalimasada Pusaka		•	•	•			•	•	0	0	•	
JAPAN													
KAGOSHIMA	Japan General Aviation Service												0
NAGOYA	Nakanihon Air			•				0	•	0	0	•	
TOCHIGI	Subaru	•	•	•					•				
ТОКУО	Aero Asahi			•					•			0	
MAINLAND CHINA													
HUZHOU	State Grid GA										0		
ZHENJIANG	Zhenjiang Aerochine			•				0					
ZHUHAI	China Southern GA							0					
AUCKLAND	Oceania Aviation			•									•
PHILIPPINES													
MANILA	Jet Aviation			•				0	•	0	0	0	•
SINGAPORE													
SINGAPORE	Bell Helicopter		•	•	•			•	•		•		•
SOUTH KOREA													
SEOUL	UI Helicopter		•	•	•	•	•		•			0	
TAIWAN													
TAINAN	Air Asia	•	•	•	•				•				

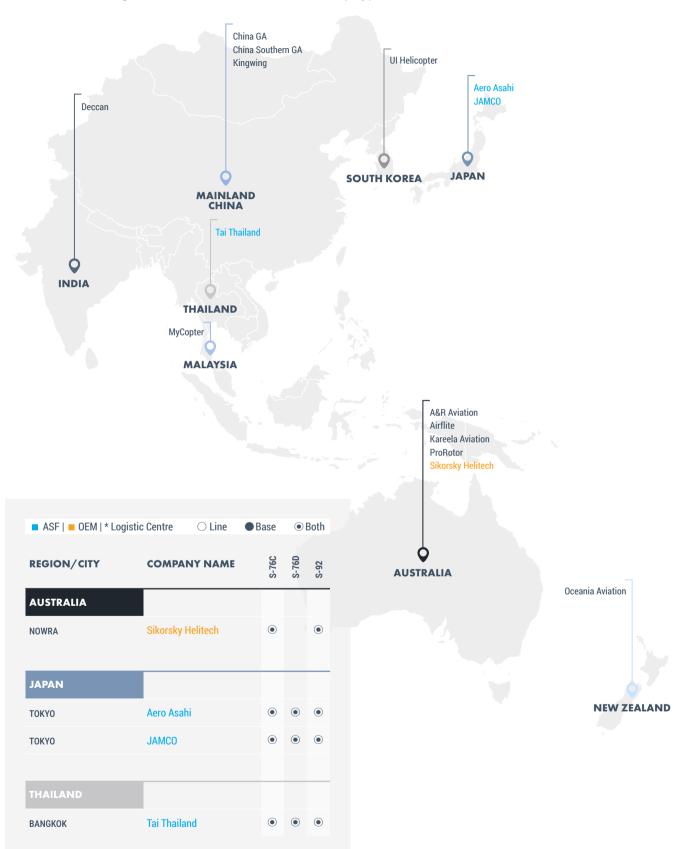
LEONARDO HELICOPTERS



		6	6	6	69	6
REGION/CITY	COMPANY NAME	AW109	AW119	AW139	AW169	AW189
AUSTRALIA						
MELBOURNE	AgustaWestland*	•	•	•	•	
SYDNEY	Heliflite	•	•	•		
INDIA						
MUMBAI	Air Works	•				
MUMBAI	Global Vectra			•	•	
NEW DELHI	OSS Air	•	•	•		
JAPAN						
KAGOSHIMA	Kagoshima Int'l Aviation	•				
NAGOYA	Nakanihon Air	•		•		•
SAITAMA-SHI	Aero Asahi	•		•		
TOCHIGI	Subaru			•		
MACAO						
MACAO	Skytech Engineering			•		
MAINLAND CHINA						
JINGDEZHEN	Jiangxi Changhe Agusta	•	•	•		
MALAYSIA						
KUALA LUMPUR	AgustaWestland*	•		•	•	•
NELSON	PHI International New Zealand			•		
PHILIPPINES						
MANILA	Royal Star Aviation	•	•	•		
SOUTH KOREA						

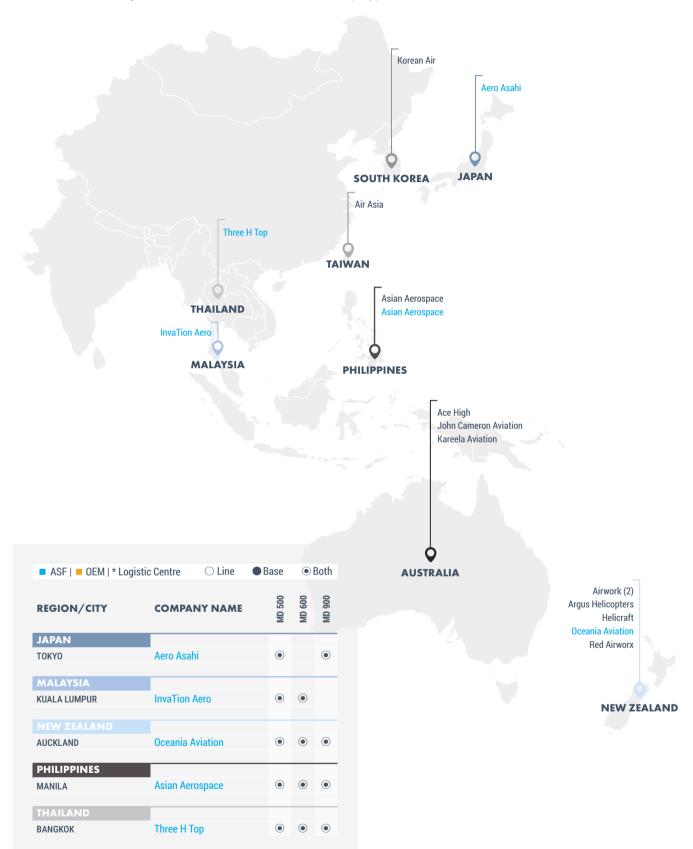
SIKORSKY HELICOPTERS

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MD HELICOPTERS

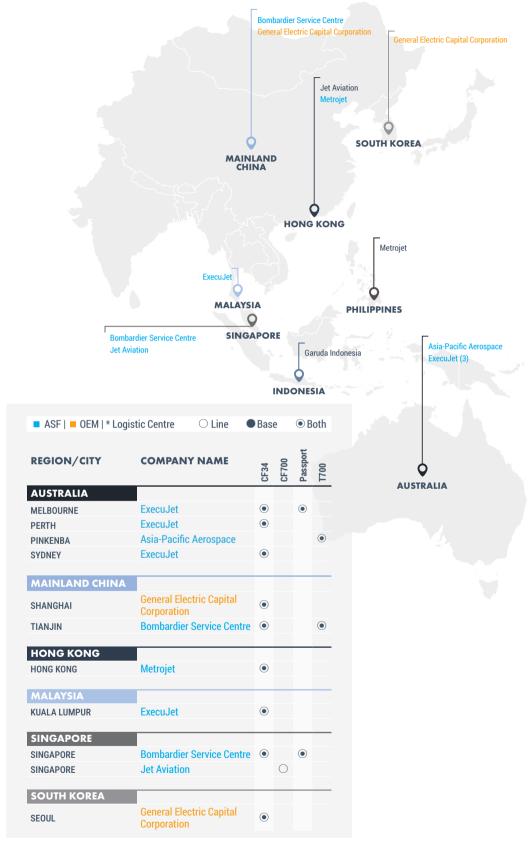
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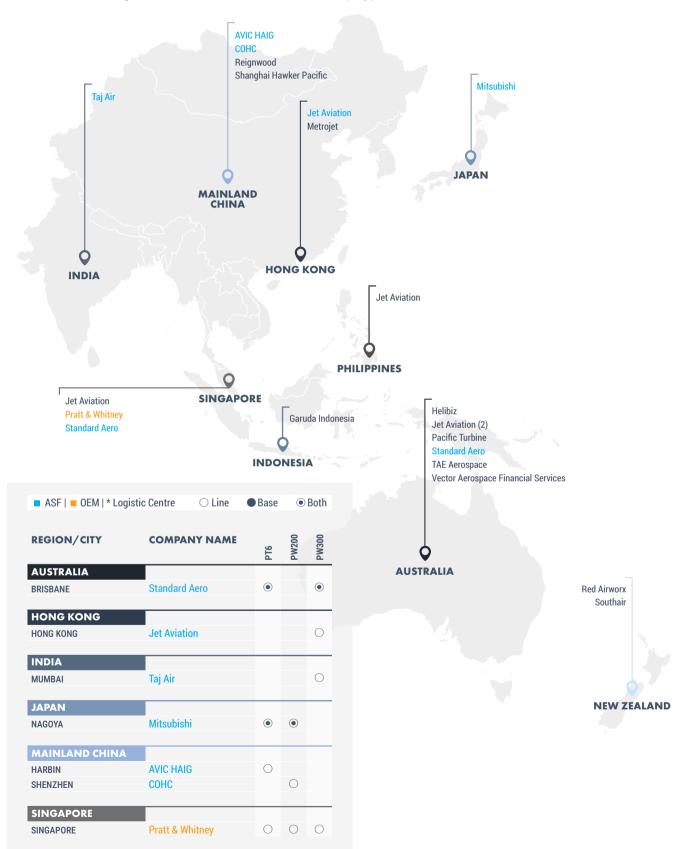
GENERAL ELECTRIC

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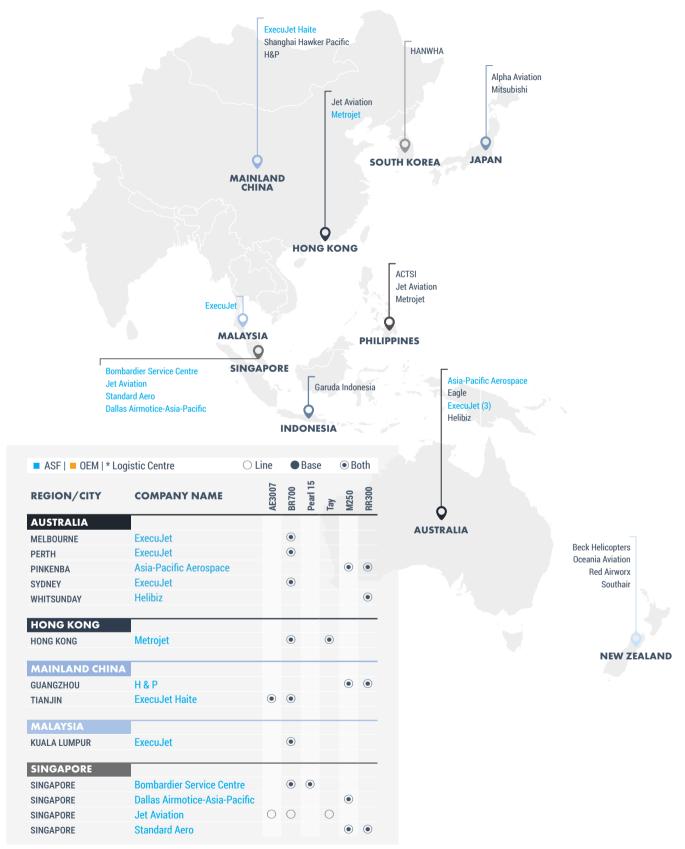
PRATT & WHITNEY CANADA

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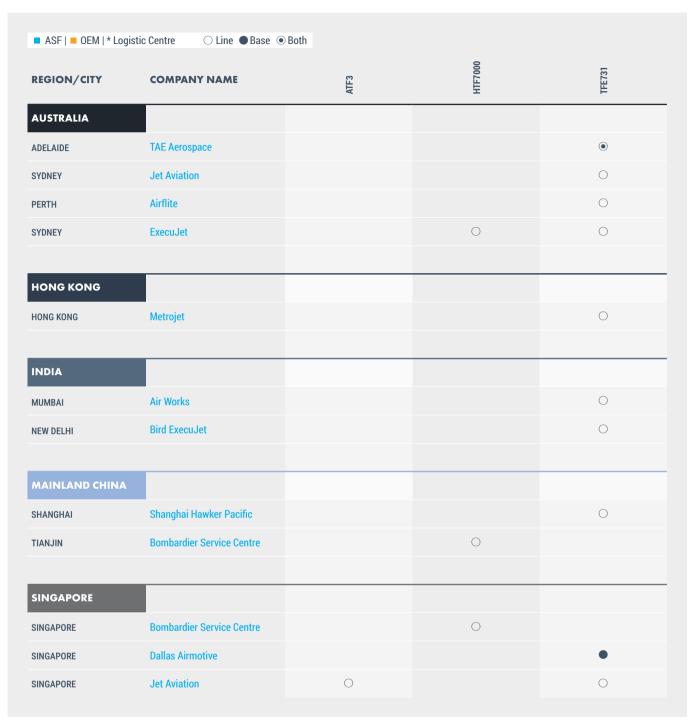
ROLLS-ROYCE

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



HONEYWELL





SAFRAN



REGION/CITY	COMPANY NAME	Arriel	Arrius	Artouste	Astazou	Makila	TM 333
AUSTRALIA							
SUNSHINE COAST	Pacific Crown Helicopters	0	0				
SYDNEY	Safran Helicopters	•	•				
INDIA							
BANGALORE	Helicopter Engines						•
BANGALORE	Hindustan Aeronautics	•	•	•	•	•	•
BANGALORE	Turbomecca						•
NEW DELHI	Indo Copters	•					
JAPAN							
ТОКҮО	Japan Aerospace Corp	0				0	
токуо	Safran Helicopters	•	•			•	
MAINLAND CHINA	\						
BEIJING	Safran Helicopters	•	•			•	
CHENGDU	Safran Helicopters	•	•			•	
GUANGZHOU	GAMECO	0	0	0	0	0	0
SHANGHAI	Safran Helicopters	•	•			•	
MALAYSIA							
KUALA LUMPUR	Global Turbine Asia	0	0	0	0	0	0
LUGGATE	Heli Support NZ	0	0	0	0	0	0
PHILIPPINES							
MANILA	Airbus Helicopters	0	0	0	0	0	0
SINGAPORE							
SINGAPORE	Safran Helicopters	•	•	•	•	•	•
SOUTH KOREA							
SEOUL	Safran Aircraft Engines	0	0	0	0	0	0
TAIWAN							
TAINAN	Air Asia	•	•	•	•	•	•

APPENDIX

FIXED-WING TRAINING AIRCRAFT SIZE CATEGORIES

J	E	T												

Citation 525(M2/CJ1/+) Citation 550(II/IISP/SII/Bravo) Citation 560(V/Ultra) Learjet 35/36 Leariet 45 XR Learjet 55 B/C

MULTI-ENGINE TURBOPROP

MA600

Y12

Mitsubishi MU-2

Piper PA-42

110 Bandeirante Beechcraft 1900D Cessna 441 **DHC-6 Twin Otter** King Air 200 King Air C90 M-7

SINGLE-ENGINE TURBOPROP

AT-802 SIAI PAS-SM-1019 Bonanza Socata TB-10 Cessna 208 Socata TBM-700 Cessna Caravan Socata TBM-850 G115 Socata TBM-900 PAC750XL Socata TBM-910 Piper PA-46

MULTI-ENGINE PISTON

Baron 55
Baron 58
BN-2 Islander
Britten-Norman Islander
Cessna 310
Cessna 340
Cessna 402

Cessna 404	Piper PA-31
Cessna 421	Piper PA-32
Diamond DA42	Piper PA-34
Diamond DA62	Piper PA-44
Duchess	Tecnam P2006
Partenavia P68	Travel Air
Piper PA-23	

SINGLE-ENGINE PISTON

A-1 Husky	Alpha 2160	Beechcraft 95-B55
AA1A	AT01	Beechcraft V35
AA1B	AT-6G	Boeing B75
AA-5	Auster V	Bristell Rotax 3300
Aero 500	Avions R2160	Cessna 150
Alpha 2000	Baron 77	Cessna 152
Alpha 2120	Beechcraft 95	Cessna 162

SINGLE-ENGINE PISTON

Cessna 172	Commonwealth CA-25	Jabiru SK	Pitts Special
Cessna 182	Curtiss P-40E	LE500	Pitts Special S2A
Cessna 185	Czech PIPERSPORT	M20	Pitts Special S2B
Cessna 188	De Havilland DH-82	Mudry Cap 10	Sling 2
Cessna 206	De Havilland DHC-1 T MK 10	Musketeer	Socata TB-10
Cessna 207	Decathlon	North American Aviation T-28D	Socata TB-20
Cessna 210	DH-82	Pacific Aerospace CT/4B	Supermarine SPITFIRE MK IX
Cessna 305	Diamond DA20	Pilatus BN2A	T 211
Cessna 310	Diamond DA40	Pilatus BN2B	Taifun 17E
Cessna 337	DW 200	Piper PA-18	Tecnam P2002
Cessna T303	Extra 300	Piper PA-24	Tecnam P2008
Cessna TR182	Foxbat A22	Piper PA-28	Tecnam P2010
Cessna U206	G115	Piper PA-30	Tecnam P92
CH2000	Gazelle	Piper PA-31	XL-2
Cirrus SR20	Great Lakes	Piper PA-38	Z42
Cirrus SR22	Hansa 3	Piper PA-39	
Citabria	HK36	Piper PA-44	
CJ-6A	J-3 Cub	Piper PA-46	

HELICOPTER TRAINING AIRCRAFT SIZE CATEGORIES

MEDIUM TURBINE	LIGHT TWIN TURBINE		SINGLE TURBINE						
AC312	AS355	AC311	Bell 47G	H130	Bell 47				
Bell 212	AW109	Bell 204	Bell 505	MD 500	Cabri G2				
Bell 412	Bell 429	Bell 205	Bell OH-58	MD 520	EN280				
S-70A	BK117	Bell 206	EN480	R66	R22				
S-76A	BO105	Bell 222U	H120		R44				
S-76C+	H135	Bell 407	H125		S-300				
	H145								



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