

GLOBALSKYMEDIA

Fleet Report

CIVIL HELICOPTERS | ASIA-PACIFIC

YE 2022

Data & Analysis

REGIONAL OVERVIEW

COUNTRY/SUBREGION SNAPSHOTS

MARKET TRENDS

OPERATORS

MISSIONS

LEASING MARKET

OEMS

ENGINES

Helicopter Spotlight

AIRBUS H175





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AIRBUS MEDIA CENTRE

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PUBLISHER'S NOTE



Once again, we are proud to release the Global Sky Media Helicopter Fleet Report for Civil Helicopters, Asia-Pacific. The report covers only civilian registered helicopters that are in active service and based in Asia-Pacific. This means that helicopters that are not registered in the region, but operate here, are also included.

In the YE2022, Asia-Pacific's helicopter fleet saw the lowest increase since Global Sky Media began keeping records in 2014. By the end of the year the fleet had grown just 0.9%, compared to an average of 1.7% in the three preceding years.

In terms of OEM market share, the three leaders, Airbus Helicopters, Bell Flight, and Leonardo, kept the same positions of first, second, and third respectively. However, the fourth place saw a swap, with Sikorsky assuming the position over MD Helicopters.

Airbus' single engine H125 dominated as it did in the previous year, as the most popular model across the region. With multi-mission operations accounting for 54% of APAC's fleet usage, and Single engine helicopters accounting for 37% of the APAC fleet, it is no surprise that with its 40+ year history of proven reliability, performance, cost-efficiency, and suitability for multiple tasks, the H125 and its various incarnations, have consistently been at the top of the pack.

Although new deliveries remained relatively stable when compared to the preceding two years, the pre-owned market saw a decidedly sharp drop in movement of 33.6%. This could imply that operators are trying to get more usage out of their helicopters for longer before seeking replacements.

At my first HAI Heli-Expo in March of this year, I got to meet some of the big leasing companies, including LCI Aviation. It is currently seeing operators ask them about leasing helicopters anywhere from one to two and a half years in advance of when they need them, and as such, LCI anticipates that capacity requirements will be scarce in 2024 and 2025. With the relatively limited growth we have seen in Asia-Pacific, it is likely that LCI's prediction will ring true for this region, so I can speculate that we will see a surge of replacements happening in a similar time frame. It is clear that the market slowed down during the pandemic, which has led to a lot of pent-up demand, although this has been coupled with hesitation.

With the ongoing debate of whether eVTOLs will replace helicopters, I think we can safely say that is still several years and many AAM iterations away. In the meantime, Helicopter OEMs and operators have a healthy outlook for growth in Asia-Pacific.

I hope you enjoy reading this latest edition of our Helicopter Fleet Report and don't forget, you can find daily news and updates on our website and by signing up to our newsletter.

A handwritten signature in dark ink, appearing to read 'Tan Rahman', with a long, sweeping flourish extending to the right.

Sincerely,
Tan Rahman
Publisher
Global Sky Media

> Supporting Life.



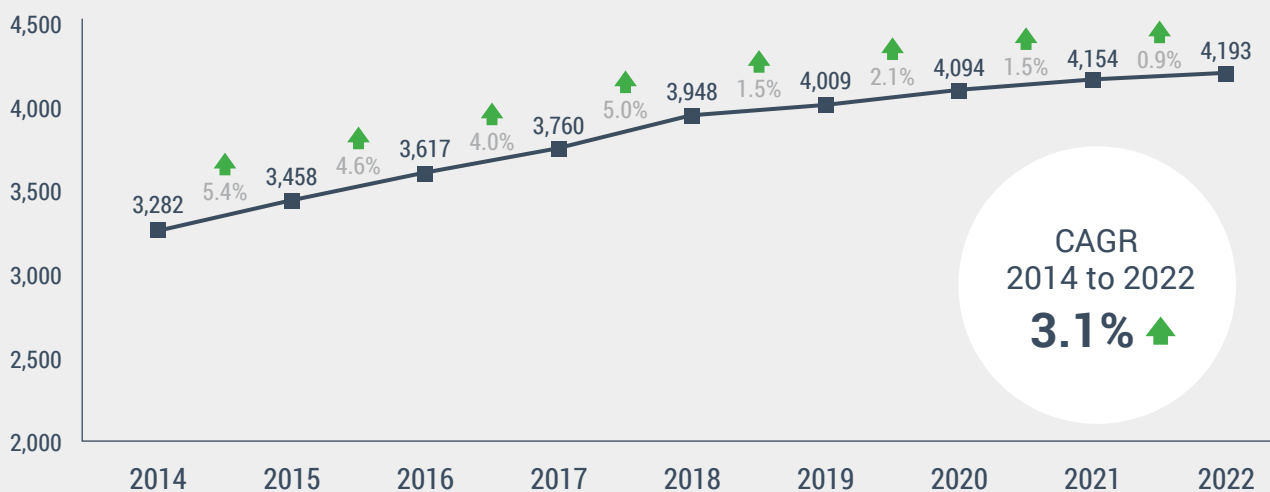
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EXECUTIVE SUMMARY

ASIA-PACIFIC CIVIL TURBINE HELICOPTER FLEET GROWTH



NOTE:

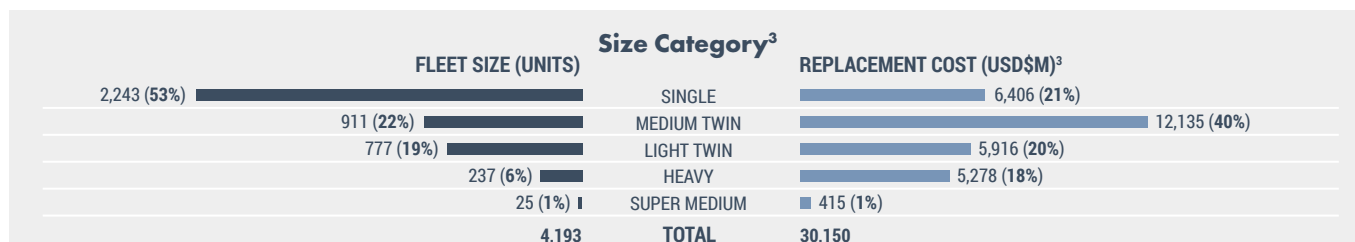
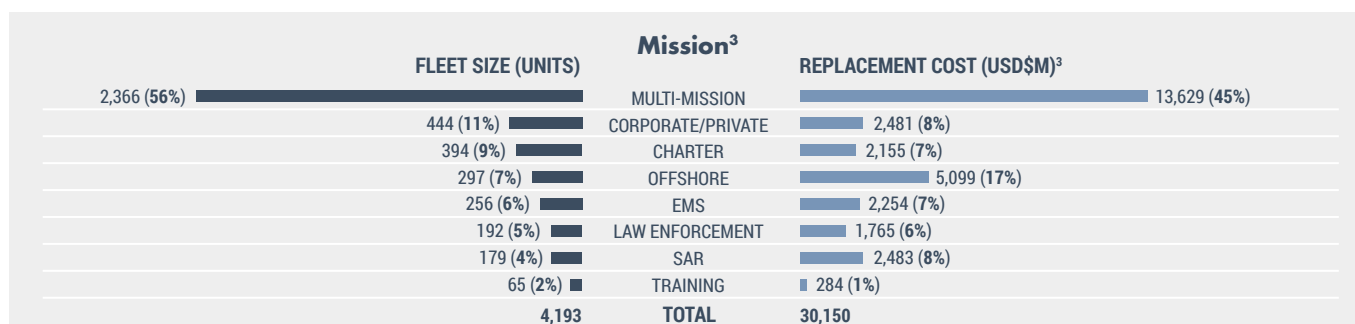
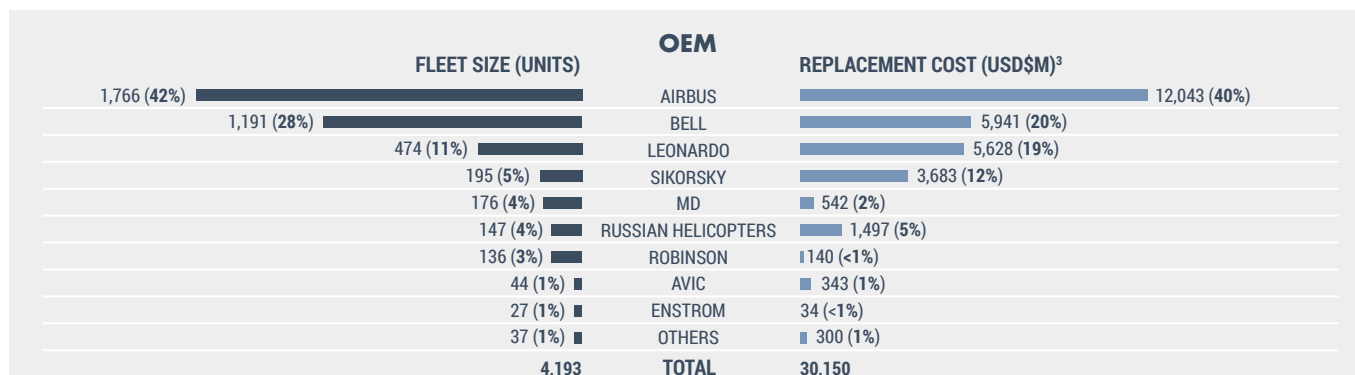
Please note that for this edition of the Helicopter Fleet Report, the total fleet numbers declared from across the Asia-Pacific region have been adjusted to Global Sky Media's revised selection criteria for helicopters that are classified as carrying civilian registrations.

A conscious effort has been made to ensure that the fleet data accurately, and distinctly reflects the current registration status of the regional fleet. As a result of the revisions, the fleet numbers presented in this report contain variations from previous reports.

The Asia-Pacific helicopter fleet stood at 4,193 units at the end of 2022, showing a yearly growth rate of 0.9% due to a net increase of 39 helicopters. With an average growth rate of 4.7% between 2015 and 2018, and a rate of 1.5% between 2019 and 2022, 2022 saw the lowest rate of growth in the region since records began in 2014.

Although the COVID-19 pandemic had limited impact on helicopter sales and production in 2020, the current opportunities in tourism and ongoing demand within the region looked set to ensure that the market would continue to expand in the foreseeable future.

HELICOPTER FLEET¹ AND REPLACEMENT COST²



NOTE:

1. Only civilian registered aircraft that are based in the Asia-Pacific region and in active service are included in the fleet count.

2. "Replacement Cost" figures are based on the assumption that existing helicopters are replaced by the latest versions of their particular OEM variant at 2022 list prices.

3. Mission and Size Category are defined in Appendix on page 36.

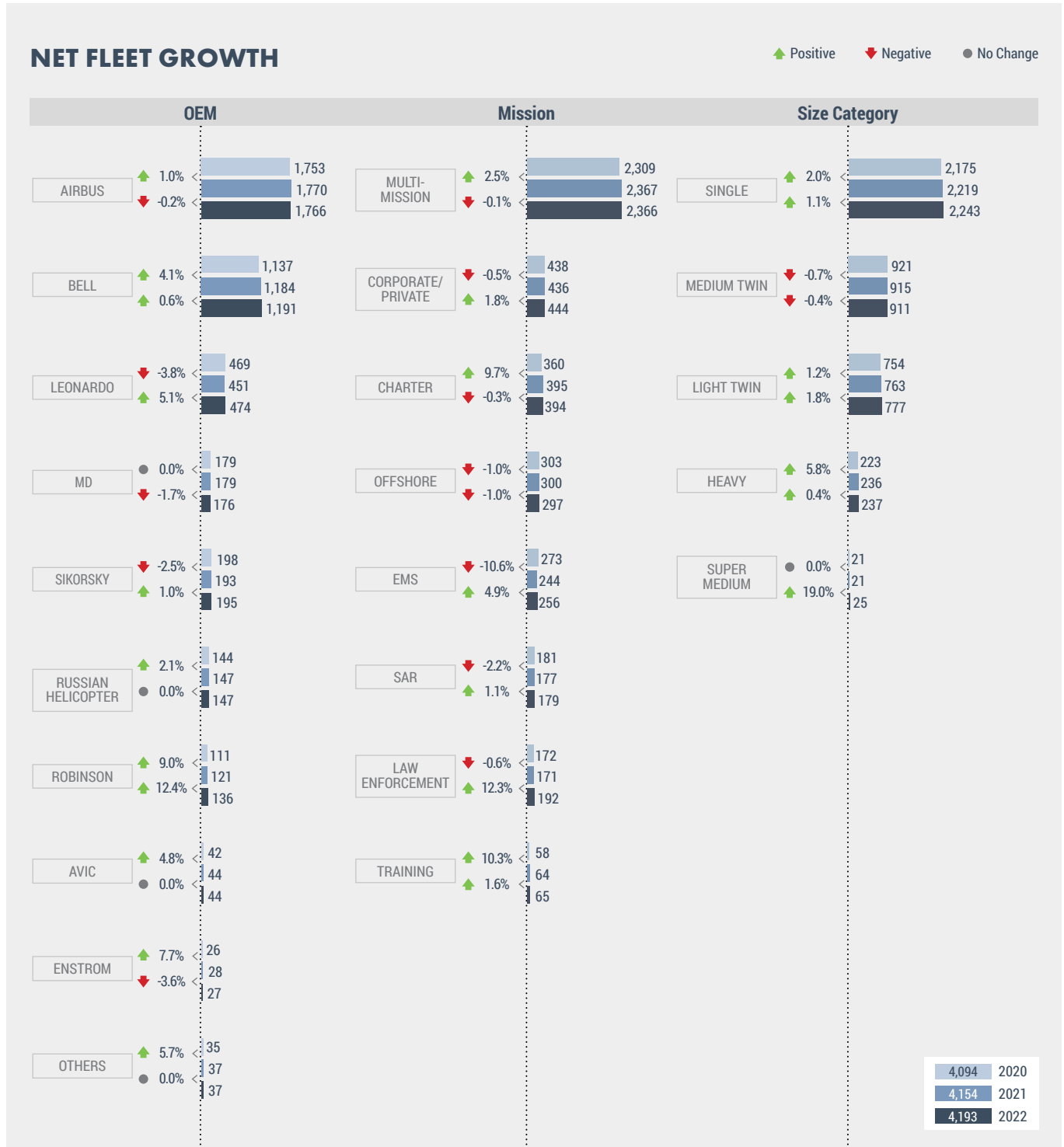
Airbus (1,766 units), Bell (1,191 units), and Leonardo (474 units) remained the top three OEMs in the region, with 42%, 28%, and 11% market share, respectively. Leonardo had the highest growth rate in the previous year, at 5.1%, having increased its fleet by 23 helicopters in 2022. Bell saw a 0.6% increase in 2022 with a net gain of seven helicopters, while leading OEM Airbus saw a reduction of four helicopters in its fleet. Over the past three years, Bell saw the largest net gain in the region with an addition of 54 helicopters, while Robinson had the highest overall growth rate, at 23%. Sikorsky and MD both saw a total reduction of three helicopters since 2020.

The Single helicopter remained the most popular size category in Asia-Pacific in 2022, accounting for 53% of the total fleet. The H125 was the most popular Single model, with 755 units

in operation, followed by the Bell 206, which had 507 units in operation. Single helicopters were popular in the region because they were less costly to operate and maintain than Twin helicopters, and could be configured for a variety of applications, such as aerial surveying or surveillance, and sightseeing tours. The Medium Twin helicopter category had the second largest market share by size category, at 22%, the same as in the previous year, with Light Twin helicopters having the third largest share, at 19%. Super Medium helicopters had the smallest fleet share (less than 1%), but also had the highest growth rate (19.1%) in 2022. The Single category saw the largest net gain with 68 helicopters added over the three-year period starting in 2020, while the Medium Twin category saw the only fleet reduction with a total of ten helicopters departing.

More than half of the helicopters based in the region were utilized for Multi-Mission purposes, with 2,366 units equipped with a high level of modularity to perform a wide range of different tasks. Helicopters utilized for Corporate/Private accounted for 11% of the market, while those utilized for Charter and Offshore missions accounted for 9% and 7%, respectively. Training helicopters had the smallest share with 65 units (2%)

in 2022. Law Enforcement grew at a rate of 12.3%, achieving the highest growth rate amongst the remaining types of missions. Corporate/Private use grew at a rate of 1.8%. From the previous year, Charter, Offshore, and Multi-Mission helicopters saw reductions of one to three units. Multi-Mission (57), Charter (34), and Law Enforcement (20) were the top three configurations that saw the most growth in the three years since 2020.





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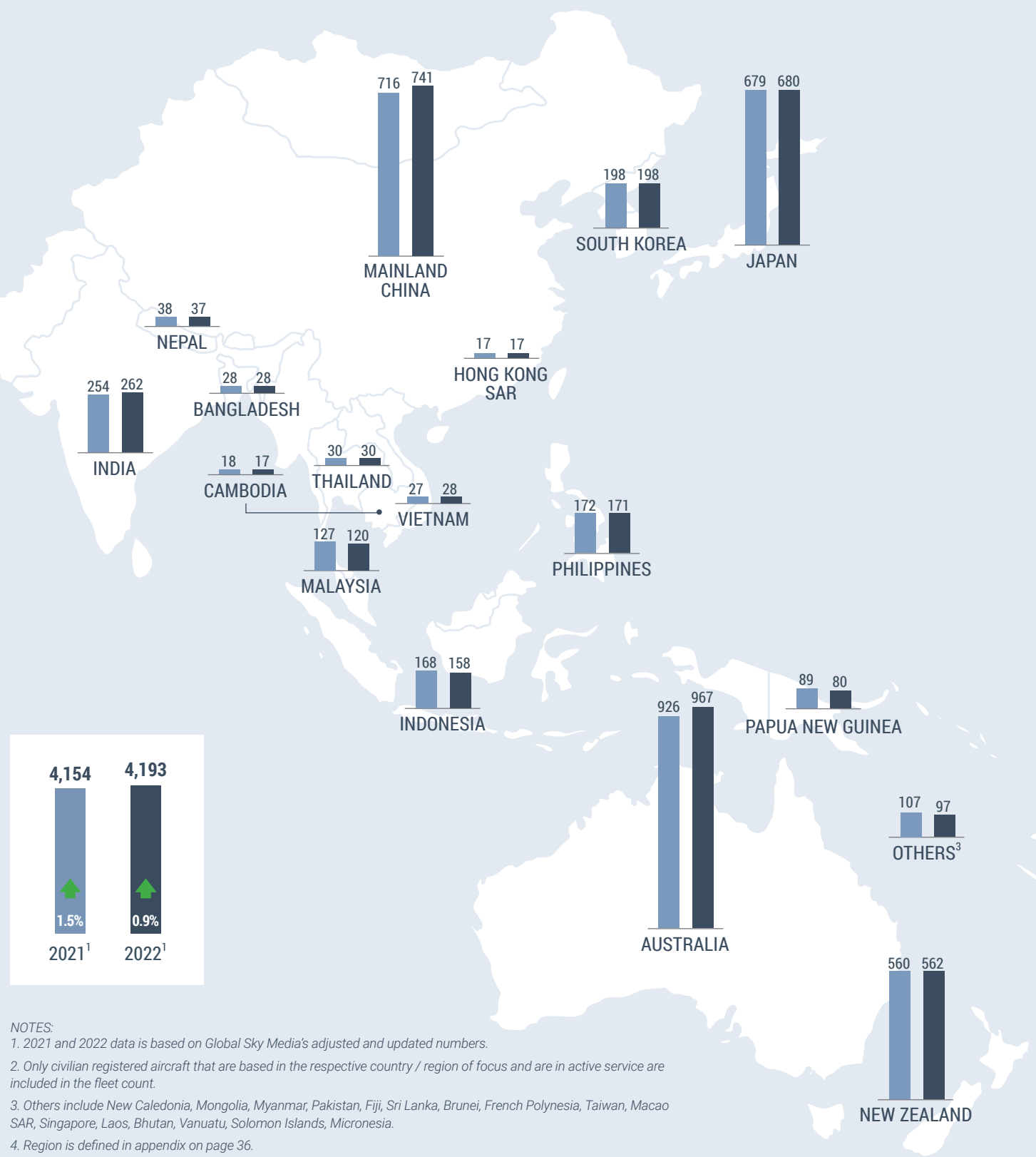
DIGITAL ADVERTISING

CONTENT MARKETING

EVENT MANAGEMENT



REGIONAL OVERVIEW



Australia was the leading market in the Asia-Pacific region, with a fleet of 967 operational helicopters as of December 31, 2022. It was followed by mainland China, Japan, New Zealand, and India, which comprised the top five countries in terms of fleet size with 741, 680, 562, and 262 helicopters, respectively. The combined fleets of the top five leading countries accounted for 77% of the regional fleet.

In 2022, Australia and mainland China saw the most additions to their fleets, with 41 and 25 helicopters added, respectively. Over the past two years, Australia had seen the most additions in the region, while mainland China has seen a significant change in its fleet, having reduced by eight helicopters the previous year, before adding the second-highest number of helicopters in 2022. India added the third-most helicopters to its fleet, solidifying its position as the region's fifth-largest helicopter fleet since we began keeping records in 2014. Indonesia saw the most helicopters leave the region in 2022, with ten departures, while Malaysia and Papua New Guinea continued to reduce their fleets for the second year in a row.

Oceania continued to have the strongest fleet growth among sub-regional markets, contributing 35 units in 2022 for a 2.1% annual growth rate. This growth rate had slowed from the equally impressive 4.0% growth rate in 2021, when Oceania added 65 units. Greater China recovered from the previous year's negative growth, adding 24 units in 2022. Reductions from the previous year were due to an appreciable number of helicopters going into storage due to the liquidation of a major EMS operator in 2021. South Asia and Northeast Asia saw nominal increases in their sub-regional fleets, while Southeast Asia was the only market to see negative growth, with a reduction of 25 units, equating to a growth rate of minus 4.6%.

HELICOPTER FLEET² (TURBINE ONLY)



LARGEST MARKET

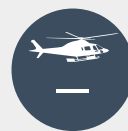
967

AUSTRALIA

MOST NET FLEET
ADDITIONS

+41

AUSTRALIA

MOST NET FLEET
DEDUCTIONS

-10

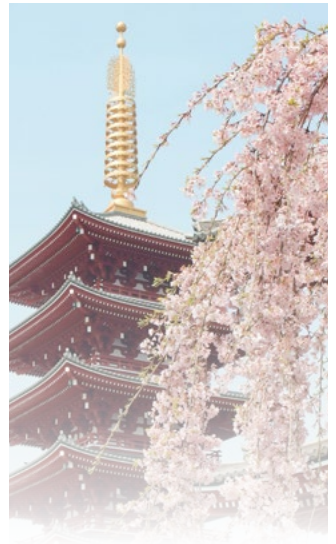
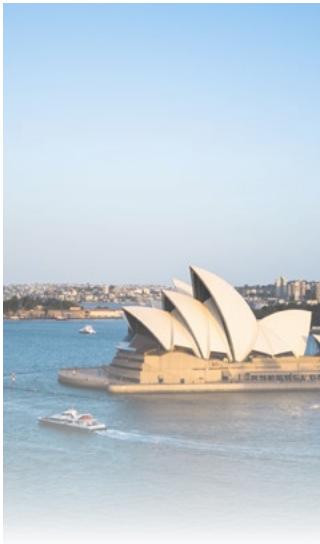
INDONESIA

FLEET GROWTH IN MAJOR MARKETS

SUBREGION ⁴	Net Fleet Growth		Growth Rate	
	2021	2022	2021	2022
Oceania	+65	+35	4.0% ↑	2.1% ↑
Greater China	-11	+24	-1.5% ↓	3.1% ↑
South Asia	-3	+3	-0.9% ↓	0.9% ↑
Northeast Asia	+6	+2	0.7% ↑	0.2% ↑
Southeast Asia	+3	-25	0.5% ↑	-4.6% ↓
TOTAL	+60	+39	1.4% ↑	0.9% ↑

COUNTRY/REGION	Net Fleet Growth		Growth Rate	
	2021	2022	2021	2022
Australia	+49	+41	5.6% ↑	4.4% ↑
Mainland China	-8	+25	-1.1% ↓	3.5% ↑
India	-5	+8	-1.9% ↓	3.1% ↑
New Zealand	+19	+2	3.5% ↑	0.4% ↑
Vietnam	0	+1	0.0% ●	3.7% ↑
Japan	+5	+1	0.7% ↑	0.1% ↑
Bangladesh	0	0	0.0% ●	0.0% ●
Thailand	-5	0	-14.3% ↓	0.0% ●
Hong Kong SAR	0	0	0.0% ●	0.0% ●
South Korea	-1	0	-0.5% ↓	0.0% ●
Cambodia	+2	-1	12.5% ↑	-5.6% ↓
Nepal	+2	-1	5.6% ↑	-2.6% ↓
Philippines	+12	-1	7.5% ↑	-0.6% ↓
Malaysia	-6	-7	-4.5% ↓	-5.5% ↓
PNG	-2	-9	-2.2% ↓	-10.1% ↓
Indonesia	+3	-10	1.8% ↑	-6.0% ↓
Others	-5	-10	-4.5% ↓	-9.3% ↓
TOTAL	+60	39	1.5% ↑	0.9% ↑

Ranked by 2022 net fleet growth in descending order from the highest.



MAJOR COUNTRY/SUBREGION SNAPSHOTS

Australia

Australia, the largest helicopter market in Asia-Pacific, saw 20 new deliveries and 49 pre-owned additions in 2022, while 28 units were removed from the fleet. McDermott Aviation, with a fleet of 40 helicopters, was the largest operator in Australia and ranked fifth among the top operators in the region. Babcock, a well-known operator specializing in Offshore, Search and Rescue (SAR), and Emergency Medical Services (EMS), had 18 helicopters in its fleet at the end of 2022. CHC Helicopters Australia, which had a similar focus as Babcock, added 12 helicopters and ranked eighth in the region with 32 helicopters. In 2022, CHC acquired Offshore Services Australia, which was previously owned by Babcock.

Fifty eight percent of the Australian helicopter fleet was configured for Multi-Mission roles, whilst 15% was configured for Corporate/Private use. Sixteen percent of the fleet were made up of helicopters designed for offshore, EMS, and SAR missions. Bell was the most popular OEM in the country, with a 36% share of the market, with the Bell 206 being its most popular model. In 2022, Australia took delivery of its first Bell 429 configured with a wheeled landing gear (WLG) set up for corporate services to automotive retailer, Alto Group.

Greater China

Greater China, which includes mainland China, Hong Kong SAR, Macao SAR, and Taiwan, was the second largest market in the region. Greater China saw 23 new deliveries, 12 pre-owned additions, and 11 deductions during 2022. With a total fleet of 91 helicopters, China's CITIC Offshore Helicopter Company

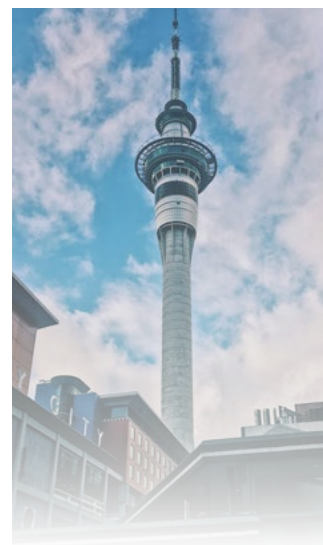
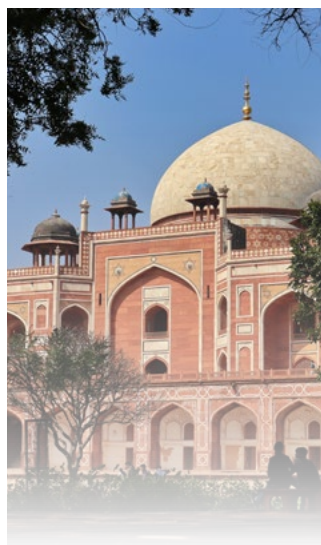
(COHC) was the leading operator in Greater China and added six helicopters in 2022. Six other Chinese operators ranked among the top 20 operators in Asia-Pacific by fleet size, accounting for 39% of the top 20 operators in the region. Sixty four percent of Greater China's fleet was configured for Multi-Mission roles, while up to 20% was used for Offshore, EMS, and SAR missions. Almost half of Hong Kong's fleet was dedicated to SAR operations. Airbus was the most popular OEM in Greater China, with a 36% market share of the fleet, and delivered 15 new helicopters to China in 2022, including nine H135s that were built on a final assembly line in Qingdao, mainland China.

The H125 and the Bell 407 were two of the most popular helicopter types in Greater China. Robinson's R66 model had the second largest share of the fleet, with 21% market share, while Sikorsky had a 24% market share. The S-76C++ and S-92 were two of the most popular models in Greater China.

Chinese state-owned OEM Aviation Industry Corporation of China (AVIC) had 44 helicopters in service (all in mainland China), with half of them being AC311s. Enstrom's EN480 was the OEM's most popular helicopter in mainland China, accounting for 81% of its Asia-Pacific fleet (22 units).

Japan

In 2022, Asia-Pacific's third largest fleet added a single net helicopter, due to 16 new deliveries, seven pre-owned additions, and 22 deductions. Among Asia-Pacific countries, Japan operated the most EMS, SAR, and Law Enforcement helicopters. 54 percent of the fleet was used for Multi-Missions. In Japan,



the top operators included Nakanihon Air and Aero Asahi, both of which had recently reduced their fleets. While the majority of their helicopters were configured for Multi-Mission, both operators had sizable EMS fleets, with a market share of 27% and 18%, respectively. Nakanihon Air had the largest EMS fleet in the region, with 17 EMS configured units, while the Japan Coast Guard had the largest SAR fleet in Asia-Pacific. It is worth noting that none of Japan's four largest operators added helicopters to their fleets in 2022.

Airbus was the most popular OEM in Japan, with a 51% market share of the national fleet. The H125 and H135 were Airbus' most popular models in Japan. In 2022, the combined fleet of the top three OEMs (Airbus, Bell, and Leonardo) accounted for 91% of the total fleet.

New Zealand

New Zealand increased its helicopter fleet by two units in 2022, compared to 19 the previous year. This included six new deliveries, 22 pre-owned additions, and 26 deductions. With 20 helicopters and adding a further two in 2022, a sole New Zealand operator (Advanced Flight) was ranked in the top 20 biggest Asia-Pacific operators in 2022. Most of its fleet was for Charter. The Helicopter Line, with a fleet of 16 helicopters, was the second largest operator. Sixty four percent of the fleet was used for Multi-Missions, 14% for Charter, and 12% for Corporate/Private use.

Airbus remained the country's leading OEM, with the third largest market share in Asia-Pacific. The H125 was New Zealand's most popular Airbus model, where it had the largest market share in Asia-Pacific with 189 units. New Zealand had the largest market share of MD helicopter in Asia-Pacific (65% of the regional fleet count), with the MD 500 being its most popular model (82 units).

India

India's helicopter fleet saw a recovery in 2022, after experiencing a net reduction of five helicopters in 2021. The fleet added eight helicopters in 2022, with a growth rate of 3.1%. The net growth of eight helicopters was the result of ten new deliveries, 11 pre-owned additions, and 13 deductions.

The two largest Indian operators, Pawan Hans and Global Vectra, mainly focused on Offshore operations, with a combined fleet of 42 helicopters for this type of mission. In 2022, Pawan Hans was ranked fourth among the top operators in terms of fleet size, with 44 units, having added three helicopters. A total of 57 helicopters in the Indian fleet were used for Offshore operations, accounting for 21% of the total fleet. Forty one percent of the helicopters were utilized for Multi-Mission operations.

In India, Airbus and Bell were the two most popular OEMs, with the AS365 and Bell 412 being the most popular models.

South Korea

In 2022, South Korea's helicopter fleet remained stable at 198 units, with three new deliveries, four pre-owned additions, and seven deductions. HeliKorea was the country's largest operator, with a fleet of 16 helicopters, of which a quarter were configured for EMS and three-quarters for Multi-Mission. Sixty six percent of the South Korean fleet was utilized for Multi-Missions, while the remaining 6% were used for Charter.

Russian Helicopter was the most popular OEM in South Korea in 2022, with the Medium Twin KA-32 being its most popular model. With a total of 50 units, South Korea had the second largest market share of helicopters from Russian Helicopter, following only mainland China (56). The country had the largest market

share of Sikorsky helicopters in the region, with 48 helicopters, and exclusively operated the S-61, S-64, S-76A+/++, S-300, and S-330 models. In South Korea, the H125 was the most popular Airbus model, with a fleet of 17.

The Philippines

Due to five new deliveries, five pre-owned additions, and 11 deductions, the helicopter fleet in the Philippines contracted by a single helicopter in 2022. The fleet had grown by 7.5% in 2021, with the addition of 12 units. PhilJets Group was the country's largest operator, with three helicopters that provided Charter and tourism transport services. Fifty five percent of the national fleet was configured for Corporate/Private use and Charter, with the remaining 35% configured for Multi-Mission flights.

Airbus was the most popular OEM in the Philippines, with a total of 87 helicopters based in the country, of which the H125 and H130 models were the most widely operated. The Bell 206 was the third most popular model, with a fleet of 13 units.

Indonesia

The Indonesian helicopter fleet experienced the greatest reduction across Asia-Pacific, with a net reduction of ten aircraft due to four new deliveries, two pre-owned additions, and 16 deductions. Fifty four percent of the national fleet was configured for Multi-Mission, 28% for Corporate/Private and Charter services, and 15% for Offshore operations.

Airbus and Bell were the country's leading OEMs, with their combined fleets accounting for 75% of the market. In Indonesia, the most popular OEM models were the Bell 412 and H125.

Indonesia also had the second largest market share of the Sikorsky S-76C++ model, with nine units.

Malaysia

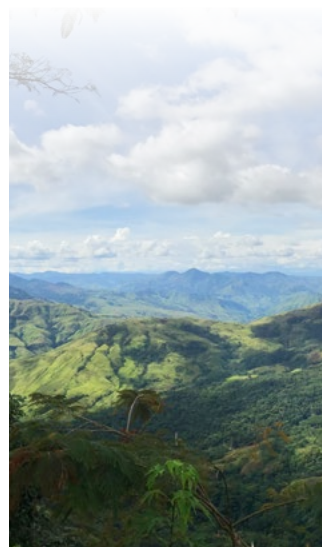
In 2022, Malaysia's helicopter fleet saw a further reduction of seven helicopters, due to one new delivery, six pre-owned additions, and 14 deductions. Weststar, the largest operator, was primarily focused on Offshore operations and saw five deductions, partly due to the conversion of four AW139s from civilian to military registrations. At the end of 2022, Weststar had a fleet of 19 helicopters, with two configured for Charter, and the rest dedicated to Offshore operations. Overall, 28% of the Malaysian helicopter fleet was dedicated to Corporate/Private and Charter, 26% to Offshore, 23% to Multi-Mission, and 21% to EMS, SAR, and Law Enforcement.

Airbus remained the most popular OEM, with a market share of half the total fleet. The most popular model was the AW139 with 27 units, followed by the AS355 with 16 units.

Papua New Guinea

In 2022, the helicopter fleet in Papua New Guinea experienced the steepest decline in the region, losing 10.1% of its fleet due to the reduction of nine helicopters, which included five pre-owned additions and 14 deductions. Seventy five percent of the fleet was utilized for Multi-Mission, while 13% was utilized for EMS and Offshore.

Bell was the most popular OEM, accounting for over half of the national fleet. The most popular models were the Bell 212 with 14 units and the Bell 407 with 15 units.



TOTAL FLEET BY COUNTRY/REGION AND OEM

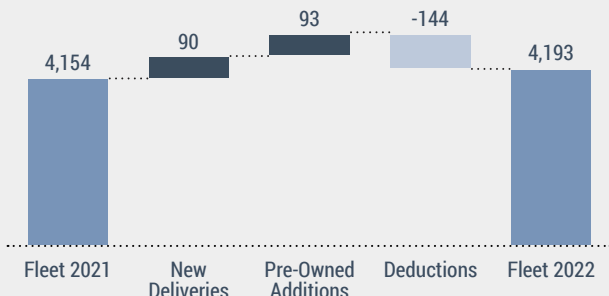
4,193 in Total

	AIRBUS	BELL	LEONARDO	SIKORSKY	MD	RUSSIAN HELICOPTER	ROBINSON	AVIC	ENSTROM	OTHERS	TOTAL	% OF TOTAL	
AUSTRALIA	345	434	92	27	16		44		1	8	967	23%	967
MAINLAND CHINA	264	222	55	46	3	56	26	44	22	3	741	18%	741
JAPAN	350	130	137	27	14	1	18			3	680	16%	680
NEW ZEALAND	303	119	9	8	114		4		1	4	562	13%	562
INDIA	97	80	46	10	2	8	3			16	262	6%	262
SOUTH KOREA	46	22	26	48	4	50			2		198	5%	198
PHILIPPINES	87	41	20		12		10		1		171	4%	171
INDONESIA	60	58	18	10	3	4	5				158	4%	158
MALAYSIA	60	14	35	8			3				120	3%	120
PNG	25	45		1		5	1			3	80	2%	80
NEPAL	25	3	1			4	4				37	<1%	37
THAILAND	11	2	12	5							30	<1%	30
VIETNAM	11	2	4			11					28	<1%	28
BANGLADESH	4	8	3				13				28	<1%	28
CAMBODIA	12	3	2								17	<1%	17
HONG KONG SAR	9				6		2				17	<1%	17
OTHERS	57	8	14	5	2	8	3				97	2%	97
TOTAL	1,766	1,191	474	195	176	147	136	44	27	37	4,193	100%	



MARKET TRENDS

HELICOPTER ADDITIONS & DEDUCTIONS

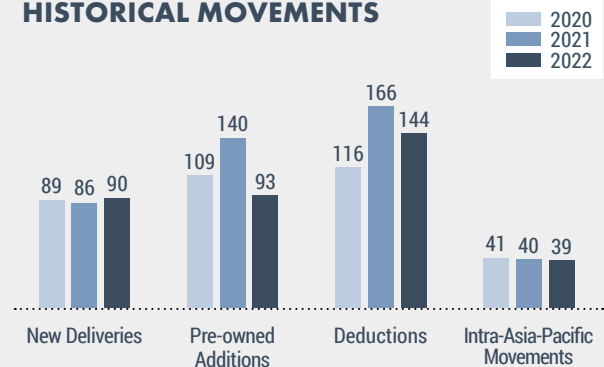


In 2022, the Asia-Pacific fleet saw a 4.7% increase in the number of new deliveries, which totaled 90 helicopters, up from 86 the previous year. The pre-owned market, however, saw a pronounced reduction in movement, dropping by 33.6%, having logged 93 pre-owned additions to the region compared to 140 pre-owned additions recorded in 2021. Comparing net deductions across the years, a total of 144 helicopters left the region in 2022, suggesting that the peak movement away from Asia-Pacific had passed, having recorded a 43.1% increase in deductions in 2021 compared to 2020. Intra-APAC movements in 2022 dropped slightly compared to the previous year, with a total of 39 movements within the region.

Overall, market activity had decreased from its peak in 2021 by 15.3%, totaling 366 movements, which had peaked at 432 the year before. The growth rate in 2022 had slowed, as mentioned earlier in the report, and this was explained by a decline in the total number of additions to the fleet when both new deliveries and pre-owned additions were considered. In comparison to the 198 additions reached in 2020, the combined total of 183 additions recorded in 2022 was lower. Likewise, the number of deductions during 2022 was higher than in 2020, despite calming from a peak drop of 166 helicopters the previous year to 144 deductions in 2022.

With 37 deliveries in 2022, Airbus was the leading OEM in terms of new helicopter deliveries, followed by Bell with 24. The R66 saw the most deliveries in 2022, with 14, followed by the H125 and H135 with 12 units each. They were followed by the Bell 407, which saw 11 new units, including five 406GXi models to Nautilus Aviation in Australia. The AW139, which saw six deliveries; and the Bell 505, which also saw six deliveries, round out the top six new models with the most deliveries. The Bell 505 had the most deliveries the previous year, with 14 units. The Bell 407 had seen the most

HISTORICAL MOVEMENTS

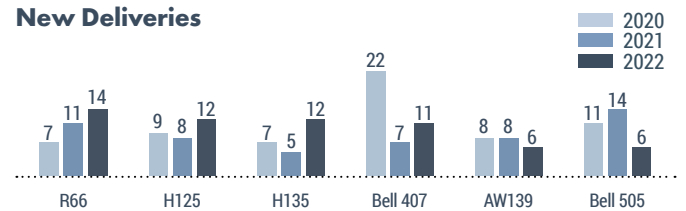


deliveries into the region over the previous three years, beginning in 2020, with a total of 40 units, followed by the R66 with 32 units and the Bell 505 with 31 units.

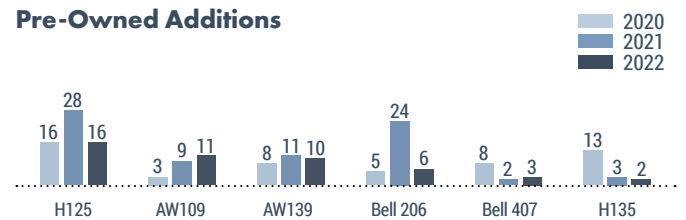
Leonardo had the most pre-owned additions (31), followed by Airbus and Bell, both of which had 25 additions. The H125 had seen the most buoyant activity in the pre-owned market over the previous three years, with 16 pre-owned additions. The AW109 and AW139

TOP MODELS IN 3 YEARS

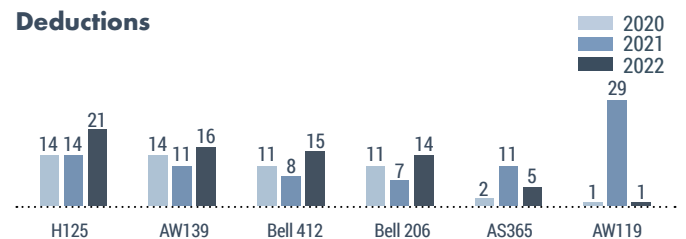
New Deliveries



Pre-Owned Additions



Deductions



models had consistently posted strong activity over the previous two years, with 11 and ten pre-owned additions in 2022, respectively. Interest in Bell 206 models had peaked in 2021 in Asia-Pacific, with 24 pre-owned additions, but dropped to just six additions in 2022.

With 66 movements recorded, Airbus had the most deductions in the Asia-Pacific region during 2022, followed by Bell and Leonardo with 42 and 22 movements, respectively. Likewise, the H125 model saw the most reductions in 2022, with 21 movements, even though the fleet of this model had been steadily increasing in the Asia-Pacific region as the leading Airbus model, with 755 units in the region. The AW139, Bell 412, and Bell 206 models all saw reductions of 14 to 16 units in 2022 and experienced further deductions from the previous year. Despite this, the market for these three models remained resilient in the region, and the AW139 and Bell 206 models continued to lead the market for their respective OEMs due to their versatility and reliability across a wide range of applications and mission usage.

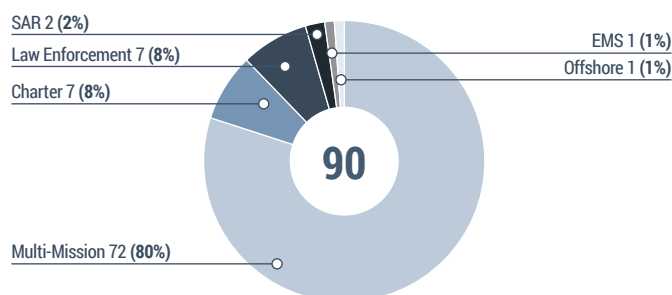
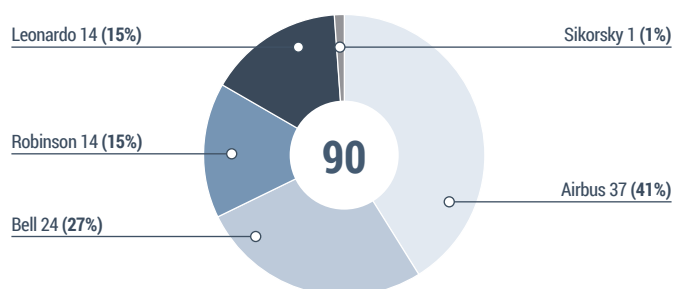
In the Asia-Pacific market in 2022, 80% of new deliveries were utilized for Multi-Mission purposes, 8% for Charter, and 8% for Law Enforcement. Four percent of the new helicopters were outfitted for EMS, SAR, and Offshore missions.

Forty seven percent of the additions in the pre-owned market were intended for Corporate/Private use and Charter services, while 34% were utilized for EMS, Law Enforcement, or Offshore operations. Pre-owned helicopters were used for Multi-Mission purposes in 19% of cases.

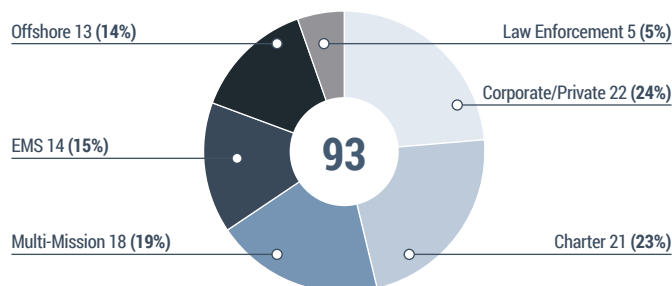
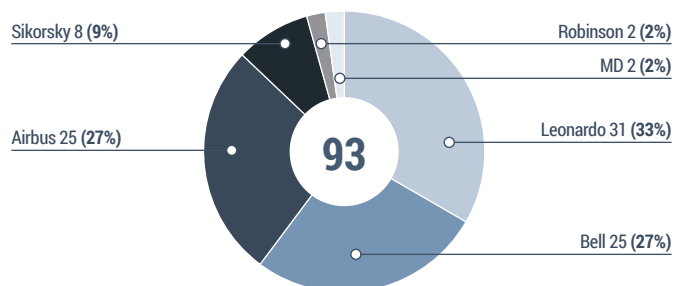
Among the helicopters that no longer operate in the region, over half of the departing helicopter fleet was configured for Multi-Mission roles. Twenty percent were intended for Corporate/Private use and Charter services. Sixteen percent were set up for EMS, SAR, or Law Enforcement purposes, while 12% were set up for Offshore operations.

HELICOPTER MOVEMENT BY OEM AND MISSION

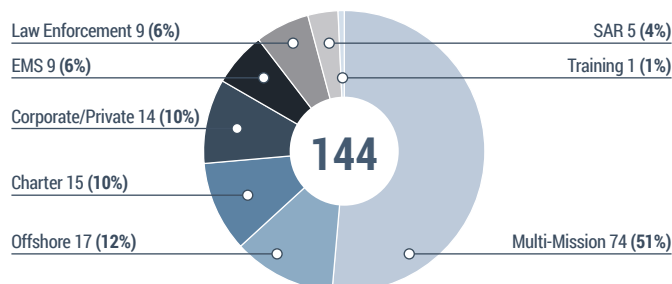
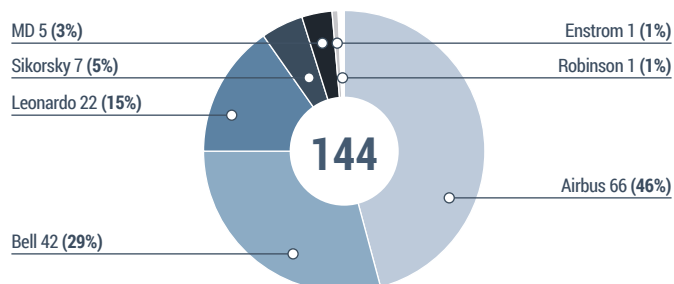
New Deliveries



Pre-Owned Additions



Deductions



MARKET UPDATES

OPERATOR OVERVIEW

As of the end of 2022, the top 20 commercial helicopter operators in the Asia-Pacific region accounted for 18% of the total fleet of 769 helicopters.

CITIC Offshore Helicopter Company (COHC) continued to have the largest helicopter fleet in 2022, with its fleet expanding by six aircraft to 91. In its annual operational review, COHC reported that it had strengthened its strategic partnership with the China National Offshore Oil Corporation (CNOOC) by adding a new operational site at Bo'ao, Hainan, to increase its share in the offshore market. Only five other operators out of the top 20 saw an increase in the number of aircraft they operated: Pawan Hans, McDermott Aviation, CHC, Advanced Flight, and PHI.

CHC saw the greatest expansion in its fleet as it signed a new 12-year contract with the Department of Fire and Emergency Services (DFES) in Western Australia to strengthen its position in the Search and Rescue (SAR) market. It also acquired Babcock International's offshore oil and gas business to further increase its presence in the Australian offshore O&G market. The addition of 12 helicopters propelled CHC's ranking 11 spots upward, landing it in 8th place at the end of 2022.

Nakanihon Air and Aero Asahi both saw a minor decrease in their fleets and swapped their rankings. Aero Asahi's fleet had been decreasing for four consecutive years, which could be due to the company taking on a wider spectrum of business, including air taxi and UAV-related projects.

Babcock saw the largest decrease in fleet size among the top 20 commercial helicopter operators due to CHC completing its acquisition of Babcock's offshore oil and gas division in late 2021, with 11 aircraft now operated by CHC. Weststar also had a net decrease of five helicopters, resulting in four aircraft changing from civil to military registrations.

Aviation Utilities, Babcock, Helistar, Hevilift, Microflite Helicopter, and PHI all had 18 helicopters in their fleet, ranking in 20th place

TOP 20 COMMERCIAL OPERATORS BY FLEET SIZE

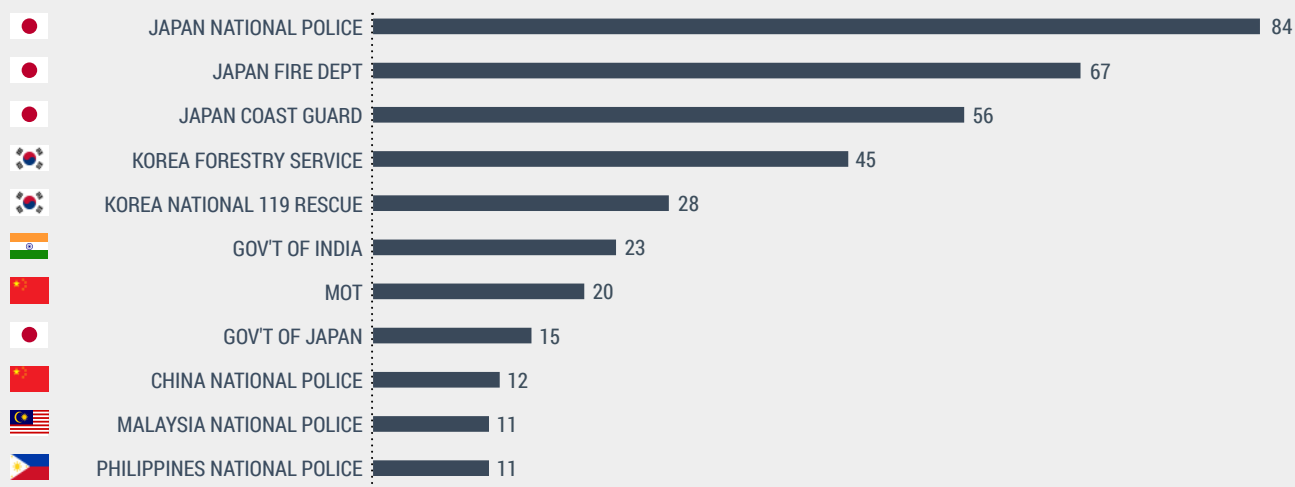
RANK CHANGE 2022 VS 2021

		Primary Business	
-		COHC	Offshore 91 (+6)
1		NAKANIHON AIR	Varied 63 (-2)
1		AERO ASAHI	Varied 61 (-5)
-		PAWAN HANS	Offshore 44 (+3)
-		MCDERMOTT AVIATION	Varied 40 (+1)
-		SHAANXI HELICOPTER	Varied 35 (-1)
-		STATE GRID GA	Powerline 34
11		CHC	EMS/SAR /Offshore 32 (+12)
2		REIGNWOOD	Varied 30 (-4)
-		CHINA SOUTHERN GA	Offshore 27
1		TOHO AIR	Varied 26 (-1)
1		VNH	Offshore 26 (-1)
-		GLOBAL VECTRA	Offshore 25 (-1)
1		HELI WEST	Varied 24 (-2)
2		QINGDAO HELICOPTER	Forestry 23
1		FLYING DRAGON GAC	Varied 22 (-1)
6		ADVANCED FLIGHT	Varied 20 (+2)
3		NISHI NIPPON	Varied 19
3		WESTSTAR	Offshore 19 (-5)
3		HELISTAR	Varied 18
1		MICROFLITE HELICOPTER	Varied 18 (-2)
10		PHI	EMS/SAR /Offshore 18 (+3)
3		AVIATION UTILITIES	Varied 18
11		BABCOCK	EMS/SAR /Offshore 18 (-15)
5		HEVILIFT	Varied 18 (-6)

TOP 20
OPERATORS =
18% OF
TOTAL FLEET

among commercial helicopter operators in the Asia-Pacific region. These five Australian operators, along with one operator in Papua New Guinea, provided services in multiple markets.

TOP 10 NON-COMMERCIAL OPERATORS BY FLEET SIZE



NOTE:

Please note that the current fleet numbers for non-commercial operators had been revised according to our selection criteria, that specifies the helicopters must strictly be designated with civilian registration only, to be included in the fleet count.

Government Agencies and State Operators that fly helicopters with non-civil registrations in their respective countries are not included.

Non-commercial operator usually refers to governmental operators, as well as operators that manage National Parks and Wildlife Services. In this report, Global Sky Media only covers helicopters that were civil registered only. There was a total of 448 helicopters operated by non-commercial operators at the end of 2022, which accounted for 11% of the helicopters operated non-commercially in the Asia-Pacific region. Helicopters that have a mission of Law Enforcement, Search and Rescue (SAR), and Firefighting comprised 72% of the non-commercial helicopter fleet in the Asia-Pacific region.

Being a densely populated island country, Japan had the largest civil-registered and non-commercial helicopter fleet in operation with government agencies when compared to other countries in Asia-Pacific. More than 51% of the non-commercial fleet was based in Japan. The Japan National Police Agency, Fire and Disaster Management Agency, and Coast Guard had 84, 67, and 56 helicopters, respectively. These three Japanese agencies had the biggest fleets among non-commercial operators. The AW139 was the most popular model among government agencies in Japan. Some 58% of the non-commercial fleet in Japan was in the Medium Twin category.

The Korea Forest Service and the National 119 Rescue in South Korea operated the fourth and fifth biggest non-commercial fleets in the Asia-Pacific region. These two operators accounted for 96% of the non-commercial helicopters in South Korea. From the mid-1990s to the mid-2000s, Russia settled part of its debt owed to South Korea by offering military supplies with a program called the Brown Bear Project. In the first phase of the program, which began in 1995, Russia provided USD\$210 million worth of military equipment to South Korea, including the KA-32 helicopters. During the second phase, from 2003 to 2006, South Korea received seven additional KA-32s from Russia. It opened the door for Russian Helicopters to enter the South Korean helicopter market. Having been initially offered the Mil Mi-8, and Mi-17 Medium Twin military helicopters, the South Korean government agencies have since further procured the Russian Kamov KA-32 for a range of mission purposes. Having proven effective for roles such as firefighting and SAR, the KA-32 became the most popular civil-registered aircraft utilized by government agencies in the country.



MISSION OVERVIEW

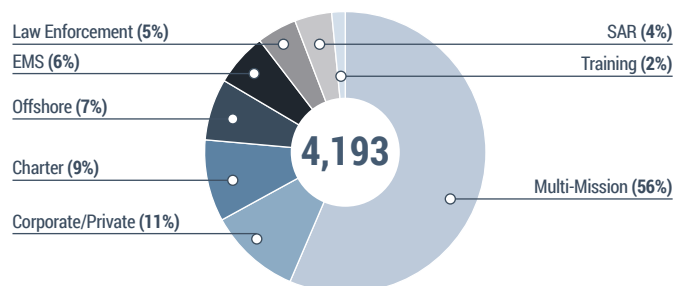
As of the end of 2022, most helicopters in the Asia-Pacific region had a dedicated mission, including Charter, Offshore, Emergency Medical Services (EMS), Law Enforcement, Search and Rescue (SAR), and Training. However, there was another category of helicopters, known as Multi-Mission helicopters, that served multiple segments. Fifty six percent of the helicopters in the Asia-Pacific region were Multi-Mission aircraft at the end of 2022, with the most common missions being Cargo lifting, Forestry, and Agriculture.

The cost of replacing all of the in-service Multi-Mission helicopters in the Asia-Pacific region was valued at USD\$13.6 billion at the end of 2022. Although 45% of the total replacement cost for helicopters in Asia-Pacific was allocated to Multi-Mission aircraft, the average replacement cost for each was only around USD\$5.8 million. The H125/AS350 B3e model accounted for 23% of the Multi-Mission fleet in service and was capable of performing in hot and high environments, where it holds the record for the highest-altitude landing and takeoff.

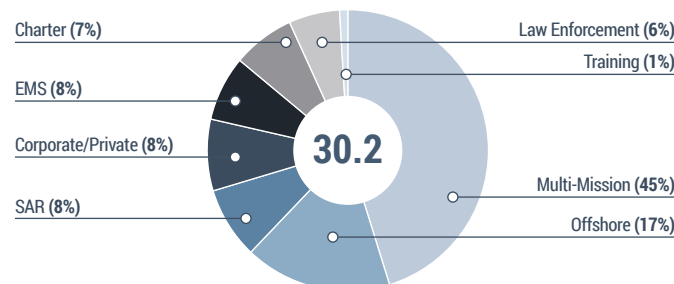
The category of Corporate/Private helicopters was for personal or organizational use and usually included a mix of different models. At the end of 2022, 62% of the in-service Corporate/Private mission models were Single, 22% were Light Twin, 15% were Medium Twin, and the remaining 1% were Heavy helicopters. The replacement cost for Corporate/Private helicopters was USD\$2.5 billion, accounting for 8% of the total replacement cost

ASIA-PACIFIC FLEET BY MISSION

Fleet Size (Units)

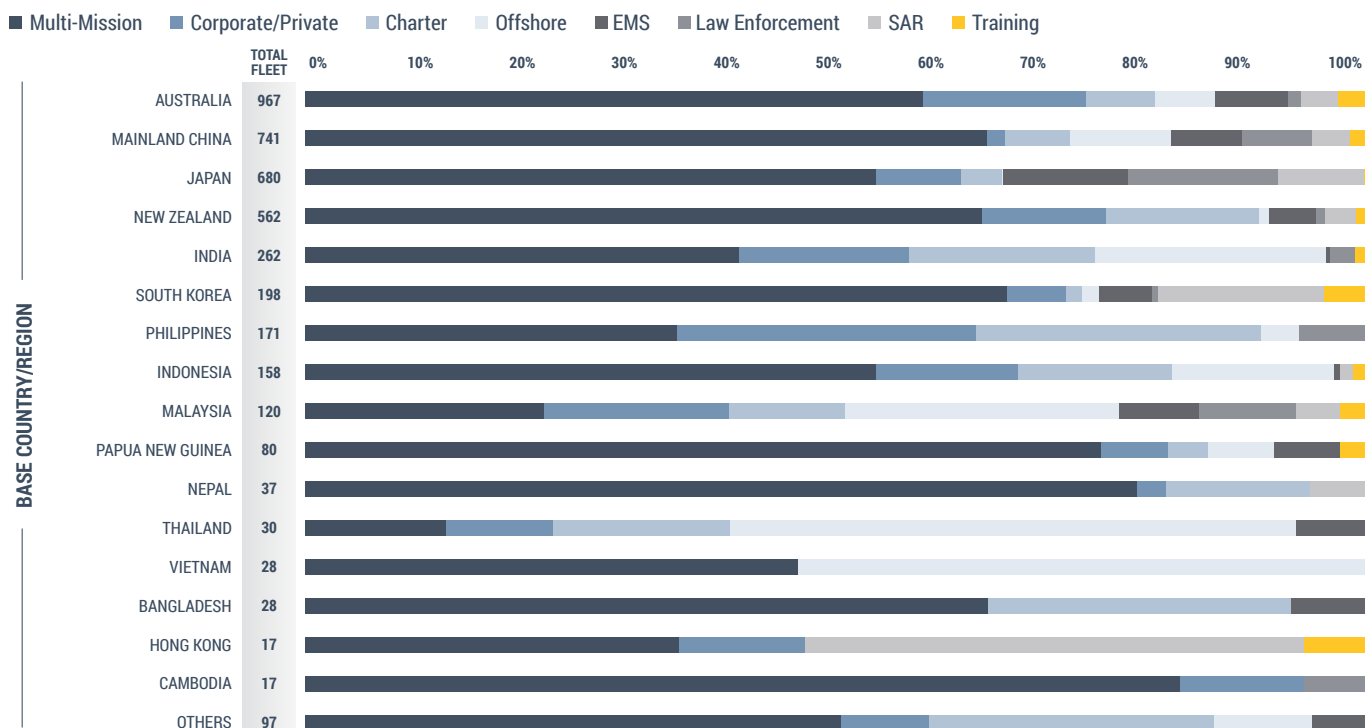


Replacement Cost (\$B)



NOTE: "Replacement Cost" figures are based on the assumption that existing helicopters are replaced by the latest versions of their particular OEM variant at 2022 list prices.

MISSION COMPOSITION BY COUNTRY



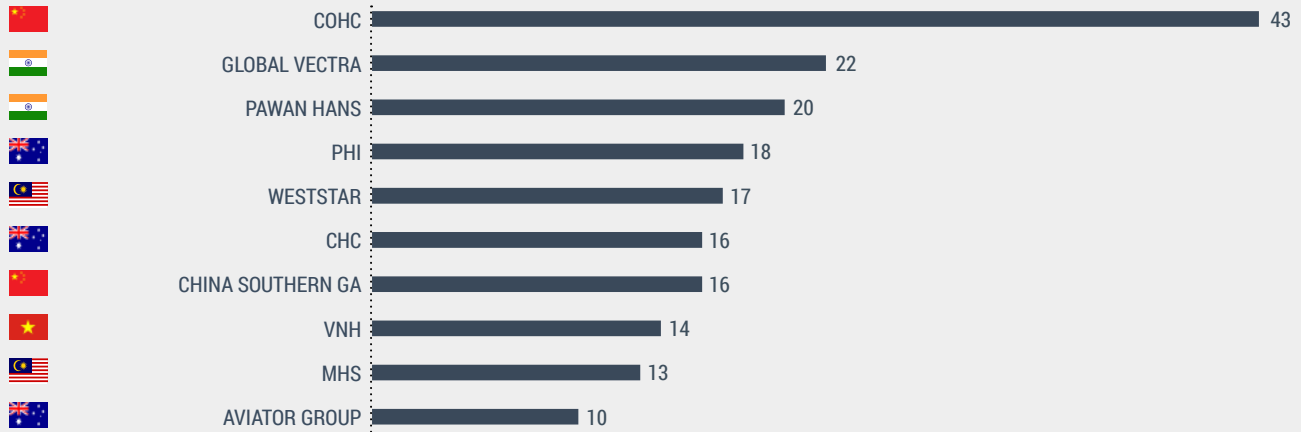
of all helicopters operated in the Asia-Pacific region. Although Offshore configured helicopters only accounted for 7% of the total fleet in the region, the replacement cost for these aircraft was 17% of the total, with an average replacement cost of approximately USD\$17.2 million per helicopter. SAR helicopters also had a higher replacement cost relative to their fleet size, with an average replacement cost of around USD\$13.9 million per helicopter. There were 394 Charter helicopters in the Asia-Pacific region with a total replacement cost of around USD\$2.2 billion. The replacement cost of helicopters with an EMS, Law Enforcement, or Training mission was proportionate to the number of aircraft in service.

Multi-Mission helicopters had the largest market share in most Asia-Pacific countries/sub-regions, except for Malaysia, Thailand, Vietnam and the Hong Kong Special Administrative Region of China. Malaysia's Offshore fleet was slightly larger than its Multi-Mission fleet, accounting for 26% of the helicopters in the country. Thailand had a fleet of 30 helicopters, 16 of which were for Offshore. Vietnam's fleet only comprised of Multi-Mission and Offshore helicopters, with 54% dedicated to Offshore. Although Hong Kong had a small fleet of 17 helicopters at the end of 2022, 47% were for SAR purposes.



OFFSHORE MARKET

Top Offshore Operators By Fleet Size

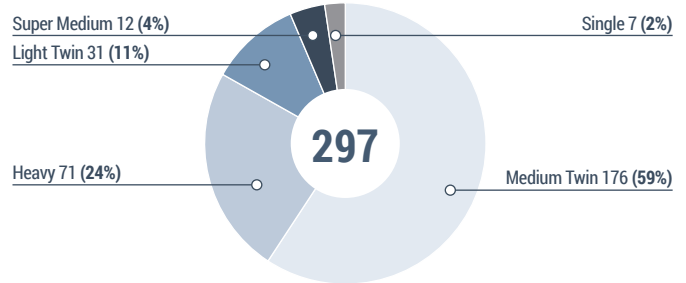


At the end of 2022, there were 297 civil registered helicopters in the Asia-Pacific region serving the offshore market, with mainland China accounting for 24%. The Chinese operator, CITIC Offshore Helicopter Company (COHC), had the largest offshore fleet in Asia-Pacific with 43 helicopters. The H125 and H225 models respectively made up 33% and 28% of COHC's offshore fleet.

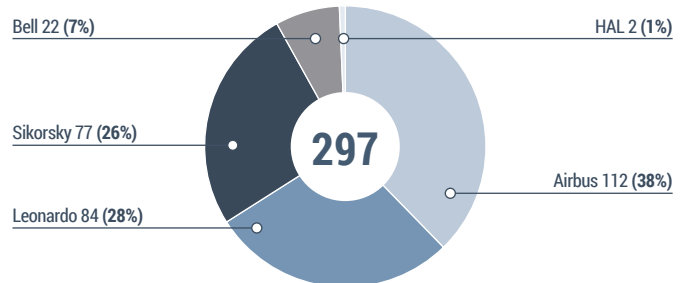
India was the second largest market for offshore helicopters, accounting for 19% of the regional total, and the second and third largest offshore operators were based there. Unlike COHC, which preferred both Heavy and Medium Twin helicopters, the two Indian offshore operators favored Medium Twin models, particularly the Bell 412 and AS365. Australia, with two fewer helicopters in its fleet, had the third largest share in the offshore market in Asia-Pacific. PHI operated the largest offshore fleet in Australia with 18 aircraft and CHC followed closely behind with 16 helicopters after acquiring Babcock's offshore oil and gas business. The S-92 was the most popular model among PHI and CHC.

Although mainland China and Australia had more helicopters in the Heavy category, the Asia-Pacific region favored the Medium Twin helicopter. The Medium Twin category represented 59% of the offshore fleet in the region, with 176 helicopters, while the Heavy category had 71 helicopters, equivalent to 24% of the total fleet, with 75% of the helicopters based in either mainland China or Australia. Airbus was the most popular OEM among offshore operators, with the AS365, H225, and H155 being the most favored models and 112 helicopters, representing 38% of the offshore market.

Offshore Fleet By Size Category

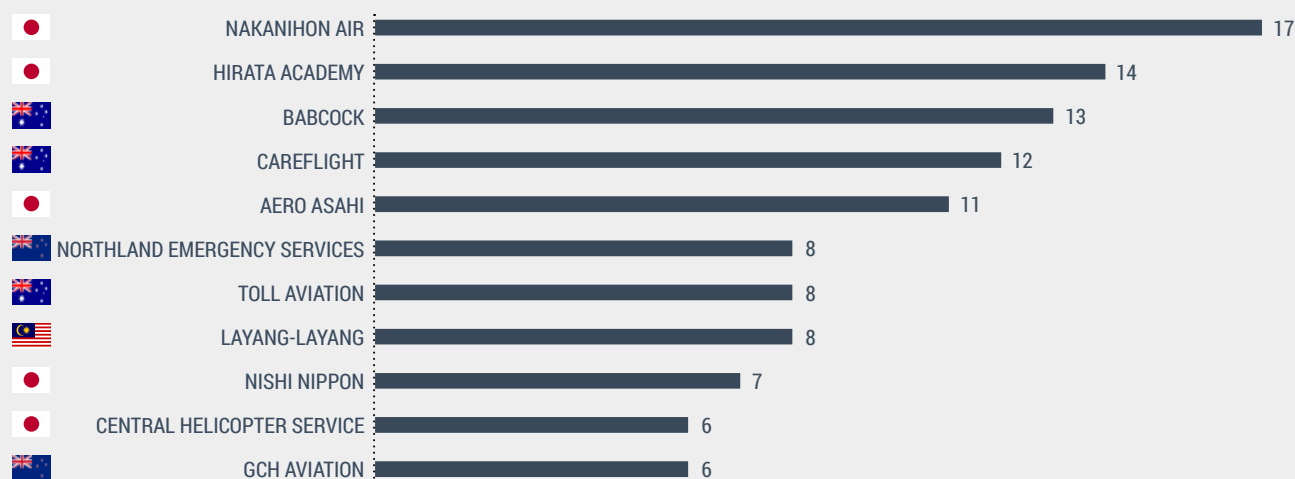


Offshore Fleet By OEM



EMS MARKET

Top EMS Operators By Fleet Size

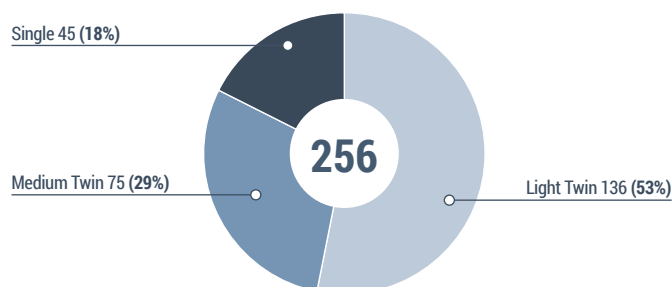


As of December 31, 2022, the Asia-Pacific region had 256 civil-registered Emergency Medical Service (EMS) helicopters with a total replacement cost of USD\$2.3 billion. Japan implemented a fully deployed aerial ambulance system with substantial government support in 2001 and had 80 helicopters serving in the EMS market at the end of 2022, with Nakanihon Air and Hirata Academy taking the lead. Both operators favored the H135 model by Airbus in the Light Twin category, which was also the most popular model among Asia-Pacific's EMS operators, accounting for 53% of the total market.

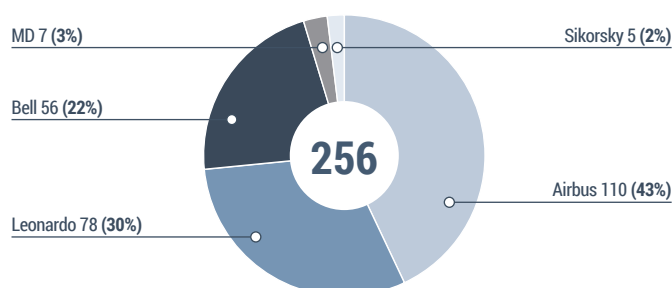
Due to a large proportion of its land being in remote and rural areas, EMS helicopters provided more medical treatments in Australia, which was the second largest EMS market with 66 helicopters, accounting for 26% of the total market. Babcock and CareFlight were the leading Australian operators in the EMS market and favored the AW139 and Bell 412, both of which were in the Medium Twin category. China was the third largest EMS market with 50 helicopters at the end of 2022, having added six pre-owned aircraft and one newly delivered helicopter.

The Medium Twin helicopters accounted for 29% of the EMS aircraft in the Asia-Pacific region, with the AW139 and Bell 412 being the most popular models. The Bell 407 stood out among the Single engine EMS aircraft, accounting for 47% of the market. Airbus made up 43% of the EMS helicopters, with the H135, H145, and BK117 being the most popular models and making up 80% of the Airbus EMS fleet.

EMS Fleet By Size Category

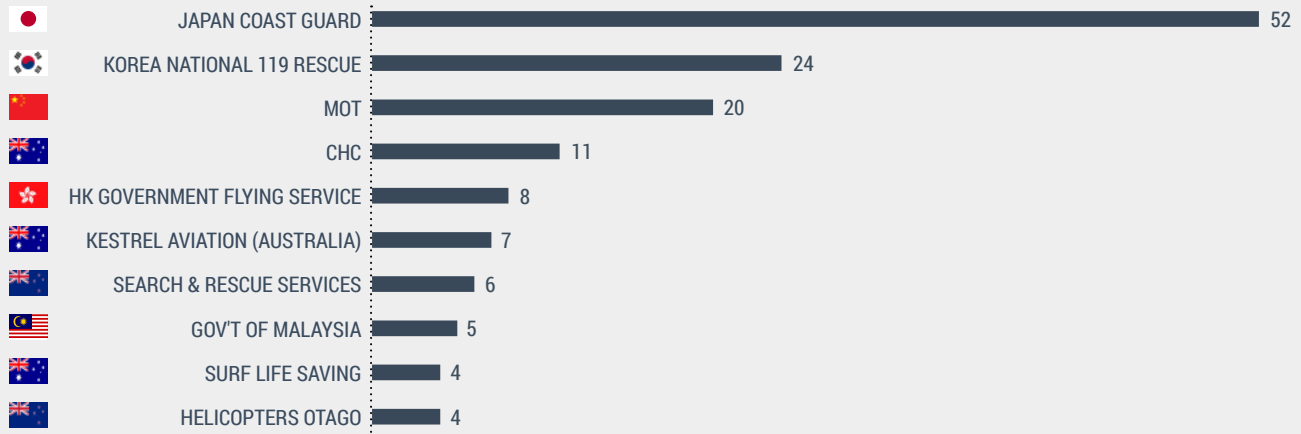


EMS Fleet By OEM



SAR MARKET

Top SAR Operators By Fleet Size



As of December 31, 2022, there were a total of 179 Search and Rescue (SAR) helicopters in Asia-Pacific with a total replacement cost of USD\$2.5 billion.

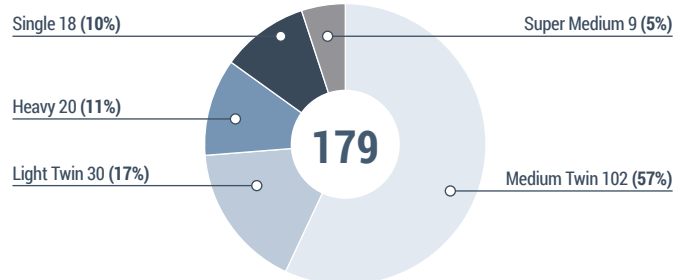
Japan was the leading market for SAR helicopters with 55 aircraft, accounting for 31% of the total market. The Japan Coast Guard alone operated the largest SAR fleet in the Asia-Pacific region with 52 SAR helicopters. The Medium Twin category was the most popular among the Japan Coast Guard, with the AW139 and S-76D making up 58% of the operator's fleet.

Australia and South Korea had similar-sized SAR fleets, with 34 and 31 helicopters respectively. CHC was the leading operator in the Australian SAR market and its fleet consisted only of Medium Twin AW139 helicopters. Kestrel Aviation in Australia also favored Medium Twin helicopters, including the Bell 212 and S-76A+, while the Australian Search & Rescue Service only used Light Twin models. The South Korean SAR fleet had a wider range of models, including Light Twin, Medium Twin, Heavy, Single, and Super Medium categories. The Korea National 119 Rescue was the second-largest SAR operator in terms of fleet size and the AS365, AW139, and BK117 were the most common models in its fleet.

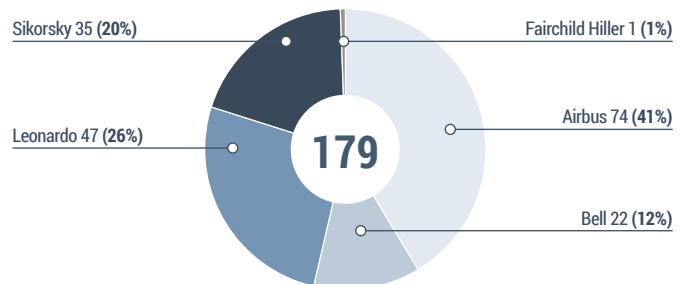
More than half of the SAR helicopters in the Asia-Pacific region were Medium Twins, with the AW139 leading the category. Although the AW139 made by Leonardo was the most popular model for the SAR market, Airbus Helicopters had a larger market share with 74 aircraft in this market. The BK117 and H225 were similarly popular among SAR operators in the Asia-Pacific region.

The Light Twin category represented 17% of the SAR fleet, with the BK117 being the dominant model in this size category.

SAR Fleet By Size Category



SAR Fleet By OEM



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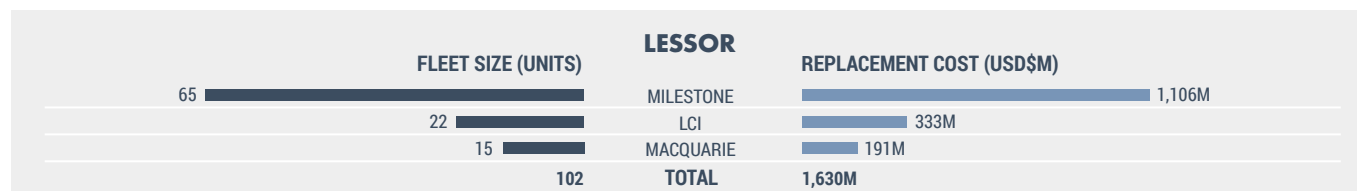


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LEASING MARKET

LEASED FLEET BY MAJOR LESSOR



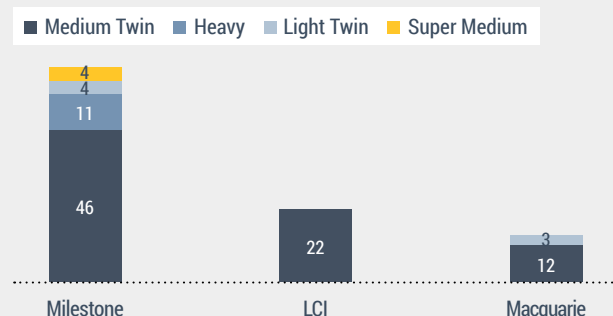
NOTE: "Replacement Cost" figures are based on the assumption that existing helicopters are replaced by the latest versions of their particular OEM variant at 2022 list prices.

This section only focuses on three major international lessors in the Asia-Pacific market: Milestone, LCI, and Macquarie. These three leasing companies leased helicopters to big operators such as CITIC Offshore Helicopter Company (COHC) and Pawan Hans in 2022.

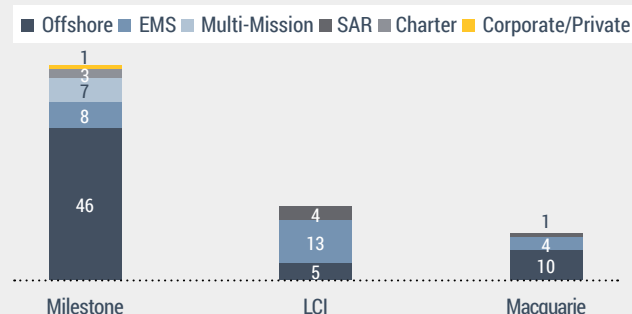
Milestone leased 65 helicopters to Asia-Pacific operators in 2022, which had a total replacement cost of USD\$1.1 billion as of December 31, 2022. Some 71% of Milestone's leased helicopters were in the Medium Twin category, with 46 aircraft, of which eight were pre-owned additions. Medium Twin helicopters were often used for Offshore-related tasks in Asia-Pacific. Sixty five percent of Milestone's Medium Twin fleet served the offshore market. Other missions for helicopters in this category included EMS, Multi-Mission, and Corporate/Private. The Heavy category was the second largest for Milestone, with 11 helicopters, all of which served the offshore market. Milestone leased two H145s and one AW109 to provide charter service in the Asia-Pacific region. Leonardo was the most popular OEM among Milestone's fleet, representing 39% of its total fleet, followed by Sikorsky with 35%, Airbus with 14%, and Bell with 12%. Australia and India were the largest markets for Milestone in the Asia-Pacific region. In addition, Milestone had signed new lease agreements with PHI for three additional helicopters to support their growing offshore operations in Australia from October, 2022.

All the leased helicopters of LCI in 2022 were Medium Twins from Leonardo, including the AW139 and AW169 models. These 22 helicopters had a total replacement cost of USD\$333 million as of December 31, 2022. Most of the leased aircraft of LCI were based in Australia, representing 73% of its leased fleet. Like LCI, the leased fleet of Macquarie served in the Offshore, EMS, and SAR markets. Australia was also the major market for Macquarie, with 40% of its fleet leased in the country. In 2022, Macquarie had 15 helicopters leased in the region with a total replacement cost of USD\$191 million. 73% of the Macquarie leased fleet were made by Leonardo, and the remaining 27% were Airbus and Bell models.

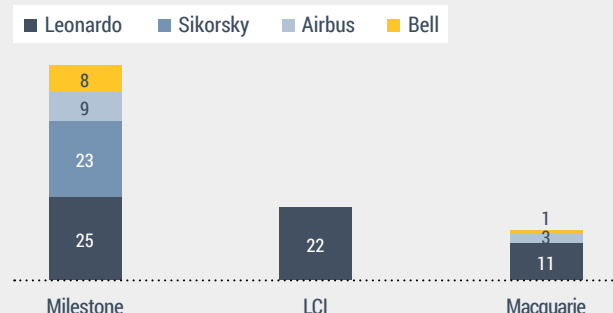
LEASED FLEET BY SIZE CATEGORY



LEASED FLEET BY MISSION



LEASED FLEET BY OEM




MAJOR LESSORS (BASE OF OPERATION)

102 in Total

	MILESTONE	LCI	MACQUARIE	TOTAL	% OF TOTAL	
AUSTRALIA	26	16	6	48	47%	48
INDIA	20	4	1	25	24%	25
THAILAND	4	1	3	8	8%	8
INDONESIA	8			8	8%	8
MAINLAND CHINA	3			3	3%	3
MALAYSIA	3			3	3%	3
TAIWAN			2	2	2%	2
SOUTH KOREA	1		1	2	2%	2
NEW ZEALAND			1	1	1%	1
PHILIPPINES			1	1	1%	1
MYANMAR		1		1	1%	1
TOTAL	65	22	15	102	100%	

NOTE: The number of helicopters in Asia-Pacific that have been leased from the lessors mentioned in the report has been verified through confirmation from a select group of major lessors operating in the region, in conjunction with Global Sky Media's independent research.





HELICOPTER SPOTLIGHT: AIRBUS H175

By Alud Davies

Looking through all of the available LEGO Technic sets available on the company's website is a wet dream for any man-child. Amongst the bulldozers, snow groomers and tractors are some of the most well-known cars ever built. There's a Ferrari 488 GTE, a Porsche 911 RSR, Ford GT, Lamborghini Sián FKP 37 and even the Batmobile available to buy and build.

Next to the Batmobile, amongst all of the 39 cars and vehicles that regularly appear as posters on teenage boy's bedroom walls is a lone, solitary helicopter. Unlike the anonymous snow groomer and all terrain vehicle, this helicopter has a name. It is the Airbus Helicopters H175.

The release of the 2001-piece set in 2022, could be viewed as how successful the H175 has been, and how much it has permeated the public's sub-consciousness. It is immediately recognizable thanks to the roles it serves; it is used as a Emergency Medical Service (EMS) helicopter, a police patrol helicopter, a search and rescue helicopter and a oil and gas transportation helicopter. The chances are that if you live in a large urban area, then you would have seen an H175 flying over you at some point performing a public duty mission.

The non-LEGO H175 was originally announced as the Eurocopter EC175 in October 2008, however the helicopter can trace its routes back even further to 2005, when Eurocopter announced that it had been approached by China's AVIC which was looking for partners to help it design a medium-heavy helicopter for the local market. With a cooperation agreement signed between the two companies in December 2005, the design team set to work setting up a customer advisory team comprised of existing helicopter operators.

This approach, of talking to the helicopter's potential operators to help define its specifications paid immediate dividends, as when the aircraft was officially launched, Eurocopter also announced that it had already received 111 purchase options from 13 different operators.

The helicopter they jointly came up with is renowned for being able to fly long distances at speed, whilst carrying a large payload. The H175 can fly up to 600nm at up to 155 kts, and can carry up to 18 passengers.

The official first flight took place in mid-December 2009 at the Airbus Helicopters production facility in Marignane, France, with the helicopter finally entering service in December 2014 following a two-year delay which was, at least in part, due to a certification issue with the Helionix Avionics Suite.

The first helicopters were delivered to Noordzee Helikopters Vlaanderen (NHV) a Belgium-based company that specializes in offshore oil and gas operations. By August of the following year, NHV announced that it had already undertaken 750 flights with its first two H175s, carrying more than 11,000 passengers. Even more impressive was that the helicopters' dispatch rate had been above 90%, which for a new helicopter type was almost unheard of.

Several months following the type's introduction by NHV, the Bristow Group placed an order for 17 H175s, which it later followed up with by ordering a further five examples which would have made it the largest operator of the type. Unfortunately, Bristow entered into Chapter 11 Bankruptcy protection before the first aircraft could be delivered, and the order was cancelled.

Despite this seeming setback, the Bristow order did wonders for the reputation of the type. As one of the most well known and respected

helicopters in the world, the fact that Bristow originally put its faith behind the helicopter helped open further doors to more orders.

One of those orders came from Milestone Aviation Group. It already had a handful of H175s on order before Bristow announced its acquisition, however by July 2015 it had increased the number of helicopters it had on order to 28.

Although orders were plentiful for the H175, the Chinese version struggled in many different ways. Officially designated the AC352, the first Chinese built example finally took to the skies for the first time in December 2016, almost seven years after the H175. This came following an announcement in April 2014 that the companies would build the helicopters on two production lines – one in France and one in China. The agreement states that 1,000 helicopters will be built over a 20-year time frame.

“ Since its introduction the H175 has been upgraded several times, the most notable being its certification for single pilot operations under visual flight rules (VFR).”

By early 2023 there were just over 50 H175s in service worldwide. Operators include The Royal Thai Police, CHC Helicopters, Heli Holland and Hong Kong's Government Flying Service. But Airbus Helicopters is hoping that more operators will soon follow, both inside and outside of China.

If you want one of the LEGO Technic H175 sets then you can part with a whopping USD\$209.99 on the company's website. The real H175 costs considerably more, so it's probably best to get in touch with Airbus Helicopters directly if you want one.



MARKET UPDATES

HELICOPTER OEM OVERVIEW

AIRBUS



NET GROWTH
4↓ 0.2%↓



MOST POPULAR
H125

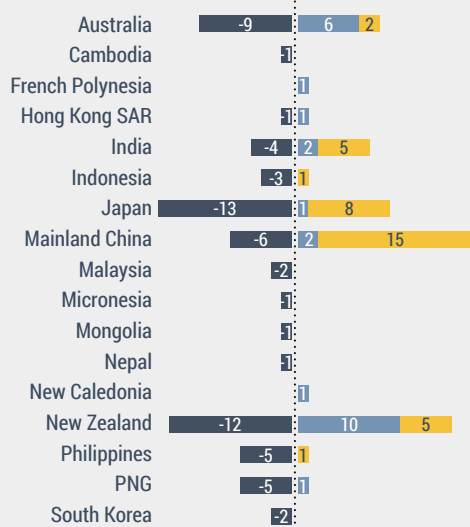


LARGEST FLEET
Japan

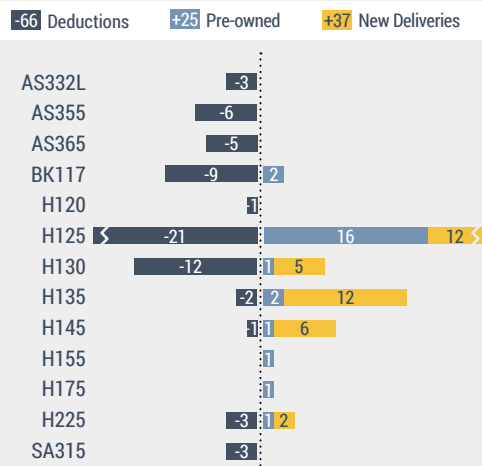
	JAPAN	AUSTRALIA	NEW ZEALAND	MAINLAND CHINA	INDIA	PHILIPPINES	INDONESIA	MALAYSIA	SOUTH KOREA	PNG	NEPAL	CAMBODIA	THAILAND	VIETNAM	NEW CALEDONIA	OTHERS	TOTAL
H125	85	185	189	135	22	33	18	7	17	6	25	5	2		8	18	755
H135	83	19		40	6	5	4	6	1			1	2		2	2	171
H130	10	34	32	9	7	23	6					2	3			15	141
AS365	47	8		3	39	4	5	4	7			1			1	2	121
BK117	22	30	33				4		9	10						2	110
H145	40	9	10	2	7	6	5		1	3		1	4			3	91
AS355	20	18	14		3	7	1	16	1			2				3	85
H120	4	23	18	12	1			6								3	67
H225	17	1		33				5	3					4			63
BO105	1	13	6			3	9	8	5	6							51
H155	6	1	1	17	1	3	4	5	2					4		2	46
AS332L1	11	1		8			1									1	22
H175		2														7	9
AS332L2	1							3						3			7
AS332L	2			4													6
SA315					3		2										5
SA316					4											1	5
SA319					4												4
H215				1			1										2
SA313						2											2
SA341		1				1											2
H160	1																1
TOTAL	350	345	303	264	97	87	60	60	46	25	25	12	11	11	11	59	1,766

Additions and Deductions

BY COUNTRY/ REGION



BY MODEL



NOTE: Excludes movements between countries/regions in Asia-Pacific



BELL



NET GROWTH
7 ▲ 0.6% ▲



MOST POPULAR
Bell 206

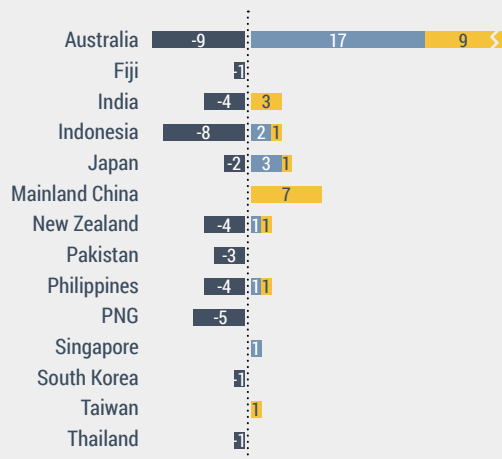


LARGEST FLEET
Australia

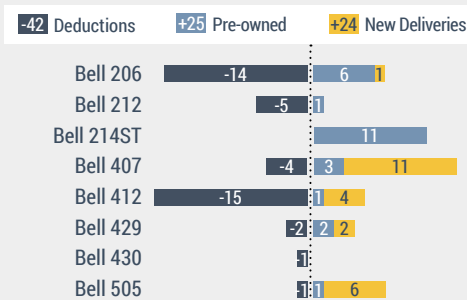
	AUSTRALIA	MAINLAND CHINA	JAPAN	NEW ZEALAND	INDIA	INDONESIA	PNG	PHILIPPINES	SOUTH KOREA	MALAYSIA	BANGLADESH	CAMBODIA	PAKISTAN	NEPAL	OTHERS	TOTAL
Bell 206	275	41	21	98	14	11	8	13	10	10			2	2	2	507
Bell 407	20	125	7		22	12	15	5	2	2	4			1	2	217
Bell 412	38	8	49		27	21	3	5	1				1		2	155
Bell 505	14	28	20	3	2	4		7		1		2			2	83
Bell 429	11	18	9	7	9	5		8			2	1				70
Bell 212	14	1	1			3	14								1	34
Bell 205	21		1	7					1							30
Bell 430			11		2		1	2	2		1					19
Bell 427	4	1	6	2	2	2		1								18
Bell 214	12						1		5							18
Bell 214ST	14															14
Bell 204	5		5	1												11
Bell 222	2			1			3			1						7
Bell 230	1				2				1		1					5
Bell 209	2															2
Bell OH-58	1															1
TOTAL	434	222	130	119	80	58	45	41	22	14	8	3	3	3	9	1,191

Additions and Deductions

BY COUNTRY/ REGION



BY MODEL



NOTE: Excludes movements between countries/regions in Asia-Pacific

LEONARDO



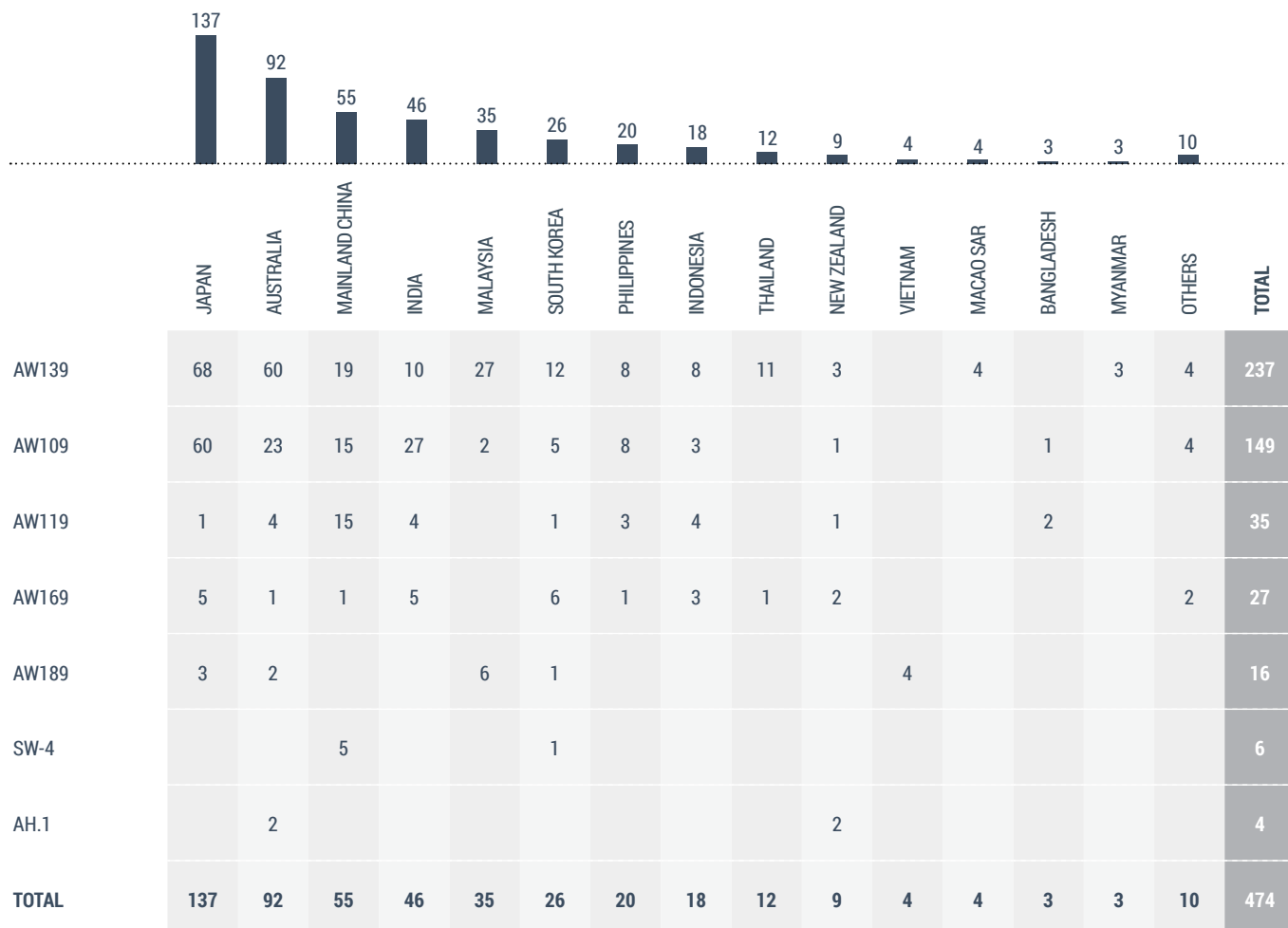
NET GROWTH
23 ▲ 5.1% ▲



MOST POPULAR
AW139

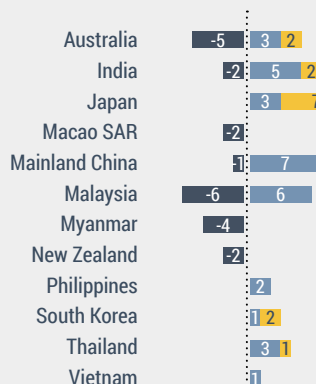


LARGEST FLEET
Japan

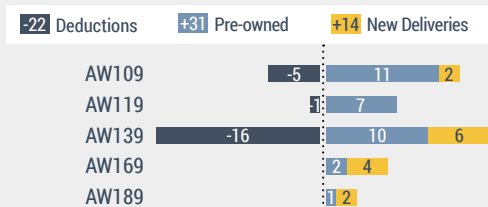


Additions and Deductions

BY COUNTRY/ REGION



BY MODEL



NOTE: Excludes movements between countries/regions in Asia-Pacific

SIKORSKY



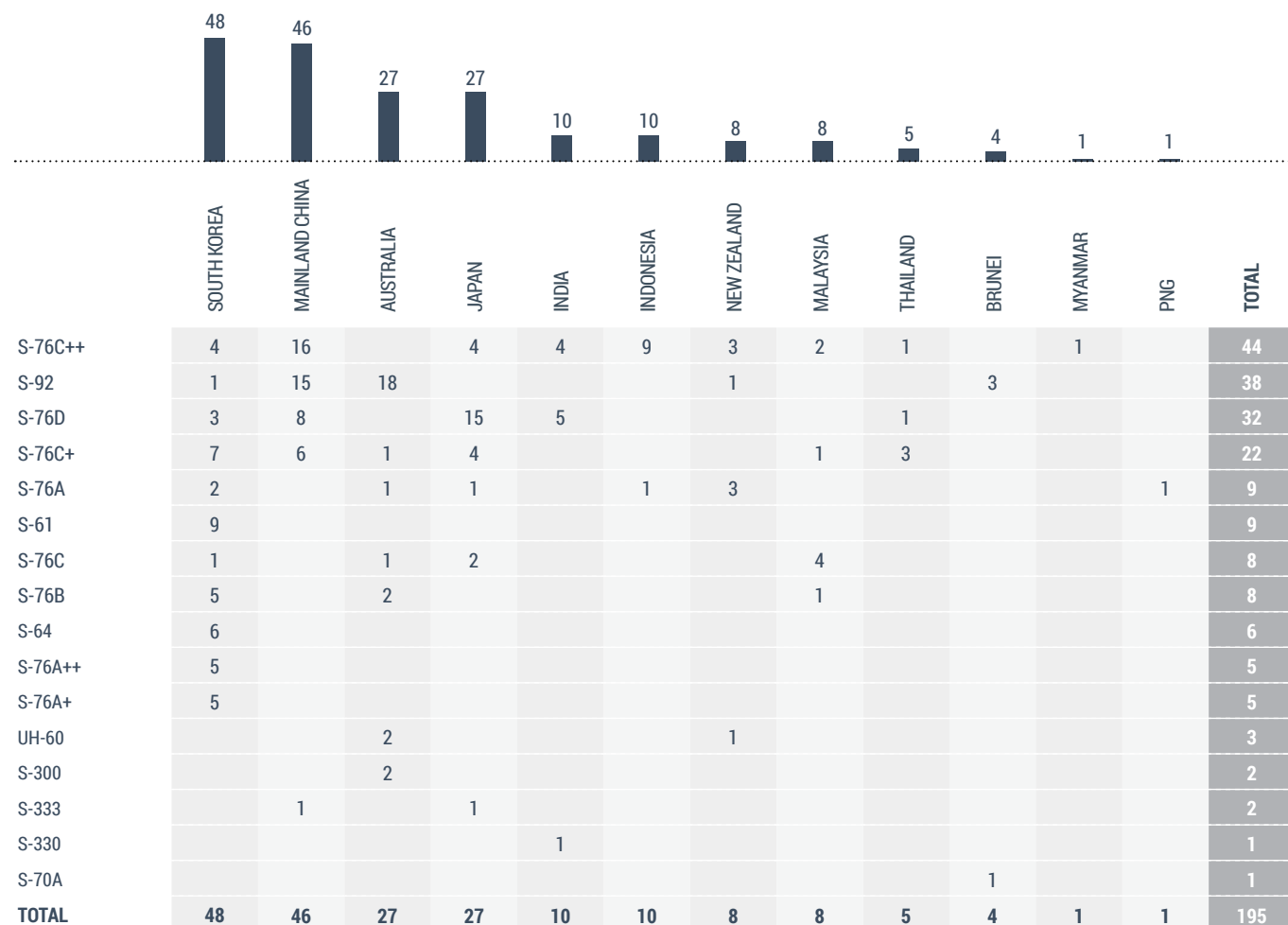
NET GROWTH
2↑ 1.0%↑



MOST POPULAR
S-76C++

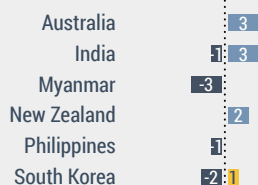


LARGEST FLEET
South Korea



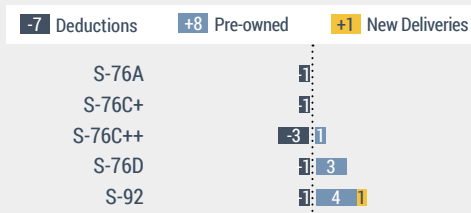
Additions and Deductions

BY COUNTRY/ REGION



NOTE: Excludes movements between countries/regions in Asia-Pacific

BY MODEL



MD



NET GROWTH
3↓ 1.7%↓



MOST POPULAR
MD 500



LARGEST FLEET
New Zealand

	NEW ZEALAND	AUSTRALIA	JAPAN	PHILIPPINES	HONG KONG SAR	SOUTH KOREA	INDONESIA	MAINLAND CHINA	INDIA	VANUATU	NEW CALEDONIA	TOTAL
MD 500	82	12	3	8	1	3	3			1	1	114
MD 520	21	2			1	1		1				26
MD 900	1		10	3	4			1	2			21
MD 600	5	1	1	1				1				9
MD 530	5	1										6
TOTAL	114	16	14	12	6	4	3	3	2	1	1	176

Additions and Deductions

BY COUNTRY/ REGION

Australia	1
India	1
Japan	1
New Zealand	1
Pakistan	1
Philippines	1

BY MODEL

MD 520	-2	2
MD 530	1	
MD 600	1	
MD 900	1	

-5 Deductions

- Pre-owned

+2 New Deliveries

NOTE: Excludes movements between countries/regions in Asia-Pacific



RUSSIAN HELICOPTERS



NET GROWTH
0 ● 0.0% ●



MOST POPULAR
KA-32



LARGEST FLEET
Mainland China

	56	50	11	8	5	4	4	4	5	
	MAINLAND CHINA	SOUTH KOREA	VIETNAM	INDIA	PNG	INDONESIA	NEPAL	MONGOLIA	OTHERS	TOTAL
KA-32	17	42				2			1	62
Mi-171	32		3	1						36
Mi-8	3		6	7	5	2	4	4	4	35
Mi-2		8								8
Mi-26	4									4
Mi-17			2							2
TOTAL	56	50	11	8	5	4	4	4	5	147



ROBINSON



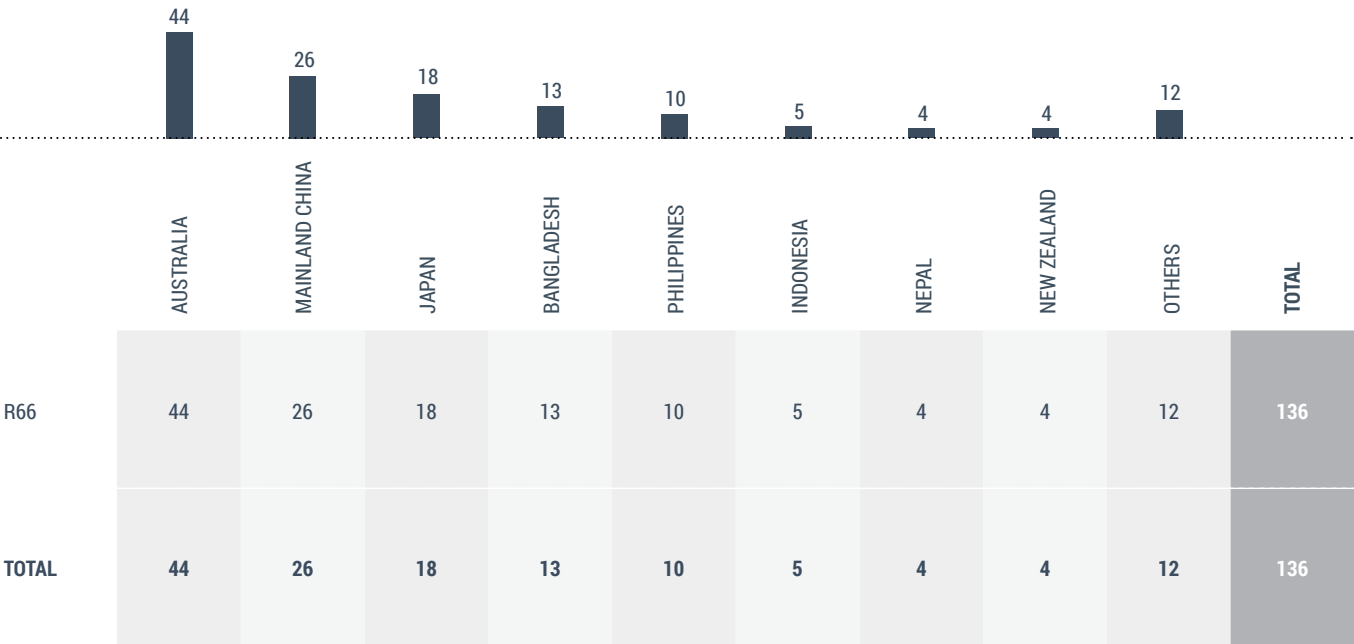
NET GROWTH
15 ▲ 12.4% ▲



MOST POPULAR
R66



LARGEST FLEET
Australia



AVIC



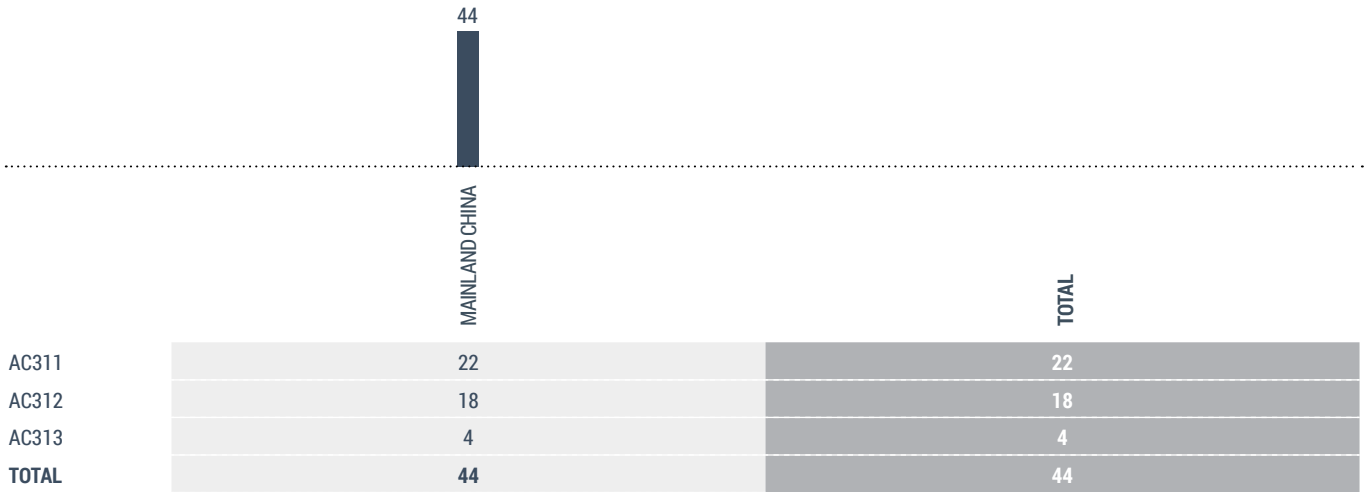
NET GROWTH
0 ● 0.0% ●



MOST POPULAR
AC311



LARGEST FLEET
Mainland China



ENSTROM



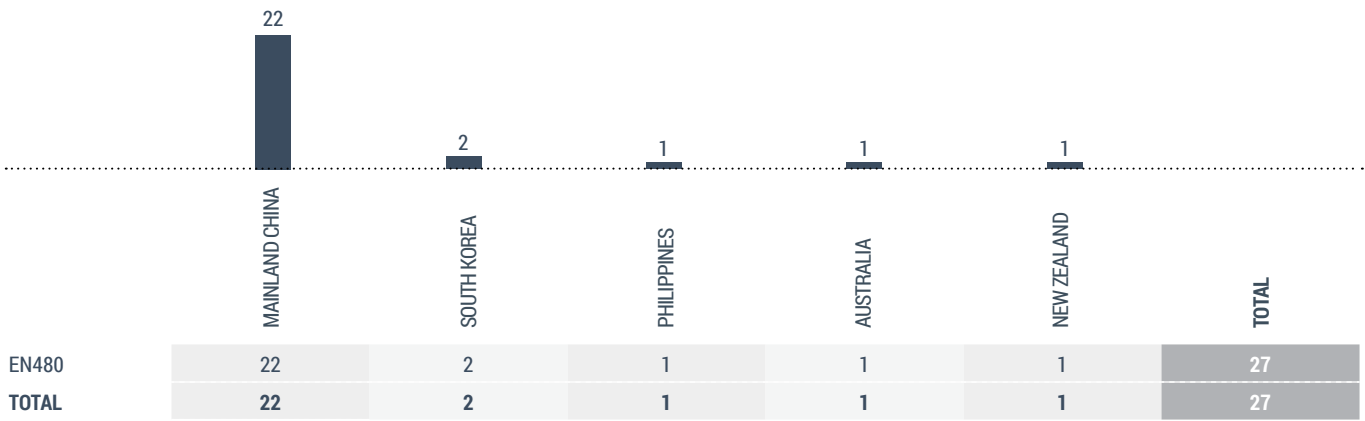
NET GROWTH
1 ↓ 3.6% ↓



MOST POPULAR
EN480



LARGEST FLEET
Mainland China



Additions and Deductions

BY COUNTRY/
REGION

Indonesia



BY MODEL

EN480



-1

Deductions

-

Pre-owned

-

New Deliveries

NOTE: Excludes movements between countries/regions in Asia-Pacific



5 REASONS TO CHOOSE ASIAN SKY GROUP

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02 CHOOSE A TEAM OF CERTIFIED AIRCRAFT BROKERS
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IADA aircraft dealers are responsible for 40% of the world's pre-owned sales. IADA Accredited Dealers buy and sell more aircraft by dollar volume than the rest of the world's dealers combined, averaging over 700 transactions and USD\$6 Billion in volume per year. Asian Sky Group is the only IADA member in Asia.

04 CHOOSE A PARTNER THAT CAN ACCESS THE MOST EXCLUSIVE AND TRUSTED GLOBAL MARKETPLACE
Asian Sky Group lists and sources aircraft from an exclusive global online marketplace. AircraftExchange.com is the exclusive online marketplace of IADA and is the industry's most trusted source for the sale or lease of aircraft. IADA's robust listing verification process ensures aircraft advertised are truly available for sale.

05 CHOOSE A PARTNER THAT CAN ACCESS BEST-IN-CLASS PRODUCTS AND SERVICE PROVIDERS
Asian Sky Group has exclusive access to IADA-verified products and service members. These members are industry leaders in their respective fields, including escrow, legal, financial services, maintenance and refurbishment, aircraft management and operation, and over 15 other specialties.

- DISCRETION
- EXPERIENCE
- TRANSPARENCY
- PROFESSIONALISM
- ACCESS
- GLOBAL NETWORK

MARKET UPDATES

ENGINE OVERVIEW

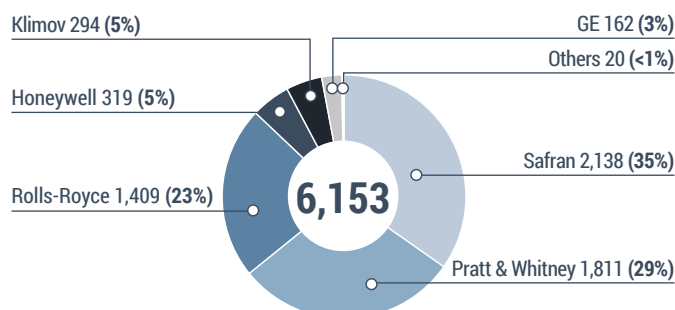
In 2022, the region's fleet of 4,193 helicopters was powered by 6,153 engines, which had increased by 2.2% since 2020 with the addition of 130 engines. Three engine manufacturers, GE (36 units), Pratt & Whitney (34 units), and Rolls-Royce (three units), saw growth in the region, while Safran and Honeywell saw reductions in their engine counts, losing 13 and six units, respectively.

Safran was the leading engine OEM in the region, with a 35% market share and a total of 1,601 helicopters powered by its engines. The Arriel and Arrius series engines were the most widely used in helicopters such as the H125, AS365, and Bell 505. Pratt & Whitney had the second largest market share at 29%, powering 922 helicopters. The PT6 and PW200 series engines were the most commonly used in helicopters such as the AW139, AW109, H135, and Bell 412.

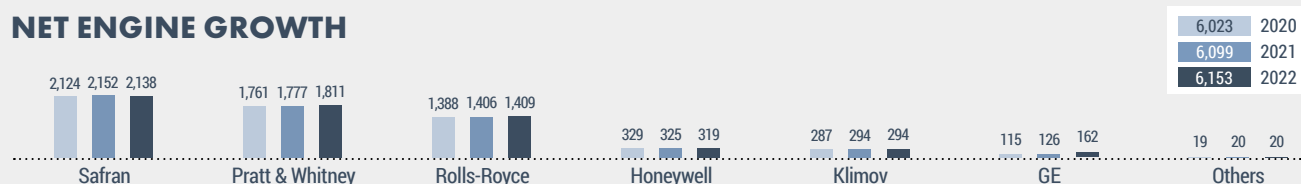
Rolls-Royce was the third largest engine manufacturer, with a 23% market share and a total of 1,250 helicopters powered by its engines. The Allison 250 engine was used to power 70% of Bell helicopters, including the Bell 206, Bell 407, and MD 500, while the RR300 engine series was only used to power the Robinson R66 models in the region.

Honeywell ranked fourth with a 5% market share and 179 helicopters powered by its engines. The LTS101 engine series was the most well-known, fitted to models such as the BK117, AC311, and H145. In 2022, Klimov saw no change in its engine count and continued to supply 294 engines that powered a total

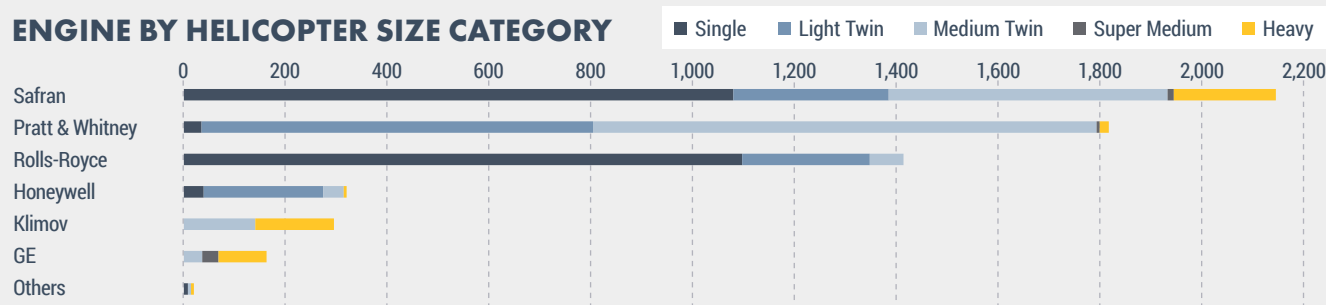
ENGINE OEM MARKET SHARE



NET ENGINE GROWTH



ENGINE BY HELICOPTER SIZE CATEGORY



of 147 helicopters. The TV3 engine series was the most popular, powering models such as the KA-32 and Mi-171.

In 2022, GE controlled 3% of the Asia-Pacific market, having supplied 162 engines to a total of 81 helicopters. The company primarily supplied engines for helicopters ranging in size from Medium to Heavy, with its most notable engines, the CT7 and T700, installed on models such as the S-92 and AW189.

The largest market share of engines was for powering Single engine helicopters, which accounted for 37% of engine production. Rolls-Royce and Safran produced the greatest proportion of engines for this size category, with 1,093 units and 1,076 units, respectively. Engines produced for the Medium Twin category accounted for the second largest market share (30%), with Pratt & Whitney producing the largest number of engines for this category, at 986 units. Safran produced the second highest number of engines for this category, at 546 units, while around half of Klimov's total engine output was installed on Medium Twin helicopters.

Light Twin size engines accounted for one-quarter of the market share in the region. Pratt & Whitney produced the most engines for Light Twin helicopters, with 766 units. Heavy engines accounted for 8% of the market in the region, with the major manufacturers in this category being Safran (200 units), Klimov (154 units), and GE (94 units).

Three engine OEMs produced engines for the Super Medium category: GE (32 units), Safran (12 units), and Pratt & Whitney (six units).

Safran powered the largest proportion of OEM-produced engines for helicopters set up for Corporate/Private use, with a 44% share of the corporate fleet. It also powered the greatest number of Offshore helicopters. Pratt & Whitney powered the majority of helicopters configured for EMS, SAR, and Law Enforcement, while Rolls-Royce powered the greatest number of helicopters for wider utility purposes, accounting for 23% of the Multi-Mission fleet.



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APPENDIX

SUBREGION BREAKDOWN

GREATER CHINA	OCEANIA		SOUTH ASIA	SOUTHEAST ASIA		NORTHEAST ASIA
Mainland China	Australia	Papua New Guinea	Bangladesh	Brunei	Philippines	Japan
Hong Kong SAR	Fiji	Solomon Islands	Bhutan	Cambodia	Singapore	Mongolia
Macao SAR	French Polynesia	Vanuatu	India	Indonesia	Thailand	South Korea
Taiwan	Micronesia		Nepal	Laos	Vietnam	
	New Caledonia		Pakistan	Malaysia		
	New Zealand		Sri Lanka	Myanmar		

MISSION CATEGORIES

In this report, mission categories include:

- Multi-Mission
- Offshore
- Search and Rescue (SAR)
- Emergency Medical Service (EMS)
- Law Enforcement
- Training
- Corporate/Private
- Charter

The largest mission category is broadly defined as

Multi-Mission. Most helicopters in this category are active in more than one mission and can be configured to perform various tasks. This includes a number of subcategories:

- Onshore Oil & Gas and Mining (distinct from offshore)
- Cargo Lifting
- Forestry (surveying, logging and protection)
- Firefighting
- Aerial Photography
- Aerial Tours
- Agriculture and Pest Control
- Powerline Repair and Survey
- Media Industry

Offshore missions include:

- Offshore Oil & Gas
- Offshore Wind Farm
- Marine Pilot Transfer

SIZE CATEGORIES

SINGLE

Bell 204	AH.1	H120	SA341	FH-1100
Bell 205	AW119	H125	S-300	Helicycle
Bell 206	SW-4	H130	S-330	K-Max
Bell 209	MD 500	SA313	S-333	Mosquito XET
Bell 407	MD 520	SA315	EN480	Rotorway JetExec
Bell 505	MD 530	SA316	R66	
Bell OH-58	MD 600	SA319	AC311	

LIGHT TWIN

Bell 222	AS355
Bell 230	BK117
Bell 427	BO105
Bell 429	H135
AW109	H145
MD 900	

MEDIUM TWIN

Bell 212	H155	S-76C+
Bell 214	H160	S-76C++
Bell 214ST	S-70A	S-76D
Bell 412	S-76A	UH-60
Bell 430	S-76A+	AC312
AW139	S-76A++	Dhruv
AW169	S-76B	KA-32
AS365	S-76C	Mi-2

SUPER MEDIUM

AW189
H175
Bell 525

HEAVY

AS332L	S-92
AS332L1	AC313
AS332L2	BV234
H215	Mi-17
H225	Mi-171
S-61	Mi-26
S-64	Mi-8

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Flexjet to Expand Private Jet Terminal Network in 2023

Flexjet, the fractional jet provider, will be opening three private terminals in 2023 at Opa Locka Executive Airport (Florida), Bozeman Yellowstone International Airport (Montana) and Scottsdale Airport (Arizona).

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Modern Aviation Kicks off Hangar Construction in Puerto Rico

FBO network company Modern Aviation has started a new hangar development project in San Juan, Puerto Rico to expand its capability for heavy business jets.

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UAE-based DCAF Adds Global 7500

DC Aviation Al-Futtaim (DCAF) has added a Bombardier Global 7500 to its existing fleet, bringing its total number of aircraft to nine. The new aircraft will be based at Al Maktoum International Airport.

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Bombardier Announces Strong 2022 Preliminary Earnings

Bombardier's preliminary 2022 financial results show that the Canadian manufacturer's 2022 year-end performance will exceed full-year guidance.

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