



**FORECAST**  
INTERNATIONAL

**2022 - 2031**

# **The World Military Rotorcraft Market**



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Despite the existence of various economic difficulties and unsettled political situations in many places around the globe, rotorcraft manufacturers are generally optimistic regarding future market prospects. Military rotorcraft production rebounded at a robust pace in 2021, rising by approximately 17 percent during the year, after falling by some 15 percent in 2020. The rise in output indicated that, while the pandemic was, and is still, ongoing, manufacturers in 2021 nevertheless managed to overcome, or at least substantially mitigate, many of the COVID-19 related issues that had impacted operations in 2020. These issues included such difficulties as temporary facility closures, supply chain interruptions, and delivery delays. Production in 2021 totaled 599 rotorcraft, almost equaling the total of 601 rotorcraft that was produced in the pre-pandemic year of 2019.

Recent military and political tensions can be expected to spur additional spending on the acquisition of new military rotorcraft in various countries around the world, especially in regions such as Europe, the Middle East, and the Asia/Pacific. The procurement picture is a little different in the U.S., which is the largest single national market for military rotorcraft and is expected to acquire more





than one-third of all the military rotorcraft forecast to be produced in the next 10 years. The U.S. military is nearing the end of a replacement cycle for its rotorcraft fleets, and is preparing for the introduction of new rotorcraft types emerging from the Future Vertical Lift (FVL) program at the end of the current decade.

Nevertheless, it would not be surprising should there be increases, even if relatively minor in scope, to the total planned buys within certain of the existing U.S. legacy rotorcraft procurement programs. Even more likely might be an acceleration of the pace of rotorcraft procurement, possibly at the instigation of Congress, involving a shift of already-planned rotorcraft from budgetary outyears to the present.

Overall, our forecast for worldwide production of military rotorcraft anticipates another substantial increase in output in 2022, with production rising by more than 10 percent to 664 units. While some retrenchment from that level is expected as soon as 2023, annual production is forecast to be relatively stable from that year through at least 2027, with yearly unit production levels in the mid- to high 500s.

Production levels are anticipated to decline somewhat after 2027 as acquisition of legacy rotorcraft slows on the part of the U.S. military and others. By 2031, production will be complete, or nearly

complete, for several long-standing military requirements or programs of record.

Market trends appear to be more favorable in the period just beyond the 10-year forecast timeframe. In the early 2030s, production will be ramping up of the Future Attack Reconnaissance Aircraft (FARA), the Future Long Range Assault Aircraft (FLRAA), and other new rotorcraft intended to refresh and modernize global military rotorcraft fleets. Demand for such rotorcraft should result in a return at that time to sustained annual market growth.

The FARA and FLRAA are planned to be the first rotorcraft to emerge from the Pentagon's Future Vertical Lift (FVL) program. This program is aimed at developing a series of all-new rotorcraft across the capability spectrum for the modernization of U.S. military rotorcraft fleets. The FARA is slated to fill the armed scout role for the U.S. Army that was once performed by OH-58D Kiowa Warriors and is now performed by AH-64s and unmanned aerial vehicles.

The Army is in the process of shaping its final requirements for the FARA. Competing for the FARA contract are the Bell 360 Invictus, a tandem-seat helicopter with a four-blade rotor, and the Sikorsky Raider X, a rigid-rotor coaxial helicopter with a pusher propeller. Contract award is scheduled for FY24, after a competitive



fly-off of prototypes in FY23. First Unit Equipped is planned for 2030.

The FLRAA is aimed, at least initially, at replacing the Army's UH-60M Black Hawk utility helicopters. Contenders are the V-280 Valor tiltrotor aircraft from Bell and the Defiant X compound helicopter from Sikorsky and Boeing. Contract award is planned for FY22. First Unit Equipped is scheduled for 2030.

The Army is also hoping to develop an attack helicopter derived from the FLRAA utility model but, for now, this effort is on hold. Meanwhile, the U.S. Marine Corps' AH-1Zs and UH-1Ys could be replaced by FLRAA variants.

Other platforms that may eventually emerge from the FVL program include a maritime strike platform to replace U.S. Navy Seahawk helicopters and Fire Scout unmanned aerial vehicles, a medium-class rotorcraft that might be used to replace the Marine Corps' V-22 tiltrotor aircraft, and a heavy-lift rotorcraft intended to complement, and possibly replace, the Army's CH-47Fs and the Marines' CH-53Ks.

The rotorcraft that are ultimately selected as the winners of the FARA and FLRAA contracts will also become strong contenders for sales on the export market. In particular, the market potential of the winning FLRAA platform may be





substantial. Any country that currently flies Black Hawks or, indeed, most any medium-lift utility/transport helicopter could be viewed as a possible customer for the FLRAA.

In February 2022, the U.S. and the U.K. signed a cooperative feasibility assessment agreement regarding the FVL program. Under the agreement, the two countries are to ensure the future interoperability of their rotorcraft requirements and programs, explore and analyze new concepts, and assess collaboration opportunities on the FARA, FLRAA, and other programs.

It is difficult to overestimate the importance of the FVL effort to the rotorcraft industry. Serial production of the rotorcraft that emerge from the FVL program to meet requirements in the U.S. and elsewhere will be one of the key elements that undergird future market growth. Already, the FVL program has kickstarted product innovation efforts at U.S. military rotorcraft manufacturers that, understandably, had for years tended to focus on the upgraded legacy designs that the U.S. military had been, and still is, procuring. It can also be argued that various manufacturers not currently involved with FVL have





nevertheless been indirectly influenced by it: witness the recent spate of technology demonstration projects across the global industry.

The U.K. is also a member of the Next Generation Rotorcraft Capability (NGRC) initiative that was launched in 2020 under the auspices of NATO. Other NGRC members are France, Germany, Greece, Italy, and the Netherlands. The NGRC initiative is initially aimed at development and production of a medium-class multirole rotorcraft to replace existing assets in allied fleets starting in the 2035-2040 timeframe. It is completely independent of the FVL program, but is looking at basically the same requirement as is being addressed in the U.S. by the FLRAA. Nevertheless, the NGRC requirement could well be filled by a European design. Airbus Helicopters and Leonardo are considering a future teaming arrangement to design and develop a new rotorcraft to meet that requirement.

In the meantime, the U.K. requires a New Medium Helicopter (NMH). The NMH program involves acquisition of up to 44 medium-lift rotorcraft to replace Royal Air Force Pumas, British Army Bell 212s, and two other types in British fleets starting in the mid-2020s. Contenders for the NMH contract include the Airbus Helicopters H175M, the Leonardo AW149, and the Sikorsky Black Hawk. Bell and Boeing have also indicated interest in the contest.

The H175M is a dedicated military variant of Airbus Helicopters' civil H175 super medium twin. A military version of the company's new H160 medium twin, called the H160M, is also under development. First flight of the H160M is planned for 2023. This new model is designed to be a multirole platform quickly reconfigurable for use in various military and parapublic missions. In 2017, it was chosen as the platform for France's joint-service Helicoptere Interarmees Leger (HIL) program, which involves the replacement of five legacy helicopter types across the fleets of the French Air Force, Army, and Navy. Under the HIL program, a total of 169 H160Ms are to be acquired, with deliveries scheduled to get underway in 2027. The initial 30 helicopters were ordered in December 2021.

Airbus Helicopters in fact markets military variants of nearly all its civil helicopter models. Its military line-up ranges from the H125M light single up to the heavy-lift H215M and H225M. The company is also a participant, along with Leonardo and Fokker Aerostructures, in the NH Industries consortium that produces the military NH90 multimission helicopter. NH Industries has sold nearly 600 NH90s since the start of the program. The helicopter's market success is due in part to its multirole capability, its availability in two main versions (the land-based TTH and the maritime NFH), and the modular approach taken in its design.



Leonardo is developing a new attack helicopter, dubbed the AW249, that is intended to replace the Italian Army's A129 Mangustas. The service needs 48 AW249s. The AW249, which is also being marketed for export sale, will be powered by a pair of 2,500-shp GE Aviation CT7-8E6 engines. Also in development at Leonardo is the AW609 tiltrotor aircraft, which is mainly aimed at the civil market but does have some potential applications for certain unarmed military missions.

The U.S. Navy is acquiring up to 130 TH-73A training helicopters from Leonardo.

The Navy received its first operational TH-73A in mid-2021. The TH-73A, a variant of Leonardo's AW119 light single, is replacing TH-57s in the Navy fleet. The U.S. Air Force is acquiring up to 84 MH-139s from Leonardo and Boeing. Deliveries got underway in late 2019. The MH-139 is replacing the service's UH-1Ns, and is a version of the Leonardo AW139 intermediate twin.

Boeing is teamed with Bell on the V-22 tiltrotor aircraft, different versions of which are currently in production for three U.S. services: the Marine Corps, the Air





Force, and the Navy. The V-22 is also in production for the Japan Ground Self-Defense Force, so far the only export customer for the type. Production for all four customers may come to an end by the mid- to late 2020s, however, with further production likely dependent on the securing of additional export sales.

Bell's military line-up also includes the AH-1Z light attack helicopter and the UH-1Y utility helicopter. The U.S. Marine Corps is the original operator of both models. While the Marine Corps' acquisition of the UH-1Y has been completed, and its acquisition of the AH-1Z is nearing an end, both helicopters continue in production for export customers.

The Boeing product line includes the AH-6 light attack/armed reconnaissance helicopter, the AH-64 attack helicopter, and the CH-47F Chinook heavy-lift transport. Under a February 2022 contract, the Royal Thai Army is acquiring eight AH-6s to replace aging AH-1F Cobras.

Over the years, both the AH-64 and CH-47 have enjoyed tremendous success on the U.S. and export markets. The latest version of the AH-64 is the AH-64E Guardian, which is available as a new-build helicopter and can also be remanufactured from existing AH-64Ds. By the end of 2021, the U.S. Army had taken delivery of some 470 AH-64Es toward a procurement





objective of 791 AH-64Es. Though subject to change, the service's plans call for the 791-unit total to include at least 79 new-build AH-64Es, with the remaining units to be remanufactured machines. The Army plans to keep the AH-64E in service until 2060.

With a strong push from Congress, the Army now appears to be proceeding with the CH-47F Block II program, which is to involve the remanufacture of some 470 Block I CH-47Fs to the Block II standard. The Army also plans to acquire at least 74 MH-47Gs in a somewhat similar Block II configuration. The MH-47G Block II helicopters are to be a mix of new-builds and conversions of earlier MH-47Gs.

Sikorsky's flagship product is the UH-60M Black Hawk. The U.S. Army plans to acquire 1,375 M series Black Hawks, a total that includes 956 UH-60Ms and 419 HH-60M medevac models. The service had taken delivery of more than 1,100 of these helicopters by the end of 2021. Deliveries are also underway to the U.S. Air Force of a planned 105 HH-60W combat rescue helicopters. Other H-60 variants include the S-70i multirole model and the MH-60R Seahawk maritime helicopter.

In addition to the H-60 family, Sikorsky's product line includes the VH-92, selected to be the U.S. president's next transport rotorcraft, and the CH-53K heavy-lift helicopter, some 200 of which are being

acquired by the U.S. Marine Corps. In the first export deal for the CH-53K, the Israeli Air Force is acquiring 12 of the helicopter.

Several other manufacturers are making concerted efforts to expand their presence in, and share of, the military rotorcraft market. Turkish Aerospace is producing the T129 attack helicopter, a derivative of Leonardo's AW129 Mangusta, for Turkey's Army and internal security agencies. The company has begun production of the T70 Black Hawk utility helicopter, a variant of Sikorsky's S-70i model, for Turkey's armed forces, national police, and forestry directorate.

Turkish Aerospace is also developing several indigenous designs. These include the 6-metric-ton class T625 utility helicopter, a 10-metric-ton heavy-lift helicopter, and a pair of attack helicopters. The latter include the 6-metric-ton class T629 and the 11-metric-ton T929 ATAK 2.

Hindustan Aeronautics Ltd (HAL) of India is working on several rotorcraft development projects. These include a single-engine Light Utility Helicopter (LUH) in the 3-metric-ton class and the twin-engine, 13-metric-ton Indian Multi Role Helicopter (IMRH). Designed to meet the requirements of the Indian armed forces, the IMRH is intended for use in transport, air assault, logistics, combat search-and-rescue, and medevac missions.



Deliveries began in 2021 of HAL's Light Combat Helicopter (LCH), which is a dedicated attack helicopter that is being acquired by India's Air Force and Army. Meanwhile, production continues of the Dhruv multirole helicopter, of which more than 335 units had been built by HAL through 2021.

Korea Aerospace Industries (KAI) is also expanding its rotorcraft product line. The company has developed its Surion utility helicopter, which is currently in production for the South Korean Army, into a wide-ranging family of models aimed at various

market segments. One of these models is the MUH-1 Marineon, an amphibious assault helicopter that is being acquired by the South Korean Marine Corps. KAI is also developing a maritime attack version of the Marineon for the Marines.

KAI is developing two new helicopters based on the Airbus Helicopters H155. The Light Armed Helicopter (LAH) is an attack helicopter intended for use by the South Korean Army. The South Korean Army plans to acquire some 200-210 LAHs. The Light Civil Helicopter (LCH) is aimed at the commercial and parapublic rotorcraft





markets. Initial deliveries of both the LAH and LCH are planned for 2023.

The military rotorcraft product line of Aviation Industry Corp of China (AVIC) includes such models as the three-engine Z-8 and Z-18 multirole helicopters, the twin-engine Z-9 multipurpose helicopter and its Z-19 light attack variant, the Z-10 attack helicopter, the Z-11 multipurpose helicopter, and the Z-20 medium-lift transport. AVIC is active in growing its product portfolio, often through the introduction of new versions of its various models, such as the Z-8G tactical transport and the Z-9DF anti-submarine warfare helicopter.

Russian Helicopters has developed improved variants of its Ka-52 and Mi-28 attack helicopters. The Ka-52M features a V006 Rezets active electronically scanned array (AESA) radar, an OES-52 electro-optical targeting system, an updated power supply system, and improved armor protection. In 2021, Russian Helicopters was awarded a contract to supply 30 KA-52Ms to the Russian armed

forces; the 30 helicopters are intended to be the initial tranche of an eventual acquisition of 114 Ka-52Ms.

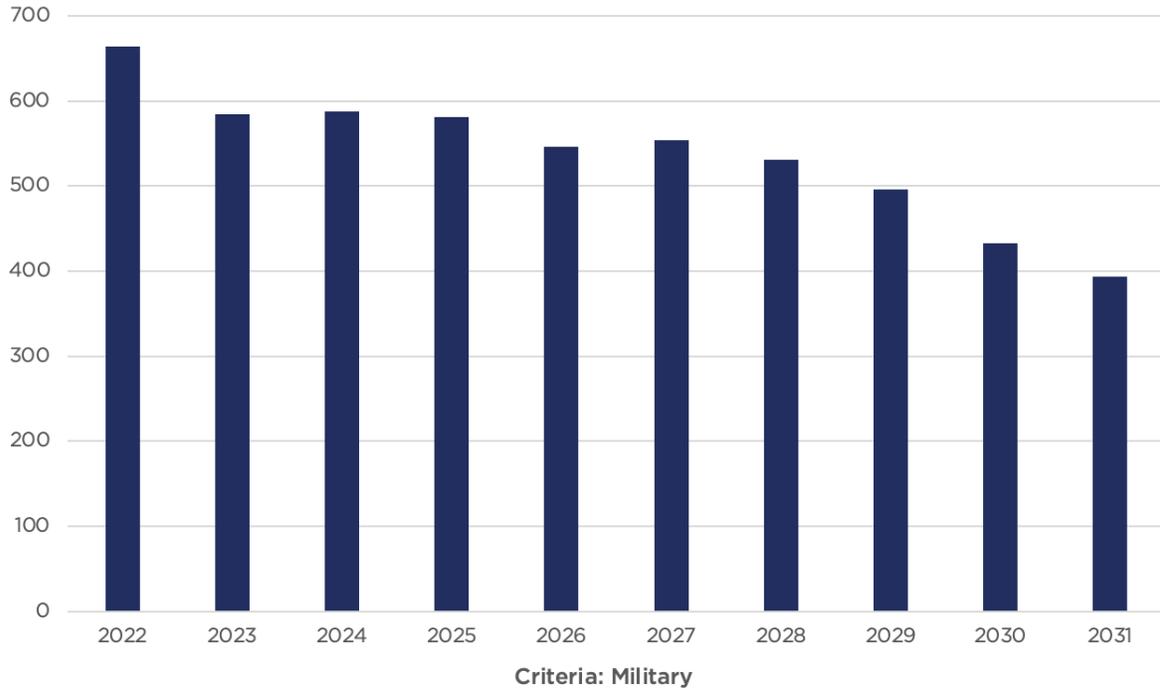
The Mi-28NM features a modified fuselage, Klimov VK-2500P turboshaft engines, new composite main rotor blades, dual controls, an N025 radar, improved avionics, and an enhanced array of weapons. Russian Helicopters is under contract from the Russian Ministry of Defense for the supply of 98 Mi-28NMs.

The Russian Helicopters product line also includes such helicopters as the Mi-26 heavy-lift transport, the Mi-35M attack helicopter, the Mi-38T multirole helicopter, and the multipurpose Mi-8/17 family.

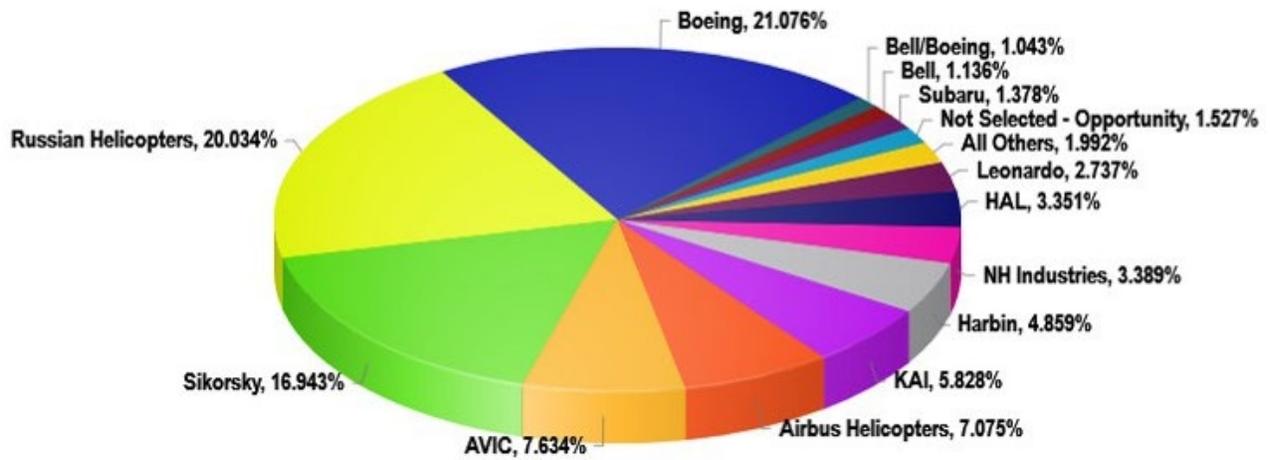
Our forecast indicates that 5,371 military rotorcraft will be produced during the period from 2022 through 2031. The value of this production is estimated at \$141 billion in constant 2022 U.S. dollars. The forecast includes new-build rotorcraft as well as certain remanufactured helicopters. 



### Rotorcraft Unit Production 2022-2031 Forecast

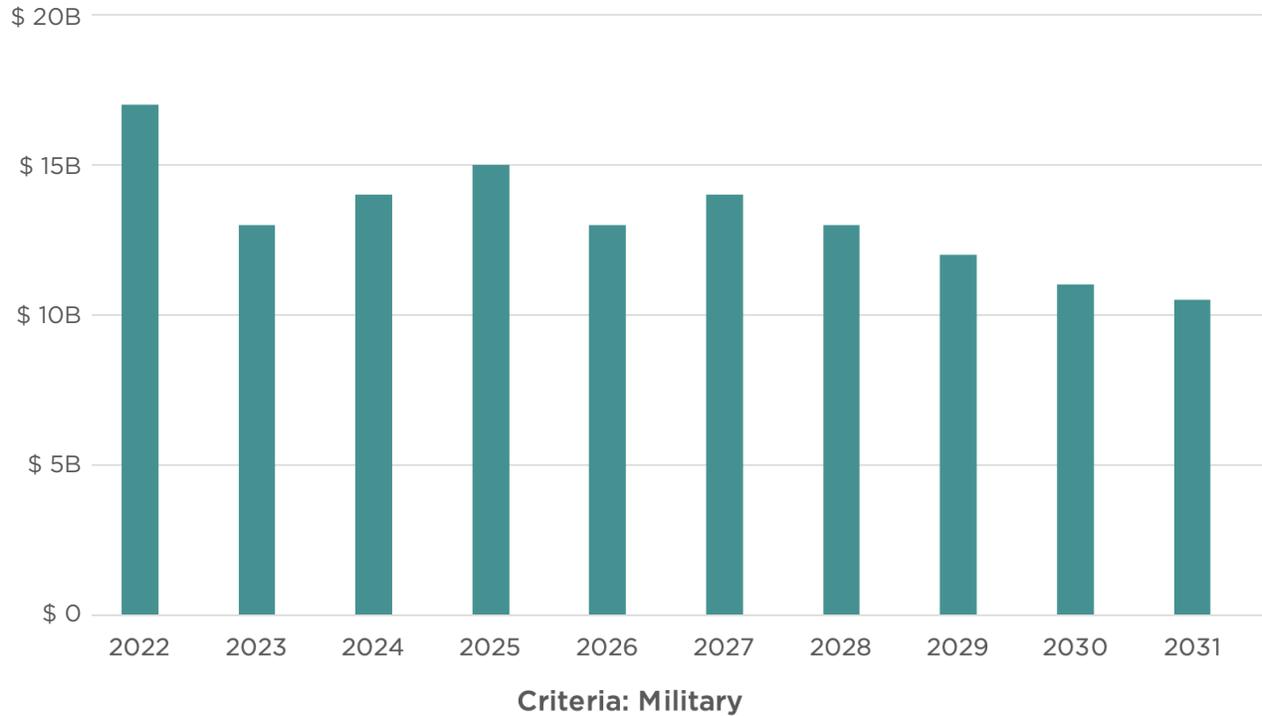


### Rotorcraft Military Unit Production % Market Share by Manufacturer 2022-2031

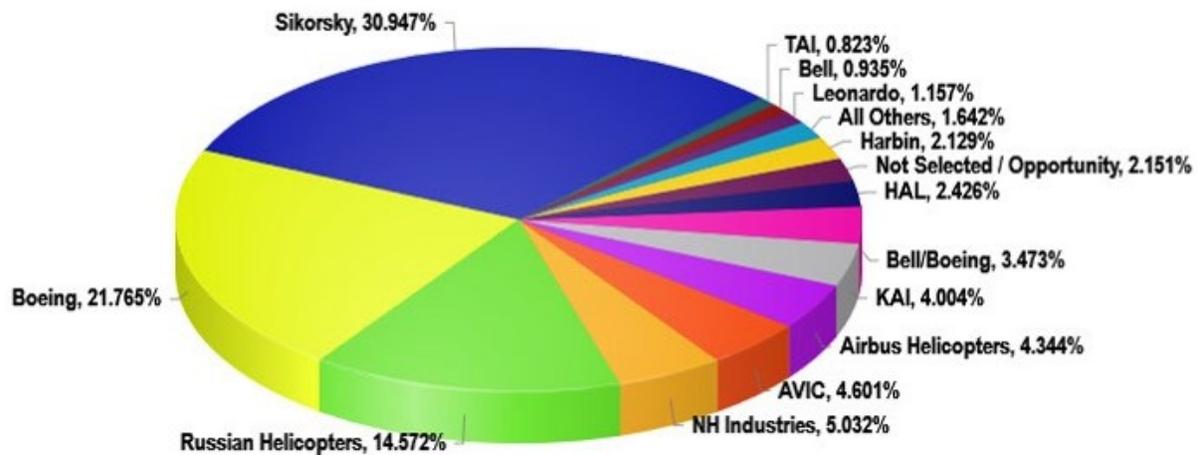




### Rotorcraft Value Statistics 2022-2031 Forecast



### Rotorcraft Military Value Statistics % Market Share by Manufacturer 2022-2031





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