

Next-gen Aravalli engines set to power HAL helicopters

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French engine maker Safran Helicopter Engines has been Hindustan Aeronautics Limited's (HAL's) chosen partner for powering its stable of successful light helicopters. Starting with the Artouste engines in the Cheetah and Chetak choppers, they were followed by the Shakti engine and its variants for powering the Dhruv, Prachanda and light utility helicopters (LUH).

Now Safhal Helicopter Engines Private Ltd, a joint venture between HAL and Safran, has signed an airframer contract to commence joint design, development, manufacturing, supply and support of a new generation of high-power engines named Aravalli. These engines will cater to the medium lift, 13-tonne class of choppers being designed and developed by HAL: the Indian Multi-Role Helicopter (IMRH) and the Deck-Based Multi-



The contract was signed by S Anbuvelan (fourth from left), CEO, helicopter complex, HAL; Olivier Savin (second from left), director, Safhal and EVP, OEM sales and marketing, Safran Helicopter Engines; and S K Mehta (extreme left), director, Safhal and executive director (finance), HAL

Role Helicopter (DBMRH).

"The name Aravalli, derived from the mighty mountain range of India, symbolises the aspirations of the country in achieving Aatmanirbharta in critical engine technologies," stated a release by the defence ministry on Friday.

IMRH is a new 13-ton multi-role helicopter, designed by HAL to meet the requirements of the Indian

armed forces. A naval version, the 12.5-ton DBMRH is simultaneously being developed for the Indian Navy. The engines are being designed to operate in the diverse and challenging environments in which the military is usually deployed.

The same is true of the Indo-French Shakti engines that power India's ongoing helicopter

programmes. HAL will build at least 400 twin-engine Dhruv and 180 light combat helicopters (LCH). Another 400 single-engine light utility helicopters (LUH) will replace the current fleet of Chetaks and Cheetahs.

Each LUH will consume 3-3.5 engines over its service life, while the twin-engine chopper will require 6-7 engines, adding up to some 5,000 Shakti engines over their service lives. At the Shakti engine's current unit price of ₹8-10 crore, the expense on these engines would amount to ₹40,000-50,000 crore. Add inflation and the cost of replacing components that fail, and the consumption of gaskets and bearings, the figure would comfortably exceed ₹50,000 crore.

Also planned are variants of these medium helicopters for the civil market, for offshore operations, utility and VVIP transport etc. "This collaboration will not only ensure the operational capabilities of the IMRH and DBMRH platforms but

also contribute to the broader goal of indigenous development of critical defence technologies," HAL Chairman CB Ananthkrishnan said.

"We are extremely proud to collaborate with HAL on this strategic project, capitalising on 25 years of successful partnership between Safran and HAL. Our combined expertise will ensure the success of the IMRH and DBMRH programs, while contributing to the growth of India's aerospace and defence sector," said Cedric Goubet, chief executive officer of Safran Helicopter Engines.

Under this strategic contract, Safhal will be required to work with its parent companies on cutting-edge engine technology, ensuring superior performance, reliability, and operational efficiency. This collaboration involves state-of-the-art design, advanced manufacturing processes and rigorous testing protocols to meet the highest global standards.