

Report on Industrial Visit to HAL Helicopter Division, Bengaluru

About HAL Helicopter Division

HAL Helicopter Division is one of the largest military helicopter production, maintenance, repair and overhaul unit in Asia. It was established at Bangalore in 1970 exclusively for manufacture of 'Chetak' and 'Cheetah' Helicopters in Bangalore under license from M/s SNIAS, France. But over the period, apart from license manufacturing, it started indigenous design and development of utility and Advanced light helicopter Dhruv in 1984. The helicopter first flew in 1992. The division is now expanded its horizon of helicopter activities from R&D to MRO and supporting to international customers. The company is now having the infrastructure of assembly and MRO lines for over 1000 military helicopters, including Kamov 226, LCH (Light Combat Helicopter), ALH (Advanced Light Helicopter), LUH and other variants. The manufacturing of Kamov 226T helicopter is under a joint venture agreement with Russian defence manufacturers. The Kamov 226T will replace the country's fleet of Cheetah and Chetak helicopters. Over the next 5 years, HAL will carry out major upgrades of almost the entire rotary wing fleet of the Indian Air Force, Navy, Army, Coast Guard and civil users. LCH production will now take place in a newly built Light Combat Helicopter Production Hangar at Helicopter Division in HAL Complex. The major products of this division are;

- Dhruv — (*in production*) Advanced light helicopter
- Rudra — (*in production*) Armed and reconnaissance version of Dhruv
- Prachand — (*in production*) Light attack helicopter
- Light Utility Helicopter – under R&D
- Indian Multi Role Helicopter — medium multi-role helicopter which is under development for all the three armed forces

VISIT TO HAL HELICOPTER DIVISION

32 students from 7th Semester Aerospace Engineering along with two faculty members made a visit to HAL HELICOPTER DIVISION on 15.11.2024.

After the security clearance, the students were briefed about the Helicopter Division and works carried out in this Division. Mr. Phillip from HR section of the Division escorted the students to various Helicopter Hangers in the Division and were taken to ALH Dhruv Flying Hanger where they could see the newly assembled and tested helicopters, ready for customer inspection and testing. They were briefed about the major systems and parts of the helicopter, their function and working principles. Propulsion system, electrical and navigational equipment are shown and explained in detail. The role of main rotors and tail rotors were also explained. Senior executives of the Division Mr. Kannan and Mr. Adhikari showed the students the activities in the Flying Hanger and explained the students about various versions of Helicopters currently under R&D and in service in India and abroad made by this Division.



Fig. 32 students of Aerospace Engineering 7th semester and two faculty members of MVJCE during their visit to HAL Helicopter Division, Bengaluru on 15 Nov 2024

Students' exposure to various Helicopters and systems such as: -

- Advanced light helicopter (Dhruv)

- Light Combat Helicopter and Light attack helicopter
- Light Utility Helicopter
- Propulsion System
- Electrical System
- Navigational Equipment
- Transmission system

Outcome of the Industrial Visit

- Students practically learned about various systems involved in military helicopters
- The students could learn about the materials used for helicopter body, rotors and tail rotors and other major components.
- They could physically see the major components of various helicopters
- Students had a view of light combat helicopter with weapon carriage
- They could witness the testing and flying of new helicopter ready for delivery to Indian armed forces.

Acknowledgment

The entire group of 32 students of 7th semester Aerospace Engineering and faculties are grateful to the management of MVJCE for arranging such a wonderful industrial visit to HAL Helicopter Division. They are very thankful to The General Manager, HAL Helicopter Division for giving the permission for this visit and to the Senior Executives Mr. Kannan and Mr. Adhikari for their technical interaction and HR section for making all arrangements inside the Helicopter Division.