

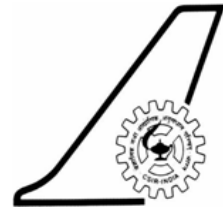


National Aerospace Laboratories

Council of Scientific & Industrial Research

(ISO 9001:2000 certified)

Bangalore – 560 017



SERVICES AND TECHNOLOGIES OFFERED

National Aerospace Laboratories (NAL), set up at Bangalore in 1959, is one of the largest CSIR laboratories. NAL's primary objective is to offer R & D support in Aerospace Engineering and related areas.

NAL has proven expertise to offer a variety of services in:

- * Aerospace vehicle aerodynamics
- * Design and fabrication of complex wind tunnel models using advanced composites
- * Wind tunnel testing of aerospace vehicles
- * Ground vibration testing of full airframe structures
- * Testing of aerospace structures in the Acoustic Test Facility
- * Software for computational fluid dynamics (on sequential and parallel computing machines)
- * Evaluation of materials for fatigue and fracture
- * Evaluation of structural integrity of airframe and other structural components
- * Testing and optimization of compressor and turbine blade profiles using cascade tunnel
- * Design and Development of Composite materials and structures
- * Failure analysis and Accident investigation
- * Design and Development of HANSA (all composite 2 seater, for day/night operations, DGCA type certified aircraft)

NAL's 'spin – off' Technologies for commercial production:

- * Process for synthesis of high purity alumina for electronic and technical ceramics
- * Ultra high speed tin plating bath-for manufacture of plated wire used in resistors and capacitors
- * Black chromium plating bath-for solar energy utilisation
- * Technology for production of autoclaves
- * Flosolver – parallel processing computer
- * Automatic visual range assessor-for monitoring visibility at airports and highways
- * Electrochemical machining equipment
- * Electrochemically assisted arc machine-for cutting superhard billets, bar stocks
- * Wind powered battery charger-for battery charging applications in remote area
- * FEPACS-Finite Element Software Package for analysis of structures
- * Intelligent Mechanical Test Controller-Control servohydraulic mechanical test equipment
- * Integrally geared multistage industrial centrifugal compressor package

Complete know-how documentation, back up training, testing facilities and expert consultation in respect of above are readily available for transfer to interested industries.



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