

## Right to Information ACT - Particulars of organisation, functions and duties

National Aerospace Laboratories (NAL), a constituent of Council of Scientific and Industrial Research (CSIR), is India's pre-eminent civil R&D establishment in aeronautics and allied disciplines. NAL was set up at Delhi in 1959 and moved to Bangalore in 1960.

NAL's primary objective, as articulated in its new Vision Statement, is the "development of aerospace technologies with a strong science content and with a view to their practical application to the design and construction of flight vehicles". NAL is also required "to use its aerospace technologybase for general industrial applications".

NAL's core competence spans practically the whole aerospace spectrum. Over the years, NAL has made very significant contributions to all Indian aerospace programmes; often even setting the national agenda for such programmes. During the last decade NAL has spearheaded the effort to design and develop HANSA and SARAS aircraft for the civil sector.

NAL's real strength lies in its vast reservoir of expertise and facilities created over the years. With this imposing infrastructure, NAL has been very successful in obtaining a large number of R&D contracts for testing and subsystem development for various national programmes as well as industries all over India and abroad. In the past decade, NAL undertook approximately 400 projects worth about 60 million US\$. Over the last few years, NAL has earned more than 60% of its budget through external resources, a unique achievement for CSIR laboratories.

NAL is well-equipped with modern and sophisticated facilities which include national facilities like the Nilakantan Wind Tunnel Centre and the computerised fullscale fatigue test facility. The various facilities and multi-disciplinary expertise, developed primarily for the aerospace sector, are also utilised in other sectors involving high technology. NAL is recognised as a centre for failure analysis and extends its support in investigating failures and accidents both for aerospace and other general facilities. Other major facilities at NAL include: the acoustic test facility, turbomachinery and combustion research facilities, Composite Structures Laboratory, black box readout systems and the FRP fabrication facility.

NAL has a staff strength of about 1300 with about 350 full-fledged R&D professionals (over 100 Ph.D.'s). It is thus in a unique position to offer R&D support, expertise and services to both aerospace and non-aerospace sectors of industry. Some major recent contracts include: development of carbon fibre composite wings for India's Light Combat Aircraft (LCA) programme, design, development and fabrication of a fully-automated autoclave for Hindustan Aeronautics Limited (HAL), development of co-cured fin and rudder for LCA and a shake test facility for HAL's Advanced Light Helicopter (ALH).

Spin-off technologies from aerospace R&D activities have significantly contributed to the non-aerospace sector everywhere in the world. Conscious of this aspect, NAL has made special efforts to identify those developments which could result as off-shoots from the main R&D programmes. About 30 such technologies developed over the last decade have been successfully licensed and transferred to 54 industries against a premier value of 100,000 US\$. The cumulative production value of these technologies is over 10 million US\$.

NAL's models for business development activities include inhouse projects leading to commercialisation, sponsored projects, industry-lab linkages, multi-agency collaborative projects and international contracts. During the last 24 months, NAL has obtained 12 contracts worth over 25 million US\$. NAL has also undertaken about a dozen international projects for Boeing, USA; Civil Aviation Authority, UK; IBM Corporation, USA; Hitachi, Japan etc.

NAL has therefore come a long way from its modest beginnings in 1959-60 when it was housed for some time in the stables of a former Maharaja's palace in Bangalore.

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