



Flying high -- NAL spearheads Indian Civil Aviation Design & Development

National Aerospace Laboratories (NAL), a constituent of the Council of Scientific and Industrial Research (CSIR), India, is the only civilian aerospace R&D laboratory in India. It has many advanced test facilities (many of them recognised as National Facilities) which are the best in the country and comparable to those outside. Along with these facilities, its globally recognised competence has enabled NAL to achieve notable R&D successes, innovative technology developments and advanced testing capabilities. NAL has also provided value added inputs to all national aerospace programmes.

Its contributions over the last five decades have enabled it to create a niche for itself in the areas of advanced aerospace research and technology development. NAL has been listed by India Today as "one of the finest institutions that make the nation work" (Special Issue on 60 years of Independence – August 2008).

NAL's widespread capabilities of providing advanced technology solutions to problems of flight vehicle design enabled it to conceive and implement full scale aircraft programmes of utility to the nation and having potential market overseas. NAL has thus come to spearhead the design and development of small civil aircrafts in India.

NAL's achievements in the civil aeronautics is now fairly well known. Starting with the assembly and flight of a Light Canard Research Aircraft (LCRA), NAL went on to design and develop HANSA, an all composite, 2-seat, trainer aircraft with day and night capabilities. Twelve HANSA aircrafts are now flying in a number of flying clubs (through the courtesy of the DGCA) and fulfilling the need to train a large number of pilots required to meet the ever increasing demand. Most recently two aircraft were delivered to the Chennai Flying Club and one each to the Amritsar and the Guwahati Flying Clubs. The aircraft also flew in the Melbourne Air Show in Australia in 2007 and is undergoing flight certification in that country, thus opening a new commercial window for this aircraft in the international arena.

Two prototypes of SARAS, the 14-seat multi-role light transport aircraft are currently aiding flight certification. The third, weight optimised, Production Standard Aircraft (PSA) is under manufacture and is expected to fly by end of 2009. The aircraft is expected to have full certification by DGCA in 2010. The IAF has indicated its intention to procure 15 numbers of SARAS (with possibly more being procured later) for its operational

use. HAL-Kanpur will be the production agency to meet this requirement.

A 5-seat General Aviation Aircraft is under development jointly with the Mahindra Group. This is the first Public-Private partnership of the country in this sector. The aircraft is expected to fly by the end of the year.

Utilising the expertise acquired during all the above programmes and keeping in view the long term perspectives, NAL has proposed the development of a Regional Transport Aircraft (RTA), under its 11th Five Year Plan programme. This is proposed as a multi-agency programme with NAL playing the leadership role. In anticipation of the approval of this proposal, NAL has already initiated technology development and concept studies related to this aircraft to enhance the preparedness to handle the programme as soon as it receives approval.

In conclusion, NAL, in its Golden Jubilee Year, has reason to be satisfied over its significant and specialised contributions to the nation over the last 50 years in the high-tech aerospace domain. However, it continues to strive towards greater achievements in futuristic aerospace technologies and greater participation in national efforts.