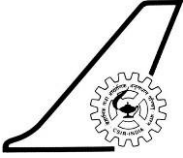


Date of Publication: 19th February 2025



Council of Scientific and Industrial Research
NATIONAL AEROSPACE LABORATORIES
P.B. No.1779, HAL Airport Road, Kodihalli, Bengaluru – 560 017

Advt. No. 1/ 2025, Post No. 1

APPLY OFFLINE ON OR BEFORE 18th March 2025
(Website: www.nal.res.in)

National Aerospace Laboratories (NAL) is a premier research laboratory under the Council of Scientific and Industrial Research (CSIR). In addition to many Research, Development and Technology Programs in Aerospace, CSIR-NAL is actively involved in supporting the National Aerospace Programs of ADA, DRDO, ISRO, HAL and IAF. Further, CSIR-NAL has a strong program in Civil Aircraft development the nationally important project of design and development of a multirole Light Transport Aircraft (SARAS Mk2) and the Regional Turbo-Prop Aircraft (RTA). CSIR-NAL is also developing several aerospace technologies into spin-off industrial applications.

CSIR-NAL is looking for a Specialist Consultant (**Individuals only**) for Weight Optimisation for SARAS MKII light transport aircraft.

SPECIALIST CONSULTANT FOR WEIGHT OPTIMIZATION OF SARAS MK2 AIRCRAFT

A. TECHNICAL AND QUALIFICATION REQUIREMENT

A1. Qualification:

PhD/ MPhil/ ME/ M Tech/MS (in Aircraft Design/Aerospace/Aeronautical/Mechanical Engineering or equivalent.)

Specialization: Aircraft weight optimization, Aircraft design, Aircraft configuration, weight effective structural and system layouts, system routing planning, looming layouts.

A2. Expertise:

Aircraft Design & Systems Knowledge: Rich experience in aircraft structures, materials, systems, and components that contribute to overall weight. Familiarity with how weight impacts flight performance, fuel consumption, and operational efficiency.

Weight Management Techniques: Expertise in weight estimation and analysis methods, including methods for predicting and quantifying weight reduction potential. Proficiency in applying weight-saving techniques, such as lightweight materials (e.g., carbon fiber composites, advanced alloys), structural optimization (size, shape, topology and topography) weight reduction in mechanical system, avionics, electrical, interior design.

Participation in aircraft Weight Control Programs: Familiarity with weight control programs such as Aircraft Weight and Balance and Weight Control Manuals (e.g., FAR 25.841 or similar regulations depending on the region). Experience working with Weight and Balance software tools.

Optimization, Modeling and Simulation: Experience with CATIA, and CAD/CAE tool, optimization modules is desirable.

Knowledge of Certification Process: Thorough understanding of aviation regulations regarding weight limits, safety standards, and certification requirements (e.g., FAA, EASA, or similar). Understanding of the trade-offs involved in weight reduction and how these can affect certification processes or operational limitations (e.g., structural integrity, safety margins and aircraft performance).

A3. Experience:

Minimum 20 years of experience in the aerospace industry. Experience in Aircraft weight analysis, weight reduction. Hands-on experience working with aircraft OEMs on weight reduction program, implementation of weight control measures. Working for Tier 1 suppliers, or MRO (Maintenance, Repair, and Overhaul) organizations on weight management for specific aircraft programs (e.g., commercial airliners, private jets, or military aircraft). Certifications or training in FAA or EASA Aircraft Certification processes is desirable.

B. SCOPE OF WORK:

Analyzing overall weight of present configuration of SARAS MKII aircraft, weight and CG management, and weight reduction strategies. Proposals for weight optimization meeting regulatory standards leading to better fuel efficiency, and performance. The detailed technical job requirements are briefed as below.

- I. Review of SARAS Mk-II aircraft weight, and alignment of its major component weights with similar class of aircrafts
- II. Review of design features, recommendation on addition/deletion/improvisation of features
- III. Review of structural layout, optimization studies, reporting of findings, recommendation for improvisation.
- IV. Review of system layout, reporting of findings, recommendation for improvisation
- V. Review of Design philosophy adopted and weight fraction associated with it. Proposal for alternate weight effective design philosophy. Airframe has to comply to FAR23 proof strength and damage tolerance requirement.
- VI. Identification of potential areas of weight reduction.
- VII. Proposing alternate design schemes, material systems, change of layout, re-routing
- VIII. Selection of alternate light weight LRUs, cables/looms, and any other mitigation technique.
- IX. Consultant should provide consolidated report on potential areas of weight reduction, detail scheme, plan for execution, method for execution of weight reduction.

C. DELIVERABLES:

1. Agreed upon Minutes of the Meeting (MoM) after every review meeting conducted online/Offline.
2. Report containing findings, potential areas for weight reduction and technical proposals for the items listed in **Scope of Work**.
3. Guidelines to the team on execution of weight control and weight optimization methodologies.

D. INPUTS PROVIDED TO THE CONSULTANT:

1. CSIR-NAL shall provide documents containing details, as applicable, for carrying out the tasks mentioned in section B.
2. The CAD and Finite Element models will be used and shown by CSIR-NAL team during review meetings. They will be shared with consultant, if required.

E. DURATION OF ENGAGEMENT:

200 hours of consultancy or 12 months from the start date, whichever is earlier. The hours of consultancy include meeting hours, report review hours and report preparation hours spent by the consultant.

F. Remuneration:

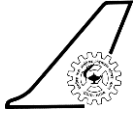
Consolidated pay per month is on par with Industrial Standards & varies with the experience and Specialisation in the field. The Payment Cycle is monthly, subject to fulfillment of the deliverables as mentioned in section C.

GENERAL CONDITIONS:

1. The position offered through this advertisement is temporary and open to individual Specialist Consultant only.
2. The engagement will be for CSIR - National Aerospace Laboratories (NAL), Bengaluru, under the Council of Scientific & Industrial Research (CSIR) which is an Autonomous Body under Ministry of Science & Technology, Govt. of India.
3. Age of the consultant should not be more than **64 years**. Age will be reckoned as on last date for receipt of applications.
4. Relaxation: The qualifications, age and experience can be relaxed in the case of exceptionally meritorious candidates with the approval of DG, CSIR/Competent Authority.
5. The period of experience in a discipline/area of work, where prescribed, shall be counted with effect from the date of acquiring the prescribed minimum educational qualifications for the post.
6. As the Screening/Shortlisting of applications will be done on the basis of information furnished through the Offline application form by the applicants, it is necessary that only accurate, full and correct information is furnished by the applicants. Furnishing of wrong/false information will be a disqualification and CSIR-NAL will **NOT** be responsible for any of the consequences of furnishing such wrong/false information.
7. The decision of CSIR-NAL/DG, CSIR in all matters relating to eligibility, acceptance or rejection of applications, mode of selection will be final and no enquiry or correspondence will be entertained in this connection from any individual or agency on behalf of the candidate.
8. Canvassing in any form and/or bringing in any influence political or otherwise will be treated as a disqualification for the post.
9. Selected Consultant has to execute an agreement for the engagement and Non Disclosure Agreement (NDA) in the prescribed format.
10. Eligible candidates may download the application form given below (**given at the end of full advertisement**). Application form duly filled in together with recent passport size photograph, copies of matriculation / Degree and above, Experience and certificate with reference to nature of work carried out etc., should be sent in a sealed cover superscripting **“Application for the Post of Specialist Consultant Advt. No. 1/ 2025, Post No. 1”** **ON OR BEFORE 18th March 2025, Addressed to:**

**Controller of Administration
CSIR-National Aerospace Laboratories
P.B.No.1779, HAL Airport Road
Kodihalli, Bengaluru – 560 017 (Karnataka).**

INTERIM ENQUIRIES WILL NOT BE ENTERTAINED



(Council of Scientific and Industrial Research)
NATIONAL AEROSPACE LABORATORIES
BENGALURU – 560 017

Affix a signed copy of your recent passport size photograph

APPLICATION FORM

IMPORTANT: This application form duly completed in the candidate's own handwriting or neatly typed must reach Controller of Administration, CSIR-NATIONAL AEROSPACE LABORATORIES, P.B.No.1779, HAL AIRPORT ROAD, KODIHALLI, BENGALURU - 560017 on or before **18th March 2025**

1. Advertisement No. : **1/2025, Post No. 1**
2. Post : **SPECIALIST CONSULTANT**

3. Name of the candidate (in Block Letters)	
4. Sex (Male / Female)	
5. Father's Name	
6. Nationality (mention by birth / domicile)	
7. Present Postal Address (for communication purpose)	<p style="text-align: right;">Pin Code <input type="text"/></p> <p>Tel/Mobile No. _____, E-mail: _____</p>
8. Permanent Address	<p style="text-align: right;">Pin Code <input type="text"/></p> <p>Tel/Mobile No. _____</p>

09. Date of Birth (Either passport / Aadhar Card)	<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td style="width:20px; height:20px;"></td><td style="width:20px; height:20px;"></td></tr> </table> <p align="center">DAY</p>			<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td style="width:20px; height:20px;"></td><td style="width:20px; height:20px;"></td></tr> </table> <p align="center">MONTH</p>			<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td style="width:20px; height:20px;"></td><td style="width:20px; height:20px;"></td><td style="width:20px; height:20px;"></td><td style="width:20px; height:20px;"></td></tr> </table> <p align="center">YEAR</p>				
10. Age (As on the closing date of application)	<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td style="width:20px; height:20px;"></td><td style="width:20px; height:20px;"></td></tr> </table> <p align="center">YEARS</p>			<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td style="width:20px; height:20px;"></td><td style="width:20px; height:20px;"></td></tr> </table> <p align="center">MONTH</p>			<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td style="width:20px; height:20px;"></td><td style="width:20px; height:20px;"></td></tr> </table> <p align="center">DAYS</p>				

11. Educational/Professional Qualification etc.

Examination Passed	Year of passing	Marks obtained / percentage of marks			Class / Grade obtained	Duration of Degree/ Diploma Course	Board / University / Institution
		Max Marks	Marks obtained	Aggregate %age			

12. Work Experience:

Period		Name of Organisation & Place	Designation/ Post Held	Gross Pay Drawn	Permanent/ Temp. Post
From	To				

::3::

13. List of Awards/ Honours:

Sl. No.	Details of Awards/Honours	Professional Body	Citation of the Award

14. List of Publications

Sl. No	Title of Paper/Patent	Publisher	Year

15. Remuneration Details:

Duration of the consultancy is One Year

Expected remuneration (Monthly basis) :

Note:

1. Consultant to fill up expected remuneration above.
2. Total Remuneration is on par with Industry Standards and varies with experience and specialization in the field.
3. Remuneration will be decided by Competent Authority based on experience/expertise.

16. Willingness of the Consultant to be with the Project Team till the completion of certification on a payment basis Yes No

::4::

17. Any other details :

DECLARATION

I hereby declare that the information given above is correct, true to facts and nothing has been concealed / distorted. I am aware that, if at any time I am found to have concealed / distorted any information, my candidature/appointment is liable to be summarily terminated without notice.

Place: _____

Date: _____

Signature of the candidate

Check List:

Please tick the appropriate box and arrange the enclosures/information:

Sl. No.	Details	Check Box
1.	Qualifications, Experience, Expertise etc.	<input type="checkbox"/>
2.	Copy of Passport/AADHAAR Card (Personal Details)	<input type="checkbox"/>
3.	Remuneration details (Refer Sl. No. 15 of the application)	<input type="checkbox"/>
4.	Prior assignment reference documents (Refer Sl. No. 12 of the application form)	<input type="checkbox"/>