

वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्
Council of Scientific & Industrial Research
राष्ट्रीय वांतरिक्ष प्रयोगशालाएं
National Aerospace Laboratories



CSIR - NAL Estd. 1959
ISO 9001 : 2015
Certified Organization

INVITATION FOR BIDS/NIT

Tender No. NAL/PUR/CSMST/562/19-Y

Dated: 13-Mar-2020

CSIR- National Aerospace Laboratories (NAL), Bengaluru, India is one of the premier laboratories under Council of Scientific and Industrial Research (CSIR), an autonomous body under Department of Scientific and Industrial Research, Government of India, New Delhi. CSIR-NAL is a Science and Knowledge based Research, Development and Consulting Organization. It is internationally known for its excellence in Scientific Research in Aerospace Engineering.

The Director, CSIR-NAL invites online quotation for procurement of the following item(s) for day to day research work.

Sl.No.	Description of Items	Unit	Quantity
1	Design development and supply of hot forming cum vacuum suction machine and fabrication of canopy for Hansa-NG project. Please refer Annexure for detailed specification.	No	1

Single / Double Bid	Single
Bid Security (EMD) (in INR)	Bid Security Declaration should be enclosed with quotation
Performance Security	10% of the purchase order value

01. Tender Documents may be downloaded from Central Public Procurement Portal <https://www.etenders.gov.in>. Aspiring Bidders who have not enrolled/ registered in e- procurement should enroll/ register before participating through the website <https://www.etenders.gov.in>. The portal enrolment is free of cost. Bidders are advised to go through instructions provided at 'Instructions for online Bid Submission'.
02. Tenderers can access tender documents on the website (For searching in the NIC site <https://www.etenders.gov.in>, kindly go to Tender Search option, select tender type and select ' Council of Scientific and Industrial Research' in organization tab and select NAL-Bengaluru-CSIR in department type Thereafter, Click on "Search" button to view all CSIR-NAL, Bengaluru tenders). Select the appropriate tender and fill them with all relevant information and submit the completed tender document online on the website <https://www.etenders.gov.in> as per the schedule given in the next page.
03. Either the Indian Agent on behalf of the Foreign principal or the Foreign principal can bid directly in a tender but not both. However, the offer of the Indian Agent should also accompany the authorization letter from their principal. To maintain sanctity of tendering system, one Indian Agent cannot represent two different Foreign principals in one tender.
04. Unsolicited / conditional / unsigned tenders (Quotations) **shall not** be considered. Quotations received after the due date and time **shall be summarily rejected**.
05. The Bidder shall comply the terms and conditions of the tender, failing which, the offer shall be liable for rejection.
06. The Director, CSIR- National Aerospace Laboratories., Bengaluru reserves the right to accept any or all the tenders either in part or in full or to split the order without assigning any reasons there for.


Raman Kumar
(Section Officer S&P)

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P B No 1779, HAL Airport Road, Kodihalli, Bengaluru - 560 017, INDIA
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<http://www.nal.res.in>



purchasek@nal.res.in



CSIR-National Aerospace Laboratories, Bengaluru-560 017, INDIA

SCHEDULE CUM CRITICAL DATE SHEET

1	Name of Organization	CSIR-National Aerospace Laboratories, Bengaluru	
2	Tender Reference No	NAL/PUR/CSMST/562/19-Y dated: 13-Mar-2020	
3	Tender Type (Open/Limited/EOI/Auction/Single)	Limited Tender	
4	Type/Form of Contract (Work / Supply / Auction / Service / Buy / Empanelment / Sell)	Supply	
5	No of Covers (One/Two/Three/Four)	One	
6	Tender Category (Services/Good/Works)	Goods	
7	Allow Resubmission (Only in online mode within scheduled period)	Yes	
8	Allow Withdrawal (Only in online mode within scheduled period)	Yes	
9	Allow Offline Submission	No	
10	Work Item Title	Design development and supply of hot forming cum vacuum suction machine and fabrication of canopy for Hansa-NG project.	
11	Work Description	Design development and supply of hot forming cum vacuum suction machine and fabrication of canopy for Hansa-NG project.	
12	Delivery Schedule	30 days from the date of purchase order	
13	Product Category (Civil Works / Electrical Works / Fleet Management / Computer Systems)	R & D Equipment	
14	Is Multi Currency Allowed	Yes	
15	a) Tender Publishing Date -	16-Mar-2020	1800 Hrs
	b) Document Download Start Date-	16-Mar-2020	1800 Hrs
	c) Bid Submission Start Date-	16-Mar-2020	1800Hrs
	d) Bid Submission End Date-	23-Mar-2020	1000 Hrs
	e) Bid Opening Date-	24-Mar-2020	1100 Hrs
16	Bid Validity Days	90 days	
17	Address for communication	Stores and Purchase Officer CSIR-National Aerospace Laboratories, HAL Airport Road, Kodihalli, Bengaluru - 560017	
18	Inviting Officer	Director, CSIR-NAL	
19	Contact No	25086040, 25086041	
20	E-mail Address	purchasek@nal.res.in	
21	Detailed specification of item	Refer Invitation for bids / NIT	
22	Tender Terms & Conditions & Instruction for online bid submission	The prospective bidders are requested to refer to the Standard Tender Document available on NAL Internet (www.nal.res.in) under the icon Tender-Purchase before formulating and submitting their bids	

Note:

- Participation in this tender is by invitation only and is limited to the selected bidders. Unsolicited offers are liable to be ignored. However, bidders who desire to participate in such tenders in future may bring it to the notice of Procuring Entity and apply for registration.**
- To get registered as an approved bidder with the procuring entity please refer our website www.nal.res.in and submit.**

Design development and supply of "hot forming cum vacuum suction machine and fabrication of canopy for Hansa-NG project"

1.0 End Use:

Forming of Acrylic sheet assisted by temperature and vacuum

2.0 Thermoforming Material Specification:

- 1) Acrylics or polyacrylates
- 2) Thickness: 2.8 to 3.5 mm

3.0 Forming condition:

- 1) Temperature range 140⁰ C to 210⁰ C with fully vacuum assisted while forming

4.0 Scope of work:

1. Supplier has to demonstrate two sets of thermoforming parts as per drawings along with equipment
2. Supplier has demonstrate on 3mm commercially available Plex glass acrylic material
3. Technical support for forming of 3 sets of production series

5.0 Generic Specification for the Equipment:

The hot forming cum vacuum suction equipment should meet following modules

1. Heating module with hood module
2. Material holding frame/carriage module
3. Table with vacuum suction module.



5.1 Heating module:

- It should be integral part of the base vacuum suction module with the rigid frame
- The heating module should be able to achieve temperature as per specification
- The temperature uniformity should be +/- 5 deg C for the set temperature.
- It should be constructed with 1.2 mm thick MS material or equivalent rigid material
- Minimum of 10 nos. of Quartz heaters or more for effective length of 2 meters.
- Uniform heating should be provided for given area (2.5 m X 2.0 m)

5.2 Acrylic sheet holding frame/carriage module

- The acrylic holding frame shall be made of SS or equivalent material and should have guides that can be made to lower on to the moulding frame or lifted to the heating zone of the heating hood.

5.3 Canopy mould table with vacuum suction module.

- The vacuum chamber shall be a rectangular box with its top face made of SS plate of 5 mm thick.
- The Sheet should be perforated and have stiffeners on its bottom.
- Other sides of the vacuum chamber should be made of 2 mm thick MS sheet.
- The vacuum chamber should be made air tight with proper sealing all around.

Note:

CSIR-NAL shall supply/facilitate the following:

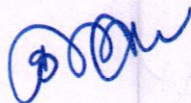
Mould for Mockup, 3D Model and the assembly drawing of canopy

Vacuum Suction negative pressure 20 kpa to 100 kpa

Vacuum source for Thermoforming will be provided by NAL

Size of the canopy is 1.3M x 1.12M x .65M with mould size of 2M x 1.12M x 0.7M

NAL will supply the required numbers of Aerospace Grade Acrylic sheets for thermoforming of the canopy.



This require a bed size for holding the mold 2.5 M x 2.0 M

Deliverables

1. Supply of "hot forming cum vacuum suction equipment". Installation and commissioning at CIR-NAL
2. Demonstration and Supply of 2 nos of canopy meeting Hansa aircraft requirements using commercial transparent acrylic sheet of 3 mm thick for the mockup.
3. Technical support for fabrication of 3 nos. of production standard canopy using Aerospace Grade Acrylic sheet of 3 mm thick.
4. The firm has to provide training to NAL Staff after installation at CSIR-NAL
5. During Canopy forming and prove out at NAL the firm has to deploy their skilled manpower for carrying out the above activity
6. The firm to procure commercial grade Acrylic sheets for fabrication

Acceptance Criteria

- The equipment should be installed and proved as per NAL Specifications
- The Thermoformed canopy should be free from waviness, distortion and should have clear visible transparency and match to the NMG.
- The canopy will be inspected and cleared by NAL approved inspectors



BID-SECURING DECLARATION FORM

Date: _____

Bid No. _____

To (insert complete name and address of the purchaser)

I/We. The undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

(a)	have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or
(b)	having been notified of the acceptance of our Bid by the purchaser during the period of bid validity
	(i) fail or refuse to execute the contract, if required, or
	(ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown)
in the capacity of (insert legal capacity of person signing the Bid Securing Declaration).

Name: (insert complete name of person signing the Bid Securing Declaration)

Duly authorized to sign the bid for an on behalf of: (insert complete name of Bidder)

Dated on _____ day of _____ (insert date of signing)

Corporate Seal (where appropriate)

Note:

1. In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid.
2. Bid Security declaration must be signed in by the Proprietor/CEO/MD or equivalent level of Officer of the company.