



HINDUSTAN AERONAUTICS LIMITED
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E-Tender Purchase	INVITATION TO TENDER			BID SYSTEM : TWO BID
1. Mistral Solutions Pvt. Ltd.	New Delhi	India		Tender No: MC/S461/1359/19/1 Tender Date: 01.05.2019 Pre-Bid Meeting: 10.05.2019 Due date: 31.05.2019 at 12.30 PM(IST) Opening date and time: 31.05.2019 at 1.30 PM(IST)
2. Trident Infosol Pte. Ltd.	Bangalore	India		
3. Datasol (B) Private Limited	Bangalore	India		
4. Aitech Systems Ltd	Herzelia	Israel		
5. Coreel Technologies(I) Pvt Ltd	Bangalore	India		
6. Data Patterns India Pvt Ltd	Chennai	India		

Dear Sir/Madam,

Please quote the requirement through HAL e-procurement Portal i.e. <https://eproc.hal-india.com> only. You have to submit your offer under two-bid system. The technical bid and price bids should be uploaded separately.

1. Technical Bid: This bid should include technical aspects/terms of bid along with commercial terms and conditions (to be complied in full). This bid should not contain any price details. If prices are indicated in the technical bid or attached as a part of technical bid even in the form of PDF, the offer will not be considered for evaluation.
2. Commercial Bid: The bid should include only pricing aspect. The price format provided should be strictly followed.
3. It is Mandatory that vendor are to obtain Digital Signature certificate (DSC) & register in HAL e-portal (for details please visit HAL website (<http://eproc.hal-india.com>)).
4. Unsolicited tenders will not be accepted.
5. The online tenders/offer to be submitted through our e-procurement portal on or before the closing date of this tender. Other mode of tender submission i.e. through courier, email or fax is not acceptable. Such offers will be rejected and will not be considered for evaluation.

Sl. No.	Part Description	Qty
1	Single Board Computer (SBC) as per Technical Requirement Specification enclosed at Encl-1	30 Nos
2	Rear Transition Module (As per Technical Requirement Specification enclosed at Encl-1)	7 Nos
3	Carrier Card (As per Technical Requirement Specification enclosed at Encl-1)	3 Nos
4	VPX 3U Chassis (As per Technical Requirement Specification enclosed at Encl-1)	2 Nos

6. This ENQUIRY is governed by TERMS AND CONDITIONS as indicated in Technical Compliance matrix and commercial terms compliance matrix.
7. Bidders are advised to ensure that they have submitted the bids well before the due date and time of bid submission of tender. Our e-portal will not allow submission of bids once closing date & time of tender is crossed. HAL shall not be responsible if bidder is not able to submit the bid on account of system/network/internal failures. Hence we request you to submit the bids well before the due date and time of tender.
8. Conditional offers are liable for rejection.

Yours faithfully,
For HINDUSTAN AERONAUTICS LIMITED

Sd/-
H.V Babu
AGM (IMM)
MCSRDC Division

**Technical Requirement Specification
Of
3U VPX SBC**

1. PURPOSE

The purpose of this document is to provide the technical requirement specification of 3U VPX based Single Board Computer (SBC) (COTS based solution) for airborne avionics computer along with Carrier Card and SBC test setup.

2. SCOPE

This document covers the hardware requirement, software requirement, environmental requirement, electrical requirement and delivery schedule of SBC, Carrier Card and test setup.

Section 4 gives the technical requirement specification of the SBC and test setup.

Section 5 gives the technical requirement specification of the Carrier Card.

Section 7 gives the list of deliverables.

Section 8 and 9 describes the delivery schedule for different phases.

Section 10 mentions about acceptance.

Section 11 mentions about warranty.

3. OVERVIEW

Single Board Computer shall be installed in Avionics Computer application. The SBC shall be 3U VPX compliant. SBC installed in the first slot of the avionics computer and shall act as system controller. SBC/ Carrier Card installed in peripheral slot shall be configurable as end-point.

SBC shall have on-board resources for Transmit/ Receive data on Ethernet, RS-422, RS-232. It shall have one PCI mezzanine slot.

4. DETAILED SPECIFICATION OF SBC

4.1. Technical Overview of SBC

3U VPX (VITA 46) compliant SBC shall be COTS based solution provided by the vendor along with test setup and RTM.

4.2. SBC Technical Requirements:

The SBC shall be based on NXP make T1 series processor and shall have the following features:

- i. The SBC shall must have one PMC site.
- ii. PMC site shall support at least 32 bit @ 66 MHz/33MHz mode.
- iii. The SBC shall be configurable to operate at maximum frequency $\geq 1\text{Ghz}$. Feature to bring down the operating frequency shall also be available in the SBC through hardware resistor setting and/or through software register setting. (These details shall be provided by vendor after PO Placement).
- iv. In case the SBC is having more than one core, provision for enabling and disabling other cores should be provided (to reduce the processor power consumption)

- v. Memory Resources Requirement:
 - a. **RAM:** 4 GB DDR3 (Minimum)
 - b. **NOR Flash:** 128 MB (Minimum)
 - c. **NAND Flash:** 8 GB (Minimum)
 - d. **NVRAM:** 512 KB (Minimum)
- vi. Interface Requirement on Rear Backplane Connector:
 - a. **GPIO:** 4 nos (minimum). It shall also be possible to use GPIOs as external interrupt lines.
 - b. **Ethernet Ports:** 2 nos (Minimum) (Preferable support for IEEE 1588) Configurable to 10/100/1000T individually.
 - c. **RS422:** 1 No (Minimum)
 - d. **RS232:** 1 No (Minimum)
 - e. At least eight (8) PCIe lanes with minimum configurability support for 2[x4] or 8 [x1].

4.3. Other Requirements of SBC and Test Setup:

- i. Watchdog timer: Minimum 1 no.
- ii. Minimum 30 bit timers: Minimum 1 no.
- iii. Minimum One Real Time Clock (RTC)
- iv. Minimum One Onboard Temp Sensor
- v. Chassis ground (wedge lock) and digital ground of the SBC shall be isolated with each other.
- vi. Front panel connector if any should not be mounted in the SBC as these SBCs shall be used in closed unit with Bottom side of the Top Plate touching the SBC top side. (Thermal pad may be used between Unit Top Plate and SBC Top side)
- vii. SBC shall be Conduction Cooled.
- viii. Operating Temperature: -40°C to 85°C (@ wedge lock/ Guides).
- ix. Rear Transition Module (RTM):
Rear transition module suitable to test all the interfaces and requirements of the SBC (As described in this document) to be provided by the vendor. It is to be fitted in the test setup. Easy insertion and removable of the RTM with the help of guides and extractor tool shall be provided.
- x. Test Setup:
 - a. It shall consist of at least 5 3U-VPX slots (with compatible backplane).
 - b. Test Setup (along with RTM) shall be capable to test the supplied SBCs and the carrier cards (mentioned in section 5).
 - c. VPX test setup shall have power supply source capable to supply minimum 150W.
 - d. All the interfaces as mentioned in this document must be routed to VPX connector (backplane). Vendor shall provide all applicable mating connector, cable and adapter (if applicable) for all the inputs and outputs of the SBC so that all the defined input/output given in the specification can be tested through Rear Transition Module installed in the test setup provided.
 - e. Power cord and AC adaptor (if applicable).

- xi. Vendor shall support HAL design team during Avionics Computer VPX blackplane design with respect to supplied SBC and Carrier Card.

4.4. Power Supply Requirement of SBC

- i. Power Consumption shall be less than equal to 18W (@25 °C) per SBC. In case of multi core processor it should be possible to bring down the power to less than equal to 18W by disabling the cores and reducing the operating frequency.
- ii. Individual maximum current requirement for the input voltage to the SBCs shall be provided by the vendor within 2 weeks after PO placement.
- iii. All power sequencing requirement of the SBC shall be taken care by On board power ICs of the SBC.
- iv. In case if SBC requires more than one type of power supply, it should be protected if one or more power supply input to the SBC is not available. It should start normal operation once all the supplies are available to the SBC.

4.5. Software Requirements of SBC

- i. Board Support Packages: BSP for VXWORKS 7 (Confirmation/ Declaration from SBC OEM about BSP compatibility with VXWORKS 7 shall be provided by vendor). Vendor must specify the VxWorks 7 release number as part of the proposal.
- ii. Vendor shall confirm the ADA/C language compiler support for 64 bit operation of the offered SBC. (SBC shall run application developed in ADA language/ C language. 64 bit ADA/C compiler with VxWorks 7.0 shall be used by HAL).
- iii. Vendor shall provide support during integration of BSP and drivers with the application.
- iv. SBC solution must be supported by a suite of firmware, BSPs, communication libraries and signal processing libraries as applicable for all the resources on the board.
- v. The solution must be supported by monitor program to provide a command line interface over serial port or Ethernet to allow a user to perform debug & stand alone card testing activities. The monitor shall also provide diagnostic and results display capability. The monitor program shall be residing in the SBC Flash. No OS shall be required to invoke/ use monitor program.
- vi. Firmware shall provide support for Flash memory programming for application and details of parameters used to control the flow after boot-up for initialization and execution of different programme loaded in Flash (for example application and diagnostics program).
- vii. Vendor shall provide Library of diagnostic routines/ API (Application Programming Interface) functions to support Power-up BIT (PBIT) and Continuous BIT (CBIT) designed to provide (85%-95%) fault coverage.
- viii. All the firmware/BSP software shall be installed & demonstrated (to be tested) by the vendor with Test Setup at MCSRDC laboratory, HAL.

- ix. Vendor shall provide support in Development Activities related to Application Software Integration with PMC (may be third party) and other IO module Integration with the SBC.

4.6. Environmental Requirements of SBC

- i. Cooling Method : Conduction-Cooled
- ii. Operating Temperature : -40 °C to +85 °C (minimum range)
- iii. Storage Temperature : -55 °C to +100 °C (minimum range)
- iv. Vibration : 0.1 g²/Hz (maximum), 20 to 2000 Hz
- v. Shock : 40 g, 11 ms sawtooth
- vi. Humidity : 0% to 95% non-condensing
- vii. Conformal Coat : Mil-Grade
- viii. Supplied SBC shall be installed and integrated in a Avionics Computer which shall comply to the testing requirements of MIL-STD 810F, MIL-STD 704D and MIL-STD-461E.

4.7. Physical Requirements of SBC

- i Dimensions: As per VITA-46 (3U).
- ii Weight: less than 650 grams.

4.8. General Requirements of SBC

- i. Vendor shall provide support during integration of industry standard third party MIL-1553B PMC and HAL developed I/O PMC on SBC.
- ii. Vendor shall be required to provide Mechanical Layout of the boards with dimension details, Edge connector Pin assignments (EICD), power budget details, heat sink dimensional details and exact release number of RTOS within three weeks of PO Placement.
- iii. Vendor shall be required to resolve the problems related to SBCs reported (if any) during qualification testing of the avionics computer in which the supplied items shall be installed.
- iv. Vendor shall provide the evidences for complex electronics hardware (FPGA/CPLD) testing directly to indian certifying agency if required.

5. DETAILED SPECIFICATION OF CARRIER CARD

5.1. Technical Overview of Carrier Card

3U VPX (VITA 46) compliant Carrier Card shall be provided by the vendor along with RTM.

5.2. Carrier Card Technical Requirements:

- i. The carrier card shall have one PMC site.
- ii. The offered card shall have option for XMC site instead of PMC site. (Vendor to provide part number of the XMC version)
- iii. PMC site shall support 32/64bit 33/66 Mhz
- iv. XMC site shall support minimum one PCIe x4.

5.3. Other Requirements of Carrier Card:

- i. Front panel connector if any should not be mounted in the Carrier Card as these Carrier Cards shall be used in closed unit with Bottom side of the Top

Plate touching the carrier card top side. (Thermal pad may be used between Unit Top Plate and carrier card Top side)

- ii. Carrier Card shall be Conduction Cooled.
- iii. Operating Temperature: -40°C to 85°C (@ wedge lock/ Guides)
- iv. Rear transition module suitable to test all the interfaces and requirements of the Carrier Card (As described in this document) to be provided by the vendor. It is to be fitted in the SBC test setup mentioned in 4.3.x. Easy insertion and removal of the RTM with the help of guides and extractor tool shall be provided.

5.4. Power Supply Requirement of Carrier card

- i. Power Consumption shall be less than equal to 7W per Carrier Card.
- ii. Individual maximum current requirement for the input voltage to the carrier cards shall be provided by vendor within three weeks of PO Placement.
- iii. In case if carrier card requires more than one type of power supply, it should be protected if one or more power supply input to the SBC is not available. It should start normal operation once all the supplies are available to the carrier card.

5.5. Environmental Requirements of Carrier Card

- i. Cooling Method : Conduction-Cooled
- ii. Operating Temperature : -40 °C to +85 °C (minimum range)
- iii. Storage Temperature : -55 °C to +100 °C (minimum range)
- iv. Vibration : 0.1 g²/Hz (maximum), 20 to 2000 Hz
- v. Shock : 40 g, 11 ms sawtooth
- vi. Humidity : 0% to 95% non-condensing
- vii. Conformal Coat : Mil-Grade
- viii. Supplied Carrier Card shall be installed and integrated in a Avionics Computer which shall comply to the testing requirements of MIL-STD 810F, MIL-STD 704D and MIL-STD-461E.

5.6. Physical Requirements of Carrier Card:

- i Dimensions: As per VITA-46 (3U).
- ii Weight: less than 350 grams.

5.7. General Requirements of Carrier Card

- i. Vendor shall provide support during integration of third party ARINC429/MIL-1553B PMC and HAL developed I/O PMC on carrier card with SBC.
- ii. Vendor shall be required to provide Mechanical Layout of the Carrier Card with dimension details, Edge connector Pin assignments (EICD), power budget details and heat sink dimensional details within 3 weeks after PO Placement.
- iii. Vendor shall be required to resolve the problems related to carrier cards reported (if any) during qualification testing of the avionics computer in which the supplied items shall be installed.
- iv. Vendor shall provide the schematic/ I/O interface details between SBC and Carrier card for implementation in the avionics computer VPX backplane.

6. PROPOSAL

6.1 Technical proposal

Following documents/ details to be attached along with technical proposal.

- i. Technical Specifications/Datasheets of SBC and Carrier card (along with Part Number of SBC and Carrier card) being proposed along with the technology details.
- ii. Technical details of test setup for testing.
- iii. Reference Purchase Order numbers, brief details of the past and current projects for HAL/any public sector/ Government Organization particularly for same make modules in aerospace/defense domain.
- iv. OEM should submit supporting documents/ confirmation letter as a proof for similar boards supplied for an airborne unit.
- v. If the vendor is not the OEM for the modules, vendor shall provide authorized distributor certificate from the OEM and vendor shall have technical support team to assist in acceptance testing and integration activities.

6.2 Technical Evaluation

During Technical evaluation phase, vendor shall also demonstrate the SBC and the Carrier card within 2 weeks of intimation from HAL. This SBC & Carrier Card shall be the same or the similar class which will be offered by the vendor for final delivery. This will be also as selection criteria for technical compliance.

The SBC used for the demonstration purpose must have all the features as mentioned below:

- i. Requirements as mentioned in sec 4.2.iii except resistor hardware setting.
- ii. Requirements as mentioned in sec 4.2.iv.
- iii. Vendor shall use VxWorks 7 or VxWorks 6.9 BSP for demonstration purpose.
- iv. Vendor shall bring additional setup to demonstrate PCIe communication feature.
- v. Vendor shall arrange all the required setup for the demonstration purpose. SBC used for demonstration can be based on NXP T1 or T2 or T4 series processor and can have either PMC or XMC slot. In case the demonstration is done with T2/T4 series processor sufficient supporting documents/analysis to be provided by vendor to confirm that the power consumption shall not exceed the final power requirement as mentioned in sec 4.4.1.
- vi. Self test of card.
- vii. The Carrier Card used for the demonstration purpose must have all the features as mentioned below:
 - a. Requirements as mentioned in sec 5.2.
 - b. Vendor shall bring additional setup to demonstrate PCIe communication feature of carrier card with SBC.
 - c. Vendor shall arrange all the required setup for the demonstration purpose.
 - d. Vendor shall be able to demonstrate the communication between the SBC and the Carrier Card.
 - e. Self test of card.

7. DELIVERABLES FOR PHASE-1*:

- i. SBC as per complete requirement mentioned in section 4: **30 Nos**
- ii. Carrier card as per complete requirement mentioned in section 5: **03 Nos**

- iii. VPX 3U chassis with minimum 5 slots test setup: **02 Qty**
- iv. RTM with mating cable and accessories as per complete requirement mentioned 4.3.ix in this document: **05 Qty**
- v. RTM with mating cable and accessories as per complete requirement mentioned 5.3.iv in this document: **02 Qty**
- vi. Following Shall be provided in CD :
 - a. BSPs (Board Support Packages) and Libraries for the SBC as mentioned in section 4.5. (Source code not required)
 - b. Monitor Programs for the SBC as mentioned in section 4.5. (Source code not required)
 - c. Flash Programming Utilities as mentioned in section 4.5. (Source code not required)
 - d. Applicable documents for SBC and Carrier Card (Technical specification, Firmware Guide, Acceptance test procedure/ report, programming manual/ guide, User Guide etc.) in CD media.
 - e. SBC and Carrier Card PCB Thermal Analysis test report.
 - f. Mechanical details of SBC and Carrier Card. (DXF file, 3D model etc)
 - g. MTBF/ reliability report of SBC and Carrier Card.
 - h. Additional environmental test reports conducted on the SBC and Carrier Card.
 - i. Conformance report for the Mechanical enclosure/ heatsinks used for SBC and Carrier Card as fit for military application.
 - j. COC of all the supplied items.
 - k. COTS screening procedures and reports.
 - l. Repair policy document for SBC and Carrier Card.

Note:

***Phase-1 is Design And Development Phase Of Avionics Computer By HAL**

****Phase -2 is requirement during Production phase Of Avionics Computer By HAL**

8. DELIVERY SCHEDULE FOR PHASE 1*:

S. No	Items	Delivery Time (Weeks)
1	5 Qty SBC as mentioned in sec 7.i.	T0 + 20 to 22 weeks
2	2 Qty Carrier Card as mentioned in sec 7.ii.	T0 + 20 to 22 weeks
3	2 Qty VPX 3U chassis as mentioned in sec 7.iii.	T0 + 20 to 22 weeks
4	5 Qty RTM with mating cable and accessories as mentioned in sec 7.iv.	T0 + 20 to 22 weeks
5	2 Qty RTM with mating cable and accessories as mentioned in sec 7.v.	T0 + 20 to 22 weeks
6	1 set of details as mentioned in section 7.vi	T0 + 20 to 22 weeks
7	10 Qty SBC as mentioned in sec 7.i. and 1 carrier card as mentioned in sec 7.ii.	T1 + 18 to 20 weeks
8	15 Qty SBC as mentioned in sec 7.i	T2 + 18 to 20 weeks

T0 = Placement of order

T1 = Go ahead provided by HAL.

T2 = Go ahead provided by HAL, after T1.

9. REQUIREMENT FOR PHASE -2**

Items	SBC as mentioned in sec 7.i.					
Year	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027
Anticipated Qty required	55	60	40	70	70	27
Items	Carrier Card as mentioned in sec 7.ii.					
Year	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027
Anticipated Qty required	26	30	20	34	34	14

*****Note: The order for phase-2 requirement will be placed separately by HAL Production Division after successful execution of phase -1 and firm order from our customer and at the discretion of HAL.***

10. ACCEPTANCE

Vendor shall demonstrate complete functionality of supplied items (SBCs, Carrier Card, test setup and RTM) through supplied ATP software and thereby shall demonstrate the compliance of supplied SBC and Carrier card to the requirements mentioned in this document as part of the acceptance criteria. Vendor shall be responsible to arrange any additional software and test facilities required to demonstrate complete functionality. (At MCSRDC laboratory, HAL)

11. WARRANTY

Vendor shall comply with minimum 2 year warranty support after acceptance of the supplied items at MCSRDC, HAL.

In case of failure of any module (supply of initial 5 numbers of SBC) during design and development phase, the faulty modules shall be replaced by new modules within 4 weeks of time and after 5 modules, the vendor may adopt for replacement/ repair scheme and solve the issue free of cost during warranty period.



**Aircraft Research and Design Centre
HINDUSTAN AERONAUTICS LIMITED
Marathahalli Post
Bangalore - 560 037. INDIA**

Commercial Terms and Conditions (For Indigenous supplier) of Tender - Part of Technical Bid.

Tender Ref. No.: MC/S461/1359/19/1

Name of Work: Single Board Computer

Name of the Vendor/ Firm:

Quotation Ref. No.:

PLEASE INDICATE YOUR RESPONSE/ COMPLAINE/ ACCEPTANCE TO THE FOLLOWING TERMS (MANDATORY) AND UPLOAD AS A PART OF TECHNICAL BID

SL. NO.	HAL RFQ terms & conditions	Vendor Compliance (Complied/ Non - complied)
1	Price: Prices to be quoted in the prescribed format at Annexure 3. The bidder is required to indicate prices against individual items.	
	Price quoted should be on F.O.R. ARDC Bangalore, for delivery at HAL Stores inclusive of all charges including transit insurance.	
	Tenderers should clearly mention whether the prices hold good when the full quantity of enquiry is not ordered but only a part of it. Unless otherwise mentioned, it would be assumed that the rates hold good even when lesser quantities than those enquired of are ordered. Any increase in prices at a later date for ordering lesser quantities will not be agreed to.	
	Bidder should indicate prices as per price format of tender. The prices quoted for Phase-1 should be at EC 2019 level and firm & fixed till completion of Phase-1. The prices for Phase 2, should be at indicated year wise as per Price Bid Format Annexure 3.	
1a.	Price Variation Formula: (Applicable for Supplies beyond 2026-27) A suggested price variation formula could be as follows:	
	$P = P_o \{(A + B(L/L_o) + C (M/M_o))\}$	
	P = Final price payable in the year of delivery	
	P _o = The base price at 2019 economic conditions	
	L _o = Average Labour Index of the base year 2019	
	M _o = Average Material Index of the base year 2019	
	L = Average Labour Index Months prior to date of delivery	
	M = Average Material Index Months prior to date of delivery	
	A, B & C = Percentages corresponding to fixed elements, labour and material respectively.	
	Maximum escalation cap applicable (percentage in both Negative Cap & Positive Cap i.e +/- "X") with the above price variation formula to be indicated. Value of X should be indicated.	
The Price variation formula shall be provided along with relevant economic indices for the last 5 years. Vendor is also required to provide calculation of the rate of the variation based on these indices for these 5 years as well as future forecast of these indices including ceiling / cap proposed on the price variation.		
The indices incorporated in the escalation formula should be Govt. Published/ in public domain indices and capable of being verified. Should furnish last 5 years indices to check escalation.		

1b	<p>Vendors should note the following, if exchange rate variation is claimed on the quoted prices:</p> <p>i) Vendor should invariably specify the Import Content included in the quoted prices in terms of Foreign exchange as well as Indian Rupees. In the absence of this input, it would be considered that vendor will be not claiming exchange rate variation.</p> <p>ii) Exchange rate variation (+/-) will be paid only to the extent of Import Content. For the purpose of commercial evaluation, if ERV is applicable, ERV reckoning date shall be the last date of submission of Commercial bids (i.e., due date of the tender). The exchange rate prevailing on last date of submission of Commercial bids (i.e., due date of the tender will be considered for the import content and will be loaded on to the indigenous content to arrive at the total value.</p> <p>iii) However, for the purpose of making payment, the exchange rate adopted will be TT Selling Rates prevailing as on the date of Bill of Entry (BOE) and the corresponding payment will be made.</p> <p>iv) Bidders to invariably accept for the above conditions in case exchange rate variation is claimed on the quoted prices, failing which, the offer will be liable for rejection.</p> <p>v) Bidders to indicate the breakup of import content for Development Phase, Production Phase, Spares and Phases etc.</p>	
2	<p>Taxes:</p> <p>GST: Rate of Tax or any other Tax chargeable should be clearly indicated in the offer / bid as inclusive in the price quoted or extra along with the HSN Code. If not indicated, HAL will assume that the rates quoted are inclusive of taxes.</p>	
3	<p>Quantity :</p> <p>The quotation must be in the unit in which the quantity is indicated in the enquiry. If it is otherwise, conversion data must be furnished.</p>	
4	<p>Supply of Alternative Item : In case bidder is quoting for an alternative part number it should be confirmed that the offered part is fully interchangeable with the required part. Applicable descriptive literature/catalogue if any may please be enclosed by the bidder with offer (at least two copies).</p>	
5	<p>Shelf Life : Where stores offered have a limited shelf-life, kindly indicate the life involved and confirm that in the event of an order from us, only newly manufactured stores with the maximum possible shelf-life at the time of dispatch will be offered for shipment. In respect of rubber items such as seals etc., having care date, the item should not have been manufactured earlier than 6 months of dispatch.</p>	
6	<p>Validity of the Quotation : Price quoted should be net and unless otherwise specified should remain valid for our acceptance for a minimum of 120 days from the closing date of enquiry and the materials of offered should be kept under provisional reservation for this quotation.</p>	
7	<p>Tender Due Date :</p> <p>The due date for submission of quote is as indicated in RFQ through e-procurement mode only.</p>	
8	<p>Submission of Tender : Response to bid through e-Procurement should be uploaded in the e-portal only. Bid submitted by bidder's authorized dealer / distributor/channel partner should accompany with ink signed authorization letter of the bidder to whom tender has been originally issued. In the absence of authorization letter, the bids submitted shall be considered an unsolicited.</p> <p>Vendors should ensure the bids are submitted as per RFQ attached in PDF form well before due date and time of tender. Vendor may note technical bid should include technical aspects only. If prices are indicated in the technical bid or attached as a part of technical bid even in the form of PDF, the offer will not be considered for evaluation.</p>	
9	<p>Late Tender :</p> <p>Bid received after the due date and time specified in the tender shall be considered as late tender and will not be considered.</p> <p>HAL will not be responsible for inability of vendor to upload the tender documents in e-procurement.</p> <p>HAL reserves the right to reject late or incomplete tender.</p>	
10	<p>PRE-BID Meeting: A pre bid meeting has been arranged on 10/05//2019 at MCSRDC Division, HAL , Bangalore at 9:30 Hrs.</p> <p>All the bidders are invited to attend the meeting in order to understand the requirement and clarify any doubts before submission of bids.</p> <p>All the Interested vendors have to forward the names of attendees for the pre bid meeting to email ID: hv.babu@hal-india.co.in latest by 09/05/2019 (11:00 Hrs)</p>	
	<p>Tender Evaluation:</p>	

11	L-1 (Lowest Bid) will be decided based on Package wise basis and will be based on total value of both Phase -1 (Design And Development Phase Of Avionics Computer By HAL) and phase 2 (Requirement during Production phase Of Avionics Computer By HAL) put together.(Grand Total of Sl.No.A (phase-1) and Sl.No.B (Phase 2) inclusive of all Taxes and Duties for the Price Bid Annexure 3)	
	Bid with lowest price conforming to the specification will be considered for placement of order.	
12	Purchase Preference Policy : Please refer Appendix-A for policy details. Provide your compliance to this policy by indicating Complied against this column.	
	As per the policy if you fall under 'Local Supplier' (i.e., minimum "local content" of 50%), then, mention the percentage of local content against this column. Refer Para 1 and Para 2 of Appendix-A for definition of Local Supplier and Local Content	
	In addition to price any other criteria if to be adopted, the most advantageous bid ascertained on the basis of criteria specified in the enclosure will be considered.	
13	If the bidder considers that tendered quantity is small, the bidder may quote for Minimum Ordering Quantity (MoQ). Commercial evaluation in this case will be done on MoQ x unit price, if MOQ offer beyond 20% of RFQ quantity.	
14	If two or more bidders quote the same price, HAL reserves the right to seek revised offer from the same bidders and placing order on revised L-1 offer. If same situation prevails then HAL reserve the right to place order on any of them.	
15	Conditional discounts will not be considered in evaluation of tender.	
16	Applicability of the Taxes should be explicitly indicated by the bidder in his response either in percentage or in absolute terms. In the absence of this input the offer would be considered all inclusive.	
17	In respect of two bid system, technical bid will be opened on the tender opening date. After technical evaluation, the Commercial bids of those bidders who are technically acceptable will be opened.	
18	Others :- Please indicate approximate net weight of each of the item and gross weight and dimension of the package to enable HAL to determine the mode of dispatch. Please indicate in your tender, whether stores newly manufactured are offered. Where newly manufactured stores are offered and on inspection it is found that reconditioned stores or parts have been used, such stores will be rejected at the contractor's risk and expense. Manufacturer's name and country of origin of the materials offered must be clearly specified. Complete details and illustrated literature must accompany all quotations. Vendors should clearly indicate similar equipment supplied on global basis to Aircraft manufacturing industry, to any Division of HAL and other reputed/Govt customers and anywhere in India with customer's full address, telephone/telefax No., P.O. No., value and year of HAL is not bound to accept the lowest or any quotation and reserves the right of accepting the whole or any part of the quotation or part of the quantity offered and bidder must supply the same at the rate quoted. Vendor shall not be entitled without HAL's consent to assign or transfer to a third party all or part of the benefits or obligations under this contract.	
19	Security Deposit: a) Successful vendor, shall have to deposit 5% of the value of the order as Security Deposit (to be calculated only on basic cost excluding taxes & duties, if such details are furnished separately in the bid submitted) within 15 days of receipt of the purchase order, by demand draft or bank guarantee in a prescribed format of H.A.L from a scheduled bank in India / bank of international repute (for Foreign vendors), valid up to 60 days after the completion of contract period/last supply. This Security Deposit will bear no interest and will be returned only after the contract is completed to the entire satisfaction of H.A.L. In case, quotes received without indicating the break-up details of GST and order placed subsequently on composite value (without indicating breakup details of taxes & duties) then the Security deposit to be sought on the composite value (including taxes & duties) Note - Loading factor of 5% shall be considered during Commercial Evaluation for bidders who have not agreed for submission of Security Deposit	
	b) In case the contract is not executed to the entire satisfaction of HAL the security deposit shall be forfeited, besides initiation of risk purchase action	
	c) No claim will be entertained against HAL either in respect of interest, if any due on the security deposit or depreciation in value.	

	d) On due performance and completion of the contract in all respects, the security deposit will be returned to the vendor, without any interest, on presentation of absolute "No Demand Certificate" and upon return in good condition of any specifications, drawings, samples or any other property belonging to the purchaser, which may have been issued to the vendor.	
20	Liquidated Damages : In the event of an order, we reserve the right to collect a sum of 0.5% per week of delay or part thereof, subject to a maximum of 10% as our claim- towards liquidated damages on the undelivered part of the order. In case of tenderers not agreeing for LD clause, the maximum LD amount / to the extent not agreed LD value, to be loaded in the Comparative Statement, to determine the successful bidder.	
21	PERFORMANCE BANK GUARANTEE: Vendor shall furnish a Performance Bank Guarantee as per HAL's format for 10% of order value (to be calculated only on basic cost excluding taxes & duties, if such details are furnished separately in the bid submitted) valid till end of the guarantee / warranty period from a scheduled bank in India.	
	Integrity Pact: a) Bidder shall submit duly signed Integrity Pact in original, strictly as per the format (without any deviation) enclosed with the RFQ. Bidders not complying with this are liable for rejection and their bids will not be considered for evaluation. Bidders are advised to view the CVC site for the guidelines issued by CVC on adaptation of integrity Pact	
	b) In case of two bid system, the bidder is required to submit the signed pre-contract IP as part of technical bid, failing which offers are liable for rejection.	
22	c) The Buyer has appointed Independent External Monitors for this Pact in consultation with the Central Vigilance Commission as follows: Shri G.Rajeswara Rao, IRS(Retd), Ex Chief Commissioner of Income Tax E-mail ID: grajeswararao@gmail.com All clarification/query w.r.t tender & request for validity extension of the tender should be forwarded to HAL only and not to the IEM.	
	d) If any complaint with regard to violation of the IP is received by the buyer in a procurement case, the buyer shall refer the complaint to the Independent External Monitors for their comments / enquiry	
	g) If the Independent External Monitors need to peruse the records of the buyer in connection with the complaint sent to them by the buyer, the buyer shall make arrangement for such perusal of records by the Independent External Monitors	
23	i) The import content of the final supplies/deliverables made to HAL should not have any items or components imported from Countries which Govt. of India has restrictions. Not declaring such imports are liable for rejection.	
24	Warranty: As per Technical Requirement Specification document enclosed at Enl-1	
25	Delivery Schedule : Details as per Technical specification (Encl-1) Serial No 8 & 9.	
26	Terms of Payment: In the event of an order, 100% payment will be made within 30 days from the date of receipt and acceptance at our Stores, by NEFT/ RTGS or any other latest Electronic Payment remittance mode.	
27	Any order, resulting from the enquiry, shall be governed by the General Terms and Conditions of Contract of HAL and any party quoting against this enquiry shall be deemed to have read and understood these terms and conditions and to have quoted subject to these terms and conditions .	
28	When counter terms and conditions have been offered by a tenderer, HAL shall not be deemed to be governed by such terms and conditions unless specific written acceptance thereof has been given by HAL.	
29	Any terms & conditions which has not been the part of the bid or Purchase Order, if put forward in subsequent correspondence, shall not be considered by HAL.	
30	Disregard of any instructions, may result in your offer being ignored.	
31	Canvassing by tender form, including unsolicited letter on tender submitted or post tender corrections shall render their tenderers liable for rejection.	

32	<p>BRIBES AND GIFTS Any bribe, commission, gift or advantage given, promised or offered by or on behalf of the contractor or his parties, agent or servant or any one on his or their behalf to any officer, servant, representative or agent of HAL or any person on his or their behalf in relation to the obtaining or to the execution of this or any other contract with HAL shall in addition to any criminal liability which the contractor may incur, subject the contractor to the cancellation of this and all other contracts with HAL and also to payment of any loss or damage resulting from any such cancellation under clauses-8 and 10 thereof. Any question or dispute as to the commission of any offence under the present clause shall be settled by HAL in such manner and on such evidence or information as they may think fit and sufficient and their decision shall be final and conclusive.</p>	
33	<p>CONFIDENTIALITY:- The Supplier shall hold confidential technical data and information supplied by the Purchaser or on behalf of the Purchaser and shall not reproduce any such technical data or information or divulge the same to any third party without the prior written consent of the Purchaser. The Purchaser shall hold confidential technical data and information supplied by the Supplier or on behalf of the Supplier and shall not reproduce any such technical data or information or divulge the same to any third party without prior written consent of the Supplier except as far as may be necessary for either party to carry out its obligations under this Contract.</p>	
34	<p>Intellectual Proprietary Rights (IPR): In the development orders, where technical inputs/assistance is provided to the vendors, the Intellectual Proprietary Rights (IPR) will rest with HAL. Vendor will not directly deal with HAL's customer for these items.</p>	
35	<p>EXCHANGE OF PROPRIETARY INFORMATION AND NON-DISCLOSURE AGREEMENT: Successful Bidder has to sign NDA (as per format enclosed in PDF format) before placement of Purchase Order.</p>	
36	<p>FALL CLAUSE :- The price quoted shall be in no event exceed the lowest price at which you sell the stores or offer to sell stores of identical description to any person(s) / organization including the purchases by any department of the Govt. of India, the State Govt. or any statutory undertaking of the Govt. of India / State Govt., as the case may be during the period till the completion of the performance of the order placed and during currency of the order. If at any time during the said period, the contractor reduces the sales price, sells or offers to sell such stores to any person/organization including the purchaser or any department of Central Govt. or any Dept. of State Govt., or any statutory undertaking of the Central or State Govt., as the case may be at a price lower than the price chargeable under the contract, he shall forthwith notify such reduction/sale or offer to sale to the Hindustan Aeronautics Limited and the price payable under the contract for the stores supplied after the date of coming into force of such reduction or sale or offer to sale shall stand correspondingly reduced.</p>	
37	<p>Immunity to Government of India: It is expressly understood and agreed by and between supplier & purchaser that purchaser is entering into this contract solely on its own behalf and not on behalf any other person or entity. In particular, it is expressly understood and agreed that Government of India is not a party to this contract and has no liabilities, obligations or right hereunder. It is expressly understood and agreed that purchaser is an independent legal entity with power and authority to enter into contracts solely on its own behalf under the applicable laws of India and general principles contract law. Supplier expressly agreed acknowledges and understand that purchaser is not an agent, representative or delegate to the Government of India. It is further agreed and understood that Government of India is not and shall not be liable for any acts, omissions, commissions, breaches or other wrongs arising out of the contract. Accordingly, supplier hereby expressly waives releases and foregoes any and all actions, including counterclaims, impleader claims or counter claims against the Government of India arising out of this contract and covenants as to any manner, claim cause or action or this whatsoever arising out of or under this contract.</p>	
38	<p>JURISDICTION :- The Court at Bangalore only shall have jurisdiction to deal with and to decide any legal matter whatsoever arising out of this contract.</p>	
39	<p>INDEMNITY :- The contractor shall at all times indemnify HAL against all claims which may be made in respect of the stores for infringement of any right protected by patent, registration of design or trade mark.</p>	

40	<p>ARBITRATION :- All disputes or differences whatsoever arising between the parties out of or relating to the construction meaning and operating or effect of this contract or the breach thereof shall be settled by arbitration in accordance with the rules of arbitration of the ICA/ICADR and the award made in pursuance thereof shall be binding on the parties.</p>	
40	<p>Quality Requirements: 1.Requirements regarding the need for the supplier to</p> <ul style="list-style-type: none"> - notify HAL of nonconforming product, - obtain HAL approval for nonconforming product disposition, - notify HAL of changes in product and/or process, changes of suppliers, changes of manufacturing facility location and where required obtain organization approval and - flow down to the supply chain the applicable requirements including customer requirements, <p>2). Records retention requirements and</p> <p>3). Right to access by HAL, customer and regulatory authorities to the applicable areas of all facilities at any level of the supply chain, involved in the order and to all applicable records.</p>	
40	<p>Agents / Agency Commission:</p> <p>The seller confirms and declares to the buyer that the seller is the original manufacturer or authorized distributor / stockiest of original manufacturer or Govt. Sponsored / Designated Export Agencies (applicable in case of countries where domestic laws do not permit direct export by OEMS) of the stores referred to in this offer / contract / Purchase order and has not engaged any individual or firm, whether Indian or Foreign whatsoever, to intercede, facilitate or in any way to recommend to Buyer or any of its functionaries, whether officially or unofficially, to the award of the contract / purchase order to the Seller; nor has any amount been paid, promised or intended to be paid to any such individual or firm in respect of any such intercession, facilitation or recommendation. The Seller agrees that if it is established at any time to the satisfaction of the Buyer that the present declaration is in any way incorrect or if at a later stage it is discovered by the Buyer that the Seller has engaged any such individual / firm, and paid or intended to pay any amount, gift, reward, fees, commission or consideration to such person, party, firm or institution, whether before or after the signing of this contract / purchase order, the Seller will be liable to refund that amount to the Buyer. The Seller will also be debarred from participating in any RFQ / Tender for new projects / program with Buyer for a minimum period of five years. The Buyer will also have a right to consider cancellation of the Contract / Purchase order either wholly or in part, without any entitlement or compensation to the Seller who shall in such event be liable to refund all payments made by the Buyer in terms of the Contract / Purchase order along with interest at the rate of 2% per annum above LIBOR (London Inter Bank Offer Rate) (for foreign vendors) and Base Rate of SBI (State Bank of India) plus 2% (for Indian vendors). The Buyer will also have the right to recover any such amount from any contracts / Purchase order concluded earlier with Buyer.</p>	
42	<p>RISK PURCHASE: In the event the SUPPLIER fails to deliver the goods or any consignments thereof within 90 days following the conclusion of the period prescribed for such delivery the PURCHASER may purchase the goods not delivered from the other sources and such a replacement's total cost to HAL upto to a maximum of one hundred and thirty percent of Supplier's price for such item shall be deducted by HAL from the next upcoming payment or payments to be made to Supplier under the contract</p>	

EXIT CRITERIA:

i. The contract/order may be terminated under the following circumstances:

a. In the event of unsatisfactory performance by the vendor during the contract period, or any of the information provided by the supplier is found to be untrue, or supplier is found to have attempted to influence any person involved with the contract through unethical means, the contract shall be terminated with 6 month's advance notice without any financial implication to HAL. Notwithstanding the foregoing, in cases where it is found that a supplier is engaged in unethical practices, the same shall be barred from participating in the future contracts for a period indicated in the Purchase Manual.

b. If there is change in the Customer requirement, contract shall be terminated with 6 month's advance notice. The liability of HAL in this case will be agreed mutually.

c. The supplier is declared bankrupt or becomes insolvent.

d. The delivery of material is delayed due to causes of Force Majeure by more than 6 months.

e. Based on the decision of the Arbitration Tribunal.

ii. In the event of termination of contract by either party the supplier shall ensure the following:

a. IPRs are transferred to HAL to enable HAL to proceed on the work with other suppliers.

Suppliers also will render all assistance till the other suppliers fully take over the balance work.

b. Transfer title and deliver all or any part thereof of the supplies, materials, work-in-process, finished Products, Tooling, drawings and data produced or acquired by vendor specifically for the Product being terminated.

c. Supplier shall ensure supply of products and its components /Spares at least for a period of 2 years from the date of such termination".

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MSCRDC
HINDUSTAN AERONAUTICS LIMITED
 Vimanapura Post
 Bangalore - 560 017. INDIA

Commercial Terms and Conditions (For Foreign supplier) of Tender - Part of Technical Bid.

Tender Ref. No.MC/S461/1359/19/1

Name of Work: Single Computer Board

Name of the Vendor/ Firm:

Full Address and Contact Details

Quotation Ref. No and Date :

PLEASE INDICATE YOUR RESPONSE/ COMPLAINE/ ACCEPTANCE TO THE FOLLOWING TERMS (MANDATORY) AND UPLOAD AS A PART OF TECHNICAL BID

SL. NO.	HAL RFQ terms & conditions	Vendor Compliance (Complied/ Non - complied)
1	Price : The bidder is required to indicate prices against individual items. Prices quoted should be in the currency of the country of supply or any other convertible foreign currency (to be specified by HAL in line with RBI / FEMA rules).	
	HAL being manufacturers, bidders to indicate in the quotation manufacturers discount if any.	
	Price quoted should be net FOB / FCA, export packed / FAS Vessel with no extra charge whatsoever. If Ex-works is accepted by the party, a loading factor of 5% would be added and for FOB/FCA shipments 3% loading factor would be added.	
	Bidder should indicate separately cost of services rendered in India if any.	
	If, for special reasons, bidder prices are Ex-Works or F.O.B. plant, bidder must prepay inland transportation's. Port dues and shipment charges up to F.O.B. vessel at port of shipment and claim this amount of actual along with the price of the goods through bank. Bidder's quotation should indicate clearly the extent of such charges.	
	Tenderers should clearly mention whether the prices hold good when the full quantity of enquiry is not ordered but only a part of it. Unless otherwise mentioned, it would be assumed that the rates hold good even when lesser quantities than those enquired of are ordered. Any increase in prices at a later date for ordering lesser quantities will not be agreed to.	
1a	Bidder should indicate prices as per price format of tender. The prices quoted for Phase-1 should be at EC 2019 level and firm & fixed till completion of Phase-1. The prices for Phase 2, should be at indicated year wise as per Price Bid Format Annexure 3.	
	Price Variation Formula: (Applicable for Supplies beyond 2026-27) A suggested price variation formula could be as follows:	
	$P = P_o \{ (A + B(L/L_o) + C (M/M_o)) \}$	
	P = Final price payable in the year of delivery	
	P _o = The base price at 2019 economic conditions	
	L _o = Average Labour Index of the base year 2019	
	M _o = Average Material Index of the base year 2019	
	L = Average Labour Index Months prior to date of delivery	
	M = Average Material Index Months prior to date of delivery	
	A, B & C = Percentages corresponding to fixed elements, labour and material respectively.	
Maximum escalation cap applicable (percentage in both Negative Cap & Positive Cap i.e +/-"X") with the above price variation formula to be indicated. Value of X should be indicated.		
The Price variation formula shall be provided along with relevant economic indices for the last 5 years. Vendor is also required to provide calculation of the rate of the variation based on these indices for these 5 years as well as future forecast of these indices including ceiling / cap proposed on the price variation.		
The indices incorporated in the escalation formula should be Govt. Published/ in public domain indices and capable of being verified. Should furnish last 5 years indices to check escalation.		
2	Taxes : Bidders has to bear all taxes, duties and levies payable in their country and HAL will bear all statutory levies, other than withholding tax payable in India.	
3	Quantity : a. The quotation must be in the unit in which the quantity is indicated in the enquiry. If it is otherwise, conversion data must be furnished. b. HAL reserves the right to order quantity less than indicated in the enquiry /quoted for by bidder, at the prices quoted, without any reference to the bidder.	

4	Validity of the Quotation : Price quoted should be net and unless otherwise specified should remain valid for our acceptance for a minimum of 120 days from the closing date of enquiry and the materials of offered should be kept under provisional reservation for this quotation.	
5	Tender Due Date : The due date for submission of quote is as indicated in RFQ through e-procurement mode only.	
6	Submission of Tender : Response to bid through e-Procurement should be uploaded in the e-portal only. Bid submitted by bidder's authorized dealer / distributor/channel partner should accompany with ink signed authorization letter of the bidder to whom tender has been originally issued. In the absence of authorization letter, the bids submitted shall be considered an unsolicited. Vendors should ensure the bids are submitted as per RFQ attached in PDF form well before due date and time of tender.	
7	Late Tender : Bid received after the due date and time specified in the tender shall be considered as late tender and will not be considered. HAL will not be responsible for inability of vendor to upload the tender documents in e-procurement. HAL reserves the right to reject late or incomplete tender.	
8	Opening of Tender : a. Tender will be opened as indicated in RFQ at MCSRDC Division, Vimanpura Post, Bangalore- 17. Bidders or their authorized reps. are desirous to attend the tender opening may forward written confirmation with name of authorized person and designation prior to tender opening. b. During tender opening only the important particulars like price, delivery terms will be read out. PRE-BID Meeting: A pre bid meeting has been arranged on 10/05//2019 at MCSRDC Division, HAL , Bangalore at 9:30 Hrs. All the bidders are invited to attend the meeting in order to understand the requirement and clarify any doubts before submission of bids. All the Interested vendors have to forward the names of attendees for the pre bid meeting to email ID: hv.babu@hal-india.co.in latest by 09/05/2019 (11:00 Hrs)	
	Tender Evaluation: Bid received in different currency will be converted to Indian Rupees. The TT selling rate for foreign currency exchange rate for conversion will be adopted as per the RBI as on date of tender opening.	
9	L-1 (Lowest Bid) will be decided based on Package wise basis and will be based on total value of both Phase - 1 (Design And Development Phase Of Avionics Computer By HAL) and phase 2 (Requirement during Production phase Of Avionics Computer By HAL) put together. (Grand Total of SI.No.A (phase-1) and SI.No.B (Phase 2) inclusive of all Taxes and Duties for the Price Bid Annexure 3) Bid with lowest price conforming to the specification will be considered for placement of order.	
	Purchase Preference Policy : Please refer Appendix-A for policy details. Provide your compliance to this policy by indicating Complied against this column.	
10	As per the policy if you fall under 'Local Supplier' (i.e., minimum "local content" of 50%), then, mention the percentage of local content against this column. Refer Para 1 and Para 2 of Appendix-A for definition of Local Supplier and Local Content In addition to price any other criteria if to be adopted the most advantageous bid ascertained on the basis of criteria specified in the enclosure will be considered.	
11	If the bidder considers that tendered quantity is small, the bidder may quote for Minimum Ordering Quantity (MoQ). Commercial evaluation in this case will be done on MoQ x unit price, if MOQ offer beyond 20% of RFQ quantity.	
12	If two or more bidders quote the same price, HAL reserves the right to seek revised offer from the same bidders and placing order on revised L-1 offer. If same situation prevails then HAL reserve the right to place order on any of them.	
13	Conditional discounts will not be considered in evaluation of tender.	
	Integrity Pact: a) Bidder shall submit duly signed Integrity Pact in original, strictly as per the format (without any deviation) enclosed with the RFQ. Bidders not complying with this are liable for rejection and their bids will not be considered for evaluation. Bidders are advised to view the CVC site for the guidelines issued by CVC on adaptation of integrity Pact	
	b) In case of two bid system, the bidder is required to submit the signed pre-contract IP as part of technical bid, failing which offers are liable for rejection.	
14	c) The Buyer has appointed Independent External Monitors for this Pact in consultation with the Central Vigilance Commission as follows: Shri G.Rajeswara Rao, IRS(Retd), Ex Chief Commissioner of Income Tax E-mail ID: grajeswararao@gmail.com All clarification/query w.r.t tender & request for validity extension of the tender should be forwarded to HAL only and not to the IEM.	

	d) If any complaint with regard to violation of the IP is received by the buyer in a procurement case, the buyer shall refer the complaint to the Independent External Monitors for their comments / enquiry	
	g) If the Independent External Monitors need to peruse the records of the buyer in connection with the complaint sent to them by the buyer, the buyer shall make arrangement for such perusal of records by the Independent External Monitors	
15	i) The import content of the final supplies/deliverables made to HAL should not have any items or components imported from Countries which Govt. of India has restrictions. Not declaring such imports are liable for rejection.	
	Others In the case of airborne material, the same should be covered by a Release Note or Airworthiness Certificate countersigned by person/s authorized by Government Airworthiness Certifying Authority.	
	Please indicate approximate net weight of each of the item and gross weight and dimension of the package to enable HAL to determine the mode of dispatch.	
	Please indicate in your tender, whether stores newly manufactured are offered. Where newly manufactured stores are offered and on inspection it is found that reconditioned stores or parts have been used, such stores will be rejected at the contractor's risk and expense.	
	Please furnish list of similar equipments supplied in HAL Divisions or anywhere in India with customer's full address, value and telephone/telex etc.	
	Please indicate if any training arrangements for item/system in India and factory acceptance test if required.	
	Please also indicate necessary onsite technical support during installation of the system at no extra cost.	
	Vendors should ensure the availability of spares of the offered products for a period of 10 years.	
	Two sets of operation manuals/maintenance manual should accompany the system at no extra cost.	
	Please also indicate status of export permit based on the present rules/regulations of your country and normal time frame for obtaining such export permission if an order is placed on you in near future and the same should be covered within the delivery schedule indicated.	
	Vendors while submitting the proposal should categorically declare that items quoted by them are their own manufactured products and are not resold (2nd sale). Offers without such declaration are likely to be ignored.	
	Quotation should accompany the detailed catalogues and literature.	
16	Vendor should confirm that they are the original manufacturer of the stores referred to in this contract and has not engaged any individual or firm whether Indian or foreign whatsoever, to intercede, facilitate or in any way to recommend to the Government of India or any of its functionaries, whether officially or unofficially, the award of the contract to the seller nor has any amount been paid or intended to be paid to any such individual or intended to be paid to any firm in respect of any such intercession, facilitation or recommendation, vendor accepts that if it is established that the present declaration is in any way incorrect and if at any later stage it amount/commission to such individual/firm, vendor will be liable to pay the similar amount to HAL for engaging such individual/firm and making the payment as commission. In addition, vendor will also be debarred from entering into any supply contract with the Ministry of Defence, Government of India for a minimum period of 5 years. Vendors shall also consider cancellation of the contract without any entitlement or compensation to vendors who shall also be liable to refund all payments made by HAL in terms of the contract along with the interest at the London inter bank offer rate(LIBOR)	
	The Harmonized System of tariff nomenclature against the items for which quotation is rendered should be indicated.	
	Release note/ OEM certificate of conformity with physical and chemical test report is required along with the supply.	
	Requested to include the Box Charges / Packing Charges / Phytosanitary regulation Charges in the unit quoted price if any. (otherwise indicate separately charges for each item)	
	Manufacturer's name and country of origin of the materials offered must be clearly specified. Complete details and illustrated literature must accompany all quotations.	
	Vendors should clearly indicate similar equipment supplied on global basis to Aircraft manufacturing industry, to any Division of HAL and other reputed/Govt customers and anywhere in India with customer's full address, telephone/telefax No., P.O. No., value and year of supply.	
	Quotation should be free from correction, over-writing, using correcting fluid etc.	
	HAL is not bound to accept the lowest or any quotation and reserves the right of accepting the whole or any part of the quotation or part of the quantity offered and bidder must supply the same at the rate quoted.	
	Vendor shall not be entitled without HAL's consent to assign or transfer to a third party all or part of the benefits or obligations under this contract.	

17	<p>Security Deposit:a) Successful vendor, shall have to deposit 5% of the value of the order as Security Deposit (to be calculated only on basic cost excluding taxes & duties, if such details are furnished separately in the bid submitted) within 15 days of receipt of the purchase order, by demand draft or bank guarantee in a prescribed format of H.A.L from a scheduled bank in India / bank of international repute (for Foreign vendors), valid up to 60 days after the completion of contract period/last supply. This Security Deposit will bear no interest and will be returned only after the contract is completed to the entire satisfaction of H.A.L. In case, quotes received without indicating the break-up details of GST and order placed subsequently on composite value (without indicating breakup details of taxes & duties) then the Security deposit to be sought on the composite value (including taxes & duties) Note - Loading factor of 5% shall be considered during Commercial Evaluation for bidders who have not agreed for submission of Security Deposit</p> <p>b) In case the contract is not executed to the entire satisfaction of HAL the security deposit shall be forfeited, besides initiation of risk purchase action</p> <p>c) No claim will be entertained against HAL either in respect of interest, if any due on the security deposit or depreciation in value.</p> <p>d) On due performance and completion of the contract in all respects, the security deposit will be returned to the vendor, without any interest, on presentation of absolute "No Demand Certificate" and upon return in good condition of any specifications, drawings, samples or any other property belonging to the purchaser, which may have been issued to the vendor.</p>	
18	<p>Liquidated Damages : In the event of an order, we reserve the right to collect a sum of 0.5% per week of delay or part thereof, subject to a maximum of 10% as our claim-towards liquidated damages on the undelivered part of the order.</p>	
19	<p>Delivery : Details as per Technical specification (Encl-1) Serial No 8 & 9.</p>	
20	<p>Warranty: As per Technical Requirement Specification document enclosed at Enl-1.</p>	
21	<p>PERFORMANCE BANK GUARANTEE: Vendor shall furnish a Performance Bank Guarantee as per HAL's format for 10% of order value (to be calculated only on basic cost excluding taxes & duties, if such details are furnished separately in the bid submitted) valid till end of the guarantee / warranty period from a scheduled bank in India.</p>	
22	<p>Terms of Payment:</p> <p>i) In accordance with our standard practice, payment against any order materializing out of your offer, will be against presentation of documents through the State Bank of India, JC Road, Bangalore, India.</p> <p>ii) 100% payment through wire transfer within 30 days from the date of Receipt and acceptance. SWIFT mandate to be provided along with the offer</p> <p>iii) If under unavoidable situations payment has to be made through Letter of Credit, the same can be established for 80% of the order value before three months from the date of dispatch. All bank charges are to be borne by the vendor. Balance 20% will be paid directly through bank after delivery and acceptance.</p>	
23	<p>Quality Requirement : a) Requirements regarding the need for the supplier to</p> <ul style="list-style-type: none"> - notify HAL of nonconforming product, - obtain HAL approval for nonconforming product disposition, - notify HAL of changes in product and/or process, changes of suppliers, changes of manufacturing facility location and where required obtain organization approval and - flow down to the supply chain the applicable requirements including customer requirements. <p>b) Records retention requirements and</p> <p>c) Right to access by HAL, customer and regulatory authorities to the applicable areas of all facilities at any level of the supply chain, involved in the order and to all applicable records.</p>	
24	<p>Export License: Vendors should categorically confirm the availability of export license from their government for exporting the system. Vendor shall be required to obtain and maintain all Export/Import licences and permits etc., as the case may be, required for performing supplies against this tender. Obtaining export licence shall be entire responsibility of the vendor.</p>	
25	<p>Settlement of Disputes and Arbitration: All disputes arising out of the contract shall be settled as per Laws of India/ Rules of Arbitration of ICA/ICADR.</p>	

26	<p>Immunity to Government of India:</p> <p>It is understood and agreed that the Government of India is not a party to this agreement and has no liabilities, obligations or rights hereunder. It is expressly understood and agreed that HAL is an independent legal entity with power and authority to enter into contracts solely in its own behalf under the applicable Laws of India and General Principles Contract Law. The vendor shall agree, acknowledge and understand that HAL is not an agent, representative or delegate of the Government of India. It is further understood and agreed that the Government of India is not and shall not be liable for any acts, omissions, commissions, breaches or other wrongs arising out of the contract. Accordingly, vendor expressly waives releases and foregoes any and all actions or claims against the Government of India arising out of this contract, not to sue the Government of India as to any manner, claim, and cause of action or thing whatsoever arising out of or under this agreement.</p>	
27	<p>Fall Clause:</p> <p>a) The price charged for the stores supplied under the contract shall be in no event exceed the lowest price at which the contractor sells the stores or offers to sell stores of identical description to any persons/organizations including the purchaser of any department of the Central Govt. or any Dept. of the State Govt. or any statutory undertaking of the Central or State Govt., as the case may be during the period till the performance of the supply order placed and during currency of the contract is completed.</p> <p>b) If at any time during the said period, the contractor reduces the sales price, sells or offers to sell such stores to any person/organization including the purchaser or any department of Central Govt. or any Dept. of State Govt., or any statutory undertaking of the Central or State Govt., as the case may be at a price lower than the price chargeable under the contract, he shall forthwith notify such reduction/sale or offer to sale to the Hindustan Aeronautics Limited and the price payable under the contract for the stores supplied after the date of coming into force of such reduction or sale or offer to sale shall stand correspondingly reduced.</p>	
28	<p>Agents / Agency Commission:</p> <p>The seller confirms and declares to the buyer that the seller is the original manufacturer or authorized distributor / stockiest of original manufacturer or Govt. Sponsored / Designated Export Agencies (applicable in case of countries where domestic laws do not permit direct export by OEMS) of the stores referred to in this offer / contract / Purchase order and has not engaged any individual or firm, whether Indian or Foreign whatsoever, to intercede, facilitate or in any way to recommend to Buyer or any of its functionaries, whether officially or unofficially, to the award of the contract / purchase order to the Seller; nor has any amount been paid, promised or intended to be paid to any such individual or firm in respect of any such intercession, facilitation or recommendation. The Seller agrees that if it is established at any time to the satisfaction of the Buyer that the present declaration is in any way incorrect or if at a later stage it is discovered by the Buyer that the Seller has engaged any such individual / firm, and paid or intended to pay any amount, gift, reward, fees, commission or consideration to such person, party, firm or institution, whether before or after the signing of this contract / purchase order, the Seller will be liable to refund that amount to the Buyer. The Seller will also be debarred from participating in any RFQ / Tender for new projects / program with Buyer for a minimum period of five years. The Buyer will also have a right to consider cancellation of the Contract / Purchase order either wholly or in part, without any entitlement or compensation to the Seller who shall in such event be liable to refund all payments made by the Buyer in terms of the Contract / Purchase order along with interest at the rate of 2% per annum above LIBOR (London Inter Bank Offer Rate) (for foreign vendors) and Base Rate of SBI (State Bank of India) plus 2% (for Indian vendors). The Buyer will also have the right to recover any such amount from any contracts / Purchase order concluded earlier with Buyer.</p>	
29	<p>EXIT CRITERIA:</p> <p>i. The contract/order may be terminated under the following circumstances:</p> <p>a. In the event of unsatisfactory performance by the vendor during the contract period, or any of the information provided by the supplier is found to be untrue, or supplier is found to have attempted to influence any person involved with the contract through unethical means, the contract shall be terminated with 6 month's advance notice without any financial implication to HAL. Notwithstanding the foregoing, in cases where it is found that a supplier is engaged in unethical practices, the same shall be barred from participating in the future contracts for a period indicated in the Purchase Manual.</p> <p>b. If there is change in the Customer requirement, contract shall be terminated with 6 month's advance notice. The liability of HAL in this case will be agreed mutually.</p> <p>c. The supplier is declared bankrupt or becomes insolvent.</p> <p>d. The delivery of material is delayed due to causes of Force Majeure by more than 6 months.</p> <p>e. Based on the decision of the Arbitration Tribunal.</p> <p>ii. In the event of termination of contract by either party the supplier shall ensure the following:</p> <p>a. IPRs are transferred to HAL to enable HAL to proceed on the work with other suppliers. Suppliers also will render all assistance till the other suppliers fully take over the balance work.</p> <p>b. Transfer title and deliver all or any part thereof of the supplies, materials, work-in-process, finished Products, Tooling, drawings and data produced or acquired by vendor specifically for the Product being terminated.</p> <p>c. Supplier shall ensure supply of products and its components /Spares at least for a period of 2 years from the date of such termination</p>	
30	<p>HAL conditions of contract will govern any resultant order arising out of the enquiry (copy on application) and bidders quotation will be subject to the said conditions.</p>	

31	Bidder is required to send REGRET REPLY, in case the subject item is not covered in bidders range of products.	
32	<p>CONFIDENTIALITY</p> <p>The Supplier shall hold confidential technical data and information supplied by the Purchaser or on behalf of the Purchaser and shall not reproduce any such technical data or information or divulge the same to any third party without the prior written consent of the Purchaser. The Purchaser shall hold confidential technical data and information supplied by the Supplier or on behalf of the Supplier and shall not reproduce any such technical data or information or divulge the same to any third party without prior written consent of the Supplier except as far as may be necessary for either party to carry out its obligations under this Contract.</p>	
33	In the development orders, where technical inputs/assistance is provided to the vendors, the Intellectual Proprietary Rights (IPR) will rest with HAL. Vendor will not directly deal with HAL's customer for these items.	
34	<p>RISK PURCHASE: In the event the SUPPLIER fails to deliver the goods or any consignments thereof within 90 days following the conclusion of the period prescribed for such delivery the PURCHASER may purchase the goods not delivered from the other sources and such a replacement's total cost to HAL upto to a maximum of one hundred and thirty percent of Supplier's price for such item shall be deducted by HAL from the next upcoming payment or payments to be made to Supplier under the contract</p>	



Technical Terms and Conditions of Tender - Annexure - 1

Tender Ref. No.MC/S461/1359/19/1

Name of Work:Single Board Computer

Two Bid System

Name of the Vendor/ Firm:

Address and Contact details

Quotation Ref. No and Date :

PLEASE INDICATE YOUR RESPONSE/ COMPLAINE/ACCEPTANCE TO THE FOLLOWING TERMS (MANDATORY). INDICATE THE TECHNICAL SPECIFICATION/RANGE AGAINST HAL TECHNICAL REUIREMENTS WHEREVER NECESSARY

HAL Scope of Work (Please refer Encl-1 for PDF copy of Technical Specification Requirement)	Vendor's Compliance (Complied or not complied)
1. PURPOSE The purpose of this document is to provide the technical requirement specification of 3U VPX based Single Board Computer (SBC) (COTS based solution) for airborne avionics computer along with Carrier Card and SBC test setup.	
2. SCOPE This document covers the hardware requirement, software requirement, environmental requirement, electrical requirement and delivery schedule of SBC, Carrier Card and test setup. Section 4 gives the technical requirement specification of the SBC and test setup. Section 5 gives the technical requirement specification of the Carrier Card. Section 7 gives the list of deliverables. Section 8 and 9 describes the delivery schedule for different phases. Section 10 mentions about acceptance. Section 11 mentions about warranty.	
3. OVERVIEW Single Board Computer shall be installed in Avionics Computer application. The SBC shall be 3U VPX compliant. SBC installed in the first slot of the avionics computer and shall act as system controller. SBC/ Carrier Card installed in peripheral slot shall be configurable as end-point. SBC shall have on-board resources for Transmit/ Receive data on Ethernet, RS-422, RS-232. It shall have one PCI mezzanine slot.	
4. DETAILED SPECIFICATION OF SBC 4.1. Technical Overview of SBC 3U VPX (VITA 46) compliant SBC shall be COTS based solution provided by the vendor along with test setup and RTM.	
4.2. SBC Technical Requirements: The SBC shall be based on NXP make T1 series processor and shall have the following features: i. The SBC shall must have one PMC site. ii. PMC site shall support at least 32 bit @ 66 MHz/33MHz mode. iii. The SBC shall be configurable to operate at maximum frequency \geq 1Ghz. Feature to bring down the operating frequency shall also be available in the SBC through hardware resistor setting and/or through software register setting. (These details shall be provided by vendor after PO Placement). iv. In case the SBC is having more than one core, provision for enabling and disabling other cores should be provided (to reduce the processor power consumption) v. Memory Resources Requirement: a. RAM: 4 GB DDR3 (Minimum) b. NOR Flash: 128 MB (Minimum) c. NAND Flash: 8 GB (Minimum) d. NVRAM: 512 KB (Minimum) vi. Interface Requirement on Rear Backplane Connector: a. GPIO: 4 nos (minimum). It shall also be possible to use GPIOs as external interrupt lines. b. Ethernet Ports: 2 nos (Minimum) (Preferable support for IEEE 1588) Configurable to 10/100/1000T individually. c. RS422: 1 No (Minimum) d. RS232: 1 No (Minimum) e. At least eight (8) PCIe lanes with minimum configurability support for 2[x4] or 8 [x1].	

HAL Scope of Work (Please refer Encl-1 for PDF copy of Technical Specification Requirement)	Vendor's Compliance (Complied or not complied)
<p>4.3. Other Requirements of SBC and Test Setup:</p> <ul style="list-style-type: none"> i. Watchdog timer: Minimum 1 no. ii. Minimum 30 bit timers: Minimum 1 no. iii. Minimum One Real Time Clock (RTC) iv. Minimum One Onboard Temp Sensor v. Chassis ground (wedge lock) and digital ground of the SBC shall be isolated with each other. vi. Front panel connector if any should not be mounted in the SBC as these SBCs shall be used in closed unit with Bottom side of the Top Plate touching the SBC top side. (Thermal pad may be used between Unit Top Plate and SBC Top side) vii. SBC shall be Conduction Cooled. viii. Operating Temperature: -40°C to 85°C (@ wedge lock/ Guides). ix. Rear Transition Module (RTM): Rear transition module suitable to test all the interfaces and requirements of the SBC (As described in this document) to be provided by the vendor. It is to be fitted in the test setup. Easy insertion and removable of the RTM with the help of guides and extractor tool shall be provided. x. Test Setup: <ul style="list-style-type: none"> a. It shall consist of at least 5 3U-VPX slots (with compatible backplane). b. Test Setup (along with RTM) shall be capable to test the supplied SBCs and the carrier cards (mentioned in section 5). c. VPX test setup shall have power supply source capable to supply minimum 150W. d. All the interfaces as mentioned in this document must be routed to VPX connector (backplane). Vendor shall provide all applicable mating connector, cable and adapter (if applicable) for all the inputs and outputs of the SBC so that all the defined input/output given in the specification can be tested through Rear Transition Module installed in the test setup provided. e. Power cord and AC adaptor (if applicable). xi. Vendor shall support HAL design team during Avionics Computer VPX blackplane design with respect to supplied SBC and Carrier Card. 	
<p>4.4. Power Supply Requirement of SBC</p> <ul style="list-style-type: none"> i. Power Consumption shall be less than equal to 18W (@25 °C) per SBC. In case of multi core processor it should be possible to bring down the power to less than equal to 18W by disabling the cores and reducing the operating frequency. ii. Individual maximum current requirement for the input voltage to the SBCs shall be provided by the vendor within 2 weeks after PO placement. iii. All power sequencing requirement of the SBC shall be taken care by On board power ICs of the SBC. iv. In case if SBC requires more than one type of power supply, it should be protected if one or more power supply input to the SBC is not available. It should start normal operation once all the supplies are available to the SBC. 	
<p>4.5. Software Requirements of SBC</p> <ul style="list-style-type: none"> i. Board Support Packages: BSP for VXWORKS 7 (Confirmation/ Declaration from SBC OEM about BSP compatibility with VXWORKS 7 shall be provided by vendor). Vendor must specify the VxWorks 7 release number as part of the proposal. ii. Vendor shall confirm the ADA/C language compiler support for 64 bit operation of the offered SBC. (SBC shall run application developed in ADA language/ C language. 64 bit ADA/C compiler with VxWorks 7.0 shall be used by HAL). iii. Vendor shall provide support during integration of BSP and drivers with the application. iv. SBC solution must be supported by a suite of firmware, BSPs, communication libraries and signal processing libraries as applicable for all the resources on the board. v. The solution must be supported by monitor program to provide a command line interface over serial port or Ethernet to allow a user to perform debug & stand alone card testing activities. The monitor shall also provide diagnostic and results display capability. The monitor program shall be residing in the SBC Flash. No OS shall be required to invoke/ use monitor program. vi. Firmware shall provide support for Flash memory programming for application and details of parameters used to control the flow after boot-up for initialization and execution of different programme loaded in Flash (for example application and diagnostics program). vii. Vendor shall provide Library of diagnostic routines/ API (Application Programming Interface) functions to support Power-up BIT (PBIT) and Continuous BIT (CBIT) designed to provide (85%-95%) fault coverage. viii. All the firmware/BSP software shall be installed & demonstrated (to be tested) by the vendor with Test Setup at MCSRDC laboratory, HAL. ix. Vendor shall provide support in Development Activities related to Application Software Integration with PMC (may be third party) and other IO module Integration with the SBC 	
<p>4.6. Environmental Requirements of SBC</p> <ul style="list-style-type: none"> i. Cooling Method : Conduction-Cooled ii. Operating Temperature : -40 °C to +85 °C (minimum range) iii. Storage Temperature : -55 °C to +100 °C (minimum range) iv. Vibration : 0.1 g²/Hz (maximum), 20 to 2000 Hz v. Shock : 40 g, 11 ms sawtooth vi. Humidity : 0% to 95% non-condensing vii. Conformal Coat : Mil-Grade viii. Supplied SBC shall be installed and integrated in a Avionics Computer which shall comply to the testing requirements of MIL-STD 810F, MIL-STD 704D and MIL-STD-461E. 	
<p>4.7. Physical Requirements of SBC</p> <ul style="list-style-type: none"> i Dimensions: As per VITA-46 (3U). ii Weight: less than 650 grams. <p>4.8. General Requirements of SBC</p> <ul style="list-style-type: none"> i. Vendor shall provide support during integration of industry standard third party MIL-1553B PMC and HAL developed I/O PMC on SBC. ii. Vendor shall be required to provide Mechanical Layout of the boards with dimension details, Edge connector Pin assignments (EICD), power budget details, heat sink dimensional details and exact release number of RTOS within three weeks of PO Placement. iii. Vendor shall be required to resolve the problems related to SBCs reported (if any) during qualification testing of the avionics computer in which the supplied items shall be installed. iv. Vendor shall provide the evidences for complex electronics hardware (FPGA/ CPLD) testing directly to indian certifying agency if required. 	
<p>5. DETAILED SPECIFICATION OF CARRIER CARD</p> <p>5.1. Technical Overview of Carrier Card 3U VPX (VITA 46) compliant Carrier Card shall be provided by the vendor along with RTM.</p>	

HAL Scope of Work (Please refer Encl-1 for PDF copy of Technical Specification Requirement)	Vendor's Compliance (Complied or not complied)
<p>5.2. Carrier Card Technical Requirements:</p> <ul style="list-style-type: none"> i. The carrier card shall have one PMC site. ii. The offered card shall have option for XMC site instead of PMC site. (Vendor to provide part number of the XMC version) iii. PMC site shall support 32/64bit 33/66 Mhz iv. XMC site shall support minimum one PCIe x4. <p>5.3. Other Requirements of Carrier Card:</p> <ul style="list-style-type: none"> i. Front panel connector if any should not be mounted in the Carrier Card as these Carrier Cards shall be used in closed unit with Bottom side of the Top Plate touching the carrier card top side. (Thermal pad may be used between Unit Top Plate and carrier card Top side) ii. Carrier Card shall be Conduction Cooled. iii. Operating Temperature: -40°C to 85°C (@ wedge lock/ Guides) iv. Rear transition module suitable to test all the interfaces and requirements of the Carrier Card (As described in this document) to be provided by the vendor. It is to be fitted in the SBC test setup mentioned in 4.3.x. Easy insertion and removal of the RTM with the help of guides and extractor tool shall be provided. 	
<p>5.4. Power Supply Requirement of Carrier card</p> <ul style="list-style-type: none"> i. Power Consumption shall be less than equal to 7W per Carrier Card. ii. Individual maximum current requirement for the input voltage to the carrier cards shall be provided by vendor within three weeks of PO Placement. iii. In case if carrier card requires more than one type of power supply, it should be protected if one or more power supply input to the SBC is not available. It should start normal operation once all the supplies are available to the carrier card. <p>5.5. Environmental Requirements of Carrier Card</p> <ul style="list-style-type: none"> i. Cooling Method : Conduction-Cooled ii. Operating Temperature : -40 °C to +85 °C (minimum range) iii. Storage Temperature : -55 °C to +100 °C (minimum range) iv. Vibration : 0.1 g²/Hz (maximum), 20 to 2000 Hz v. Shock : 40 g, 11 ms sawtooth vi. Humidity : 0% to 95% non-condensing vii. Conformal Coat : Mil-Grade viii. Supplied Carrier Card shall be installed and integrated in a Avionics Computer which shall comply to the testing requirements of MIL-STD 810F, MIL-STD 704D and MIL-STD-461E. 	
<p>5.6. Physical Requirements of Carrier Card:</p> <ul style="list-style-type: none"> i Dimensions: As per VITA-46 (3U). ii Weight: less than 350 grams. <p>5.7. General Requirements of Carrier Card</p> <ul style="list-style-type: none"> i. Vendor shall provide support during integration of third party ARINC429/MIL-1553B PMC and HAL developed I/O PMC on carrier card with SBC. ii. Vendor shall be required to provide Mechanical Layout of the Carrier Card with dimension details, Edge connector Pin assignments (EICD), power budget details and heat sink dimensional details within 3 weeks after PO Placement. iii. Vendor shall be required to resolve the problems related to carrier cards reported (if any) during qualification testing of the avionics computer in which the supplied items shall be installed. iv. Vendor shall provide the schematic/ I/O interface details between SBC and Carrier card for implementation in the avionics computer VPX backplane. 	
<p>6. PROPOSAL</p> <p>6.1 Technical proposal</p> <p>Following documents/ details to be attached along with technical proposal.</p> <ul style="list-style-type: none"> i. Technical Specifications/Datasheets of SBC and Carrier card (along with Part Number of SBC and Carrier card) being proposed along with the technology details. ii. Technical details of test setup for testing. iii. Reference Purchase Order numbers, brief details of the past and current projects for HAL/any public sector/ Government Organization particularly for same make modules in aerospace/defense domain. iv. OEM should submit supporting documents/ confirmation letter as a proof for similar boards supplied for an airborne unit. v. If the vendor is not the OEM for the modules, vendor shall provide authorized distributor certificate from the OEM and vendor shall have technical support team to assist in acceptance testing and integration activities. 	
<p>6.2 Technical Evaluation</p> <p>During Technical evaluation phase, vendor shall also demonstrate the SBC and the Carrier card within 2 weeks of intimation from HAL. This SBC & Carrier Card shall be the same or the similar class which will be offered by the vendor for final delivery. This will be also as selection criteria for technical compliance.</p> <p>The SBC used for the demonstration purpose must have all the features as mentioned below:</p> <ul style="list-style-type: none"> i. Requirements as mentioned in sec 4.2.iii except resistor hardware setting. ii. Requirements as mentioned in sec 4.2.iv. iii. Vendor shall use VxWorks 7 or VxWorks 6.9 BSP for demonstration purpose. iv. Vendor shall bring additional setup to demonstrate PCIe communication feature. v. Vendor shall arrange all the required setup for the demonstration purpose. <p>SBC used for demonstration can be based on NXP T1 or T2 or T4 series processor and can have either PMC or XMC slot. In case the demonstration is done with T2/T4 series processor sufficient supporting documents/analysis to be provided by vendor to confirm that the power consumption shall not exceed the final power requirement as mentioned in sec 4.4.1.</p> <ul style="list-style-type: none"> vi. Self test of card. vii. The Carrier Card used for the demonstration purpose must have all the features as mentioned below: <ul style="list-style-type: none"> a. Requirements as mentioned in sec 5.2. b. Vendor shall bring additional setup to demonstrate PCIe communication feature of carrier card with SBC. c. Vendor shall arrange all the required setup for the demonstration purpose. d. Vendor shall be able to demonstrate the communication between the SBC and the Carrier Card. e. Self test of card. 	

HAL Scope of Work (Please refer Encl-1 for PDF copy of Technical Specification Requirement)	Vendor's Compliance (Complied or not complied)																																																						
<p>7. DELIVERABLES FOR PHASE-1*:</p> <ul style="list-style-type: none"> i. SBC as per complete requirement mentioned in section 4: 30 Nos ii. Carrier card as per complete requirement mentioned in section 5: 03 Nos iii. VPX 3U chassis with minimum 5 slots test setup: 02 Qty iv. RTM with mating cable and accessories as per complete requirement mentioned 4.3.ix in this document: 05 Qty v. RTM with mating cable and accessories as per complete requirement mentioned 5.3.iv in this document: 02 Qty vi. Following Shall be provided in CD : <ul style="list-style-type: none"> a. BSPs (Board Support Packages) and Libraries for the SBC as mentioned in section 4.5. (Source code not required) b. Monitor Programs for the SBC as mentioned in section 4.5. (Source code not required) c. Flash Programming Utilities as mentioned in section 4.5. (Source code not required) d. Applicable documents for SBC and Carrier Card (Technical specification, Firmware Guide, Acceptance test procedure/ report, programming manual/ guide, User Guide etc.) in CD media. e. SBC and Carrier Card PCB Thermal Analysis test report. f. Mechanical details of SBC and Carrier Card. (DXF file, 3D model etc) g. MTBF/ reliability report of SBC and Carrier Card. h. Additional environmental test reports conducted on the SBC and Carrier Card. i. Conformance report for the Mechanical enclosure/ heatsinks used for SBC and Carrier Card as fit for military application. j. COC of all the supplied items. k. COTS screening procedures and reports. <p>Note: *Phase-1 is Design And Development Phase Of Avionics Computer By HAL **Phase -2 is requirement during Production phase Of Avionics Computer By HAL</p>																																																							
<p>8. DELIVERY SCHEDULE FOR PHASE 1*:</p> <table border="1" data-bbox="228 801 1114 1137"> <thead> <tr> <th>S. No</th> <th>Items</th> <th>Delivery Time (Weeks)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>5 Qty SBC as mentioned in sec 7.i.</td> <td>T0 + 20 to 22 weeks</td> </tr> <tr> <td>2</td> <td>2 Qty Carrier Card as mentioned in sec 7.ii.</td> <td>T0 + 20 to 22 weeks</td> </tr> <tr> <td>3</td> <td>2 Qty VPX 3U chassis as mentioned in sec 7.iii.</td> <td>T0 + 20 to 22 weeks</td> </tr> <tr> <td>4</td> <td>5 Qty RTM with mating cable and accessories as mentioned in sec 7.iv.</td> <td>T0 + 20 to 22 weeks</td> </tr> <tr> <td>5</td> <td>2 Qty RTM with mating cable and accessories as mentioned in sec 7.v.</td> <td>T0 + 20 to 22 weeks</td> </tr> <tr> <td>6</td> <td>1 set of details as mentioned in section 7.vi</td> <td>T0 + 20 to 22 weeks</td> </tr> <tr> <td>7</td> <td>10 Qty SBC as mentioned in sec 7.i. and 1 carrier card as mentioned in sec 7.ii.</td> <td>T1 + 18 to 20 weeks</td> </tr> <tr> <td>8</td> <td>15 Qty SBC as mentioned in sec 7.i</td> <td>T2 + 18 to 20 weeks</td> </tr> </tbody> </table> <p>T0 = Placement of order T1 = Go ahead provided by HAL. T2 = Go ahead provided by HAL, after T1.</p>	S. No	Items	Delivery Time (Weeks)	1	5 Qty SBC as mentioned in sec 7.i.	T0 + 20 to 22 weeks	2	2 Qty Carrier Card as mentioned in sec 7.ii.	T0 + 20 to 22 weeks	3	2 Qty VPX 3U chassis as mentioned in sec 7.iii.	T0 + 20 to 22 weeks	4	5 Qty RTM with mating cable and accessories as mentioned in sec 7.iv.	T0 + 20 to 22 weeks	5	2 Qty RTM with mating cable and accessories as mentioned in sec 7.v.	T0 + 20 to 22 weeks	6	1 set of details as mentioned in section 7.vi	T0 + 20 to 22 weeks	7	10 Qty SBC as mentioned in sec 7.i. and 1 carrier card as mentioned in sec 7.ii.	T1 + 18 to 20 weeks	8	15 Qty SBC as mentioned in sec 7.i	T2 + 18 to 20 weeks																												
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<p>9. REQUIREMENT FOR PHASE -2**</p> <table border="1" data-bbox="217 1406 1086 1675"> <thead> <tr> <th rowspan="2">Items</th> <th colspan="6">SBC as mentioned in sec 7.i.</th> </tr> <tr> <th>2021-2022</th> <th>2022-2023</th> <th>2023-2024</th> <th>2024-2025</th> <th>2025-2026</th> <th>2026-2027</th> </tr> </thead> <tbody> <tr> <td>Year</td> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Anticipated Qty required</td> <td>55</td> <td>60</td> <td>40</td> <td>70</td> <td>70</td> <td>27</td> </tr> <tr> <th rowspan="2">Items</th> <th colspan="6">Carrier Card as mentioned in sec 7.ii.</th> </tr> <tr> <th>2021-2022</th> <th>2022-2023</th> <th>2023-2024</th> <th>2024-2025</th> <th>2025-2026</th> <th>2026-2027</th> </tr> <tr> <td>Year</td> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Anticipated Qty required</td> <td>26</td> <td>30</td> <td>20</td> <td>34</td> <td>34</td> <td>14</td> </tr> </tbody> </table> <p>**Note: The order for phase-2 requirement will be placed separately by HAL Production Division after successful execution of phase -1 and firm order from our customer and at the discretion of HAL.</p>	Items	SBC as mentioned in sec 7.i.						2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	Year							Anticipated Qty required	55	60	40	70	70	27	Items	Carrier Card as mentioned in sec 7.ii.						2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	Year							Anticipated Qty required	26	30	20	34	34	14	
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Anticipated Qty required	26	30	20	34	34	14																																																	
<p>10. ACCEPTANCE Vendor shall demonstrate complete functionality of supplied items (SBCs, Carrier Card, test setup and RTM) through supplied ATP software and thereby shall demonstrate the compliance of supplied SBC and Carrier card to the requirements mentioned in this document as part of the acceptance criteria. Vendor shall be responsible to arrange any additional software and test facilities required to demonstrate complete functionality. (At MCSRDC laboratory, HAL)</p>																																																							
<p>11. WARRANTY for Phase-1. Vendor shall comply with minimum 2 year warranty support after acceptance of the supplied items at MCSRDC, HAL. In case of failure of any module (supply of initial 5 numbers of SBC) during design and development phase, the faulty modules shall be replaced by new modules within 4 weeks of time and after 5 modules, the vendor may adopt for replacement/ repair scheme and solve the issue free of cost during warranty period.</p>																																																							
<p>11a. WARRANTY for Phase-2 Warranty should be available for 18 Months from the date of Receipt of Item at HAL or 12 Months from the date of acceptance whichever is earlier.</p>																																																							

HAL Scope of Work (Please refer Encl-1 for PDF copy of Technical Specification Requirement)

Vendor's Compliance
(Complied or not
complied)

Format of Bank Guarantee for Security Deposit

1. In consideration of the HINDUSTAN AERONAUTICS LTD., _____ Division (hereinafter called as "HAL") having agreed to exempt _____ [hereinafter called "the said Contractor/Supplier(s)"] from the demand, under Agreement/Contract/Order No. _____ dated _____ (hereinafter called "the said Agreement" said Contract/ said Order), made between _____ and _____ for _____ (indicate the scope of supply) of security deposit for the due fulfillment by the said Contractor/Supplier(s) of the terms and conditions contained in the said Agreement/ Contract/ Order, on production of a bank Guarantee for _____ (indicate the amount in Rs / Foreign Currency) (, Only), We, _____, (hereinafter referred (indicate the name of the bank) to as "the Bank") at the request of _____ [contractor/supplier(s)] do hereby undertake to pay to HAL an amount not exceeding _____ (indicate the amount in Rs / Foreign Currency) against any loss or damage, costs, charges and expenses, claims caused to suffered or would be caused to suffered by HAL by reason of any breach by the said Contractor/supplier(s) of any of the terms or conditions contained in the said Agreement/ Contract/ Order.

2. We, _____ (indicate the name of the bank) do hereby unreservedly, irrevocably undertake to pay the amounts due and payable under this guarantee without any demur, merely on demand from HAL within fifteen (15) days of such demand stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by HAL by reason of breach by the said contractor(s)/supplier of any of the terms or conditions contained in the said Agreement./Contract/Order or by reason of the contractor(s)' failure to perform the said Agreement/ Contract/ Order. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding _____ (indicate the amount in Rs / Foreign Currency)

3. We undertake to pay to HAL an amount not exceeding _____ (indicate the amount in Rs / Foreign Currency) so demanded notwithstanding any dispute or disputes raised by the contractor(s)/supplier(s) in any suit or proceeding pending before any Court or Tribunal relating thereto, Our liability under this guarantee being absolute and unequivocal.

4. We, _____ (indicate the name of bank) further agree with HAL that HAL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement/ Contract/ Order or to extend time of performance by the said contractor/supplier(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by HAL against the said Contractor(s)/supplier and to forbear or enforce any of the terms and conditions relating to the said agreement/contact/order and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor/supplier(s) or for any forbearance, act or omission on the part of HAL or any indulgence by HAL to the said Contractor/supplier(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

5. We, _____ (indicate the name of bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent of HAL in writing and agree that any change in the constitution of the said contractor(s)/Supplier(s) or Bank shall not discharge the Bank of its liability under this deed.

6. The validity of Bank Guarantee shall be up to _____ (dd/mm/yy) and such date shall be 60 days after the last delivery/Services against the contract. The Bank Guarantee shall continue to be enforceable till all the dues of HAL under or by virtue of the said Agreement/contact/order have been fully paid and its claims satisfied or discharged or till HAL certifies that the terms and conditions of the said Agreement/contact/order have been fully and properly carried out by the said contractor(s)/supplier and accordingly discharges this guarantee.

7. This Bank Guarantee shall be governed by and constitute in accordance with Indian Law and shall be subject to exclusive Jurisdiction of Indian Courts.

8. Dated the _____ day of _____ for _____ (indicate the name of the Bank)



**Mission & Combat System Research & Design Centre
HINDUSTAN AERONAUTICS LIMITED
Vimanapura Post
Bangalore - 560 017 INDIA**

Commercial Bid (PRICE FORMAT)-PART-B

Tender Ref. No.: MC/S461/1359/19/1

Type of Bid: **Two Bid System**Name of Work: **Single Board Computer (SBC)**

Name of the Vendor/Firm

Quotation Ref. No.:

Sl. No.	Part Description	Qty (UOM)	HSN/SAC Code	Currency	Basic Cost	Sub Total (Basic Unit Cost X Qty.)	Indian Bidders to provide the following Details (Only for Indian vendor)		
							Value of Import content Involved	% of Customs Duty on import content (included in the quoted base price)	EXCHANGE RATE ADOPTED (Indicate Currency and Exchange Rate)

A.Phase-1 (Design And Development Phase Of Avionics Computer By HAL)

1	Single Board Computer (SBC) as per Technical Requirement Specification enclosed at Encl-1	30							
2	Rear Transition Module for SBC (As per Technical Requirement Specification enclosed at Encl-1)	5							
2a	Rear Transition Module for Carrier Card (As per Technical Requirement Specification enclosed at Encl-1)	2							
3	Carrier Card (As per Technical Requirement Specification enclosed at Encl-1)	3							
4	VPX 3U Chassis (As per Technical Requirement Specification enclosed at Encl-1)	2							
Total Basic Cost (Phase -1)									

B. Phase -2 (Requirement during Production phase Of Avionics Computer By HAL)

5	Single Board Computer (SBC) as per Technical Requirement Specification enclosed at Encl-1	Year	Qty						
		2021-2022	55						
		2022-2023	60						
		2023-2024	40						
		2024-2025	70						
		2025-2026	70						
		2026-2027	27						
		Total	322						
6	Carrier Card (As per Technical Requirement Specification enclosed at Encl-1)	Year	Qty						
		2021-2022	26						
		2022-2023	30						
		2023-2024	20						
		2024-2025	34						
		2025-2026	34						
		2026-2027	14						
		Total	158						
Total Basic Cost (Phase-2)									

Total Basic Cost (Development & Production Phase)**Note: Offer your compliance over following:**

- The subjected items are intended for Defence usage. Vendor to confirm whether any specific exemption is available for the taxes for Defence application.
- Commercial Evaluation (Identifying L-1) will be based on both Phase-1 and Phase-2 requirement put together
- The order for phase-2 requirement will be placed separately by HAL Production Division after successful execution of phase -1 and firm order from our customer and is at the discretion of HAL
- The Unit rates for the respective year to be quoted for Phase-2 requirement.
- The Quantity Break up Indicated for Phase-2 above is only anticipated Quantity. In case of any change of actual requirement due to Change in HAL Customer requirement, vendor shall agree for supplying the Increased/Decreased quantity at the above quoted unit price in the corresponding year wherein the Total Quantity (322 Nos for Line item No.5 and 158 Nos for line item.6) will remain same. If any Quantity (Out of 322 Nos of SBC and 158 Nos of Carrier Cards) required beyond 2026-2027, the Price will be regulated as per escalated rates as quoted at Clause No. 1a of Commercial Terms and Condition

Mention details of taxes and other charges in the table below

Please indicate applicable taxes	Type of Tax	Prevailing Rates in %	Applicable on	Tax Value
	Basic Custom Duty (if any)			
	IGST on Import (If any)			
	CGST			
	SGST			

OTHER INFORMATION, IF ANY

Additional Terms & conditions

(to be enclosed where the tenders to be issued with Purchase Preference clause)

In line with Public Procurement (Preference to Make in India), Order 2017 issued by Govt. of India & with a view to support the Indian industries by way of providing Purchase Preference, HAL has implemented "Purchase Preference Policy". The "Purchase Preference" is applicable for the "Local Supplier" for the items / services covered in this tender subject to the following terms & conditions:

Note:

The subject item falls under _____category (indicate divisible/ indivisible).

1. 'Local Supplier' means a supplier (manufacturer, not a trader) or service provider whose product or service offered for procurement meets the minimum "local content" requirement of 50%.
2. 'Local content' means the amount of value added in India (i.e., indigenous items/services added in the offered products/services) be the total value of the item offered (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties/IGST) as a proportion of the total value (excluding net domestic indirect taxes), in percent.
3. The margin of Purchase Preference shall be upto 20%.
4. 'Margin of purchase preference' means the maximum extent to which the price quoted by the bidder above the L1 (landed cost).
5. 'L1' means the lowest technically accepted tender / bid / quotation (i.e. lowest landed cost including duties, taxes and freight & Insurance).
6. Purchase Preference:
 - A. Goods are divisible in nature (required quantity greater than 1 or not a package basis or not Aircraft LRUs):
 - i. If L1 is from a local supplier, the order/contract for full quantity shall be awarded to L1 bidder.
 - ii. If L1 bid is not from a local supplier, 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the local suppliers will be invited to match the L1 price for the remaining 50% quantity subject to the local supplier's quoted price falling within the margin of purchase preference (i.e. 20%) and contract for that quantity shall be awarded to such local

supplier subject to matching the L1 price (inclusive of duties, taxes and freight & insurance).

- iii. In case such lowest eligible local supplier fails to match the L1 price or accepts less than the offered quantity, the next higher local supplier within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In cases where none of the local suppliers within the margin of purchase agree to match L1 price, in such cases 100% quantity shall be ordered on original L1 bidder.
- iv. In case no offers received from local supplier or none of the local supplier falls within the margin of purchase preference of 20%, the order shall be processed on L1 vendor.
- v. In case L1 bidder (not a local supplier) is not accepting splitting of order on 50:50 basis, in that case the order/contract shall be awarded to such local supplier for full quantity subject to matching the L1 price.
- vi. Regarding MSEs (Indian vendors):

The following additional aspect as indicated below would applicable for procurement which are falls under divisible category (i.e., not applicable for indivisible category), in case of participation of MSEs in the tendering.

- If any Indian vendor satisfies the requirement of MSEs stipulation and also falls within the purchase preference margin as called for in MSME policy (in case of matching L1 price) will be considered for ordering 20% of tendered quantity, the balance quantity will be considered for distribution amongst all bidders (including MSEs) as per the purchase preference policy.
- In case no MSEs qualifies for purchase preference or do not match with L1 price then the total tendered quantity will be distributed amongst all bidders as per the purchase preference policy.

B. Goods are not divisible (required quantity is 1 or as a package or Aircraft LRUs in case of goods) and services:

- i. if L1 is from a local supplier the contract will be awarded to L1 bidder.
- ii. If L1 is not from a local supplier, the lowest bidder among the local suppliers will be invited to match the L1 price subject to local supplier's quoted price falling within the margin of purchase preference (i.e. 20%) and the contract shall be awarded to such local supplier subject to matching the L1 price (inclusive of duties, taxes and freight & insurance).

- iii. In case such lowest eligible local supplier fails to match the L1 price, the local supplier with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on, and order/contract shall be awarded accordingly. In case where none of the local suppliers within the margin of purchase preference agree to match the L1 price then the order/contract shall be awarded to the original L1 Bidder.
7. Aircraft LRUs are considered as "in-divisible" category of goods. In line with this, the order for development of Aircraft LRUs, identification of LRUs for Aircraft will be placed on local supplier, within the margin of purchase preference, for 100% RFQ's requirement, after matching the L1 price (or) on L1 vendor, if the local supplier not agreed to match the L1 price.
8. Technically acceptable offers only will be considered for purchase preference.
9. The local supplier should provide a "Self Certification" along with offer indicating that the item offered meets the minimum local content of 50% and provide the details of the location(s) at which the local value addition is made.
10. In cases the quoted price is in excess of Rs.10 Crs (including duties, taxes and freight & Insurance), the local supplier shall provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in case of suppliers other than companies) giving the percentage of local content.
11. A committee (with an external expert from a practicing cost accountant or practicing chartered accountant, if required) constituted for independent verification shall verify the self-declarations & auditor's / accountant's certificates on random basis, as per the requirements.
12. The ink-signed certificate shall be provided on vendor's letter head along with the offer (in case of online tender, copy of ink-signed certificate can be considered subject to receipt of original certificate within 15 days of due date of tender). In case of non-submission of certificate, the purchase preference shall not apply.
13. On similar line for Rs.10 Crs. & above, the ink-signed certificate provided by the concerned authority as brought-out above need to be enclosed.
14. In case of a complaint received from any Vendor indicating a need for review / verification of Local content of successful vendor / awarded vendor, for accepting a complaint from such complainant (w.r.t the false declaration given by the successful vendor on the local content), a complaint fee of Rs.2 Lakhs or 1% of the locally manufactured items being procured (subject to a maximum Rs.5 Lakhs), whichever was higher, to be paid by demand draft by the complainant. In case, the complaint is found to be incorrect, the complaint fee shall be forfeited. In case, the complaint is

upheld and found to be substantially correct, deposited fee of the complainant would be refunded without any interest.

15. False declarations will be in breach of code of the integrity for which a bidder or its successor's will not be eligible/debarred for purchase preference from further tenders / pending tenders for two years along with other actions as may be applicable.
16. Further, in case the violation/false declaration established, in such case, a penalty amount upto 2% value of the each order will be deducted on such defaulted bidders.

P.O No:

FORMAT OF PERFORMANCE BANK GUARANTEE

1. HINDUSTAN AERONAUTICS LTD., _____ Division (hereinafter called as "HAL") have entered into Agreement/Contract/Order _____ (hereinafter called "the said Agreement/ the said Contract/ the said Order' /), with _____ [hereinafter called "the said Contractor / Supplier(s)"], for _____ (indicate the scope of supply).

2. Where as under the terms of the said Agreement/ Contact/ Order, the contractor/ Supplier is required to furnish a Performance Bank Guarantee for _____ (indicate the amount in Rs / Foreign Currency) _____ (Only) towards the due fulfillment of the terms and conditions during the agreed time period or extension thereof, and also satisfactory performance of the items supplied to **HAL** during warranty period as per the warranty terms stipulated in the Agreement/ Contract/Order.

3. Accordingly We, _____, (hereinafter referred (indicate the name of the bank) to as "the Bank") at the request of _____ [Contractor/supplier(s)] do hereby undertake to pay to HAL an amount not exceeding _____ (indicate the amount in Rs / Foreign Currency) on the failure of Contractor/Supplier in performance of their obligations as per the terms and conditions of the Agreement/Contract/Order including the satisfactory performance of the item during warranty period as per the warranty terms stipulated in the Agreement/ Contract/Order.

4. We, _____ (indicate the name of the bank) do hereby unreservedly, irrevocably undertake to pay the amounts due and payable under this guarantee without any demur, merely on demand from HAL within 10 days of such demand stating that the amount claimed is due by way of non performance / unsatisfactory performance by the contractor with respect to the terms and conditions of the Agreement / Contract/ Order including failure in satisfactory performance of the items supplied / services rendered under the warranty terms stipulated in the Agreement/ Contract /Order. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this

guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding_____ (indicate the amount in Rs / Foreign Currency).

5. We undertake to pay to HAL an amount not exceeding_____ (indicate the amount in Rs / Foreign Currency) so demanded notwithstanding any dispute or disputes raised by the contractor(s)/supplier(s) in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this guarantee being absolute and unequivocal.

6. We, _____(indicate the name of bank) further agree that the guarantee herein contained shall remain in full force and effect, during the period that would be taken for the performance of the said Agreement/Contract / Order and that it shall continue to be enforceable till all the dues of HAL under or by virtue of the said Agreement / Contract/Order have been fully paid and its claims satisfied or discharged or till HAL certifies that the terms and conditions of the said Agreement/Contract/Order have been fully and properly carried out by the said Contractor/supplier(s) and accordingly discharges this guarantee.

7. We,_____ (indicate the name of bank) further agree with HAL that HAL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said contractor/Supplier(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by HAL against the said contractor/Supplier(s) and to forbear or enforce any of the terms and conditions relating to the said Agreement/Contract/Order and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor/Supplier(s) or for any forbearance, act or omission on the part of HAL or any indulgence by HAL to the said Contractor/Supplier(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

8. We, _____ (indicate the name of bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent of HAL in writing and agree that any change in the constitution of the said contactor(s)/Supplier(s) or the said Bank shall not discharge the Bank of its liability under this deed.

9. The validity of Bank Guarantee shall be up to _____ (dd/mm/yy) and such date shall cover the period of warranty of all the supplies and also the period of defect liability/ warranty period for last batch of supplies. The validity of Bank Guarantee will be for a period up to which the contractor is obliged for due performance of the said Agreement/Contract/Order including the warranty period.

10. This Bank Guarantee shall be governed by and constitute in accordance with Indian Law and shall be subject to exclusive Jurisdiction of Indian Courts.

11. Dated the _____ day of _____ for _____
(indicate the name of the Bank)

**EXCHANGE OF PROPRIETARY INFORMATION
AND NON-DISCLOSURE AGREEMENT**

This Agreement is entered into on _____ of 2019 by and between:

HINDUSTAN AERONAUTICS LIMITED, a Company duly organized and existing under the laws of India, having its Registered Office at #15/1 Cubbon Road, Bangalore-560001, India and represented by its Mission & Combat System Research & Design Centre Division, Vimanapura Post, Bangalore-560017, India (hereinafter called "HAL-MCSRDC")

And

_____, a Company duly organized and existing under the laws of India, having its Registered Office at _____ (hereinafter called "_____)")

HAL-MCSRDC and _____ being hereinafter referred to as "Party(ies)".

WITNESSETH

WHEREAS, HAL-MCSRDC and _____ wish to pursue exploratory discussions concerning a possible collaboration between themselves relating to the supply _____ Activities. (hereinafter referred to as the "Purpose of this Agreement"); and

WHEREAS during the course of discussions it may become desirable or necessary for the Parties hereto to disclose to each other certain technical or business information of a proprietary or confidential nature (hereinafter referred to as "Proprietary Information"); and

WHEREAS the Parties hereto are willing to provide for the conditions of such disclosure of Proprietary Information and the rules governing the use and the protection thereof;

NOW, THEREFORE, the Parties agree as follows:

1. As used in this Agreement, the term "Proprietary Information" shall mean any information or data disclosed by either Party to the other pursuant to this Agreement, either in writing or orally, subject to the conditions set forth hereafter, and including without limitation any _____ written or printed documents, samples, models or any _____ means of disclosing such Proprietary Information that HAL-MCSRDC and _____ may elect to use during the life of this Agreement.
2. Nothing in this Agreement may be construed as compelling either Party hereto to disclose any Proprietary Information to the other, or to enter into any further contractual relationship or to result in any claim whatsoever by one Party against the other Party for reimbursement of the cost for any effort expended hereunder.
3. Each Party, to the extent of its right to do so, shall disclose to the other Party only such Proprietary Information which the disclosing Party deems appropriate to _____ fulfill the Purpose of this Agreement.

HAL-MCSRDC and _____ hereby represent that the disclosure of Proprietary Information by and between themselves is not contrary to the laws and regulations of India.

4. Any information or data in whatever form, disclosed by either Party to the other and which is designated as proprietary to the disclosing Party by an appropriate stamp, legend or any other notice in writing, or when disclosed orally, has been identified as proprietary at the time of disclosure and has been promptly (thirty (30) days at the latest) confirmed and designated in writing as Proprietary Information of the disclosing Party, shall be subject to the relevant terms and conditions of this Agreement (the information or data orally disclosed being deemed 'Proprietary Information' during the above period of time required for written confirmation for all the purposes of this Agreement).

In the event that the Disclosing Party inadvertently or accidentally fails to identify information or data disclosed to the Receiving Party as being Proprietary Information in accordance with above provisions, the Disclosing Party may correct such inadvertence or accident by notifying the Receiving Party in writing within thirty (30) days after the discovery thereof, provided that Receiving Party shall have no liability with regard to any disclosure or uses of the unidentified or unmarked Proprietary Information which occurred prior to the receipt of such notification.

5. The receiving Party hereby covenants that, for a period of ten (10) years from the effective date of this Agreement, the Proprietary Information received from the disclosing Party shall:
- a) Be protected and kept in strict confidence by the receiving Party, which must use the same degree of precaution and safeguards as it uses to protect its own Proprietary Information of like importance, but in no case any less than reasonable care;
 - b) Be only disclosed to and used by those persons within the receiving Party's organization who have a need to know and solely for the Purpose of this Agreement;
 - c) Not to be used, in whole or in part, for any purpose other than the Purpose of this Agreement without the prior written consent of the disclosing Party;
 - d) Neither be disclosed nor caused to be disclosed, whether directly or indirectly, to any third party or person other than those mentioned in subparagraph b) above, except that HAL-MCSRDC is entitled to disclose Proprietary Information to its sister Divisions of HAL only to the extent of need to know basis and for the purpose of this Agreement, subject to confidentiality conditions similar to those contained herein. Similarly, _____ is entitled to disclose Proprietary Information to subsidiaries of the _____ only to the extent of need to know basis and for the purpose of this Agreement, subject to confidentiality conditions similar to those contained herein;
 - e) Neither be copied nor otherwise reproduced nor duplicated, in whole or in part, where such copying, reproduction or duplication have not been specifically authorized in writing by the disclosing Party.
6. Any Proprietary Information and copies thereof disclosed by either Party to the others shall be returned by the receiving Party immediately upon request.
7. Notwithstanding the provisions of paragraph-5 above, the receiving Party shall have no obligations or restrictions with respect to any Proprietary Information, which the receiving Party can prove:
- a) Has come into the public domain prior to or after the disclosure thereof, and in such case through no wrongful act of the receiving Party; or
 - b) Is already known to the receiving Party, as evidenced by written documentation in the files of the receiving Party; or
 - c) Has been lawfully received from a third party without restrictions or breach of this Agreement; or
 - d) Has been or is published without violation of this Agreement; or

- e) Is independently developed in good faith by employees of the receiving Party who did not have access to the Proprietary Information; or
- f) Is approved for release or use by written authorization of the disclosing Party; or g)

Is not properly designated or confirmed as proprietary

8. With respect to any exchange of Proprietary Information which may occur as a result of this Agreement, it is expressly understood and agreed that the below listed employees shall, on behalf of the respective Parties, be the exclusive individuals authorized to receive and/or transmit Proprietary Information under this Agreement:
9. As regards the individuals identified in paragraph 8 above, each Party shall have the right and power to re-designate such persons within its organization as are authorized to receive and/or transmit Proprietary Information exchanged under this Agreement. Any such re-designations made by either Party shall be effected by rendering written notice of such change to the other Party.
10. Any Proprietary Information disclosed by the Parties under this Agreement which is Classified Information shall be identified by the disclosing Party as Classified Information at the time of disclosure, and the disclosure, protection, use and handling of such information shall be in accordance with security procedures prescribed by the appropriate Government of India.
11. It is expressly understood and agreed by the Parties hereto that the disclosure and provision of Proprietary Information under this Agreement by either Party to the other shall not be construed as granting to the receiving Party any rights, whether express or implied, by license or otherwise, on the matters, inventions or discoveries to which such Proprietary Information pertains or any copyright, trademark or trade secret rights.

The property in all information and/or data disclosed by either Party to the other pursuant to this Agreement and which is precisely designated, as proprietary shall, subject to any right of any other owner, rest with the disclosing Party.
12. The execution, existence and performance of this Agreement shall be kept confidential by the Parties hereto and shall not be disclosed by either Party without the prior written consent of the other.
13. This Agreement, including all rights and obligations of the Parties hereto except the obligations specified in paragraph 15 below, may be terminated, by operation of law and without demand, by either Party at any time on thirty (30) days prior written notice to the other.
14. Unless earlier terminated as aforesaid in paragraph-13 hereof, this Agreement shall expire three (3) years from its effective date.
15. The end or termination of this Agreement shall not relieve the receiving Party of complying with the obligations imposed by paragraph-5 thereof with respect to the use and protection of the Proprietary Information received prior to the date of the termination or end of this Agreement. Such obligations shall continue for the period applicable as set forth in said paragraph.
16. This Agreement shall be governed by and shall be interpreted in accordance with the laws of India.
17. All disputes or differences whatsoever arising between the Parties in connection with or arising out of the validity, construction, performance and termination of this Agreement (or any terms thereof), which the Parties are unable to resolve themselves, shall be finally settled by arbitration in accordance with the Rules of Arbitration of the Indian Council of Arbitration and as per the provisions of the Indian Arbitration Act 1996. The venue of arbitration will be Bangalore.

18. This Agreement constitutes the entire agreement between the Parties with respect to the subject matter hereof and supersedes all prior representations, negotiations, commitments, undertakings, communications whether oral or written, acceptances, understandings and agreements between the Parties with respect to or in connection with any of the matters or things to which this Agreement applies or refers.

19. Notice of Breach

Receiving Party shall notify the Disclosing Party immediately upon discovery of any unauthorized use or disclosure of Proprietary Information by Receiving Party or its Representatives, or any other breach of this Agreement by Receiving Party or its Representatives, and will cooperate with efforts by the Disclosing Party to help the Disclosing Party regain possession of Proprietary Information and prevent its further unauthorized use.

20. Waiver

The failure of the either Party, at any time, to require performance and/or enforcement of any provision of this Agreement shall not be construed as a waiver of the requiring Party of its rights under this Agreement, nor shall the failure of the requiring Party to take action affect its rights, at some later date, to enforce these rights under this Agreement for breach of any of the provisions of this Agreement.

21. Amendment

Any amendment to this agreement must be made in writing and shall be signed on behalf of the parties.

22. Severability

The invalidity or unenforceability of any provisions of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement, which shall remain in full force and effect.

23. BREACH/REMEDIES

Both Parties agree to be responsible to the fullest extent allowed by law for violation of this Agreement. The Parties acknowledge that Proprietary Information is unique and valuable, and that disclosure or use in breach of this Agreement may result in irreparable injury to Discloser for which monetary damages alone may not be an adequate remedy. Therefore, the Parties agree that in the event of a breach or threatened breach of confidentiality, Discloser is entitled to seek specific performance and injunctive or other equitable relief as a remedy for any breach or anticipated breach without the necessity of posting a bond. Any relief is in addition to and not in lieu of any appropriate relief in the way of monetary damages.

24. The effective date of this Agreement shall be the date on which it is executed by both Parties hereto.

**For HINDUSTANA AERONAUTICS LTD
MCSRDC Division**

For _____

Name:

Name:

Title:

Title:

Date:

Date:

Signature:

Signature:

Tender Ref. No.:.....

Integrity Pact

Whereas Hindustan Aeronautics Ltd. ("HAL") having its registered office at 15/1, Cubbon Road, Bangalore – 560 001, India, acting through itsDivision, represented by General Manager / Executive Director hereinafter referred to as the Buyer and the first party, proposes to procure (Name or category of the Equipment, like Aircraft Parts/ Avionic Items/ Accessories etc),hereinafter referred to as Stores.

And

M/s....., represented by....., Chief Executive Officer (which term, unless expressly indicated by the contract, shall be deemed to include its successors and its assignee), hereinafter referred to as the Bidder/ Seller and the second party, is willing to offer/ has offered the stores.

2. Whereas the Bidder / Seller is a private company/public company /partnership/ registered export agency, constituted in accordance with the relevant law in the matter and the Buyer is a Public Sector Undertaking and registered under Companies Act 1956.

3. Preamble

The Buyer has called for tenders under laid down organizational procedures intending to enter into contract/s for supply / purchase / etc of.....and the Bidder / Seller is one amongst several bidders/Proprietary Vendor/Customer Nominated Source/Licensor who has indicated a desire to bid/supply in such tendering process. The Buyer values and takes primary responsibility for values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness / transparency in its relations with its Bidder(s) and / or Seller(s).

In order to achieve these goals, the Buyer will appoint Independent External Monitor(s) (IEM) in consultation with Central Vigilance Commission, who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

4. Commitments of the Buyer.

4.1 The Buyer commits itself to take all measures necessary to prevent corruption and to observe the following principles:-

- i) No employee of the Buyer, personally or through family members, will in connection with the tender, or the execution of a contract demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
- ii) The Buyer will during the tender process treat all Bidder(s) / Seller(s) with equity and reason. The Buyer will in particular, before and during the tender process, provide to all Bidder(s) / Seller(s) the same information and will not provide to any Bidder(s) / Seller(s) confidential / additional information through which the Bidder(s) / Seller(s) could obtain an advantage in relation to the process or the contract execution.
- iii) The Buyer will exclude from the process all known prejudiced persons.

4.2 If the Buyer obtains information on the conduct of any of its employees which is a criminal offence under the Prevention of Corruption Act 1988 or if there be a substantive suspicion in this regard, the

Buyer will inform to its Chief Vigilance Officer and in addition can initiate disciplinary action.

5. Commitments of the Bidder(s) / Seller(s).

5.1 The Bidder(s)/ Seller(s) commit himself to take necessary measures to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

- i) The Bidder(s)/ Seller(s) will not, directly or through any other persons or firm, offer promise or give to any of the Buyer's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage during the tendering or qualification process or during the execution of the contract.
- ii) The Bidder(s)/ Seller(s) will not enter with other Bidders / Sellers into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- iii) The Bidder(s)/ Seller(s) will not commit any offence under the Prevention of Corruption Act 1988: further the Bidder(s)/ Seller(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Buyer as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

5.2 The Bidder(s)/ Seller(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

5.3 Agents / Agency Commission:

The seller confirms and declares to the buyer that the seller is the original manufacturer or authorized distributor / stockiest of original manufacturer or Govt. Sponsored / Designated Export Agencies (applicable in case of countries where domestic laws do not permit direct export by OEMS) of the stores referred to in this offer / contract / Purchase order and has not engaged any individual or firm, whether Indian or Foreign whatsoever, to intercede, facilitate or in any way to recommend to Buyer or any of its functionaries, whether officially or unofficially, to the award of the contract / purchase order to the Seller; nor has any amount been paid, promised or intended to be paid to any such individual or firm in respect of any such intercession, facilitation or recommendation. The Seller agrees that if it is established at any time to the satisfaction of the Buyer that the present declaration is in any way incorrect or if at a later stage it is discovered by the Buyer that the Seller has engaged any such individual / firm, and paid or intended to pay any amount, gift, reward, fees, commission or consideration to such person, party, firm or institution, whether before or after the signing of this contract / purchase order, the Seller will be liable to refund that amount to the Buyer. The Seller will also be debarred from participating in any RFQ / Tender for new projects / program with Buyer for a minimum period of five years. The Buyer will also have a right to consider cancellation of the Contract / Purchase order either wholly or in part, without any entitlement or compensation to the Seller who shall in such event be liable to refund all payments made by the Buyer in terms of the Contract / Purchase order along with interest at the rate of 2% per annum above LIBOR (London Inter Bank Offer Rate) (for foreign vendors) and Base Rate of SBI (State Bank of India) plus 2% (for Indian vendors). The Buyer will also have the right to recover any such amount from any contracts / Purchase order concluded earlier with Buyer.

6. Previous Transgression

- 6.1 The Bidder /Seller declares that no previous transgressions have occurred in the last three years with any other company in any country conforming to the anti corruption approach or with any other Public Sector Enterprise in India that could justify bidder's/ Sellers' exclusion from the tender process.
- 6.2 If the Bidder / Seller makes incorrect statement on this subject, Bidder / Seller can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason without any liability whatsoever on the Buyer.

7. Company Code of Conduct

Bidders / Sellers are also advised to have a company code of conduct (clearly rejecting the use of bribes and other unethical behavior) and a compliance program for the implementation of the code of conduct throughout the company.

8. Sanctions for Violation (Disqualification from tender process & exclusion from future contracts and Criminal charges against violation by Bidders / Sellers)

- 8.1 If the Bidder(s)/ Seller(s), before award or during execution has committed a transgression through a violation of Clause 5, above or in any other form such as to put his reliability or credibility in question, the Buyer is entitled to disqualify the Bidder(s)/ Seller(s) from the tender process or take action as per the procedure mentioned herein below:
- i) To disqualify the Bidder / Seller with the tender process.
 - ii) To debar the Bidder / Seller from entering into any bid from Buyer for a period of five years.
 - iii) To immediately cancel the contract, if already signed / awarded without any liability on the Buyer to compensate the Bidder /Seller for damages, if any. However, any lawful payment due to the Bidder/Seller for supplies effected till date of termination would be made in normal course.
 - iv) To encash EMD / Advance Bank Guarantees/ Performance Bonds / Warranty Bonds, etc. which may have been furnished by the Bidder / Seller to the extent of the undelivered stores.
- 8.2 If the Buyer obtains knowledge of conduct of a Bidder/ Seller or of an employee or a representative or an associate of a Bidder / Seller which constitutes corruption, or if the Buyer has substantive suspicion in this regard, the Buyer will inform to its Chief Vigilance Officer.

9. Compensation for Damages

- 9.1 If the Buyer has disqualified the Bidder(s) / Seller(s) from the tender process prior to the award according to Clause 8, the Buyer is entitled to demand and recover the damages equivalent to Earnest Money Deposit in case of open tendering.
- 9.2 If the Buyer has terminated the contract according to Clause 8, or if the Buyer is entitled to terminate the contract according to Clause 8, the Buyer shall be entitled to encash the advance bank guarantee and performance bond/ warranty bond, if furnished by the Bidder / Seller, in order to recover the payments, already made by the Buyer for undelivered stores.

10. Independent External Monitor(s)

- 10.1 The Buyer has appointed Independent External Monitors for this Pact in consultation with the Central Vigilance Commission (Names and Addresses of the Monitors to be given in RFQ).
- 10.2 As soon as the Integrity Pact is signed, the Buyer shall provide a copy thereof, along with a brief background of the case to the Independent External Monitors.
- 10.3 The bidder(s) / seller (s), if they deem it necessary, may furnish any information as relevant to their bid to the Independent External Monitors.
- 10.4 If any complaint with regard to violation of the IP is received by the buyer in a procurement case, the buyer shall refer the complaint to the Independent External Monitors for their comments / enquiry.
- 10.5 If the Independent External Monitors need to peruse the records of the buyer in connection with the complaint sent to them by the buyer, the buyer shall make arrangement for such perusal of records by the Independent External Monitors.
- 10.6 The report of enquiry, if any, made by the Independent External Monitors shall be submitted to CMD, HAL for a final and appropriate decision in the matter keeping in view the provision of this pact.

11. Law and Place of Jurisdiction

This pact is subject to Indian Law, The Place of performance and Jurisdiction is Bangalore

12. Other Legal Actions

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

13. Pact Duration

- 13.1 This pact begins when both parties have legally signed it. It expires for the successful Bidder / Seller 10 months after the last payment under the contract, and for all other Bidders / Sellers within 6 months from date of placement of order / finalization of contract.
- 13.2 If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged / determined by CMD, HAL.
- 13.3 Should one or several provisions of this pact turn out to be invalid, The remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

14. Other Provisions

- 14.1 Changes and supplements need to be made in writing. Side agreements have not been made.
- 14.2 In case vendor has already signed any IP with MoD for any of their Contracts, the same shall be disclosed and shall sign the Integrity Pact in the same format with HAL also.
- 14.3 In view of the nature of this Pact, this Pact shall not be terminated by any party and will subsist throughout its stated period.
- 14.4 Nothing contained in this Pact shall be deemed to assure the Bidder/Seller of any success or otherwise in the tendering process.

15. This Integrity Pact is signed with HAL exclusively and hence shall not be treated as precedence for signing of IP with MoD or any other Organization.

16. The Parties hereby sign this Integrity Pact at _____ on _____

BUYER

BIDDER / SELLER

Signature:

Signature:

Executive Director/General Manager
Chief Executive Officer
Hindustan Aeronautics Ltd.,
.....Division

Date:

Date:

Stamp:

Stamp:

Witness

Witness

1. _____

1. _____

2. _____

2. _____

(Note: All pages to be initialed by Buyer and Bidder/Seller)

SPECIAL NOTES

1. **Notify HAL** of nonconforming product and obtain HAL approval for nonconforming product disposition.
2. **Notify HAL** of changes in product and/or process, changes of suppliers manufacturing facility, location and where required, obtain HAL approval, and Flown to the supply chain the applicable requirements including customer requirements.
3. **Retention of Records**: - Records shall provide objective evidence of inspection with applicable drawings and specifications. Unless specifically mentioned in the purchase order, the supplier shall retain all applicable records like test reports, tractability records etc at least for **10 years**. Records shall include corrective actions taken when applicable..
4. **Bribe and Gifts** :- Any bribe, commission, gift or advantage given, promised or offered by or on behalf of the contractor or his parties, agent or servant or any one on his or their behalf to any officer, servant, representative or agent of HAL or any person on his or their behalf in relation to the obtaining or to the execution of this or any other contract with HAL shall in addition to any criminal liability which the contractor may incur, subject the contractor to the cancellation of this and all other contracts with HAL and also to payment of any loss or damage resulting from any such cancellation under clauses-8 and 10 thereof Any question or dispute as to the commission of any offence under the present clause shall be settled by HAL in such manner and on such evidence or information as they may think fit and sufficient and their decision shall be final and conclusive.
5. **Deliveries / Consequence of Breach**: The time and the date of delivery of the stores stipulated in the purchase order shall be deemed to be the essence of the Contract, and delivery must be completed not later prescribed for such delivery HAL shall b entitled:-
 - a) To purchase elsewhere, without notice to the Contractor on the account and at the risk, of Contractor, the stores not delivered or others of a similar description (where others exactly complying with the particulars are not, in the opinion of HAL which shall be final, readily procurable).
 - b) **To cancel the contract**, In the event of action being taken under (a) and (b) the Contractor shall be liable for any loss which HAL may sustain on the account, but the Contractor shall not be entitled to any gain on re-purchase made against default.
6. **Quality system requirements**
The Supplier shall implement and maintain an effective quality system that has been deemed satisfactory by MCSRDC Private Ltd. The quality system shall assure that all materials and services conform to purchase order requirements, be documented and provide for early detection of nonconformances. Records generated by the quality systems shall be made available for periodic review when deemed necessary or requested.
7. **Non conforming material**
The Supplier shall not ship or make any unauthorized repairs to product with the intent of delivering material that does not fully meet purchase order or product specification requirements. The Supplier shall notify MCSRDC QA Head, of potential nonconformances prior to shipment. Authorization to ship nonconforming material may be approved with prior notification and approval from MCSRDC Quality Assurance. Shipping of nonconforming material without written prior approval may disqualify Suppliers from additional procurement. All material rejected by MCSRDC, and subsequently resubmitted shall be identified as being previously rejected.
8. **Product or Process changes**:
Changes to product design, materials or processes, which affect form, fit, function, performance, quality, reliability or safety shall not be implemented without written approval by MCSRDC. The Supplier shall notify MCSRDC of changes to facilities or locations where the product was initially produced or when product may require a recall due to a change in product or process.
9. **Right to access supplier facilities and applicable records**
MCSRDC and regulatory authorities shall have right of access to any and all facilities where work is being performed or is scheduled to be performed, including those facilities of Supplier's sub-tier Suppliers, in order to perform inspections, surveys or system surveillance as part of verification of conformance to the requirements and also to all applicable records. Supplier's' denial of access may result in disqualification of future procurement by MCSRDC. The Supplier shall include the provisions of these facility access requirements in its PO's with sub-tier Suppliers. This access shall provide, at no increase in price, cost or fee to MCSRDC and its customers, or regulatory authorities, suitable facilities at Supplier's and sub-tier Supplier's manufacturing location to perform inspections, surveys, or surveillance.

10. Corrective action requests: When nonconforming materials received from Suppliers are detected at MCSRDC, corrective action will be required. Suppliers are expected to communicate how they intend to correct the immediate discrepancy as well as what they intend to do to correct the root cause of the nonconformance and prevent recurrences. Failure to respond in a timely manner may cause a delay in payment and adversely affect the Supplier's Quality Performance Rating.

11. Preservation, packaging, packing and shipping: Unless specific packaging instructions are called out on the purchase order, the Supplier shall assure that material to be shipped is clean, dry, and packaged in a manner that will afford adequate protection against corrosion, deterioration, ESD and physical damage during shipment.

12. Workmanship: The Supplier shall ensure a consistently high quality of workmanship. Workmanship shall be monitored to assure that purchase order and specification requirements are being maintained.

13. Flow-down of requirements: The Supplier is responsible to ensure that all applicable requirements are flowed down to sub-tier Suppliers. Where a sub-tier Supplier controls critical processes, characteristics or features, the Supplier is responsible for control of sub-tier Suppliers and assuring that the sub-tier Supplier meets purchase order requirements. The Supplier is responsible to ensure that the sub-tier Supplier is using the latest process / drawing revision.

14. Foreign object debris program: Suppliers shall assure cleanliness of products provided to MCSRDC to the extent necessary to maintain compliance to this program. Delivered material must be clean and free from any material/debris, such as machined chips, burrs, grinding dust, forming materials, corrosion, oil, solder, flux and other foreign material on surfaces to prevent FOD entrapment.

15. Prevention of counterfeit parts: PI ensure that counterfeit parts are prevented to be added in the part supplied to us.

16. Awareness of people: PI ensure that all your personnel are aware of their contribution to product or service conformity, their contribution to product safety and the importance of ethical behavior.

Your's Faithfully
For Hindustan Aeronautics Ltd.

H.V.Babu
AGM(IMM)