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WP/0258

Feb 17

REQUEST FOR INFORMATION (RFI) FOR PROCUREMENT OF NAVAL SHIP-BORNE AUTOMATIC DEPENDENT SURVEILLANCE – BROADCAST (ADS-B) RECEIVERS FOR THE INDIAN NAVY

1. The Ministry of Defence, Government of India, intends to procure approximately 126 Naval Shipborne Automatic Dependent Surveillance - Broadcast (ADS-B) Receivers for ships of the Indian Navy, including some Naval Bases.
2. This Request for Information (RFI) consists of two parts as indicated below:-
 - (a) **Part I.** This part of the RFI incorporates operational characteristics and features that should be met by the equipment. Few important technical parameters of the proposed equipment are also mentioned.
 - (b) **Part II.** This part of the RFI states the methodology of seeking response of the vendors. Submission of incomplete response format will render the vendor liable for rejection.

PART – I

3. **Intended Use.** The Naval Shipborne Automatic Dependent Surveillance - Broadcast (ADS-B) Receivers are intended for providing real time awareness of the air traffic situation to warships, Air Stations and designated Operations Centres of the Indian Navy. The equipment will have to be ruggedised for military use onboard warships and will need to be able to interface with the onboard systems and networks.
4. **Important Parameters.**
 - (a) **Technical Parameters.** The technical parameters sought for the Naval Shipborne ADS-B Receivers are placed at **Appendix A.**
 - (b) **Overall Costing Philosophy.** The vendors may be required to conclude a Comprehensive Annual Maintenance Contract (CAMC) along with the main contract for the Naval Shipborne ADS-B Ground Receivers. The

cost of CAMC/ Product Support Package would be taken into account for determining the L1 vendor. The approximate cost for each unit as well as all the elements that need to be structured into the costing of the equipment system including comprehensive maintenance, product support packages and costing philosophy will be required to be indicated by the vendors.

(c) **Option Clause.** An Option Clause may be exercised in the procurement case. Vendors must express their willingness or otherwise for Option Clause, including the duration for which the Option Clause would be valid.

(d) **Indigenisation Content.** Level of indigenisation in content and design, in percentage, is to be clearly indicated for all components of the core and associated equipment that is being quoted by the Vendors. The acquisition category will be based on this information, as detailed in DPP-2016.

(e) The vendors are required to indicate whether the equipment has been supplied by them to any other country and installed on ships/ oil rigs/ off-shore platforms/ airports.

(f) Vendors would also be required to provide training to the Buyer in operation and first line maintenance of the Naval Shipborne ADS-B Receiver.

(g) **Time Frame.** The deliveries and installation of the equipment in full sets would need to commence within six months post conclusion of contract, and be completed within further period of six months, ie to be completed within one year of signing of the contract.

(h) The vendors are required to indicate their acceptability to the terms of payment as per DPP-2016.

(j) The vendors are required to indicate compliance or otherwise to the conditions of the RFI and with all provisions of DPP 2016, and respond to the queries pertaining to the operational and technical requirements placed at **Appendix A**. Vendors may consider RFI as advance information to obtain requisite government clearances.

(k) The vendors are required to indicated feasibility/ willingness to conduct FET in India and modalities for conduct of FET.

(l) Additional literature/ equipment details may be submitted along with the response to the RFI.

5. Vendors should confirm that following conditions are acceptable:-

(a) The solicitation of offers will be as per 'Single Stage – Two Bid System'. It would imply that a 'Request for Proposal (RFP)' would be issued soliciting technical and commercial offers together, each in two separate sealed envelopes. The validity of commercial offers should be at least 18 months from the date of submission of offers.

- (b) The technical offers would be evaluated by a Technical Evaluation Committee (TEC) to check its compliance with RFP.
- (c) The equipment of all TEC cleared vendors would be put through a Trial Evaluation in India/ abroad on a 'No Cost No Commitment' basis. A Staff Evaluation would be carried out by SHQ to analyse the result of field evaluation and shortlist the equipment for introduction into Service.
- (d) Amongst the vendors cleared by the Staff Evaluation, a Contract Negotiation Committee (CNC) would decide the lowest cost bidder (L1) and conclude the appropriate contract.
- (e) The vendor would be bound to provide product support for the time period specified in the RFP, which would include spares and maintenance tools/ jigs/ fixtures for 'Operator' Level repairs.
- (f) The vendor would be required to accept the general conditions of contract given in the Standard Contract Document at Chapter VI of DPP-2016 placed on www.mod.nic.in.
- (g) **Integrity Pact**. An Integrity Pact along with appropriate IPBG is a mandatory requirement in the instant case.
- (h) **Performance-cum-Warranty Bond**. Performance-cum-Warranty Bond both equal to 5% value of the contract is required to be submitted after signing of contract.

PART – II

6. **Procedure for Response**.

- (a) Vendors must fill the form of response as given in **Appendix B** (separate forms for Indian and Foreign Vendors). Apart from filling details about company, details about the exact product meeting our generic technical specifications should also be carefully filled. Additional literature on the product can also be attached with the form.
- (b) The response to the RFI should be clearly labelled as **RFI RESPONSE – Naval Shipborne ADS-B** and dispatched at the under mentioned address:-

The Principal Director of Staff Requirement
 Integrated Headquarters of Ministry of Defence (Navy)
 Directorate of Staff Requirements (DSR)
 A - Block Hutments
 Dalhousie Road
 New Delhi 110011

Fax: +91 11 23010351
 Email ID: dsr@navy.gov.in

(c) Last date of acceptance of filled form is 31 Mar 2017. The vendors short listed for issue of RFP would be intimated.

7. The Government of India invites responses to this request only from Original Equipment Manufacturers (OEM)/ Authorised Vendors/ Government Sponsored Export Agencies (applicable in the case of countries where domestic laws do not permit direct export by OEMs). The end user of the equipment is the Indian Armed Forces.

8. This information is being issued with no financial commitment and the Ministry of Defence reserves the right to change or vary any part thereof at any stage. The Government of India also reserves the right to withdraw it should it be so necessary at any stage. The acquisition process would be carried out under the provisions of DPP 2016, as amended from time to time.

Appendix A

[Refers to Para 4(a),

4(j)]

**QUESTIONNAIRE FOR DETAILS IN RESPECT OF NAVAL SHIPBORNE
AUTOMATIC DEPENDENT SURVEILLANCE- BROADCAST (ADS-B) RECEIVERS**

Ser	Information Required <i>(All information sought in this Questionnaire is to replied to with each query addressed in the same tabular format as below)</i>	Data/ Information to be Provided by Vendors
1.	Is the Naval Shipborne ADS-B Receiver you would be supplying compliant with the provisions for ADS-B operations contained in ICAO Circular 311, Annex 2, Annex 10 and Annex 11?	
3.	<p>Is the Naval Shipborne ADS-B Receiver you would be supplying compliant to the provisions specified by the following EUROCAE/ RTCA documents?</p> <p>(a) EUROCAE ED-126 / RTCA DO-303h. (b) EUROCAE ED-102 / RTCA DO-260. (c) RTCA DO-260B. (d) EUROCAE ED-73B / RTCA DO-181C.</p> <p>Note: (i) Vendors may indicate equivalent standards if applicable. (ii) Vendors will be required to provide certification of their equipment by an independent regulatory authority.</p>	
4.	Would the documents be as per JSS-0251-02-2002(Rev) and EED-S-048 specifications?	
5.	What are the software and hardware standards that the Naval Shipborne ADS-B Receiver you would be supplying conforms to? Mil Stds/ equivalent standards may be stated with documentary evidence enclosed.	
6.	<p>What are the functional capabilities of the Naval Shipborne ADS-B Receiver with respect to following:-</p> <p>(a) Reception and Decoding of 1090 MHz ES (Extended Squitter) ADS-B data. (b) ADS-B data compilation and sharing with ATC (Air Traffic Control) client servers/ third party clients. (c) Time stamping and UTC synchronisation. (d) Ground station management, maintenance, status reporting including BITE (Built in Test Equipment), monitoring and control functions.</p>	
7.	What is the coverage and range of the Naval Shipborne ADS-B Receiver you would be supplying? <i>The ADS-B Receiver would be</i>	

<u>Ser</u>	<u>Information Required</u> <i>(All information sought in this Questionnaire is to be replied to with each query addressed in the same tabular format as below)</i>	<u>Data/ Information to be Provided by Vendors</u>
	<i>required to provide 360 degrees coverage around the ship/ base.</i>	
8.	What is the expected range accuracy of the Naval Shipborne ADS-B Receiver you would be supplying in non-radar airspace operation?	
9.	Can the Naval Shipborne ADS-B Receiver you would be supplying support multilateration for shore bases? If yes, can the multilateration capable ADS-B Receiver be installed on ships? What is the accuracy of the multilateration for safe operations?	
10.	Can the Naval Shipborne ADS-B Receiver you would be supplying be installed in dual redundant configuration?	
11.	Would ADS-B for Shore Stations have different configuration from ADS-B meant for afloat platforms?	
12.	What are the sensitivity parameters of the Naval Shipborne ADS-B Receiver you would be supplying?	
13.	What are the data handling capabilities of the Naval Shipborne ADS-B Receiver you would be supplying in terms of simultaneous handling of different ADS-B target information, data processing and message generation?	
14.	What are the detection performance parameters of the Naval Shipborne ADS-B Receiver you would be supplying?	
15.	<p>What are the data output parameters of the Naval Shipborne ADS-B Receiver you would be supplying? Can this data be shared with client servers using standard data exchange protocols? Can an interface be provided for sharing the ADS-B data with client radar/ Combat Management Systems (CMS)/ ATC/ shipborne systems and networks/ Wide Area Network displays? Vendors to note the following:-</p> <p>(a) Data from ADS-B is to be in DF-17 format.</p> <p>(b) Connectivity of ADS-B is to be on Ethernet and socket based.</p> <p>(c) IP address of ADS-B system preferred by the user.</p>	
16.	Can the Naval Shipborne ADS-B Receiver you would be supplying incorporate an external control and monitoring interface utilizing the Simple Network Management Protocol (SNMP)? If yes, what are the capabilities of the Control and Monitoring Interface for data handling, data location and system health monitoring?	
17.	What are the various operating modes of the Naval Shipborne ADS-B Receiver which you would be supplying?	

<u>Ser</u>	<u>Information Required</u> <i>(All information sought in this Questionnaire is to be replied to with each query addressed in the same tabular format as below)</i>	<u>Data/ Information to be Provided by Vendors</u>
18.	What are the various functions of the Naval Shipborne ADS-B Receiver Control and Monitoring System?	
19.	Would ADS-B also be compatible with Mode-5?	
20.	What are the security parameters/ characteristics of the external Control interface, and central control and monitoring system, of the Naval Shipborne ADS-B Receiver you would be supplying?	
21.	What are the power supply requirements of the Naval Shipborne ADS-B Receiver you would be supplying? Details be specified for both AC and DC power supply. Can an online UPS be provided?	
22.	What would be the back-up time of the UPS?	
23.	Can the Naval Shipborne ADS-B Receiver you would be supplying function on 24 x 7 basis? Can continuous data recording for at least 30 days on external hard drives be provided?	
24.	What security mechanisms will be employed in ADS-B Receiver data recording port to ensure system integrity?	
25.	What is the type of display which will be provided along with the Naval Shipborne ADS-B Receiver you would be supplying? What are the parameters which will be displayed to be used by the operator? Can geographical maps with political boundaries, overlaid with standard air routes be provided? If so, at what cost?	
26.	What is the EMI/ EMC compatibility of the Naval Shipborne ADS-B Receiver you would be supplying, as per Mil Stds/ Mil Std/ equivalent.	
27.	What are the environmental operating conditions of the Naval Shipborne ADS-B Receiver would you be supplying as per JSS55555/ ETSI EN 300 019 series standards? Salt exposure conditions be specifically provided. Can the ADS-B Receiver you would be supplying be protected against vermin ingress?	
28.	Is the Naval Shipborne ADS-B Receiver you would be supplying capable of transmitting its own position wirelessly to other airborne/ ground sensors? Can this feature be removed/ suppressed to protect integrity of the ADS-B Receiver location? Will the Naval Shipborne ADS-B Receiver you would be supplying be a fully passive system?	
29.	What are the MTBF (Mean Time Between Failures)/ MTTR (Mean Time To Repair) parameters of the Naval Shipborne ADS-B Receiver you would be supplying? What is the availability of the ADS-B Receiver in %? Would you be willing to undertake 'Reliability and Maintainability' analysis for assessing component wise MTBF and MTTR? If so, Documentation is to be	

Ser	Information Required <i>(All information sought in this Questionnaire is to replied to with each query addressed in the same tabular format as below)</i>	Data/ Information to be Provided by Vendors
	provided.	
30.	What are the maximum number of ADS-B targets that can be tracked simultaneously in the Naval Shipborne equipment you would be supplying?	
31.	How many operators are required for operating the system?	
32.	What is the operational life of the Naval Shipborne ADS-B Receiver you would be supplying?	
33.	What are the envisaged facilities for product support of the Naval Shipborne ADS-B Receiver you would be supplying?	
34.	What are the type of OBS (Onboard Spares), tools and accessories which must be carried on ships and supplied to shore units for preventive maintenance, trouble shooting and quick repairs, to cater for first and second level maintenance?	
35.	Does a provision for upgradation of the Naval Shipborne ADS-B Receiver you would be supplying exist?	
36.	Would the software design be based on modular concept, ensuring upgradation of equipment only through software?	
37.	Would all source codes including 'FPGA-Code' (Field Programmable Gate Array) be part of deliverables?	
38.	Would hardware design be based on 'open architecture' concept for ease of maintenance, upgradation and incorporate obsolescence mitigation?	
39.	What are the warranty conditions of the Naval Shipborne ADS-B Receiver you would be supplying? How long would it be valid?	
40.	(a) Would AMC support be provided for the entire life cycle of the equipment you would be supplying? What would be the duration of product support and plan to undertake obsolescence management of the product by way of upgrading the system? (b) Would you be willing to set up depot level repair facility of the equipment you would be supplying at Naval Dockyards? What will be the cost of setting up such test-bench/ repair facility at depot level in each location?	
41.	What is the type of training and its duration to enable personnel to operate and undertake first line maintenance of the Naval Shipborne ADS-B Receiver you would be supplying?	
42.	What are the maintenance schedules? (Type and duration only)	
43.	Is there a Built-In-Test (BIT) feature incorporated in the Naval Shipborne ADS-B Receiver system you would be supplying with On-Line and Off line BITE, which identifies the defective sub unit?	

<u>Ser</u>	<u>Information Required</u> <i>(All information sought in this Questionnaire is to be replied to with each query addressed in the same tabular format as below)</i>	<u>Data/ Information to be Provided by Vendors</u>
44.	What is the type and depth of documentation that would be offered for training, operation and maintenance of the Naval Shipborne ADS-B Receiver you would be supplying?	
45.	<p>What are the specifications being followed with respect to:-</p> <p>(a) Environmental test specifications. (b) Vibration requirements. (c) Withstanding salt water spray. (d) ESS (Environmental Stress Screening) tests for electrical/ electronic equipments and Modules. (e) Reliability of electronic equipment. (f) Design of electronic equipment. (g) Control of EMI. (h) Electromagnetic effects. (j) Software development and documentation. (k) System documentation. (l) Use of cables. (m) Cable glands. (n) Configuration Management. (p) Shock test specifications.</p>	
46.	<p>What would be the approximate budgetary estimates for the Naval Shipborne ADS-B Receivers you would be supplying, Customs duties, spares, installation, commissioning, training, documentation, Comprehensive Annual Maintenance for the life cycle of the equipment (post warranty) and depot level repair facility? What would be the anticipated delivery and installation timelines of the equipment? This information is to be provided mandatorily under separate heads.</p>	
47.	Is your company the OEM or authorised vendor of the equipment?	
48.	Turnover of your company for FY 2015 – 16.	
49.	Who are the customers to whom you have supplied the said equipment? Can a reference of the same be provided? How many such Naval Shipborne ADS-B Receiver has your company manufactured, installed and maintained?	
50.	State other naval equipment being manufactured by your company, if any.	
51.	State other equipment supplied by your company to the Indian Navy/ Indian Armed Forces, if any.	
52.	Are you willing to partner with an Indian firm for License production of the equipment in India?	
53.	Are you willing for Transfer of Technology of the equipment to an Indian firm?	

<u>Ser</u>	<u>Information Required</u> <i>(All information sought in this Questionnaire is to be replied to with each query addressed in the same tabular format as below)</i>	<u>Data/ Information to be Provided by Vendors</u>
54.	Are you willing for Field Trial Evaluation of the equipment in India on a No Cost No Commitment basis?	
55.	Are you willing to participate in this procurement case as per provisions of 'Buy and Make (Indian)' of DPP – 2016?	
56.	If you are an Indian vendor would you have the capability to indigenously design and develop the equipment?	
57.	Is the equipment you will be supplying available in India? If not, you are to specifically quote the applicable key technologies and materials required for manufacturing of the equipment/system and the extent of their availability.	
58.	You are to specify the level of indigenisation, delivery capability, maintenance support and lifetime support for the equipment	
59.	You are to specify, if any, the cost estimation and suggestions for alternatives to meet the same objective as mentioned in this RFI.	
60.	You are required to give details that go into determining the cost of the scheme, including factors such as AMC, product support package, training, depot level repair facility etc.	
61.	What are the components of ADS-B along with their dimensions and weight, that you will be supplying?	

Appendix B
[Refers to Para 6 (a) and 6(c)]

INFORMATION PROFORMA
(INDIAN VENDORS)

1. **Name of the Vendor/ Company/ Firm.**
(Company profile including share holding pattern, in brief, to be attached)

2. **Type (Tick the Relevant Category).**

Original Equipment Manufacturer (OEM) Yes/No
Authorised Vendor of foreign Firm Yes/No (attach details, if yes)
Others (give specific details)

3. **Contact Details.**

Postal Address:

City : _____ State : _____
Pin Code : _____ Tele : _____
Fax : _____ URL/Web Site: _____

4. **Local Branch/ Liaison Office in Delhi (if any).**

Name & Address:

Pin code: _____ Tel: _____ Fax: _____

5. **Financial Details.**

- (a) Category of Industry (Large/ Medium/ Small Scale)
- (b) Annual turn over: _____ (in INR)
- (c) Number of employees in firm:
- (d) Details of manufacturing infrastructure:
- (e) Earlier contracts with Indian Ministry of Defence/ Government agencies:

Contract Number	Equipment	Quantity	Cost

6. **Certification by Quality Assurance Organisation.**

Name of Agency	Certification	Applicable from (Date & Year)	Valid till (Date & Year)

7. **Details of Registration.**

Agency	Registration No.	Validity (Date)	Equipment
DGS&D			
DGQA/DGAQA/DGNAI			
OFB			
DRDO			
Any other Government Agency			

8. **Membership of FICCI/ ASSOCHAM/ CII or other Industrial Associations.**

(Name of Organisation, Membership Number)

9. **Equipment/ Product Profile (to be submitted for each product separately).**

- (a) Name of Product:
(IDDM Capability be indicated against the product)
(Should be given category wise for eg all products under night vision devices to be mentioned together).
- (b) Description (attach technical literature):
- (c) Whether OEM or Integrator:
- (d) Name and address of Foreign collaborator (if any):
- (e) Industrial Licence Number:
- (f) Indigenous component of the product (in percentage):
- (g) Status (in service /design & development stage):
- (h) Production capacity per annum:
- (j) Countries/ agencies where equipment supplied earlier (give details of quantity supplied):
- (k) Estimated price of the equipment:

10. Alternatives for meeting the objectives of the equipment set forth in the RFR.

11. Any other relevant information:

12. **Declaration.**

- (a) It is certified that the above information is true and any changes will be intimated within five (05) working days of occurrence.

(b) It is certified that Design of _____(Name of the Product)_____ as claimed in this RFI is owned by the _____ (Vendor) and/ or _____ (its Indian Sub Vendor) and hereby undertake to provide all documents required to prove the claim of ownership and design. The bidder _____ hereby accepts that failure to prove the claim of ownership for _____(Name of the product) will lead to penalties as may be imposed by MoD.

Note:- 12(b) is required only if claiming IDDM category as per DPP 2016.

(c) **Vigilance Status of the Company.** It is certified that in the past the _____ (Vendor) and/ or _____ (its Indian Sub Vendor) have never been banned/ debarred for doing business dealings with this Ministry/ Govt of India/ any other Govt organisation and that there is no inquiry going on by CBI/ ED/ any other Govt agency against them.

Note: Para 44 and Appendix F to Chapter II of DPP 2016 may be referred.

(Authorised Signatory)

INFORMATION PROFORMA
(FOREIGN VENDORS)

1. **Name of the Vendor/ Company/ Firm.**
(Company profile, in brief, to be attached)

2. **Type (Tick the Relevant Category).**

Original Equipment Manufacturer (OEM): Yes/No
Government sponsored Export Agency: Yes/No (Details of registration to be provided)
Authorised Vendor of OEM: Yes/No (attach details)
Others (give specific details)

3. **Contact Details.**

Postal Address:

City: _____ Province: _____

Country: _____ Pin/ Zip Code: _____

Tele: _____ Fax: _____

URL/Web Site: _____

4. **Local Branch/ Liaison Office/ Authorised Representatives, in India (if any).**

Name & Address:

City: _____ Province :

Pin code : _____ Tel : _____ Fax : _____

5. **Financial Details.**

(a) Annual turnover: _____ USD

(b) Number of Employees in firm
_____.

(c) Details of manufacturing infrastructure available
_____.

(d) Earlier contracts with Indian Ministry of Defence/Government agencies:

Agency	Contract Number	Equipment	Quantity	Cost

6. **Certification by Quality Assurance Organisation (If Applicable).**

Name of Agency	Certification	Applicable from (Date & Year)	Valid till (Date & Year)

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7. **Equipment/ Product Profile (to be submitted for each product separately).**

- (a) Name of Product:
(Should be given category wise eg all products under night vision devices to be mentioned together)
- (b) Description (attach technical literature):
- (c) Whether OEM or Integrator:
- (d) Status (in service /Design development stage):
- (e) Production capacity per annum:
- (f) Countries where equipment is in service:
- (g) Whether export clearance is required from respective Government:
- (h) Any collaboration/joint venture/co production/ authorised dealer with Indian Industry (give details):

Name & Address: _____
Tel : _____ Fax : _____

- (j) Estimated price of the equipment
8. Alternatives for meeting the objectives of the equipment set forth in the RFI.
9. Any other relevant information.
10. **Declaration.**

(a) It is certified that the above information is true and any changes will be intimated within five (05) working days of occurrence.

(b) It is certified that Design of ____ (Name of the Product) as claimed in this RFI is owned by the _____ (Vendor) and/ or _____ (its Indian Sub Vendor) and hereby undertake to provide all documents required to prove the claim of ownership and design. The bidder _____ hereby accepts that failure to prove the claim of ownership for _____ (Name of the product) will lead to penalties as may be imposed by MoD.

Note:- 10(b) is required only if claiming IDDM category as per DPP 2016.

(c) **Vigilance Status of the Company.** It is certified that in the past the _____ (Vendor) and/ or _____ (its Indian Sub Vendor) have never been banned/ debarred for doing business dealings with this

Ministry/Govt. of India/any other Govt organisation and that there is no inquiry going on by CBI/ED/any other Govt agency against them.

Note: Para 44 and Appendix F to Chapter II of DPP 2016 may be referred.

(Authorised Signatory)