

## **EXPRESSION OF INTEREST (EOI) : V/UHF MAN – PACK SDR (MAKE– II)**

The objective of this invitation of Expression of Interest (Eoi) is to seek willingness of Indian Vendors to participate in the Make-II Project listed below, in accordance with provisions of DPP-2016 (reference Chapter III-A as amended). Indian Vendors meeting the Technical, Commercial and Project Requirements laid out in the Eoi and as per DPP-2016 (reference Chapter III-A as amended) will be, as the next step, issued a 'Project Sanction Order' to develop a prototype on NCNC basis.

### **Project Basic Information**

1. **Nomenclature.** V/UHF Man – Pack SDR (Make – II)
2. **Sponsor Directorate.** DG Signals (Signals 5).
3. **Brief Description and Operation.** Reliable, robust and responsive communication is a vital and critical part of any military operation and plan. The Combat Net Radio (CNR) is the mainstay of tactical communications at the forward edge of the battlefield at Formation, Unit and Subunit levels. The contemporary CNR equipment in the Indian Army supports voice communication only and has limited or no data transmission capability. To arm the soldier with advantages offered by technology and equip him to fight a war in the Net – Centric battle space, it is necessary to provide network capable tactical equipment and connect him to the Digital Data Network. It is thus proposed to procure V/UHF Man – Pack Software Defined Radio, to be designed and produced to meet the requirements of PSQR (relevant instructions attached at **Appendix A**). The proposed system should have the ability to establish communication, both in clear and secure mode and in fixed frequency and frequency hopping modes. It should be operable in the frequency range of 30 – 512 MHz, to be able to transmit voice, data, message and video.
4. **Categorisation.**
  - (a) **Prototype Development Phase.** Make-II (Industry Funded) in accordance with Para 6, Chapter-III A of DPP 2016 (as amended).
  - (b) **Procurement Phase.** Buy (Indian-IDDM) with minimum 40% indigenous content in accordance with Para 5 of Chapter-III A of DPP 2016 (as amended).
5. **Quantities Required (Including Ancillary Equipment and Accessories).**
  - (a) **Prototypes for the Development and Trial Stage.** Respondents to this Eoi will furnish quantity 32 sets of V/UHF Man-



Pack SDR, complete with all ancillary equipment and accessories as given in the PSQR. This equipment will be required for all trials and evaluations and will be fielded therein. All trials will be carried out on No Cost No Commitment (NCNC) basis.

(b) **Finished Equipment Manufactured to the Final GSQR.** Post successful User Trial Readiness Review (UTRR), the PSQR will be frozen and Commercial RFP will be issued. Post issue of Commercial RFP, the equipment will be trial evaluated as per detailed Trial Directive. The Trial Directive will be provided to successful vendors once the PSQR is frozen and converted into GSQR. The instant case is for procurement of quantity 600 sets of V/UHF Man-Pack SDR, complete with all ancillary equipment and accessories which will be supplied in one lot.

6. **Timelines.** The timelines are given at **Appendix B** to this EoI.

(a) **Upto Prototype Development.** The final prototype, developed by the manufacturer to the requirements of the PSQR will be provided to the IA for conduct of UTRR not later than 18 Months from the date of placing of Project Sanction Order.

(b) **Development and Porting of Waveforms.**

(i) Post successful development of the prototype and ratification of GSQR, the manufacturers will be required to make interoperable waveforms for legacy radio sets held with the Indian Army and for the SDR being procured by the Indian Army through the Design and Development Route.

(ii) The manufacturers will be facilitated with technical, design and waveform data of In-Service legacy radio sets of the Indian Army and the SDR being procured from the Design and Development (Under Para 72 of Chapter II of DPP 2016) route. This data of the SDR being developed based on this EoI also to be shared by the DAs and the Production Agency for the SDR through Design and Development (under Para 72 of Chapter II of DPP 2016).

(iii) These interoperability waveforms to be developed within three months of receiving the technical, design and waveform data from the Production Agency for the concurrently developed SDR (Design and Development under Para 72 of Chapter II of DPP 2016) facilitated by the Indian Army.



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- (c) **For Production of Quantity 600 of Equipment Pieces.** The fully developed equipment will be supplied by the manufacturer within 12 Months from the date of placing of Contract in a single lot.

**Additional Important Aspects**

7. **Security.** The V/UHF Man – Pack SDR being procured through the Make II Sub Category of DPP 2016 shall have an insertable / slot based Hardware Security Module (SM) devoid of Cryptographic Algorithm, which shall support the capability to load an external Cryptographic Algorithm / Software developed by nominated Design Agency (Security Subsystem), or DA – SS.

**Interoperability and Compatibility**

8. A separate project is under progress for development of V/UHF Man – Pack SDR through the Design and Development Route as per provisions of Paragraph 72 of Chapter II of DPP 2016. This SDR will also meet the requirements of the same PSQR as that of the V/UHF Man – Pack SDR being procured through the instant case. The PSQR for V/UHF Man-Pack SDR (Make -II) will be provided separately to the respondents of this EoI on signing of Confidentiality Agreement.

9. The respondents to this EoI will be required to make the V/UHF Man-Pack SDR (Make-II) interoperable with the SDR being procured through the Design and Development route as per provisions of Paragraph 72 of Chapter II of DPP 2016. It has also been separately mandated that the agency designing and developing the V/UHF Man-Pack SDR (Design and Development as per provisions of Paragraph 72 of Chapter II of DPP 2016) will make their system interoperable with the V/UHF Man- Pack SDR (Make-II).

10. On successful development and conclusion of UTRR of the prototype, the PSQR will be frozen and converted to GSQR. At this stage, the manufacturer will provide technical, design and waveform data of his prototype to the Production Agency of the SDR (Design and Development as per provisions of Paragraph 72 of Chapter II of DPP 2016) for development of compatible waveforms.

11. At this stage, the manufacturer will also be facilitated with technical, design and waveform data of legacy, in service radio sets of the Indian Army and of the SDR (Design and Development as per provisions of Paragraph 72 of Chapter II of DPP 2016) by the Indian Army and the Production Agency



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respectively. The manufacturer will use this data to develop waveform / waveforms for SDR developed by him in order to make it compatible with legacy In Service radio sets of the Indian Army and the SDR (Design and Development as per provisions of Paragraph 72 of Chapter II of DPP 2016).

12. **Intellectual Property Rights (IPR).** The Intellectual Property Rights (IPR) of the SDR, including but not limited to design, data, hardware, software and waveforms will be the property of the Government of India as per provisions of Para 47 of Chapter III A of DPP 2016 (as amended).

13. **Minimum Indigenous Content (IC) Required.** The equipment that is finally supplied by the manufacturer to the Indian Army will comprise a minimum of 40 percent IC on cost basis.

14. **Project Milestones.** Major activities in the procurement process will be as under:-

<b>Ser</b>	<b>Activity</b>	<b>Remarks</b>
(a)	Pre Eol response meeting	3 Weeks (tentative) after the issue of Eol to clarify the issues/queries raised by Prospective DAs / participating firms to facilitate submission of Eol response.
(b)	Evaluation of Eol response.	By PFT.
(c)	Issue of Project Sanction Order for Development of Prototype.	To the shortlisted Development Agencies (DAs) meeting evaluation criteria. Monthly written progress from the DAs and quarterly review will be carried out by the Indian Army team.
(d)	User Trial Readiness Review.	(i) To confirm completion of design and development of the prototypes by the manufacturers as per PSQR, prior to commencement of User Trials. (ii) More than one review may be conducted, as required. Dates will be promulgated by the PFT as per progress of the project.
(e)	Solicitation of Commercial Offers	Commercial RFP will be issued to DA(s) for submission of Commercial Offers prior to commencement of User Trials.
(f)	Conduct of User Trials on No Cost No Commitment (NCNC) basis and GS Evaluation	To validate the performance of the system against the specifications of approved GSQRs after development of prototype.



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15. **Details of Chairman of 'Project Facilitation Team (PFT)'**. The address of the Chairman, Project Facilitation Team is as under:-

Chairman, Project Facilitation Team  
 'V/UHF MAN – PACK SOFTWARE DEFINED RADIO (MAKE II)'  
 DG Signals (Signals 5),  
 Integrated HQ of MoD (Army),  
 A Wing, Sena Bhawan,  
 Telephone:- 011 – 23018926

**Technical Requirements**

16. **PSQR**. The PSQR for V/UHF Man-Pack SDR (Make -II) will be provided to the respondents of this EoI separately on signing of Confidentiality Agreement. Post issue of Commercial RFP, the equipment will be trial evaluated as per detailed Trial Directive. The Trial Directive will be provided to successful vendors once the PSQR is frozen and converted into GSQR.

**Commercial Requirements**

17. Commercial requirements as given in Paragraphs 3 to 5 of Appendix A of Chapter III of DPP–2016 (as amended) will be applicable for evaluation of Indian commercial entities. Salient aspects are given as under :-

- (a) Public Limited Company, Private Limited Company, Partnership Firms, Limited Liability Partnership, One Person Company, Sole Proprietorship registered as per applicable Indian laws. In addition, such Entity shall also possess or be in the process of acquiring a license / development of products (if the product under project requires license as per DIPP's licensing policy).
- (b) The Entity has to be owned and controlled by resident Indian citizens; Entity with excess of 49% foreign investment will not be eligible to take part in 'Make-II' category of acquisition.
- (c) The Entity needs to be registered for minimum five years; three years in the case of MSMEs. For start-ups, these need to be recognized by DIPP.
- (d) The Entity should have a minimum Long Term Credit Rating 'BBB' issued by any Rating Agency registered with SEBI such as CRISIL/ ICRA. In case of MSMEs, the minimum rating should be 'SME-4'.
- (e) The Entity should have a positive 'Net Worth'.
- (f) Average Turnover in the last three financial years should be greater than Nine Crores.



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**Response Submission**

18. Response to this EoI will be furnished as per Format given at **Appendix C** by **1400H** (hours) **07 Aug 2020** (date). (Para 2 (a) of **Appendix C** attached will be provided to respondents of this EoI separately on signing of Confidentiality Agreement)

19. **Pass/ Fail Criteria for selection as DAs.** The response must be compliant to technical specifications. Common inadequacies that may lead to rejection of EoI response are as listed:-

- (a) Failure to meet commercial Evaluation Criteria as per DPP2016.
- (b) Failure to meet/ comply with Technical Evaluation Criteria as per PSQR.
- (c) Failure to offer compliance to any of the terms and conditions given in EoI.
- (d) Failure to agree with project timelines.
- (e) Failure to offer desired indigenous content.
- (f) Any other parameter of the response considered inadequate by the Project Facilitation Team(PFT) for the project.

20. The EoI respondent shall submit three (03) copies of response to the EoI, clearly marking one copy as 'Original Copy' and second and third as 'Duplicate Copy' and 'Triplicate Copy'. In the event of any discrepancy between them, the original copy shall govern/ prevail. Each page of the response will bear the signatures of the authorized signatory of the company. The envelopes shall be addressed as under :-

Secretary, Project Facilitation Team,  
 'V/UHF MAN – PACK SOFTWARE DEFINED RADIO (MAKE II)'  
 Directorate General of Signals (Signals 5)  
 Integrated HQ of MoD (Army)  
 Room Number 602, A Wing, Sena Bhawan,  
 New Delhi – 110011  
 Tele : 011 – 23018926 / 23012439  
 Email ID:- [tac.comns-5@gov.in](mailto:tac.comns-5@gov.in)

21. **Queries.** Companies may submit written queries / clarifications / amplifications on specific issues within 10 days of the issue of EoI. A pre-response meeting will be held within 03 weeks (tentatively) after the issue of EoI to clarify the issue / queries raised by the participating firms to facilitate submission of response. Date of pre-response meeting will be promulgated by the PFT.



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### Conditions

22. Important conditions regarding this invitation for EoI are as under :-
- (a) Quantities mentioned above shall not be reduced in case of successful development and field trials of the prototype. A Commercial Request for Proposal will be issued to all such successful vendors.
  - (b) All possible and reasonable assistance from a user's perspective including access to similar equipment held by Indian Army, provision of trial ranges etc will be provided by the PFT upto the Field Evaluation stage.
  - (c) The design and development of the system to be indigenous. Ref to Paragraph 25 of Chapter III-A of DPP-2016 (as amended).
  - (d) The Intellectual Property Rights (IPR) of the prototype and product will be transferrable to the Government of India as per the provisions of Paragraph 47 of Chapter III A of DPP - 2016 (as amended). The vendor will submit an IPR certificate stating that the "Design of the equipment is the property of the vendor and that they are fully authorized and are willing to transfer the same to the Government of India".
  - (e) Indigenous Content (IC) on cost basis will be certified by the vendor before PSQR is frozen and converted into GSQR.
  - (f) Indian Vendors as specified in Paragraph 4 of Chapter III-A of DPP-2016 (as amended) are eligible for participation.
  - (g) Details of tools, accessories, literature, training etc required at the procurement stage will be specified in the Commercial RFP.
  - (h) The Pre- Contract Integrity Pact (PCIP), listed as detailed in paragraph 92 of Chapter II of DPP 2016 shall apply mutatis mutandis, to 'Buy (Indian - IDDM) phase of 'Make II' project. The Company will be required to sign and honour the 'Non-Disclosure Agreement' with MoD Govt of India. The 'Confidentiality Agreement' will be furnished by each EoI respondent at the time of submission of EoI responses as per format given at **Appendix D**.
  - (j) Guidelines for penalties in business dealings with entities as promulgated by Government from time to time, will be applicable on procurement process and bidders.
  - (k) Respondent would be subject to disqualification if they make false, incorrect or misleading claims in their response to this EoI. A



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'Correctness Certificate' as per the format at **Appendix E** will be furnished as part of the response.

23. All other relevant documents/information with respect to IC aspects, Product support post-approval of prototype, Manufacturing/ToT, QA & Testing, ownership and other relevant aspects may be submitted along with the proposal.

24. Please acknowledge the receipt of this invitation for EoI.



  
(Hanna Paulose)  
Lieutenant Colonel  
General Staff Officer-1, Signals-5  
for Signal Officer-in-Chief

Dated : 23 June 2020

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Signature

Company Seal

Date :



**Appendix A**

(Refer Paragraph 3,8 and 16 of EoI  
of V/UHF Man-Pack SDR(Make- II))

**XXXX**

**Will be provided to respondents of this EoI on signing of Confidentiality  
Agreement**



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**Appendix B**

(Refer Paragraph 6 of EoI of V/UHF  
Man-Pack SDR (Make- II))

**TENTATIVE TIMELINES FOR PROJECT**  
**V/UHF MAN – PACK SDR (MAKE II)**

<b><u>Ser</u></b>	<b><u>Activity</u></b>	<b><u>Time in Weeks</u></b>
(a)	Issue of EoI	To
(b)	EoI Response Submission	To + 6
(c)	EoI Response Evaluation	To + 11
(d)	Issue of Proj Sanction Order	To + 13
(e)	Design & Development of Prototype	78*
(f)	Conversion of PSQR to SQRs / Solicitation of Commercial Offer	04
(g)	User Trials & Staff Evaluation	08-26
	<b>Total</b>	<b>103 - 121 Weeks</b>

**Note** :- \* Acceptance of 78 weeks for Design and Development timeline for prototype development as against tentative timelines of 12-30 weeks, as mentioned at Appendix B to Chapter IIIA of DPP 2016, has been granted by the Competent Authority.



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**Appendix C**

(Ref Paragraph 18 of EoI of V/UHF Man- Pack SDR (Make-II))

**RESPONSE TO EXPRESSION OF INTEREST : PROJECT**  
**V/UHF MAN- PACK SDR (MAKE- II)**

1. I / We, the authorized signatory do confirm that I/we understand all the conditions laid out in the ibid EoI and furnish the succeeding information to the best of my / our knowledge and commitment. In all sincerity I / we do commit to meet all the technical parameters listed out in the NCNC prototype to be fielded for Field Trials and adhere to all provisions of DPP – 2016 and other guidelines on the subject by Ministry of Defence, Government of India.

2. XXXXXX

(a) Para 2(a) of Appendix C will be provided to respondents of this EoI on signing of Confidentiality Agreement.

(b) **Compliance to Indigenous Content (IC) Reqmt.** – Yes / No

3. **Commercial Requirement from Indian Vendor.** With reference to Paragraph 18 and 19 of EoI, I / We furnish the following commercial details regarding my / our entity:–

(a) **Company Type.**

Public Limited Company	Private Limited Company	Partnership Firm	Limited Liability Partnership	One Person Company	Sole Proprietorship Registered as per applicable Indian Laws

(b) **License and GSTIN.**

Held / Not Held	Licence No, if held alongwith GSTIN	Details if Licence applied but not Received yet



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(c) **Share Holding Pattern.**

Owned by Resident Indians	Within Maximum Limit of 49% Foreign Investment	Remarks, if any

(d) **Incorporation Details.**

Incorporated for more than five years on last day of Response Submission (For Non-MSMEs Only)	Incorporated for more than three years on Last Day of Response Submission (For MSMEs Only)

(e) **Credit Rating.**

For Non-MSMEs Only	For MSMEs Only
Long Term Credit Rating of BBB or Better issued by any Rating Agency registered with SEBI such as CRISIL/ ICRA	Not required

(f) **Net Worth.**

For Non-MSMEs Only	For MSMEs Only
Net Worth is Positive as on 31 Mar 20	Not required

(g) **Average Turnover last Three Years.** Rs \_\_ Cr.4. **Additional Information.**

- Technologies indigenously designed and developed.
- Technologies not indigenously designed and developed.
- Technologies planned to be obtained from foreign OEMs.
- Technologies from foreign OEMs already owned.
- Type of Foreign collaboration arrangements and with whom.
- Tie-ups with Indian companies.
- IPRs Owned.
- Amount and type of value addition.
- Estimated time for fielding of prototype for eval.
- Estimated time for setting up of production lines.
- Estimated production capacity and delivery schedule.

Dated

(Authorised Signatory)



Station :

Signature

Company Seal

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**Appendix D**

(Refer Paragraph 22(h) of EoI of V/UHF Man- Pack SDR (Make II))

**CONFIDENTIALITY AGREEMENT**

1. It is certified that Expression of Interest document for the Project of V/UHF Man- Pack SDR (Make- II) will not be shared with any agency in part or full. Only relevant details, as applicable will be shared with technology partners. Further, the EoI document itself will not be shared with any technology partners.

2. The company understands the security and sensitivity of such an operational systems and any information pertaining to deployment and usage of the equipment including scaling will not be discussed with any third party without a written permission from the Project Facilitation Team. The company understands that failure to observe this agreement will lead to disqualification from the project.

Signature with Company Seal



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Signature

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**Appendix E**

(Refer Paragraph 22(k) of EoI of V/UHF Man- Pack SDR (Make II))

**CORRECTNESS CERTIFICATE**

It is certified that information submitted in the documents as part of the response to Expression of Interest for the project V/UHF Man-Pack SDR (Make- II) is correct and complete in all respects. It is acknowledged that the company will be disqualified from further participation if any information provided is found to be incorrect.

Signature with Company Seal



Station :

Signature

Company Seal

Date :

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