

भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान तिरुवनंतपुरम INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH THIRUVANANTHAPURAM (भारत सरकार, शिक्षा मंत्रालय/ Govt. of India, Ministry of Education)

मरुतामला.पी.ओ/ MARUTHAMALA.P.O, वितुरा/ VITHURA / तिरुवनंतपुरम/ THIRUVANANTHAPURAM – 695 551 केरला/
KERALA, भारत/ INDIA / फोन/ Phone: 0471-2778019 / ईमेल/ email: <u>purchasestores@iisertvm.ac.in</u>
GST 32AAAJI0299R1ZS

तारीख/ Date: 16 Mar 2021

निविदा के लिए आमंत्रण (इ-प्रोक्योमेंट मोड)/INVITATION TO TENDER (E-Procurement mode only)

No: IISER/PUR/1953/MT-P/SP/20-21

नियत तारीख/Due Date: 30 Mar 2021 [3PM]

खोलने की तारीख/Date of Opening: 31 Mar 2021 [3.30PM]

प्रिय महोदय/Dear Sirs,

विषय / SUB: Supply of 2D Material Crystals: reg

The Institute invites Single Cover Tenders for the following items through the eProcurement System of National Informatics Centre that enables the Tenderers to download the Tender Schedule free of cost and then submit the bids online through Central Public Procurement Portal of Government of India (https://eprocure.gov.in/eprocure/app.) Please quote only in Indian Rupees as per GFR 2017 amended Rule 161 (iv) and Public Procurement (Preference to make in India) order 2017, with your lowest rate and shortest delivery period as per the following terms.

Ser	Description of Goods	Quantity
1.	2D Material Crystals with technical specifications and quantities	As per
	at Annexure 5	annexure 5

- A. ईएमडी/EMD: Bid Security Declaration as per annexure 4 is to be submitted <u>If not, the bid will be</u> summarily rejected.
- B. भुगतान/ PAYMENT: आपूर्ति और स्थापना के बाद 30 दिनों के अंदर आईआईएसईआस्टीवीएम द्वारा कोई अग्रिम भुगतान नहीं किया जाएगा।/ Within 30 days after supply and installation. Advance payment will not be made by IISERTVM.
- C. वितरण/ Delivery: विथुरा कैंपस में वितरित करना है(मुफ्त वितरण)। अगर आयात करें तो स्पष्ट रूप से ब्रेकअप शुल्क के साथ पूर्व-कार्य / एफसीए / सीआईपी शर्तों का उल्लेख करें।/ To be delivered at Vithura Campus (Free delivery including unloading charges).
- D. कर एवं कर्तन्य/ TAXES & DUTIES: कर एवं कर्तन्य का उल्लेख करें। हमको सीमा शुल्क अधिसूचना 51/96 और जीएसटी (5%) अधिसूचना 45/2017 और 47/2017 दिनांकित 14/11/2017 से छूट दी गई है।/ Indicate taxes and duties. We are partially exempted for customs duty under 51/96 notification and GST (5%) under 45/2017 & 47/2017, dated 14/11/2017 notifications.
- E. छूट/ Discount: अगर कोई है तो सूचित करें।/ Indicate, if any.
- F. वितरण अनुसूची/Delivery Schedule: अति आवश्यक है। अपना अनुसूची उल्लिखित करें।/ Required Immediately. Indicate your schedule

G. उद्धरण की विधिमान्यता Validity of quote: 90 दिन/90 days

- H. The Class I local supplier and Class II local supplier should mention in the bid, the percentage of local content. Bidder should provide the details of the location(s) at which the value addition is made along with bid document. Any non-compliance in this regard, the bid will not be considered in the category.
- I. Annexure 3 & Annexure 6: should be enclosed with the offer. If not, the bid will be summarily rejected.

Details: Annexure 1: Terms & Conditions, **Annexure 2:** Instructions to Bidder for Online Bid Submission, **Annexure 3:** Tender Acceptance Letter, **Annexure 4:** Bid Security Declaration **Annexure 5:** Detailed Specifications **Annexure 6:** Check list of documents required.



भवदीय/Yours Faithfully

उप कुलसचिव/ DEPUTY REGISTRAR क्रय एवं भंडार/ PURCHASE & STORES

ANNEXURE: 1

निविदाकारों के लिए निर्देश (स्वदेशी)/ INSTRUCTION TO TENDERER

- 1. कर/ अन्य कर्तव्य/ अधिभार निविदा में अलग से दिखाया जाना चाहिए।/ Tax and /or other duties/levies where legally levies and intended to be claimed should be distinctly shown separately in the tender.
- 2. (a) आपका उद्धरण निविदा खोलने की तारीख से 90 दिनों के लिए मान्य होता है। निश्चित कीमत के साथ के संविदा दर को प्राथमिकता दी जाएगी।/ Your quotation should be valid for a minimum period of 90 days from the date of opening of the Tender. Quotation with firm prices will be preferred.
 - (b) निविदा के आमंत्रण में संकेतित इकाइयों के अनुसार कीमत उद्भृत करना है। जब निविदा फॉर्म में उल्लिखित इकाइयों के अलावा संविदा दर दिए जाने पर दो इकाइयों के बीच के संबंध प्रस्तुत किया जाना चाहिए।/ Prices are required to be quoted according to the units indicated in the Invitation to Tender. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.
- 3. (a) तैयार माल से आपूर्ति करने वाले निविदाओं को वरीयता दी जाएगी। वितरण का आधार आईआईएसईआर के साइट पर मुफ्त में है।/ Preference will be given to those tenders offering supplies from ready stocks. The basis of delivery is at IISER site free of cost.
 - (b) हमारी भुगतान की शर्ते माल की प्राप्ति और स्वीकृति के 30 दिनों के भीतर होगा।/ our payment terms are within 30 days of receipt and acceptance of the item at our site.
- 4. (a) वस्तुओं के सभी उपलब्ध तकनीकी साहित्य, सूचीपत्र और अन्य आंकडे प्रस्ताव के साथ प्रस्तुत किया जाना चाहिए।/All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer. विशेष विवरण/ Specifications: प्रस्तावित भंडार हमारे विवरण के अनुरूप होना चाहिए। अगर विचलन है तो निविदाकार अपने उद्धरण में संकेत दिया जाना चाहिए। निविदाकार भंडार के प्रारूप सूचित करना चाहिए। और आवश्यक होने पर संविदा दर के साथ सूचीपत्र, तकनीकी साहित्य और नमूने प्रदान करना चाहिए। आवश्यक होने पर परीक्षण प्रमाण पत्र आपूर्ति के साथ अग्रेषित किया जाना चाहिए। निविदाकार को उपयुक्त कारणों के साथ विनिर्देशों में परिवर्तन का सुझाव दे सकता है।/ Stores offered should strictly conform to our specifications. Deviations, if any should be clearly indicated by the tenderer in their quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary along with the quotations. Test Certificates wherever necessary should be forwarded along with supplies. Whenever specifically mentioned by us the tenderer could suggest changes to specifications with appropriate reasons for the same.
- 5. आईआईएसईआर को निम्नतम या किसी भी निविदा को स्वीकार करने के लिए कोई दायित्व नहीं होगा और पूरे या निविदा के किसी हिस्से के स्वीकृति का अधिकार सुरक्षित रखेगा और निविदाकार उद्भृत दरों पर समान की आपूर्ति करना चाहिए।/ IISER shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portion of the quantity offered and the tenderers shall supply the same at the rates quoted.
- 6. अगर संबुदा दर में कोई सुधार होने पर इसे प्रमाणित किया जाना चाहिए। सभी राशी शब्दों और आंकड़ों में भी सूचित किया जाना चाहिए। यदि शब्दों और आंकड़ों में उद्भृत राशि के बीच अंतर होने पर शब्दों में उद्भृत राशि प्रबल होगी। संविदा दर में प्रत्येक वस्तु के मूल्य होना चाहिए और कर और कर्तव्यों सिहत मूल्य की कुल राशि का स्पष्ट रूप से उल्लेख किया जाना चाहिए।/ Corrections, if any, in the Quotation must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amounts quoted in words and figures, amount quoted in words shall prevail. Quotation must have price for each line item and totaling of the price including taxes and duties should be clearly mentioned.
- 7. निविदाकार निविदा में अपने बैंकर, कर पंजीकरण, पैन नंबर आदि उल्लिखित करना चाहिए।/ The tenderer should mention the name of his bankers, Tax Registration, PAN number etc in the tender.
- 8. निविदा पर हस्ताक्षर करने वाले व्यक्ति बुलाने पर उपस्थित होना चाहिए। The authority of the person signing the tender, if called for, should be produced.
- 9. आईआईएसईआर भारत सरकार के शैक्षणिक और अनुसंघान संस्थान होने के नाते, इसको जीएसटी अधिसूचना सं. 45/2017 और 47/2017 दिनांकित 14/11/2017 और सीमा शुल्क अधिसूचना सं. 51/96 दिनांकित 23 जुलाई 2009 के भुगतान से छूट दिया है और बैट नियमों के अनुसार फॉर्म 16 जारी कर सकते हैं।/ IISER being a Govt of India Educational and Research Institute, is exempted from payment of GST under Notification No. 45/2017 & 47/2017 dt 14/11/2017 and Customs Duty under Notification No. 51/96- Customs dated 23rd July 2009.
- 10. आपूर्ति की गई भंडार आपूर्ति, स्थापना और कमीशन की तारीख से 1 वर्ष वारंटी में होगा।/ The stores supplied should be covered with minimum of 1 year warranty from the date of supply, installation and commissioning, if not stated otherwise in tender specification.
- 11. निविदा के आमंत्रण में उल्लिखित के अनुसार धन जमा / बोली सुरक्षा जमा उद्धरण के साथ जमा किया जाना चाहिए। ईएमडी भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान तिरुवनंतपुरम के पक्ष में 90 दिनों के लिए मान्य होगा।/ Earnest Money Deposit/ Bid Security should be submitted along with your quote as mentioned in Invitation for Tender. EMD should be in favour of Indian Institute of Science Education and Research Thiruvananthapuram valid for 90 days.
- 12. IISER-TVM comply with order No. P-45021/2/2017-PP(BE-11) dated 04 Jun 2020 (Public Procurement/ Preference to Make in India) and its order 2017 revision.
- 13. LD Clause: LD may be imposed @ 0.5% per week after stipulated delivery period.
- 14. Award of Contract (AOC) would be issued to the technically qualified lowest bidder.
- 15. Tender due date would be auto-extended upon non-receipt of sufficient number of bids.
- 16. If the bidder withdraws or modifies or amends its tender or impairs or derogates from its bid during the bid validity period or if awarded the contract and fails to sign the contract or fails to furnish order acceptance or performance security before the deadline defined by the Institute, they will be suspended for the period of time as decided by the administrative competent authority of IISER Thiruvananthapuram from being eligible to submit bids for contracts floated by the Institute in accordance with GoI MOF Office memorandum NO. F/9/4/2020-PPD dated 12 Nov 2020 and GFR



ANNEXUE: 2 Instructions To Bidder for Online Bid Submission

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: https://eprocure.gov.in/eprocure/app.

REGISTRATION

- 1) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: https://eprocure.gov.in/eprocure/app) by clicking on the link "Online bidder Enrollment" on the CPP Portal which is free of charge.
- As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- 3) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- 4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.), with their profile.
- 5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
- 6) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

SEARCHING FOR TENDER DOCUMENTS

- 1) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
- 2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / email in case there is any corrigendum issued to the tender document.
- 3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS

- 1) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- 2) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- 4) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" or 'Other Important Documents' area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.
 - Note: My Documents space is only a repository given to the Bidders to ease the uploading process. If Bidder has uploaded his Documents in My Documents space, this does not automatically ensure these Documents being part of Technical Bid.

SUBMISSION OF BIDS

- Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before
 the bid submission time. Bidder will be responsible for any delay due to other issues.
- 2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- 3) Bidder has to select the payment option as "offline" to pay the tender fee / EMD as applicable and enter details of the instrument.
- 4) Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
- 5) Bidders are requested to note that they should necessarily submit their technical & financial bids in PDF format only and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.

- 6) The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- 7) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.

8) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.

- 9) Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- 10) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

ASSISTANCE TO BIDDERS

- Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
- 2) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk.



ANNEXURE: 3 TENDER ACCEPTANCE LETTER (To be given on Company Letter Head)

	rector, Indian Institute of Science Education and Resear namala P.O, Vithura, Thiruvananthapuram, Kerala -6955	
Sub: Ac	ceptance of Terms & Conditions of Tender.	
	Reference No: of Tender / Work: -	
		ENGREEN AND STANK ESSEN
Dear Sir, 1.	I/ We have downloaded / obtained the tender document(s) for the site(s) namely:	e above mentioned 'Tender/Work' from the web
	advertisement, given in the above mentioned website(s).	as per your
2.	I / We hereby certify that I / we have read the entire terms and co to (including all documents like annexure(s), school and the state of the state	edule(s), etc .,), which form part of the contract
3.	agreement and I / we shall abide hereby by the terms / conditions / The corrigendum(s) issued from time to time by your departme	
	consideration, while submitting this acceptance letter.	faces and
4.	I / We hereby unconditionally accept the tender conditions of above	mentioned tender document(s) $\dot{/}$ corrigendum(s)
_	in its totality / entirety.	debassed by any Cout Describer and Bublic control
5.	I / We do hereby declare that our Firm has not been blacklisted/ oundertaking.	debarred by any Govt. Department/Public sector
	I / We certify that all information furnished by the our Firm is true to found to be incorrect/untrue or found violated, then your departme reason therefore or summarily reject the bid or terminate the contror summarily reject the bid or terminate the contract, without prej forfeiture of the full said earnest money deposit absolutely.	ont/organization shall without giving any notice or act, without giving any notice or reason therefore
7.	I / We declare the following information provided are correct to the	best of my knowledge:
1	Name and Address of the bidder	
2	Manufacturer / Dealer / Agent	
3	Contact Person	
4	Phone	
5	Email	
6	Mobile Number	
7	GST No	
8	PAN No	
9	UTR No / DU No (in case of online transfer of Tender Fee) (if any)	
10	UTR No / DU No (in case of online transfer of EMD)	
11	Warranty, if any	
12	Delivery period	
13	Payment terms	
14	PO to be placed in favour of	
	अनुगधान	Yours Faithfully.

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(Signature of the Bidder, with Official Seal)

BID SECURITY DECLARATION (To be given on Company Letter Head)

To,	Date:
The Director, Indian Institute of Science Education and Research – Maruthamala P.O, Vithura, Thiruvananthapuram, Kerala -695551,	
Sub: Bid Security Declaration.	
Tender Reference No:	
Name of Tender / Work: -	pl. Giber Pringer
Dear Sir,	136 8 (214 (1901) 144 (1901)
We M/s	esekat transletti.
	(Cull represent address
	(Full name and address
of the bidder) hereby undertake that we will adhere to the G	
office memorandum No. F.9/4/2020-PPD dated 12 Nov	2020 and GFR 2017 on Bid
Security/ Earnest Money Deposit and if I/We (bidder) with	ndraws or modifies or amends
its tender or impairs or derogates from its bid during the	bid validity period or if we are
awarded the contract and fails to sign the contract or fails	to furnish order acceptance or
performance security before the deadline defined by the Ir	nstitute, we may be suspended
for the period of time as decided by the administrative	competent authority of IISER
Thiruvananthapuram, from being eligible to submit bids	s for contracts floated by the



Yours Faithfully,

(Signature of the Bidder, with Official Seal)

TECHNICAL SPEICIFCATIONS

2D material crystals: Specifications

Item	Item	Description	Quantity
No 1.	h-BN (large size) Manufacturer:2D Semiconductor	 Purity: (99.9999%) Should contain 3-4 crystals of size ~ 5mm or larger 2D -insulator Production method: Epitaxial solidification technique 	2
2.	BSCCO crystals Manufacturer:2D Semiconductor	 High purity: (99.9999%) Size: mm (<2mm) Bi2Sr2Can-1CunO2n+4+x, n=2 High Tc superconductor 	1
3.	Undoped Bi2Se3 (Bismuth Selenide) Manufacturer: 2D semiconductor	 Crystal size: ~10 mm Topological insulator Crystal structure: Rhombohedral Unit cell parameters: a = b = 0.413,c = 2.856 nm, α = β = 90°, γ = 120° Type: Synthetic Purity: >99.995% Characterized by: XRD, Raman, EDX 	1
4.	Bismuth sulphide Manufacturer: 2D Semiconductor	 Crystal size ~ 1 cm or larger semiconductor Crystal structure – monoclinic phase Unit cell parameters :a= 0.403 nm, b=1.113 nm, c=1.138 nm, α = β = 90°, γ =120° Purity-99.9% Growth method: Bridgman growth method 	1
5.	WSe2 (Tungsten Diselenide) undoped Manufacturer: 2D Semiconductor	Crystal size ~10 mm Electrical properties Semiconductor, undoped Crystal structure hexagonal Unit cell parameters a = b = 0.331 nm, c = 1.298 nm, α = β = 90°, γ = 120° Grown method :Flux zone Purity >99.995 %	1
6.	WSe2 (Tungsten Diselenide) P-Type. Manufacturer: 2D Semiconductor	Crystal size ~3-5 mm Electrical properties Semiconductor, p doped Crystal structure hexagonal Unit cell parameters a = b = 0.331 nm, c = 1.298 nm, α = β = 90°, γ = 120° Grown method :Flux zone Purity >99.995 %	1
7. अनुसंह भूटबंधात डे	WS2 (Tungsten Disulfide) Undoped Manufacturer: 2D Semiconductor	Crystal size ~10 mm Electrical properties Semiconductor, undoped Crystal structure hexagonal Unit cell parameters a = b = 0.317 nm, c = 1.230 nm, α = β = 90°, γ = 120° Grown method :Flux zone Purity >99.995 %	1

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8.	V1 Grade 2D Material Substrate Manufacturer: 2D Semiconductor	 Should have good basal cleavage Should Yield thin sheets which are atomically flat surfaces 	1
9.	Molybdenum disulphide (MoS2) Manufacturer: Manchester Nanomaterials	 Should contain > 10 crystals with at least 3 Large crystals of minimum dimensions ~ 20mm by 15mm. 	1
10.	Hexagonal boron nitride (hBN) Manufacturer: Manchester Nanomaterials	 Grade A, 20 crystals or more in one pack: Millimetre-sized crystals with domain sizes exceeding 0.5mm. 	2



CHECK LIST OF DOCUMENT REQUIRED

Ser	List of documents required	Yes / No
1.	Tender Acceptance Letter	
2.	EMD Details / Bid Security Declaration / MSME Certificate	
3.	Brochure/ Catalogue/ Datasheet	
4.	Technical Compliance statement with tender specifications	
5.	BoQ	
6.	Statutory Registration Certificates	
7.	Previous purchase orders (if any)	
8.	Tender document duly signed on all pages along with bidders seal.	
9.	Self-certification regarding local content as per para H of tender document	
10.	Other documents pertaining to technical aspects	
11.	Any other document as provided in technical specifications	- 7