



Bid Number/बोली क्रमांक (बिड संख्या):  
GEM/2025/B/5950924  
Dated/दिनांक : 14-02-2025

### Bid Document/ बिड दस्तावेज़

Bid Details/बिड विवरण	
Bid End Date/Time/बिड बंद होने की तारीख/समय	07-03-2025 21:00:00
Bid Opening Date/Time/बिड खुलने की तारीख/समय	07-03-2025 21:30:00
Bid Offer Validity (From End Date)/बिड पेशकश वैधता (बंद होने की तारीख से)	180 (Days)
Ministry/State Name/मंत्रालय/राज्य का नाम	Ministry Of Agriculture And Farmers Welfare
Department Name/विभाग का नाम	Department Of Agricultural Research And Education (dare)
Organisation Name/संगठन का नाम	Indian Council Of Agricultural Research (icar)
Office Name/कार्यालय का नाम	Icar-nrc On Pig, Rani, Guwahati-781131, Assam
क्रैता ईमेल/Buyer Email	uttam.prakash@icar.gov.in
Item Category/मद केटेगरी	Nucleic Acid Sequencing and Genotyping Service - Small RNA sequencing and analysis; As per scope of work; As per scope of work; As per scope of work; As per scope of work; 10x; As per scope of work; As per scope of work; Physica.. , Nucleic Acid Sequencing and Genotyping Service - mRNA and long noncoding RNA sequencing and analysis; As per scope of work; As per scope of work; As per scope of work; As per scope of work; 10x; As per scope of work; As per scop.. , Nucleic Acid Sequencing and Genotyping Service - Metagenome sequencing and analysis; As per scope of work; As per scope of work; As per scope of work; As per scope of work; 10x; As per scope of work; As per scope of work; Physic.. , Nucleic Acid Sequencing and Genotyping Service - Shotgun metagenomic analysis; As per scope of work; As per scope of work; As per scope of work; 10x; As per scope of work; As per scope of work; Physical med.. , Nucleic Acid Sequencing and Genotyping Service - 16S rRNA metagenome analysis; As per scope of work; As per scope of work; As per scope of work; As per scope of work; 10x; As per scope of work; As per scope of work; Physical med..
Contract Period/अनुबंध अवधि	1 Month(s) 2 Day(s)
Minimum Average Annual Turnover of the bidder (For 3 Years)/बिडर का न्यूनतम औसत वार्षिक टर्नओवर (3 वर्षों का)	7 Lakh (s)

<b>Bid Details/बिड विवरण</b>	
<b>MSE Exemption for Years Of Experience/अनुभव के वर्षों से एमएसई छूट/ and Turnover/टर्नओवर के लिए एमएसई को छूट प्राप्त है</b>	Yes
<b>Startup Exemption for Years Of Experience/अनुभव के वर्षों से स्टार्टअप छूट/ and Turnover/ टर्नओवर के लिए स्टार्टअप को छूट प्राप्त है</b>	Yes
<b>Document required from seller/विक्रेता से मांगे गए दस्तावेज़</b>	Bidder Turnover,Certificate (Requested in ATC),OEM Authorization Certificate *In case any bidder is seeking exemption from Experience / Turnover Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer
<b>Do you want to show documents uploaded by bidders to all bidders participated in bid?/</b>	No
<b>Bid to RA enabled/बिड से रिवर्स नीलामी सक्रिय किया</b>	No
<b>Type of Bid/बिड का प्रकार</b>	Two Packet Bid
<b>Time allowed for Technical Clarifications during technical evaluation/तकनीकी मूल्यांकन के दौरान तकनीकी स्पष्टीकरण हेतु अनुमत समय</b>	2 Days
<b>Evaluation Method/मूल्यांकन पद्धति</b>	Item wise evaluation/
<b>Arbitration Clause</b>	No
<b>Mediation Clause</b>	No

#### **EMD Detail/ईएमडी विवरण**

Advisory Bank/एडवाइजरी बैंक	Bank of India
Schedule 1 EMD Amount/ईएमडी राशि (In INR)	15000
Schedule 2 EMD Amount/ईएमडी राशि (In INR)	15000
Schedule 3 EMD Amount/ईएमडी राशि (In INR)	15000
Schedule 4 EMD Amount/ईएमडी राशि (In INR)	15000
Schedule 5 EMD Amount/ईएमडी राशि (In INR)	15000

#### **ePBG Detail/ईपीबीजी विवरण**

Required/आवश्यकता	No
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(a). EMD EXEMPTION: The bidder seeking EMD exemption, must submit the valid supporting document for the relevant category as per GeM GTC with the bid. Under MSE category, only manufacturers for goods and Service

Providers for Services are eligible for exemption from EMD. Traders are excluded from the purview of this Policy./जेम की शर्तों के अनुसार ईएमडी छूट के इच्छुक बिडर को संबंधित केटेगरी के लिए बिड के साथ वैध समर्थित दस्तावेज़ प्रस्तुत करने हैं। एमएसई केटेगरी के अंतर्गत केवल वस्तुओं के लिए विनिर्माता तथा सेवाओं के लिए सेवा प्रदाता ईएमडी से छूट के पात्र हैं। व्यापारियों को इस नीति के दायरे से बाहर रखा गया है।

(b). The EMD Amount will be applicable for each schedule/group selected during Bid creation.

(c). EMD & Performance security should be in favour of Beneficiary, wherever it is applicable./ईएमडी और संपादन जमानत राशि, जहां यह लागू होती है, लाभार्थी के पक्ष में होनी चाहिए।

**Beneficiary/लाभार्थी :**

Director

Icar-nrc On Pig, Rani, Guwahati-781131, Assam, Department of Agricultural Research and Education (DARE), Indian Council of Agricultural Research (ICAR), Ministry of Agriculture and Farmers Welfare (Director Nrcp)

**MII Compliance/एमआईआई अनुपालन**

MII Compliance/एमआईआई अनुपालन	Yes
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**MSE Purchase Preference/एमएसई खरीद वरीयता**

MSE Purchase Preference/एमएसई खरीद वरीयता	Yes
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1. If the bidder is a Micro or Small Enterprise as per latest definitions under MSME rules, the bidder shall be exempted from the requirement of "Bidder Turnover" criteria and "Experience Criteria" subject to meeting of quality and technical specifications. If the bidder is OEM of the offered products, it would be exempted from the "OEM Average Turnover" criteria also subject to meeting of quality and technical specifications. In case any bidder is seeking exemption from Turnover / Experience Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer.
2. If the bidder is a Startup, the bidder shall be exempted from the requirement of "Bidder Turnover" criteria and "Experience Criteria" subject to their meeting of quality and technical specifications. If the bidder is OEM of the offered products, it would be exempted from the "OEM Average Turnover" criteria also subject to meeting of quality and technical specifications. In case any bidder is seeking exemption from Turnover / Experience Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer.
3. The minimum average annual financial turnover of the bidder during the last three years, ending on 31st March of the previous financial year, should be as indicated above in the bid document. Documentary evidence in the form of certified Audited Balance Sheets of relevant periods or a certificate from the Chartered Accountant / Cost Accountant indicating the turnover details for the relevant period shall be uploaded with the bid. In case the date of constitution / incorporation of the bidder is less than 3-year-old, the average turnover in respect of the completed financial years after the date of constitution shall be taken into account for this criteria.
4. Purchase preference to Micro and Small Enterprises (MSEs): Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference for services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered service. If L-1 is not an MSE and MSE Service Provider (s) has/have quoted price within L-1+ 15% of margin of purchase preference /price band as defined in the relevant policy, then 100% order quantity will be awarded to such MSE bidder subject to acceptance of L1 bid price. The buyers are advised to refer to the [OM\\_No.1\\_4\\_2021\\_PPD\\_dated\\_18.05.2023](#) for compliance of Concurrent application of Public Procurement Policy for Micro and Small Enterprises Order, 2012 and Public Procurement (Preference to Make in India) Order, 2017. Benefits of MSE will be allowed only if the credentials of the service provider are validated on-line in GeM profile as well as validated and approved by the Buyer after evaluation of submitted documents.
5. Estimated Bid Value indicated above is being declared solely for the purpose of guidance on EMD amount and for determining the Eligibility Criteria related to Turn Over, Past Performance and Project / Past Experience etc. This has no relevance or bearing on the price to be quoted by the bidders and is also not going to have any

impact on bid participation. Also this is not going to be used as a criteria in determining reasonableness of quoted prices which would be determined by the buyer based on its own assessment of reasonableness and based on competitive prices received in Bid / RA process.

**Additional Qualification/Data Required/अतिरिक्त योग्यता /आवश्यक डेटा**

**Scope of Work:**[1739512776.pdf](#)

**Any Other Requirement by Buyer:**[1739512786.pdf](#)

**Evaluation Method ( Item Wise Evaluation Method )**

Contract will be awarded schedulewise and the determination of L1 will be done separately for each schedule. The details of item-consignee combination covered under each schedule are as under:

Evaluation Schedules	Item/Category	Quantity
Schedule 1	Nucleic Acid Sequencing And Genotyping Service - Small Rna Sequencing And Analysis; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; 10x; As Per Scope Of Work; As Per Scope Of Work; Physica..	Number of samples : 24
Schedule 2	Nucleic Acid Sequencing And Genotyping Service - Mrna And Long Noncoding Rna Sequencing And Analysis; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; 10x; As Per Scope Of Work; As Per Scop..	Number of samples : 24
Schedule 3	Nucleic Acid Sequencing And Genotyping Service - Metagenome Sequencing And Analysis; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; 10x; As Per Scope Of Work; As Per Scope Of Work; Physic..	Number of samples : 36
Schedule 4	Nucleic Acid Sequencing And Genotyping Service - Shotgun Metagenomic Analysis; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; 10x; As Per Scope Of Work; As Per Scope Of Work; Physical Med..	Number of samples : 32
Schedule 5	Nucleic Acid Sequencing And Genotyping Service - 16s Rrna Metagenome Analysis; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; 10x; As Per Scope Of Work; As Per Scope Of Work; Physical Med..	Number of samples : 120

**Nucleic Acid Sequencing And Genotyping Service - Small RNA Sequencing And Analysis; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; 10x; As Per Scope Of Work; As Per Scope Of Work; Physica.. ( 24 )**

**Technical Specifications/तकनीकी विशिष्टियाँ**

Specification	Values
<b>Core</b>	
Type of sequencing exercise to be done	Small RNA sequencing and analysis

Specification	Values
Type of organism for sequencing	As per scope of work
Type of sample	As per scope of work
Sample collection option	As per scope of work
Which Chemistry / Platform you require	As per scope of work
What quality reads per sample do you require	As per scope of work
What depth /coverage do you require	10x
Service required for number of samples to be analyzed	As per scope of work
What kind of output data is required	As per scope of work
Data Delivery Mode	Physical media
Data delivery timeframe	30 days
What kind of QC parameters are required	As per scope of work
Model of sequencing facility to be followed	Hybrid , Inhouse
Model of bioinformatics analysis facility to be followed	Inhouse
Consent for the sample to be sent abroad for testing	No
Testing Lab Accreditations Certifications	National Accreditation Board for Testing & Calibration Laboratories (NABL) , ISO 15189:2012 Medical laboratories — Requirements for quality and competence , ISO/IEC 17025 Testing and Calibration Laboratories , ISO/TS 22692:2020 Genomics informatics— Quality control metrics for DNA sequencing , DSIR certificate

Specification	Values
<b>Addon(s)/एडऑन</b>	

**Additional Specification Documents/अतिरिक्त विशिष्टि दस्तावेज़**

**Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी**

S.No./क्र. सं.	Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी	Address/पता	Number of samples	Additional Requirement/अतिरिक्त आवश्यकता
1	Jaya	781131,ICAR- NATIONAL RESEARCH CENTRE ON PIG, RANI, GUWAHATI	24	N/A

**Nucleic Acid Sequencing And Genotyping Service - MRNA And Long Noncoding RNA Sequencing And Analysis; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; 10x; As Per Scope Of Work; As Per Scop.. ( 24 )**

**Technical Specifications/तकनीकी विशिष्टियाँ**

Specification	Values
<b>Core</b>	
Type of sequencing exercise to be done	mRNA and long noncoding RNA sequencing and analysis
Type of organism for sequencing	As per scope of work
Type of sample	As per scope of work
Sample collection option	As per scope of work
Which Chemistry / Platform you require	As per scope of work
What quality reads per sample do you require	As per scope of work

Specification	Values
What depth /coverage do you require	10x
Service required for number of samples to be analyzed	As per scope of work
What kind of output data is required	As per scope of work
Data Delivery Mode	Physical media
Data delivery timeframe	30 days
What kind of QC parameters are required	As per scope of work
Model of sequencing facility to be followed	Hybrid , Inhouse
Model of bioinformatics analysis facility to be followed	Inhouse
Consent for the sample to be sent abroad for testing	No
Testing Lab Accreditations Certifications	National Accreditation Board for Testing & Calibration Laboratories (NABL) , ISO 15189:2012 Medical laboratories — Requirements for quality and competence , ISO/IEC 17025 Testing and Calibration Laboratories , ISO/TS 22692:2020 Genomics informatics— Quality control metrics for DNA sequencing , DSIR certificate
<b>Addon(s)/एडऑन</b>	

**Additional Specification Documents/अतिरिक्त विशिष्टि दस्तावेज़**

**Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी**

S.No./क्र. सं.	Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी	Address/पता	Number of samples	Additional Requirement/अतिरिक्त आवश्यकता
1	Jaya	781131,ICAR- NATIONAL RESEARCH CENTRE ON PIG, RANI, GUWAHATI	24	N/A

**Nucleic Acid Sequencing And Genotyping Service - Metagenome Sequencing And Analysis; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; 10x; As Per Scope Of Work; As Per Scope Of Work; Physic.. ( 36 )**

**Technical Specifications/तकनीकी विशिष्टियाँ**

Specification	Values
<b>Core</b>	
Type of sequencing exercise to be done	Metagenome sequencing and analysis
Type of organism for sequencing	As per scope of work
Type of sample	As per scope of work
Sample collection option	As per scope of work
Which Chemistry / Platform you require	As per scope of work
What quality reads per sample do you require	As per scope of work
What depth /coverage do you require	10x
Service required for number of samples to be analyzed	As per scope of work
What kind of output data is required	As per scope of work
Data Delivery Mode	Physical media



Specification	Values
Data delivery timeframe	30 days
What kind of QC parameters are required	As per scope of work
Model of sequencing facility to be followed	Hybrid , Inhouse
Model of bioinformatics analysis facility to be followed	Inhouse
Consent for the sample to be sent abroad for testing	No
Testing Lab Accreditations Certifications	National Accreditation Board for Testing & Calibration Laboratories (NABL) , ISO 15189:2012 Medical laboratories — Requirements for quality and competence , ISO/IEC 17025 Testing and Calibration Laboratories , ISO/TS 22692:2020 Genomics informatics— Quality control metrics for DNA sequencing , DSIR certificate
<b>Addon(s)/एडऑन</b>	

**Additional Specification Documents/अतिरिक्त विशिष्टि दस्तावेज़**

**Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी**

S.No./क्र. सं.	Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी	Address/पता	Number of samples	Additional Requirement/अतिरिक्त आवश्यकता
1	Jaya	781131,ICAR- NATIONAL RESEARCH CENTRE ON PIG, RANI, GUWAHATI	36	N/A

**Nucleic Acid Sequencing And Genotyping Service - Shotgun Metagenomic Analysis; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; 10x; As Per Scope Of Work; As Per Scope Of Work; Physical Med.. ( 32 )**

**Technical Specifications/तकनीकी विशिष्टियाँ**

Specification	Values
<b>Core</b>	

Specification	Values
Type of sequencing exercise to be done	Shotgun metagenomic analysis
Type of organism for sequencing	As per scope of work
Type of sample	As per scope of work
Sample collection option	As per scope of work
Which Chemistry / Platform you require	As per scope of work
What quality reads per sample do you require	As per scope of work
What depth /coverage do you require	10x
Service required for number of samples to be analyzed	As per scope of work
What kind of output data is required	As per scope of work
Data Delivery Mode	Physical media
Data delivery timeframe	30 days
What kind of QC parameters are required	As per scope of work
Model of sequencing facility to be followed	Hybrid , Inhouse
Model of bioinformatics analysis facility to be followed	Inhouse
Consent for the sample to be sent abroad for testing	No

Specification	Values
Testing Lab Accreditations Certifications	National Accreditation Board for Testing & Calibration Laboratories (NABL) , ISO 15189:2012 Medical laboratories — Requirements for quality and competence , ISO/IEC 17025 Testing and Calibration Laboratories , ISO/TS 22692:2020 Genomics informatics— Quality control metrics for DNA sequencing , DSIR certificate
<b>Addon(s)/एडऑन</b>	

**Additional Specification Documents/अतिरिक्त विशिष्टि दस्तावेज़**

**Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी**

S.No./क्र. सं.	Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी	Address/पता	Number of samples	Additional Requirement/अतिरिक्त आवश्यकता
1	Jaya	781131,ICAR- NATIONAL RESEARCH CENTRE ON PIG, RANI, GUWAHATI	32	N/A

**Nucleic Acid Sequencing And Genotyping Service - 16S RRNA Metagenome Analysis; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; As Per Scope Of Work; 10x; As Per Scope Of Work; As Per Scope Of Work; Physical Med.. ( 120 )**

**Technical Specifications/तकनीकी विशिष्टियाँ**

Specification	Values
<b>Core</b>	
Type of sequencing exercise to be done	16S rRNA metagenome analysis
Type of organism for sequencing	As per scope of work
Type of sample	As per scope of work
Sample collection option	As per scope of work
Which Chemistry / Platform you require	As per scope of work

<b>Specification</b>	<b>Values</b>
What quality reads per sample do you require	As per scope of work
What depth /coverage do you require	10x
Service required for number of samples to be analyzed	As per scope of work
What kind of output data is required	As per scope of work
Data Delivery Mode	Physical media
Data delivery timeframe	30 days
What kind of QC parameters are required	As per scope of work
Model of sequencing facility to be followed	Hybrid , Inhouse
Model of bioinformatics analysis facility to be followed	Inhouse
Consent for the sample to be sent abroad for testing	No
Testing Lab Accreditations Certifications	National Accreditation Board for Testing & Calibration Laboratories (NABL) , ISO 15189:2012 Medical laboratories — Requirements for quality and competence , ISO/IEC 17025 Testing and Calibration Laboratories , ISO/TS 22692:2020 Genomics informatics— Quality control metrics for DNA sequencing , DSIR certificate
<b>Addon(s)/एडऑन</b>	

**Additional Specification Documents/अतिरिक्त विशिष्टि दस्तावेज़**

**Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी**

S.No./क्र. सं.	Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी	Address/पता	Number of samples	Additional Requirement/अतिरिक्त आवश्यकता
1	Jaya	781131, ICAR- NATIONAL RESEARCH CENTRE ON PIG, RANI, GUWAHATI	120	N/A

## Buyer Added Bid Specific Terms and Conditions/क्रेता द्वारा जोड़ी गई बिड की विशेष शर्तें

### 1. Generic

OPTION CLAUSE: The buyer can increase or decrease the contract quantity or contract duration up to 25 percent at the time of issue of the contract. However, once the contract is issued, contract quantity or contract duration can only be increased up to 25 percent. Bidders are bound to accept the revised quantity or duration

### 2. Buyer Added Bid Specific ATC

Buyer Added text based ATC clauses

## **Gem Bid Document for Services for sequencing and metagenomic work for Animal Physiology Lab**

### **SCOPE OF WORK**

**The technical specifications are mentioned hereunder:**

#### **Service No.1: Small RNA sequencing and analysis**

Nature of work : Service

Number of samples : 24

Nature of samples: Tissues and cell pellet of porcine origin

- Small RNA extraction and QC using standard protocol
- Library preparation using appropriate small RNA library preparation kit
- Sequencing using standard platform
- Data should be minimum 10 million raw reads/sample
- Sample pickup should be from ICAR-NRC on Pig and dry ice shipment should be arranged by the firm
- In case of QC failure, repeat sample pickup should be arranged by the firm without additional charges.

Should include deliverables like:

- Data QC: Filtering adaptor sequences and low-quality reads

- Summarize length distribution of small RNA
- Analyse common and specific differences between samples
- Alignment to reference genome
- Identification of known miRNA and their target mRNA
- Identify rRNA, tRNA, snRNA, snoRNA and non-coding RNA
- Identify repeat associated small RNAs (repeat annotation information of the reference genome should be provided)
- Align small RNA to mRNA, exon and intron
- Predict novel miRNAs and their secondary structures from unannotated small RNAs
- Analyse the expression pattern of known miRNAs
- Analyse the base bias of miRNA
- Classify and annotate of small RNAs
- Predict target gene of miRNAs
- Analyse correlation of miRNA expression among samples
- Analyse differentially expressed miRNA and cluster analysis among samples
- Gene ontology analysis of differently expressed genes (DEGs) and pathway enrichment analysis of DEGs
- Bioinformatics support should be provided until publication

### **Service No.2: mRNA and long non-coding RNA sequencing and analysis**

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Nature of work : Service

Number of samples : 24

Nature of samples: Tissues and cell pellet of porcine origin

- NGS grade high quality RNA should be isolated from the supplied samples using standard kits.
- The quality and quantity check of RNA should be carried out by denatured agarose gel electrophoresis and spectrophotometer/fluorimeter or other standard protocols.
- Sample pickup should be from ICAR-NRC on Pig and dry ice shipment should be

arranged by the firm

- In case of QC failure, repeat sample pickup should be should be arranged by the firm without additional charges.
- RNA Seq library should be prepared using standard mRNA library preparation kit.
- Total RNA for sequencing using standard platform.
- Generation of 2x150 paired end reads
- Generation of ~3-4 Gb data/sample

Deliverables should include:

- Quality Control: filtering reads containing adapter or with low quality
- Statistical Analysis of Data Production and Quality Check
- Mapping reads to reference genome
- Gene Expression Quantification
- Novel gene prediction
- Transcription specific site (TSS) and TSS prediction
- Analysis of differentially expressed genes (DEGs)
- Should include lncRNA analysis, cis and trans target of lncRNA
- lncRNA-mRNA interaction analysis
- Correlation analysis
- Gene Ontology (GO) enrichment analysis and KEGG pathway enrichment
- Cluster analysis
- Protein-Protein Interaction Analysis
- Bioinformatics support should be provided until publication.

### **Service No.3: Metagenome sequencing and analysis**

Nature of work : Service

Number of samples : 36

Nature of samples: Samples of porcine origin

- Perform 16S targeted metagenome sequencing
- 5000 base custom NGS grade custom primers should be synthesized.
- Quality check and library QC to be done and a library image to be provided.

- The firm should have Illumina Nextseq or better platforms
- Bioinformatics support should be provided until publication.
- Sample pickup should be from ICAR-NRC on Pig and dry ice shipment should be arranged by the firm
- In case of QC failure, repeat sample pickup should be should be arranged by the firm without additional charges.

#### **Service No.4: Shotgun metagenomic analysis**

Nature of samples : Shotgun metagenomic analysis

Number of samples : 32

##### 1. Nature of Samples

- Gastro intestinal samples will be harvested and preserved at our laboratory. The service provider should collect the samples in dry ice and transport it to the analysis facility at their own cost. DNA extraction, quality check, sequencing, DNA Seq library preparation, Library validation etc. should be performed by the service provider.

##### 2. Sequencing Platform and Chemistry

- Platform: Illumina platform or equivalent/better.
- Chemistry: Shotgun metagenome chemistry with a paired-end read length of 2x150 base pairs.

##### 3. Data Generation

- Minimum Data Output: A minimum of 15 GB of raw data per sample should be generated.
- Read Coverage: Ensure 20-25 million paired-end reads per sample.
- Quality Scores: Ensure that at least 90% of the bases have a Phred quality score  $\geq Q30$ .

##### 4. Quality Control (QC)

- Pre-Sequencing QC: DNA quality and quantity checks using fluorometric methods and integrity assessment using agarose gel electrophoresis or similar methods. Post-library QC should verify appropriate size distribution using appropriate methods.

##### 5. Data Delivery

- Format: Deliver raw FASTQ files along with a summary report that includes the number of reads, total bases, and quality metrics.
- Data Integrity: Ensure data integrity through checksum files (e.g., MD5).

##### 6. Reporting and Documentation

- Detailed Report: Include a detailed report on all procedures used, from DNA extraction to sequencing, including any deviations from standard protocols.



- Consultation: Service provider should offer consultation before and after the project to discuss the design and results.
- Data Storage and Access: The provider will store the data for a minimum of 45 days (in secure FTP/cloud storage) after the complete results are supplied and verified by the scientist (intender from ICAR-NRC on Pig).

**Service No. 5: 16S rRNA metagenome analysis**

Nature of samples : Gastro intestinal samples from pigs

Number of samples : 120

- Perform 16S targeted metagenome sequencing.

1. Nature of Samples

- Gastro intestinal samples will be harvested and preserved at our laboratory. The service provider should collect the samples in dry ice and transport it to the analysis facility at their own cost. DNA extraction, quality check, sequencing, DNA Seq library preparation, Library validation etc. should be performed by the service provider.

2. Primer Selection

- Target Regions: Use primer sets targeting hypervariable regions of the 16S rRNA gene, specifically the V3-V4 regions.

- Primer Details: Primers should target the V3-V4 hypervariable regions of the 16S rRNA gene.

3. Sequencing Platform and Chemistry

- Platform: Illumina platform or equivalent/better.
- Chemistry: Paired-end sequencing with a read length of 2x300 base pairs.
- Library Preparation: Perform size selection to ensure that the library is enriched for the expected amplicon size of approximately 450 bp, minimizing the presence of non-specific products and primer-dimers

4. Data Generation

- Minimum Read Depth: Ensure a minimum of 1 million reads per sample (1,000,000 paired-end reads).
- Quality Metrics: At least 90% of bases should have a Phred quality score  $\geq$  Q30

5. Quality Control (QC)

- Pre-Sequencing QC: Assess DNA quality and concentration using standard methods. Perform PCR amplification efficiency checks and gel electrophoresis to confirm the expected amplicon size. In case of QC failure, repeat sample pickup and analysis should be performed by the firm without additional charges.

6. Data Delivery

- Format: Deliver raw FASTQ files with corresponding metadata and a summary report detailing the number of reads, total bases, and quality metrics. The data shall be delivered in a hard drive of suitable capacity.

- Data Integrity: Provide checksum files (e.g., MD5) to ensure data integrity during transfer.

### 7. Reporting and Documentation

- Detailed Report: Include a comprehensive report documenting the methodology, sequencing metrics, QC results, and any deviations from the protocol.

- Consultation: Offer pre- and post-project consultations to discuss study design, potential pitfalls, and data interpretation.

- Sample Metadata: Require the service provider to handle and integrate sample metadata appropriately during analysis.

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#### **PREPARATION OF TECHNICAL BID**

**The Technical bid shall contain following documents failing which the bids will be considered invalid and will be rejected.**

1. Information schedule as per enclosed performa (**Annexure-I**).
2. Copy of TAN/PAN card.
3. Copy of GST certificate.
4. Trade License/Registration Certificate/MSME Registration Certificate.
5. Annual Turnover Certificate of the last 3 years. The average annual turnover should be of at least 7 lakhs. **(Under MSE category, only manufacturers for goods and Service Providers for Services are eligible for exemption for submission of Annual Turnover. Traders are excluded from the purview of this Policy and no exemption will be provided to the traders.)**
6. Submit/Upload at least 01 Number (one number) of work order awarded for similar work from any Govt./PSU/University/Autonomous bodies/Reputed Companies. The experience criteria is exempted to MSME/Startup firms as per the rules. **Under MS category, only manufacturers for goods and Service Providers for Services are eligible for exemption for submission of work order copy. Traders are excluded from the purview of this Policy and no exemption will be provided to the traders.**
7. The bidder should submit the compliance statement in the prescribed format as per **Annexure-II**.
8. The bidder should submit the Tender Acceptance Letter in the prescribed format as per **Annexure-III**

9. The bidder should submit the Make In India (MII) compliance statement in the prescribed format as per **Annexure-IV. The Make in India certificate should be submitted by the OEM only.**

**\*Bidders should ensure that all the documents submitted are genuine. If any documents are found to be fabricated or falsified the bid, contract, if awarded will be rejected/cancelled and appropriate action including blacklisting and legal options will be taken. The institute reserves the right to verify the authenticity of documents (UDIN/UDYAM/MSME) submitted and the bidder will be required to produce the original document for verification, if required at ICAR-NRC on Pig**

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### **PREPARATION OF FINANCIAL BID**

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Firm shall quote rates which shall be inclusive of all labour cost, material/spare cost, transportation & conveyance charges, administrative charges, monitoring and supervisory charges, agency profit, GST/Taxes etc.

Sd/-

Asstt. Administrative Officer

tive Officer

### **ANNEXURE-I**

#### **Information Schedule**

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(Shall be submitted by the bidder in their letter head)

1.	Name of the Firm/Agency.	
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2.	Address with Tel. No./Fax/E-mail.	
3.	Contract Person Name and Mobile No.	
4.	Bank Account No. Branch Code Bank Name	
5.	Whether all <b>9 Nos of documents</b> as required/mentioned in Preparation of Technical Bids are uploaded/submitted.	Yes/No
6.	Whether the firm has any legal suit/criminal case pending against it or contemplated against them. If Yes, details thereof	Yes/No
7.	Whether the Agency had been blacklisted by any organization. If Yes, details thereof.	Yes/No

I/ we hereby certify that the information furnished above is correct and true to the best of our knowledge. We understand that in the event of information being found false at any stage, the agency will be blacklisted and will have no dealing with ICAR, Institutes.

Signature and Seal of the Bidder

## ANNEXURE II

**Compliance statement in the prescribed format**

Name of the Items	Complete Generic Specification	Quantity Required (No. of samples)	Quoted/Not Quoted (Please mention the Make and Model No. of the Services)	Complied to the required Specifications (Yes/No)
<b><u>Service No .1: Small RNA sequencing and analysis</u></b>	Nature of work : Service Nature of samples: Tissues and cell pellet of porcine origin  <ul style="list-style-type: none"> <li>· Small RNA extraction and QC using standard protocol</li> <li>· Library preparation using appropriate small RNA library preparation kit</li> <li>· Sequencing using standard platform</li> <li>· Data should be minimum 10 million raw reads/sample</li> </ul>	24		

- Sample pickup should be from ICAR-NRC on Pig and dry ice shipment should be arranged by the firm
  - In case of QC failure, repeat sample pickup should be arranged by the firm without additional charges.
- Should include deliverables like:
- Data QC: Filtering adaptor sequences and low-quality reads
  - Summarize length distribution of small RNA
  - Analyse common and specific differences between samples
  - Alignment to reference genome
  - Identification of known miRNA and their target mRNA
  - Identify rRNA, tRNA, snRNA, snoRNA and non-coding RNA
  - Identify repeat associated small RNAs (repeat annotation information of the reference genome should be provided)
  - Align small RNA to mRNA, exon and intron
  - Predict novel miRNAs and their secondary structures from unannotated small RNAs
  - Analyse the expression pattern of known miRNAs
  - Analyse the base bias of miRNA
  - Classify and annotate of small RNAs
  - Predict target gene of miRNAs
  - Analyse correlation of miRNA expression among samples
  - Analyse differentially expressed

	<p>ed miRNA and cluster analysis among samples</p> <ul style="list-style-type: none"> <li>Gene ontology analysis of differently expressed genes (DEGs) and pathway enrichment analysis of DEGs</li> <li>Bioinformatics support should be provided until publication</li> </ul>			
<p><b><u>Service No .2: mRNA and long non-coding RNA sequencing and analysis</u></b></p>	<p>Nature of work : Service</p> <p>Nature of samples: Tissues and cell pellet of porcine origin</p> <p>NGS grade high quality RNA should be isolated from the supplied samples using standard kits.</p> <ul style="list-style-type: none"> <li>The quality and quantity check of RNA should be carried out by denatured agarose gel electrophoresis and spectrophotometer/fluorimeter or other standard protocols.</li> <li>Sample pickup should be from ICAR-NRC on Pig and dry ice shipment should be arranged by the firm</li> <li>In case of QC failure, repeat sample pickup should be should be arranged by the firm without additional charges.</li> <li>RNA Seq library should be prepared using standard mRNA library preparation kit.</li> <li>Total RNA for sequencing using standard platform.</li> <li>Generation of 2x150 paired end reads</li> <li>Generation of ~3-4 Gb data/sample</li> </ul> <p>Deliverables should include:</p> <ul style="list-style-type: none"> <li>Quality Control: filtering read</li> </ul>	<p>24</p>		



s containing adapter or with low quality

- Statistical Analysis of Data Production and Quality Check
- Mapping reads to reference genome
- Gene Expression Quantification
- Novel gene prediction
- Transcription specific site (TSS) and TSS prediction
- Analysis of differentially expressed genes (DEGs)
- Should include lncRNA analysis, cis and trans target of lncRNA
- lncRNA-mRNA interaction analysis
- Correlation analysis
- Gene Ontology (GO) enrichment analysis and KEGG pathway enrichment
- Cluster analysis
- Protein-Protein Interaction Analysis
- Bioinformatics support should be provided until publication.

<p><b><u>Service No .3: Metagenome sequencing and analysis</u></b></p>	<p>Nature of work : Service</p> <p>Nature of samples: Samples of porcine origin</p> <ul style="list-style-type: none"> <li>· Perform 16S targeted metagenome sequencing</li> <li>· 5000 base custom NGS grade custom primers should be synthesized.</li> <li>· Quality check and library QC to be done and a library image to be provided.</li> <li>· The firm should have Illumina Nextseq or better platforms</li> <li>· Bioinformatics support should be provided until publication.</li> <li>· Sample pickup should be from ICAR-NRC on Pig and dry ice shipment should be arranged by the firm</li> <li>· In case of QC failure, repeat sample pickup should be should be arranged by the firm without additional charges.</li> </ul>	<p>36</p>		
<p><b><u>Service No .4: Shotgun metagenomic analysis</u></b></p>	<p>Nature of samples : Shotgun metagenomic analysis.</p> <p>Nature of Samples</p> <ul style="list-style-type: none"> <li>· Gastro intestinal samples will be harvested and preserved at our laboratory. The service provider should collect the samples in dry ice and transport it to the analysis facility at their own cost. DNA extraction, quality check, sequencing, DNA Seq library preparation, Library validation etc. should be performed by the service provider.</li> <li>· 2.Sequencing Platform and Chemistry</li> <li>· Platform: Illumina platform or equivalent/better.</li> </ul>	<p>32</p>		

- Chemistry: Shotgun metagenome chemistry with a paired-end read length of 2x150 base pairs.

### 3. Data Generation

- Minimum Data Output: A minimum of 15 GB of raw data per sample should be generated.

- Read Coverage: Ensure 20-25 million paired-end reads per sample.

- Quality Scores: Ensure that at least 90% of the bases have a Phred quality score  $\geq$  Q30.

### 4. Quality Control (QC)

- Pre-Sequencing QC: DNA quality and quantity checks using fluorometric methods and integrity assessment using agarose gel electrophoresis or similar methods. Post-library QC should verify appropriate size distribution using appropriate methods.

### 5. Data Delivery

- Format: Deliver raw FASTQ files along with a summary report that includes the number of reads, total bases, and quality metrics.

- Data Integrity: Ensure data integrity through checksum files (e.g., MD5).

### 6. Reporting and Documentation

- Detailed Report: Include a detailed report on all procedures used, from DNA extraction to sequencing, including any deviations from standard protocols.

- Consultation: Service provider should offer consultation before and after the project to discuss the design and results.

- Data Storage and Access: Th

	<p>e provider will store the data for a minimum of 45 days (in secure FTP/cloud storage) after the complete results are supplied and verified by the scientist (intender from ICAR-NRC on Pig).</p>			
<p><b><u>Service No . 5: 16S rRNA metagenome analysis</u></b></p>	<p>Nature of samples : Gastro intestinal samples from pigs</p> <ul style="list-style-type: none"> <li>· Perform 16S targeted metagenome sequencing.</li> </ul> <p>1. Nature of Samples</p> <ul style="list-style-type: none"> <li>· Gastro intestinal samples will be harvested and preserved at our laboratory. The service provider should collect the samples in dry ice and transport it to the analysis facility at their own cost. DNA extraction, quality check, sequencing, DNA Seq library preparation, Library validation etc. should be performed by the service provider.</li> </ul> <p style="padding-left: 40px;">2.Primer Selection</p> <ul style="list-style-type: none"> <li>· Target Regions: Use primer sets targeting hypervariable regions of the 16S rRNA gene, specifically the V3-V4 regions.</li> <li>· Primer Details: Primers should target the V3-V4 hypervariable regions of the 16S rRNA gene.</li> </ul> <p style="padding-left: 40px;">3.Sequencing Platform and Chemistry</p> <ul style="list-style-type: none"> <li>· Platform: Illumina platform or equivalent/better.</li> <li>· Chemistry: Paired-end sequencing with a read length of 2x 300 base pairs.</li> <li>· Library Preparation: Perform size selection to ensure that the library is enriched for the expected amplicon size of approximately 450 bp, minimizing the presence of non-specific p</li> </ul>	<p><b>120</b></p>		

products and primer-dimers

#### 4. Data Generation

- Minimum Read Depth: Ensure a minimum of 1 million reads per sample (1,000,000 paired-end reads).
- Quality Metrics: At least 90% of bases should have a Phred quality score  $\geq$  Q30.

#### 5. Quality Control (QC)

- Pre-Sequencing QC: Assess DNA quality and concentration using standard methods. Perform PCR amplification efficiency checks and gel electrophoresis to confirm the expected amplicon size. In case of QC failure, repeat sample pickup and analysis should be performed by the firm without additional charges.

#### 6. Data Delivery

- Format: Deliver raw FASTQ files with corresponding metadata and a summary report detailing the number of reads, total bases, and quality metrics. The data shall be delivered in a hard drive of suitable capacity.
- Data Integrity: Provide checksum files (e.g., MD5) to ensure data integrity during transfer.

#### 7. Reporting and Documentation

- Detailed Report: Include a comprehensive report documenting the methodology, sequencing metrics, QC results, and any deviations from the protocol.
- Consultation: Offer pre- and post-project consultations to discuss study design, potential pitfalls, and data interpretation.

Sample Metadata: Require the service provider to handle and integrate sample metadata appropriately during analysis.			
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idder

Signature and Seal of the B

Business Address

### 3. Buyer Added Bid Specific ATC

Buyer uploaded ATC document [Click here to view the file.](#)

## Disclaimer/अस्वीकरण

The additional terms and conditions have been incorporated by the Buyer after approval of the Competent Authority in Buyer Organization, whereby Buyer organization is solely responsible for the impact of these clauses on the bidding process, its outcome, and consequences thereof including any eccentricity / restriction arising in the bidding process due to these ATCs and due to modification of technical specifications and / or terms and conditions governing the bid. If any clause(s) is / are incorporated by the Buyer regarding following, the bid and resultant contracts shall be treated as null and void and such bids may be cancelled by GeM at any stage of bidding process without any notice:-

1. Definition of Class I and Class II suppliers in the bid not in line with the extant Order / Office Memorandum issued by DPIIT in this regard.
2. Seeking EMD submission from bidder(s), including via Additional Terms & Conditions, in contravention to exemption provided to such sellers under GeM GTC.
3. Publishing Custom / BOQ bids for items for which regular GeM categories are available without any Category item bunched with it.
4. Creating BoQ bid for single item.
5. Mentioning specific Brand or Make or Model or Manufacturer or Dealer name.
6. Mandating submission of documents in physical form as a pre-requisite to qualify bidders.
7. Floating / creation of work contracts as Custom Bids in Services.
8. Seeking sample with bid or approval of samples during bid evaluation process. (However, in bids for [attached categories](#), trials are allowed as per approved procurement policy of the buyer nodal Ministries)
9. Mandating foreign / international certifications even in case of existence of Indian Standards without specifying equivalent Indian Certification / standards.
10. Seeking experience from specific organization / department / institute only or from foreign / export experience.
11. Creating bid for items from irrelevant categories.
12. Incorporating any clause against the MSME policy and Preference to Make in India Policy.
13. Reference of conditions published on any external site or reference to external documents/clauses.
14. Asking for any Tender fee / Bid Participation fee / Auction fee in case of Bids / Forward Auction, as the case may be.
15. Any ATC clause in contravention with GeM GTC Clause 4 (xiii)(h) will be invalid. In case of multiple L1 bidders against a service bid, the buyer shall place the Contract by selection of a bidder amongst the L-1

bidders through a Random Algorithm executed by GeM system.

Further, if any seller has any objection/grievance against these additional clauses or otherwise on any aspect of this bid, they can raise their representation against the same by using the Representation window provided in the bid details field in Seller dashboard after logging in as a seller within 4 days of bid publication on GeM. Buyer is duty bound to reply to all such representations and would not be allowed to open bids if he fails to reply to such representations.

**All GeM Sellers / Service Providers are mandated to ensure compliance with all the applicable laws / acts / rules including but not limited to all Labour Laws such as The Minimum Wages Act, 1948, The Payment of Wages Act, 1936, The Payment of Bonus Act, 1965, The Equal Remuneration Act, 1976, The Payment of Gratuity Act, 1972 etc. Any non-compliance will be treated as breach of contract and Buyer may take suitable actions as per GeM Contract.**

This Bid is governed by the [General Terms and Conditions/सामान्य नियम और शर्तें](#), conditions stipulated in Bid and [Service Level Agreement](#) specific to this Service as provided in the Marketplace. However in case if any condition specified in General Terms and Conditions/सामान्य नियम और शर्तें is contradicted by the conditions stipulated in Service Level Agreement, then it will over ride the conditions in the General Terms and Conditions.

In terms of GeM GTC clause 26 regarding Restrictions on procurement from a bidder of a country which shares a land border with India, any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. While participating in bid, Bidder has to undertake compliance of this and any false declaration and non-compliance of this would be a ground for immediate termination of the contract and further legal action in accordance with the laws./जेम की सामान्य शर्तों के खंड 26 के संदर्भ में भारत के साथ भूमि सीमा साझा करने वाले देश के बिडर से खरीद पर प्रतिबंध के संबंध में भारत के साथ भूमि सीमा साझा करने वाले देश का कोई भी बिडर इस निविदा में बिड देने के लिए तभी पात्र होगा जब वह बिड देने वाला सक्षम प्राधिकारी के पास पंजीकृत हो। बिड में भाग लेते समय बिडर को इसका अनुपालन करना होगा और कोई भी गलत घोषणा किए जाने व इसका अनुपालन न करने पर अनुबंध को तत्काल समाप्त करने और कानून के अनुसार आगे की कानूनी कार्रवाई का आधार होगा।

**---Thank You/धन्यवाद---**