**RIS**

**Research and Information System for Developing Countries**

विकासशील देशो की अनुसंधान एव सूचना प्रणाली

Core IV-B, Fourth Floor
India Habitat Centre,
Lodhi Road,
New Delhi-110 003, India.
Phone: 91-11-24682177-80.
Fax: 91-11-24682173-74.
Email: dgoffice@ris.org.in
Website: http://www.ris.org.in

**Tender Number: CMEC/RIS/TE/MIKR/01-2024**

**Dated: 25th November 2024**

## Notice inviting Tender (NIT)

## (Single Stage - Two Bid Tender)

## Section I: Notice inviting Tender

### I-A: Invitation

RIS, a New Delhi-based think tank (hereinafter *"the Purchaser"*) invites bids from well established, reputed, and experienced agencies for entering into a contract for a **pilot project** relating to development, deployment, installation, and support (including Proof of Concept) of Maritime Interactive Knowledge Repository with Analytical Tools and Graphical User Interface for India's Maritime Ecosystem (hereinafter *"the project"*). The Tender Document herein gives further details.

## Section II: Tender Document

### II-A: Bidders must read the complete Tender Document

This NIT is an integral part of the Tender Document and serves a limited purpose of invitation. This NIT does not purport to contain all relevant details relating to submission of bids. 'Tender Information Summary' (TIS) appended to this NIT gives a summary of the tender information. Bidders must go through the complete Tender Document before submission of their bids.

### II-C: Pre-bid Conference:

Bidders are requested to attend a Pre-bid conference for clarification on the Tenders' technical specifications and commercial conditions, on 06th December 2024 at 1500 hours, at The Centre for Maritime Economy and Connectivity (CMEC), Core 4A, India Habitat Centre, New Delhi-03. Participation in such a Pre-bid Conference is not mandatory. If a bidder does not participate or

submit any query, then no subsequent representations from them regarding the technical/commercial specifications/ conditions shall be entertained.

## II-D: Rejection of bids

Ineligible/incomplete bids will be summarily rejected by RIS without providing any reason whatsoever. The Technical and Commercial bids (as per format- Part-I and Part-II) have to be marked and submitted in separately sealed envelopes. Improper bids will be rejected summarily.

## II-E: Conflict of Interest

The bidders will be required to disclose, as a part of their Technical bid, any real, actual, or potential conflict of interest that does arise or may arise in or during the execution of the project.

## II-F: Price Escalation/Variance Clause

Price escalation or price variation shall not be applicable or considered, under any circumstances, for the purchase(s) made under this Tender or contract/agreement. This includes, but is not limited to, escalations or variations arising out of changes in cost(s), rule(s)/regulation(s), or currency exchange rates.

## II-F: Other Tender Instructions and Conditions

1. The contents of this Tender document are privileged and confidential.
2. This Tender will follow a **two-bid system**. Bidders must submit, in separate sealed envelopes, a technical bid and a commercial bid, at the same time before Tender closing date.
3. The covering letters of the bids should clearly indicate the list of all enclosures/appendices.
4. Relevant supplementary documents, providing details of the technical bid, must be submitted along with the technical bid.
5. Each page of the submitted bids should be serially numbered, stamped and signed by the authorised signatory of the bidder.
6. The technical and commercial bids are to be submitted in separate, sealed covers with the inscription 'Bid for development, deployment, installation, and support (including Proof of Concept) of Maritime Interactive Knowledge Repository with Analytical Tools and Graphical User Interface for India's Maritime Ecosystem.'
7. The bids are to be addressed to the Director General (RIS) and submitted at the following address:

Director General, RIS
(For Centre for Maritime Economy and Connectivity (CMEC)),
Core 4A, Ground Floor,
India Habitat Centre,
Lodhi Road, New Delhi (110003).

The bids must be submitted before 1600 hours on 24th December 2024.

8. Technical bids will be opened at RIS at 1200 hours on 27th December 2024 by a Committee designated for this purpose. Agencies with successful technical bids will be notified and called. Commercial bids of successful technical bidders will be opened at RIS on a notified subsequent date, and successful technical bidders will be invited to attend.

9. The Work Order(s) and/or Supply Order(s) will be awarded to the most competitive and eligible bidder, and in accordance with the rules and regulations of RIS, and its preference(s) as Purchaser.

10. The selected agency will ensure delivery of prototype of the project to CMEC (RIS) within 180 days of the receipt of the Work Order/Supply order. Payment against bill/invoice will be released in accordance with the Stage-wise Payment schedule, and only upon successful delivery, to the Purchaser's satisfaction, of Stage-wise Deliverables.

11. The delivery/installation/testing of the Software and all associated equipment(s) shall be made on FOD Basis (Free on Delivery) to the address/addresses specified by the Purchaser.

12. The stage-wise deliverables for the project are as follows:

| Stage | Description and Deliverable(s) | Timeline |
|---|---|---|
| Stage 1 | Development of Proof of Concept (PoC) of Maritime Interactive Knowledge Repository. | Within 3 months after date of award. |
| Stage 2(a) | Acceptance of PoC by user/concerned Central Ministry/user agencies. | Within 6 months after date of award. |
| Stage 2(b) | Acceptance of all technical specification(s) and documentation related to PoC and the project. (These will be required for further development, at the sole discretion and decision of the Purchaser, of a final 'production' version/industry version of the project by industry or contracted agency. The Purchaser may at its sole discretion decide not to develop a 'production' version/industry version if the PoC is deemed satisfactory by the Purchaser.) | |
| Stage 3 | Handholding and Consulting for further development and deployment of 'production' version/ industry version of the project by industry/contracted agency. | 12 months after date of award. |

| Deliverable | |
|---|---|
| (Stage 3 includes work towards integration with user hardware). | |

13. The stage-wise payment schedule for the project is as follows:

| Deliverable | Payment(s) |
|---|---|
| Completion (to the Purchaser's satisfaction) of Stage 1. | 25% of total award amount. |
| Completion (to the Purchaser's satisfaction) of Stage 2(a) + 2(b). | 50% of total award amount. |
| Completion (to the Purchaser's satisfaction) of Stage 3. | 25% of total award amount. |

14. The duration of the contract shall be twelve months. Any extension(s) must be mutually agreed between the Purchaser and successful bidder.

15. A Bidder requiring any clarification regarding the Tender Document may ask questions in writing/electronically to mayank.mishra@ris.org.in. The questions must be raised before 15th December 2024. This deadline shall not be extended in case of any intervening holiday(s).

## II-F: Purchaser's rights, privileges, and prerogatives

1. The Purchaser at its sole discretion may extend the deadline for the submission of bids.
2. The issue of this NIT/Tender Document does not imply that the Purchaser is bound to select bid(s), and it reserves the right to, without assigning any reason whatsoever,
   a. reject any or all of the bid(s), or
   b. cancel the tender process; or
   c. abandon the procurement of the project; or
   d. issue another tender for identical or similar project.
3. The Purchaser reserves the right to award the work and/or supply order(s) in parts to more than one bidder.
4. The Purchaser reserves the right to relax/amend/withdraw any of the terms and conditions mentioned in this Tender Document so as to overcome any problem(s) encountered during selection of bidders or during execution of the contract.
5. If a bidder after award of the work order/supply order violates any term(s) or condition(s) in this Tender Document, the Purchaser reserves the right(s) to blacklist that bidder and forfeit its performance guarantee.

6. The Purchaser will gain and retain, as sole legal and equitable owner, any and all intellectual property right(s) or other work(s) of originality that arise in or during the project or work(s) related to or associated therewith.
7. The Purchaser reserves its right to grant preference(s), to eligible Bidders, under various Government policies and directives, including policies relating to Make in India and the promotion of MSMEs and Indian Start-ups.
8. The Purchaser may at its sole discretion decide not to develop a 'production' version/industry version if the PoC is deemed satisfactory, by the Purchaser, for integration and final deployment with user hardware. In such a case, the consultant agency awarded this project, or its sub-contractor(s)/agent(s), will continue to provide, as a part of Stage 3, services and integration of the prototype version to mutually accepted designated hardware provided by the Purchaser. These service(s) will be provided at no extra cost(s)/expense(s), for the remaining duration of the work order/supply order, as a part of Stage 3.

## II-G: Settlement of Disputes and Arbitration

1. All disputes, differences and questions arising out of or in any way touching or concerning this Tender or subject matter thereof (including questions of rights, duties or liabilities of the parties in the execution of Tender work(s)) shall be referred to the sole arbitration of the Director General, RIS or any person nominated by her/ him.
2. No part of the agreement with the selected bidder/supplier shall be suspended on ground of pending arbitration/litigation proceedings.
3. The decision of the sole arbitrator shall be final and binding on the parties.
4. This Tender and all associated/related development(s) shall be construed and governed by Indian law alone.
5. The parties (including all bidders and suppliers) hereby willingly submit to the exclusive jurisdiction of Courts of Law in Delhi (India).

Anil Kant Sharma

(Director, Finance and Administration)

RIS, India Habitat Centre

New Delhi – 03.

# Appendix to NIT: Tender Information Summary (TIS)

## Part I: Technical Bid Format

The technical bid must be separately sealed and submitted in the following format, accompanied by all necessary documentation showing fulfillment of technical criteria/qualification:

| S.no | Technical criteria/qualification | Document(s) submitted |
|------|----------------------------------|------------------------|
| 1 | Previous experience of working with government/private sector in a similar or related field. | |
| 2 | Financial stability of the Bidder. (Private agencies may give Turnover during last 03 Financial Years. Academic or Non-profit Government agencies may identify and specify that they are Academic or non-profit Govt. agency) | |
| 3 | Presence of office in Delhi, or the ability/willingness to position dedicated manpower for the Project in Delhi. | |
| 4 | Academic or research experience in AI project(s) and system(s) integration. | |
| 5 | Availability of, or access to, lab and/or required hardware (including server(s), etc.) for the purpose of pilot deployment and lab testing. | |
| 6 | Complete understanding of the project, and submission of preliminary technical specification(s) for the project with the Bid. | |

Bidder(s) should satisfy the aforesaid eligibility criteria on the date of bid submission, and should continue to satisfy them till the award of the contract. Bidders must also provide to the Purchaser documents showing their eligibility if so requested at any date or time by the Purchaser.

## Part II: Commercial Bid Format

The commercial bid must be separately sealed and submitted in the following format and with all necessary documentation:

| S.no | Budget Head Description | Amount (Indian rupees) |
|------|------------------------|------------------------|
| i | Consultancy fee (for two experts, at 6 hours per month, for twelve months) | |
| ii | Development, Delivery, and satisfactory installation of Proof of Concept | |
| iii | Overhead (if any) as percentage of (i) | |
| iv | GST (as applicable) | |
| v | Total charges (i + ii + iii + iv ) | |

## Part III: Technical specifications of the pilot project

In no particular order, the tender details/technical specifications of the pilot project is/are as follows:

1. Creating Knowledge Repository: Metadata extraction and data organisation are instrumental in creating and exploiting a maritime interactive knowledge repository (hereinafter *"MIKR"*). MIKR will be able to identify, extract and associate the key metadata elements of document(s), including but not limited to country dossiers, MoUs, tour reports, minutes of Joint Working Groups (JWGs), and credible open-source documents. Beginning with 'manual' operations, MIKR will be progressively automated, keeping human(s) in the loop for full reliability. Extracted metadata will be utilised to organize data in MIKR, enabling high-quality search and retrieval of data from MIKR, and improving the document management processes of MIKR.

   MIKR will be utilised for automatic document categorisation and filtering according to specified parameters (like maritime importance, maritime strength, etc.) to provide policy-relevant and result-oriented advice to the user(s) and/or authorities. The system will be capable of handling multiple input document formats, including but not limited to PDF and plain text files. MIKR will utilise Natural language Processing (NLP) and Machine Learning (ML) algorithms to accurately identify and extract pertinent metadata from document(s), exhibiting high precision and recall. MIKR will also support the extraction of custom metadata fields as defined by the user, enabling flexibility for different use cases.

2. Natural Language Querying: Natural language-based interface will allow users to access and query stored data using Large Language Models (LLMs). MIKR will leverage the advanced capabilities of LLMs to interpret and process natural language queries, providing user(s) with accurate and contextually relevant responses. Users will be able to input queries in plain English, such as "Describe the maritime relations with Philippines" or "What was the container port traffic of Sri Lanka in 2022?", and receive precise, actionable data from the underlying annotated text documents in MIKR.

   MIKR will integrate with state-of-the-art LLMs to understand and process complex natural language queries. This involves not only interpreting the semantics of the queries but also

mapping them to the relevant data structures in the CSV files or annotated documents. MIKR will be capable of handling various data types, including numerical, categorical, and textual data, and provide support for filtering, aggregating, and summarising information based on user queries. Additionally, MIKR will include a robust mechanism for managing and indexing the data, to ensure efficient retrieval and processing of queries regardless of dataset size.

3. Analysing Shipping and Maritime-Related MoUs: MIKR will integrate and analyse structured data related to shipping and maritime activities. This data may include data and statistics on shipping traffic, port operations, environmental impact metrics, compliance records, etc. By combining insights from both the textual and structured data, MIKR will generate comprehensive reports and actionable recommendations. The insights obtained will assist users and stakeholders in making informed decisions regarding policy adjustments, operational improvements, and international collaboration strategies.

4. Interactive User Interface: MIKR will integrate seamlessly with existing Document Management Systems (DMS) and databases, providing an API for easy access and updates. The interface will enable the management of extraction rules, viewing extracted metadata, and correcting any inaccuracy/inadequacy. The interface will be user-friendly and intuitive, allowing users/personnel with no technical expertise to interact easily with MIKR.

   The user interface will provide clear and concise outputs, including tables, charts, and text summaries, as appropriate for the query. MIKR will allow for refinement of queries, such as suggesting alternative questions or clarifying ambiguous inputs.

5. Performance and Security: MIKR will comply with relevant regulations and standards to ensure data privacy and security, implementing robust access controls and encryption mechanisms. Performance considerations such as processing speed, scalability, and fault tolerance are also crucial because MIKR will be required to handle large volumes of data/documents efficiently and maintain high availability thereof.

6. Integration: MIKR will integrate with Government portals, databases, databanks, etc., including but not limited to the 'Sagar Manthan' Portal.

7. Intellectual Property: The Purchaser will gain and retain, as sole legal and equitable owner, any and all intellectual property right(s) or other work(s) of originality that arise in

or during the development and deployment of MIKR or work(s) related to or associated therewith.

## Part IV: Technical requirements for pilot project

The technical requirements for the project include the following:

1. Developing, and clearly and satisfactorily demonstrating, a proof-of-concept for MIKR.
2. Development and clear demonstration of solution(s).
3. Developing all technical specification document(s) related to MIKR and deployment of prototype.
4. Leveraging emerging technologies in and through MIKR (including but not limited to Large Language Models and Natural Language Processing).
5. Tracking through MIKR the proceeding(s), outcome(s), etc., related to
   a. Agreements;
   b. Arrangements;
   c. Memorandums of Understanding (MoUs);
   d. Standard Operating Procedure(s);
   e. Compliance procedure(s); and
   f. Any other source/document deemed relevant to India's maritime ecosystem.

These sources/documents will be confidential and privileged, and will be conditionally provisioned, by concerned Central Ministry and/or relevant stakeholder, to the developer of MIKR for the sole authorised purpose of developing MIKR.

6. Providing interactive and user-friendly 'search' facility/facilities in and for MIKR.
7. Providing evidence-based inputs and policy-relevant recommendations on specific user-generated queries, including but not limited to queries relating to the requirements of bilateral, regional, multilateral, or project-based collaboration(s).
8. Providing an interactive graphical user interface in MIKR, which enables access to and analytical operation(s) upon inter alia the following:
   a. Country dossiers, Agreements, Arrangements, Memorandums of Understanding (MoUs), Standard Operating Procedure(s), Compliance procedure(s), etc., relating directly or indirectly to India's maritime sector and ecosystem
   b. Credible document(s) and source(s) which are open-source or otherwise accessible over the internet.

9.  Developing and implementing robust security and encryption feature(s) in MIKR, including but not limited to access control.
10. Enabling MIKR to handle multiple input format(s) from user(s), including but not limited to PDF files, MS Excel files, plain text files, etc., containing data of numerical, categorical, textual, or other type.
11. Enabling easy and regular update(s) in MIKR.