



**ASTI-FM 03-11**  
**REV 2/30 APR 2024**

**DOST-ASTI Bids and Awards Committee**  
**Invitation to Bid (Public Bidding)**

<b>IB No:</b>	24-06-4869	<b>Date:</b>	June-13-2024
<b>PR No:</b>	AI-4RP-24-06-19359	<b>Date:</b>	June-05-2024
<b>Source of Funds:</b>			
<b>Total ABC:</b>	Php 79,500,000.00		
<b>Time, Date &amp; Venue of Pre-bid Conference:</b>	June 21, 2024, 9:00 AM at Videoconferencing (MS Teams)		
<b>Time and Date of Submission of Bids:</b>	July 03, 2024, 09:00 AM		
<b>Time, Date &amp; Venue of Opening Bids:</b>	July 03, 2024, 9:30 AM at DOST-ASTI and Videoconferencing (MS Teams)		
<b>Date of availability of Complete Set of Documents:</b>	June 14, 2024		
<b>Deadline of Potential Bidder's Clarifications:</b>	June 24, 2024		
<b>Deadline of ASTI's Supplemental Bid Bulletin:</b>	June 26, 2024		
<b>Delivery Schedule:</b>			

The *Department of Science and Technology (DOST) - Advanced Science and Technology Institute (ASTI)*, through its Bids and Awards Committee (BAC), hereby invites all interested Bidders to submit their bids for the *item/s* listed below. *Section II. Instructions to Bidders (ITB) of the DOST-ASTI Bidding Documents provides information necessary for bidders to prepare responsive bids, in accordance with the requirements of DOST-ASTI. The ITB likewise provides information on bid submission, eligibility check, opening and evaluation of bids, post-qualification, and award of contract.*

Bidding will be conducted through open competitive bidding procedures *using a non-discretionary "pass/fail" criterion as specified in the 2016 revised Implementing Rules and Regulations of Republic Act No. 9184.*

A complete set of *DOST-ASTI Bidding Documents* may be acquired by interested Bidders on the date and address given on this document, and upon payment of the applicable fee, pursuant to the latest Guidelines issued by the Government Procurement Policy Board. Further, the *DOST-ASTI Bidding Documents* may be accessed through the *DOST-ASTI website (https://asti.dost.gov.ph/)*.

For further inquiries, you may contact the **DOST-ASTI BAC Secretariat** at telephone number **+63 2 8249-8500 / +63 2 8426-9755 local 1206/1212** or send your message to **bac-sec@asti.dost.gov.ph**.

Respectfully,

**BAYANI BENJAMIN R. LARA**  
*BAC Chairperson*

NO.	TECHNICAL SPECIFICATIONS	QTY	UNIT	UNIT PRICE(Php)	TOTAL PRICE(Php)
1	<p><b>Annual software subscription that offers an advanced weather forecasting service powered by cutting-edge artificial intelligence and deep learning technologies. Designed to deliver fast and accurate weather predictions on a national scale.</b></p> <p>GENERAL OVERVIEW</p> <p>1.1. DOST-ASTI is seeking qualified and competent bidders to supply and deliver an annual software subscription that offers an advanced weather forecasting service powered by cutting-edge artificial intelligence and deep learning technologies. Designed to deliver fast and accurate weather predictions on a national scale.</p>	1	lot	79500000.00	79,500,000.00

1.2. The Approved Budget of the Contract is inclusive of government taxes and other charges.

1.3. Should there be any discrepancies between the Purchase Request and Terms of Reference, the latter shall govern.

## TECHNICAL SPECIFICATIONS

### 2.1. System Capability

2.1.1. AI-based nationwide weather forecast specifically customized to the region of the Philippines.

### 2.2. AI Uses Deep Learning

2.2.1. The regional AI weather model must utilize deep learning techniques, specifically transformer-based neural networks and/or diffusion-based neural networks.

### 2.3. AI Learns from Local Philippines Data

2.3.1. The regional AI weather model must learn from local Philippines meteorological data to create customized forecasts.

### 2.4. AI is Self-Correcting

2.4.1. The regional AI weather model must have self-correcting mechanisms to improve forecasting accuracy over time.

### 2.5. Forecasting Resolution

2.5.1. Must create high-resolution weather forecasts with a 2 km x 2 km grid resolution.

### 2.6. Forecasting Time Step

2.6.1. Must create weather forecasts with a 15-minute time step

### 2.7. Forecast Update Frequency

2.7.1. Must create new forecasts every 12 hours or, ideally, every 6 hours

### 2.8. Forecasting Range

2.8.1. Must create short-range weather forecasts up to 72 hours and medium-range weather forecasts up to 14 days.

### 2.9. Performance Verification Toolkit

2.9.1. Must include comprehensive accuracy and performance verification tools that output charts comparing forecast skill and charts showing metrics as a function of lead-time via a user-friendly graphical interface.

### 2.10. Vectorized 3D Weather Maps

2.10.1. Must output 3D, interactive, browser-based, WebGL-enabled maps with detailed topography and fully vectorized weather information. It will encompass a pop-up feature that will show data presentation by clicking at any place on the map.

### 2.11. Real-time Weather Data Feeds

2.11.1. Must output real-time weather data feeds via API in popular formats such as ZARR, GeoTIFF, or

NetCDF.

## 2.12. Historical Weather Reanalysis Toolkit

2.12.1. Must be capable of generating new, high-resolution, numerically based, historical weather reanalysis for use as training data via a user-friendly graphical interface.

## OTHER REQUIREMENTS

### 3.1. Optional Services

3.1.1. Development of risk/hazard models, sub-seasonal, and seasonal meteorological models.

3.1.1.1. Sub-seasonal to seasonal with special emphasis on high-impact weather events.

### 3.2. Proven Government or Military Track Record

3.2.1. Supplier must have a proven track record of delivering AI meteorology services for other government and/or military entities. For this purpose, a bidder shall only be considered to meet these criteria if it has performed prior AI weather forecasting work for two or more government/military entities on two or more continents.

### 3.3. Proven High Performance Computing Expertise

3.3.1. Supplier must have proven expertise in utilizing high-performance computing in the context of weather forecasting. For this purpose, a bidder shall be considered to meet these criteria if it has previously utilized one or more top supercomputers.

## WARRANTY AND AFTER SALES SUPPORT

4.1. During the period of performance of the contract, the services should be free from major defects and should perform according to the technical requirements and specifications outlined in the contract.

4.2. The system should undergo regular maintenance activities to ensure optimal performance and security of the system. The maintenance activities should include software updates, bug fixes, security patches, and database maintenance. The maintenance activities should be performed on a regular schedule, with minimal disruption to system operations.

4.3. The system should provide a service level agreement (SLA) that outlines the expected uptime, response times, and performance metrics of the system. The SLA should also include escalation procedures, incident reporting, and service credits in case of SLA breaches. The minimum service level is 99% availability, measured monthly, subject only to reasonable exceptions.

## PAYMENT AND DELIVERY TERMS

5.1. The Supplier shall describe all financial bid prices and shall be paid in Philippine Peso.

5.2. Supplier payments may be made by (i) bank transfer, (ii) international wire, or (iii) letters of credit, as chosen by the contracting agency.

5.3. Payments shall be inclusive of all government taxes and fees as may be applicable.

5.4. Supplier shall be paid after completion of each of the milestones below:

5.4.1. Initial deployment of Philippines short-range and medium-range AI weather forecasting using Deep Learning Neural Networks.

5.4.1.1. 35% of the total contract price will be paid.

5.4.2. Expansion of the AI weather forecast over the entire Philippine Republic.

5.4.2.1. 25% of the total contract price will be paid.

5.4.3. Assimilation of local Philippine meteorological sensing data into the AI system.

5.4.3.1. 20% of the total contract price will be paid.

5.4.4. Evaluation report submitted on the AI-model forecast

5.4.4.1. 10% of the total contract price will be paid.

5.4.5. Conduct of capacity building and training.

5.4.5.1. 10% of the total contract price will be paid.

5.5. The supplier shall commence initial service within ninety (90) days following the contract's effective date. Subsequently, the supplier shall make commercially reasonable efforts to expeditiously complete each of the project milestones noted in Section 5.4.

5.6. The supplier shall deliver the AI weather forecasting services as a cloud-hosted solution, ensuring scalable, secure, and reliable access. The service will produce and provide data feeds, maps, reports, and other deliverables as defined in the work plan and technical requirements document, accessible to the contracting agency through secure online interfaces.

5.7. The acceptance of ongoing services and technologies will be based on completing the project milestones noted in Section 5.4. The contracting agency may note deviations from the defined milestones or technical requirements and the supplier shall be obligated to correct such deviations within ninety (90) days.

5.8. Both the supplier and the contracting agency reserve the right to propose adaptations to the service scope or technical requirements in response to technological advancements or changing operational needs. Any proposed adaptations shall undergo a joint review process, requiring mutual approval from both parties.

**TOTAL APPROVED BUDGET FOR THE CONTRACT (ABC):**

**Php 79,500,000.00**

**RESERVATION CLAUSE**

The Advanced Science and Technology Institute reserves the right to accept or reject any proposal, to annul the bidding process, and to reject all proposals at any time prior to contract award, without thereby incurring any liability to the affected proponent or proponents.