



ASTI-FM 03-11  
REV 1/13 January 2020

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

<b>ITB No:</b>	20-09-3216	<b>Date:</b>	September-18-2020
<b>PR No:</b>	Stamina-20-09-10238	<b>Date:</b>	September-03-2020
<b>Source of Funds:</b>			
<b>Total ABC:</b>	Php 370,000,000.00		
<b>Time, Date &amp; Venue of Pre-bid Conference:</b>	September 29, 2020, 1:30 PM at Videoconferencing (Cisco Webex Meetings)		
<b>Time and Date of Submission of Bids:</b>	October 12, 2020, 12:00 PM		
<b>Time, Date &amp; Venue of Opening Bids:</b>	October 13, 2020, 1:30 PM at DOST-ASTI and Videoconferencing (Cisco Webex Meetings)		
<b>Date of availability of Complete Set of Documents:</b>	September 21, 2020		
<b>Deadline of Potential Bidder's Clarifications:</b>	October 02, 2020		
<b>Deadline of ASTI's Supplemental Bid Bulletin:</b>	October 05, 2020		
<b>Delivery Schedule:</b>			

The 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. Guidelines regarding the format, eligibility, technical and financial documents needed are described in the Instruction to Bidders of the Philippine Bidding Documents

Bidding will be conducted through open competitive bidding procedures using a non discretionary "pass/fail" criterion as specified in the 2016 R-IRR of RA 9184.

A complete set of Bidding Documents may be purchased by interested bidders upon payment of a fee for the Bidding Documents. It is also downloadable for free of charge at DOST-ASTI's website - [www.asti.dost.gov.ph](http://www.asti.dost.gov.ph)

For further inquiries, contact ASTI's BAC Secretariat via email at [bac-sec@asti.dost.gov.ph](mailto:bac-sec@asti.dost.gov.ph). Interested bidders may also call the number - (632)-426-7423 and look for ASTI's BAC Secretariat.

Respectfully,

**PAUL JOHN M. SERRANO**  
Chairperson, BAC-2

NO.	TECHNICAL SPECIFICATIONS	QTY	UNIT	UNIT PRICE(Php)	TOTAL PRICE(Php)
1	<p><b>Small Satellite Technology Platforms with Know-How Transfer and training</b></p> <p>I. Scope and Deliverables:</p> <p>A. Satellite design</p> <ul style="list-style-type: none"> <li>- Provide a preliminary design of an operational low-earth orbit (LEO) satellite with a medium-resolution multispectral optical imager as primary payload, and automatic identification system (AIS) and automatic dependent surveillance-broadcast (ADS-B) receivers as secondary payloads.</li> <li>- Deliver pertinent documentations and files on:               <ol style="list-style-type: none"> <li>a. design of the satellite platform and payload complying to the minimum specification given in subsections 6.2-6.3 of the Term Sheet;</li> <li>b. mission analyses and proposed solutions relevant</li> </ol> </li> </ul>	1	lot	370000000.00	370,000,000.00

to meeting the performance requirements described in subsection 6.4 of the Term Sheet that shall be delivered pre-launch during the following phase/s of the project;

- c. mission analyses and proposed solutions relevant to meeting the operational requirements described in subsection 6.5 of the Term Sheet that shall be delivered during the following phase/s of the project;
- d. potential commercial users of its data outside the Philippines; and
- e. initial plans for the launch integration and commissioning of the satellite.

The minimum specifications of the satellite platform and payloads are given in Section 6 of the Term Sheet while the documentation deliverables are provided in subsection 12.5 with corresponding descriptions in Annex B of the Term Sheet.

#### B. Training Program

- Conduct a training program for a pool of Filipino Engineers to develop their expertise and experience in space systems, equipping them with in-depth specialist skills in disciplines and technologies needed to deliver an advanced satellite platform and a constellation of earth observation satellites. The program structure will have solutions for a remote training set-up for the theoretical component and the Qualification Status Review that would cater to the Filipino Engineers and the additional Trainees nominated by the End-user and an on-site training set-up for the practical component. The on-site training set-up shall include access to the Contractor's facilities and all necessary training components including, but not limited to, software and hardware supplies, documentation, manuals, and source codes.

The following topics shall be covered for the duration of the program:

- a. Mission analysis and design
- b. Subsystem design, (power, propulsion, AOCS software and hardware, data handling, flight software, radio frequency (RF), structure)
- c. Project management
- d. Quality Control
- e. Documentation control

The minimum specifications of the training program are given in Section 7 of the Term Sheet while the documentation deliverables are provided in subsection 12.5 with corresponding descriptions in Annex B of the Term Sheet.

#### C. Consultation Services

- Provide consultation services in the following areas to the End-user to support in the further development of the Philippines as a space nation, enabling progression along the identified roadmap to establish both facilities and capability in country:

- a. Satellite data product and Mission planning

- b. Assembly, Integration and Testing (AIT) Facility Set-up
- c. Ground receiving stations (GRS) facility set-up and Assessment of GRS locations

The minimum specifications of the consultation services are given in Section 8 of the Term Sheet while the documentation deliverables are provided in subsection 12.5 with corresponding descriptions in Annex B of the Term Sheet.

#### D. Technology Transfer

- All intellectual property (IP) owned by the Contractor that is relevant to attaining and reviewing the milestones covered in this contract shall be accessible to the Filipino Engineers and the End-users on site at the Contractor's premises.
- To facilitate the transfer of technology and know-how, the Contractor shall commit that they will provide a license to the technology and the IP mentioned above, it being recognized that such license will be provided as part of the future activities. The Know-how Transfer and Training license shall grant use of the identified Contractor-owned Intellectual Property Rights (IPR) to DOST-ASTI, the UP Diliman (UPD), and the Philippine Space Agency (PhilSA) to allow manufacturing of future satellites in the Philippines for their own non-commercial needs.
- The perpetual license shall permit the Philippine government to reproduce and modify these technologies to enable alternate payloads to be accommodated on the Contractor's platform and adapt to national future missions, with no obligation to pay royalties to the Contractor.

The minimum specifications of the intellectual property and licensing requirements are given in Sections 10 and 11 of the Term Sheet while the documentation deliverables are provided in subsection 12.5 with corresponding descriptions in Annex B of the Term Sheet.

## II. Payment and Delivery Terms

The following are the program's milestones and corresponding deliverables, payment terms, and deadlines. T0 or the program start date shall commence within thirty (30) calendar days upon the issuance of the Notice to Proceed (NTP). Such date shall be agreed upon by the End-user and the Contractor. The program shall be concluded six (6) calendar months after T0.

### 1. Project Kick-Off

% of Payment: 15%

Date: T0 + two (2) weeks

- a. Kick-Off Documentation (in pdf and ppt)
- b. Project Management work plan (pdf)
- c. Master Schedule (Gantt chart in pdf)
- d. Risk Register (pdf)
- e. Minutes of the Meeting, when applicable (pdf)

f. Waivers, Deviations and Non-Conformance Reports, when applicable (pdf)

g. Technical Notes, when applicable (pdf)

## 2. Qualification Status Review (QSR), Remote Training, and Consultation Services (A)

% Payment: 45%

Date: T0 + two (2) calendar months

### 2.1 QSR

a. Master schedule (Gantt chart in pdf)

b. Action Register (pdf)

c. Risk Register (pdf)

d. QSR Documentation (pdf and ppt)

e. Monthly Project Status Report equivalent to two (2) calendar months (pdf)

f. Minutes of the Meeting, when applicable (pdf)

g. Waivers, Deviations and Non-Conformance Reports, when applicable (pdf)

h. Technical Notes, when applicable (pdf)

### 2.2. Remote Training

a. At most thirty (30) Filipino Engineers, Scientists and Researchers trained through online lectures and courses (Certifications)

b. Monthly Training Plan covering two (2) calendar months of remote training (pdf)

c. Training Materials (pdf or ppt)

### 2.3 Consultation Services (A)

a. Assembly, Integration, and Testing (AIT) requirements documentation (pdf)

## 3. Preliminary Design Review (PDR), Hands-on Training, Consultation Services (B), and Hardware Inclusions

% Payment: 40%

Date: T0 + six (6) calendar months

### 3.1 PDR

a. Action Register (pdf)

b. PDR Data Package (pdf and ppt)

c. Initial System Verification Plan (pdf)

d. Satellite Failure Modes Effects and Criticality Analysis (FMECA) (pdf)

e. Satellite AIT Plan (pdf)

f. Initial Launch Integration Plan (pdf)

g. Initial Commissioning Plan (pdf)

h. List of data users from outside of the Philippines (pdf)

i. Monthly Project Status Report equivalent to 4 months (pdf)

j. Minutes of the Meeting, when applicable (pdf)

k. Waivers, Deviations and Non-Conformance Reports, when applicable (pdf)

l. Technical Notes, when applicable (pdf)

### 3.2 Hands-on Training

a. Thirteen (13) Filipino Engineers trained on site for satellite preliminary design review (Attendance records, Certifications)

b. Monthly Training Plan equivalent to 4 months hands-on training (pdf)

c. Access to thirteen (13) training workstations with specialist software (listed in Section 7.3.1 of the Term Sheet) intended for use in training activities, one for each of the Filipino Engineers (access to workstations with installed software)

d. Training Materials (pdf/ppt, printed hard copy)

e. Training Progress Evaluation Report (pdf)

### 3.3 Consultation Services (B)

a. Documentation on the multispectral imager, ADS and AIS data formats and processing requirements (pdf)

b. Ground Segment Interface Control Document (pdf)

c. Operations Infrastructure Requirements Document (pdf)

d. Assessment report for up to four (4) end-User identified ground stations (pdf)

### 3.4 Hardware Inclusions

a. 4 units Sun Sensors (Hardware)

b. 1 lot Optical Electrical Ground Support Equipment (Hardware)

c. 1 lot 100 TB Data storage device (Hardware)

d. 1 lot Breadboard of electronics and thermal straps around the imager design (Hardware)

e. 1 lot Imager mounting and isolation system (Hardware)

f. 1 lot Solar cells (Hardware)

g. 2 units Magnetometers (Hardware)

These hardware shall be procured by the Contractor in preparation for assembly and testing in the following phase/s. These equipment shall remain and be maintained at the Contractor's premises.

- Documentation: The Contractor shall provide all necessary documentation, such as but not limited to, reports, minutes of the meetings, manuals, among others. These documents shall all be in English.

- Reporting Media and Formats: Reports shall be provided in electronic formats unless otherwise stated by the end-user.

- Severability: The invalidity of any portion of the agreement/contract shall not affect the validity of the remaining portions thereof.

- Payments shall be inclusive of, but not limited to, all government fees, taxes and other applicable fees and charges.

- Currency: The Contractor shall describe all financial bid prices in Philippine Peso.

The payment terms are discussed in-depth in Section 12.5 of the Term Sheet.

### III. Others

A. The milestones and deliverables shall be regularly coordinated with the End-user. It shall be subject to review and evaluation of Technical Experts to be

<p>defined and convened by the End-user, together with partner agencies such as the DOST-PCIEERD and the PhilSA, among others.</p> <p>B. The milestones and deliverables stated herein shall be transferable to the PhilSA through the DOST-ASTI to continue succeeding activities on satellite development and its eventual launch and operation.</p> <p>C. Any other term, condition or provision not stipulated in this document shall be covered by the Term Sheet.</p> <p>(See Term Sheet attached)</p>				
<b>TOTAL APPROVED BUDGET FOR THE CONTRACT (ABC):</b>				<b>Php 370,000,000.00</b>
<b>RESERVATION CLAUSE</b>				
<p>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.</p>				