

ASTI-FM 03-11
REV 0/2 APR 2018

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

ITB No:	18-09-2138	Date:	2018-10-03
PR No:	GAA-18-07-5968	Date:	2018-08-01
Source of Funds:	GAA		
Total ABC:	Php 730,000,000.00		
Time, Date & Venue of Pre-bid Conference:	October 17, 2018, 1:30 PM at DOST-ASTI		
Time and Date of Submission of Bids:	October 29, 2018, 12:00 PM		
Time, Date & Venue of Opening Bids:	October 29, 2018, 1:30 PM at DOST-ASTI		
Date of availability of Complete Set of Documents:	October 9, 2018		
Deadline of Potential Bidder's Clarifications:	October 19, 2018		
Deadline of ASTI's Supplemental Bid Bulletin:	October 22, 2018		
Delivery Schedule:			

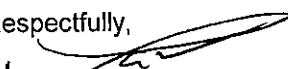
The Advanced Science and Technology Institute (ASTI), through its Bids and Awards Committee (BAC), hereby invites all interested bidders to submit their bids for the item(s) listed below. Guidelines regarding the format, eligibility, technical and financial documents needed are described in the Instruction 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

For further inquiries, contact ASTI's BAC Secretariat via email at 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>Synthetic Aperture Radar (SAR) Imaging with Automatic Identification System (AIS)</p> <p>I. General Description</p> <ul style="list-style-type: none"> - Access to a minimum share of 10% of the total SAR satellite imaging capacity with associated AIS data; - Provision of the following functionalities, but not limited to, planning, reception, cataloguing, and processing of SAR, AIS and other data. Training on the aforementioned shall be included; - Relevant training for development of applications, using SAR with AIS, and other available data for local use by various agencies; - Provision of satellite reception services, when necessary, and forwarding the data to DOST-ASTI; - Relevant documentation such as, but not limited to, manuals and reports; - Provision of other relevant services in support of satellite operations. <p>II. Technical Requirements</p>	1	lot	730,000,000	730,000,000.00

II.A. S-Band SAR Satellite

- The contractor shall ensure that the proposed satellite has a design life of 7 years and will be able to provide service, i.e., SAR data/imagery and AIS data, for at least 7 years.
- The satellite must allow both SAR and AIS payloads to work simultaneously

II.B. Satellite Specifications

- At least HH, HV, VH, VV polarizations
- Must have single, dual, tri or quad-polar imaging polarizatoin
- Downlink rate of at least 500 Mbps
- TT&C frequency band - S-Band
- Downlink frequency band - X-Band

II.C. Baseline Imaging Modes

- Mode 1: Allow for wide area applications with at least 25m resolution and at least 100km swath
- Mode 2: Allow for maritime ship detection with at least 30m resolution for use in open ocean over an extended swath width of at least 350km
- Mode 3: Allow for a capture of at least 10m resolution for a swath width of at least 20km swath selected from at least 150km field of regard
- Mode 4: Allow for a capture over a swath width of at least 120km with resolution of at least 30m

II.D. AIS Payload

- The satellite should have a secondary payload, an automatic ship identification system, to support maritime applications. This payload should have a geolocation accuracy across the swath for all products of at least 50m with respect to the reference Earth ellipsoid. The existing system should allow operators to perform calibration of geolocation performance against a known location.
- The satellite should collect AIS data coincidentally with SAR imagery of the same area to provide additional information on the identification of detected ships and highlight non-AIS transmitting vessels.
- The AIS data should follow standard specifications, such as that of the International Telecommunication Union (ITU) as indicated in ITU-R M.1371, or its equivalent. For readability, an .xml file should be provided where the binary AIS data have been converted to into ASCII following the NMEA 0183 format.

III. Operational Requirements

- The contractor will carry out payload operations throughout the duration of the contract to provide the agreed SAR Imaging Capacity and associated AIS data.

III.A. Payload Tasking

- All SAR payload tasking shall be done centrally through a collection planning system (CPS), or similar system, located at the contractor's site. The CPS shall be a distributed planning system which allows the DOST-ASTI, to submit tasking requests for the satellite. The DOST-ASTI shall have its own web-based CPS which they can use to identify regions of interest on a world map and generate available tasking requests. DOST-ASTI's CPS will be used to submit these to the contractor's central planning system, where tasking requests will be received and collated. The CPS will be installed by the contractor at the computers provided by DOST-ASTI.

III.B. Data downlink

- For a period of up to one (1) year following the SoS, data will be downloaded to the contractor's ground station should DOST-ASTI be unable to receive at its ground stations. Thereafter or earlier, the contractor shall ensure that DOST-ASTI will be able to directly receive data from the satellite.

IV. Ground Receiving Station Requirements

- The contractor shall ensure that their satellite will properly communicate with the DOST-ASTI GRS.

IV.A. Mission Operations

- The contractor shall allow the DOST-ASTI to plan payload imaging operations and to process the generated data collected from the satellite payload along with the following features:

1. Collection Planning System, or equivalent system
 - Centralized planning engine which takes and consolidates imaging requests
2. Scheduler, or equivalent feature
 - Allows requests to be scheduled, planned and generated.
3. SAR Data Processor
 - Automatically processes raw SAR data and outputs radiometrically corrected, geolocated single look complex or ground range detected products. Output products must support a public domain metadata standard for transfer to other proprietary tools.
 - Support features such as, but not limited to:
 - a. Automated processing of raw imagery
 - b. Image decompression
 - c. Processing to level 1 Single Look Complex (SLC)
 - d. Processing to level 1 Ground Range Detected (GRD)
 - e. Support public domain metadata standard (ex. GeoTIFF format)
4. Catalogue System, or equivalent system
 - Allows retrieval or downloading of stored images through a graphical interface. The system should have a date or geographical area viewing for metadata and quick-looks.

IV.B. Acquisition Tasking

The system shall verify all acquisition tasking requests using the following criteria:

1. The task is within the capabilities of the spacecraft.
2. The task will not place the spacecraft outside of its normal operating envelope.
3. The task does not conflict with planned periods of space or ground segment maintenance or calibration.

An acquisition request shall be accepted up to 1 month in advance by the CPS.

V. Training

The contractor shall provide appropriate training for DOST-ASTI such as, but not limited to, the operation of the CPS, SAR Data Processor, Catalogue Systems and applications development. The contractor shall submit a list of topics for the training on applications development for suggestion and approval by DOST-ASTI.

Notes:

- Any other term, condition or provision not stipulated

in this document will be covered by a separate term sheet from DOST-ASTI and agreement from the contractor as proposed and agreed upon with the end-user

- Price inclusive of government fees, taxes and duties as well as currency conversion risks and fees, as applicable
- Proposal must be inclusive of insurance and refund provisions in cases of operational failure

TOTAL APPROVED BUDGET FOR THE CONTRACT (ABC):

Php 730,000,000.00

RESERVATION CLASE

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.