



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

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

ITB No:	19-03-2322	Date:	March-08-2019
PR No:	GAA-19-02-7308	Date:	February-18-2019
Source of Funds:	GAA		
Total ABC:	Php 5,700,000.00		
Time, Date & Venue of Pre-bid Conference:	March 21, 2019, 1:30 PM at DOST-ASTI		
Time and Date of Submission of Bids:	April 02, 2019, 12:00 PM		
Time, Date & Venue of Opening Bids:	April 02, 2019, 1:30 PM at DOST-ASTI		
Date of availability of Complete Set of Documents:	March 13, 2019		
Deadline of Potential Bidder's Clarifications:	March 23, 2019		
Deadline of ASTI's Supplemental Bid Bulletin:	March 26, 2019		
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,

PEDRITO B. MANGHAS
Chairperson, BAC-1

NO.	TECHNICAL SPECIFICATIONS	QTY	UNIT	UNIT PRICE(Php)	TOTAL PRICE(Php)
1	<p>Mathematical Computing Software subscription</p> <p>1. Three (3) annual concurrent license-based subscription of a mathematical computing software with the following intrinsic capabilities (i.e. does not require third-party software/platform):</p> <p>1.1 Able to solve computationally and data-intensive problems using multicore processors, GPUs, and computer clusters with high-level constructs such as parallel for-loops, special array types and parallelized numerical algorithms to parallelize applications without CUDA or MPI programming.</p> <p>1.2 Able to provide functions and applications to describe, analyze and model data; and is able to utilize descriptive statistics and plots for exploratory data analysis, fit probability distributions to data, etc.</p> <p>1.3 Able to provide tools for machine learning algorithms (supervised and unsupervised) such as but</p>	1	lot	5700000.00	5,700,000.00

not limited to support vector machines, k-nearest neighbors, Gaussian mixture model, decision trees, hierarchical clustering

1.4 Provides tools for classification, regression, cluster, dimensionality reduction, time-series forecasting; algorithms, pretrained models and applications to perform neural network simulation

1.5 Has support for convolutional neural network, long short-term memory (LSTM), directed acyclic graph network topologies, autoencoders for image classification.

1.6 Provides a comprehensive set of reference-standard algorithms and workflow apps for image processing, analysis, visualization, and algorithm development

1.7 Has tools for image segmentation and enhancement, noise reduction, geometric transformations, image registration and 3D image processing, automation of common image processing workflows and enable interactive image segmentation, image registration technique comparison and batch processing of large datasets. Must contain visualization functions for exploration of images, 3D volumes and videos

1.8 Provides functions and applications to analyze, preprocess, and extract features from uniformly and nonuniformly sampled signals. Must include tools for filter design and analysis, resampling, smoothing, detrending and power estimation. Must also contain tools for signal feature extraction.

1.9 The code should run within the software to be procured without additional coding in another software platform or programming language such as python.

2. One (1) annual individual license-based subscription of a mathematical computing software capable of the following:

2.1 Able to solve computationally and data-intensive problems using multicore processors, GPUs, and computer clusters with high-level constructs such as parallel for-loops, special array types and parallelized numerical algorithms to parallelize applications without CUDA or MPI programming.

2.2 Able to provide functions and applications to describe, analyze and model data; and is able to utilize descriptive statistics and plots for exploratory data analysis, fit probability distributions to data, etc.

2.3 Able to provide tools for machine learning algorithms (supervised and unsupervised) such as but not limited to support vector machines, k-nearest neighbors, Gaussian mixture model, decision trees, hierarchical clustering

2.4 Provides tools for classification, regression, cluster, dimensionality reduction, time-series forecasting; algorithms, pretrained models and applications to perform neural network simulation

2.5 Has support for convolutional neural network, long short-term memory (LSTM), directed acyclic

graph network topologies, autoencoders for image classification.

2.6 Provides algorithms and visualizations for preprocessing, analyzing, and modeling text data coming from various sources (e.g. logs, news feeds, social media) with various well-know formats

2.7 Provides the ability to compile code into standalone applications

2.8 Provides the ability to build C/C++ libraries, Microsoft® .NET assemblies, Java® classes, and Python® packages for deployment on desktop, web, and enterprise systems

2.9 Compatible with item 2

2.10 The code should run within the software to be procured without additional coding in another software platform or programming language such as python.

3. One (1) annual individual license-based subscription of a mathematical computing software capable of the following:

3.1 Able to solve computationally and data-intensive problems using multicore processors, GPUs, and computer clusters with high-level constructs such as parallel for-loops, special array types and parallelized numerical algorithms to parallelize applications without CUDA or MPI programming.

3.2 Able to provide functions and applications to describe, analyze and model data; and is able to utilize descriptive statistics and plots for exploratory data analys, fit probability distributions to data, etc.

3.3 Able to provide tools for machine learning algorithms (supervised and unsupervised) such as but not limited to support vector machines, k-nearest neighbors, Gaussian mixture model, decision trees, hierarchical clustering

3.4 Provides tools for classification, regression, cluster, dimentionality reduction, time-series forecasting; algorithms, pretrained models and applications to perform neural network simulation

3.5 Has support for convolutional neural network, long short-term memory (LSTM), directed acyclic graph network topologies, autoencoders for image classification.

3.6 Provides a comprehensive set of reference-standard algorithms and workflow apps for image processing, analysis, visualization, and algorithm development

3.7 Has tools for image segmetation and enhancement, noise reduction, geometric transformations, image registration and 3D image processing, automation of common image processing workflows and enable interactive image segmentation, image registration technique comparison and batch processing of large datasets. Must contain visualization functions for exploration of images, 3D volumes and videos

3.8 Provides algorithms and visualizations for preprocessing, analyzing, and modeling text data coming from various sources (e.g. logs, news feeds, social media) with various well-know formats

3.9 Provides algorithms, functions, and apps for designing and simulating computer vision and video processing systems. This includes feature detection, extraction, and matching, as well as object detection and tracking, among others

3.10 Supports single, stereo, and fisheye camera calibration; stereo vision; 3D reconstruction; and 3D point cloud processing

3.11 Compatible with item 2

3.12 The code should run within the software to be procured without additional coding in another software platform or programming language such as python.

4. One (1) annual individual license-based subscription of a mathematical computing software capable of the following:

4.1 Able to solve computationally and data-intensive problems using multicore processors, GPUs, and computer clusters with high-level constructs such as parallel for-loops, special array types and parallelized numerical algorithms to parallelize applications without CUDA or MPI programming.

4.2 Able to provide functions and applications to describe, analyze and model data; and is able to utilize descriptive statistics and plots for exploratory data analysis, fit probability distributions to data, etc.

4.3 Able to provide tools for machine learning algorithms (supervised and unsupervised) such as but not limited to support vector machines, k-nearest neighbors, Gaussian mixture model, decision trees, hierarchical clustering

4.4 provides tools for classification, regression, cluster, dimensionality reduction, time-series forecasting; algorithms, pretrained models and applications to perform neural network simulation

4.5 Has support for convolutional neural network, long short-term memory (LSTM), directed acyclic graph network topologies, autoencoders for image classification.

4.6 Provides a comprehensive set of reference-standard algorithms and workflow apps for image processing, analysis, visualization, and algorithm development

4.7 Has tools for image segmentation and enhancement, noise reduction, geometric transformations, image registration and 3D image processing, automation of common image processing workflows and enable interactive image segmentation, image registration technique comparison and batch processing of large datasets. Must contain visualization functions for exploration of images, 3D volumes and videos

4.8 Provides functions and apps to analyze, preprocess, and extract features from uniformly and nonuniformly sampled signals.

4.9 Includes tools for filter design and analysis, resampling, smoothing, detrending, and power spectrum estimation. The toolbox also provides functionality for extracting features like changepoints

and envelopes, finding peaks and signal patterns, quantifying signal similarities, and performing measurements such as SNR and distortion.

4.10 Provides algorithms, apps, and scopes for designing, simulating, and analyzing signal processing systems. has support for designing and analyzing FIR, IIR, multirate, multistage, and adaptive filters, streaming signals from variables, data files, and network devices for system development and verification.

4.11 Provides algorithms and apps for the analysis, design, end-to-end simulation, and verification of communications systems.

4.12 Includes channel coding, modulation, MIMO, and OFDM enable you to compose and simulate a physical layer model of your standard-based or custom-designed wireless communications system

4.13 Provides a waveform generator app, constellation and eye diagrams, bit-error-rate, and other analysis tools and scopes for design validation

4.14 Compatible with item 2

4.15 The code should run within the software to be procured without additional coding in another software platform or programming language such as python.

Others:

1. Specifications listed for each item above are implicitly implied to be minimum specifications. Bidders are encouraged to propose better specifications in their bids so long as it does not deviate too much for the intent of the original specifications.

2. The winning bidder must provide the necessary technical support during the installation and testing of Item 1.

3. The winning bidder is required to deliver the items within fifteen (15) calendar days after receipt of Notice to Proceed.

5. Distributed Computing Server Annual Subscription

5.1. Allows computationally-intensive codes to run in a multi-node server

5.2. Facilitates the development of prototype codes on a local machine (Desktop) and scale to a compute cluster without the need for recording;

5.3. Contains the following capabilities/features:

5.3.1 Supports batch jobs, parallel computations, and distributed large data;

5.3.2 Includes built-in job manager/scheduling and supports SLURM SCHEDULER;

5.3.3 Can execute GPU-enabled functions on distributed computing resources;

5.3.4 Execution of parallel computations from applications and software components generated;

5.3.5 Compatible with item 1;

5.3.6 Provides license for all toolboxes and blocksets to enable running codes on the cluster without having to separately

acquire additional product specific licenses for each computer in the cluster

6. Others:

6.1 Specifications listed for each item above are implicitly implied to be minimum specifications. Bidders are encouraged to propose better specifications in their bids so long as it does not deviate too much for the intent of the original specifications.

6.2. The winning bidder must provide the necessary technical support during the installation and testing of Item 2.

6.3. The winning bidder is required conduct a workshop/training about the operation and provide the corresponding documentation.
The workshop should include but not limited to the scope and limitation of the software, its integration with Slurm (current job scheduler of CoARE HPC cluster), executing workloads with the GPU processes, etc.

a. Participants: COARE technical team (at most 10 people)

b. Duration: 1-3 days

c. All costs related to the workshop will be shouldered by the winning bidder. These include but not limited to, lease of venue, meals, transportation of participants to and from the training venue, workshop fees, etc.

d. ASTI may, at its discretion, prefer to conduct the training in its office premises. In that case, the lease of venue may be waived.

e. The workshop must be conducted at an agreed schedule with the end user.

7. The winning bidder is required to deliver the items within fifteen (15) calendar days after receipt of Notice to Proceed

8. Progress payment is allowed based on the following deliverable:

Activity: Delivery, installation, configuration of software
Duration: Within fifteen (15) calendar days from issuance of NTP
% progress: 95%

Activity: Workshop/Training:
Duration: within thirty (30) calendar days from issuance of NTP
% progress: 5%

9. For Post Qual: Trial installation of item 1 for within 5 working days.

TOTAL APPROVED BUDGET FOR THE CONTRACT (ABC):

Php 5,700,000.00

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.