



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

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

ITB No:	18-10-2156	Date:	November-26-2018
PR No:	GAA-18-08-6485	Date:	August-20-2018
Source of Funds:	GAA		
Total ABC:	Php 5,700,000.00		
Time, Date & Venue of Pre-bid Conference:	December 07, 2018, 1:30 PM at DOST-ASTI		
Time and Date of Submission of Bids:	December 19, 2018, 12:00 PM		
Time, Date & Venue of Opening Bids:	December 19, 2018, 1:30 PM at DOST-ASTI		
Date of availability of Complete Set of Documents:	November 29, 2018		
Deadline of Potential Bidder's Clarifications:	December 09, 2018		
Deadline of ASTI's Supplemental Bid Bulletin:	December 12, 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,


PEDRITO B. MANGAHAS
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 capable of the following:</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 not limited to support vector machines, k-nearest</p>	1	lot	3800000.00	3,800,000.00

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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.

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

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 analysis, 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, dimensionality 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 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

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-known 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

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

	<p>physical layer model of your standard-based or custom-designed wireless communications system</p> <p>4.13 Provides a waveform generator app, constellation and eye diagrams, bit-error-rate, and other analysis tools and scopes for design validation</p> <p>Others:</p> <ol style="list-style-type: none"> 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. The winning bidder must provide the necessary technical support during the installation and testing of Item 1. The winning bidder is required to deliver the items within fifteen (15) calendar days after receipt of Notice to Proceed. 				
2	<p>Distributed Computing Server Software Annual Subscription</p> <ol style="list-style-type: none"> A software that allows codes to run in a multi-node server. Contains the following capabilities/features: <ul style="list-style-type: none"> 1.1 Supports batch jobs, parallel computations, and distributed large data 1.2 Has built-in job scheduling and supports third-party schedulers such as Platform LSF, Microsoft Windows HPC Server 2008, Altair PBS Pro, and TORQUE 1.3 Can execute GPU-enabled functions on distributed computing resources 1.4 Execution of parallel computations from applications and software components generated 1.5 Compatible with MATLAB software 1.6 Will be installed to at least 308 workers in the HPC cluster <p>Others:</p> <ol style="list-style-type: none"> 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. The winning bidder must provide the necessary technical support during the installation and testing of Item 2. The winning bidder is required conduct a workshop/training about the operation of both items 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. <ol style="list-style-type: none"> Participants: COARE technical team (at most 10 people) Duration: 1-3 days All costs related to the workshop will be shouldered by the winning bidder. These include but 	1	lot	1900000.00	1,900,000.00

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.

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

5. 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%

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.