Republic of the Philippines
Department of Science and Technology
ADVANCED SCIENCE AND TECHNOLOGY INSTITUTE

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

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

ITB No:	21-09-3543	**Date:**	September-13-2021
PR No:	GAA-21-06-11656	**Date:**	August-10-2021
Source of Funds:			
Total ABC:	Php 6,092,045.20		
Time, Date & Venue of Pre-bid Conference:	September 21, 2021, 9:00 AM at Via videoconferencing		
Time and Date of Submission of Bids:	October 04, 2021, 10:00 AM		
Time, Date & Venue of Opening Bids:	October 04, 2021, 10:30 AM at DOST-ASTI and Videoconferencing		
Date of availability of Complete Set of Documents:	September 13, 2021		
Deadline of Potential Bidder's Clarifications:	September 24, 2021		
Deadline of ASTI's Supplemental Bid Bulletin:	September 27, 2021		
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,

GERWIN P. GUBA
BAC Chairman

NO.	TECHNICAL SPECIFICATIONS	QTY	UNIT	UNIT PRICE(Php)	TOTAL PRICE(Php)
1	**PCB Designer Commercial License** – Seven (7) units of One (1) year license-based subscription to PCB Designer Commercial software I. Basic Specifications: 1. License Type: Private Server 2. Usage Type: Commercial Single Site 3. Software Subscription: One (1) year (including upgrade, updates & online software support) B. Technical Specifications: 1. PCB and electronic design automation software package 2. With four (4) main features: schematic capture, 3D PCB design, FPGA development and release/data management	7	unit	338223.60	2,367,565.20

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Website	: www.asti.dost.gov.ph	Fax No.	: +632 8426-9764
Email	: info@asti.dost.gov.ph		

3. With hierarchical schematic and design reuse in one (1) cohesive user interface.
4. Create and search for components with the most-up-to-date pricing and availability from certified suppliers.
5. Verify design with built-in mixed analog/ digital circuit simulation (analyze pre- and post-layout signal and DC power delivery).
6. Easily maneuver objects on the board layout with controlled component placement and create layer stack templates for reuse.
7. Define and modify rigid-flex layer stacks using electrical checking and synchronization of multi-board connections.
8. Route complex topologies with user-guided, constraint-driven routing automation.
9. Simplify MCAD collaboration through integrated electrical and mechanical domains with native 3D PCB editing.
10. Generate fabrication and assembly outputs faster with multi-process executions and seamless, streamlined documentation.
11. Compare documentation changes and revisions using Work-In-Progress data management views and version control.

C. Features:
1. DXP Platform: Software integration platform with a consistent GUI for all supporting editors and viewers. Design insight for document preview, release management, compiler, file management, version control interface, and scripting engine.
2. Schematic
    2.1. Viewer: Open, view and print schematic documents and libraries
    2.2. Editing: All schematic and schematic library, schematic library documents
    2.3. Soft Design Editing: All schematic and schematic library editing capabilities (except in PCB Projects and Free Documents), netlist generation.
3. CAM File
    3.1. Viewer: Open CAM, manufacturing (Gerber, Drill Drawing, OBD++) and mechanical files
    3.2. Importer (Gerber, ODB++): Import CAM and mechanical files
    3.3. Editor (Gerber, ODB++): Panellise, NC route definition, DRC, export CAM and mechanical files, Netlist extraction, import and reverse-engineering
4. Import/Export: Supports import and/or export of designs and library data created in other design tools platform (such as OrCAD, Allegro, Expedition, PADS, xDx Designer, Cadstar, Eagle, P-CAD, Protel, etc.).
5. Library Management: Unified library management based on a single data source for all component models and linked data including 3D models, data sheets and supplier links. Single point of contact for version control and external project management systems.
6. Ability to read, edit and publish design data to a centralized server which secures storage and enables re-release of data as distinctly separate revisions

(essentially tracking design changes over time, without overwriting any previously released data).

  6.1. Includes support for: component models, pricing and availability data, managed sheets and sub-circuits, complete projects, and fabrication/assembly files.

7. Simulation - Mixed Signal: SPICE extension that provides additional C language code models to support analog behavioral modeling and co-simulation of digital components through a fast event-driven algorithm

  7.1 Compatible with simulation technology that offers a single, unified design environment for both simulation and PCB design.

8. Signal Integrity

  8.1. Schematic Level: Pre-layout signal integrity analysis (includes a full analysis engine and uses defaults for PCB parameters)

  8.2. Layout Level: Post-layout signal integrity analysis supports reflection and crosstalk analysis.

9. PCB

  9.1. Viewer: Open, view and print PCB documents. Additionally view and navigate 3D PCBs.

  9.2. Board Definition and Rules: Place/edit objects on mechanical layers, design rules for high-speed design, user-definable layer stack, design transfer from schematic, position components, real-time manufacturing rule checking.

  9.3. Native 3D PCB Viewing and Editing: A realistic and 3D rendered view of the board, includes MCAD-ECAD support with direct linking for STEP models and real-time clearance checking, view configurations for both 2D and 3D, editing of board shape and component models in 3D, 3D measurements for all primitives and texture mapping of 2D/3D PCB models.

  9.4. Layout: High productivity PCB layout editor, support for customizable polygons, board cut-outs, real-time rule checking, design re-use, auto-dimensioning, with intuitive and efficient user interface.

  9.5. Interactive & Guided Routing: Interactive, guided routing (Push and Shove, Hugging and Auto-Complete modes), differential pairs, interactive/auto placement, pin/part swapping, track glossing, and obstacle avoidance during drag operations.

  9.6. Manufacturing File Outputs: Multiple output publishing allows the consolidation of multiple outputs into a single media type for better data management.

    9.6.1. Publish to PDF/A, print or web with a controlled view of a project's history and dependencies.

    9.6.2. Generate Gerber, NC Drill, ODB++, 3D video animations, and STEP files.

10. Advanced Layer Stack Management: Ability to define multiple, complex layer stacks in a single design with different layer stack sections in different regions of the PCB, allowing for embedded components and rigid-flex arrangements.

11. Support for Rigid-Flex Design: Complete system for designing flex and rigid-flex PCBs. The ability to define and characterize multiple PCB bending lines in a

design. Full 3D, folded and unfolded viewing and clearance design rule checking. Ability to export folded or partially folded 3D STEP models of a board for MCAD collaboration.
12. Embedded Components: Support for embedding discrete components within the PCB stack up. Embedding components within a PCB can improve reliability, increase performance, and provide significant space and save weight.
13. Documentation Tool: Create complete documentation for fabrication and assembly in the design workspace. Includes linked PCB design and documentation data, customizable templates, intuitive mark-up tools, and customizable drawing views.

D. Others:
1. The Bidder shall supply all items with the specifications equal to or better than as shown above.
2. The winning bidder is required to deliver the items within fifteen (15) calendar days upon issuance of Notice to Proceed (NTP).

| 2 | **PCB Design Tool Software Design and Component Management Subscription**
– Two (2) units of One (1) year license-based subscription to PCB Design Library Management Commercial software

A. Basic Specifications:
1. License Type: Private Server
2. Usage Type: Commercial Single Site
3. Software Subscription: One (1) year (including upgrade, updates & online software support)
4. Must be compatible to the PCB Designer Software (item no. 1).

B. Technical Specifications
1. Add-on to PCB Designer Software Commercial License
2. Must be compatible to item 1.
3. For handling design data with secured integrity.
4. Enables re-release of data as distinctly separate revisions (essentially tracking design changes over time, without overwriting any previously released data).
5. Caters for the lifecycle of the data to be managed, allowing people that need to use the data to see, at-a-glance, what stage the data has reached in its 'life' and therefore what it can be safely used for.
6. Can be used to store and manage components, domain models, schematic sheets of circuitry and design templates.
7. Can create and manage the entire design projects directly within the server, with the additional benefit of collaboration support (an entire team can work concurrently on the same board design - even annotating the design with comments)

C. Features:
1. With up-to-date and standardized component data that provides one place to easily find, create and reuse reliable component data - all within the design | 2 | unit | 867240.00 | 1,734,480.00 | |

	environment. 2. With bi-directional ECAD/MCAD collaboration: facilitates a collaborative environment to keep mechanical team in sync on design intent and any changes (to board shape, component placement, and copper geometry). 3. With functionality that can identify where any given component has been used, enabling the designs to be kept up to date, and certified components to be reused. 4. With real-time sourcing information: brings live supplier data directly into design environment to design with real-time information (including availability, alternatives, and pricing). D. Others: 1. The Bidder shall supply all items with the specifications equal to or better than as shown above. 2. The winning bidder is required to deliver the items within fifteen (15) calendar days upon issuance of Notice to Proceed (NTP).					

3	**Software License - CAD and Simulation Tool**
	– Five (5) licenses of Perpetual-Standalone Commercial License, inclusive of one (1) year initial subscription service
	
	A. Technical Specifications:
	1. Part and assembly modeling - Allows you to design products for a broad range of industries and applications
	  1.1. 3D solid modeling: Create and edit 3D part and assembly models and create 2D drawings that automatically update with design changes.
	  1.2. Conceptual design: create layout sketches, apply motors and forces to check mechanism performance, import images and scans to use as a reference for 3D geometry.
	  1.3. Large assembly design capabilities: create and manage extremely large designs, and work in either detailed or simplified modes.
	  1.4. Advanced surfacing: create and edit complex solid and surface geometry, including stylish C2 surfaces.
	  1.5. Sheet metal: design from scratch or convert your 3D part to sheet metal, includes automatic flattening or sheet metal parts with bend length compensation.
	  1.6. Weldments: quickly design welded structures composed of structural members, plates and gussets; includes a library of predefined structural shapes.
	  1.7. Mold design: design molded parts and the tooling to create them, including core and the cavity, draft, automated parting surfaces, and mold base components.
	  1.8. Piping/tubing design: generate and document 3D mechanical systems, including pipe/tube paths, pie spools, pipe slope, and complete Bill of Materials (BOM).
	  1.9. Electrical cable/harness and conduit design: generate and document 3D electrical route paths and complete the BOM for your design.
		5	lic.	398000.00	1,990,000.00	

2. Design reuse and automation - Automate design and drawing creation with built-in configurability tools.
3. Leverage existing design work
 3.1. Search for any file on your computer, network, PDM system or the internet.
 3.2. Toolbox: over one million components and other items to add to your assemblies, includes automated assembly of fasteners.
 3.3. Online components: reduce design time by using 2D and 3D catalog components provided by suppliers.
4. Animation and photo-realistic renderings. Clearly communicate your design intent with powerful visuals.
5. Support for AR and VR
6. Time-based Motion - uses assembly mates, part contacts and a robust physical-based solver to accurately determine the physical dynamic movements of an assembly under load to verify that you have met you design goals throughout the operation cycle.
7. Linear Static Simulation - Calculate, stresses, deformations and factor of safety of geometry under loads to intuitively identify areas prone to failure or over-dimensioned areas. You can also evaluate design changes to enhance quality and performance.
8. Sustainability - enables you to assess the environmental impact of the entire design, optimize material selection and part geometry and assess product energy consumption.
9. FloXpress - provides initial air and water flow simulation and reporting.
10. Design for Cost (DFC) and automated quoting
 10.1. Automated cost estimation: estimate part and assembly manufacturing costs automatically
11. Design for Manufacturability (DFM) DFMXpress: automatically checks the manufacturability of your design.
12. Detects interferences
 12.1. Automatic collision, interference and hole alignment checks: checks for interferences, collisions, clearances and hole misalignments between components.
 12.2. Tolerance stack-up analysis: automatically check the effects of tolerances on parts and assemblies.
13. Electrical manufacturing
 13.1. Harness and pin board: automatically flatten wire harness to generate pin board drawings and wire-cut lists for electrical manufacturing.
14. Pipe/tube systems manufacturing
 14.1. Export: CNC pipe bend data, spool data, BOM, and PCF for ISOGEN
 14.2. Import: generate route specifications from P&ID files.
15. Other data output for manufacturing
 15.1. Sheet metal flat pattern: automatically flatten sheet metal design with bend compensation.
 15.2. Flatten non-developable surfaces: flatten surfaces that require material to be stretched or compressed.
 15.3. 3D printing/rapid prototyping: print directly to 3d printers supporting 3MF and AMF output STL, and other file formats for rapid prototyping.

15.4. 2D manufacturing data: automatically export CNC-ready DXF and DWG file information directly from. sldprt or .sldasm models.

15.5. Streamline production prep: automatic output of hole charts, weld tables, cut lists and punch tool data.

15.6. 3D CAM partner integration: automatically update NC toolpaths directly inside SolidWorks without the need for data translation using certified partner CAM products.

16. Data exchange

16.1. Import/export: convert CAD data into a format that meets your needs, including IFC file import/export to interact with AEC design software.

16.2. Existing 2D DWG data: maintain design using Draftsight

16.3. Automatic Feature recognition: automatically convert non .sldprt or .sldasm CAD data into easily modifiable models.

16.4. ECAD-MCAD data exchange: use Circuit tools to provide 2-way data exchange between mechanical and electrical designer.

16.5. Import scanned data: convert scanned data into .sldprt or .sldasm to facilitate easy reverse engineering.

17. Large design review: walk through, measure, section and create snapshot views with comments on massive assemblies.

18. Protect your intellectual property: use defeature to hide and protect selected aspects of your design before sharing models.

19. Compatible file formats: 3d XML, ACIS, Autodesk 3d Studio Max, Autodesk Inventor, CADkey, Catia, DWG, DXF, eDrawings, HCG, Hoops HSF, Mechanical Desktop, Parasolid,ProEngineer/Creo, Rhino, SolidEdge, Unigraphics NX.

20. Supported standards: ANSI, DIN BSI, GOST, JIS, BSI, GB, ISO

B. Package Inclusions:

1. Includes one (1) year of the ff:

1.1. Access to supports, upgrades, new versions, special releases, add-on features, webcasts and software trainings.

1.2. Access to privileged content on my.solidworks.com.

1.3. Access to latest 3D/2D software plug-ins.

1.4. Exclusive access to latest developments and select service packs.

1.5. Full access to live technical support (through online customer portal).

1.6. Access to knowledge base with help documentations tutorials training videos and community support forums.

1.7. Exclusive invitation to service provider-sponsored activities for subscription customers

2. Free training for maximum of two (2) persons per license (total of 10 pax for 5 licenses) which can be availed within one (1) year after delivery. Advanced topic to be determined by the end-user and subject to availability from the supplier.

C. Notes:					
1. Price is inclusive of government duties and taxes and other fees.					
2. Must be delivered within seven (7) days upon issuance of NTP.					
3. Local technical support service must meet the following initial response times:					
3.1. Two (2) business hours for production application down or major malfunctions (Level 1)					
3.2. Six (6) business hours for serious degradation of application performance or functionality (Level 2)					
3.3. One (1) business day for application issues that moderately impacts business operations					
3.4. Two (2) business days for issues or questions with limited business impact					

TOTAL APPROVED BUDGET FOR THE CONTRACT (ABC):	**Php 6,092,045.20**

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.