



Republic of the Philippines  
Department of Science and Technology

**ADVANCED SCIENCE AND TECHNOLOGY INSTITUTE**



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

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


<b>ITB No:</b>	18-08-2074	<b>Date:</b>	September-04-2018
<b>PR No:</b>	GAA-18-08-6328	<b>Date:</b>	August-14-2018
<b>Source of Funds:</b>	GAA		
<b>Total ABC:</b>	Php 1,924,313.00		
<b>Time, Date &amp; Venue of Pre-bid Conference:</b>	September 18, 2018, 1:30 PM at DOST-ASTI		
<b>Time and Date of Submission of Bids:</b>	October 01, 2018, 12:00 PM		
<b>Time, Date &amp; Venue of Opening Bids:</b>	October 01, 2018, 2:30 PM at DOST-ASTI		
<b>Date of availability of Complete Set of Documents:</b>	September 10, 2018		
<b>Deadline of Potential Bidder's Clarifications:</b>	September 22, 2018		
<b>Deadline of ASTI's Supplemental Bid Bulletin:</b>	September 25, 2018		
<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  
  
 Pedrito B. Mangahas  
 BAC Chairman

NO.	TECHNICAL SPECIFICATIONS	QTY	UNIT	UNIT PRICE(Php)	TOTAL PRICE(Php)
1	<b>Sand paper</b> Waterproof Silicon Carbide Abrasive Paper Grit: #300, 50 pcs Grit #500, 50 pcs Size: 23x28cm For Burnish Wood, Ferrous and Non-Ferrous Metals Suitable for wet and dry application Waterproof backing Impregnated with Silicon Carbide Grain Closed coat structure for more material removal Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery	100	pc	25.00	2,500.00
2	<b>Super Glue</b> ADHESIVE, CYANOACRYLATE, 20G	30	pc	500.00	15,000.00

ASTI Bldg., U.P. Technology Park Complex, C.P. Garcia Ave., Diliman, Quezon City, Philippines 1101  
 • Website: [www.asti.dost.gov.ph](http://www.asti.dost.gov.ph) • E-mail: [info@asti.dost.gov.ph](mailto:info@asti.dost.gov.ph) • Tel. No.s: +632 927-2541, +632 927-3502, +632 426-9759, +632 426-9760  
 • Fax No.: +632 925-8598

	<p>Adhesive Type: Ethyl Cyanoacrylate  Dispensing Method: Bottle  Components: One part - requires no mixing  Colour: Transparent  Min Weight: 20g  Adhesive Applications: Bonding - General Purpose  Viscosity: Low  Max Cure Time: 20s  Max Operating Temperature: 80°C  Min Cure Time: 2s  Weight: 20g  Application: Bonding  Key Substrates: Plastics, Rubbers and Metals  RoHS: Compliant  REACH SVHC: No SVHC  Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>				
3	<p><b>Chemical Respirator Gas Mask Single</b>  Material: durable hard plastic and soft elastic nylon.  100% brand new and high quality Double Cartridges  Anti-dust Spray Paint Respirator Mask Breathing Mask.  Designed to protect you from breathing in dust and fine powders.  Single gas cartridges for spray painting and organic vapours of low toxicity.  Single cartridge system can be replaced with different cartridges for acidic gases or other chemical vapors.  Soft nose and mouth cover make the mask fit all users to wear.  Dual headband system can be adjusted easily for comfortable to wear.</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>	16	pc	250.00	4,000.00
4	<p><b>Multicore Wire Lead solder</b>  Multicore 1.2mm Wire Lead solder (5 pcs)  Multicore 0.46mm Wire Lead solder (5 pcs)  Percent Lead 40%  Product Form Wire  Melting Point 183 → 188°C  Percent Tin 60%  Flux Type Rosin Based  Product Weight 250g  Flux Content Percent 3%</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>	10	roll	1500.00	15,000.00
5	<p><b>Multi-Use Product Lubricant 6.5 fl oz.</b></p>	12	can	200.00	2,400.00

	<p>lubricates moving parts such as hinges, wheels, rollers, chains, and gears. It protects against rust and corrosion on items like tools, and sporting equipment. It penetrates to free stuck corroded parts like nuts, bolts, valves and locks. It quickly removes adhesives, corrosion and paint. It displaces moisture to restore water flooded equipment such as engines, spark plugs and power tools.</p> <p>Appearance: Aerosol – Aerosolized Liquid Bulk – Liquid</p> <ul style="list-style-type: none"> <li>• Color: Light amber cloudy liquid</li> <li>• Odor: Characteristic</li> <li>• Freeze Point/Pour Point: &lt;-81° F (-63° C)(ASTM D-97)</li> <li>• Kinematic Viscosity @ 100° F (38° C): 2.8 cSt</li> <li>• Specific Gravity @ 77° F (25° C): 0.81</li> <li>• Boiling Point (initial): 360° F (183° C)</li> <li>• Vapor Density: &gt;1</li> <li>• Flash Point: 138° F (59° C)(TCC)</li> <li>• Percent Volatile: 70-75% by weight</li> <li>• VOCs: 24.5% by weight</li> <li>• Lower Flammability Limit: 0.6%</li> <li>• Upper Flammability Limit: 8.0%</li> <li>• Vapor Pressure: Aerosol: 95-115 psi @ 70° F (21° C) Bulk: 1 psi @ 100° F (38° C)(ASTM D323)</li> </ul> <p>Others:</p> <ol style="list-style-type: none"> <li>1. Delivery: Thirty (30) days upon issuance of NTP</li> <li>2. Price is inclusive of government duties and taxes and other fees.</li> <li>3. Payment upon full delivery</li> </ol>				
6	<p><b>PVC Acrylic Plastic Sheet Perspex Cutter Hook Cutting Tool With 10 Spare Blades</b></p> <p>Item: Laminate Scoring Knife Blade Operation: Retractable Blade Type: Scoring Blade Change: Thumb Blade Knob Overall Length: 7" Blade Material: Tungsten Steel Handle Color: Black/Yellow Handle Material: ABS Number of Blades Included: 3 Tether Capable: Tether Ready Overall Width: 1-9/16" Overall Thickness: 7/8" Position: 1 Handle Type: Contoured Features: Ratchet-Wheel Blade Lock, for Right and Left Handed Use Stores: (2) Blades Application: General Purpose</p> <p>Extra Blades 2-3/8" Carbide Steel 2-Point Scoring Blade, 3 PK Item: Scoring Blade Primary Cutting Application: General Purpose Material: Carbide Steel Blade Point Type: Hook</p>	3	set	2000.00	6,000.00

	<p>Blade Edge: Straight  Number of Blades Included: 3  Number of Cutting Edges: 1  Number of Blade Points: 2  Blade Dispenser Included: No  Thickness: 0.025"  Length: 2-3/8"  Width: 1/2"  Mount Type: (1) Hole  Fits Utility Knives same as the specification above.</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>				
7	<p><b>Self Tapping Screws</b>  - Phillips Round Head  - 2.9mmx14mm  - 100 pcs per pack</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>	3	pack	250.00	750.00
8	<p><b>Standoff hexagonal spacer</b>  1. M3 x 12mm  male to female  150 pcs</p> <p>2. M3 x 8mm  female to female  150 pcs</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>	300	pc	94.00	28,200.00
9	<p><b>Blind Rivets</b>  - 5/32 x 1/2  Aluminum material  1000 pcs approx per box</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>	10	box	400.00	4,000.00
10	<p><b>Hacksaw Frame</b>  Heavy Duty  TPR Handle  16" Size</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP</p>	5	pc	500.00	2,500.00

	<p>2. Price is inclusive of government duties and taxes and other fees.</p> <p>3. Payment upon full delivery</p>				
11	<p><b>hacksaw blade 12"</b>  Teeth per Inch: 18 TPI  Product Type: Hacksaw Blade  Cut Type: Fine  Blade Length: 12 in.  Number in Package: 2  Material: Bi-Metal  Blade Width: 12 in.  Tpi: 18</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>	20	pc	50.00	1,000.00
12	<p><b>Soldering flux</b>  Completely non-corrosive liquid solder flux  Completely safe to use on even the most delicate electronic equipment  Anti-Static Formulation  Minimized risk of Electrostatic Damage to Components</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>	1	Liter	2500.00	2,500.00
13	<p><b>7pcs 8/10/12/13/14/17/19mm Double-ended Combination Ratchet Spanner Open-ended Wrench Set Flexible Head</b>  Double-ended combination spanners: open-ended head + ratchet ring head.  - Color: mainly silver.  - Material: Chrome vanadium steel alloy.  - Size: 8mm, 10mm, 12mm, 13mm, 14mm, 17mm and 19mm.  - Wrench hardness: 45-48 HRC.  - With dual head design, convenient and easy to handle.  - No more scrambling for the proper tool for your repair.  - Ingenious travel tool puts wrench.  - Suitable for both home and factory use</p> <p>Notes:  1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification.  2. LCB / SCB must provide two (2) samples of actual unit for approval by the end-user as part of the post-qualification and prior to award. If approved by end-user, one (1) sample will be retained for reference of the units to be delivered.  3. At least 2 years warranty of parts and services  4. Must be delivered to ASTI</p>	5	set	1800.00	9,000.00

	<p>Others:</p> <ol style="list-style-type: none"> <li>1. Delivery: Thirty (30) days upon issuance of NTP</li> <li>2. Price is inclusive of government duties and taxes and other fees.</li> <li>3. Payment upon full delivery</li> </ol>				
14	<p><b>Portable Welding Machine TIG 200 Inverter with Free KYK Auto Darkening Welding Helmet KADWH</b>  High Quality MC ARC Industrial Supply-TIG 200w/KADWH  Stable Arc  Molten bath is easy to control  No-load voltage is higher  Able to be used widely  Suitable for job of high-altitude and outdoor and fitment of inside or outside  Lightweight  Simple installing and operation</p> <p>Notes:</p> <ol style="list-style-type: none"> <li>1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification.</li> <li>2. LCB / SCB must provide two (2) samples of actual unit for approval by the end-user as part of the post-qualification and prior to award. If approved by end-user, one (1) sample will be retained for reference of the units to be delivered.</li> <li>3. At least 2 years warranty of parts and services</li> <li>4. Must be delivered to ASTI</li> </ol> <p>Others:</p> <ol style="list-style-type: none"> <li>1. Delivery: Thirty (30) days upon issuance of NTP</li> <li>2. Price is inclusive of government duties and taxes and other fees.</li> <li>3. Payment upon full delivery</li> </ol>	1	set	14900.00	14,900.00
15	<p><b>Professional Heavy Duty Impact Drill 16mm (750W) with 100pcs Various Accessories Kit</b>  GSB 16 RE Professional Heavy Duty Impact Drill 16mm 750W  Robust Pot gear housing and clamp shell motor housing for tough jobsite conditions  Powerful 750W motor to suit versatile professional needs  Compact ergonomic design for fatigue free usage  High dynamic load rated ball bearing for long life  Forward / Reverse operation for more versatile application  Soft in line grip for a secure hold  Speed preselection with setting wheel  Rotating brush plate for constant power in reverse and forward rotation  Spindle collar diameter of 43 mm (European standard)  - can be used in drill stands  Plus FREE 100pcs Various Accessories Kit Set</p> <p>Notes:</p> <ol style="list-style-type: none"> <li>1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification.</li> </ol>	2	kit	6000.00	12,000.00

	<p>2. LCB / SCB must provide two (2) samples of actual unit for approval by the end-user as part of the post-qualification and prior to award. If approved by end-user, one (1) sample will be retained for reference of the units to be delivered.</p> <p>3. At least 2 years warranty of parts and services</p> <p>4. Must be delivered to ASTI</p> <p>Others:</p> <p>1. Delivery: Thirty (30) days upon issuance of NTP</p> <p>2. Price is inclusive of government duties and taxes and other fees.</p> <p>3. Payment upon full delivery</p>				
16	<p><b>Cordless Impact Wrench 18V LXT Kit Set</b></p> <p>Cordless Impact Wrench LXT Lithium-ion eXtreme Technology Driving Shank: 1/2" Square Impacts: 0-3,000 ipm Standard Bolt: M8-M16 Noise sound pressure: 94 dB(A) Noise sound power: 105 dB(A) Noise K factor: 3 dB(A) No Load Speed: 0 - 2,300 rpm Max Fastening Torque: 190 Nm Vibration: Fastening Bolt: 8.5 m/sec<sup>2</sup> Vibration K factor: 1.5 m/sec<sup>2</sup> new Lithium-ion eXtreme Technology - with powerful new 18Vmax slide batteries in 3.0Ah, 4.0Ah and 5.0Ah and 6.0Ah.</p> <p>Notes:</p> <p>1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification.</p> <p>2. LCB / SCB must provide two (2) samples of actual unit for approval by the end-user as part of the post-qualification and prior to award. If approved by end-user, one (1) sample will be retained for reference of the units to be delivered.</p> <p>3. At least 2 years warranty of parts and services</p> <p>4. Must be delivered to ASTI</p> <p>Others:</p> <p>1. Delivery: Thirty (30) days upon issuance of NTP</p> <p>2. Price is inclusive of government duties and taxes and other fees.</p> <p>3. Payment upon full delivery</p>	2	set	14900.00	29,800.00
17	<p><b>30in. Heavy Duty Bolt Cutter</b></p> <p>Special heat treatment give blades extra hardness and durability Cutter blades are of chrome molybdenum tempered steel Cutting jaws tempered HRC 60&amp;deg; 4 30in. bolt cutter Soft rubber grip</p> <p>Notes:</p> <p>1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid</p>	2	pc	4000.00	8,000.00

	<p>(SCB) during post-qualification.</p> <p>2. LCB / SCB must provide two (2) samples of actual unit for approval by the end-user as part of the post-qualification and prior to award. If approved by end-user, one (1) sample will be retained for reference of the units to be delivered.</p> <p>3. At least 2 years warranty of parts and services</p> <p>4. Must be delivered to ASTI</p> <p>Others:</p> <p>1. Delivery: Thirty (30) days upon issuance of NTP</p> <p>2. Price is inclusive of government duties and taxes and other fees.</p> <p>3. Payment upon full delivery</p>				
18	<p><b>Screwdriver Set Professional Repair Tool Kit</b>  Magnetic Driver Kit 8 Pieces Phillips and Slotted  Magnetic Screwdriver Micro Fine Grip Non-Slip Rust Resistant, Ergonomic Fluted Toolkit.</p> <p>Notes:</p> <p>1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification.</p> <p>2. LCB / SCB must provide two (2) samples of actual unit for approval by the end-user as part of the post-qualification and prior to award. If approved by end-user, one (1) sample will be retained for reference of the units to be delivered.</p> <p>3. At least 2 years warranty of parts and services</p> <p>4. Must be delivered to ASTI</p> <p>Others:</p> <p>1. Delivery: Thirty (30) days upon issuance of NTP</p> <p>2. Price is inclusive of government duties and taxes and other fees.</p> <p>3. Payment upon full delivery</p>	5	box	2000.00	10,000.00
19	<p><b>118 pc. Dual Marked Mechanics Tool Set</b>  Includes 72 sockets in 0.25-inch, 0.38-inch, and 0.5-inch drive sizes;  22 screw and nut driver bits; 14 hex keys; 2 quick release ratchets; and 4 wrenches  Chrome plated, tough cast alloy steel construction  Quick release mechanism in ratchets for quick socket switches  Rust-resistant and dent-resistant box for ensured longevity</p> <p>Notes:</p> <p>1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification.</p> <p>2. LCB / SCB must provide two (2) samples of actual unit for approval by the end-user as part of the post-qualification and prior to award. If approved by end-user, one (1) sample will be retained for reference of the units to be delivered.</p> <p>3. At least 2 years warranty of parts and services</p> <p>4. Must be delivered to ASTI</p>	2	set	14900.00	29,800.00



	<p>Others:</p> <ol style="list-style-type: none"> <li>1. Delivery: Thirty (30) days upon issuance of NTP</li> <li>2. Price is inclusive of government duties and taxes and other fees.</li> <li>3. Payment upon full delivery</li> </ol>				
20	<p><b>Two Way Radio</b>  Dual Band VHF&amp;UHF  136-174MHz/400-480MHz  999 channels  with charger  with mic and head set  with NTC license</p> <p>Notes:</p> <ol style="list-style-type: none"> <li>1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification.</li> <li>2. LCB / SCB must provide two (2) samples of actual unit for approval by the end-user as part of the post-qualification and prior to award. If approved by end-user, one (1) sample will be retained for reference of the units to be delivered.</li> <li>3. At least 2 years warranty of parts and services</li> <li>4. Must be delivered to ASTI</li> </ol> <p>Others:</p> <ol style="list-style-type: none"> <li>1. Delivery: Thirty (30) days upon issuance of NTP</li> <li>2. Price is inclusive of government duties and taxes and other fees.</li> <li>3. Payment upon full delivery</li> </ol>	6	kit	5000.00	30,000.00
21	<p><b>Open source wireless sensor platform</b>  Includes  - 1x open source wireless sensor node module</p> <p>Specifications:</p> <ul style="list-style-type: none"> <li>- Version: v15</li> <li>- General data:</li> </ul> <p>Microcontroller: ATmega1281  Frequency: 14.7456 MHz  SRAM: 8 kB  EEPROM: 4 kB  FLASH: 128 kB  SD card: 16 GB  Weight: 20 g  Dimensions: 73.5 x 51 x 13 mm  Temperature range: [-30 °C, +70 °C]*  *Temporary extreme temperatures are supported.  Regular recommended usage: -20, +60 °C  Clock: RTC (32 kHz)</p> <p>Consumption:</p> <ul style="list-style-type: none"> <li>On: 17 mA</li> <li>Sleep: 30 µA</li> <li>Deep Sleep: 33 µA</li> <li>Hibernate: 7 µA</li> </ul> <p>Operation without recharging: 1 year*  * Time obtained using the Hibernate mode as energy saving mode  Inputs/Outputs: 7 analog (I), 8 digital (I/O), 1 PWM, 2 UART, 1 I2C, 1 USB, 1 SPI</p>	1	lot	32000.00	32,000.00

	<p>Electrical data:  Battery voltage: 3.3 – 4.2 V  USB charging: 5 V – 480 mA (max current input)  Solar panel charging: 6 - 12 V – 300 mA (max current input)  Built-in sensors on the board:  Accelerometer: ±2g/±4g/±8g  Low power: 0.5/1/2/5/10 Hz  Normal mode: 50/100/400/1000 Hz</p> <p>- 1x Embedded module  - allows the user to send data and reach extremely long ranges at low data-rates  Specifications:  Frequency: 868 MHz  Max TX power: 14 dBm  Sensitivity: -137 dBm  Range:  • Line of Sight: 21+ km / 13.4+ miles (LoS and Fresnel zone clearance)  • Non Line of Sight: 2+ km / 1.2+ miles (nLoS going through buildings, urban environment)  Antenna: 868 / 915 MHz: 0 / 4.5 dBi  Connector: RPSMA  Encryption: AES 128/192/256 bits (performed by Waspnote API)  Control Signal: RSSI  Topology: Star  Receiver/Central node: Special Gateway LoRa (SPI) or another embedded module unit</p> <p>- 1x Gateway embedded module  - allows you to connect your laptop/computer with a LoRa network.  - includes an 868 MHz antenna to be used in this frequency.  - USB-PC interface</p> <p style="text-align: center;">- Communication:</p> <p>- Programmable buttons and LEDs  - Language: C++  - IDE: Open source platform  - Compiler versions: Windows, Linux and Mac-OS</p> <p>- 1x Rechargeable Battery  - 6600 mAh  - Lithium Ion polymer battery  - comes terminated with a standar connector</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>				
22	<p><b>Gases Sensor Board Embedded module</b>  Application: supports calibrated gas sensors; can be</p>	2	pc	7000.00	14,000.00

	<p>used to get the maximum performance of calibrated gas sensors for metering in accurate ppm or percentage</p> <p>Sensor board version: 3.0</p> <p>Specifications:</p> <p>Weight: 20 g</p> <p>Dimensions: 73.5 x 51 x 22 mm (without sensors)</p> <p>T<sup>a</sup> range: [-20 °C, 65 °C]</p> <p>Electrical characteristics:</p> <p>Board power voltage: 3.3 V and 5 V</p> <p>Sensor power voltage: Gas sensors and BME280, 3.3 V. Particles-dust sensor, 3.3 V and 5 V</p> <p>Maximum admitted current (continuous): 200 mA</p> <p>Maximum admitted current (peak): 400 mA</p> <p>Others:</p> <ol style="list-style-type: none"> <li>1. Delivery: Thirty (30) days upon issuance of NTP</li> <li>2. Price is inclusive of government duties and taxes and other fees.</li> <li>3. Payment upon full delivery</li> </ol>				
23	<p><b>Calibrated Methane (CH4) and combustible gases sensor</b></p> <p>- Includes AFE sensor board for interfacing gas sensor to module</p> <p>Main gas: Methane CH4</p> <p>Performance Characteristics</p> <p>Nominal Range: 0 to 100% LEL methane</p> <p>Long Term Output Drift: &lt; 2% signal/month</p> <p>Response Time (T90): ≤ 30 seconds</p> <p>Accuracy: as good as ±0.15% LEL* (ideal conditions)</p> <p>Operation Conditions</p> <p>Temperature Range: -40 °C to 55 °C</p> <p>Expected Operating Life: 2 years in air</p> <p>Note: End user will provide BOM</p> <p>Others:</p> <ol style="list-style-type: none"> <li>1. Delivery: Thirty (30) days upon issuance of NTP</li> <li>2. Price is inclusive of government duties and taxes and other fees.</li> <li>3. Payment upon full delivery</li> </ol>	1	kit	29500.00	29,500.00
24	<p><b>Calibrated Temperature, humidity and pressure sensor</b></p> <p>Electrical characteristics:</p> <p>Supply voltage: 3.3 V</p> <p>Sleep current typical: 0.1 µA</p> <p>Sleep current maximum: 0.3 µA</p> <p>Temperature sensor:</p> <p>Operational range: -40 ~ +85 °C</p> <p>Full accuracy range: 0 ~ +65 °C</p> <p>Accuracy: ±1 °C (range 0 °C ~ +65 °C)</p> <p>Response time: 1.65 seconds (63% response from +30 to +125 °C)</p> <p>Typical consumption: 1 µA measuring</p> <p>Humidity sensor:</p> <p>Measurement range: 0 ~ 100% of Relative Humidity (for temperatures &lt; 0 °C and &gt; 60 °C see figure below)</p> <p>Accuracy: &lt; ±3% RH (at 25 °C, range 20 ~ 80%)</p>	2	kit	3100.00	6,200.00

	<p>Hysteresis: <math>\pm 1\%</math> RH  Operating temperature: <math>-40 \sim +85</math> °C  Response time (63% of step 90% to 0% or 0% to 90%):  1 second  Typical consumption: 1.8 <math>\mu</math>A measuring  Maximum consumption: 2.8 <math>\mu</math>A measuring</p> <p>Pressure sensor  Measurement range: 30 ~ 110 kPa  Operational temperature range: <math>-40 \sim +85</math> °C  Full accuracy temperature range: 0 ~ <math>+65</math> °C  Absolute accuracy: <math>\pm 0.1</math> kPa (0 ~ <math>65</math> °C)  Typical consumption: 2.8 <math>\mu</math>A measuring  Maximum consumption: 4.2 <math>\mu</math>A measuring</p> <p>Note: End user will provide BOM</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>				
25	<p><b>Calibrated Carbon Monoxide (CO) Gas Sensor for high concentrations</b>  - Includes AFE sensor board for interfacing gas sensor to module  Gas: CO  Sensor: 4-CO-500  Performance Characteristics  Nominal Range: 0 to 500 ppm  Maximum Overload: 2000 ppm  Long Term Output Drift: &lt; 2% signal/month  Response Time (T90): <math>\leq 30</math> seconds  Sensitivity: <math>70 \pm 15</math> nA/ppm  Accuracy: as good as <math>\pm 1</math> ppm* (ideal conditions)  Operation Conditions  Temperature Range: <math>-20</math> °C to <math>50</math> °C  Operating Humidity: 15 to 90% RH non-condensing  Pressure Range: 90 to 110 kPa  Storage Temperature: <math>0</math> °C to <math>20</math> °C  Expected Operating Life: 5 years in air  Note: End user will provide BOM</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>	1	kit	22700.00	22,700.00
26	<p><b>Calibrated Carbon Dioxide (CO2) Gas Sensor</b>  - Includes AFE sensor board for interfacing gas sensor to module  Gas: CO2  Performance Characteristics  Nominal Range: 0 to 5000 ppm  Long Term Output Drift: &lt; <math>\pm 250</math> ppm/year  Warm up time: 60 seconds @ <math>25</math> °C  At least 30 min for full specification @ <math>25</math> °C  Response Time (T90): <math>\leq 60</math> seconds  Resolution: 25 ppm</p>	1	kit	79400.00	79,400.00

	<p>Accuracy: as good as <math>\pm 50</math> ppm*, from 0 to 2500 ppm range (ideal conditions)  as good as <math>\pm 200</math> ppm*, from 2500 to 5000 ppm range (ideal conditions)  Operation Conditions  Temperature Range: -40 °C to 60 °C  Operating Humidity: 0 to 95% RH non-condensing  Storage Temperature: -40 °C to 85 °C  MTBF: <math>\geq 5</math> years  Note: End user will provide BOM</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>				
27	<p><b>Calibrated Nitric Dioxide (NO2) high accuracy Gas Sensor</b>  - Includes AFE sensor board for interfacing gas sensor to module  Gas: NO2  Sensor: NO2-A43F  Performance Characteristics  Nominal Range: 0 to 20 ppm  Maximum Overload: 50 ppm  Long Term Sensitivity Drift: &lt; -20% to -40% change/year in lab air, monthly test  Long Term zero Drif: &lt; 20 ppb equivalent change/year in lab air  Response Time (T90): <math>\leq 60</math> seconds  Sensitivity: -175 to -450 nA/ppm  Accuracy: as good as <math>\pm 0.1</math> ppm* (ideal conditions)  O3 filter capacity @ 2 ppm: &gt; 500 ppm·hrs  Operation Conditions  Temperature Range: -30 °C to 40 °C  Operating Humidity: 15 to 85% RH non-condensing  Pressure Range: 80 to 120 kPa  Storage Temperature: 0 °C to 20 °C  Expected Operating Life: 2 years in air  Note: End user will provide BOM</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>	1	kit	33500.00	33,500.00
28	<p><b>Smart Cities PRO sensor board kit</b>  Includes:  - 1 Sensor board module  - can be used to perform IoT projects in Smart Cities and urban environment  - adds support for the Noise Level Sensor  - Weight: 20 g  - Dimensions: 73.5 x 51 x 22 mm (without sensors)  - Temperature range: [-20 °C, 65 °C]  - Electrical characteristics:  - Board power voltages: 3.3 V and 5 V  - Sensor power voltages: 3.3 V and 5 V  - Maximum admitted current (continuous): 200 mA</p>	1	kit	19000.00	19,000.00

	<ul style="list-style-type: none"> <li>- Maximum admitted current (peak): 400 mA</li> <li>- 1 Calibrated Temperature, Humidity and Pressure Sensor <ul style="list-style-type: none"> <li>- Electrical characteristics:</li> <li>- Supply voltage: 3.3 V</li> <li>- Sleep current typical: 0.1 <math>\mu</math>A</li> <li>- Sleep current maximum: 0.3 <math>\mu</math>A</li> </ul> </li> <li>Temperature sensor: <ul style="list-style-type: none"> <li>- Operational range: -40 ~ +85 <math>^{\circ}</math>C</li> <li>- Full accuracy range: 0 ~ +65 <math>^{\circ}</math>C</li> <li>- Accuracy: <math>\pm</math>1 <math>^{\circ}</math>C (range 0 <math>^{\circ}</math>C ~ +65 <math>^{\circ}</math>C)</li> <li>- Response time: 1.65 seconds (63% response from +30 to +125 <math>^{\circ}</math>C)</li> <li>- Typical consumption: 1 <math>\mu</math>A measuring</li> </ul> </li> <li>Humidity sensor: <ul style="list-style-type: none"> <li>- Measurement range: 0 ~ 100% of Relative Humidity (for temperatures &lt; 0 <math>^{\circ}</math>C and &gt; 60 <math>^{\circ}</math>C see figure below)</li> <li>- Accuracy: &lt; <math>\pm</math>3% RH (at 25 <math>^{\circ}</math>C, range 20 ~ 80%)</li> <li>- Hysteresis: <math>\pm</math>1% RH</li> <li>- Operating temperature: -40 ~ +85 <math>^{\circ}</math>C</li> <li>- Response time (63% of step 90% to 0% or 0% to 90%): 1 second</li> <li>- Typical consumption: 1.8 <math>\mu</math>A measuring</li> <li>- Maximum consumption: 2.8 <math>\mu</math>A measuring</li> </ul> </li> <li>Pressure sensor <ul style="list-style-type: none"> <li>- Measurement range: 30 ~ 110 kPa</li> <li>- Operational temperature range: -40 ~ +85 <math>^{\circ}</math>C</li> <li>- Full accuracy temperature range: 0 ~ +65 <math>^{\circ}</math>C</li> <li>- Absolute accuracy: <math>\pm</math>0.1 kPa (0 ~ 65 <math>^{\circ}</math>C)</li> <li>- Typical consumption: 2.8 <math>\mu</math>A measuring</li> <li>- Maximum consumption: 4.2 <math>\mu</math>A measuring</li> </ul> </li> <li>- 1 UltraSound Sensor <ul style="list-style-type: none"> <li>- Operation frequency: 42 kHz</li> <li>- Maximum detection distance: 765 cm</li> <li>- Consumption (average): 2 mA</li> <li>- Consumption (peak): 50 mA</li> <li>- Usage: Indoors only</li> </ul> </li> </ul> <p>Note: End user will provide BOM</p> <p>Others:</p> <ol style="list-style-type: none"> <li>1. Delivery: Thirty (30) days upon issuance of NTP</li> <li>2. Price is inclusive of government duties and taxes and other fees.</li> <li>3. Payment upon full delivery</li> </ol>				
29	<p><b>Vibration Sensor</b> Electronic Components</p> <p>2-3.6V Supply  <math>\pm</math>2 g/<math>\pm</math>4 g/<math>\pm</math>8 g adjustable acceleration range  <math>\pm</math>1200 <math>\mu</math>T magnetic sensor range  Output data rates (ODR) from 1.563 Hz to 800 Hz  14-bit ADC resolution for acceleration measurements  16-bit ADC resolution for magnetic measurements</p>	1	kit	3043.00	3,043.00

	<p>Others:</p> <ol style="list-style-type: none"> <li>1. Delivery: Thirty (30) days upon issuance of NTP</li> <li>2. Price is inclusive of government duties and taxes and other fees.</li> <li>3. Payment upon full delivery</li> </ol>				
30	<p><b>Diagnostic Cable Platform</b> Electronic Components</p> <p>Contains the following: 1x OBD-II UART 1x OBD-II to DB9 Cable</p> <p>Specs: Fully compatible with the ELM327 AT command set Extended ST command set UART interface (baud rates from 38 bps to 10 Mbps) Secure bootloader for easy firmware updates Support for all legislated OBD II protocols: ISO 15765-4 (CAN) ISO 14230-4 (Keyword Protocol 2000) ISO 9141-2 (Asian, European, Chrysler vehicles) SAE J1850 VPW (GM vehicles) SAE J1850 PWM (Ford vehicles) Support for non-legislated OBD protocols: ISO 15765 ISO 11898 (raw CAN) Support for SAE J1939 OBD protocol Superior automatic protocol detection algorithm Large memory buffer Voltage input for battery monitoring</p> <p>Others:</p> <ol style="list-style-type: none"> <li>1. Delivery: Thirty (30) days upon issuance of NTP</li> <li>2. Price is inclusive of government duties and taxes and other fees.</li> <li>3. Payment upon full delivery</li> </ol>	1	kit	5560.00	5,560.00
31	<p><b>Sensor Interface Platform</b> Electronic Components</p> <p>802.11 b/g/n wireless LAN Bluetooth® 4.1 Bluetooth Low Energy (BLE) 1GHz, single-core CPU 512MB RAM Mini HDMI and USB On-The-Go ports Micro USB power HAT-compatible 40-pin header pins Composite video and reset headers CSI camera connector</p> <p>Others:</p> <ol style="list-style-type: none"> <li>1. Delivery: Thirty (30) days upon issuance of NTP</li> <li>2. Price is inclusive of government duties and taxes and other fees.</li> <li>3. Payment upon full delivery</li> </ol>	3	kit	1500.00	4,500.00
32	<p><b>Image Sensor</b> Image Sensor: Sony IMX219</p>	2	kit	3330.00	6,660.00

	<p>Maximum Photo Resolution: 3280 x 2464 pixel Supported Video Resolution: 1080p30, 720p60 and 640x480p90 Physical Dimensions: 25mm x 23mm x 9mm Interface: CSI connector (15cm ribbon cable included)</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>				
33	<p><b>Conductive Sheet</b> Electroni Passive Component Dimensions: 11" x 11" (280mm x 280mm) 4 mil / 0.1mm thick Weight: 18.66g Temperature Limits : -45°C to 65°C (-50°F to 150°F) Heat Sealable : Yes Volume Resistivity : &lt;500 ohm-cm Surface Resistivity : &lt; 31,000 ohms/sq.cm</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	10	pc	400.00	4,000.00
34	<p><b>Conductive Tape</b> Electroni Passive Component</p> <p>Copper tape 5 meters long, this tape is 3mils/0.07mm thick, 1"/25mm wide</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	2	roll	1900.00	3,800.00
35	<p><b>Flash Memory Module</b> Electronic Computing Module</p> <p>16 gigabyte 45MB/s read-write</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	6	pc	2000.00	12,000.00
36	<p><b>Flash Memory Module</b> Embedded Module 500gb capacity560MB/s</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees.</p>	2	pc	11000.00	22,000.00



	3. Payment upon full delivery				
37	<p><b>Conductive Paint</b> Electronic Passive Component</p> <p>Water-based, nontoxic and dries at room temperature. Electric Paint can be applied to a wide variety of materials, including (but certainly not limited to) paper, cardboard vellum, wood, metal, plaster, some rubbers, plastics and many textile.</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	4	pc	2500.00	10,000.00
38	<p><b>Sensor Interface Platform</b> Electronic Development Kit</p> <p>Broadcom BCM2837B0 64-bit ARM Cortex-A53 Quad Core Processor SoC running @ 1.4GHz 1GB RAM LPDDR2 SDRAM 4x USB2.0 Ports with up to 1.2A output Extended 40-pin GPIO Header Video/Audio Out via 4-pole 3.5mm connector, HDMI, CSI camera, or Raw LCD (DSI) Storage: microSD Gigabit Ethernet over USB 2.0 (maximum throughput 300Mbps) 2.4GHz and 5GHz IEEE 802.11.b/g/n/ac wireless LAN, Bluetooth 4.2, BLE H.264, MPEG-4 decode (1080p30); H.264 encode (1080p30); OpenGL ES 1.1, 2.0 graphics Low-Level Peripherals: 27x GPIO UART I2C bus SPI bus with two chip selects +3.3V +5V Ground</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	1	pc	3800.00	3,800.00
39	<p><b>GPS Module</b> IC Component</p> <p>Satellites: 22 tracking, 66 searching Patch Antenna Size: 15mm x 15mm x 4mm Update rate: 1 to 10 Hz Position Accuracy: &lt; 3 meters (all GPS technology has about 3m accuracy) Velocity Accuracy: 0.1 meters/s Warm/cold start: 34 seconds Acquisition sensitivity: -145 dBm</p>	2	pc	3800.00	7,600.00

	<p>Tracking sensitivity: -165 dBm  Maximum Velocity: 515m/s  Vin range: 3.0-5.5VDC  MTK3339 Operating current: 25mA tracking, 20 mA current draw during navigation  Output: NMEA 0183, 9600 baud default, 3V logic level out, 5V-safe input  DGPS/WAAS/EGNOS supported  FCC E911 compliance and AGPS support (Offline mode : EPO valid up to 14 days )  Up to 210 PRN channels  Jammer detection and reduction  Multi-path detection and compensation</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>				
40	<p><b>Image Sensor</b>  - Kit includes the following:  2 image sensor and 1 data logger</p> <p>Image Sensor 1:  High Speed Sensor  sensor resolution: 1920x1080 @30fps, 1280x720 @60fps, 640x480 @120fps  Field of View : 100 degrees diagonal. Lenses are exchangeable: ships with 60deg and 100 deg FOV lenses.  Latency : 5.7ms</p> <p>Image Sensor 2:  sensor : Global Shutter. 200x200 @200fps, 400x400 @120fps  illumination : IR camera with IR illumination with tracking capability  latency : 4.5ms</p> <p>Sensors are UVC compliant</p> <p>Data Logger:  4 hours of video locally on memory or stream video and sensor data over Wifi.  comes with the ff accessories: 1 power pack, 64gb SD card, USBC-USBC cable</p> <p>Notes:  1. At least 2 years warranty of parts and services  2. Must be delivered to ASTI</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>	1	kit	320000.00	320,000.00
41	<b>Sensor interface board</b>	3	pc	2900.00	8,700.00

	<p>Electronic Computing Module</p> <p>ATmega328 microcontroller  Input voltage - 7-12V  14 Digital I/O Pins (6 PWM outputs)  6 Analog Inputs  32k Flash Memory  16Mhz Clock Speed</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>				
42	<p><b>Lead Acid Battery</b>  Valve Regulated Lead-Acid Battery (Heavy Duty)  12V, 12 AH  DIMENSION  Length: 151 mm  Width: 98 mm  Height: 101 mm  Application  • General Electronics  • Medical  • Mobility  • Telecommunications  • UPS  • Solar  • Emergency lighting  • Aerospace  • Defense  • Global positioning systems  Product Feature  • Excellent cycling capability  • Very high energy density  • High rate discharge capability  • Lowest self discharge rate  • Approved for shipping as non-hazardous, non-spillable  • Operates in any position  • Low internal resistance</p> <p>With at least 6 months warranty  **Manufacturer of the battery must have the ISO / YYS16949 Calibration</p> <p>Others:  1. Delivery: Thirty (30) days upon issuance of NTP  2. Price is inclusive of government duties and taxes and other fees.  3. Payment upon full delivery</p>	80	pc	2800.00	224,000.00
43	<p><b>Lead Acid Battery</b>  Valve Regulated Lead-Acid Battery (Heavy Duty)  Voltage: 12V  Capacity: 17AH  Dimension: 180x77x168 (LxWxH)  Application  • General Electronics</p>	250	pc	3300.00	825,000.00

<ul style="list-style-type: none"> <li>• Medical</li> <li>• Mobility</li> <li>• Telecommunications</li> <li>• UPS</li> <li>• Solar</li> <li>• Emergency lighting</li> <li>• Aerospace</li> <li>• Defense</li> <li>• Global positioning systems</li> </ul> <p>Product Feature</p> <ul style="list-style-type: none"> <li>• Excellent cycling capability</li> <li>• Very high energy density</li> <li>• High rate discharge capability</li> <li>• Lowest self discharge rate</li> <li>• Approved for shipping as non-hazardous, non-spillable</li> <li>• Operates in any position</li> <li>• Low internal resistance</li> </ul> <p>With at least 6 months warranty  **Manufacturer of the battery must have the ISO / YYS16949 Calibration</p> <p>Others:</p> <ol style="list-style-type: none"> <li>1. Delivery: Thirty (30) days upon issuance of NTP</li> <li>2. Price is inclusive of government duties and taxes and other fees.</li> <li>3. Payment upon full delivery</li> </ol>					
<b>TOTAL APPROVED BUDGET FOR THE CONTRACT (ABC):</b>					<b>Php 1,924,313.00</b>
<b>RESERVATION CLAUSE</b>					
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.					