



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)**

ITB No:	18-08-2073	Date:	September-04-2018
PR No:	GAA-18-08-6227	Date:	August-08-2018
Source of Funds:	GAA		
Total ABC:	Php 18,903,755.00		
Time, Date & Venue of Pre-bid Conference:	September 18, 2018, 1:30 PM at DOST-ASTI		
Time and Date of Submission of Bids:	October 01, 2018, 12:00 PM		
Time, Date & Venue of Opening Bids:	October 01, 2018, 2:00 PM at DOST-ASTI		
Date of availability of Complete Set of Documents:	September 10, 2018		
Deadline of Potential Bidder's Clarifications:	September 22, 2018		
Deadline of ASTI's Supplemental Bid Bulletin:	September 25, 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](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>ASTI-DESIGNED DATA LOGGER</b> A. Overall design will be provided by ASTI (available upon signing of Non-Disclosure Agreement)  B. Circuit boards  1.) GDAT Main Board (Qty: 800 pcs) Specs : - includes board fabrication and component assembly - includes component sourcing based on BOM - gerber and BOM files are available upon request - quantity: - must pass based on testing procedure submitted PCB specs: - Dimension: 82.22mm x 64.2mm - Material: FR-4 - Silkscreen: White (Top and bottom) - Solder Mask: Double	800	pc	17500.00	14,000,000.00

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

- LPI color: Black
- PCB Thickness : 1.64 mm
- Number of Electrical Layers : 2

2.) GSM Module (Qty: 800 pcs)

Specs :

- includes board fabrication and component assembly
- includes component sourcing based on BOM
- gerber and BOM files are available upon request
- quantity:
- must pass based on testing procedure submitted

PCB specs:

- Dimension: 37mm x 50mm
- Material: FR-4
- Silkscreen: White (Top and bottom)
- Solder Mask: Double
- LPI color: Blue
- PCB Thickness : 1.64 mm
- Number of Electrical Layers : 2

3.) Power Board 1 and 2 (Qty: 800 pairs)

Specs :

- includes board fabrication and component assembly
- includes component sourcing based on BOM
- gerber and BOM files are available upon request
- must pass based on testing procedure submitted

PCB specs:

- Dimension: 24.4mm x 64.2mm
- Material: FR-4
- Silkscreen: White (Top and bottom)
- Solder Mask: Double
- LPI color: Green
- PCB Thickness : 1.64 mm
- Number of Electrical Layers : 4 and 2

Qty breakdown:

- 1 pair = 1 pc of Power Board 1 and 2
- 300 pairs of Power Board 1 and 2 are assembled in the datalogger

4.) Pressure Module (Qty: 800 pcs.)

Specs :

- includes board fabrication and component assembly
- includes component sourcing based on BOM
- gerber and BOM files are available upon request
- must pass based on testing procedure submitted

PCB specs:

- Dimension: 20.32mm x 20.32mm
- Material: FR-4
- Silkscreen: White (Top and bottom)
- Solder Mask: Double
- LPI color: Blue
- PCB Thickness : 1.64 mm
- Number of Electrical Layers : 2
- Lead Time : 15 Days

C. Enclosure (Qty: 800 pcs)

- fabrication of customized casing for the datalogger based on drawing design
- includes fabrication of saddle clamps and lock bars based on drawing design
- includes industrial design for the tooling

- materials: weatherproof and UV-resistant
- ingress protection: IP67

D. Lithium Polymer Battery (800 pairs)

Detailed Specs :

Type : Lithium Polymer (LiPo) with built-in protection circuit module (PCM)

Voltage (Nominal) : 3.7 V

Capacity : 6800 mAh (Typical) 6500 mAh (Minimum)

Charge :

Max Current : 6800 mAh

Limited Voltage : 4.2 +/- 0.02 V

End-of-Current : 136 mA

Discharge :

Max Current : 13600 mA

End Voltage : 2.75 +/- 0.005

Operation Temp :

Charge : 0 - 45 deg C

Discharge : -20 - +60 deg C

Safety Characteristics :

Overcharged : No fire or explosion

Short Circuit : No fire or explosion (150 deg C max heat)

Heating : No fire or explosion

Acclimatization Characteristics :

High Temp and High Humidity : No deformation, no rust,

no fire or explosion

Discharge Time >= 36 min

Vibration : No damnification, no leak, no fire or explosion

Battery Voltage >= 3.6 V

Drop : No leakage, no fire or explosion

Discharge Time : >= 36 min.

High Temp Discharge Capacity : 57 mins.

Low Temp Discharge Capacity : 4.25 hrs.

Overcharge protection :

Detection Voltage : 4.28 +/- 0.05 V

Detection Delay Time : 0.96 - 1.4 secs.

Release Voltage : 4.175 +/- 0.025 V

Overdischarge Protection :

Detection Voltage : 3 +/- 0.1 V

Detection Delay Time : 115 - 173 ms

Release Voltage : 3.5 +/- 0.05 V Over Current Protection

:

Detection Voltage : 0.1 +/- 0.015 V

Detection Current : 2 - 6 A

Cycle Life : >= 300 cycles

Dimension : 9.8x51.5x120 mm (ThickxWidthxLength) max

Approx Weight : 136 g

Connector and wiring Specs :

Type : Connector, Housing

Body Orientation : Straight

Housing Material : Nylon 66

Max Current Rating : 3 A

Max Voltage : 250 V

Temp Rating : -25 deg C to 85 deg C

No. of contacts : 3 (positive, NTC, negative)

No. of Rows : 1

	<p>Pitch : 2 mm  Dimension : 2x8x5.8 mm (DepthxHeightxLength)  Wire Size : 22-28 AWG  Wire Length : 50mm +-3.0  Packaging:  **High temp. adhesive tapes and wrapped with PVC material  ** with external 1k carbon resistor connected to NTC connection</p> <p>E. Connectors  1.) Waterlevel (Qty: 800 pcs)  - Receptacle PART No. 09343111604</p> <p>2.) Rain Gauge (Qty: 800 pcs)  - Receptacle PART No. 0934038603</p> <p>F. Assembly and Testing  - includes all assembly and integration of boards,enclosure/mechanical fixtures, solar panels and sensors  - includes functional testing and must pass based on end-user's testing procedure (generate individual test report from test</p> <p>G. 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 licensed by ASTI  5. Must be delivered to ASTI</p> <p>H. 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	<p><b>CONTROLLER BOX ASSEMBLY</b>  A. Assembly of Controller Box for UAAWS:</p> <p>One (1) set includes  1. One(1) pc Enclosure with customized interface holes  Specifications:  - Body color: Gray  - Overall dimensions:  *H 14.13"  *W 12.26"  *D 6.13"  - Standards: Complies with NEMA Type 1,2,3,4,4X,12 and 13, IEC 529, IP66  - Construction:  * Molded fiberglass polyester enclosure with matching cover  * Stainless steel draw type "snap latch" door fastener</p>	105	set	33875.00	3,556,875.00

- \* Door fasteners include a provision for padlocking
  - \* Door is supported with a continuous stainless steel hinge
  - \* Captive oil resistant gasket
  - \* Threaded brass inserts for mounting feet to the rear of the enclosure
  - \* Stainless steel mounting brackets and hardware for mounting to the rear enclosure
  - Operating temperatures between 130C and -40C
- Note: End user will provide a technical drawing for the customized hole.

2. One (1) pc Solar Charge Controller Regulator

MECHANICAL SPECIFICATIONS:

- Wire size #16 AWG
- ABS plastic case: Epoxy encapsulated
- Weight: 3 oz (0.09 kg)
- Dimensions: 2.5" x 2.0" x 1.4"/63.5 x 50.8 x 35.56 mm

ELECTRICAL SPECIFICATIONS:

- Rated Solar Input: 4.5 Amps
- Max. Input (5min.): 5.5 Amps
- System Voltage: 12V
- Max. Solar Voltage: 30V
- Regulation Voltage: 14.1V
- Accuracy: 60 mV
- Self-consumption: 6 mA
- Temp. Compensation: -28 mV/ degree Celsius
- Reverse Current Leakage: <10 micro Amps
- Operating Temperature: -40 to 85 degree Celsius

3. One (1) pc Standard Terminal Block

- Connector Mounting: Panel
- Connector Type: Terminal Block
- Barrier Contact Material: Brass
- Contact Plating: Nickel
- No. of Contacts: 12
- Pitch Spacing: 8mm
- Product Range: PA Series
- Wire Max Size: 18AWG
- Wire Min Size: 20AWG

4. One (1) pc Fuse Holder

- Inline Fuse Holder
- Current Rating: 3A
- Fuse Size: Regular
- Fuse Type: Automotive
- Lead Wire Length: 4in
- Lead Wire Size: 12AWG
- Voltage Rating: 32V (AC)

5. One (1) pc Automotive Fuse

- Blade Size: Regular
- Colour: Violet
- Current Rating: 3A
- Fuse Type: Blade
- Height: 16.5mm
- Maximum Operating Temperature: +125°C
- Minimum Operating Temperature: -55°C
- Voltage Rating: 32 V

- Width: 3.8mm
- Must be compatible with Sub-Item No. 4 (Fuse Holder)

6. One (1) pc Protective Vent

SPECIFICATION:

- Screw-in Type
- M12x1.5 with nut

PRODUCT PERFORMANCE:

- Water entry pressure: > 0.3 bar / 30 sec
- Typical airflow(dp = 70 mbar): 2500 ml / min

PRODUCT CHARACTERISTICS:

- Membrane characteristic: Hydrophobic
- Backing material: ePTFE / Polyester (PET)
- Housing material: Polyamide (PA6)
- Color of housing material: Pale Gray
- ORing material: Silicone 60 Shore A
- Wrench size: 16mm
- Overall Length: 15.55mm

7. Two (2) pcs ASTI designed clip holder for datalogger

GENERAL:

- refer to attached drawing
- Material: plastic
- complete with stainless screws and nuts
- BOM may be presented upon request
- Must be compatible with ASTI-ARQ datalogger

8. Nine (9) sets Cable Assemblies

- one (1) pc arQ Data Interface
- one (1) pc arQ Power Interface
- one (1) pc Soil Sensor Cable Interface
- one (1) pc Solar Panel Interface
- one (1) pc Sunshine Duration Sensor Connector
- one (1) pc Weather Sensor Connector
- one (1) pc Rain Gauge Sensor Cable Interface
- one (1) set Battery Connectors
- one (1) set Grounding Kit

Note: End user will provide a technical drawing and specifications on item 8's nine sub-items

9. One (1) set electronic PCB assembly

- ASTI designed Interconnect board
- The end user will provide a bill of material, a gerber file for the PCB design, and instruction assembly.
- Supplier should provide sample at least three (3) units before production

10. One (1) ASTI-designed data logger

10.1. Overall design will be provided by ASTI (available upon signing of Non-Disclosure Agreement)

10.2. Circuit boards

10.2.1. GDAT Main Board (Qty: 1 pc)

Specs :

- includes board fabrication and component assembly
- includes component sourcing based on BOM
- gerber and BOM files are available upon request

- quantity:
- must pass based on testing procedure submitted
- PCB specs:
- Dimension: 82.22mm x 64.2mm
- Material: FR-4
- Silkscreen: White (Top and bottom)
- Solder Mask: Double
- LPI color: Black
- PCB Thickness : 1.64 mm
- Number of Electrical Layers : 2

#### 10.2.2. GSM Module (Qty: 1 pc)

##### Specs :

- includes board fabrication and component assembly
- includes component sourcing based on BOM
- gerber and BOM files are available upon request
- quantity:
- must pass based on testing procedure submitted

##### PCB specs:

- Dimension: 37mm x 50mm
- Material: FR-4
- Silkscreen: White (Top and bottom)
- Solder Mask: Double
- LPI color: Blue
- PCB Thickness : 1.64 mm
- Number of Electrical Layers : 2

#### 10.2.3. Power Board 1 and 2 (Qty: 1 pair)

##### Specs :

- includes board fabrication and component assembly
- includes component sourcing based on BOM
- gerber and BOM files are available upon request
- must pass based on testing procedure submitted

##### PCB specs:

- Dimension: 24.4mm x 64.2mm
- Material: FR-4
- Silkscreen: White (Top and bottom)
- Solder Mask: Double
- LPI color: Green
- PCB Thickness : 1.64 mm
- Number of Electrical Layers : 4 and 2

##### Qty breakdown:

- 1 pair = 1 pc of Power Board 1 and 2
- 1 pair of Power Board 1 and 2 are assembled in the datalogger

#### 10.2.4. Pressure Module (Qty: 1 pc)

##### Specs :

- includes board fabrication and component assembly
- includes component sourcing based on BOM
- gerber and BOM files are available upon request
- must pass based on testing procedure submitted

##### PCB specs:

- Dimension: 20.32mm x 20.32mm
- Material: FR-4
- Silkscreen: White (Top and bottom)
- Solder Mask: Double
- LPI color: Blue
- PCB Thickness : 1.64 mm
- Number of Electrical Layers : 2
- Lead Time : 15 Days

10.3. Enclosure (Qty: 1 pc)

- fabrication of customized casing for the datalogger based on drawing design
- includes fabrication of saddle clamps and lock bars based on drawing design
- includes industrial design for the tooling
- materials: weatherproof and UV-resistant
- ingress protection: IP67

10.4 Lithium Polymer Battery (1 pair)

Detailed Specs :

Type : Lithium Polymer (LiPo) with built-in protection circuit module (PCM)

Voltage (Nominal) : 3.7 V

Capacity : 6800 mAh (Typical) 6500 mAh (Minimum)

Charge :

Max Current : 6800 mAh

Limited Voltage : 4.2 +/- 0.02 V

End-of-Current : 136 mA

Discharge :

Max Current : 13600 mA

End Voltage : 2.75 +/- 0.005

Operation Temp :

Charge : 0 - 45 deg C

Discharge : -20 - +60 deg C

Safety Characteristics :

Overcharged : No fire or explosion

Short Circuit : No fire or explosion (150 deg C max heat)

Heating : No fire or explosion

Acclimatization Characteristics :

High Temp and High Humidity : No deformation, no rust,

no fire or explosion

Discharge Time  $\geq$  36 min

Vibration : No damnification, no leak, no fire or explosion

Battery Voltage  $\geq$  3.6 V

Drop : No leakage, no fire or explosion

Discharge Time :  $\geq$  36 min.

High Temp Discharge Capacity : 57 mins.

Low Temp Discharge Capacity : 4.25 hrs.

Overcharge protection :

Detection Voltage : 4.28 +/- 0.05 V

Detection Delay Time : 0.96 - 1.4 secs.

Release Voltage : 4.175 +/- 0.025 V

Overdischarge Protection :

Detection Voltage : 3 +/- 0.1 V

Detection Delay Time : 115 - 173 ms

Release Voltage : 3.5 +/- 0.05 V Over Current Protection

:

Detection Voltage : 0.1 +/- 0.015 V

Detection Current : 2 - 6 A

Cycle Life :  $\geq$  300 cycles

Dimension : 9.8x51.5x120 mm (ThickxWidthxLength) max

Approx Weight : 136 g

Connector and wiring Specs :



Type : Connector, Housing  
Body Orientation : Straight  
Housing Material : Nylon 66  
Max Current Rating : 3 A  
Max Voltage : 250 V  
Temp Rating : -25 deg C to 85 deg C  
No. of contacts : 3 (positive, NTC, negative)  
No. of Rows : 1  
Pitch : 2 mm  
Dimension : 2x8x5.8 mm (DepthxHeightxLength)  
Wire Size : 22-28 AWG  
Wire Length : 50mm +-3.0  
Packaging:  
\*\*High temp. adhesive tapes and wrapped with PVC material  
\*\* with external 1k carbon resistor connected to NTC connection

#### 10.5. Connectors

##### 10.5.1. Waterlevel (Qty: 1 pcs)

- Binder USA
- Receptacle PART No. 09343111604

##### 10.5.2. Rain Gauge (Qty: 1 pcs)

- Binder USA
- Receptacle PART No. 0934038603

#### 10.6. Assembly and Testing

10.6.1. includes all assembly and integration of boards, enclosure/mechanical fixtures, solar panels and sensors

10.6.2. includes functional testing and must pass based on end-user's testing procedure (generate individual test report from test)

#### 11. LEAD ACID BATTERY

##### 11.1. Valve Regulated Lead-Acid Battery (Heavy Duty)

##### 11.2. Voltage: 12V

##### 11.3. Capacity: 17AH

##### 11.4. Dimension: 180x77x168 (LxWxH)

##### 11.5. Product Features:

- 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

##### 11.6. Manufacturer of the battery must have the ISO / TS16949 Calibration

#### 12. Two (2) pcs Padlock with spare keys

- Outdoor use, stainless
- Must be compatible with Sub-Item No. 1 (Enclosure)

#### B. Notes:

1. Supplier must provide detailed mechanical drawing and data sheet of the connectors for approval by the end-user prior to delivery.
2. Items 1 to 11 under Item A should be assembled

	<p>according to end user's drawing.</p> <p>3. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification.</p> <p>4. 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>5. Supplied with comprehensive, traceable, calibration certificates</p> <p>6. At least 2 years warranty of parts and services</p> <p>7. Must be delivered to ASTI</p> <p>8. Must be compatible to ASTI-ARQ datalogger Firmware 3.0 and latter</p> <p>C. 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>				
3	<p><b>SOLAR PANEL</b></p> <p>A. GENERAL:</p> <p>1. Type: Mono-crystalline Solar Module</p> <p>2. Electrical Specs.</p> <ul style="list-style-type: none"> <li>- Peak Power : at least 25 W</li> <li>- Cell Efficiency : 14.02 % (min)</li> <li>- Max. power voltage (Vmp) : 17.56 V (min)</li> <li>- Max. power current (Imp) : 1.42 A (min)</li> <li>- V (open circuit) : 21.16 V</li> <li>- I (short circuit) : 1.64 A</li> <li>- Max system voltage: 600 V</li> </ul> <p>3. Mechanical system specs.</p> <ul style="list-style-type: none"> <li>- Dimensions: 450x541x25 mm</li> <li>- Weight: 2.9 kg ( 6.19 lbs.)</li> <li>- No. of cells: 36 in series (4x9)</li> <li>- Construction: High transmission low-iron tempered glass,EVA,TPT</li> </ul> <p>4. Frame: Anodized Aluminium</p> <p>5. Module warranty:</p> <ul style="list-style-type: none"> <li>- 25-yr limited warranty of 80% power output</li> <li>- 10-yr limited warranty of 90% power output</li> <li>- 5-yr limited warranty of materials and workmanship</li> </ul> <p>**Manufacturer of the module must have the ISO certification</p> <p>B. Notes:</p> <p>1. Supplier must provide detailed mechanical drawing and data sheet of the connectors for approval by the end-user prior to delivery.</p> <p>2. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification.</p> <p>3. 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>4. At least 2 years warranty</p>	12	pc	3000.00	36,000.00

	<p>5. Must be delivered to ASTI</p> <p>C. 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>				
4	<p><b>CHOGORI 4 PIN (PLUG AND RECEPTACLE)</b></p> <p>A. General:</p> <ol style="list-style-type: none"> <li>1. Chogori Standard Series</li> <li>2. Male Connector &amp; Female Pin</li> <li>3. Field Installable</li> <li>4. 180 degrees</li> <li>5. Push Lock Type</li> <li>6. Solder</li> <li>7. 4 Pin</li> </ol> <p>B. 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. Must be delivered to ASTI</li> </ol> <p>C. 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>	150	pc	900.00	135,000.00
5	<p><b>CHOGORI 8 PIN (PLUG AND RECEPTACLE)</b></p> <p>A. General:</p> <ol style="list-style-type: none"> <li>1. Chogori Standard Series</li> <li>2. Male Connector &amp; Female Pin</li> <li>3. Field Installable</li> <li>4. 180 degrees</li> <li>5. Push Lock Type</li> <li>6. Solder</li> <li>7. 8 Pin</li> </ol> <p>B. 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. Must be delivered to ASTI</li> </ol> <p>C. 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>	100	pc	900.00	90,000.00

6	<p><b>ARQ POWER CABLE</b></p> <p>1. Connector</p> <ul style="list-style-type: none"> <li>- Assembly method: Installable 180</li> <li>- Configuration Type: Socket, Male Connector</li> <li>- Locking Type: Screw Type</li> <li>- Poles: 4 poles 10A 125V</li> <li>- Total number of contacts: 4</li> <li>- Wire Gauge: 20 AWG</li> <li>- ECCN: EAR99</li> <li>- Mating Cycles: 500</li> <li>- Operating Temp: -25C to 105C</li> <li>- IP68 protection</li> </ul> <p>2. Industrial Cable</p> <ul style="list-style-type: none"> <li>- Multiwire</li> <li>- Number of cores: 2</li> <li>- Cross Sectional Area: 0.5 mm2</li> <li>- Screened/Unscreened: Unscreened</li> <li>- Sheath Colour: Black</li> <li>- American Wire Gauge: 20 AWG</li> <li>- Screen Type: Unscreened</li> <li>- Maximum Operating Temperature: +260C</li> <li>- Sheath Material: PVC</li> <li>- Voltage Rating: 300 V</li> <li>- Minimum Operating Temperature: -190C</li> <li>- Minimum Bend Radius: 4 x Diameter</li> <li>- Conductor Material: Copper</li> <li>- Insulation Material: PVC</li> </ul> <p>B. 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. Must be delivered to ASTI</li> </ol> <p>C. 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>	150	pc	450.00	67,500.00
7	<p><b>RF CABLE ASSEMBLY – SMA JACK-TO-MMCX</b></p> <p>A. General</p> <ol style="list-style-type: none"> <li>1. Assembly Configuration :Dual Ended Connectors</li> <li>2. Connector to Connector :SMA-to-MMCX</li> <li>3. Overview :RF Cable Assemblies</li> <li>4. Product Name :MMCX, RF, SMA</li> </ol> <p>5. Physical</p> <ul style="list-style-type: none"> <li>- Cable Length :152.40mm (6.000")</li> <li>- Circuits (Loaded) :0</li> <li>- Gender :Jack/Plug</li> <li>- Net Weight :6.989/g</li> <li>- Packaging Type :Bag</li> <li>- Single Ended :No</li> <li>- Wire/Cable Type :RG-316</li> </ul> <p>6. Electrical</p>	100	pc	300.00	30,000.00

	<p>- Impedance: 50Ω</p> <p>B. 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. Must be delivered to ASTI</li> </ol> <p>C. 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>				
8	<p><b>Pressure Sensor Boards</b></p> <p>A. General:</p> <ol style="list-style-type: none"> <li>1. Vin:3.3V</li> <li>2. Communication: SPI</li> <li>3. No. of pins: 7</li> <li>4. Dimension: 20x20mm</li> <li>5. Compatible with arQ1010</li> <li>6. With 7 pin header</li> </ol> <p>B. Notes:</p> <ol style="list-style-type: none"> <li>1. Supplier must provide detailed mechanical drawing and data sheet of the connectors for approval by the end-user prior to delivery.</li> <li>2. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification.</li> <li>3. 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>4. At least 2 years warranty of parts and services</li> <li>5. Must be delivered to ASTI</li> <li>6. Must be compatible to ASTI-ARQ datalogger Firmware 3.0 and latter</li> </ol> <p>C. 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>	100	pc	1750.00	175,000.00
9	<p><b>ASTI-DESIGNED POWER BOARDS</b></p> <p>A. General</p> <p>Power Board 1 and 2 (Qty: Power Board 1 - 50 pcs ; Power Board 2 - 50 pcs)</p> <p>Specs :</p> <ul style="list-style-type: none"> <li>- includes board fabrication and component assembly</li> <li>- includes component sourcing based on BOM</li> <li>- gerber and BOM files are available upon request</li> <li>- must pass based on testing procedure submitted</li> <li>- PCB specs:</li> </ul>	300	pc	2500.00	750,000.00

	<ul style="list-style-type: none"> <li>- Dimension: 24.4mm x 64.2mm</li> <li>- Material: FR-4</li> <li>- Silkscreen: White (Top and bottom)</li> <li>- Solder Mask: Double</li> <li>- LPI color: Green</li> <li>- PCB Thickness : 1.64 mm</li> <li>- Number of Electrical Layers : 4 and 2</li> </ul> <p>Qty breakdown:</p> <ul style="list-style-type: none"> <li>- 50 pcs of Power Board 1</li> <li>- 50 pcs of Power Board 2</li> </ul> <p>B. 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> <li>5. Must be compatible to ASTI-ARQ datalogger Firmware 3.0 and latter</li> </ol> <p>C. 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>				
10	<p><b>EMBEDDED MODULE</b></p> <p>A. Technical Specifications:</p> <ol style="list-style-type: none"> <li>1. Microcontroller chip: ATmega328P</li> <li>2. Operating Voltage: 5V</li> <li>3. Input Voltage (recommended): 7-12V</li> <li>4. Input Voltage (limit): 6-20V</li> <li>5. Digital I/O Pins: 14 (of which 6 provide PWM output)</li> <li>6. PWM Digital I/O Pins: 6</li> <li>7. Analog Input Pins: 6</li> <li>8. DC Current per I/O Pin: 20 mA</li> <li>9. DC Current for 3.3V Pin: 50 mA</li> <li>10. Flash Memory: 32 KB (ATmega328P) of which 0.5 KB used by bootloader</li> <li>11. SRAM: 2 KB (ATmega328P)</li> <li>12. EEPROM: 1 KB (ATmega328P)</li> <li>13. Clock Speed: 16 MHz</li> <li>14. LED_BUILTIN: 13</li> <li>15. Length: 68.6 mm</li> <li>16. Width: 53.4 mm</li> <li>17. Weight: 25 g</li> </ol> <p>B. 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> </ol>	4	pc	1500.00	6,000.00

	<p>3. Must be delivered to ASTI</p> <p>C. 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>				
11	<p><b>MICROCONTROLLER KIT WITH RADIO TRANSCEIVER</b></p> <p>A. General</p> <p>1. 32 bit Microcontroller running @ 48MHz with 3.3V logic/power</p> <ul style="list-style-type: none"> <li>- No EEPROM</li> <li>- 3.3V regulator with 500mA peak current output</li> <li>- USB native support, comes with USB bootloader and serial port debugging</li> <li>- 20 GPIO pins</li> <li>- Hardware Serial, hardware I2C, hardware SPI support</li> <li>- 8 x PWM pins</li> <li>- 10 x analog inputs</li> <li>- 1 x analog output</li> <li>- Built in 100mA lithium polymer charger with charging status indicator LED</li> <li>- With power/enable pin</li> <li>- 4 mounting holes</li> <li>- Reset button</li> </ul> <p>2. Radio Transceiver:</p> <ul style="list-style-type: none"> <li>- SX127x LoRa® based module with SPI interface</li> <li>- Packet radio with ready-to-go libraries</li> <li>- 433MHz Frequency</li> <li>- +5 to +20 dBm up to 100 mW Power Output Capability (power output selectable in software)</li> <li>- ~300uA during full sleep, ~120mA peak during +20dBm transmit, ~40mA during active radio listening.</li> </ul> <p>B. 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. Must be delivered to ASTI</p> <p>C. 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>	8	set	3700.00	29,600.00
12	<p><b>ELECTRONIC ENCLOSURE</b></p> <p>Specifications</p> <p>1. Body color: Gray</p> <p>2. Overall dimensions: (HxWxD : 10.05" x 8.27" x 5.19")</p> <p>3. Standards: Complies with NEMA Type 1,2,3,4,4X,12 and 13, IEC 529,IP66</p> <p>4. Construction:</p>	3	set	8500.00	25,500.00

	<ul style="list-style-type: none"> <li>- Molded fiberglass polyester enclosure with matching cover</li> <li>- Enhanced UV inhibitors protect against outdoor weathering.</li> <li>- Solid Door Screw Cover w/flange</li> <li>- With assembled 1 set Snap Latch</li> <li>- Captive oil resistant gasket</li> <li>- Threaded brass inserts for mounting feet to the rear of the enclosure</li> <li>- Stainless steel mounting brackets and hardware for mounting to the rear enclosure</li> <li>- Cover material: Clear, Polycarbonate</li> <li>- With attached Polycarbonate Flanges</li> </ul> <p>5. Operating temperatures between 130C and -40C</p> <p>B. Notes:</p> <ol style="list-style-type: none"> <li>1. Supplier must provide detailed mechanical drawing and data sheet of the connectors for approval by the end-user prior to delivery.</li> <li>2. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification.</li> <li>3. 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>4. Must be delivered to ASTI</li> </ol> <p>C. 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>				
13	<p><b>SMA TO U.FL CABLE ASSEMBLY</b></p> <ol style="list-style-type: none"> <li>1. Coaxial Cables (RF)</li> <li>2. Gender: Female to Female</li> <li>3. Style: SMA to U.FL <ul style="list-style-type: none"> <li>- 1st Connector: SMA Female Jack</li> <li>- 2nd Connector: U.FL</li> </ul> </li> <li>4. Length: 100mm</li> <li>5. Cable Type: 1.32mm OD Coaxial Cable</li> <li>6. Color: Gray / Black</li> <li>7. Features: Shielded</li> </ol> <p>B. 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. Must be delivered to ASTI</li> </ol> <p>C. 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</li> </ol>	3	pc	260.00	780.00



	and other fees. 3. Payment upon full delivery				
14	<p><b>SCREW IN VENT</b></p> <p>1. Product Performance:</p> <ul style="list-style-type: none"> <li>- Water entry pressure: &gt; 0.3 bar / 30 sec</li> <li>- Typical airflow: 2500 ml / min (dp = 70 mbar)</li> </ul> <p>2. Product Characteristics:</p> <ul style="list-style-type: none"> <li>- Laminate membrane / backing material: ePTFE / Polyester (PET)</li> <li>- Laminate membrane characteristic: Hydrophobic</li> <li>- Housing material: Polyamide (PA6)</li> <li>- Color of housing material similar to: Black: RAL 9011 / Grey:</li> <li>- RAL 7035 ORing</li> <li>- material: Silicone 60 Shore A</li> <li>- Wrench size: 16mm</li> <li>- Installed height: 5.6mm</li> <li>- Accessory parts (incl. part number): Plastic backing nut, grey (M10510-009)</li> </ul> <p>B. 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. Must be delivered to ASTI</li> </ol> <p>C. 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	set	500.00	1,500.00
<b>TOTAL APPROVED BUDGET FOR THE CONTRACT (ABC):</b>					<b>Php 18,903,755.00</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.					

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Infrastructure Projects

Consulting Services

**Procurement Timelines - Goods**

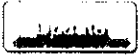







This is the earliest possible time.

BETA VERSION 2.0

Select date to begin with: 09/10/2018

Compute/Reset to Earliest Possible Time

Start Over

Procurement Stage	Start Date	End Date	Add days
Advertisement :	09/10/2018	09/17/2018	
Pre-bid Conference : Conduct? • Yes No	09/18/2018	09/18/2018	
Submission of Bids :	09/30/2018	09/30/2018 <i>Sunday</i>	Oct 01, 2018 
Bid Evaluation :	10/01/2018	10/01/2018	
Post-qualification :	10/02/2018	10/02/2018	
Issuance of Notice of Award :	10/03/2018	10/04/2018	
Contract Preparation and Signing :	10/05/2018	10/06/2018	
Approval by Higher Authority : Necessary? • Yes No	10/07/2018	10/07/2018	
Issuance of Notice to Proceed :	10/08/2018	10/08/2018	

Compute for the Latest Allowable Time

User's Guide

Found errors? Tell us.

*Potential Bidder's Clarification - Sept 22, 2018  
SBD : Sept 25, 2018*