



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:	18-10-2157	Date:	October-22-2018
PR No:	GAA-18-08-6211	Date:	August-07-2018
Source of Funds:	GAA		
Total ABC:	Php 20,759,300.00		
Time, Date & Venue of Pre-bid Conference:	October 30, 2018, 1:30 PM at DOST-ASTI		
Time and Date of Submission of Bids:	November 12, 2018, 12:00 PM		
Time, Date & Venue of Opening Bids:	November 12, 2018, 1:30 PM at DOST-ASTI		
Date of availability of Complete Set of Documents:	October 22, 2018		
Deadline of Potential Bidder's Clarifications:	November 02, 2018		
Deadline of ASTI's Supplemental Bid Bulletin:	November 05, 2018		
Delivery Schedule:			

The Advanced Science and Technology Institute (ASTI), through its Bids and Awards Committee (BAC), hereby invites all interested bidders to submit their bids for the item(s) listed below. Guidelines regarding the format, eligibility, technical and financial documents needed are described in the Instruction to Bidders of the Philippine Bidding Documents

Bidding will be conducted through open competitive bidding procedures using a non discretionary "pass/fail" criterion as specified in the 2016 R-IRR of RA 9184.

A complete set of Bidding Documents may be purchased by interested bidders upon payment of a fee for the Bidding Documents. It is also downloadable for free of charge at DOST-ASTI's website - www.asti.dost.gov.ph

For further inquiries, contact ASTI's BAC Secretariat via email at bac-sec@asti.dost.gov.ph. Interested bidders may also call the number - (632)-426-7423 and look for ASTI's BAC Secretariat.

Respectfully,


PEDRITO B. MANGAHAS
Chairperson, BAC-1

NO.	TECHNICAL SPECIFICATIONS	QTY	UNIT	UNIT PRICE(Php)	TOTAL PRICE(Php)
1	PROBE TYPE SENSOR A. General: 1. Power consumption (Normal Mode): 1.2 mA 2. Power consumption (Calibration Mode): 20 mA 3. Supply Voltage: 3.5V to 20 VDC. 4. Dimensions: See attached drawing 5. Power on to Output Stable: 400 ms 6. Output Impedance: 10K ohms 7. Operational Temperature: -40C to 85°C 8. Accuracy at 25°C 2% 9. Output>Output 0 to 3V linear with fluid level 10. Communication: ADC Voltage B. Features: 1. Measures large changes in water. 2. NOT conductivity based. 3. Probe does not corrode over time. 4. Rugged design for long tern use.	60	pc	10000.00	600,000.00

ASTI Bldg., U.P. Technology Park Complex, C.P. Garcia Ave., Diliman, Quezon City, Philippines 1101

• Website: www.asti.dost.gov.ph • E-mail: 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>5. Probe wire length: 3m 6. Power cord length: 2m 7. Output voltage is proportional to water level. 8. Water resistant closure.</p> <p>C. Maintenance: 1. Supplier should provide quote for factory recalibration 2. Supplier should provide provision for 24-hour response time and thirty (30) calendar days turn around time for repair services</p> <p>D. Notes: 1. Supplier must provide detailed mechanical drawing and data sheet of the connectors for approval by the end-user prior to delivery. 2. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification. 3. Two (2) samples of actual unit must be provided by the LCB/SCB within seven (7) calendar days after the Opening of Bids 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 and as part of the full delivery. 4. Supplied with comprehensive, traceable, calibration certificates 5. Supplier must provide product brochures 6. At least 2 years warranty of parts and services 7. Must be delivered to ASTI 8. Must be compatible to ASTI-ARQ datalogger Firmware 3.0 and latter</p> <p>E. Others: 1. Delivery: 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>MULTIPARAMETER WEATHER SENSOR A. TECHNICAL DATA</p> <p>1. All- in-one weather sensor with integrated electronic compass 2. Measures: wind speed, wind direction, air pressure, temperature, relative humidity, solar radiation 3. Dimensions: - Diameter: approx. 150 mm - Height: approx 332 mm - Weight: 1.35kg to 1.65kg</p> <p>4. Temperature - Principle: NTC - Measuring range: -50 to 60 ° C - Accuracy: if temperature is -20°C to +50°C, accuracy must be ±0.2 ° otherwise ±0.5 ° C (> -30 ° C)</p> <p>5. Relative humidity - Principle: Capacitive - Measuring range: 0 to 100 % RH</p>	66	pc	220000.00	14,520,000.00

- Accuracy: ± 2 % RH

6. Air pressure

- Principle: MEMS Capacitive
- Measuring range: 300 to 1200 hPa
- Accuracy: ± 0.5 hPa (0 to + 40 ° C)

7. Wind direction

- Principle: Ultrasonic
- Measuring range: 0 to 359.9 ° C
- Accuracy: 1.0m/s

8. Wind speed

- Principle: Ultrasonic
- Measuring range: 0 to 60 m/s
- Accuracy: ± 0.3 m/s or ± 3 % (0 to 35 m/s) RMS of reading, whichever is greater ± 5 % (> 35 m/s) RMS

9. Radiation

- Response Time (95%): <18s
- Non-stability (change/year): <1%
- Non-linearity (0 to 1,000 W/m²): <1%
- Directional error (at 80° with 1,000W/m²): <20W/m²
- Temperature dependence of sensitivity: <5% (-10 to +40°C)
- Tilt error (at 1,000W/m²): <1%
- Spectral range (50% points): 300 to 2,800nm
- Maximum irradiance : 1,400W/m²
- General Information
- Heating: 20 VA at 24 VDC
- Protection type housing: IP66
- Interface: SD1-12
- Operating Power Consumption: 24VDC +/-10%
- Operating humidity range: 0 to 100 %
- Op. temperature range: -50 to 60 °C

B. Accessories:

1. Customized 2 meters shielded cable terminated both sides with waterproof M12, 8pin, female plug connector
2. Matching male connector (receptacle) with pre-soldered multi-colored wires, 180mm in length, receptacle must be waterproof, panel rear entry and front fastened, max mounting cutout should not be more than 12mm in diameter.

Wire specs:

- AWG - 26-20
- Voltage Rating - 30V (at max)
- Current Rating: 2A (at max)

C. Maintenance:

1. Supplier should provide quote for factory recalibration
2. Supplier should provide provision for 24-hour response time and thirty (30) calendar days turn around time for repair services

D. Notes:

1. Supplier must provide detailed mechanical drawing and data sheet of the connectors for approval by the end-user prior to delivery.

	<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. Two (2) samples of actual unit must be provided by the LCB/SCB within seven (7) calendar days after the Opening of Bids 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 and as part of the full delivery.</p> <p>4. Supplied with comprehensive, traceable, calibration certificates</p> <p>5. Supplier must provide product brochures</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>E. 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>SEA SURFACE TEMPERATURE FEATURES</p> <p>-Temperature, Pressure (optional), and time, at user-programmable 0.5-sec to 6-hour intervals.</p> <p>-Internal USB interface (open housing and plug in cable for setup and fast data upload); plus RS-232 interface (through external connector).</p> <p>-Internal memory and battery pack (can be powered through external connector).</p> <p>-600 m plastic or 10,500 m titanium housing.</p> <p>-Rigorous 11-point temperature calibration of each sensor.</p> <p>Measurement Range</p> <p>-Temperature: -5 to +45°C</p> <p>-Optional Pressure: 0 to 20 / 100/ 350/ 600/ 1000/ 2000/ 3500/ 7000 m</p> <p>Initial Accuracy</p> <p>-Temperature: +-0.002 (-5 to +35°C); +-0.01 (+35 to +45°C)</p> <p>-Optional Pressure: +-0.1% of full scale range</p> <p>Typical Stability</p> <p>-Temperature: 0.0002°C per month</p> <p>-Optional Pressure: 0.05% of full scale range per year</p> <p>Resolution</p> <p>-Temperature: 0.0001°C</p> <p>-Optional Pressure: 0.002% of full scale range</p> <p>Miscellaneous</p> <p>-Power Supply and Consumption: Lithium battery pack (4 AA Saft LS 14500: > 11,000,000 samples TD</p> <p>-Optional External Power: 9 - 30 VDC (requires external connector)</p> <p>-Memory Capacity: 9.5 million samples T; 5.5 million samples TD</p> <p>Accessories</p> <p>-4-pin pigtail cable, Wet-pluggable, at least 2.0m. Marine Type.</p>	2	pc	120000.00	240,000.00

	<p>B. Maintenance:</p> <ol style="list-style-type: none"> 1. Supplier should provide quote for factory recalibration 2. Supplier should provide provision for 24-hour response time and thirty (30) calendar days turn around time for repair services <p>C. Notes:</p> <ol style="list-style-type: none"> 1. Supplier must provide detailed mechanical drawing and data sheet of the connectors or brochure for approval by the end-user prior to delivery. 2. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification. 3. One (1) sample of actual unit must be provided by the LCB/SCB within seven (7) calendar days after the Opening of Bids for approval by the end-user as part of the post qualification and prior to award. If approved by end-user, sample will be retained for reference of the units to be delivered and as part of the full delivery. 4. Supplied with comprehensive, traceable, calibration certificates 5. Supplier must provide product brochures 6. At least 2 years warranty of parts and services 7. Must be delivered to ASTI 8. Must be compatible to ASTI-ARQ datalogger Firmware 3.0 and latter <p>D. Others:</p> <ol style="list-style-type: none"> 1. Delivery: 30 days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery 				
4	<p>Wind Sensor</p> <p>A. Specifications:</p> <ul style="list-style-type: none"> - Model: Ultrasonic Anemometer 2d compact - Ultrasonic anemometer that can measure 2-dimensional acquisition of the horizontal components of the wind velocity, the wind direction and of the acoustic-virtual temperature. - Suitable for maritime application - IP67/68 with anodised aluminum housing - No heating - Without baro transmitter <p>Technical Specifications:</p> <p>Wind velocity</p> <ul style="list-style-type: none"> >Measuring range: 0,01 m/s...75 m/s Scaling of analogue output freely selectable >Accuracy >>>5 m/s: ± 0,2 m/s (rms, mean over 360°) >>>5...60m/s: ± 2% of meas. value (rms- mean over 360°) >>>60...75m/s: ± 3% of meas. value (rms- mean over 360°) >Resolution >>>0,1 m/s: In the telegrams: 1, 2, 4, 7 >>>0,01 m/s: in the telegram 3 	2	pc	180000.00	360,000.00

	<p>Accessories > customized cabling >>>Connector: 8-pole IP67 rated on one side, stripped and tinned on the other >>>Cable: 3meters, PUR, shielded</p> <p>B. Maintenance: 1. Supplier should provide quote for factory recalibration 2. Supplier should provide provision for 24-hour response time and thirty (30) calendar days turn around time for repair services</p> <p>C. Notes: 1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification. 2. One (1) sample of actual unit must be provided by the LCB/SCB within seven (7) calendar days after the Opening of Bids for approval by the end-user as part of the post qualification and prior to award. If approved by end-user, sample will be retained for reference of the units to be delivered and as part of the full delivery. 3. Supplied with comprehensive, traceable, calibration certificates 4. Supplier must provide product brochures 5. At least 2 years warranty of parts and services 6. Must be delivered to ASTI 7. Must be compatible to ASTI-ARQ datalogger Firmware 3.0 and latter</p> <p>D. Others: 1. Delivery: 30 days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>				
5	<p>SOIL MOISTURE AND TEMPERATURE SENSOR</p> <p>A. General 1. Three-probe sensor 2. Measures the following soil parameters: - moisture - temperature - electric conductivity 3. Dielectric measurement frequency(70MHz) 4. Volumetric Water Content (VWC): Using Topp equation: $\pm 0.03\text{m}^3/\text{m}^3$ ($\pm 3\%$ VWC) typical in mineral soils that have solution electrical conductivity $< 10\text{dS/m}$ Using medium specific calibration, $\pm 0.01 - 0.02\text{m}^3/\text{m}^3$ ($\pm 1-2\%$ VWC) in any porous medium Temperature: $\pm 1^\circ\text{C}$ 5. Resolution VWC: $0.0008\text{m}^3/\text{m}^3$ (0.08% VWC) from 0to 50% VWC 0.25% VWC (rockwool) Temperature: 0.1°C 6. Range EC: 0-23 dS/m (bulk) Temperature: $-40-50^\circ\text{C}$</p>	110	pc	16000.00	1,760,000.00

	<p>Dimensions: 10 x 3.2 x 0.7cm Cable: 5m, customized cabling with waterproof connector, 3-pin Measurement: 150 ms 7. Time Power: 3.6-15 VDC, 0.3mA quiescent, 10mA during 150ms measurement Output: SDI-12</p> <p>B. Maintenance:</p> <ol style="list-style-type: none"> 1. Supplier should provide quote for factory recalibration 2. Supplier should provide provision for 24-hour response time and thirty (30) calendar days turn around time for repair services <p>C. Notes:</p> <ol style="list-style-type: none"> 1. Supplier must provide detailed mechanical drawing and data sheet of the connectors for approval by the end-user prior to delivery. 2. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification. 3. Two (2) samples of actual unit must be provided by the LCB/SCB within seven (7) calendar days after the Opening of Bids 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 and as part of the full delivery. 4. Supplied with comprehensive, traceable, calibration certificates 5. Supplier must provide product brochures 6. At least 2 years warranty of parts and services 7. Must be delivered to ASTI 8. Must be compatible to ASTI-ARQ datalogger Firmware 3.0 and latter <p>D. Others:</p> <ol style="list-style-type: none"> 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 				
6	<p>Sunshine Duration Sensor Connector</p> <p>A. General:</p> <ol style="list-style-type: none"> 1. Number of Contacts: 8 2. Mounting Type: Cable Mount 3. Plug/Socket: Plug 4. Termination Method: Solder 5. Current Rating: 1A 6. Contact Gender: Male 7. Voltage Rating: 125 V 8. Body Orientation: Straight 9. Housing Material: Metal 10. Contact Material: Brass 11. Maximum Operating Temperature: +85°C 12. Minimum Operating Temperature: -40°C 13. Contact Plating: Gold 	70	pc	490.00	34,300.00

	<p>B. Notes:</p> <ol style="list-style-type: none"> 1. Supplier must provide detailed mechanical drawing and data sheet of the connectors for approval by the end-user prior to delivery. 2. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification. 3. Two (2) samples of actual unit must be provided by the LCB/SCB within seven (7) calendar days after the Opening of Bids 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 and as part of the full delivery. 4. Supplier must provide product brochures 5. At least 2 years warranty of parts and services 6. Must be delivered to ASTI 7. Must be compatible to ASTI-ARQ datalogger Firmware 3.0 and latter <p>C. Others:</p> <ol style="list-style-type: none"> 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 				
7	<p>Sunshine Duration Sensor Cable</p> <p>A. General:</p> <ol style="list-style-type: none"> 1. 8-wire 2. AWG: 26 3. Number of strands: 7x0.15mm tinned copper 4. Wire insulation: PE 5. Wire thickness: 0.9mm 6. Shield: Spiral wrap tinned copper 0.15mm, 95% nominal optical coverage 7. Cable insulation: PUR 8. Cable thickness: 5mm 9. Cable color: Yellow RAL 1021 10. Impedance: ~150 Ω/km at 20°C 11. Isolation resistance: >1000 MΩ/km 12. Capacity: ~100nF/km <p>B. Notes:</p> <ol style="list-style-type: none"> 1. Supplier must provide detailed mechanical drawing and data sheet of the connectors for approval by the end-user prior to delivery. 2. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification. 3. Two (2) samples of actual unit must be provided by the LCB/SCB within seven (7) calendar days after the Opening of Bids 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 and as part of the full delivery. 4. Supplier must provide product brochures 5. At least 2 years warranty of parts and services 6. Must be delivered to ASTI 7. Must be compatible to ASTI-ARQ datalogger Firmware 3.0 and latter 	70	pc	3500.00	245,000.00

	<p>C. Others:</p> <ol style="list-style-type: none"> 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 				
8	<p>Multiparameter Water Quality Sensor</p> <p>A. General</p> <ol style="list-style-type: none"> 1. Parameters measured: <ul style="list-style-type: none"> - Chlorophyll a - Turbidity - Dissolved Oxygen - Conductivity 2. Communications: <ul style="list-style-type: none"> - USB, SDI-12, RS232 Modbus, RS485 Modbus and RS232 TT 3. Sampling Rate: <ul style="list-style-type: none"> - 1 Hz minimum 4. Sensor Ports: <ul style="list-style-type: none"> - at least 4 5. Water Proof: <ul style="list-style-type: none"> - Yes 6. Operating Temperature: <ul style="list-style-type: none"> - -5 to 50C 7. Depth <ul style="list-style-type: none"> - At least 200 meters 8. All sensor parameters should be extracted simultaneously. <p>B. Maintenance:</p> <ol style="list-style-type: none"> 1. Supplier should provide quote for factory recalibration 2. Supplier should provide provision for 24-hour response time and thirty (30) calendar days turn around time for repair services <p>C. Notes:</p> <ol style="list-style-type: none"> 1. Supplier must provide detailed mechanical drawing and data sheet of the connectors for approval by the end-user prior to delivery. 2. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification. 3. One (1) sample of actual unit must be provided by the LCB/SCB within seven (7) calendar days after the Opening of Bids for approval by the end-user as part of the post qualification and prior to award. If approved by end-user, sample will be retained for reference of the units to be delivered and as part of the full delivery. 4. Supplied with comprehensive, traceable, calibration certificates 5. Supplier must provide product brochures 6. At least 2 years warranty of parts and services 7. Must be delivered to ASTI 8. Must be compatible to ASTI-ARQ datalogger Firmware 3.0 and latter <p>D. Others:</p> <ol style="list-style-type: none"> 1. Delivery: Thirty (30) days upon issuance of NTP 	3	pc	1000000.00	3,000,000.00

2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery				
TOTAL APPROVED BUDGET FOR THE CONTRACT (ABC):				Php 20,759,300.00
RESERVATION CLAUSE				
The Advanced Science and Technology Institute reserves the right to accept or reject any proposal, to annul the bidding process, and to reject all proposals at any time prior to contract award, without thereby incurring any liability to the affected proponent or proponents.				