Technical Offer Form

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| **Call for offers: Supply, Installation and Training of precision agriculture systems (including 2 smart Automated Agro-Meteorological Weather Station, 24 Soil Moisture Sensors and 12 data loggers (1 data logger per each couple of soil humidity sensors)** |

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| Name of Proposing Company / Organization: |  |
| Country of Registration:  |  |
| Name of Contact Person for this Offer: |  |
| Address: |  |
| Phone / Fax: |  |
| Email: |  |

**Selection Criteria**

Successful participants must provide the following

* Be enrolled in one of the official professional or trade registries at the country of registration. The submitted document preferably, should be submitted in English. However, for the evaluation process those can also be submitted in Arabic. The certified English version will be requested by the successful participant before contract signature).
* Be licensed to perform works in Lebanon. The submitted document preferably, should be submitted in English. However, for the evaluation process those can also be submitted in Arabic. The certified English version will be requested by the successful participant before contract signature).
* A signed statement certifying that the equipment is new and unused.
* A warranty for good operation for at least 1 year for the equipment which is to be supplied and installed.
* Proof of their average annual turnover for the last three (3) fiscal years being at least equivalent to the maximum amount of this Call. As supporting documentation, the applicant must provide their official Financial Statements, stamped, and signed by the legal representative of the company. The submitted document preferably, should be submitted in English. However, for the evaluation process those can also be submitted in Arabic. The certified English version will be requested by the successful participant before contract signature).
* A statement that at least one certified installer will perform the requested work.
* A list of projects proving at least five (5) years in the field of smart irrigation systems and support for farmers with a proven experience in the installation of smart irrigation systems.
* Technical specification leaflets and brochures for the Compliance of the equipment.
* Have minimum duration of operation of five (5) years. Proof to be provided by the related chamber (date of registration). The submitted document preferably, should be submitted in English. However, for the evaluation process those can also be submitted in Arabic. The certified English version will be requested by the successful participant before contract signature).

Also, the following table must be filled in

**Technical and Additional specifications of the equipment you will offer compared with the required technical specifications (per unit, i.e per smart automated agro-meteorological weather station, per soil humidity sensor and per data logger)**

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| **Item** | **Required Technical specification** | **Technical specifications of offered equipment** |
| **Smart automated Agro-Meteorological Weather Station** |  |
| Power Supply | Solar-powered with rechargeable battery backup |  |
| Communication | GSM/4G/LTE, Wi-Fi, or LoRaWAN, with the ability to transmit data to cloud-based platforms (plus data Sim Card charged and communicating) |  |
| Data Logging Interval | Configurable, typically 10–60 minutes |  |
| Air Temperature Sensor | * Range: -40°C to +60°C
* Accuracy: ±0.5°C or better
* Resolution: 0.1°C
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| Relative Humidity Sensor | * Range: 0–100%
* Accuracy: ±2% to ±5% RH (depending on humidity level)
* Resolution: 1%
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| Wind Speed Sensor | * Range: 0–40 m/s (144 km/h) or higher
* Accuracy: ±0.5 m/s or 5% (whichever is greater)
* Resolution: 0.1 m/s
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| Wind Direction Sensor | * Range: 0–360°
* Accuracy: ±5°
* Resolution: 1°
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| Solar Radiation Sensor (Pyranometer) | * Range: 0–1500 W/m²
* Accuracy: ±5% or better
* Response time: ≤10 seconds
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| Rainfall Sensor | * Type: Tipping bucket or optical
* Range: 0–400 mm/hour
* Accuracy: ±0.2 mm
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| Barometric Pressure Sensor | * Range: 300–1100 hPa
* Accuracy: ±1 hPa
* Operating Temperature:
* -40°C to +60°C.
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| Software and ETo Calculation | * Integrated software capable of calculating ETo using FAO Penman-Monteith equation.
* Cloud-based data access with API for integration into third-party systems.

Historical data storage and export in CSV or other standard formats. |  |
| Durability and Environmental Conditions | * Operating Temperature: -40°C to +60°C.
* Ingress Protection: Minimum IP65 (weatherproof and dustproof).
* Material: Corrosion-resistant and UV-resistant.
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| Leaf wetness sensor  | * For plant disease monitoring. Conductivity-based sensor measuring leaf surface wetness by detecting moisture presence through filter paper between two stainless steel electrodes.
* It can accurately detect leaf wetness from 0 to 100% wetness, within 2% accuracy.
* Low power consumption. Compatible with the weather station data logger. Powered by the station itself.
* Housing should be transparent, durable Lucite plastic housing to minimize direct sunlight heating and ensure long-term outdoor exposure. Housing:
* Weather-resistant and designed for harsh environmental conditions.
* Can be mounted easily, ensuring proper exposure to the environment.
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| * Accessories
 | * The stations must be Easy to install, with pole or tripod mounting, anchoring system
* Modular design for easy sensor replacement or calibration and all accessories for fixing the various sensors and the power system.
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| **Soil humidity sensor (separate from the smart automated Agro-meteorological Weather stations)** |  |
|  | Probe Length: 50 to 70 cm |  |
| Accuracy: ±5% or better |  |
| Resolution: 0.1% VWC or better |  |
| Operating Temperature Range: -10°C to +60°C |  |
| Response Time: Less than 10 seconds |  |
| Suitable for clayey soils with alkaline nature |  |
| Low power consumption preferred |  |
| Wireless (GPRS, LoRa, Bluetooth, or other compatible technology); needs to be remotely read through the clouds |  |
| Ingress Protection: IP67 or better for outdoor use |  |
| Calibration: Factory-calibrated with the option for field calibration |  |
| Easy installation with minimal soil disturbance |  |
| International certification |  |
| Minimum 1-year manufacturer warranty |  |
| Will be preferred if provided with access tubes |  |
| **Data logger (separate from the smart automated Agro-meteorological Weather stations)** |  |
|  | * Able to communicate remotely and able to record data for at least 3 months for local download;
* two soil moisture sensors per one datalogger.
* Extension cable from sensors to dataloggers of minimum 5 meters
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| **Technical support, training and installation** |  |
| Minimum of two days training session on equipment/sensor installation, configuration, and maintenance and data configurating reading, viewing and downloading. |  |  |
| Provider has to support field installation for all farmers’ fields and supplies guidelines and manuals |  |  |
| **Additional specifications** |  |  |
| 1. All equipment delivered must be original industrial products and ready to install.  |  | Yes/No |
| 2. The supplier should provide a guarantee for the equipment for a minimum of one year. |  | Yes/NoPlease provide |
| 3. The sensors / devices must be equipped with all necessary accessories for installation and operation: protective case, mat(s), support(s), an anchoring system, etc.  |  | Yes/No |
| 4. All sensor/device enclosures and accessories must be resistant to water, dust, and radiations.  |  | Yes/No |
| 5. Alert system regarding sensor/devices malfunction is required.  |  | Yes/No |
| 6. Access to raw sensor data (in direct or indirect form) is required for validation of field data.  |  | Yes/No |
| 7. All sensors that will be installed by the project and which are linked to climate, soil and water have to be accessible to different users (administrative teams, project partners, farmers) via a web console with different levels of accessibility (access to all or part of the data collected). It must also be able to integrate Application Programming Interfaces (APIs) that allow it to connect to third-party applications. To this end, the company is requested to provide technical support to facilitate the transfer. API service is required for a 10 years duration. |  | Yes/No |
| 8. Documentation, manual and datasheet of the technical specifications of all the proposed material is required. |  | Yes/NoPlease provide |
| 9. If the addition of an equipment or an accessory is deemed necessary for the correct functioning of the system, the price must be indicated with the mention EXTRA.  |  | Yes/NoPlease provide details if applicable |
| 10 Minimum of two days training session on equipment/sensor installation, configuration, and maintenance and data configurating reading, viewing and downloading. |  | Yes/No |