

Anders Halvorsen

From: Hoda Nofal <ddnofal@Eitesal.org>
Sent: Tuesday, September 14, 2021 10:56 AM
To: Anders Halvorsen
Cc: Dr. Mohamed Shedeed; Tarek Abdel monem Taha; a.shabrawy@smarty-fi.com
Subject: WITSA's 1st VIRTUAL Global ICT Excellence Awards

Dear Anders:

Greetings from EITESAL,

With reference to your previous email requesting our recommended nominations for the WITSA Global ICT award 2021 among EITESAL members. Here is our strong nomination:

Name of Company: [Smarty-Fi Electronics](#)

Award category: Smart Cities Award

Why do we think the company deserve the award:

Global Problem

- It is estimated that about two-third of the world's population may suffer from fresh water shortage by 2025.
- Water scarcity in Africa is predicted to reach dangerously high levels by 2025. The main causes of water scarcity in Africa are physical and economic scarcity, rapid population growth, and climate change.
- For example By 2025, in Egypt water supply is estimated to drop below five hundred cubic meters per capita, a very low level that hydrologists typically define as "absolute scarcity."
- Agriculture uses about 70% of the world's accessible freshwater. Developing countries are most affected by water shortages

Solution

Since water availability is a great threat for the globe specially developing countries where agriculture is plans in Smarty-Fi we developed Rain Maestro a weather based irrigation controller to help saving up to 60% of irrigation water.

Scientific Researches and References

Based on FAO Organization Penman-Monteith and researches carried by Agricultural Engineering Research Institute in Egypt shows the great benefits of such model.

"The saved water amount during the summer when the model is applied is 1.22×10^7 m³ for 11795 Feddans. This amount represents about 34.6% of the total water available during this period." Quoted from IRRIGATION WATER MANAGEMENT IN THE NILE DELTA USING GIS TECHNOLOGY October 2015 Misr Journal of Agricultural Engineering 32(4):1503 – 1528

Design Concepts

Rain Maestro is and IoT device includes electronic board , SoC firmware , IoT cloud backend and mobile Application have been designed and developed by our engineers to build a full weather based irrigation system to calculate evapotranspiration and estimate the amount of irrigation water required based on Penman-Monteith model and control up to 12 irrigation valves for full irrigation automation.

- Rain Maestro tackles a real global problem and critically relevant to Africa and Egypt future employing scientific proven model and IoT technology.

- Rain Maestro designed from day one to run on solar power to guarantee it is easy deployment and to be environment friendly.
- Rain Maestro have very intuitive multilingual interface and can be used by intuitive users
- Rain Maestro have been designed to be manufactured, supported locally in Egypt with very cost effective approach.
- Rain Maestro can run in large cluster and to be managed using Cloud control panel & dashboard

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Documents uploaded: [smarty-fi](#)

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