Request for Support:

TITLE: “Application of Solar Panels in IoT Networks”

TEAM: Svetislav Maric, INDAS (Djura Mandic – CEO)

Project Goal

The main goal project is to show that the introduction of low power miniature solar panels into IoT wireless network infrastructure provides huge installation and maintenance savings for manufacturers and end users.

Team background

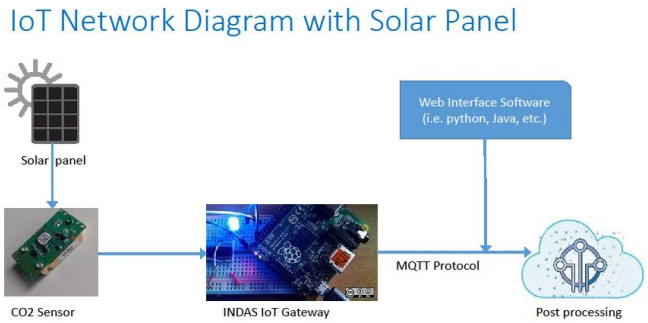
Dr. Maric has more than 20 years of experience in research and development of wireless networks as well as system integration testing.

INDAS engineering has experience in IoT networks and designs equipment for their enablement (see below).

INDAS inVIEW i1x IIoT Gateways Modbus RTU/TCP to IPP (Ethernet)
inVIEW i1x IIoT Gateways are a family of devices which serves as a connection point for standard industrial devices to OPC, OPC UA or MQTT protocols. These devices use standard industrial communication protocols such as Modbus TCP and Modbus RTU at field devices layer, and converts it to OPC, OPC UA or MQTT for connection with supervisory systems having appropriate interface.

Requested Support

We do need support with some elements of our IoT network test-bed for the proof of concept.



1. We need connections to the solar panel manufacturers that would have interest in supporting the project. Here we have in mind companies like: **Sunpower, Solaria, Seraphim Solar**, and others.

   Since we plan to define a set of **key performance indicators (KPI)** to evaluate the performance of the panels in the network we would also like to consult with these companies on what are the best parameters for these KPIs.

2. We also need a connection to sensor companies like **In-Situ** or others that would help us identify the most suitable sensors (IoT devices) to be integrated with the panels on one end, and the INDAS gateway at the other.

3. In the future it would be helpful if NREL would help us with a setup of lab space for the network performance testing. We estimate that we would need between two and three weeks for the test-bed setup, three to four weeks for the actual measurements, and one week for result processing.