

# Solar panels energy production monitoring

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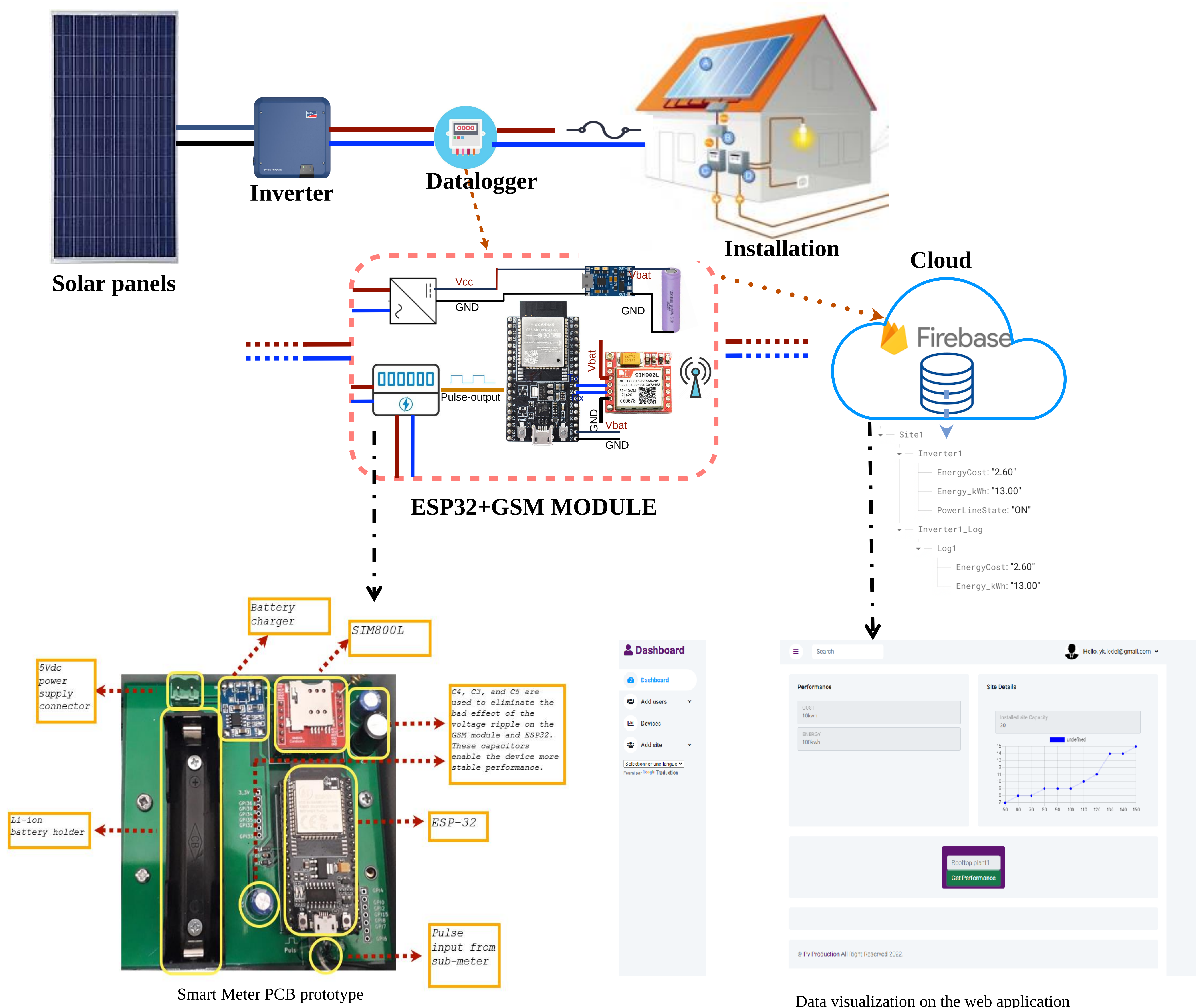
## Context

This project is about the development of a datalogger with the print circuit board (PCB) used for monitoring energy production by solar panels, and the storage of data in a cloud with the display of results on a web interface. In fact, the data is stored in a Firebase database in real-time every five minutes. The smart meter is based on the sub-metering concept. The main controller (ESP-32) gets the energy consumption value from the sub-meter as a pulse count, then calculates the energy consumption in kWh and energy cost. The controller sends the calculated data to the cloud via the GSM module. The communication between the ESP-32 and GSM module is serial communication. As a result, we obtain, in a web interface, the energy monitoring from the solar panels with the production cost.

## Objectives

- Energy monitoring
- Data acquisition with the Datalogger
- Data display in a web interface
- Site and Inverter information in a web interface
- Maintenance of Solar panels

## Methodology & Results



## References

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