

IoT for Integration of Renewable Energy

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It is known that integration of measurement of different sources in a smart grid is elemental in order to optimize it and to predict the electrical variables. (voltage-current-power -etc)

However, based on our experience in Argentina, the integration in the same grid of different brands of electrical devices becomes hard work, when it is necessary to integrate protocols and data structure.

The results of our research project in Armstrong Santa Fé, Argentina, from 2015 to 2019, show that it is important to have a vinculation between INTI and electronics devices manufacturers. Those devices may include energy smart meters, inverters and other items.

In order to unify the information, for the integration of data in a multiplatform ecosystem of distributed generation sources on a smart grid, we implemented a platform in Elastic Computer service (EC2) of Amazon Web Service (AWS), which collects data from renewable energy sources such as photovoltaic inverters.

The cooperation between private companies and the National Institute of Technology (INTI), is crucial to develop Internet of things (IoT) devices and software to manage the smart grid, not only to agree on protocols but also to make sure that policies and regulations are followed.

Keywords: smart grid – IoT – renewable energy - private companies and INTI