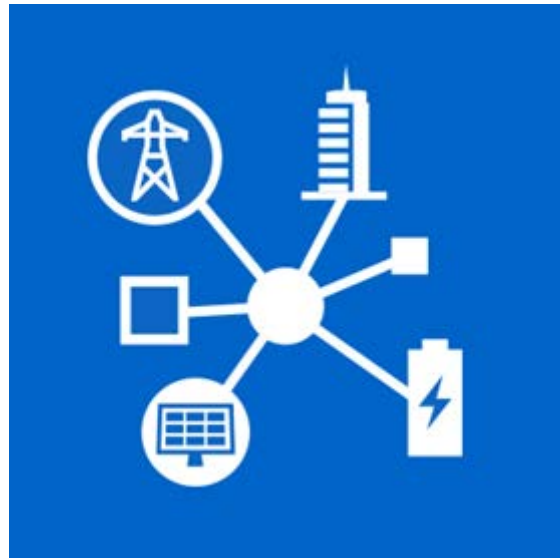


Design and implementation of an electronic development board for a microgrid



Introduction:

Our research group, SEPIC, has developed a microgrid laboratory setup. This setup is used extensively in our research projects, which are based fundamentally in renewable power conversion. In the microgrid, six power inverters (DC/AC) work collaboratively to achieve different control objectives. The control of these inverters is carried on in advanced Digital Signal Processors. Our team is continuously improving the sensing, driving and communication interfaces, based on electronic boards and communication protocols.

Project Brief:

One of our interface boards will be redesigned to improve different issues: analog signals sensing-scalability, flexibility for measuring in different topological points, improvement of the communication of these data to the central system. The team will work in the development of the electronic board, and also in the communication between the board and the central controllers, via Ethernet communications. Also the Supervisory Control And Data Acquisition (SCADA) system that monitor the whole microgrid will be tuned to deal with the new board.

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