**Client : The Consolidated Sulphochemical and Detergents Industries Company LTD.**
Project : Datalogger Solar Power System & Converting Communication Protocols.

This project included the supply of a SCADA Solar Panel System as per the specifications from the end user.

The hardware platform used was NI's cRIO that was used to collect the reading from a number of Inverters, Circuit Breakers Relays & Meters and converting their communication protocols.

The SCADA Solar Panel System software was developed NI's LabVIEW environment advantaging of technologies such as Real-Time.
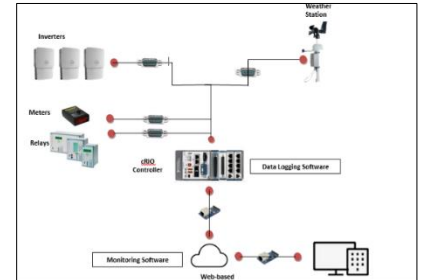
Software:

➤ Web based Monitoring & Control Software:
Web-based remote access software; which is a user-friendly browser based monitoring solution perfect for people. It allows business users to track energy produced on a solar power plant in a simple and intuitive fashion. Depending on the type of inverters installed, users can view energy produced from individual solar panels located on their plant.

➤ Datalogging Solar Panel Software (on the RTU):
This software was built using NI's LabVIEW Graphical System Environment, which included the below:

- Open/close command and indication signals for each circuit breaker on the substation, switching station, inverters, .etc. (this required in case there is to IDECO for make remote operations).
- Protection alarm
- Protection trip
- Urgent alarm
- Non urgent alarm
- Real time load profile (intervals as per planning department requirements).
- Full monitoring
- Power flow monitoring (DC, AC).
- Power Analysis

The below communication were provided:

- RS232, RS422, RS485 and Ethernet
- DNP3 serial, DNP3 LAN/WAN, IEC 60870-5-101, IEC 60870-5-104, IEC61850, Modbus (ASC 2 /RTU), OPC AC, OPC DA.