



## **Smart Grid Training Program from CompuSharp**

**Enrolment: Send email to [hr@compusharp.com](mailto:hr@compusharp.com)**

### **What are Smart Grids?**

“Smart Grids bring benefits to consumers as they gain an understanding of how they use electricity and respond by reducing their energy use during peak demand times; to utilities in how they can increase their system reliability and reduce outage response times; to the environment in enabling the greatly expanded use of renewable energy resources and energy efficiency” (As defined by Pacific Northwest National Laboratory”).

Smart grid is an emerging technology that changes the way electric energy is produced, transmitted, distributed, utilized and paid for. There is an urgent need for training and certifying Smart grid professionals.

CompuSharp has designed a program that covers a broad and first-level understanding of the various technologies involved. It prepares the participant to take up the next level of study for specialization on specific topics.

The areas covered in the program are:

- (a) Overview of Smart Grids: Definitions, review of State-of-the-art, trends.
- (b) Field devices at Homes/ Commercial-Industrial consumer locations/ Substations/ Generating Stations: Sensors, Controllers, Zigbee devices, Plug-in Electric Vehicles, Building Management Systems including HVAC, Lighting controls, Home displays, AMI, RTUs, PLC's, Phasor Measurement Units, FACTS, Flow Controllers.
- (c) Communication systems: Carrier, Microwave, Fiber optic, Repeaters, Internet; Interfaces: Point-to-point, Common Information Model.
- (d) Central systems: Computers, Human-Machine Interface, Inter Control Center Protocols, Data Base, IT and Cyber Security.

- (e) Application software:

Smart Grid Applications: System Islanding, Self-healing systems, AMI, Meter Data Management Systems, Demand Response.

Interfaces to existing applications: Substation Automation, SCADA, GIS, Outage Management System, Feeder Load Balancing, Volt/VAR, Customer Information System, Billing, EMS applications like State Estimation, Security Analysis, AGC, OPF, Historical Data Analysis, etc.

Smart grid training is targeted for a variety of professionals. Typical attendees would be:

- (a) Utility personnel: Cross training for domain and IT personnel.
- (b) Practicing professionals: to facilitate furthering their careers in Smart Grids.
- (c) New employees in Smart Grid Companies: To get breadth training.
- (d) Graduating students: Desirous of entering the Smart Grid work force.