



▲ Live dashboards

MicroTech's LOAD MONITORING SYSTEM

Today with the increase in power consumption all over the world, real-time electricity monitoring has become critical, with the challenge being to keep a track of, and understand when and where electricity is being used; and to find energy saving opportunities.

Pakistan has been troubled by an energy crisis over the past few years. The energy sector is beset by a host of issues and shortcomings. In addition to a shortfall of generation, these include technical and non-technical losses, mainly constituting electricity pilferage; an inefficient distribution system; and poor energy management. The prevailing power losses adversely affect the utilities' profitability and consequently the quality of services. The distribution companies had no insight into load consumption and distribution trends. It was very difficult for them to predict the demand and manage the available supply of energy. Due to the unpredictability of demand, unscheduled load shedding was carried out frequently, adversely affecting socio economic development of the country.

As a way of addressing the need, MTI came up with an efficient load

monitoring solution, designed and customized to be in keeping with local requirements and international standards. It supports the utility companies to ensure a better distribution of energy through overall monitoring of the load; thus shortening the gap between supply and demand and better managing energy needs during supply shortages or peak periods.

MicroTech's load monitoring system provides intuitive and integrated real-time power monitoring via an intelligent graphical user interface. It is an amalgamation of server, software, live dashboards and smart energy meters. The meter communicates its data through the GSM network which is received by MTI Smart Eye Meter Data Collection (MDC) software at a central datacentre. The data is saved in a database for later retrieval and analysis using MTI Galaxy, a web based application that allows users to retrieve data from the central database. It provides instantaneous as well as historic load profile information including import and export of energy consumption as well as power factor (PF) for analysis and reporting.

MTI Live View provides near real time information of the energy situation as different customized dashboards. The dashboards can provide load monitoring at different levels such as national, utility, grid, feeder, business units, industrial sites, manufacturing facilities, residential colonies and cities etc.

The solution is flexible, scalable and interoperable

across national and international power control centers. It provides real-time load information to the decision makers for optimum load management and utilization of available power. Moreover, it enables monitoring of system imbalances for preventive action and maintenance, by improving reliability of power supply and predictability of load shedding. These features help utilities to schedule load shedding and plan distribution accordingly.

The solution has been successfully deployed nationwide in Pakistan covering more than 750 grid sub-stations. The Load Data Improvement Project (LDI) was the first of its kind and included implementation of AMI technology. The project was initiated by the Power Information Technology Company (PITC) and sponsored by the USAID Power Distribution Program to monitor load and losses at grid and feeder level. The solution is based on MicroTech's fleet of advanced metering infrastructure solutions including metering devices, communication network and a backend software system that is deployed at all ten electric utility companies as well as the National Power Control Center (NPCC).

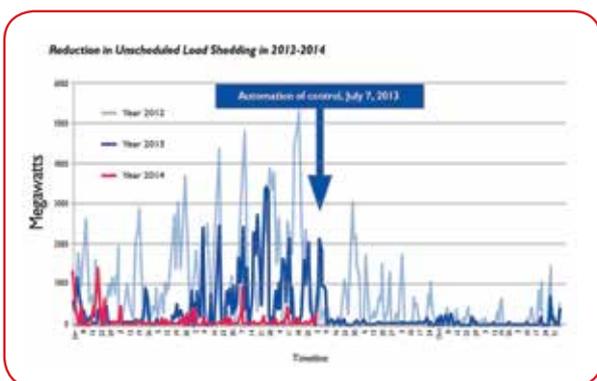
The main objective of the LDI Project was to mitigate instances of unplanned load shedding by improving effective load monitoring. The project has already resulted in insight into the load consumption and distribution trends and helped shorten the gap between demand and supply. LDI has impacted the lives of hundreds of thousands of people connected to the national grid network.

The Load Data Improvement Project won the USAID *Data into Action Award*. Out of 147 projects from eighty countries around the world, twelve projects were selected and awarded, with the MTI LDI Project as one of them. **MI**

ABOUT THE COMPANY:

Established in 1992, MicroTech is a technology company owning distinctive solutions in diversified fields of power and communications. It produces an extensive range of complete AMI solution including RF, GPRS & PLC enabled smart meters, RF gateway and head-end software (MDC) that address the needs of both utilities and consumers.

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▲ Graphical view