Presentation Overview

MicroTech Industries – An Introduction

- Who we are...
- MicroTech’s Facility
- Our History – Important Milestones
- Accolades & Awards
- Quality Certifications
- CSR Initiatives

Product Portfolio

- Energy Meters Portfolio
- Software Portfolio
Presentation Overview

Our Solutions

• Hybrid Network Architecture

Network Elements

• Smart Energy Meters
• Communication Channels
• Meter Data Collector (MDC)
• MTI Galaxy
Presentation Overview

Major Smart Metering Projects

• Load Data Improvement Project (LDIP)
• AMI Project for MEPCO & PESCO

AMI Project Implementations

• MTI’s Implementation Services

Our Strengths
MicroTech Industries – An Introduction

- Who we are...
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- Quality Certifications
- Corporate Social Responsibility (CSR)
Who we are...

- Established in 1992 as a design house with the objective of indigenously developing state-of-the-art complex technical solutions according to international standards

- 24 years of innovation, research and development; resulting in more than 50 solutions in:
  - Energy Metering
  - Telecommunications
  - Vehicle Tracking and Fleet Management

- A leading technology company that offers dependable complex solution implementation services
Who we are...

- Core Strength: Transforming ideas into reality through innovation in electronics, electrical and computer engineering
- Developing technical solutions, keeping in view the local, regional and global market trends and business potential
- ~ 500 employees with more than 70 R&D personnel
- Dedicated and professional teams for network installations & maintenance
Who we are…

- Near one and a half million installed energy meter base
- Major shareholder in AMI enabled metering networks in Pakistan
- Market Share
  - 27% market share in Static Meters
  - More than 90% market share in Smart Meters
MicroTech’s Facility

- R&D
- Marketing & sales
- Production
- SMT
The road travelled so far…

(History - Important milestones)

1992
The journey begins

2000
Launches payphone solutions

2002
Emerges as the largest payphone manufacturer in Pakistan

2003
Declared the best R&D company in Pakistan
(History - Important milestones)

2004
Exports and implements payphone solutions in Asian & African markets

2004
Educational orders from WAPDA

2007
Launches fleet management and vehicle tracking services

2010
Moves to new purpose built production facility
2011
Expands product portfolio to AMR & AMI solutions
Receives DLMS/COSEM certifications

2012
Wins Smart Metering Projects in Pakistan

2013-14
MTI Implements AMI Solutions such as Project Engility and Load Data Improvement Project

2015-16
Awarded National Excellence Award for “The Best Technology Company” in Pakistan
Accolades & Awards

National Excellence Award 2014 as “The Best Technology Company” in Pakistan

National Excellence Award 2015-16

Excellence in R&D for Telecom

Multiple awards in Excellence in Business & Engineering
Quality Certifications

ISO 9001
Quality Management Systems

OHSAS 18001
Occupational Health And Safety Management Systems

ISO 14001
Environmental Management Systems
Corporate Social Responsibility (CSR)

- EHSAAAS
- Rahat Saeed Trust
EHSAAS – A CSR Initiative

• Helping people in flood affected areas
• Sixteen communal water purification plants in District Muzzaffar-Garh
  — Each with the capability to serve around 15,000 individuals everyday
• Dedicated staff to run the projects
• Further implantation of plants is in pipeline
Rahat Saeed Trust - A CSR Initiative

- 4 medical centers serving the underprivileged communities
- Each center has both male and female doctors and paramedics
- Medical labs and diagnostic facilities
- Family planning and reproductive health management services
- Special medical camps in far flung areas
  - Dental specialists
  - Eye specialists
  - Polio Vaccination etc.
- Another three centers planned in the next two years
Product Portfolio

- Energy Meters
- Software
Our Solutions

• Hybrid Network Architecture
Network Architecture

Hybrid Solution

RF GATEWAY SOLUTION

RF ENABLED ENERGY METERS

RF GATEWAY

RF

GPRS

HHU Battery Charging Room

USB

MTI Smart Eye Desk

RF ENABLED SOLUTION WITH HHU

RF Enabled Single Phase Energy Meter

RF Enabled Three Phase Energy Meter

Smart Eye Mobile DDS 105

Meters wth Communication Module

WEB BASED USER INTERFACE (MTI Galaxy)

MDC

DBMS

SMART PREPAYMENT SOLUTION

GSM MODEM

EASY LOAD

MOBILE

ONLINE RECHARGE

SMART EYE PREPAYMENT SERVER

CREDIT MANAGEMENT PORTAL

CONSUMER PORTAL

CONSUMER
Network Elements
Smart Energy Meters

• Smart Energy Meter Portfolio

• Key Features
Smart Energy Meter Portfolio

- Single Phase Residential Smart Meter
- Three Phase Residential and Commercial Smart Meter
- Three Phase Commercial and Industrial Smart Meter
Smart Energy Meters – Key Features

- Fulfills requirements of local utilities’ Specification
- Remote disconnect/ reconnect controlled by backend system (Single & Three Phase whole current meters)
- On Demand and Scheduled Meter Reading
- Load profile data interval with programmable time interval
- Comprehensive Anti-tampering features
  - Door Open Alarm
  - Reverse energy detection & measurement
  - etc…
Smart Eye MDC

*Meter Data Collector*

- Key Features and Functionalities
• Establishes communication with the meters remotely

• Utilizes GPRS as a communication channel and DLMS/COSEM as communication protocol

• Sends data requests to the meters

• Collects a variety of consumption data from the meters

• Stores the metering data into a centralized database
Enables
  - Meter parameterization

Monitors
  - Load profile
  - Billing data
  - Instantaneous data
  - Event
  - Alarms
  - Status

Connects on
  - Schedule
  - Demand
  - Event and Alarm
  - Always Alive mode

Wakes up via
  - Voice Call
  - SMS

Communicates via GPRS
MTI Galaxy

Web User Interface

• Key Features and Functionalities
MTI Galaxy

- An advanced tool that automates and fosters the meter reading process
- Offers
  - Ease of use
  - Flexibility
  - Process Automation
- An intuitive interface to assimilate the data in a more expedient and practical manner
- Complies with standard protocols offering
  - Interoperability
  - Multi vendor compliance
Web Interface

• **Graphical User Interface** (GUI)

• **Management**
  – Customer
  – Meter
  – Connection
  – Back up
  – User Account

• **Reports**
  – Tabular
  – Graphical

• **Data Export**

• **Energy Audit**
Major Smart Metering Projects

- Load Data Improvement Project (LDIP)
- AMI Project for MEPCO & PESCO
Load Data Improvement Project

The Project aims to reduce the incidence of unscheduled load shedding and implement an effective load management and monitoring system to shorten the gap between supply and demand.

• Global Recognition
LDI Project Objectives

• To access total load information of incoming feeders of all Distribution Companies (DISCOs) in near real time to NPCC

• To present instantaneous grid station load of each DISCO in near real time
Project Scope

Solution Type

• GSM/ GPRS based metering solution
• Real time data acquisition

Installation Services

• Efficient Meter Installation Services on more than 750 Grid Substations all across Pakistan
• Deployment of 28 field installation teams in different DISCOs
• More than 6 customer support teams provided back-end support

MDC Implementation

• Established dedicated NOC at PITC, Lahore
• Designed and implemented MDCs for all DISCOs of Pakistan
DISCOs Power Dispatch Centers (PDCs)
LDIP Data Into Action Award

• 147 Projects from 80 countries were nominated

• LDI won ‘Data Into Action’ Award

• The award acknowledged major achievements such as
  – Mitigating unscheduled load shedding
  – Availability of real time load data to the decision makers for the first time in Pakistan
AMI Project for MEPCO & PESCO

USAID funded largest smart metering project in South Asia implemented in MEPCO and PESCO to cater to the residential, agricultural (tube-wells), small industrial and public sector consumers. The project aims to reduce distribution losses and modernize the electricity metering and billing operations.

- More than 50,000 smart meters installed in two AMI Networks.
MEPCO & PESCO Project Objectives

• Introduce AMI system in MEPCO & PESCO to:
  – Reduce technical & distribution losses
  – Enhance load control and load management
  – Provide automated consumption data for monthly billing and monitoring
  – Improve revenue collection
Project Scope

Solution Type

• GSM/ GPRS based smart metering solution
• Remote connection/ disconnection

Installation Services

• Dedicated Regional Offices in MEPCO & PESCO
• Deployment of more than 70 field teams
• Fully operational customer support center for back-end support
• Streamlined installation and verification process by using Asset Deployment & Management Suit (ADMS)
**Project Scope**

**MDC Implementation**

- Deployed separate AMI networks for MEPCO & PESCO
  - Implemented MDCs for 100,000 meters, scalable up to 500,000 meters

**System Integration**

- Meters integrated into the billing system
- Streamlined and automated the utility operations
  - Meter Change Order (MCO)
  - Disconnection Order (DCO)/ Reconnection Order (RCO)
AMI Implementations

- MTI’s Implementation Services
MTI’s Implementation Services

- Dedicated Service Division for implementation of complex AMI networks
- Experienced and competent field staff, backed by an in-house team of engineers and subject matter experts
- Dedicated Regional Offices
- Professional teams for:
  - Installation, verification, validation and maintenance
  - Back-end customer support
  - Management & analysis of metering data
- MTI’s implementation teams utilizes a deployment (ADMS) suit making the installation, verification and quality assurance process more sophisticated and efficient
MTI’s Field Implementation Cell
Our Strengths
Our Strengths

A Mature Technology Company
- Transforming ideas into reality
- Conversion into sustainable business operations

Strong R&D based intellectual asset providing customized hi-tech solutions based on more than 20 years of engineering and technology experience

Complex Network Solution implementation expertise and resources

Constantly striving to find cost effective and innovative solutions using leading edge technology
THANK YOU