

# MicroTech Industries

## An Introduction



# 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...
- MTI's Facility
- Our History – Important Milestones
- Accolades & Awards
- 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)*



**2010**

Moves to new purpose built production facility



**2007**

Launches fleet management and vehicle tracking services



**2004**

Educational orders from WAPDA



**2004**

Exports and implements payphone solutions in Asian & African markets



## *(History - Important milestones)*



### 2015-16

Awarded National Excellence Award for “The Best Technology Company” in Pakistan



	Desired - MW	Allocated - MW	Drawn - MW	Variance - MW
IESCO	3,025	1,280	1,286	26
GEPCO	1,521	1,475	1,478	3
FESCO	1,369	1,550	1,543	7
IESCO	800	50	49	1
MEPCO	1,150	300	310	10
PESCO + TESCO	874	430	450	15
HESCO	1,100	50	50	-
SEPCO	575	75	65	10
QESCO	685	120	150	30
TOTAL				

### 2013-14

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



### 2012

Wins Smart Metering Projects in Pakistan



### 2011

Expands product portfolio to AMR & AMI solutions  
Receives DLMS/COSEM certifications



# 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)**

- EHSAAS
- Rahat Saeed Trust

# EHSAAS – A CSR Initiative

- Helping people in flood affected areas
- Sixteen communal water purification plants in District Muzaffar-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

## ENERGY METERING



GPRS ENABLED ENERGY METERS



RF ENABLED ENERGY METERS



STATIC ENERGY METERS

## COMMUNICATION



GPRS



RF (GATEWAY & HHU)



IR

## COMMUNICATION TOOL



SMART EYE MDC



SMART EYE DESK / SMART EYE MDC



SMART EYE CONTROL

## USER INTERFACE



MTI GALAXY



MTI GALAXY



ENERGY METERING SYSTEM



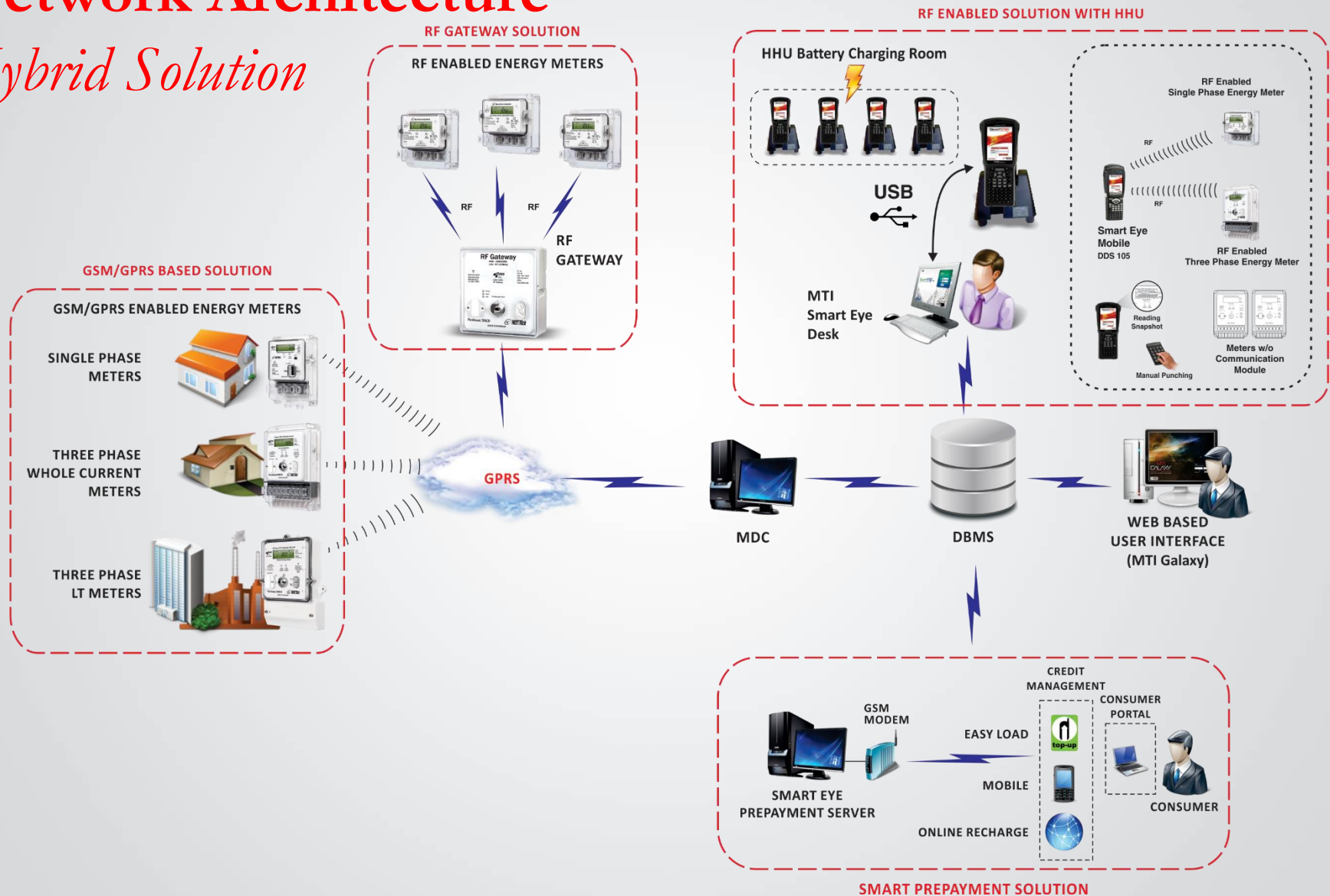


# Our Solutions

- Hybrid Network Architecture

# Network Architecture

## Hybrid Solution





# 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



## A Central System – Functionality

- 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

# SMARTEREMDC

The Complete Meter Monitoring & Management System

- 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 Gird 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)



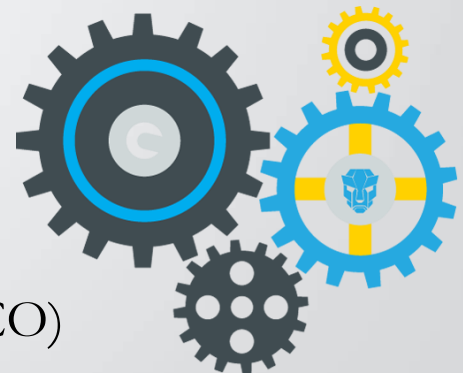
# Project Scope

## 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*