



Digitalization of Utilities and Digitalization Roadmap

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Chief General Manager(IT) **MSEDCL**









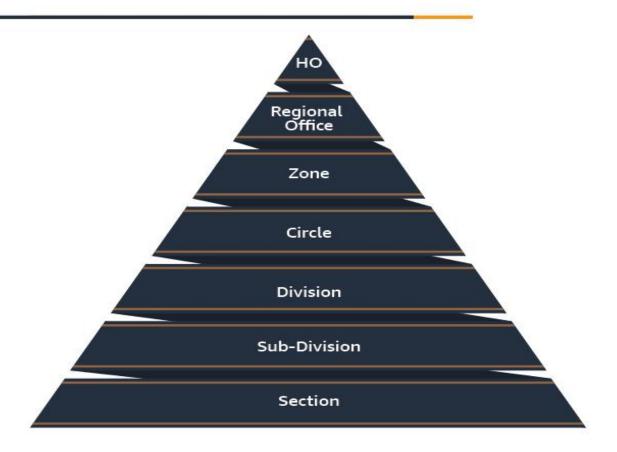


About MSEDCL

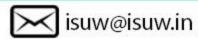


MSEDCL at a Glance





Particulars	Nos.
Area Covered	3.08 Lakh Sq.KM
Towns	457
Villages	41,095
Zones	16
Circle	45
Divisions	147
Sub-Divisions	662
Section Offices	3227
Employees strength	70,810
Nos. of Consumers	2.80 Crs
Annual Sales (19-20)	1,07,866 Mus
Annual Revenue from Sale of Power (19-20)	83606 Cr.
PEAK LOAD	19095 MW







MSEDCL – Digital Landscape





Consumer **Meter Reading** (Mobile reading)

Mobile Applications For Consumers, **Employees & vendors** **Mobile SMS & E-mail Services Social Media Engagement**

SAP Core Modules FI/CO Finanace & Control PM: Maintenance MM: Purchase & store **PS: Projects**

Online Cash Collection Centers (OCCS) 2016

Web Self **Service for** consumers 2013

> **BIG DATA on HANA** (Dashboard)

2015

(CRM) 2012

Network Data Managelemt, **Energy Audit &** DCL 2012

SAP Custom Modules TRC **Power Purchase Load Mgmt Testing** 2015

Meter Data Acquisition System (MDAS/AMR) 2012

E-Tendering 2019

Portal for Ag Consumers, **Maintenance Portal**

MSEDCL web portal 2010

SAP HR Modules

Employee Portal 2017

New Connection & Meter Replacement 2012 2010

RE Portal for Solar Rooftop, Ag Solar 2019

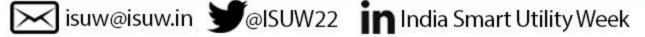
Organization Management(OM) **Personnel Administration (PA)** Payroll (PY) Other allied modules 2020

MSEDCL has deployed IT infrastructure on Cloud (Cloud Service Provider: AWS)









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Building Blocks of Digital MSEDCL







- Centralised and integrated billing and collection system
- Mobile first strategy
- Proprietary communication protocol for metering



Consumer **Services**

Omni channel touchpoints Social

media

servicing About 80% of consumer mobile numbers mapped



- IT enabled HR processes **Employee** access through website and app
- Paperless approvals policy for all HR processes



Performance Monitoring



Graphical dashboards with realtime and integrated reporting Operational target setting and

monitoring

Integrated backbone Customised modules











Digital Initiatives of MSEDCL





- Digital Initiatives for Operational Efficiency
 - Metering
 - AMR of Consumer & Feeder Meters
 - Meter Reading of 1 phase R&C consumers through RF DCU & Mobile App
 - Billing & Revenue Management
 - Centralised Billing System
 - Online Cash Collection System
 - Mahapowerpay MSEDCL wallet application
 - **ERP** Implementation
 - Performance Monitoring
 - Dashboards for KPI Monitoring
 - System Automation
 - **Substation Monitoring System**

Digital Initiatives for Consumers

- Centralised Call Center
- Portal & Mobile App for consumers
- Alerts and Notifications through SMS & E-Mail
- Social Media Engagement
- Online Payment services

IT Fnablement of workforce

- **Employee Portal**
- **Employee Apps**

Digital Initiatives for Vendors

- E-Tendering
- Centralised Vendor Payment System
- Maintenance Portal Empanelment of Vendors for maintenance works











MSEDCL Analytics - Dashboard



O Digital Platform

Developed in-house and Launched in 2017 to give access to data and analysis for operation, monitoring & decision making.

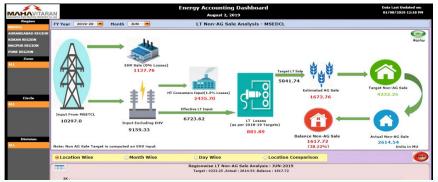
Main Features of Dashboard

- Near Real time information
- Graphical visualisation
- Information aggregated geographically
- Drill down analysis upto Subdivision office
- Comparison of KPIs across offices
- Monitoring office wise or consumer wise

KPIs of business functionalities available on dashboard

- Energy Accounting.
- Sale, Demand, Collection and Arrears
- **Outage Information**
- **Consumer Complaints**
- Paid Pending Status of New connections
- **Project Progress status**
- Distribution and ATC losses
- **Consumption Analysis**
- **ABR Monitoring**
- **Stock Monitoring**
- **Substation Load Analysis**
- **Load Profiling**















MSEDCL Consumer Engagement Platform



02 - 04 March 2022





























My Account

Outage

Notification

Service

Connect Me

Compare Me

Efficiency

Service @ Home

DIGITAL MOBILE ENGAGEMENT | SINGLE INTEGRATED PLATFORM | REAL TIME 2- WAY COMMUNICATION | CONFIGURABLE MODULES | DEVICE AGNOSTIC





Citizen Facilitation Centres For walk in consumers



Social Media Facebook, Twitter, Instagram, Youtube



Missed Call 022-41078500



Email customercare@mahadiscom.in



Consumer Portal www.mahadiscom.in/consumer

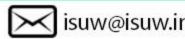


Central **Call Centre**



Native Mobile App Android, iOS English, Marathi









Case Study: Substation Monitoring System



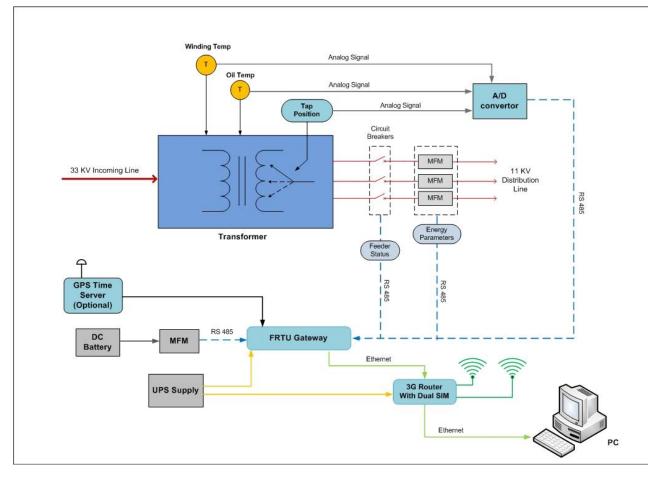


Objectives

- ✓ Monitor all electrical parameters of feeders, Power Transformers, Circuit Breaker, Relay & Battery status etc.
- ✓ Substation Equipment Health Monitoring
- ✓ Energy accounting and theft detection by comparing sanctioned load and real load data
- ✓ Load forcasting
- ✓ Load Management, Feeder load balancing
- ✓ Automated Demand Management Remote feeder On/ Off
- ✓ Network planning
- ✓ Assessment of Ag Load and consumption
- ✓ Reactive Power Management by controlling capacitor bank
- ✓ Improving Voltage Profile by online tap changers
- ✓ Data availability for Operational, Managerial & Strategic decisions

Pilot for 44 sub-stations in Akola District done on OPEX basis since Sept-2018

Architecture









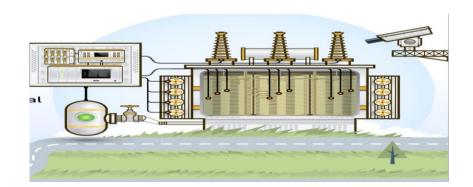




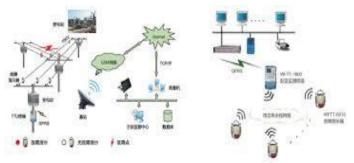
IT/OT Roadmap



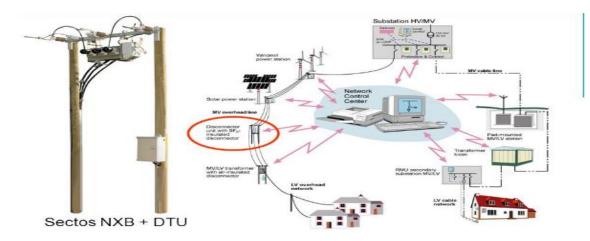
- IoT is expected to become a major enabling technology in the Power Distribution Automation.
- IoT projects planned under RDSS scheme



DT Monitoring



Fault Passage Indicator







IT/OT Roadmap

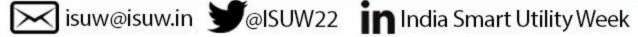


- Smart Metering for all Consumers
- Substation Monitoring System for all substations
- Energy Analytics using AI & ML
- Integrated & Consolidated view of all IT /OT systems at ECCC (Energy **Command & Control Center)**
- Data driven informed decision making















Thank You

For discussions/suggestions/queries email: www.indiasmartgrid.org www.isgw.in

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