



TATA POWER-DDL

TATA POWER DELHI DISTRIBUTION LIMITED

A Tata Power and Delhi Government Joint Venture

Digitalisation in Discoms

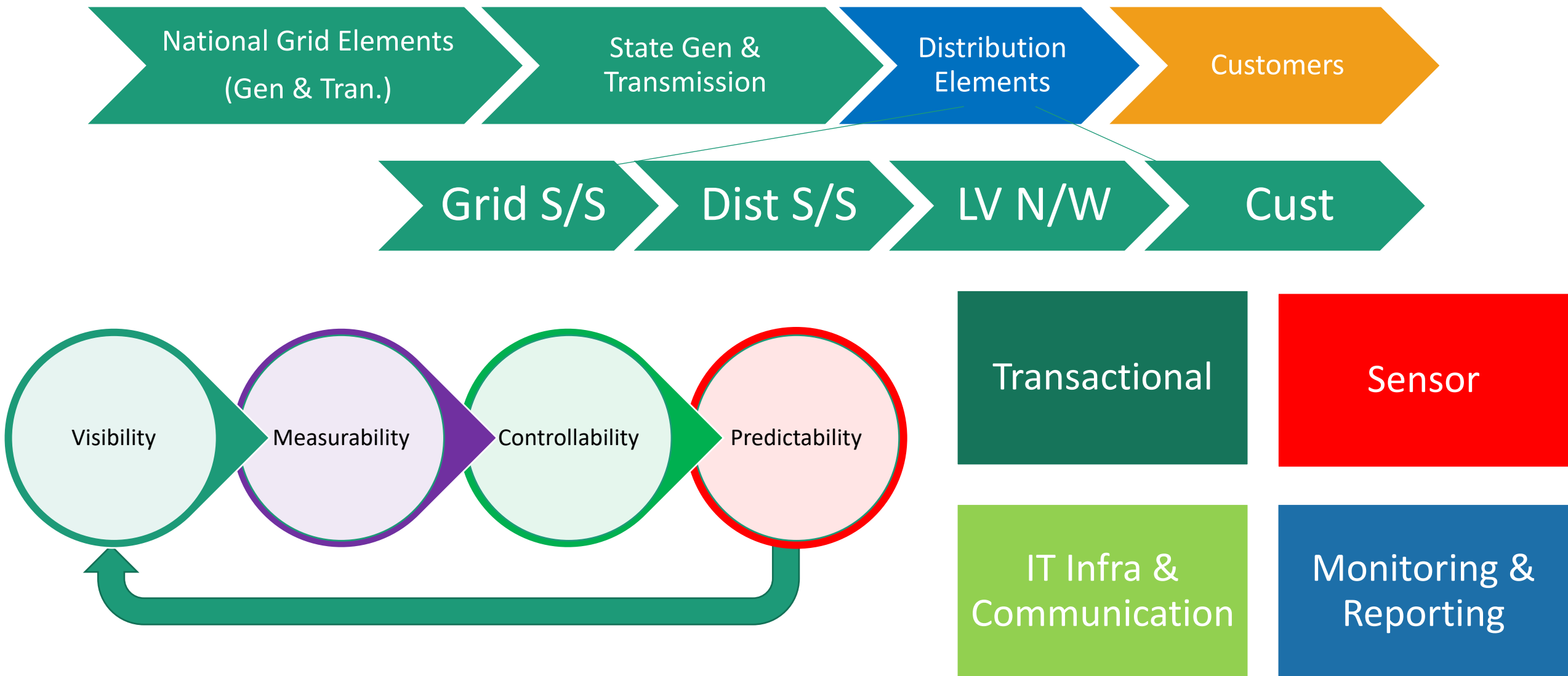
Distribution Utility Meet (DUM) 2020

27rd November 2020

S Samanta

with you *Non-Stop*

Utility Value Chain and Technologies



Dimensions of Utility

1. Network Monitoring & Control
2. Power Procurement & Mgmt
3. Customer Services
4. Enterprise Support Services
5. Supply Chain Mgmt.

Transactional (IT)

SAP ERP, ISU, CRM etc
Self Developed Systems
Mobility Solutions

Geo Spatial Systems & Services

GIS
Geo API Services

IT-OT Convergence

Reporting & Analytical

Reporting, Dashboards
Data Exploration
Data Science Systems

Sensor Based (OT)

Substation Automation
Distribution Automation
Comm Based Protection
IoT Based Automation

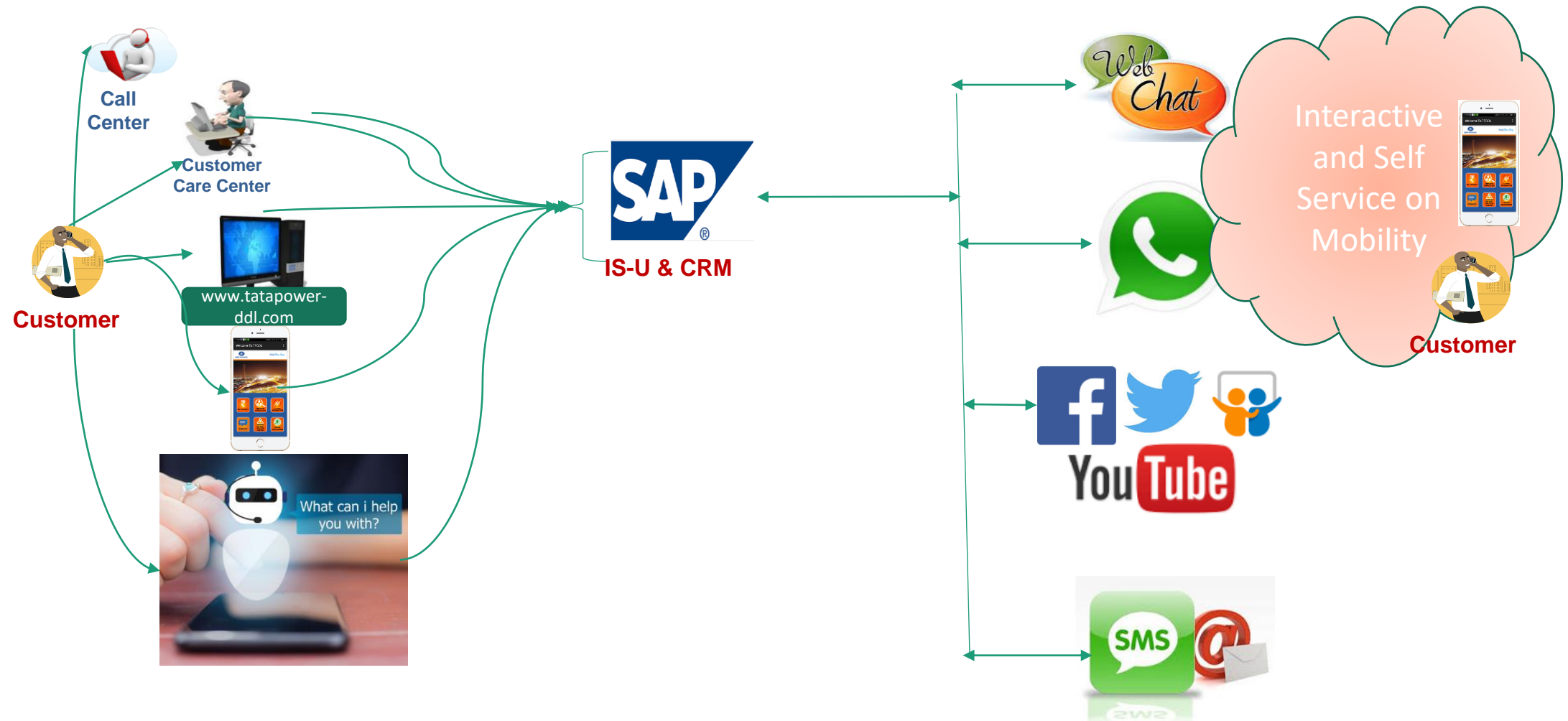
SCADA-DMS-OMS >> ADMS

Foundational

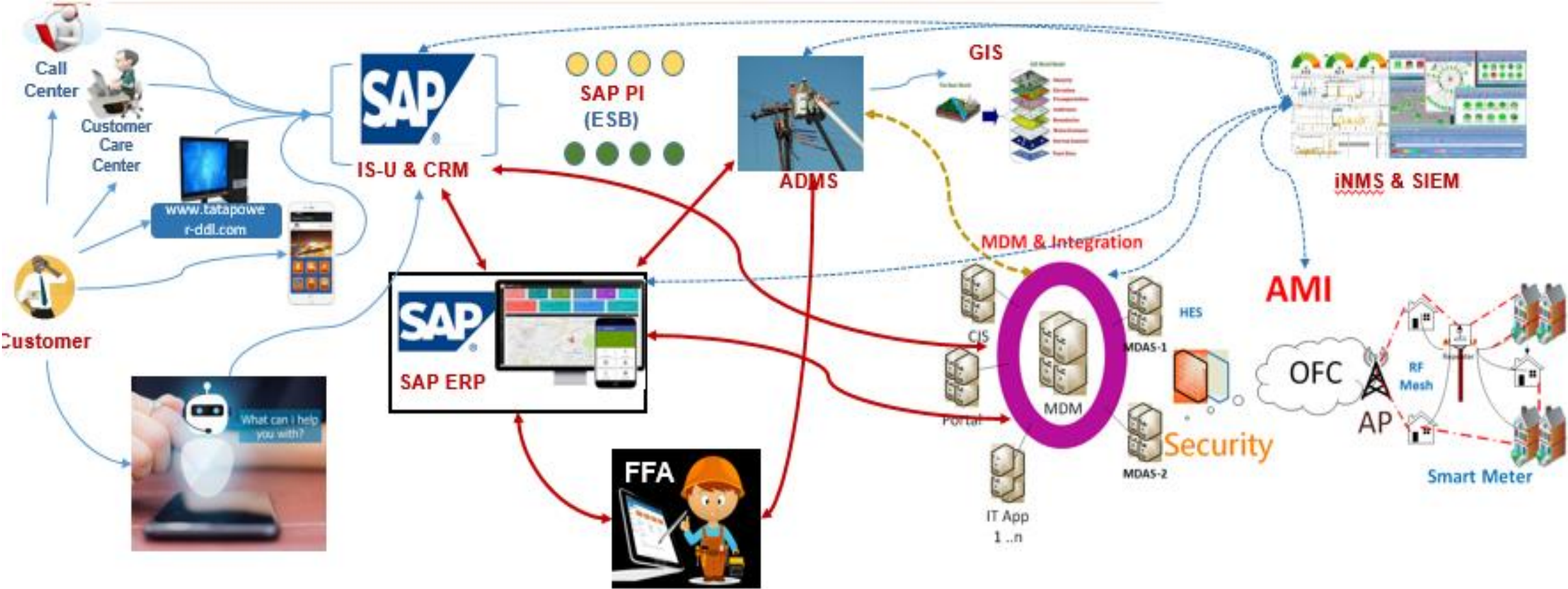
IT Infrastructure – Communication Infra – GIS – Meter Communication Infra

Digitisation Index

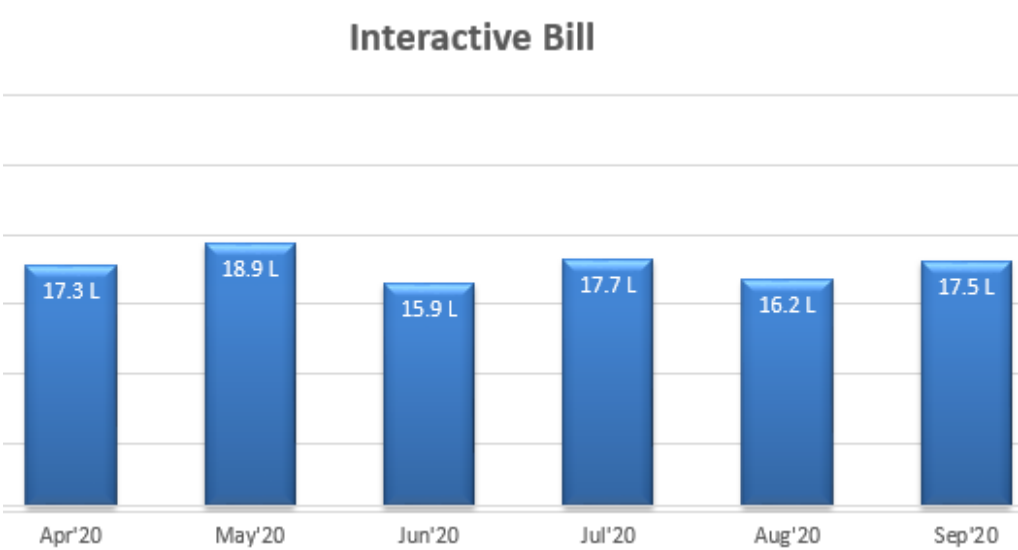
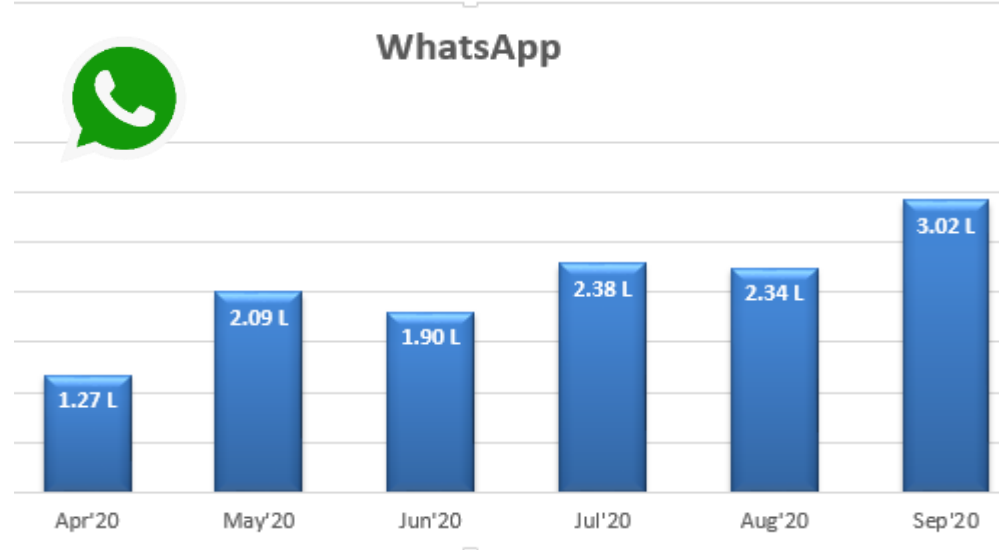
Consumer Communication



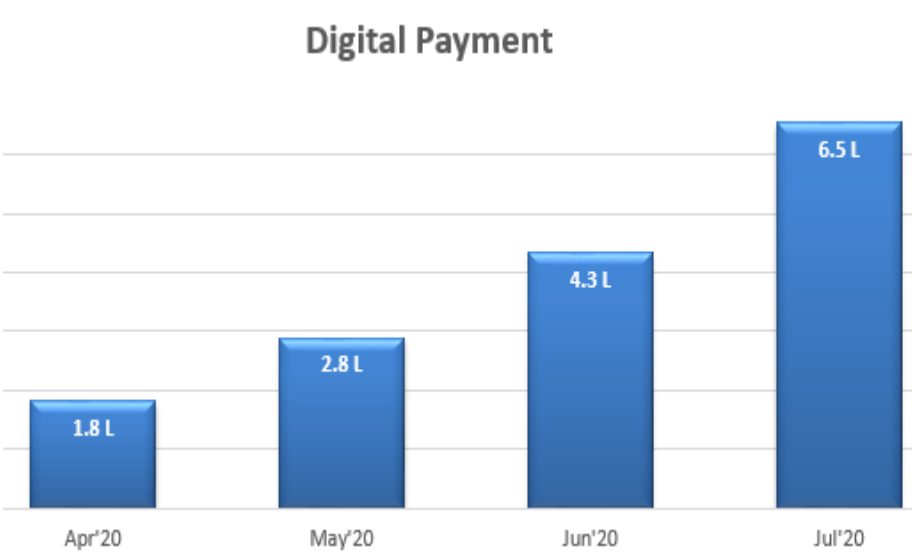
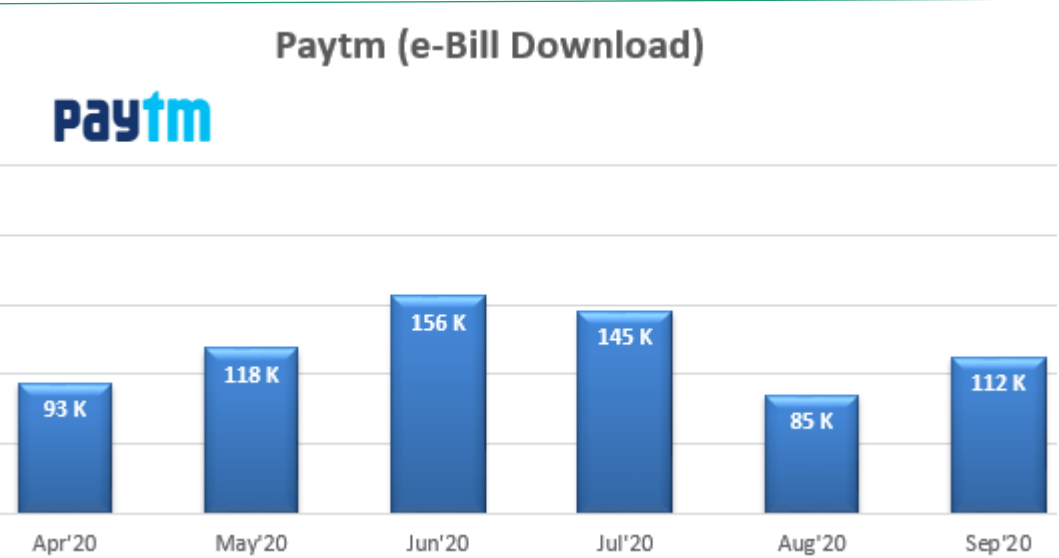
Outage Management



Digital Adoption by the Customers



3 Lakh
WhatsApp
Opt-in



25% Increase (from
60% to 85% in the
month of June) in
Digital Payment from
Last Year

Proactive-Interactive & Self Service

Airtel 4G 4:31 PM 69% Personal Hotspot: 1 Connection

tatapower-ddl.com

TATAPOWER-DDL

Bill of Supply for Electricity

Your Tata Power-DDL Electricity Bill CA
60014880847: Mr. HARI KISHAN

| | |
|--------------------------------|--|
| Bill Amount ₹270 | Due Date 24-Feb-2020 |
| Billed Units 62 KWH | Bill Load 1 KW |
| Bill No. 10801875759 | Bill Cycle Dec-2019 - Jan-2020 |

[View Bill](#) [Pay Bill](#)

ELECTRICITY BILL

Understand Your bill explained with audio voice.

[▶ Play Audio Bill](#)

Airtel 4G 4:33 PM 70% Personal Hotspot: 1 Connection

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TATAPOWER-DDL
TATA POWER DELHI DISTRIBUTION LIMITED
A Tata Power and Delhi Government joint venture

Bill of Supply for Electricity

Name: **MR. HARI KISHAN S/O Mr. SANTRAM**
Billing Address: **JUGGI NO 72 BLK-D-1 JJ COLONY SULTANPURI LANDMARK NA DELHI 110041**
Supply Address: **JUGGI NO 72 BLK-D-1 JJ COLONY SULTANPURI CITY DELHI 110041 LANDMARK NA**
Mobile/Tel No. **9268052635**
E-mail

Sanctioned Load (KW/KVA) **1.00**
Contract Demand

Power Factor **Zone**
District **MANGOL PURI**
Tariff Category **MP00F002**
MRU No. **SCG005/0002/07**
Billing Sequence **518-12/2019**
Pole/Pillar No.

CA No. **60014880847**
Engeneration Date **16.02/2012**
Security Deposit **350.00**
SLD Charges **1300.00**
Connection Type **PERMANENT**
Tariff Category **JJ Colony - Metered**
Bill Basis **Actual(KWH)**
Bill On Reading **04/02/2020**
Bill Date **10/01/2020**
Bill No. **10801875759**

Current Meter Detail

| Current Reading (A) | Previous Reading (B) | Removal Reading (C) | Previous Reading (D) |
|---------------------|----------------------|---------------------|----------------------|
| 311019200 | 311019200 | 311019200 | 311019200 |

Units Consumed
62

Current Demand Details / where type: as Revnt Amount (₹)

| Days: 34 | Month: 1.0968 |
|-----------------------|---------------|
| Fixed Charges | 21.34 |
| Energy Charges | 186.00 |
| Total | 186.00 |

Power Purchase Cost Adj. Charge (PPAC)
PPAC On Fixed Charges
PPAC On Energy Charges

Surcharge
On Fixed Charge @8%
On Energy Charges @8%
Penalty Trust Surcharge
On Fixed Charge
On Energy Charge

Electricity Tax @5% (on ₹)

Other Amounts not incl. in "Total Amount Payable"
Duty of Birth of Electricity

Nearest Payment Centers
1) TPDDL Payment Centre/ATPM, Jalebi Chowk, Sultan Puri, Delhi 110086
2) ATPM, TPDDL VT Centre, P-4, Jagdamba Market Road, Sultanpuri, Delhi - 110086

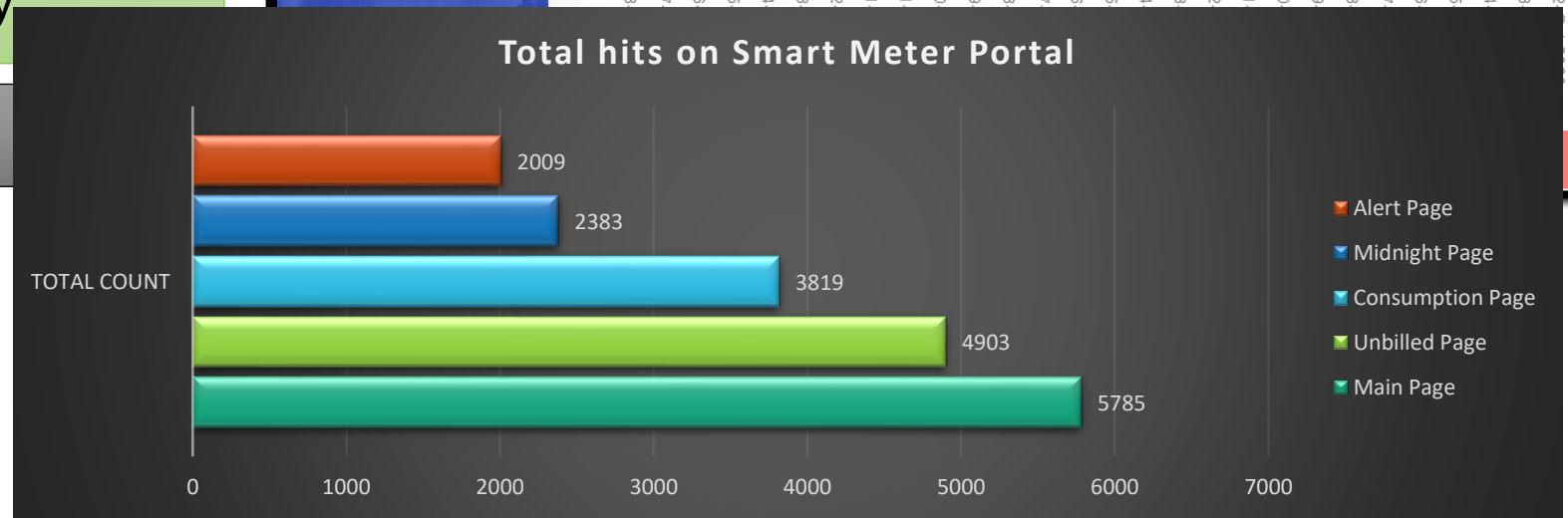
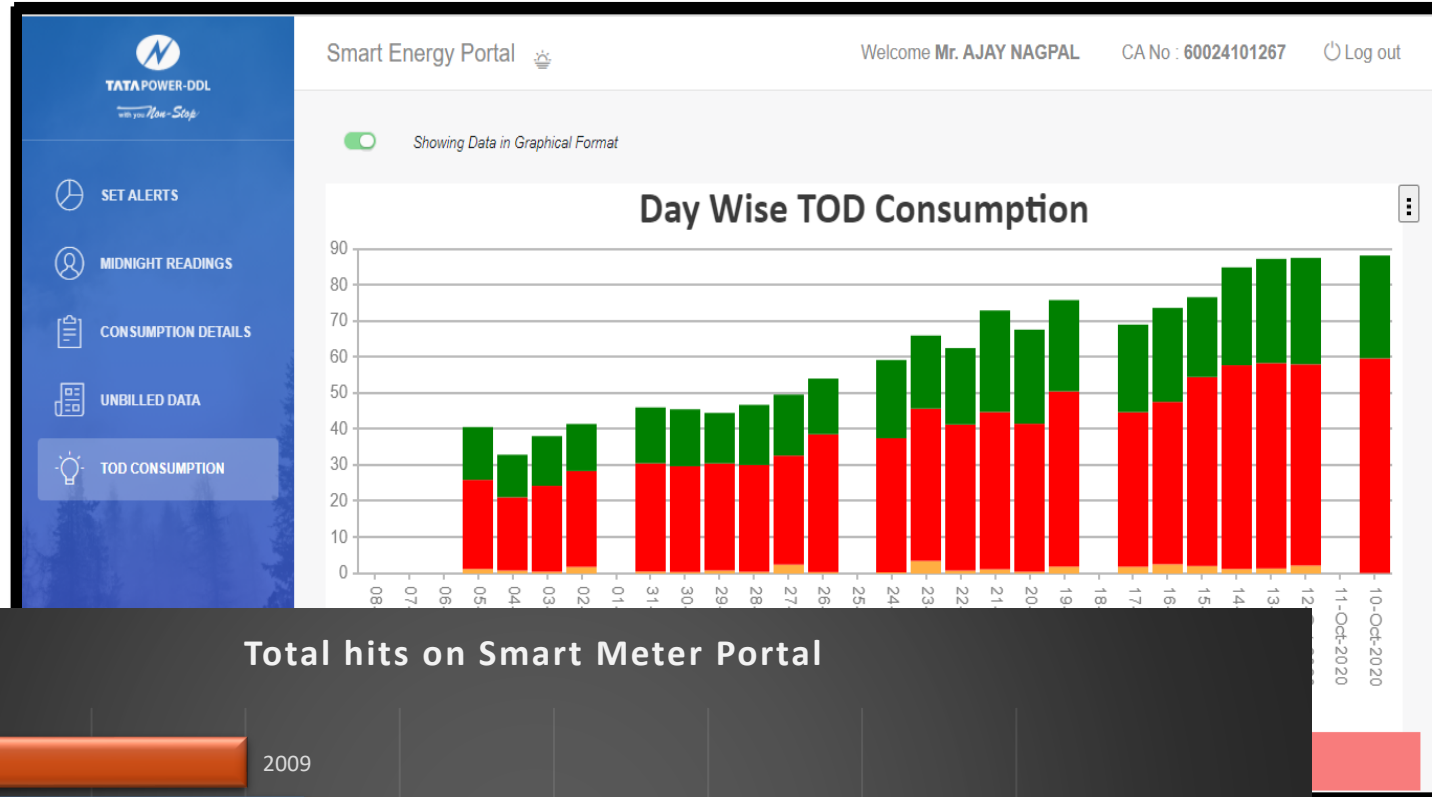
Consumption History

| Billing Period | Days | Units | Total Amt. Payable(₹) | Bill Status |
|-----------------------|------|-------|-----------------------|-------------|
| 11/11/2019-12/11/2019 | 31 | 58 | 470.00 | Actual |
| 12/11/2019-01/11/2020 | 31 | 57 | 460.00 | Actual |
| 01/11/2020-02/11/2020 | 31 | 57 | 460.00 | Actual |
| 02/11/2020-03/11/2020 | 31 | 57 | 460.00 | Actual |
| 03/11/2020-04/11/2020 | 31 | 57 | 460.00 | Actual |
| 04/11/2020-05/11/2020 | 31 | 57 | 460.00 | Actual |
| 05/11/2020-06/11/2020 | 31 | 57 | 460.00 | Actual |
| 06/11/2020-07/11/2020 | 31 | 57 | 460.00 | Actual |
| 07/11/2020-08/11/2020 | 31 | 57 | 460.00 | Actual |
| 08/11/2020-09/11/2020 | 31 | 57 | 460.00 | Actual |
| 09/11/2020-10/11/2020 | 31 | 57 | 460.00 | Actual |
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| 12/11/2020-01/11/2021 | 31 | 57 | 460.00 | Actual |
| 01/11/2021-02/11/2021 | 31 | 57 | 460.00 | Actual |
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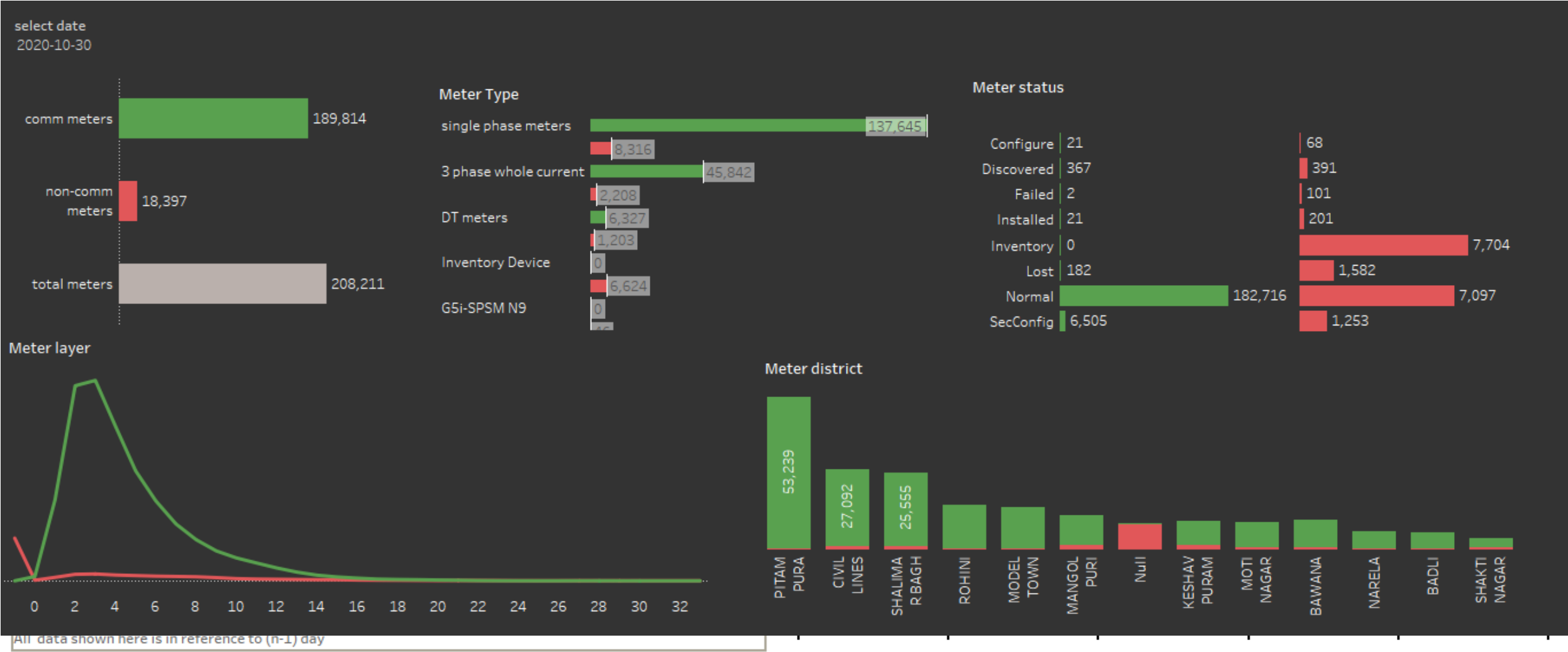
Smart Energy Portal for Customers

Customer Portal is in house developed for smart meter consumers

- Consumption alerts triggered to registered email id and SMS
- Half hourly Consumption display
- Daily Consumption display
- Daily Mid night readings
- Unbilled consumption display
- TOD Readings Display



HES Smart Meter Dashboard



[Back](#)

Application Testing Automation –



‘Selenium’ for testing of Web applications

‘Appium’ for testing of Mobile applications



‘UFT’ for testing of SAP applications

‘Jmeter’ for Load / Stress / Performance testing

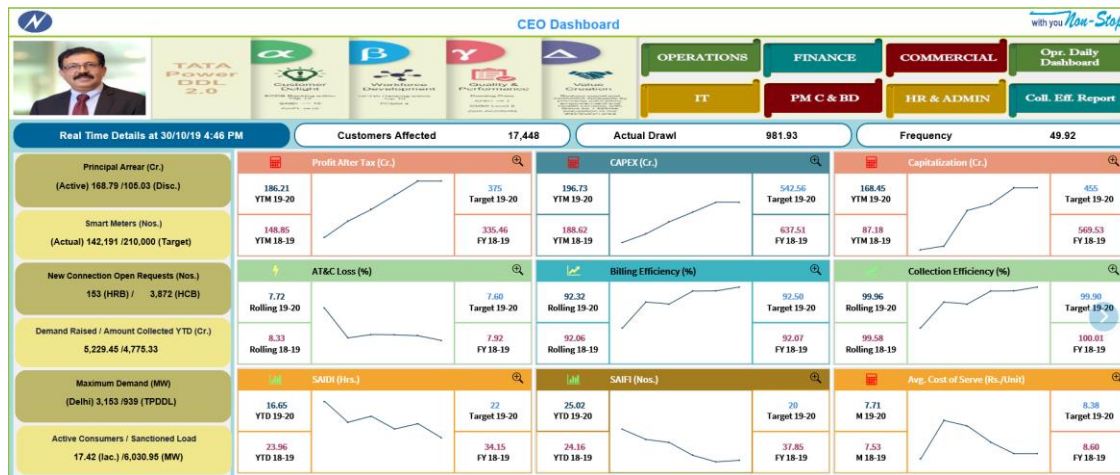
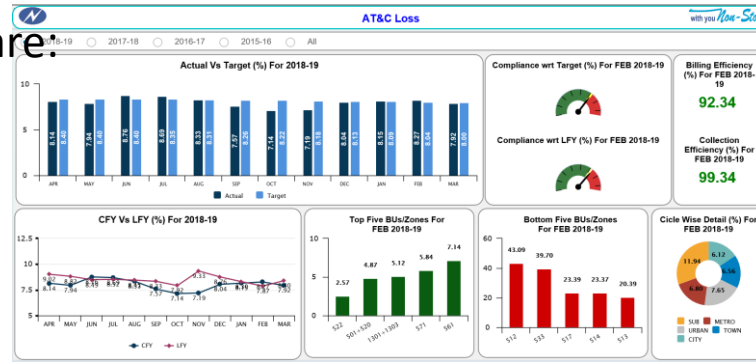


Enhancing Buisness Intelligence ...

More than 50 Management dashboards covering 100+ KPI's are implemented touching all levels BU's and data granularity.

Major areas implemented are:

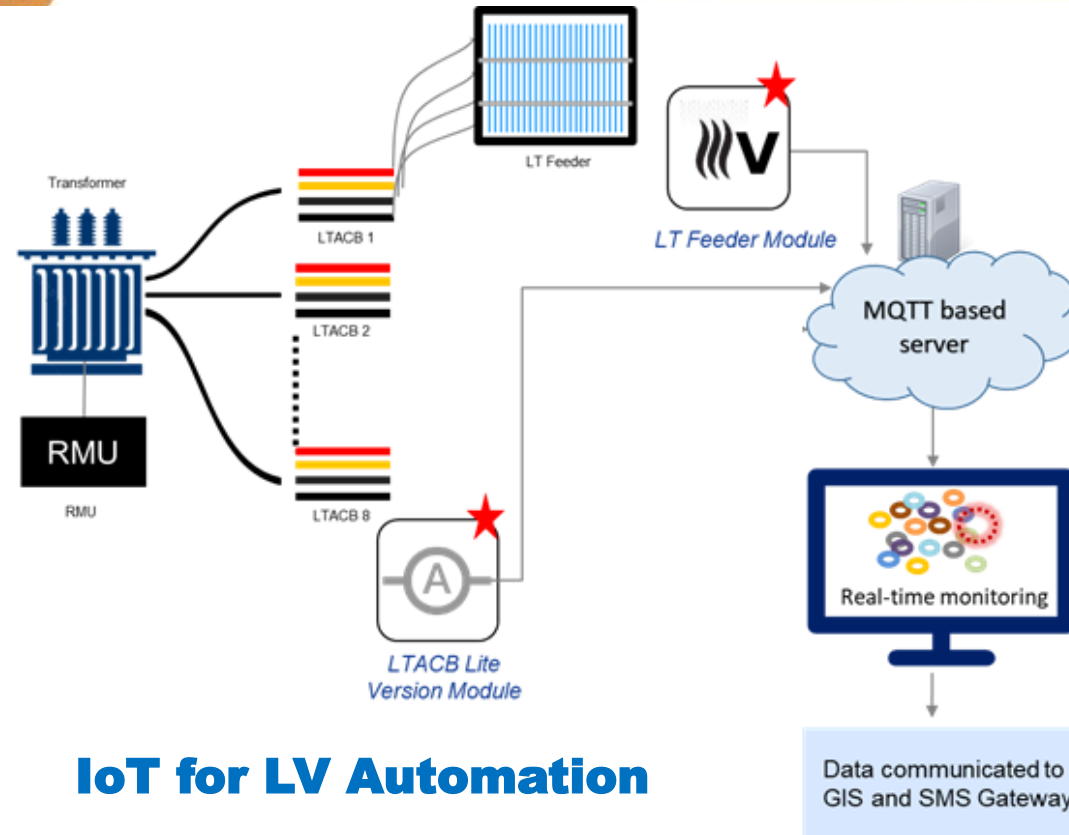
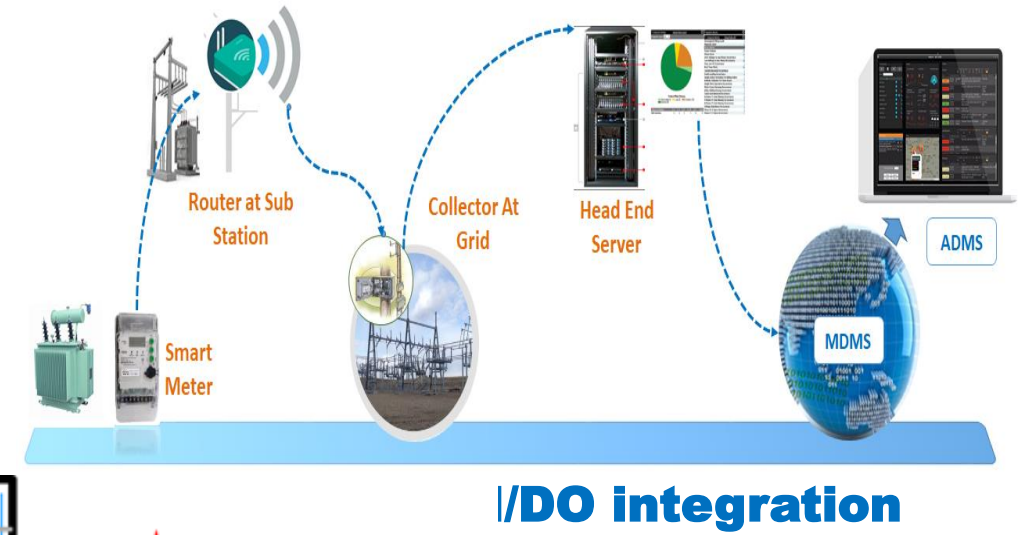
- Operation
- Commercial
- Business Development
- Finance
- HR & Admin
- IT



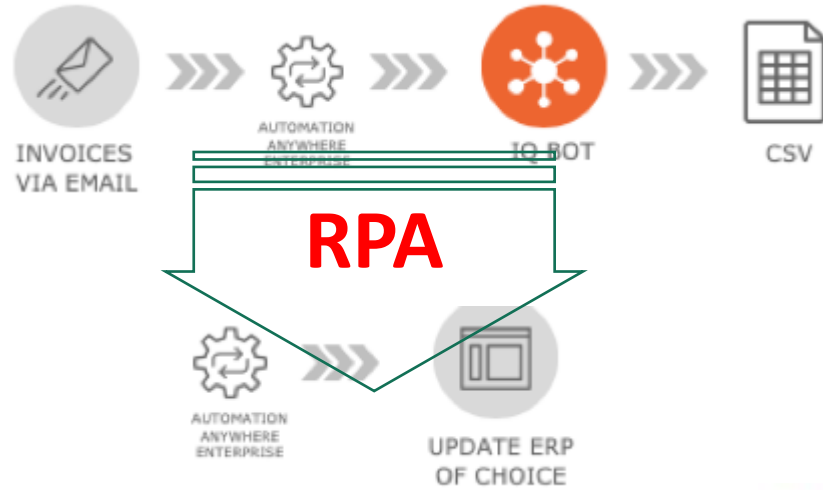
Predictive use cases

- Energy Theft prediction
- Payment Defaulter Prediction to improve collection efficiency
- Call volume/ footfall at cash collection center prediction
- Predictive maintenance for DT, Feeder, Circuit Breaker etc.
- Feeder Tripping Prediction
- Network load growth prediction

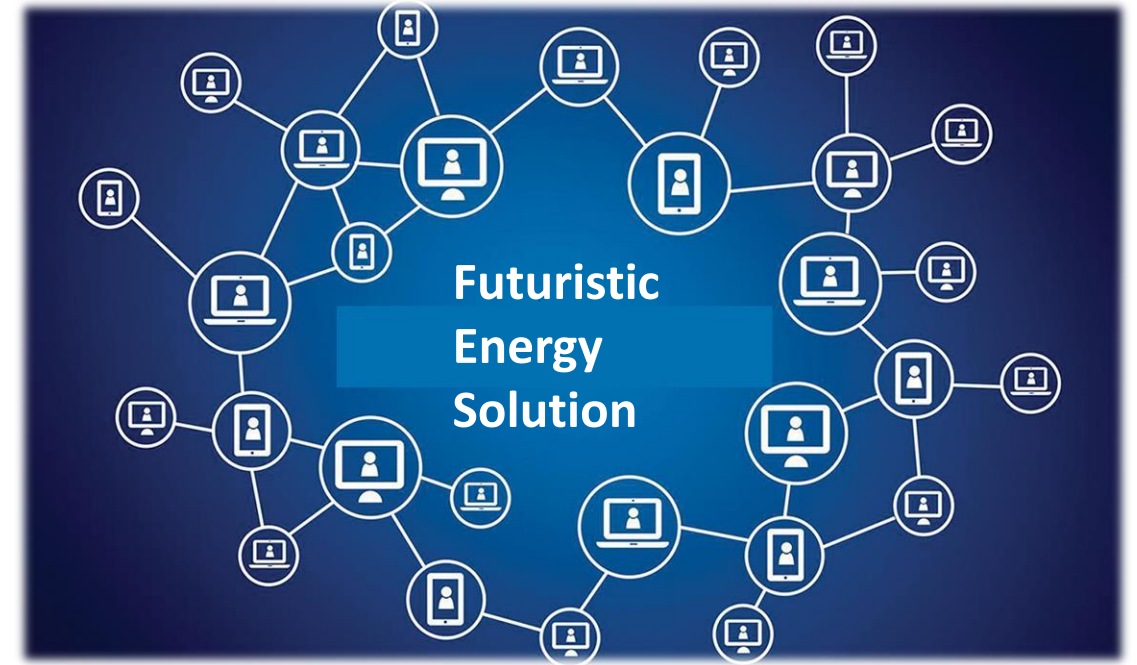
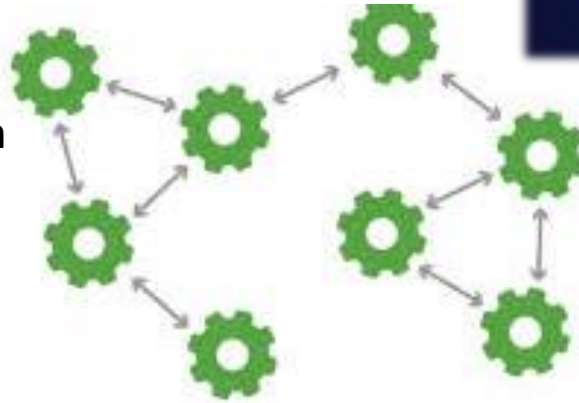
Nex Gen Technologies in adoption..1



Nex Gen Technologies in adoption..1



Invoice Processing
Customer Service Backoffice Automation



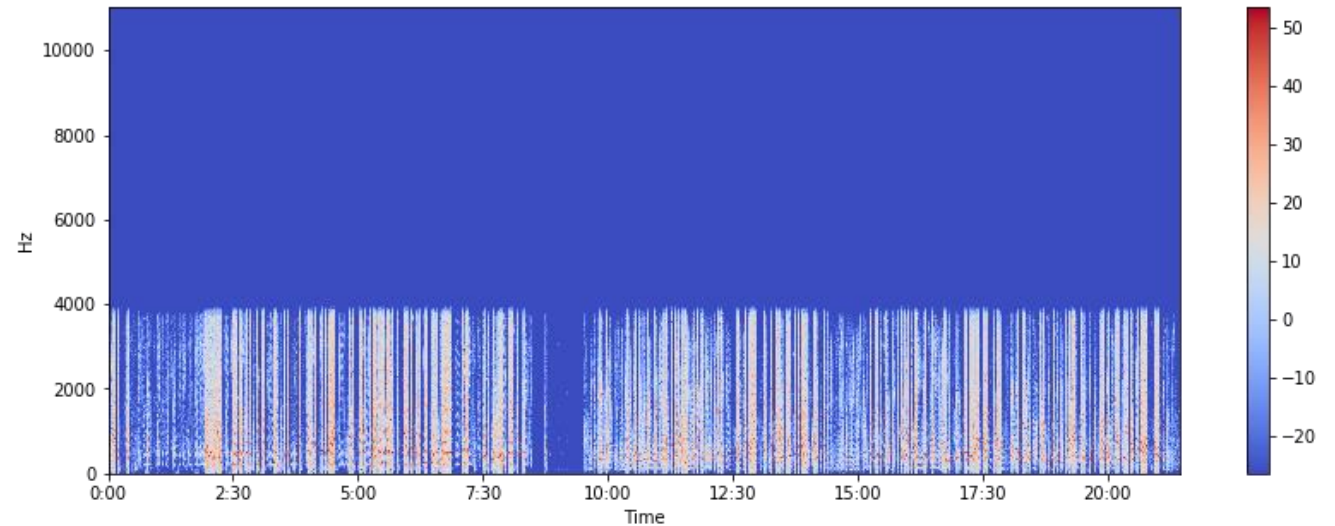
Microservices for Geo Spatial, Cyber Security,
Authentication /Validation etc...

Applied Data Science...

Voice to Sentiment

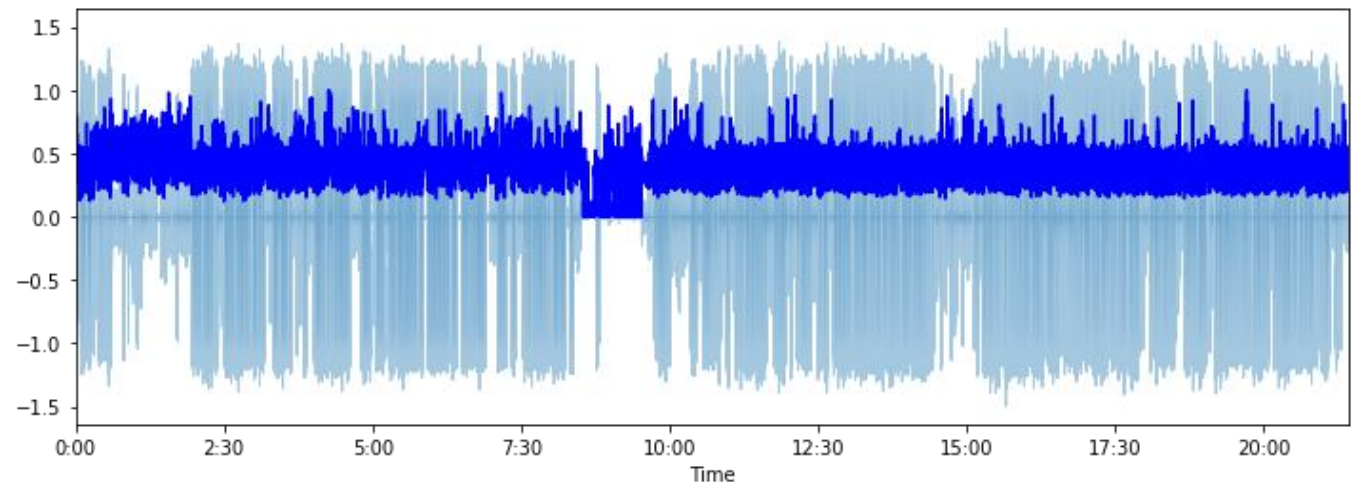
Spectrogram :

A spectrogram is a visual way of representing the signal strength, or “loudness”, of a signal over time at various frequencies present in a particular waveform. A spectrogram is usually depicted as a heat map, i.e., as an image with the intensity shown by varying the color or brightness.



Spectral Centroid:

The **spectral centroid** is a measure used in digital signal processing to characterise a **spectrum**. It indicates where the center of mass of the **spectrum** is located. Perceptually, it has a robust connection with the impression of brightness of a sound

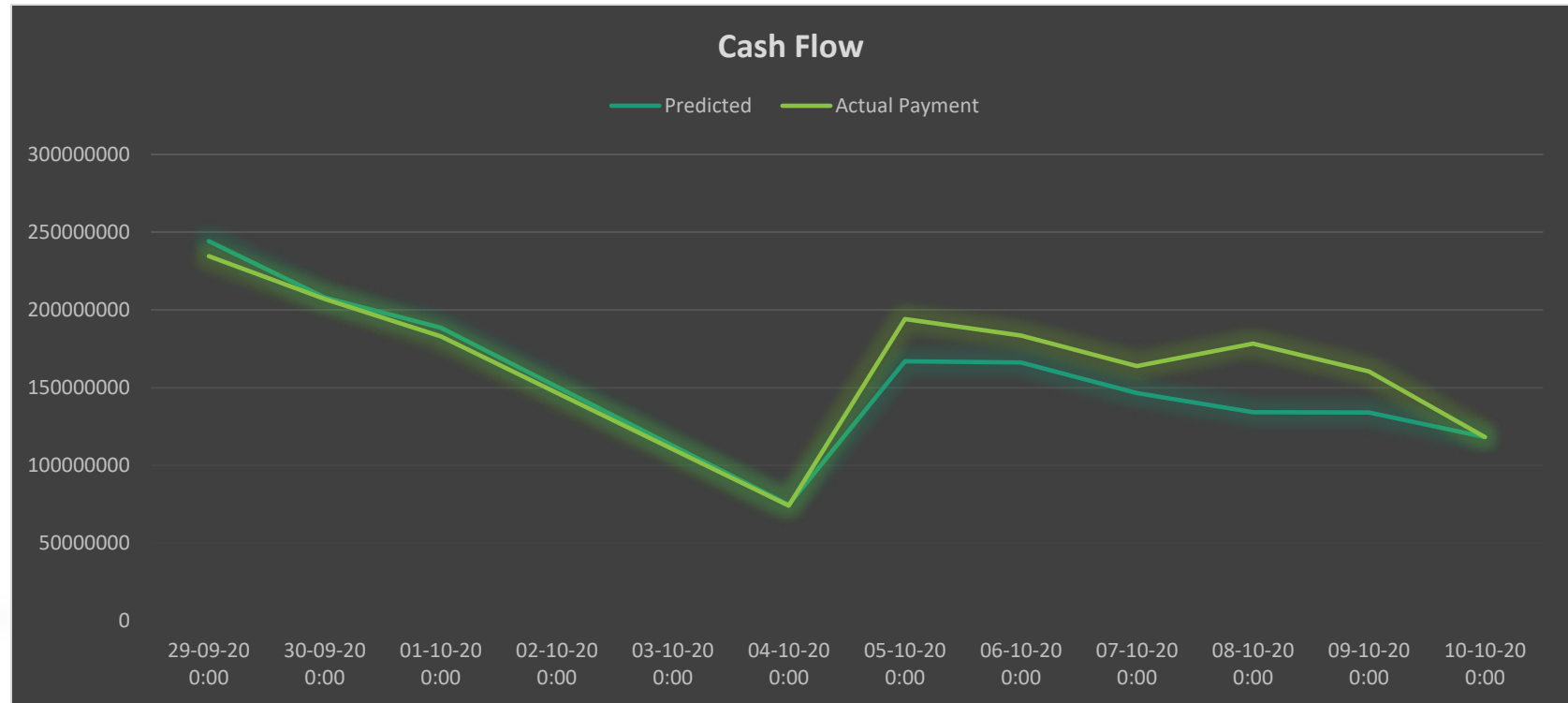


Cash Flow Prediction



Unique logic improvement

- ✓ Demand on date
- ✓ Demand due up to date
- ✓ Rate Category
- ✓ RBI holiday



Payment Defaulter Prediction

ORACLE Business Intelligence

Search All



Advanced

Administration

Help

Sign Out



Payment Default

Alerts!

Home

Catalog

Favorites

Dashboards

New

Open

Signed In As BA.Kapilyadav



Defaulters Summary- HRB (Previous 30 Days From Today's Date)

Actual Defaulters

28,158

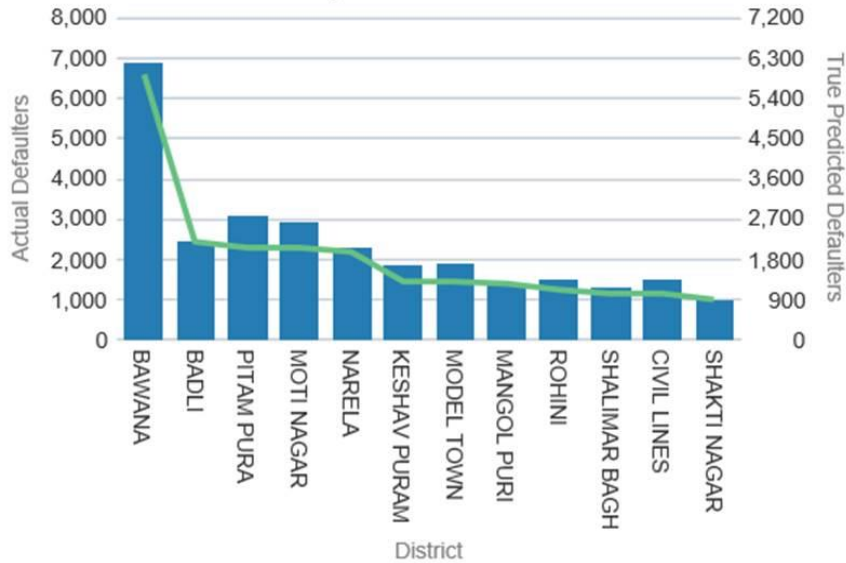
True Predicted Defaulters

22,217

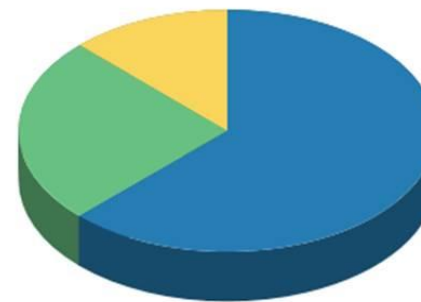
[Refresh](#) - [Print](#) - [Export](#)

Actual Vs Predicted Defaulters- District and Zone Wise- HRB

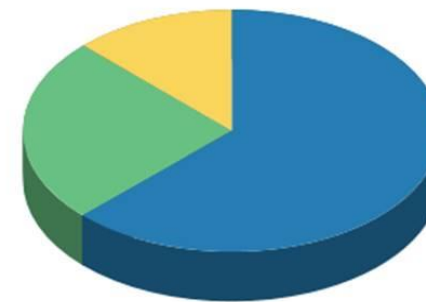
True Predicted Defaulters, Actual Defaulters



District BADLI



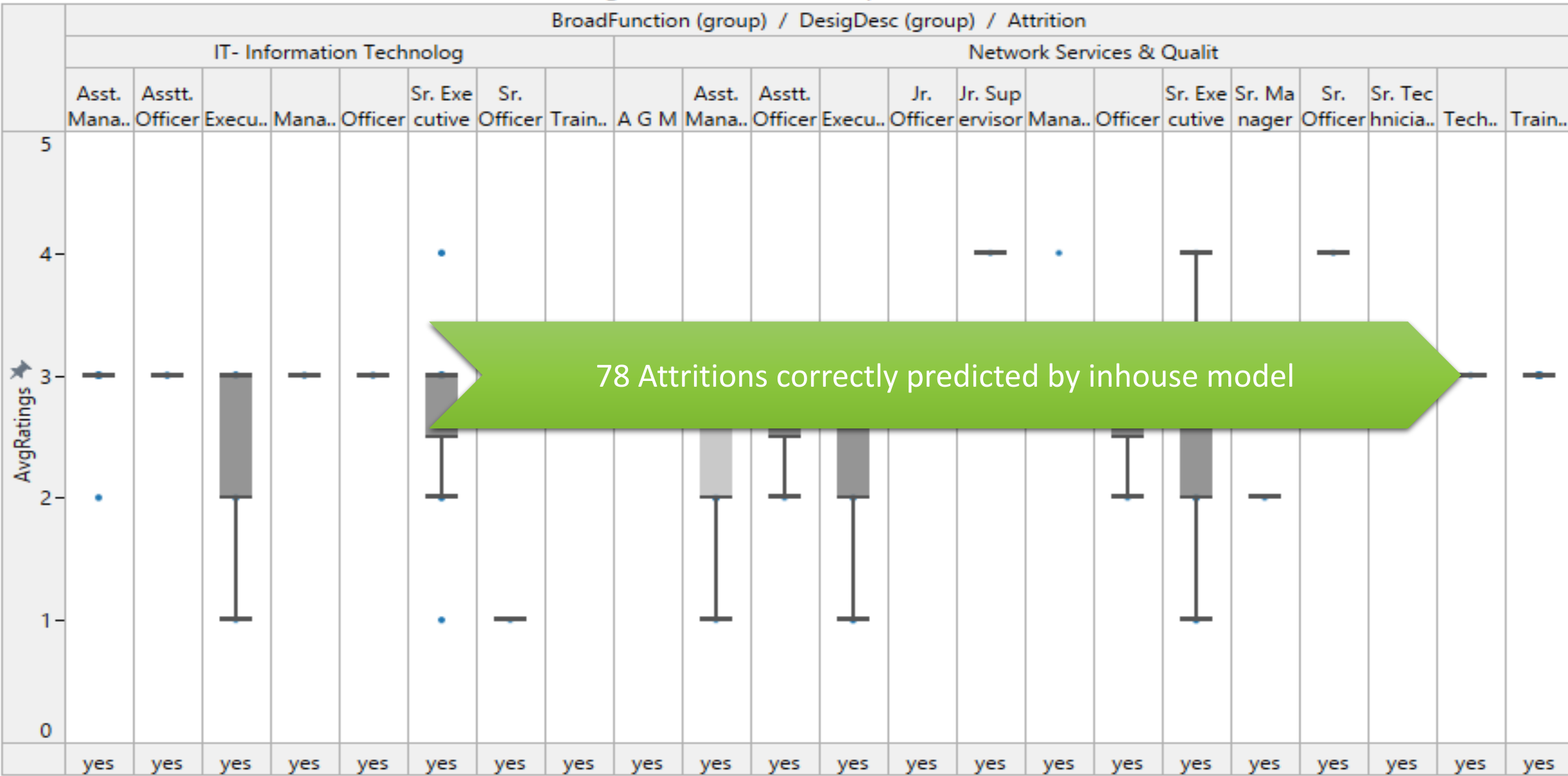
Actual Defaulters



True Predicted Defaulters

Employee Attrition

High Performers & Low performers



Reskilling

Development Skill

JAVA Training

Web Development UI – Javascript , CSS & HTML 5

Testing Automation

Selenium Training

Appium Training

JMeter Training

HP UFT with VBscript - Basic to Advance

SAP Landscape

Introduction to SAP HANA Administration & SUSE Linux

Enterprise Server (2020 Edition)

s/4 Hana Readiness Training.

SAP-FICO

Database Skills

Oracle Cloud infrastructure

Oracle Autonomous Database,

Skills on Cyber Security

CASE training for CERT-in

Vulnerability Assessment & Prevention

CISA

Cyber Security for Power System Control

Certified Network Defender

Certified Ethical Hacker v10.0

CASE Certification

Other Technologies

Radware Alteon Load Balancer : RCAP-AL

Big Data and Hadoop Essential

Blockchain Developer

IoT Wireless & Cloud Computing Emerging Technologies

Auditors Training on ISO 9001 + ISO 14001 + ISO 50001

AWS cloud practitioner

Thank You