

## Host Utilities



Co - Host Utilities



## ORGANIZER



# India SMART UTILITY Week 2024

## Supporting Ministries



## DIGITALIZATION AT Tata Power- DDL

*Presented By*

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# Context and Focus Areas for Digitalization in Utilities



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- **Overview:** Digitalization is transforming the landscape of utilities, revolutionizing how power is generated, distributed, and consumed. This transformation involves *leveraging advanced technologies to optimize operations, enhance reliability, and meet evolving consumer demands.*

## Key Components:



### Smart Grids

Integration of sensors, meters, and automation technologies to improve grid efficiency, resilience, and enable real-time monitoring and control



### IoT & Data Analytics

Utilization of IoT devices and data analytics to gather insights, predict maintenance needs, and optimize asset performance.



### Customer Engagement

Digital platforms provide real-time consumption data, personalized services, and energy management tools, fostering energy efficiency and sustainability.



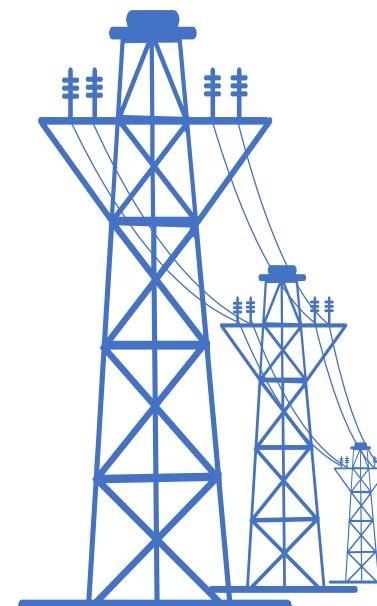
### Cybersecurity

Implementation of robust cybersecurity measures to safeguard critical infrastructure and data from evolving cyber threats



### Renewable Integration

Digital platforms seamlessly integrate renewable energy sources, optimizing grid management and maximizing renewable energy utilization.

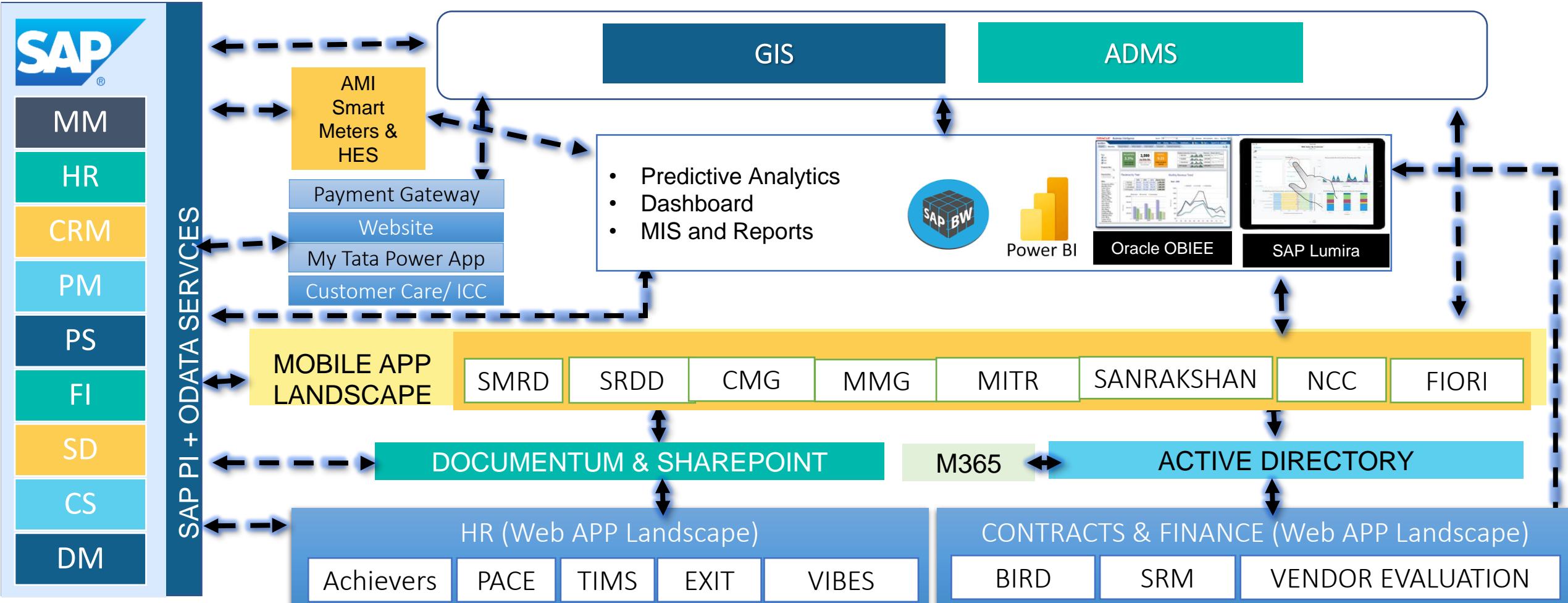


# Post Digitalization : Integrated IT/OT Landscape



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\*\* MM – Material Management, HR – Human Resource, CRM – Customer Relationship Management, PM – Plant Maintenance, PS – Project System, FI- Finance, SD - Sales & Distribution, CS – Customer Services, DM – Device Management, AMI – Advance Meter Interface, GIS - Geographic Information System, HES – Head End System, ICC – Integrated Call Centre, ADMS – Advanced distribution management system , SAP – System, Application, Process, SMRD – Spot Meter Reading, SRDD – Spot Reconnection Disconnection Device, CMG – Customer Management Group, MMG – Meter Management Group, NCC – No Current Complaint, PACE - Primary, Alternate, Contingency, and Emergency, TIMS - Training Information Management System, BIRD – Bill Inward Receiving Dashboard, SRM - Supplier Relationship Management.

# Digital Journey :Customer Services



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- ☐ Digital Touch-points
- ☐ My Tata Power Mobile App
- ☐ Call Center
- ☐ E-mail Management & E-mail Bot
- ☐ Web-chat
- ☐ TPDDL Website
- ☐ Social Media Sentiment Analysis (Facebook, Twitter)

- ☐ Digital Billing
- ☐ E-Bill on WhatsApp
- ☐ E-Bill on Paytm
- ☐ Interactive Bill

- ☐ Digital Payment Modes
- ☐ Paytm
- ☐ Google Pay
- ☐ Amazon Pay
- ☐ UPI
- ☐ Yes Bank
- ☐ HDFC Bank

E-Bill on

paytm



Interactive Bill



IVRS~ 65% in  
2023 vs 36% in  
2018

Digital Payment ~  
86% in 2023 vs  
40% in 2018

My Tata Power  
App



E-Mail  
Management

Website



Call Centre  
(CISCO)



Web-chat

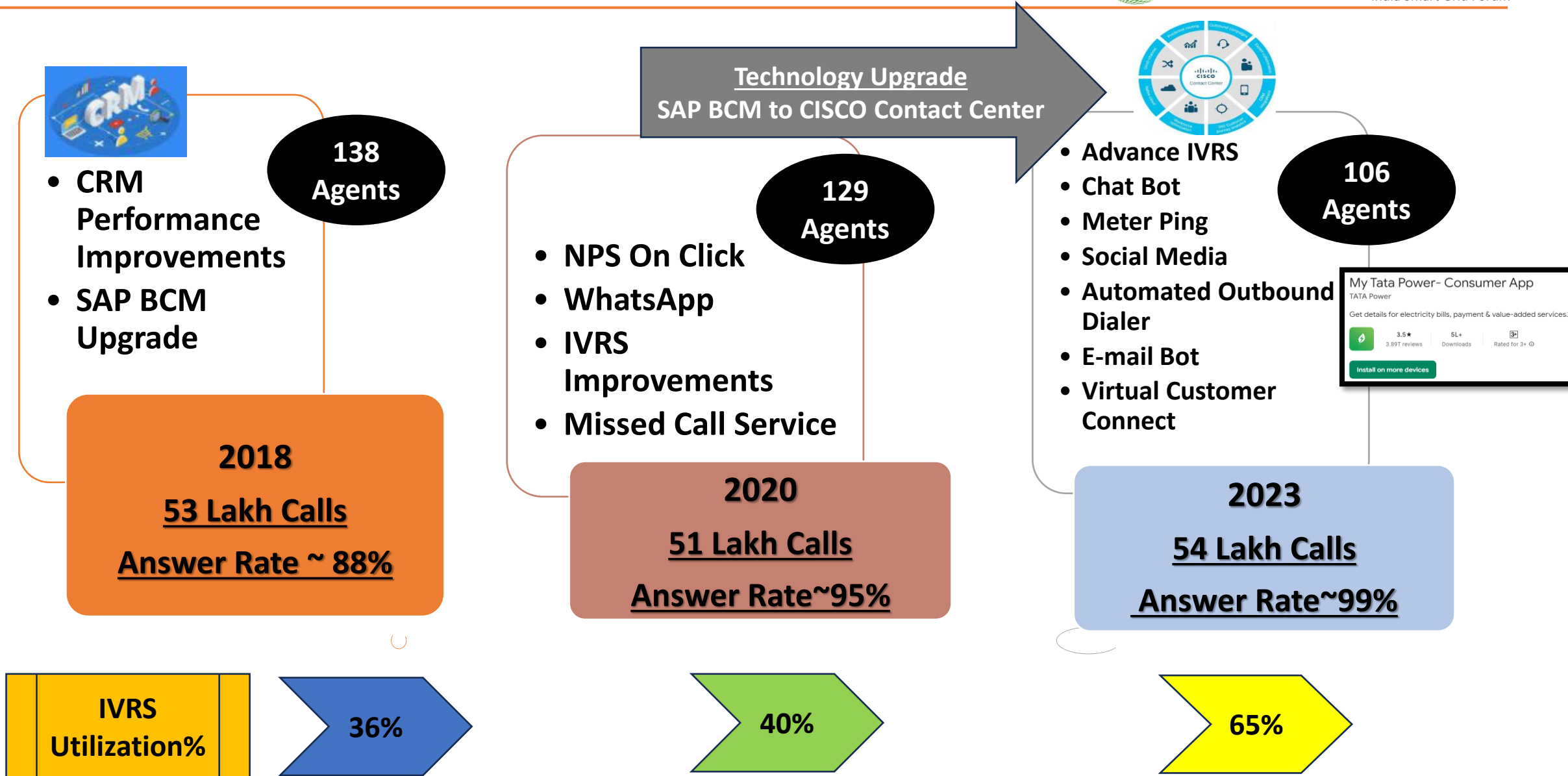


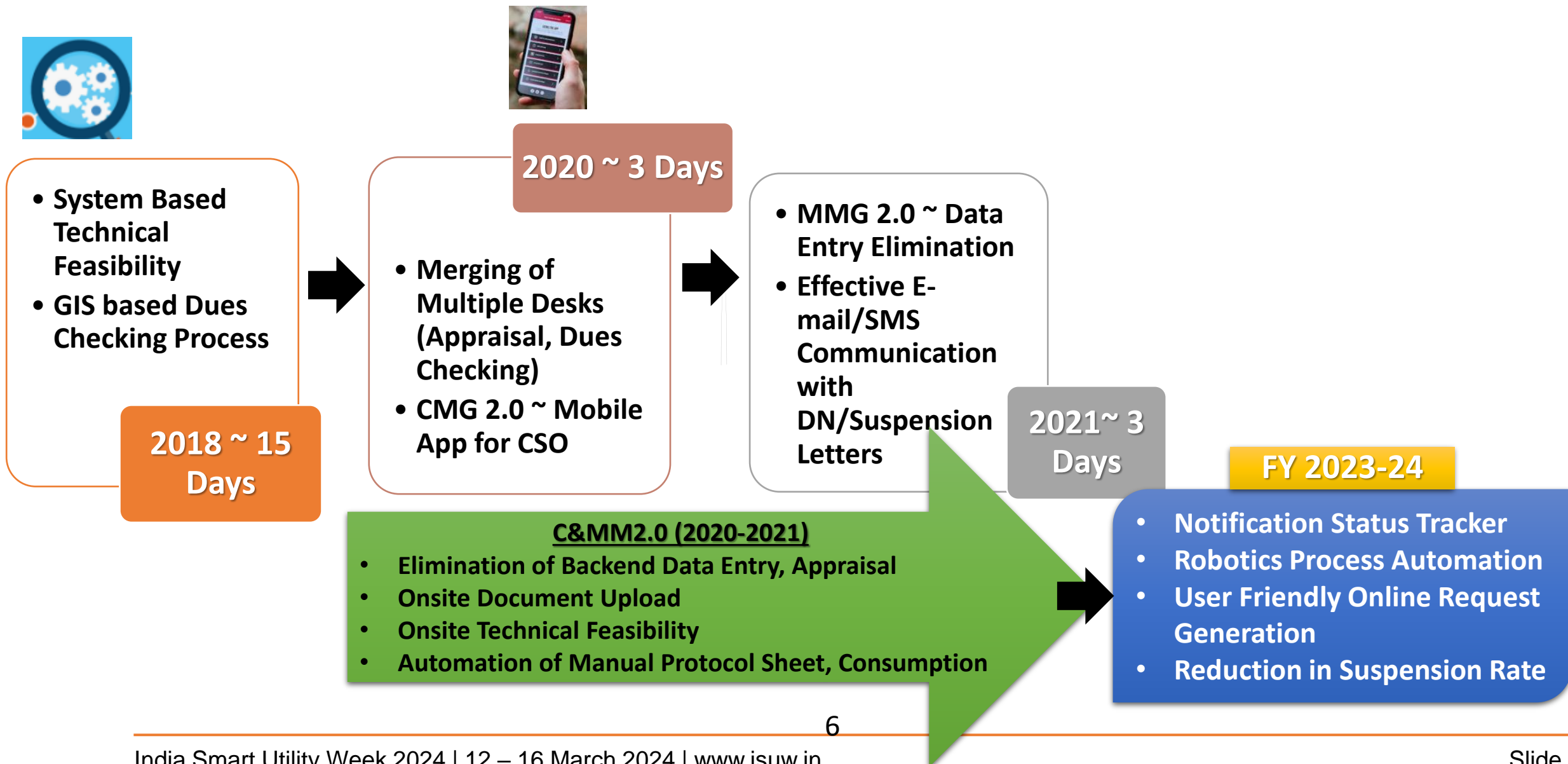
# Customer Services: Experience Journey



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- ❑ Post Transaction Feedback System
- ❑ Calculation of Customer Effort Score (CES)
- ❑ Calculation of Net Promoter Score (NPS)
- ❑ Calculation of Key Metrics Question (KMQ)

Goal				
Major KPIs to be impacted	UOM	Current Level (At the Time of Project Initiation)	Desired Level	Level Achieved till Now
Customer Experience Score	Score	Not Measured	>5.7	5.82





## Suspected Theft Prediction

- Historical Consumption Data
- Customer basic information
- Historical Theft Data
- Meter Device Information



Customer Data Info



## Defaulter Prediction

- Billing Data
- Payment Data



Billing Data



## Vegetation Management

- Historical Interruption Data
- Historical Outage Data



# Emerging Focus Areas in Utilities



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***RPA***



***5G***



***IoT***



***Cloud Migration***



***DER Integration &  
P2P Energy Trading***



***AI/ML***



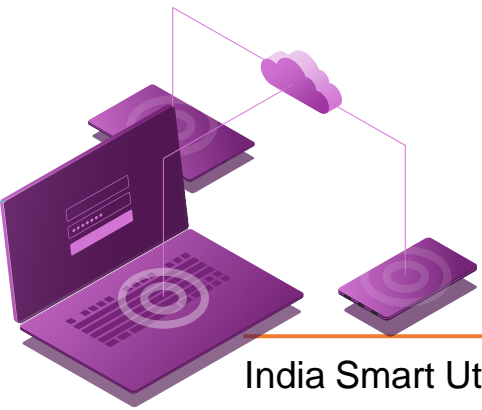
***Cyber Security  
Strengthening***



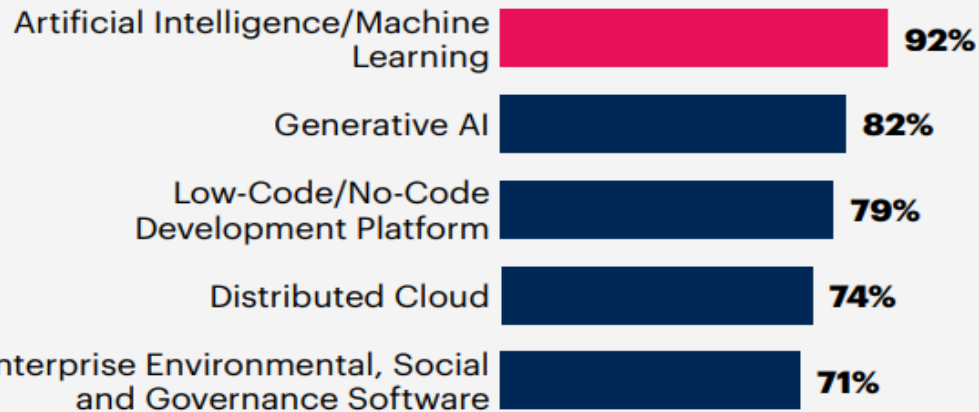
***OCR & Image  
Analytics***



***AR, VR, MR, XR,  
Metaverse***



## Which technologies are most likely to be implemented by 2026?



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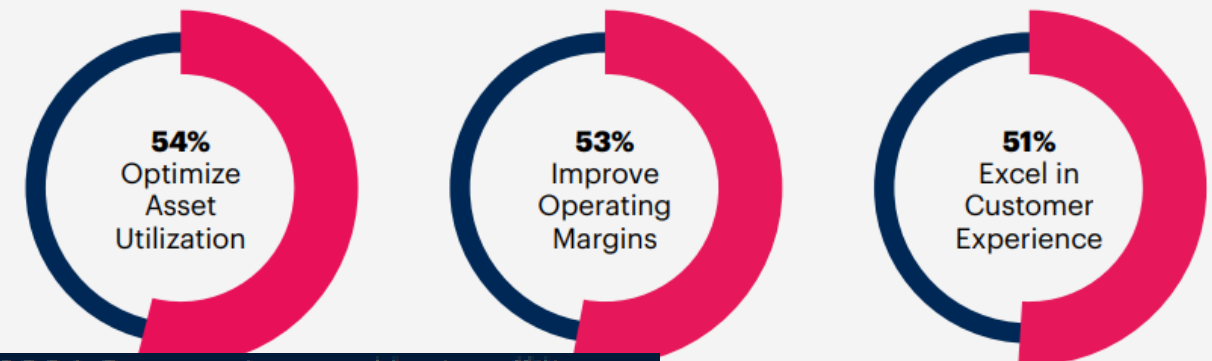
### Benefits:

- 1.Enhanced Operational Efficiency
- 2.Improved Reliability and Resilience
- 3.Enhanced Customer Experience
- 4.Accelerated Transition to Renewable Energy
- 5.Strengthened Cybersecurity Measures

*The digitalization of utilities holds immense potential to transform the energy sector, driving innovation, sustainability, and resilience.*

*Embracing digital technologies will be crucial for utilities to thrive in an increasingly dynamic & interconnected world*

## What are the most critical outcomes for digital technology investments?



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# THANK YOU