ORACLE Energy and Water | abjayon Bring IT On

BEYOND METER TO CASH

ORACLE ENERGY AND WATER SOLUTIONS WITH ABJAYON'S ACCELERATOR PACKS

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AGENDA

ABJAYON'S VAST GLOBAL EXPERIENCE IMPLEMENTING METER TO CASH AND GRID SOLUTIONS USING ORACLE TECHNOLOGIES GIVES US A UNIQUE POSITION TO SHARE VALUABLE INSIGHTS.

01

ABJAYON'S 25 MILLION SMART METER JOURNEY

25 MILLION SUCCESS STORIES

02

ABJAYON'S ORACLE ENERGY AND WATER ACCELERATOR INCLUDE CCS, WACS, OFSC AND ERP, ALL PRE-INTEGRATED FOR NORTH AMERICAN WATER UTILITIES

ACCELERATED BEST PRACTICE WAY

03

TRANSFORMER LOAD MANAGEMENT, LOPAD AGGREGATION MANAGEMENT ETC

GRID RESILIENCE USING METER DATA

04

OPERATIONS HAVE AREAS OF IMPROVEMENT

MAKING AI WORK WITH METER DATA

abjayon

01

01

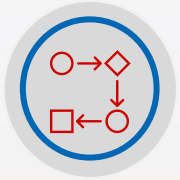
25 M SUCCESS STORIES

ABOUT ABJAYON

INTRODUCTION

Abjayon Inc, founded by former Oracle Energy and Water leaders.

Brings deep level of expertise in implementing Oracle Energy and Water's CUSTOMER and GRID solutions.



End to end customer, meter and M2C **business process re-engineering** for large utilities

Over 25 million Smart Meters in AMI implementations for electric and water utilities across Europe, Middle East and Asia

Managed smart meters by rolling out **16 Head-end systems integrations** of different standards

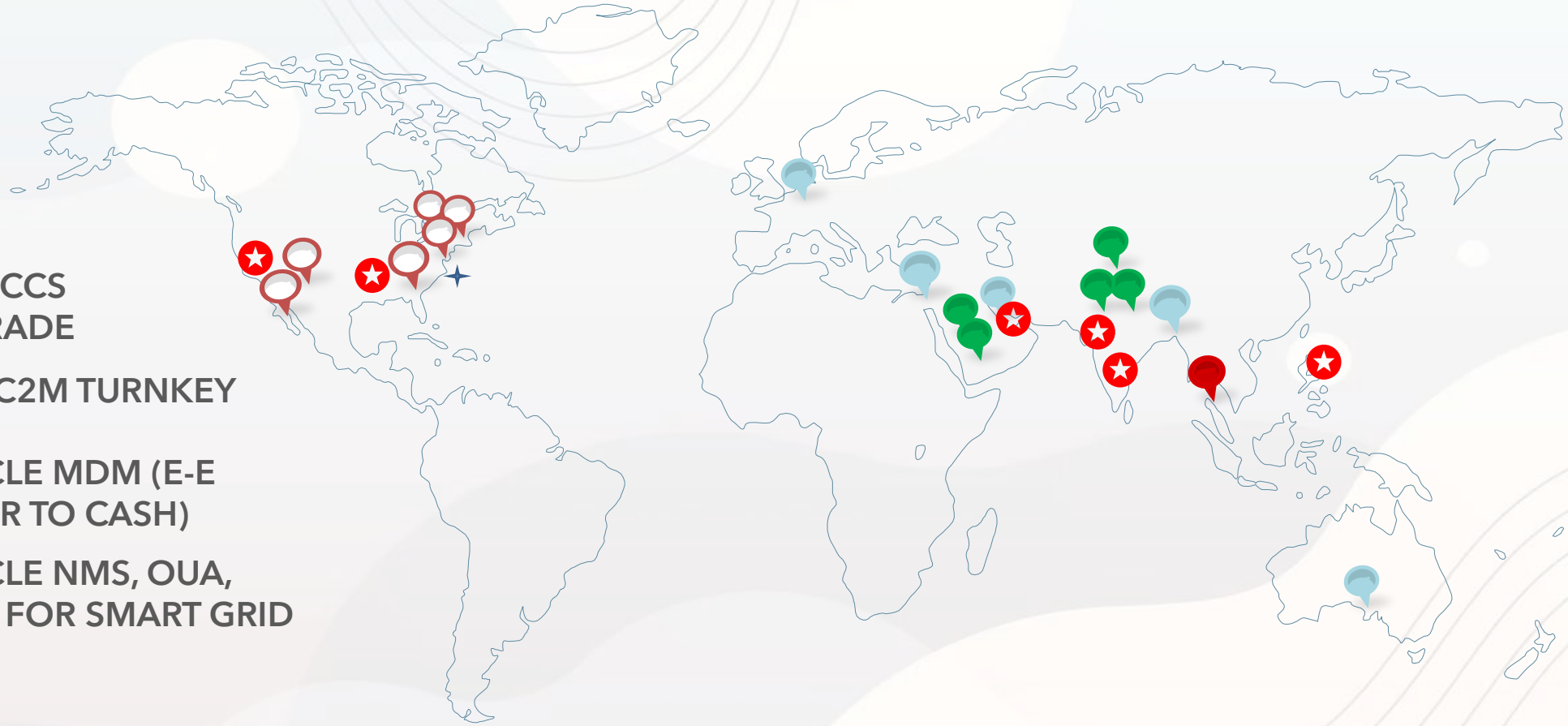
Outage Management, Distribution Management, asset management and **Smart Grid**

Implementations for large utilities

Expanded our workforce to become a **300+ member team**

Abjayon for utilities

GLOBAL EXPERIENCE . GLOBAL PRESENCE . END TO END COVERAGE



- C2M/CCS UPGRADE
- CCS/C2M TURNKEY
- ORACLE MDM (E-E METER TO CASH)
- ORACLE NMS, OUA, MDM FOR SMART GRID
- ABJAYON'S GLOBAL DELIVERY CENTERS

02

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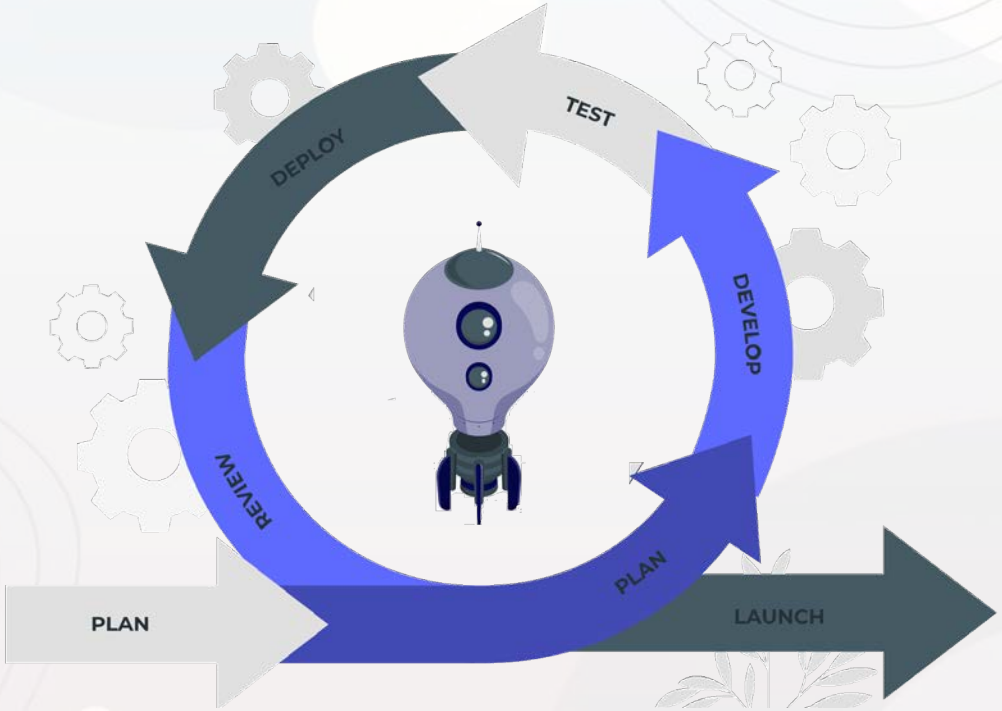
MINDFUL ADOPTION OF BUSINESS CHANGE

SCALING SYSTEMS FOR UNIQUE NEEDS

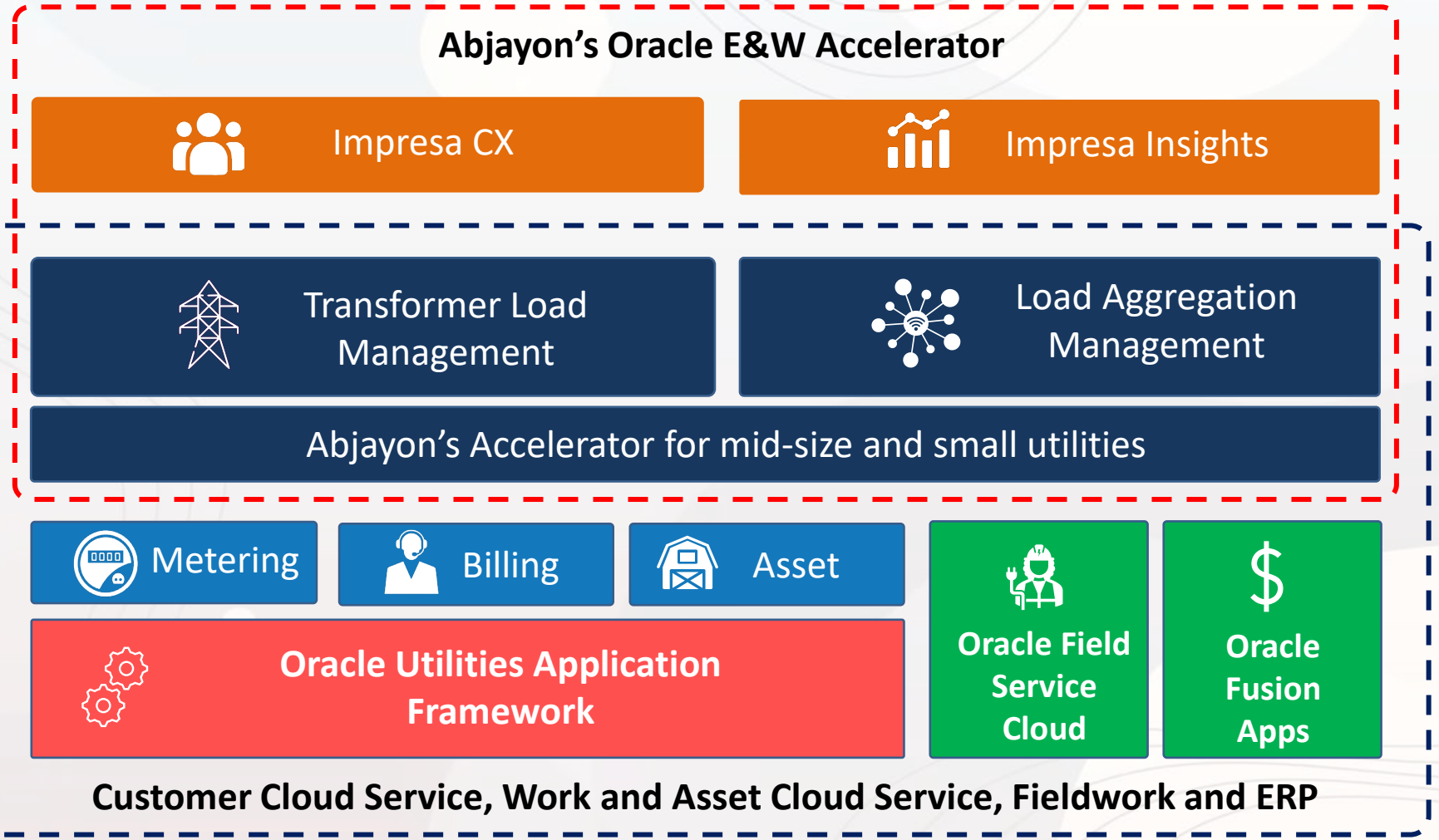
FAST PACED VS MINDFUL



SMART METERS DISTRUPTS LOT MANY BUSINESS PROCESSES

ABJAYON ACCELERATOR FOR NORTH AMERICA

FOR CCS + WACS + OFSC + FUSION APPS



- Completely developed using Smart Metering components of Oracle CCS
- Pre-integrated
- Widget-ised customer engagement platform
- Data science driven insights for various business use cases

ABJAYON ACCELERATOR FOR NORTH AMERICA

SIMPLIFIED BUSINESS PROCESSES

A NEW SYSTEM MAY UNLOCK IMMENSE VALUE TO A UTILITY. IT HELPS CRUCIAL BUSINESS PROCESSES LIKE METER TO CASH, METER MANAGEMENT, AND METER READS HANDLING BUT ALSO POSES A LOT OF CHALLENGES IF NOT PLANNED AND IMPLEMENTED PROPERLY

MANAGING THE CHANGE

CASE STUDY: MINDFUL ROLL-OUT – A WATER UTILITY WENT LIVE IN 2 MONTHS AND ROLLED OUT BILLING OVER ONE YEAR MANAGING ITS BUSINESS PROCESS CHANGES SMOOTHLY

Abjayon helped manage the business change management process for new Meter to Cash and Meter Life Cycle process rollout across country

Impacted business areas

First go-live with MDMS as a data hub: 8 weeks

It helped THE UTILITY manage the change and drive it with better for better adoption

Slow billing cutover happened over 6 months helping business assimilate the changes

02

02

GRID RESILIENCE USING MDM DATA

CHECKPOINT

GRID RESILIENCE USING METER DATA

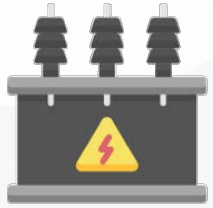
Your ideas on using Meter Data for Grid Resilience?

Accelerator: Transformer Load Management System

MAIN FEATURES

LOSS CALCULATION

Identify technical and non-technical losses at the source

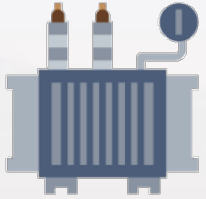


IDENTIFY STRESSED TRANSFORMERS

Identify overloaded transformers and notify commands center

UNBALANCED CURRENT AND VOLTAGE

Unbalanced current and voltage is identified, and notification is sent to command center and other applications

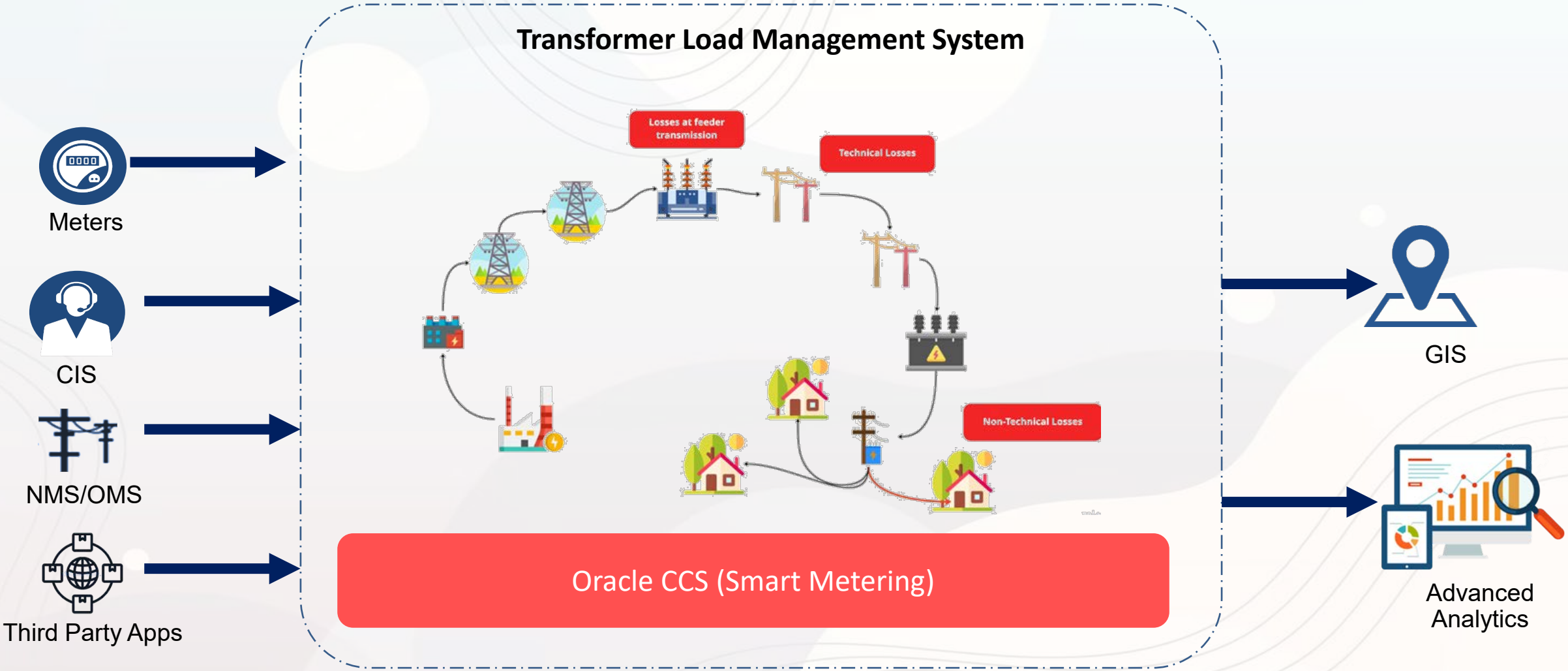


TRANSFORMER LIFESPAN CALCULATION

Calculate lifespan of transformers and feeders and perform risk assessment

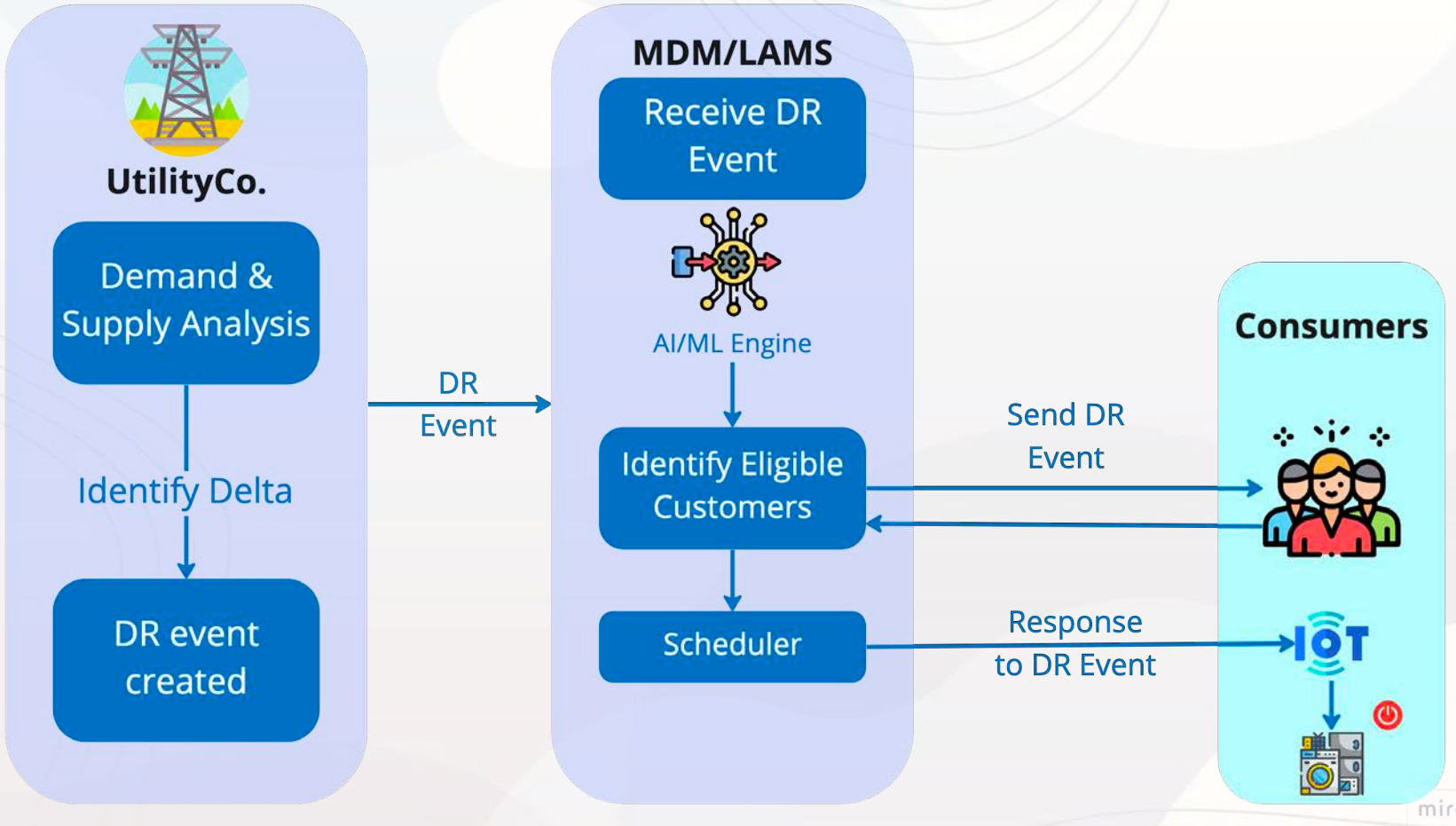
Accelerator: Transformer Load Management System

EXAMPLE: LOSS CALCULATION



Accelerator: Load Aggregator Management System

DEMAND RESPONSE USING ORACLE CCS (SMART METERING)



- Wrapper around existing MDM application
- Quick to implement
- AI/Ml enabled engine to identify eligible customers
- Reduces extra generation investment
- Insights regarding trends

03

03

AI ENABLED INSIGHTS FROM METER DATA

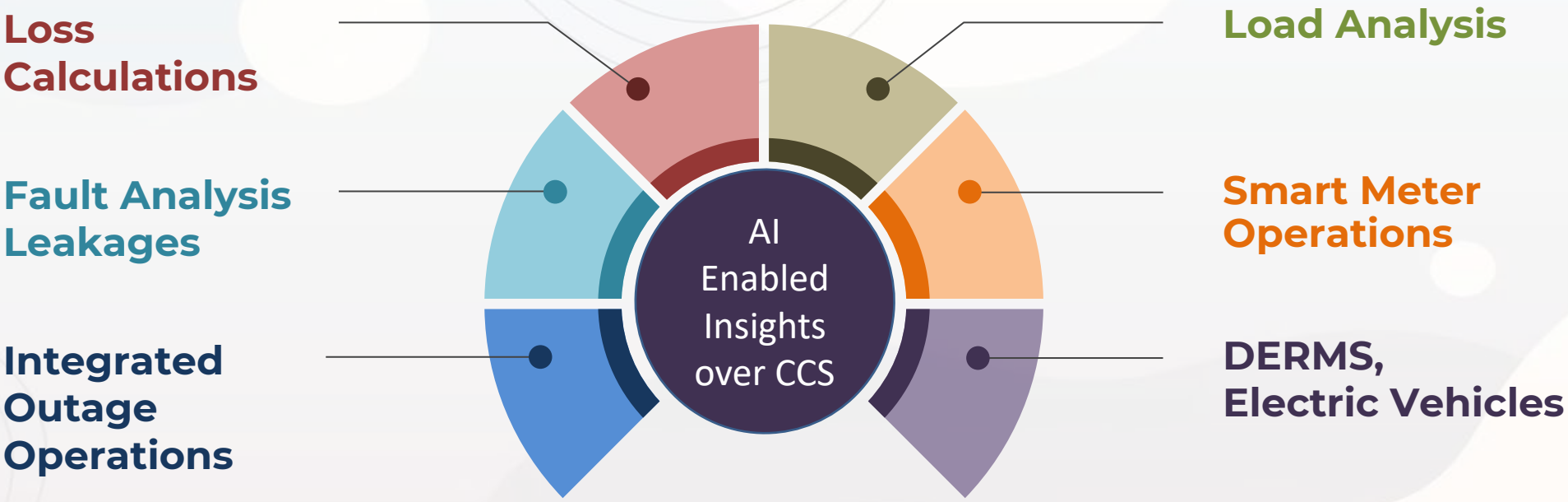
CHECKPOINT

IS AI-ML RELEVANT TO YOU?

How many of you have ML-ML use-cases in production or in implementation?

Impresa Insights

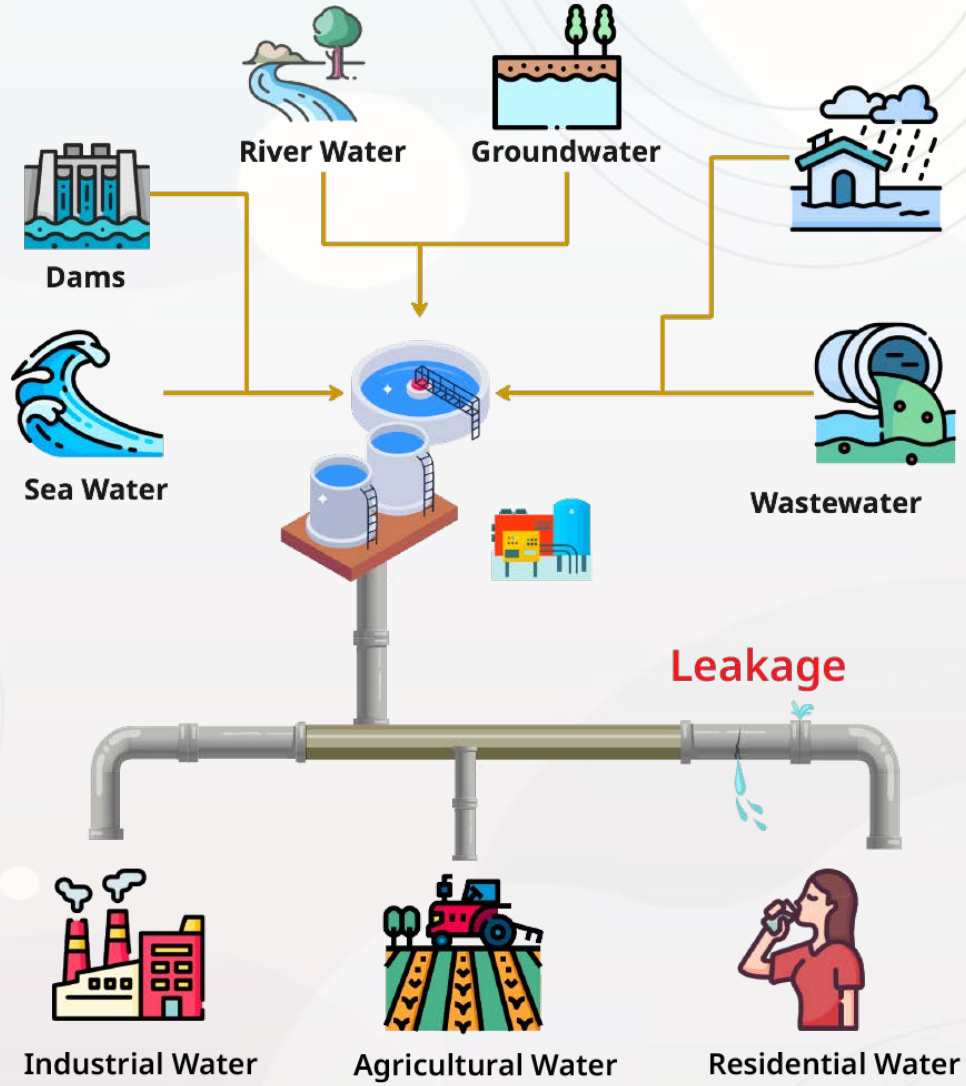
CRITICAL BUSINESS USE CASES FOR MDM DATA



IMPRESA INSIGHTS PROVIDES A PEEK INTO DISTRIBUTION OPERATIONS

Use Case 1

REVENUE PROTECTION: LEAKAGES IN WATER DISTRIBUTION



- Data collection at various levels in the distribution grid
- Analysis of consumption and reporting using out-of-the-box aggregators
- Identify the major and minor leakages in the networks or immediate areas for attention

Use Case 2

REVENUE PROTECTION: SUSPICIOUS CONSUMPTION

FOCUSED USE CASES

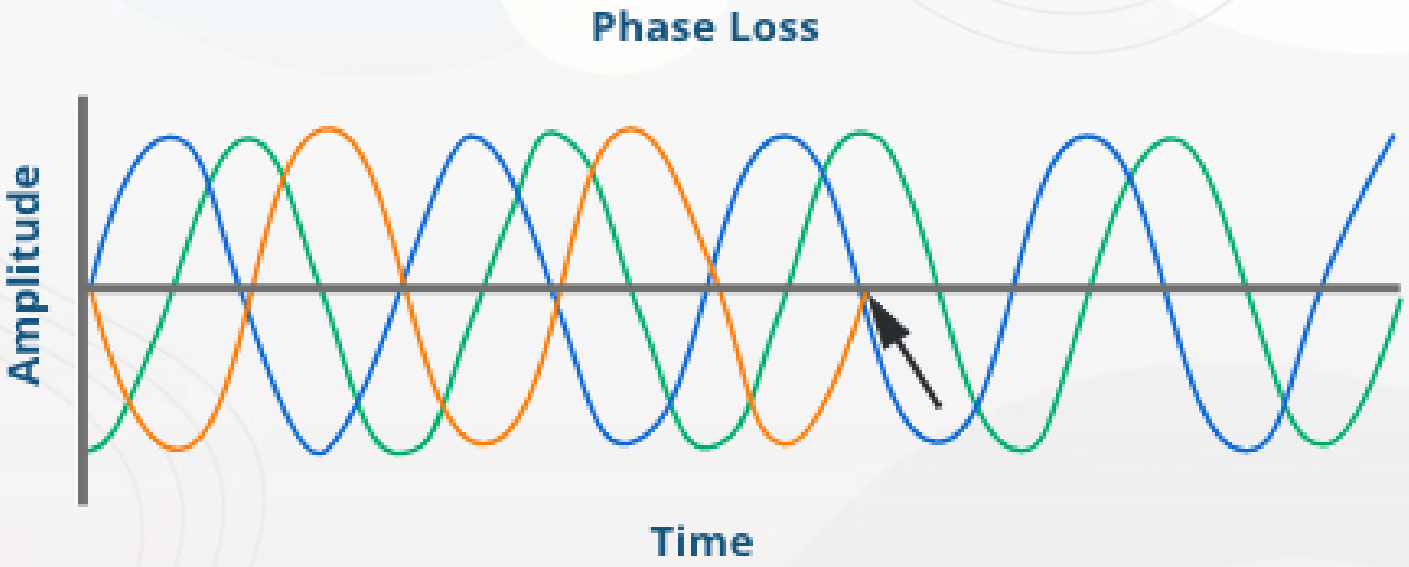
1. Suspicious consumption patterns
2. Abnormal usage
3. Meter Tempering
4. Identify focus areas with largest potential theft
5. Missing Consumption Estimation using ML

HOW IMPRESA INSIGHTS MINIMIZES THE IMPACT OF THEFT

- Impresa Insights Machine learning (ML) Algorithms detect & prevent energy theft.
- Mine and analyze large dataset based on physical characteristics of energy patterns to identify tampers like bypassing, magnetic influences, voltage anomaly, unauthorized usages.
- Special checks on unusual spikes, dips in consumption.
- Missing reads estimation by analyzing time series consumption data and by comparing similar consumers

Use Case 3

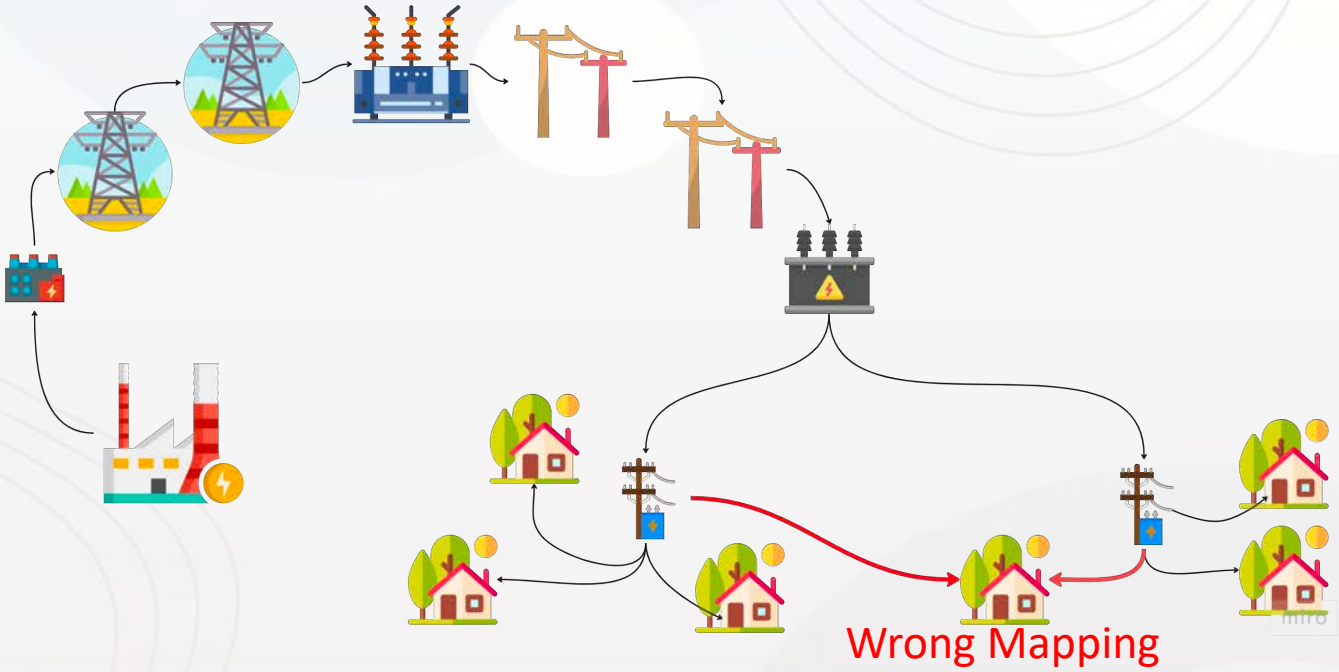
REVENUE PROTECTION : LOSING A PHASE



- May lead to Blackouts
- An outage to single-phase consumers
- Excess heat for three-phase equipment
- Damages equipment
- Leads to an unbalanced system
- Higher reactive power and higher losses
- Instability in the power distribution system

Use Cases 3

WRONG MAPPING TO SOURCE OF ELECTRICITY SUPPLY

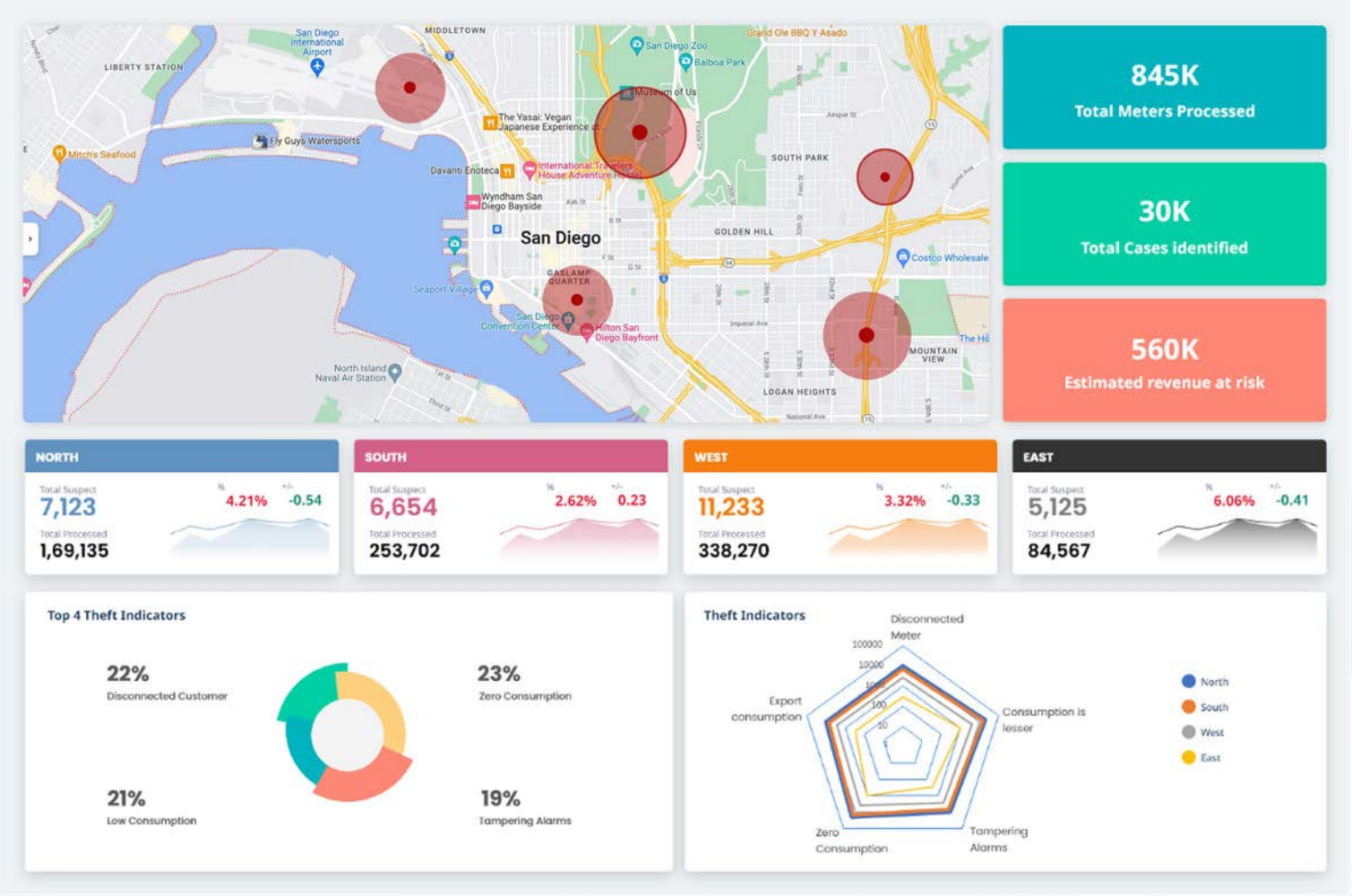


- Accurate network topology is crucial for feeder-level optimization tasks
- Enhanced monitoring grid operations
- Determine state estimations
- Identify fault location

LACK OF AN ACCURATE MAP COULD FURTHER RESULT IN SIGNIFICANT FINANCIAL PENALTIES FOR ENERGY DISTRIBUTOR

AI/ML Enabled Revenue Protection

LOSSES STORYBOARD FOR A LARGE UTILITY IN ASIA



- Provides insights into total generation and consumption
- Generation of DERMS

  Consumption of EV
- Map view of the penetration of DERMS and EV
- Top and least office codes

Source: https://seals.com/security-seals-blog/electricity-theft-costs-everyone/#:~:text=The%20same%20reports%20estimate%20about,1%25%20of%20all%20electricity%20generate

AI/ML Enabled Revenue Protection

THEFT DETECTION - DRILL DOWN

THEFT IDENTIFICATION

Displaying data for Jan 2023 West Region

Top 3

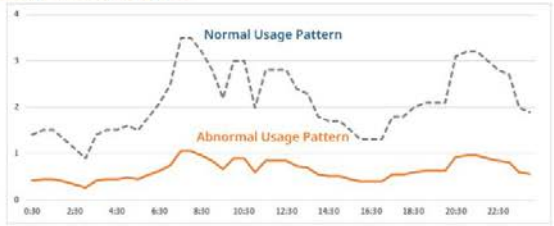
Office Code	Total Cases
1009	313
1013	109
1021	63

See all

Top 3

Sector	Total Cases
Residential	5,267
Industrial	3,456
Agriculture	2,510
Total	**11,233**

Low Usage Identification

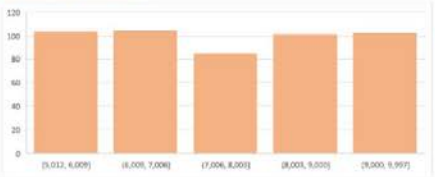


Theft case showing data for Office code 1009

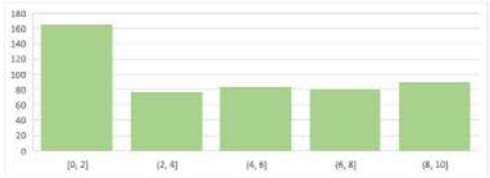
Indication	Total Cases	Explanation
Energy Recorded foe disconnected customer	2218	Disconnected meters are not supposed to advance unless tampered
Consumption is lesser than contracted energy	1109	Consumption is consistently 50% or less over contracted enery or historical usage
Zero consumption	1432	Zero or near zero consumption recorded over a long period
Tampering Alarm	1573	Meter door open, Reverse polarity occurs due to unautharized activity or physical tampering

See all

High Consumption Density



Low Consumption Density

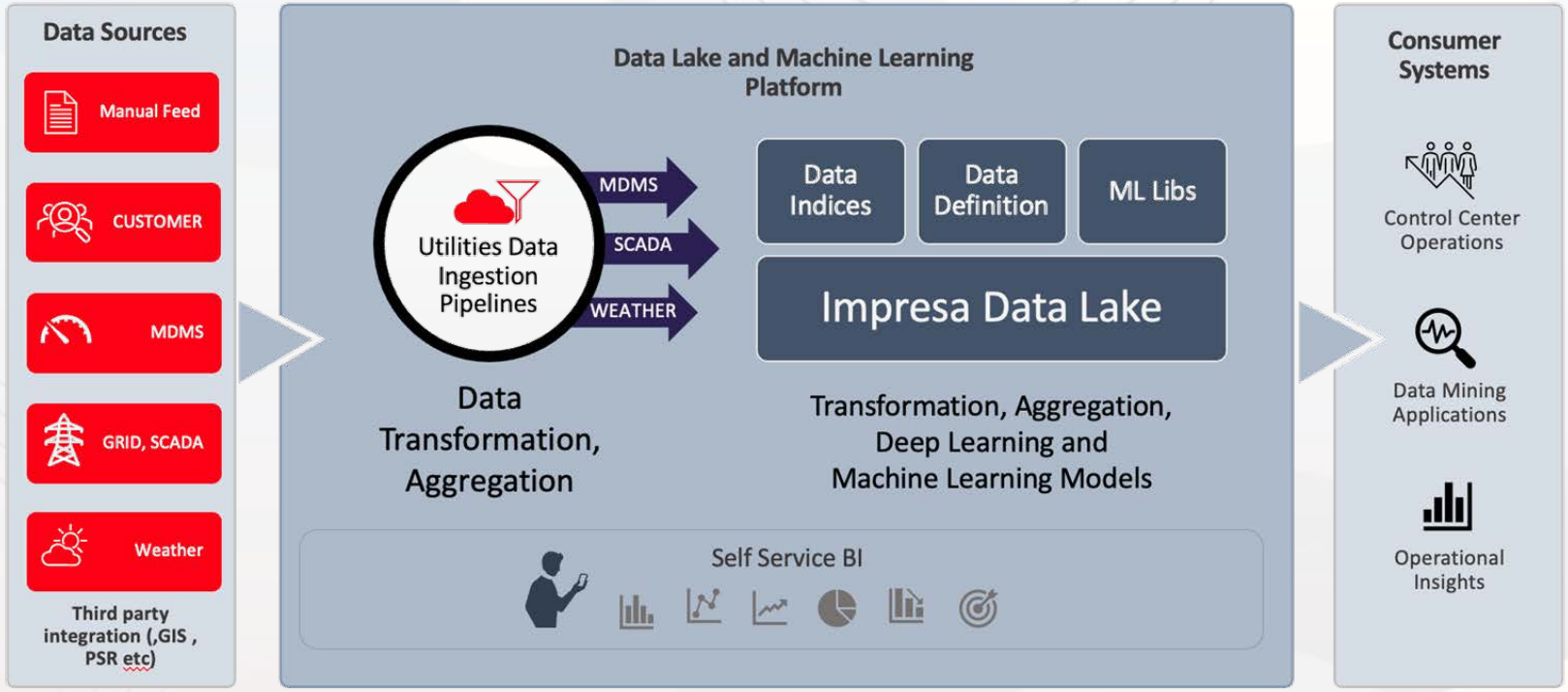


- Assess the top contributors to theft based on 80-20 rule:

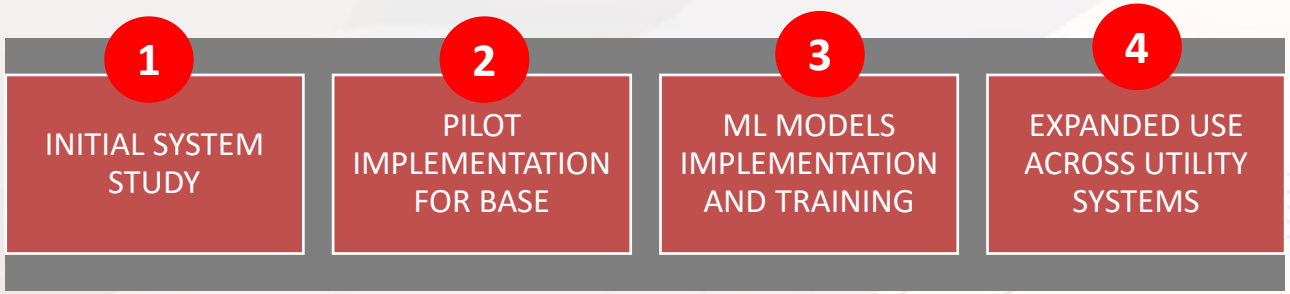
  Top office codes Top customer classes
- Region-wise distribution with insights regarding trends
- Trend analysis of theft categories

IMPRESA INSIGHTS: UTILITY SPECIFIC DATA LAKE

HOW ITS DONE?



Typical approach to help a utility adopt Impresa Insights



WHAT'S NEEDED:

- Ability to connect with multiple data sources
- Built-in ML and data mining capabilities
- Built-in Self Service BI module
- Preconfigured data lake for Oracle Energy and Water applications
- Prebuilt storyboards and reports


Thank you.