



# Utilities Co Pilot– Utilities Transformation. Realized

e& enterprise

Nov 2023

# Agenda

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**Gen AI – Industry Solutions**

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**Utilities Co-Pilot Target segment**

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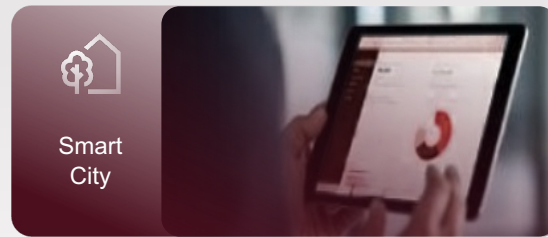
**Demo**

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# Gen-AI for Industry Solutions

Gen-AI  
e& enterprise  
iot & ai

Gen-AI can give us significant advantage over competitors by providing the smart data analytics. We are starting with Utilities to build our first model followed by Smart City





# Co-Pilot

## Utilities Co-Pilot



# e& enterprise has created proprietary platforms to automate the complexities of utilities industries

## End-2-End Automation of the entire workflow



### Process Automation

Reducing human errors



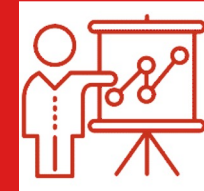
### Data Validation

Automated data capturing and upload



### Efficiency improvement

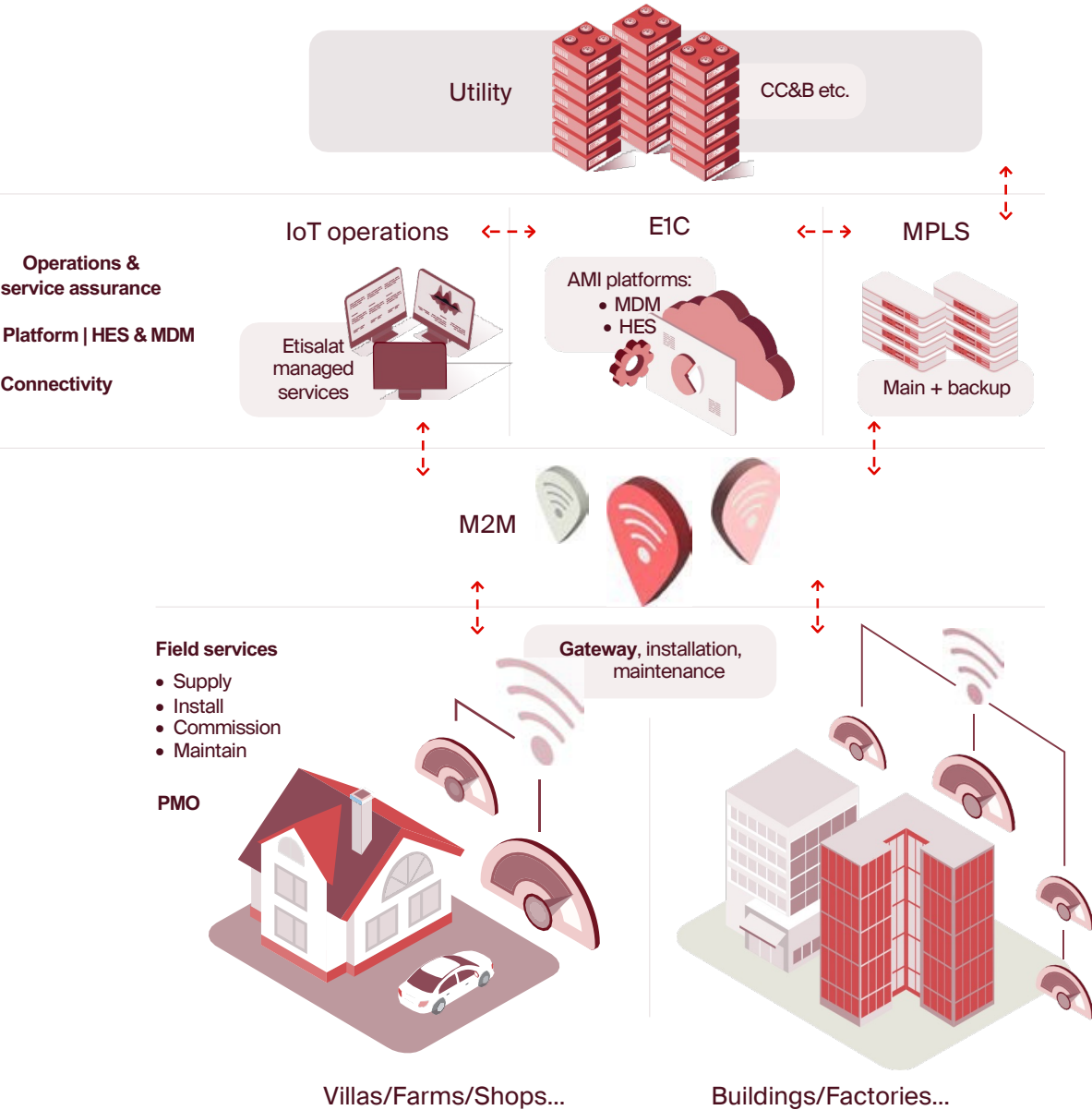
Auto testing and commission using latest technology tools



### Certified Resource pool

Highly trained and certified professionals to design world class system

# Utilities AMI Architecture



### Scale

- Connecting 2 M + Electricity & Water meters & ...
- Processing 1.5 + Billion transactions per month

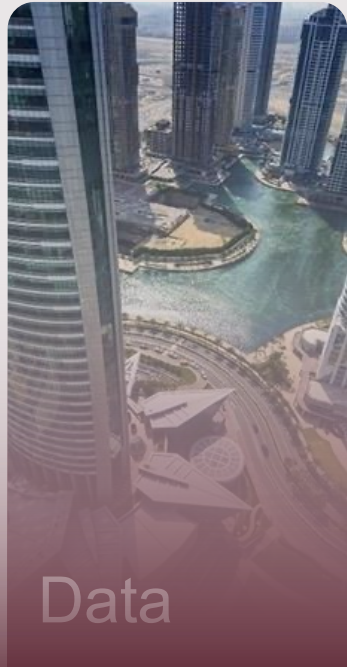
<h4>Sites and Meter Ecosystem</h4> <ul style="list-style-type: none"> <li>65+ Meter Model</li> <li>145 Premise types</li> <li>Geographical scattering</li> <li>18 different meter manufacturer</li> <li>Different Meter Software</li> </ul>	<h4>7 Protocols</h4> <ul style="list-style-type: none"> <li>DLMS</li> <li>MBUS</li> <li>Wireless MBUS</li> <li>Modbus</li> <li>ST</li> <li>IEC</li> <li>Euridis</li> </ul>	<h4>Device Ecosystem</h4> <ul style="list-style-type: none"> <li>33 Different DCU types to connect</li> <li>1:1, 1:2 &amp; 1:M</li> <li>Wireless/Wired</li> <li>AC Powered</li> <li>Battery operated</li> <li>NB-IoT/LTE</li> </ul>	<h4>47 Functionalities</h4> <ul style="list-style-type: none"> <li>Schedule meter reads with varied intervals</li> <li>Connect/Disconnect</li> <li>Events/Alarms</li> <li>Billing Profiles</li> <li>Tariff agreements</li> <li>.....</li> </ul>
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## Utilities – Co Pilot

Empowering your decisions with instant solutions.

# Potential.Realised

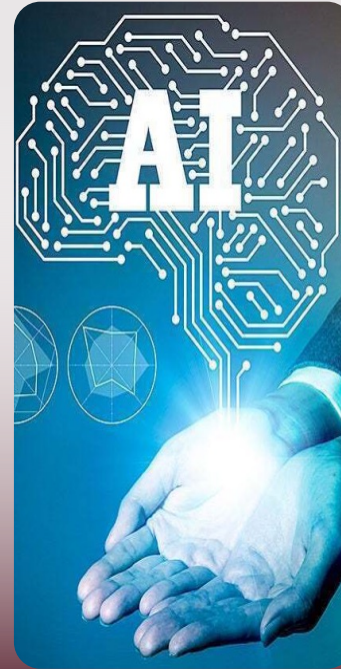
Using the rich data sets and Domain experience along with Gen - AI



+



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Real  
Data

Resolving  
real problems

Gen-AI Models

**Transformation**

With end-2-end use being built and managed by e&, bringing automation we have understanding of all parameters with knowledge of the current challenges being faced by the industry. Gen AI can move the static information to dynamic, real-time analytics to ease decision making and change the way organizations currently work

# Utilities.Co-Pilot – Target Segment

## Utilities & its End Customers

Utilities Co-Pilot not only addresses challenges it transforms the way of working at the utilities organization level & also for their end customers



### Data type

- General Static Data (FAQs)
- Structured Data
  - Personalized Data
  - Utilities Data



- Customer Service
- Engineering and Operations
  - Outage Management
  - Predictive analysis
  - Load Management
- Management reporting
- HR

- Current Consumptions – Daily / weekly alerts
- Provide energy saving tips like optimal use of AC's, TOD tariff usage etc
- Providing energy usage details – report billing issues / temp connect / disconnect
- Provide feedback for service etc

Segments for a **utility** personnel

Engineering & Operations	System Operations & Control
<ul style="list-style-type: none"> <li>Can you provide a list of ongoing maintenance activities?</li> <li>What is the current load demand in a specific area or zone?</li> <li>Are there any scheduled power outages or service interruptions?</li> <li>Can you provide the latest updates on industry regulations and standards?</li> <li>What are the most common causes of power outages in our network?</li> <li>Can you provide the maintenance history of a specific piece of equipment? Are there any reports of power theft or illegal connections in the network?</li> <li>Can you provide real-time data on power quality and reliability metrics?</li> </ul>	<ul style="list-style-type: none"> <li>What is the status of our power generation sources (e.g., renewable, fossil fuel, etc.)?</li> <li>What is the current power consumption of our major customers?</li> <li>What is the forecasted demand for electricity in our service area?</li> <li>What is the status of our power transmission lines and substations?</li> <li>Are there any reported incidents or accidents involving our power distribution infrastructure?</li> <li>What are the latest regulations and standards related to power distribution and safety?</li> </ul>
Customer Service	Finance & Accounting
<ul style="list-style-type: none"> <li>What is the status of a "W" customer's power outage?</li> <li>Can you provide a list of recent power outages in a specific area?</li> <li>How can I report a power outage for a customer?</li> <li>Can you provide the estimated restoration time for a particular outage?</li> <li>How can I assist a customer with starting, stopping, or transferring their service?</li> <li>What are the company's policies regarding disconnections and reconnections?</li> </ul>	<ul style="list-style-type: none"> <li>What is the current account receivable balance for customer X?</li> <li>Can you generate a report on outstanding invoices for the last quarter?</li> <li>What was our total revenue for the previous month?</li> <li>How much was spent on maintenance and repair costs in the last quarter?</li> <li>What is the forecasted revenue and expenditure for the next quarter?</li> <li>Are there any overdue payments from customers that need to be followed up on?</li> <li>How much was spent on salaries and wages in the last month?</li> <li>Are there any discrepancies or errors in the financial statements that need to be addressed?</li> </ul>
Information Technology	Asset Management
<ul style="list-style-type: none"> <li>How can I reset the password for my company account or email?</li> <li>What is the procedure for reporting a cybersecurity incident?</li> <li>How can I reset the password for my company account or email?</li> <li>What is the procedure for reporting a cybersecurity incident?</li> <li>What are the latest software updates or patches available for our systems?</li> <li>What are the latest software updates or patches available for our systems?</li> </ul>	<ul style="list-style-type: none"> <li>How can I access the latest maintenance records for a specific asset?</li> <li>Are there any outstanding maintenance requests or work orders for our equipment?</li> <li>Can you provide a list of assets that are due for replacement or upgrade?</li> <li>Can you help me analyze the historical performance and trends of our assets?</li> <li>What are the best practices for managing power distribution assets?</li> <li>What are the best practices for managing power distribution assets?</li> <li>Are there any upcoming training or events related to asset management in the power distribution industry?</li> </ul>
Public Relations & Communications	Human Resources
<ul style="list-style-type: none"> <li>Can you provide me with a list of recent press releases or news articles about our company?</li> <li>What are our company's key messages and communication objectives?</li> <li>What are the most common questions and concerns from customers regarding our services?</li> <li>Can you provide a list of upcoming events or community relations that our company is involved in?</li> <li>How do I access our company's crisis communication plan and resources?</li> <li>How do I create and distribute a press release or media advisory for an upcoming event or announcement?</li> </ul>	<ul style="list-style-type: none"> <li>What is the current headcount of employees in the company?</li> <li>How many employees are in each department?</li> <li>What is the average salary for different positions within the company?</li> <li>How many employees have taken sick leave this month?</li> <li>How many employees are eligible for promotions?</li> <li>How many employees have completed mandatory training courses?</li> <li>Can you generate a report on diversity and inclusion within the company?</li> <li>What are some common employee concerns or feedback from exit interviews?</li> </ul>

Segments for a **utility** customer (Electricity & Water)

Personalized Data Search	Generic Data Search
<ul style="list-style-type: none"> <li>What is my monthly electric / water consumption?</li> <li>What is my current and expected - electric / water consumption for this month?</li> <li>Why my electricity bill is so high?</li> <li>What is the current electricity rate per kilowatt-hour (kWh)?</li> <li>How can I match my electricity / water consumption with that of near by areas?</li> <li>Can you help me understand my complete bill - Electricity &amp; water?</li> <li>What are the different components of my electricity / water bill?</li> <li>How can I reduce my electricity &amp; water consumption?</li> <li>How do I report a power / water outage in my area?</li> <li>Can you help me calculate my electricity / water usage and costs?</li> <li>How do I apply for a payment extension or financial assistance programs?</li> <li>How can I get involved in energy conservation initiatives in my community?</li> <li>What is the process for setting up electricity / water service for a new home or address?</li> </ul>	<ul style="list-style-type: none"> <li>What is the current electricity rate per kilowatt-hour (kWh)?</li> <li>What are the different components of my electricity bill?</li> <li>What are some energy-efficient appliances I can use at home?</li> <li>What should I do in case of a power surge or electrical emergency? Contact number - First responders' details?</li> <li>What are the peak and off-peak hours for electricity usage?</li> <li>Are there any renewable energy options available for my home? what are the charges if I want to opt for power from renewables?</li> <li>How do I sign up for paperless billing or outages?</li> <li>What are the available payment options for my electricity / water bill?</li> <li>Are there any incentives or rebates for installing energy-efficient appliances or systems?</li> <li>Can you provide information on local electricity regulations and policies?</li> <li>How can I get involved in energy conservation initiatives in my community?</li> </ul>



## Issues

Managing Cost & overheads

Lack of visibility & slower response time

Availability of system / resources.

Single source of truth, decision making

Data Management and segregation

High Workload

Latency and speed of information

## Outcomes

Cost **optimization** and effective **utilization**

Better **Visibility** and faster **response** time

**24/7 availability** and better **coverage** across systems

Executive **decision** making at pace and certainty

Defined logic for data **compilation** and storage

Reduced **workload** to focus on critical tasks

In memory solutions ranging from **dynamic** dashboards to summarizations

**Data**

**What?**  
Gaining insights from enormous amounts of diverse data.

**How?**  
We combine technical and business expertise to unlock the value from data using advances platforms, open source technologies and a strong alliances network like Microsoft Open AI

**Analytics**

**What?**  
Driving insights discovery through the right combination of quantitative techniques, analytical talent and new technologies.

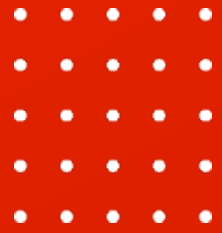
**How?**  
Our network of experts apply a broad spectrum of data – science-based assets and market-tested approaches to find and create solutions for significant impact.

**Insight**

**What?**  
Generating actionable insights to drive improved customer insights, utility operations and multi-fold capital efficiency.

**How?**  
We have a highly relevant portfolio of issues-based industry and function solutions to drive insight driven business outcomes and solution of any utility industry

we are using Gen-AI to transform the way we operate, enhance your utility organisation employees work and end customers experience!  
Collaboration with Microsoft Open AI and the Domain expertise from e& Enterprise making dynamic information available for Utilities and also their end customers

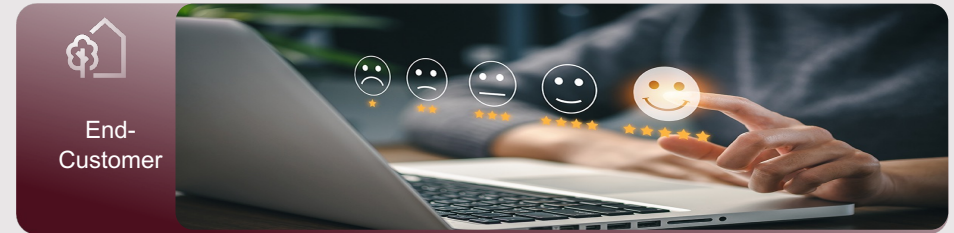


# Use Cases

## Demo Use Cases



1. Plot the Total consumption in kwh, for each Area
2. Calculate the unique no. of customers in each Area.
3. Calculate and Plot a bar chart showing Customer IDs that have the highest average consumption in kwh
4. Plot a bar chart showing number of scheduled outages, for each area?



1. How can I report power outage? Pls reply in Arabic.
2. What is a Bill Estimation?
3. How is it calculated? Please reply in Arabic.
4. My customer ID is C123401020943522. Plot my daily consumption in a line chart
5. My customer ID is C123401020943522. What was my consumption on 28th August
6. My customer id is C123401020944142. calculate and compare my average consumption in kwh ( in percentage (more or less) ) to average consumption of 'KHALIFA INDUSTRIAL CITY' area

THANK YOU

e& enterprise