UTILITY COOs: BEYOND HYPE, WHAT YOU CAN REALLY CHANGE WITH AI

> There's so much hype around the AI application in energy and utility. Today, we can see great implementations in the sector, which not only bring significant changes in operations but also assist in achieving net zero targets. Utility COOs need to identify strategic AI applications for their organisations to drive operational transformation rather than simply follow industry trends.

OVERVIEW

If you strive to perform better and achieve greater gains, strategic moves at the operational level are key—and this is where AI can drive real impact.

IN THIS MATERIAL, YOU'LL GET TO KNOW:

- What did MEPs and the Council agree upon in the Artificial Intelligence Act?
- Are you supported as a business?
- 16 real-life AI implementations in utility that others can repeat (segmented by operational domains).

Non-compliance with the regulations about AI may result in penalties that vary from 35 million euros or 7% of worldwide revenue to 7.5 million euros, or 1.5% of turnover, depending on the nature of the violation and the company's size.

WHY MIGHT AI 'COST SO MUCH' TO BUSINESSES?

First and foremost, AI systems are classified as high-risk since they are identified by their considerable potential to harm health, safety, fundamental rights, the environment, democracy, and the rule of law.

MEPs and the Council have agreed on a legislative proposal to ensure that AI in Europe is safe, upholds fundamental rights and democracy, and enables businesses to thrive and grow.

WHAT DOES THE ARTIFICIAL INTELLIGENCE ACT FORBID?

- **Biometric Categorization:** AI systems that categorize individuals based on sensitive characteristics like political, religious, or philosophical beliefs, sexual orientation, and race are prohibited.
- **Facial Recognition Databases:** The untargeted scraping of facial images from the internet or CCTV footage to create facial recognition databases is banned.
- **Emotion Recognition:** The use of AI for emotion recognition in workplaces and educational institutions is forbidden.
- **Social Scoring:** AI systems that assign scores to individuals based on their social behaviour or personal characteristics are not allowed.
- **Manipulation of Human Behaviour:** AI systems designed to manipulate human behaviour in a way that circumvents free will are banned.
- **Exploitation of Vulnerabilities:** AI that exploits the vulnerabilities of individuals based on age, disability, and social, or economic situation is prohibited.

HOW THE ARTIFICIAL INTELLIGENCE ACT SUPPORTS INNOVATION & SMES?

#1 REGULATORY SANDBOXES

The Act promotes the establishment of regulatory sandboxes, which are controlled environments where businesses, especially SMEs, can test and develop innovative AI solutions. These sandboxes allow for experimentation and innovation without the immediate pressures of full regulatory compliance.

#2 REAL-WORLD TESTING

Real-world testing environments, facilitated by national authorities, enable SMEs to train and refine their AI systems in practical settings. This hands-on experience helps businesses optimize their AI applications and bring well-tested products to market.

#3 REDUCED BARRIERS TO ENTRY

By providing a clear regulatory framework and support structures like sandboxes, the Act lowers the barriers to entry for smaller businesses and startups. This ensures that SMEs can compete with larger industry players and contribute to AI innovation.

#4 PROTECTION FROM INDUSTRY GIANTS

The Act aims to prevent undue pressure from industry giants by creating a level playing field. This includes measures to ensure that SMEs have access to the necessary resources and support to develop their AI solutions independently.

#5 ENCOURAGING COLLABORATION

The Act encourages collaboration between businesses, research institutions, and regulatory bodies. This collaborative approach can lead to shared knowledge, resources, and advancements in AI technology, benefiting the entire industry.

#6 FINANCIAL SUPPORT AND INCENTIVES

While not explicitly detailed in the Act, the supportive regulatory environment can attract public and private investments in AI research and development. This financial support can benefit SMEs looking to innovate and expand.

REAL-LIFE AI IMPLEMENTATIONS IN UTILITY YOU CAN REPEAT

MARK AREAS WHERE IT MAKES SENSE TO IMPLEMENT AI IN YOUR ORGANISATION

Customer Service & Engagement

- [x] **AI-powered customer service automation**
  AI-powered chatbots are enhancing customer service by addressing high-bill queries, reducing the need for human intervention. It analyzes historical usage and billing information to provide real-time responses to inquiries.

- [ ] **AI call summarization & live transcripts**
  AI-based summarisation tools allow agents to transcribe customer service calls, generate conversation summaries, and draft automated email responses, thereby improving response times and operational efficiency.

- [ ] **Automating inbound email handling**
  AI allows automating inbound email handling for technical inquiries, improving customer service efficiency. Utilizing AI-driven assistants in core applications like Outlook and Teams adds to CSRs' productivity.

- [ ] **Interpreting intent to help overloaded call centers**
  Nowadays, Large Language Models interpret intent from inbound customer inquiries via chatbots and emails, streamlining triage for agents.

Whatever your utility company's profile, these models can be trained with other company-specific datasets, such as customer attrition, debt tendencies, and solutions to common exceptions to reduce costs.

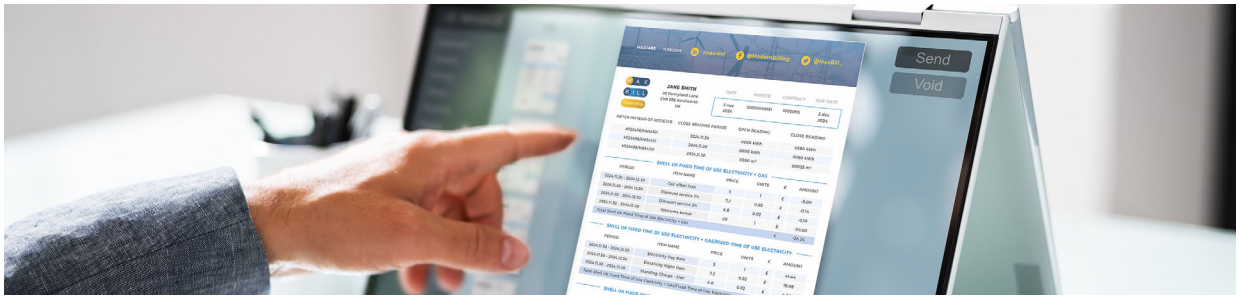
EXPLORE MAXBILL ML MODELS TO PROACTIVELY MITIGATE CUSTOMER CHURN

LEARN ABOUT MAXBILL AI / ML SOLUTIONS

- **Automating feedback analysis**
  A transmission operator (TO) uses AI to process public feedback on projects. AI analyzes stakeholder responses, significantly reducing manual effort. As a result, savings are over 80% of time, cutting down analysis from days and weeks to minutes and hours.

- **Identifying vulnerable customers**
  AI-based summarisation tools allow agents to transcribe customer service calls, generate conversation summaries, and draft automated email responses, thereby improving response times and operational efficiency.

- **Automating inbound email handling**
  AI identifies vulnerable customers by leveraging automation and predictive analysis to detect those who may struggle with digital tools or require special assistance. Utilities are exploring AI-driven predictive maintenance to pinpoint individuals at risk of digital exclusion, ensuring they receive the necessary support.



Billing, Tariffs, & Financial Optimization

- **Analyzing revenue-related data**
  AI-driven systems analyse historical billing data, compare tariffs, and identify discrepancies in invoices for businesses with large-scale energy consumption. AI also forecasts market-driven tariff fluctuations to optimize costs.

- **Addressing customer attrition and debt-risk contracts**
  The forecast models tackle customer attrition and the potential occurrence of debt-risk contracts. With the ‘what-if simulation”, the models generate suggestions about this or that next offering for this or that particular client to make them stay and keep using the service.

LEARN HOW MAXBILL ML MODELS ANTICIPATE AT-RISK CONTRACTS TO PREVENT BAD DEBTS

EXPLORE MAXBILL AI / ML SOLUTIONS

Energy Demand, Load Balancing & Grid Optimization

- **Energy Demand Forecasting & Load Balancing**
  Machine learning models process historical energy consumption data, weather patterns, and regulatory influences to predict future energy demands. AI enables better load balancing, prevents grid overloading, and improves demand-side response strategies, leading to reduced energy waste and improved energy efficiency.

- **HVAC and Building Energy Optimization**
  AI enhances HVAC efficiency by analyzing consumption trends, weather data, and occupancy patterns to adjust heating, ventilation, and cooling settings dynamically. AI ensures that energy is used only when necessary, automates system adjustments, and prevents excessive heating or cooling, leading to substantial energy savings.

- **Strategic Data Utilization**
  Sorting all data could take decades that why strategic selection of high-value datasets powered by AI is absolutely a way out. Now, it’s used within transmission operators. AI identifies the most relevant datasets for specific applications. This allows avoiding unnecessary costs associated with indiscriminate data storage.

Infrastructure & Asset Management

- **Identifying high-risk sewage pumping stations**
  It analyzes data on pump behavior, power consumption, wet well levels, and rain impacts. Field trials revealed that proactive inspections based on this model prevent about one pollution event per month.

Infrastructure & Asset Management

- **Predicting the root causes of failures on the water network**
  ML models predict water demand by analyzing sensor data from reservoirs, treatment works, and water supply networks combined with hyper-precise weather data. The model, which refreshes daily and visualizes predictions on a dashboard, achieves 98% accuracy, aiding operations teams in efficiently managing storage and preparing for demand peaks.

- **AI for Project Management**
  A transmission operator uses AI to predict project outcomes. AI compares historical data on past projects with current schedules to assess deliverability and identify risks. The tool highlights alternative critical paths and predicts delays, helping new project managers plan more effectively.

Decarbonization & Energy Transition

- **Introducing flexibility services**
  AI expedites the planning of overhead lines and simplifies the installation of heat pumps by automating assessments and calculating savings from retrofitting, underscoring its immense value in driving decarbonisation efforts.

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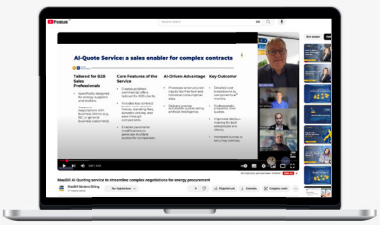
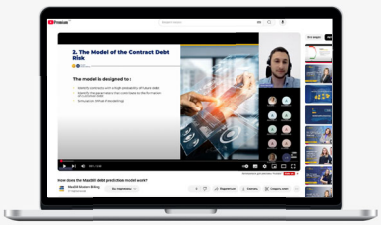
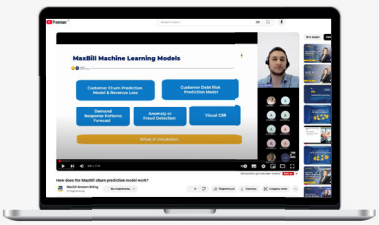


Webinar
AI-Driven Quoting Service to Revolutionize B2B Energy Contract Negotiations



Webinar
How does the MaxBill debt prediction model work?



Webinar
How does the MaxBill churn prediction model work?