Amptera

Automated smart meter and billing software.

From reading smart meters to billing customers, all from a single user-friendly interface.
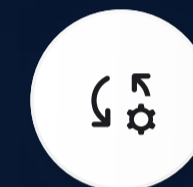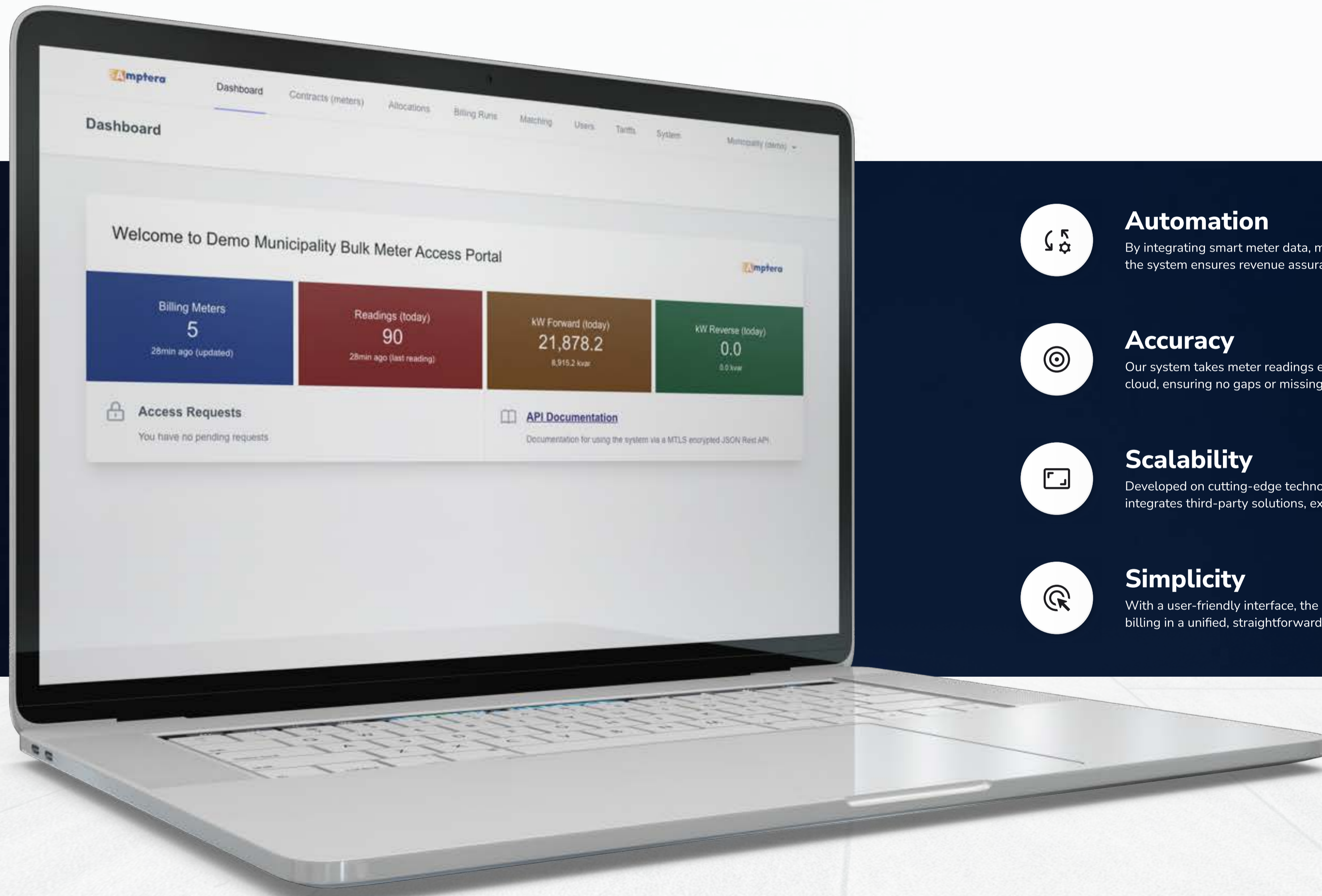
Automation   **Accuracy**   **Scalability**   **Simplicity**

All in one utility-grade energy billing solution.

Amptera is an all-in-one energy billing solution designed to empower municipalities, utilities, and property owners. With Amptera, users can enhance revenue assurance and significantly simplify their workflow.
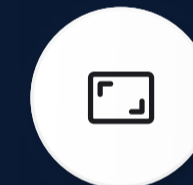

Automation
By integrating smart meter data, meter data management, tariffs, and billing processes, the system ensures revenue assurance through a cohesive and seamless workflow.
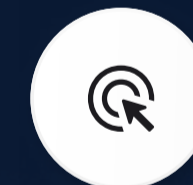
Accuracy
Our system takes meter readings every 30 minutes and securely stores the data in the cloud, ensuring no gaps or missing information caused by communication interruptions.

Scalability
Developed on cutting-edge technology and a cloud-based platform, the system easily integrates third-party solutions, expanding its capabilities effortlessly.
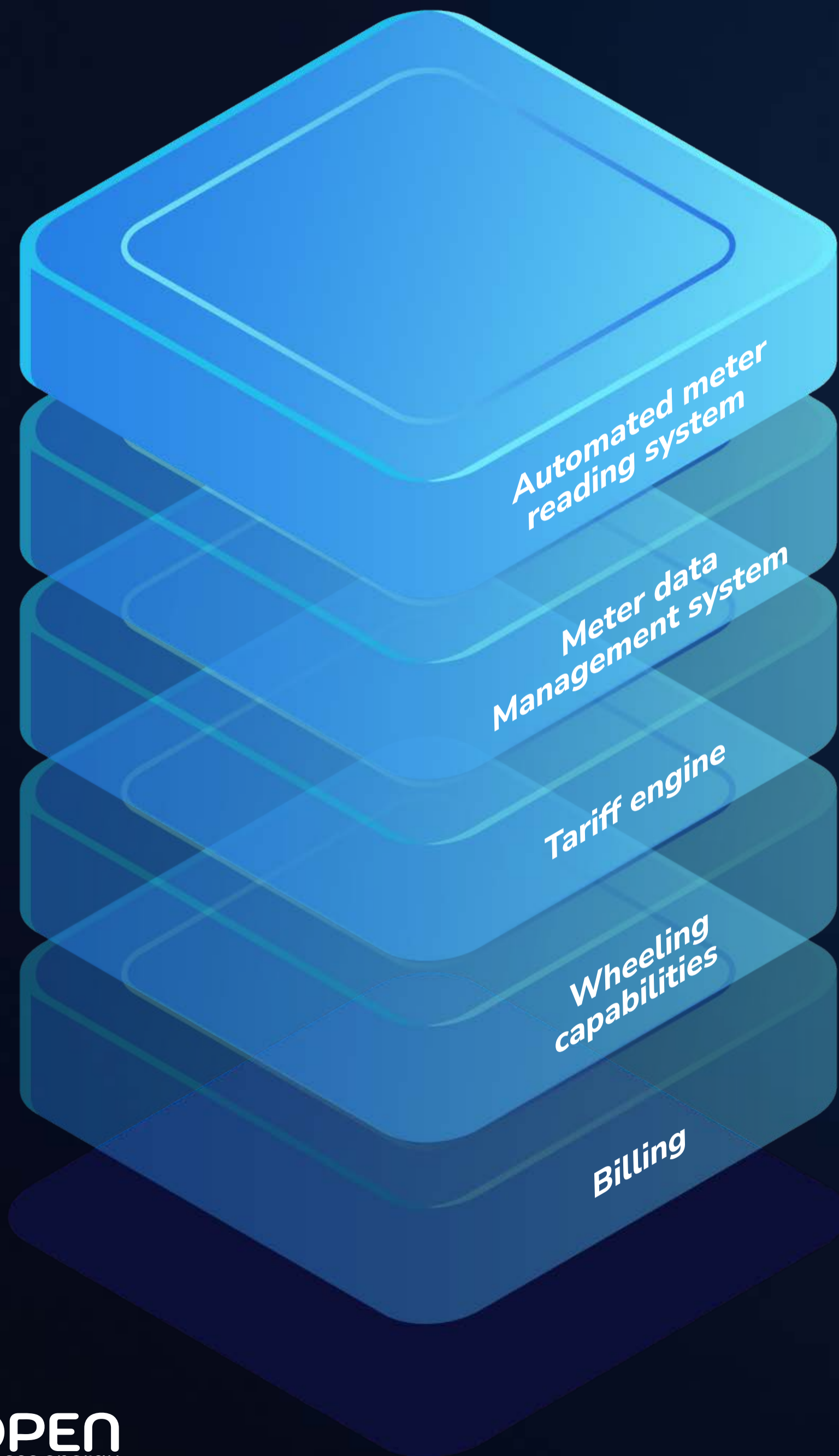
Simplicity
With a user-friendly interface, the system presents smart meter data, analysis, and billing in a unified, straightforward view.

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All in one utility-grade energy billing solution.

Amptera provides seamless access to smart meter data, stores and interprets the meter data, applies tariffs, streamlining customer billing—all through a single, user-friendly interface.

Automated meter reading system

Meter data Management system

Tariff engine

Wheeling capabilities

Billing

Seamlessly accesses smart meter data through an integrated solution.

Edit and apply tariffs to calculate bills

Enables the accurate automation of wheeling and credits on bills

View real-time consumption and send customer bills from a single, intuitive interface.

Software for Municipalities, utilities and property owners

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Our Solutions

Each solution comprehensively covers the full spectrum of energy billing, ensuring a complete and all-encompassing approach.

Automated smart meter reading system (AMRS)

Application Programming Interface (APIs)

Tariff engine

Meter data management system

Billing

Cloud based

Wheeling

Security

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Automated smart meter reading system (AMRS)

AMRS retrieves the latest recorded data from the smart meter and then saves it on a cloud-based database, making the data easily accessible.

- **Accurate interval meter readings**

- **Adoption of global standards**

- **30 minute interval readings**

Captures smart meter data
The system captures smart meter data and stores it securely in the Meter Data Management System.

Uses global smart metering standard
Utilises DLMS (Device Language Message Specification), the primary global standard for smart energy metering.

Captures data every 30 minutes
Smart meter data is captured every 30 minutes (this can be changed based on requirements).

AMRS continuously looks for missing data from meters
If a meter is not connecting or data is missing, the AMRS (Automated Meter Reading System) will perform a subsequent reading to backfill any gaps in the data.

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Tariff engine

The robust tariff engine is designed to accommodate all the variances and complexities of different South African tariffs.

- **Easily load new tariffs**

- **Assign and lock a tariff to an account**

- **Ensures customer billing accuracy**

Loading tariffs
Users have the capability to load various tariffs linked to meters or customer accounts.

Tariff associated to account
Once loaded, tariffs are associated with an account and do not require frequent reloading.

System accommodates tariff variation
The system allows for tariff editing and is highly robust, capable of accommodating any variant of a tariff with ease.

Accurate Billing
The tariff engine can seamlessly apply the tariffs to billing data within the Meter Data Management system, enabling the creation of accurate customer bills.

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Billing

Our billing solution enhances revenue assurance, and customers have the flexibility to configure the system to accommodate both active and fixed charges as needed.

- **Generate customer specific bills**

- **Real-time view on consumption and customer bill**

- **Automatically applies tariffs applicable to customers**

Real-time bill creation
The system generates real-time bills for customers, ensuring prompt and up-to-date billing information.

Customer portal
Customer can access a real-time view of their bill via a customer portal.

Single bill for multiple meters
A single bill can be generated for multiple meters under a single account, streamlining the billing process for customers with multiple meters.

ERP Integration
Our system is able to integrate and seamlessly send the customer bills to various Enterprise Resource Planning (ERP) systems, automating the entire billing process for greater efficiency.

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Wheeling

As the energy market liberalises and more private generation comes online, our wheeling module allows grid-connected generators to allocate their energy to multiple customers.

- Enables the management of wheeling transactions

- Alleviates burden on human resources

- Automatic crediting on customer bills

Connect accounts to wheeling transactions
Utilities, municipalities and property owners have the capability to associate accounts with a wheeling transaction, facilitating smooth and efficient energy allocation.

Identify generator and off-taker accounts
Users can easily specify generator accounts and off-taker accounts, streamlining the process of allocating and managing energy distribution between the two parties.

Automated matching and allocation
Wheeling can be allocated either based on 30 minute matched generation and consumption or through end-of-the-month allocation.

Wheeling credits loaded to bill
Wheeling credits are automatically loaded on the customer bill based on the wheeling tariff.

Application Programming Interface (API)

This is a software intermediary that allows two applications to talk to each other. APIs are an accessible way to extract and share data within and across organizations

- **Effortless and secure access to meter data by third parties**

- **Allocates credits from generator to customer's account**

- **Compliant with NERSA standards**

Secure third party integration
The application programming interface (API) allows authorized third parties to seamlessly connect to the system, enabling smooth integration and data exchange.

API's manage smart meters data and wheeling credits
Our APIs provide access to smart meter data, and the ability to allocate wheeling credits to customer accounts. These APIs enable efficient data handling and credit allocation processes.

NRS compliance
Our APIs are fully compliant with NRS 049 Part 5-2: Automatic exchange of formal metering information between systems.

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Meter Data Management System (MDMS)

Meter data management system refers to software that performs long-term data storage and management for the vast quantities of data delivered by smart metering systems.

- **Collects and centralises all smart meter data**

- **Enables sharing of meter data to third-parties**

- **Data cleaning and processing**

Collection of meter data

The MDMS captures smart meter data from various DLMS meters and securely stores it in a centralised interface, streamlining the acquisition, storage, and management of meter data.

Sharing of meter data

Facilitates the secure sharing of meter data in compliance with NRS 049 Part 5-2 guidelines.

Processing of meter data

The system cleanses meter data, displaying only relevant information for accurate billing, ensuring the relevant information is proceed for the customer bills.

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Cloud based

Leveraging cutting-edge cloud technology, our system delivers seamless performance and unrivaled scalability, providing our customers with a robust and future-ready solution for their energy management needs.

- **Enable flexibility and scalability**

- **Adoption of Data is secure and backed up standards**

- **Keeps costs down**

Scalable Cloud Solution
Our cloud-hosted system offers all the advantages synonymous with cloud-based solutions, ensuring unmatched flexibility, scalability, accessibility and cost management for our customers.

Private and Secure Access
The system employs a catalog-based multitenant architecture, granting each user exclusive access rights to their dedicated database catalog, ensuring data security and privacy.

Hosting in Belgium
Our hosting location in Belgium aligns with GDPR regulations, meeting the necessary requirements, including POPIA, to ensure data protection and compliance for our customers.

Municipal APNs
Open Access Energy establishes connections to Access Point Names (APNs) through a tunnelling service, enabling seamless meter reading access on the network.

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Security

Effective cybersecurity measures provide robust protection against data theft and loss, safeguarding all types of sensitive information.

- **Data sharing based on NRS standards**

- **Deployment of stringent security measures of global standards**

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MTLS authentication
MTLS (is a method for mutual authentication) implemented as per NRS 049 Part 5-2:

Password security
All passwords are encrypted using a one-way hashing algorithm (SHA-256) in the database.

SSH Login
SSH Logins are only permitted via keys and NOT passwords.

Database ports security
No database ports are exposed to the internet.

Fully operation at George Municipality

For the past 12 months, Amptera has been fully operational at George Municipality, effectively relieving pressure on human resources and ensuring revenue assurance.

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Software to make wheeling easier for municipalities and customers

By **Theresa Smith** Jan 27, 2023

George Municipality is the first South African electricity provider to pilot a freely licenced software that automates the reading, processing and billing of electricity smart meters, making wheeling easier.

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About Open Access Energy

Open Access Energy is South Africa's first multilateral wheeling software platform that automates the matching of generation and consumption loads, allowing energy wheelers to execute accurate wheeling transactions seamlessly.

Our vision is to open energy access to all. We aim to achieve this by making the sale and consumption of energy accessible to all South Africans, ensuring everyone has equal access to affordable and sustainable power solutions.

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