Symbiot MDM

[Symbiot software suite (iskraemeco.com)](iskraemeco.com)

Meet Symbiot

Symbiot is a future-proof and adaptable intelligent software platform that enables easy, highly secure and automated management of any utility business, based on real-time data processing.

4
Continents
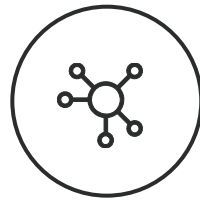
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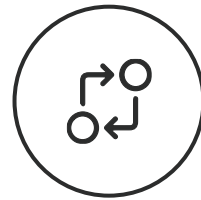Countires

3 million
Devices managed

Challenges

Grid complexity, rising pressure for operational efficiency and service excellence, struggle to extract value from AMI components and all the data.
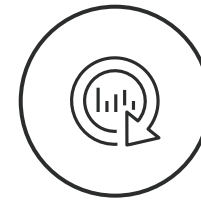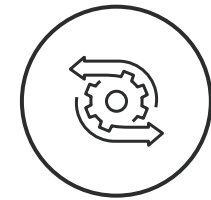
Managing data growth

Digitalization

Data corelation

Unifying data

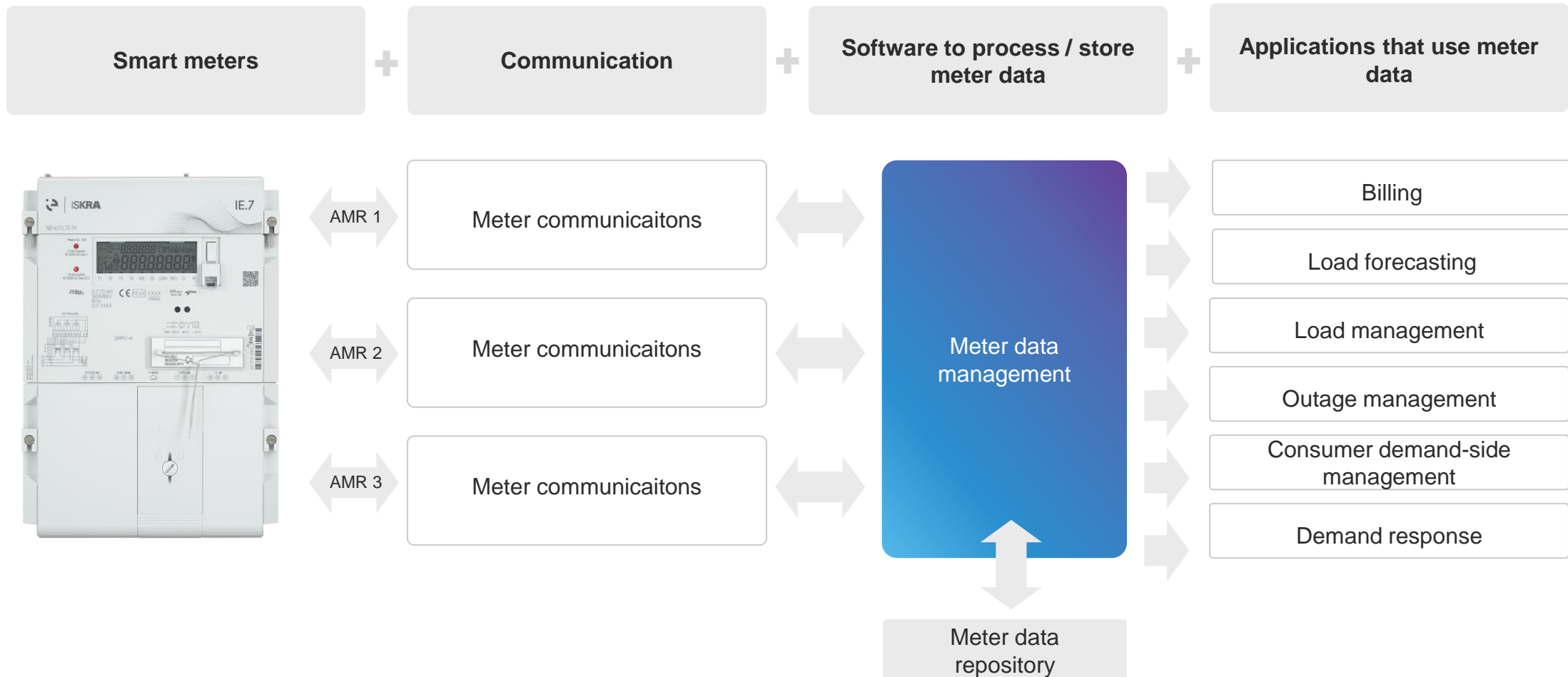**Integration with multiple applications**

Meter data management

Going beyond data collection and storage to fully automated data processing. It is instrumental in addressing critical challenges faced by utilities in managing and analyzing data from smart meters.

MDM in AMI architecture

AMR – automated meter reading

| Smart meters | + | Communication | + | Software to process / store meter data | + | Applications that use meter data |

Smart meters:
- AMR 1 — Meter communicaitons
- AMR 2 — Meter communicaitons
- AMR 3 — Meter communicaitons

Meter data management

Meter data repository

Applications that use meter data:
- Billing
- Load forecasting
- Load management
- Outage management
- Consumer demand-side management
- Demand response

MDM primary features

MDM is the brain of AMI systems, managing detailed meter data and connecting utility systems for efficient operations and reliable service.

| Validating, cleaning and processing of incoming data | Estimation and editing the missing data | Exceptions management | State Management | Reports and dashboards for SLA, usage, system monitoring | Integration with utility's upper system like CRM, Billing, OMS, SCADA etc. |

Primary features

Aggregator

- Source is Symbiot Data base

- Functions as SUM, MAX, MIN, AVERAGE, COUNT

- Always transform differential measurement eg. Power into integrated measurement eg. Energy. Assume calendar structure as 365d/30d/24h

- Results are stored as MPRT type

- Useful for loss analysis – eg. aggregation of consumption of meters below the transformer and comparison to the consumption at the transformer

Validator

- Validating measured results from Symbiot data base

- Various validation test methods

- Service inputs (Validation document URL, validation objects list (group, usage point, device, MP or MPRT), validation properties (conditions))

- Prediction and correction procedure (Automatically with result estimation, manual editing result)

- Non passing tests need further examination

Estimator

- Performs estimation of missing measurment results

- Available methods

- Reliable estimation algorithms

- Process results in reports and statistics

- Estimated and modified data are marked and stored separately from original data

Primary features

Exception management

It involves handling anomalies or enexpected situations related to meter data processing

- Identify and classify exceptions

- Exception handling workflow

- Automated exception rules

- Manual exception handling

- Audit trails of exceptions

State management

- Multiple states and its values can be cofigured in system as per individual customer needs.

- Usage points can be filtered based on certian state values.

- Dashboards and reports can be cutomized to monitor the usage points for certian states.

Dynamic group definition

Enter a criteria and all Usage points matching it will appear in a dynamic group.

- Process (workflow) definition

- Job balancing and notification of job execution to other systems

- Data export/import using different formats

- Auditing

- Validation, estimation and editing (VEE) of data

- Aggregation of data

Primary features

Reports and dashboard

- Reports and dashboards are essential tools for effective data management and decision-making, each serving unique purposes and complementing each other in providing a comprehensive view of operational performance.

- These module enables user in better customization, user-friendly, real-time monitoring, decision making views and exports.

Standard integrations

Includes various approaches and protocols to ensure seamless communication and data exchange between different systems and devices. like

APIs
- RESTful APIs
- SOAP APIs

File-Based Integration:
- CSV/Excel Files:
- XML/JSON Files:

CIM Integrator
- RabbitMQ message broker

Industry-Specific Protocols:
- DLMS/COSEM:
- IEC 61850:

MDM operator web page

Monitoring activities and exceptions
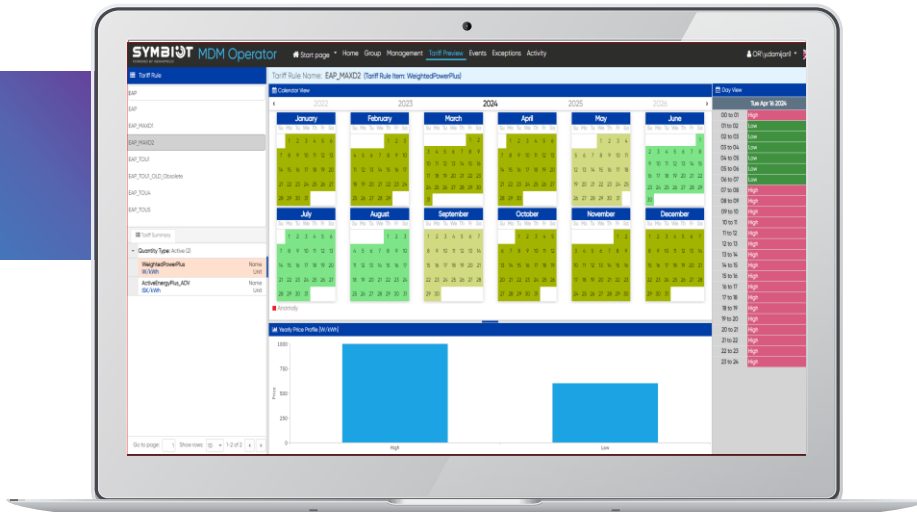
MDM operator web page
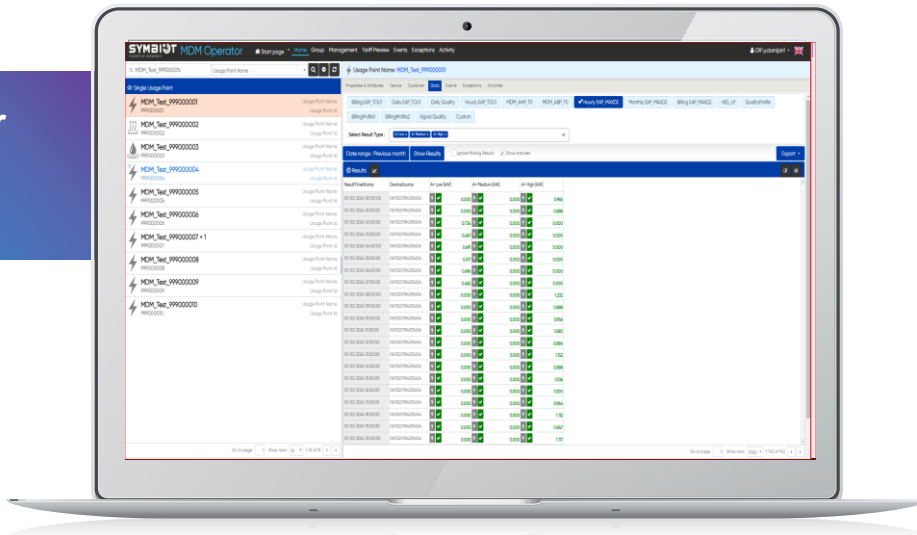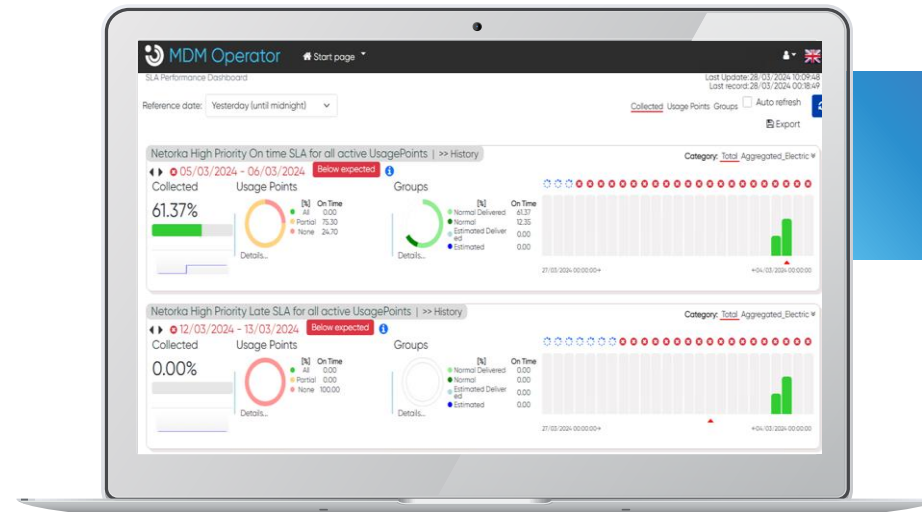
License related info

Usage points monitoring

Activity monitoring

Tariff details

SLA performance dashboard

Competitive advantages

Symbiot MDM

- **Industry experts:** Designed by metering experts.

- **Integration capabilities:** Integrate seamlessly with other systems and technologies (billing systems, customer management systems, and grid management systems).

- **Cost-effectiveness:** Overall cost-effectiveness of the solution - implementation costs, maintenance costs, and potential cost savings.

- **Regulatory compliance:** Compliance with relevant regulations and standards, ensuring that they meet the required data management and reporting requirements.

- **Scalability and Flexibility:** Accommodating the growing needs of utility companies, especially as the volume of data continues to increase with the proliferation of smart meters.

Overview of the data collection process

- **Interoperability & meter agnostic approach.** Symbiot connects seamlessly and achieves full functionality regardless of which ever system has been established or the type of meters are deployed.

- **Modularity.** Completely customize any system by just using the modules that are required. A flexible licensing model. This minimizes not only system costs but also staff time and effort.

- **IoT ready.** Ready for a complex smart environments. Symbiot MDM can be deployed quickly and administer easily.

- **Security.** High quality authentication and encryption methods ensure secure data transmission between the meter and Symbiot's platform, using Key Management System and PKI infrastructure.

Data processing and analytics

- **Real time monitoring.** increased control of consumption, outages, and faults. Real-time connectivity and data processing easing day-to-day operations.

- **Fast upgrade.** Symbiot's software is designed to develop new features faster and maintain existing features without impacting business processes.

Scan the code to download the app

We will create an account for you, so you can experience all functionalities

Thank you!

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