



DEFINE AND OPTIMISE YOUR CONSUMPTION PROFILE AND REDUCE THE COST OF ENERGY AND OTHER UTILITIES

smartMETERS provides data to analyse the daily distribution of utility consumption. It therefore makes it possible to optimise the distribution of consumption in terms of tariffs and fees.

HOW IT WORKS

smartMETERS acquires metering data from the customer's meters and sends them to a database on ANDRA servers. This is done remotely and automatically, via the GSM network. The reports generated using the collected data help determine the profile of utility consumption and then make modifications to it. This can reduce the costs of, for example, the capacity fee – both in terms of the level of energy consumption and the distribution of consumption throughout the day. The analysis of reac-

tive power consumption also makes it possible to use a reactive power compensation system in the electrical system.

Measurement data, analysis and reports are available through a user account on the website. The portal can be accessed from any location with an Internet connection, and using any device – a PC, tablet or phone. Operation of the system is simple and intuitive.

SMARTMETERS ENABLES:

- Meter readings
- Collection of read data in the database
- Visualisation of the consumption of different utilities (electricity, gas, water, heat, others)
- 15-min. average demand (only for electrical power)
- Visualisation of other types of data provided by the devices being read.

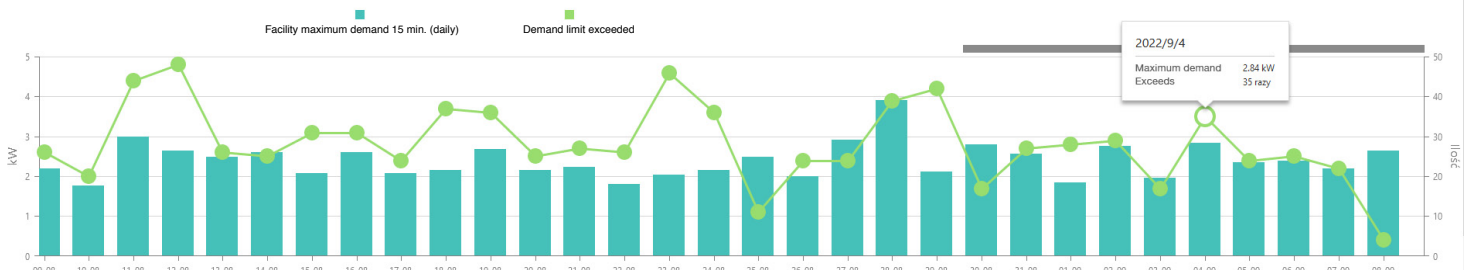
WHAT CAN SMARTMETERS DATA AND REPORTS BE USED FOR?

- For monthly billing of tenants – energy registers reading exactly at 00:00 of each month.
- For balancing consumption for the entire facility or for its part.

- For forecasting energy consumption.
- For forecasting the average demand demand (electrical power).
- For monitoring overload of pre-set values (such as maximum demand).
- For maintaining average demand at announced maximum demand limitations (electrical power).
- For estimating the demand fee as per new demand tariff system structure (for large consumers).
- For scheduling possible temporary load shutdowns.
- For integrating with other systems, such as BMS or accounting and billing system, for data exchange.

SMARTMETERS - BASIC FUNCTIONS:

- Monitoring of active and reactive energy consumption at all user's metering points.



- Analysis of active and reactive energy consumption profiles.
- Analysis of average demand if demand limits are announced – consumption during relevant day with demand forecast until the end of that day.
- Monitoring of excess contracted demand.
- Generating alerts (such as overload of contracted demand) sent as emails.
- Generating reports according to user-defined criteria.
- Definition of demand limits for individual measuring points.
- Calculation of current cost of the demand fee along

with the value of the k-factor.

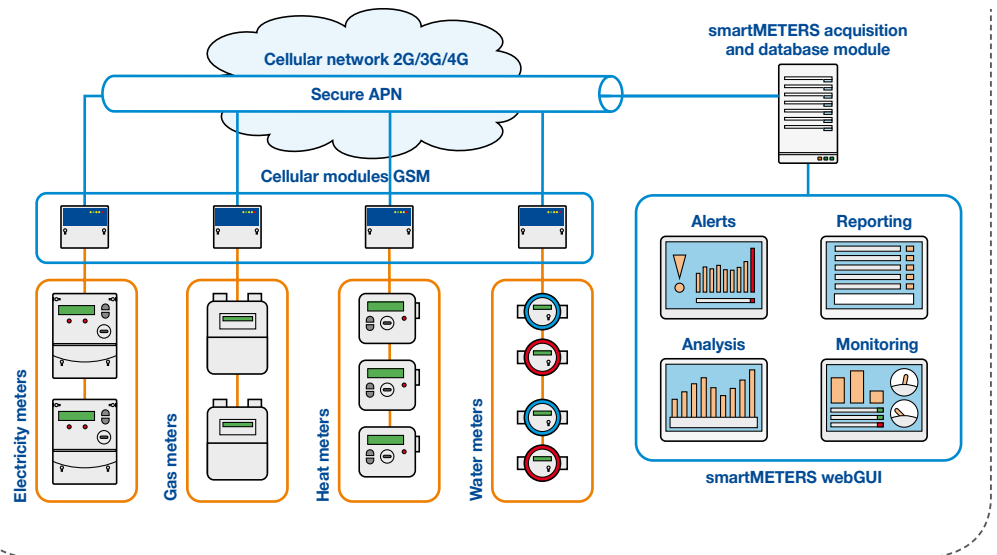
- Presentation of billing data for different periods as a table or chart.
- Exporting image data to png, jpeg, pdf, svg files.
- Exporting reports to xls files for further analysis.

SOLUTION ARCHITECTURE

Meters (energy, water, heat or other meters) connected to a communication device (LTE modem with dedicated SIM card) are installed at customer's location. The architecture can be based on customer's meters or new meters can be installed if necessary.

smartMETERS works with different types of metering systems – such as tenant billing system, systems on the main supply of the facility, in slack buses, etc. Data can be read from meters of different utilities, such as:

- Water meters with wire M-bus interface and pulse output (via pulse counter)
- Gas meters with wire M-bus interface and pulse output (via pulse counter)
- Heat meters with wire M-bus interface and pulse output (via pulse counter)
- Electricity meters with wire M-bus, Modbus RTU (RS485), IEC (RS485), dlms (RS485) interfaces
- Pulse counters with Modbus interface (RS485)
- Other



port servers, communication module cabinets, communication cabling

- Installation, connection, programming, configuration and commissioning of the equipment installed
- Start-up and configuration of the system

WHAT COSTS ARE INVOLVED WITH IMPLEMENTATION AND USE?

The cost is a one-off expense and covers customisation of the layout/equipment by installing the necessary components, as well as implementation work:

- 4G LTE communication module
- Optional: converters + programmable controller,

Adding new users is free of charge. The user bears no costs of system maintenance and administration or infrastructure maintenance. The reading server and smartMETERS platform are located at ANDRA location.

The billing is in the form of monthly subscription.