

FaMa+ EM

SYSTEMATIC APPROACH TO THE MONITORING AND EVALUATION OF INFORMATION ABOUT ENERGY MANAGEMENT

Software **FaMa+ EM** is suitable for both the organizations demanding energy (hospitals, regional authorities, universities, industrial firms), as well as for the suppliers of energy (gas, electricity suppliers, water).

The **FaMa+ EM** consists, apart from others, of the following core modules:

- **Energy management (ENM)** – for the management of energy in accordance with ISO 50001. Supports the prediction, monitoring and evaluation of the consumption and cost of all kinds of energy of the organization with the aim of effective organization energy policy management.
- **Advanced Meter Management (AMM)** - for the remote collection and transmission of operating data from the gauges, processing, evaluation and archiving including the management and control system of both the gauges and means of communication. The solution is delivered in cooperation with the company Elvaco (Q7 Systems).
- **Heat and water management** – for clear records and management of technical assets of the company (heating plants, water plants, distribution systems, wastewater treatment plants). It enables the management of contractual relations, the creation of consumption diagrams, etc.
- **Energy Portal** – for the momentary presentation of the process of consumption and costs in terms of various criteria (type of energy, consumption points, contractors, organizational units,...) through Web interfaces in the form of graphs, charts and tables for the defined users.
- **Mobile application emax** – optional mobile application for users who need to work with the data directly in the field (for quick registration of measured values, scan data from gauges at extraction sites, immediate reporting of incidents, etc.).

ENERGY MANAGEMENT

- Management of contractual relations with suppliers and customers, the central register of consumption points.
- Administration of the rules of distribution of energy in the framework of the organization, managing the billing meters and minor gauges.
- Recording the organization's and suppliers' measurement on the gauges.; registration of invoices for energy - accounting for the consumption and costs.
- Allocation of the cost of the energy consumption per cost objects; overviews of consumption and costs according to different criteria (reports, charts, diagrams).

- Direct gauge and module communication with the central department for the collection of consumption measurements.
- Sending data about the measured values via the GSM/GPRS network or the TCP/IP protocols.
- Complete processing and management of remote data readings.

- View possibilities and work with selected data for users who do not work directly in the application.
- Quick access to data in the form of charts and tables for managerial evaluation and decision-making.
- On-line monitoring of consumption for problematic consumption cases.

HEAT AND WATER MANAGEMENT

- Registration and administration of the relevant technical assets and its parameters.
- Reporting and calculation of heat, drinking water and purified water supplies.
- Heating systems efficiency determination.
- Fuel stock management and register (including the registration of fuel receipt and issuance).

MOBILE APPLICATION EMA+

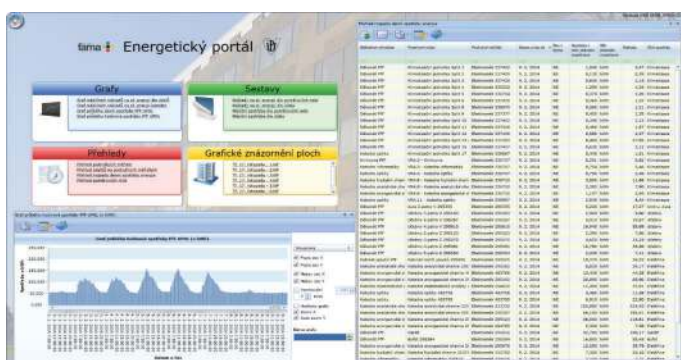
- Quick entering of readings, incidents and other information (voice command, scanning).
- Well-arranged statistics of energy consumption according to various criteria (eg. by year, extraction site, the type of energy, etc.).
- Easy gauge identification by scanning (it is not necessary to know the type of gauge).
- Ability to work with the application in both online and offline mode.

ADVANCED METER MANAGEMENT

- Overall management of the system of communication modules and gauges.
- Setup of regular customizable intervals of consumption gauge readings.

ENERGY PORTAL

- Individual energy type consumption development monitoring.



Energy Portal

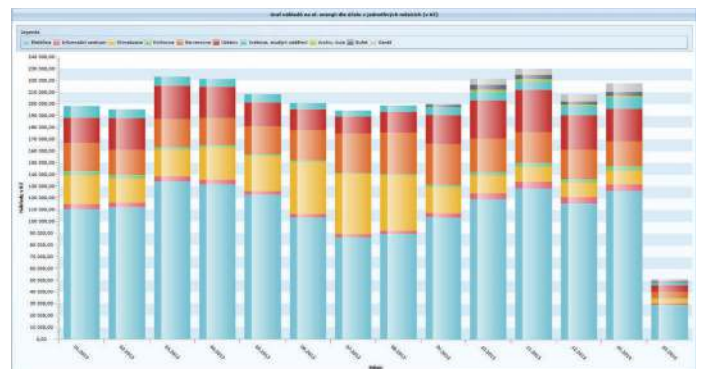


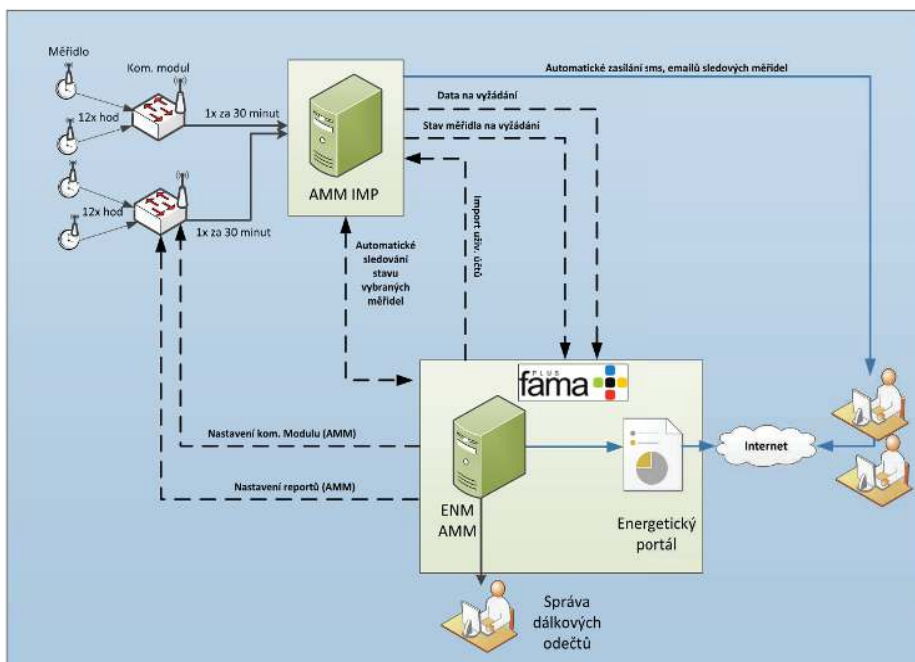
Chart of the electric energy cost according to purpose in individual months (in CZK)

Solution benefits

- ✓ Determination of boundaries of the energy management systems (organizations and buildings with energy management).
- ✓ A tool to unify methodologies for the calculation of costs and energy consumption of the organization.
- ✓ Options for monitoring the energy characteristics for each building.
- ✓ Support of the systematic collection approach, monitoring and evaluation of the data of consumption and cost of energy.
- ✓ Registration and administration of electronic documentation.
- ✓ Continuous overview of the consumption and cost of energy per organizational unit of the organization.
- ✓ A tool for reviewing, monitoring and optimization of consumption and costs.
- ✓ A tool for the estimation of consumption and cost of energy in the future.

- ✓ Consumption point operating characteristics monitoring and consumption characteristics.
- ✓ A comprehensive overview of the standard technical information about heating and water management technologies and equipment.
- ✓ Data sending even after turning the power gauge off (module backup power supply).
- ✓ Avoidance of energy theft (detection of arbitrary intervention into the settings of the gauge, including an automatic information sent to the selected employees).
- ✓ Possibility to choose the appropriate architecture of linking the gauges and the communication modules (according to the measurement site – estates, smaller municipalities, industrial complexes, etc.).
- ✓ Preparation for the change in the accounting of energy (the option of shortening the billing interval).
- ✓ Accurate billing of internal energy costs.

- ✓ Easy operation (easy installation, automatic upgrade and the openness of the infrastructure with the possibility of expansion).
- ✓ Possibility to control the settings of the communication modules and gauges from one centre.
- ✓ Ability to provide data about measured consumptions to other information systems for further use.
- ✓ An upgrade presentation layer of the energy portal that allows even even untrained users access to selected overviews, charts, and reports, which can be user-defined.
- ✓ The energy portal provides quick and easy access to the measured energy consumption data for each of the types of energy and also to important information required for energy management.



FaMa+ EM architecture diagram



Mobile application ema+

Technology

Architecture of FaMa+ EM is designed as three tier, when individual levels are mutually integrated into functional whole:

- **presentation layer:** MS SilverLight
- **database layer:** Oracle or MS SQL Server
- **application layer:** MS .NET

Reference projects

Military Service
 Regional Centre Olomouc
 General University Hospital Prague
 Health facilities of Vysočina Region
 Regional Authority of the Pardubice region
 Regional Authority of the Liberec region
 Palacky University in Olomouc
 Municipal Authority of Uherské Hradiště
 Municipal Authority of Kyjov
 Etc.

