



AVReporter

Energy and Information Management Software



**Flexible
Integration**

**Powerful
Reports**

**Extensive
Alarms**

**Complex
Analytics**

**Utility
Expert**

**Real-time
Data**





Why do Successful Companies use AVReporter?

... because they want to

- **cut down on consumption**

„The energy consumption has dropped by 30% on average. This was achieved by monitoring the energy consumption of the production process (per production line) and optimizing losses and factory management.“ (*Audi*)

- **save costs**

„The overall running costs decreased by 13% by the deployment of the energy management system and green technologies, this also allowed us to cut down on human resources.“ (*ABB, SKANSKA – Greenhouse*)

- **save time**

„Because the energy accounts and reports are generated automatically the administration costs and time reduced significantly.“ (*EGIS Pharmaceutical*)

- **be safe**

„AVReporter energy management was a powerful aid to increase our energy efficiency, but it also contributed towards the safety of the production process.“ (*Gallicoop - poultry producer*)

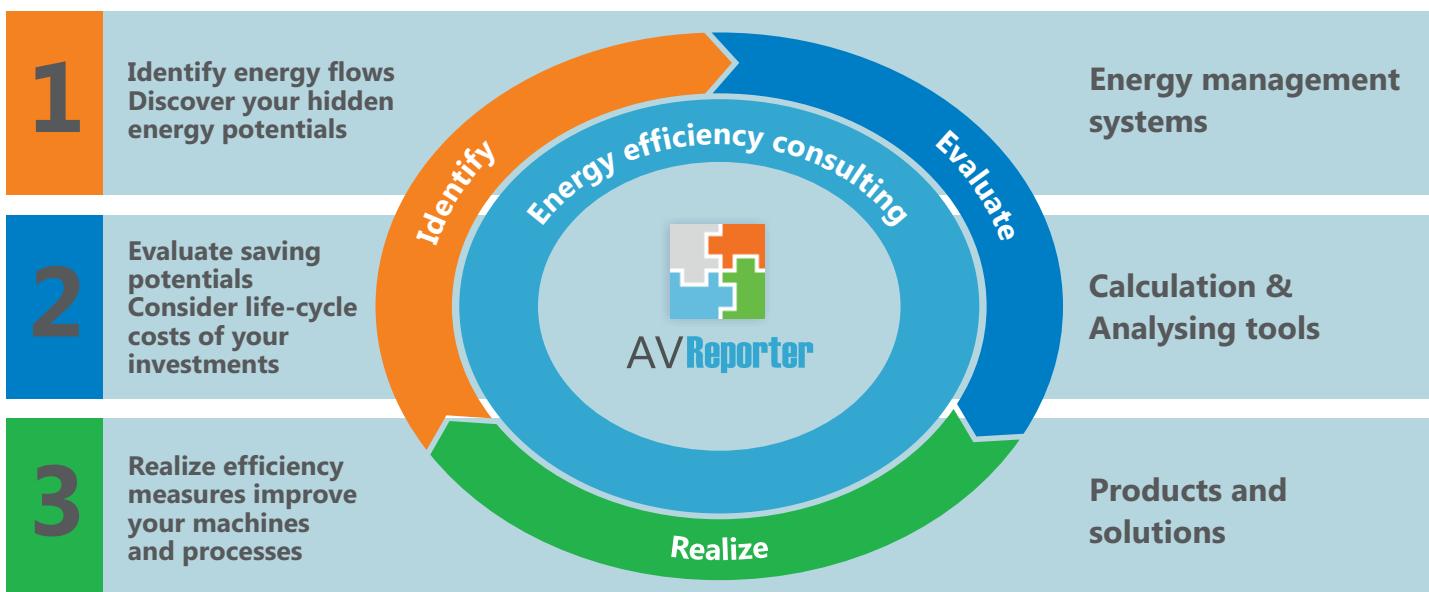
- **take it easy**

„The AVReporter application helps staff to complete their energy accounts accurately and easily. This made the integration of the system into the already existing one flawless.“ (*VELUX*)

- **get it up and running quickly**

„The AVReporter application contains many built-in reports and device drivers already, taking the frustration out of the system building process and ensuring a speedy delivery.“ (*Hexeis, System Integrator*)

Energy management - Continuous improvement of energy efficiency





Why to use AVReporter Energy Management Software?



Quick

Because you'll get the job done in a lot less time. Our main profile used to be system integration, so we knew what was expected both from system integrators and end-users. Hence the quick-flow structure building functionalities and easy reporting surface.



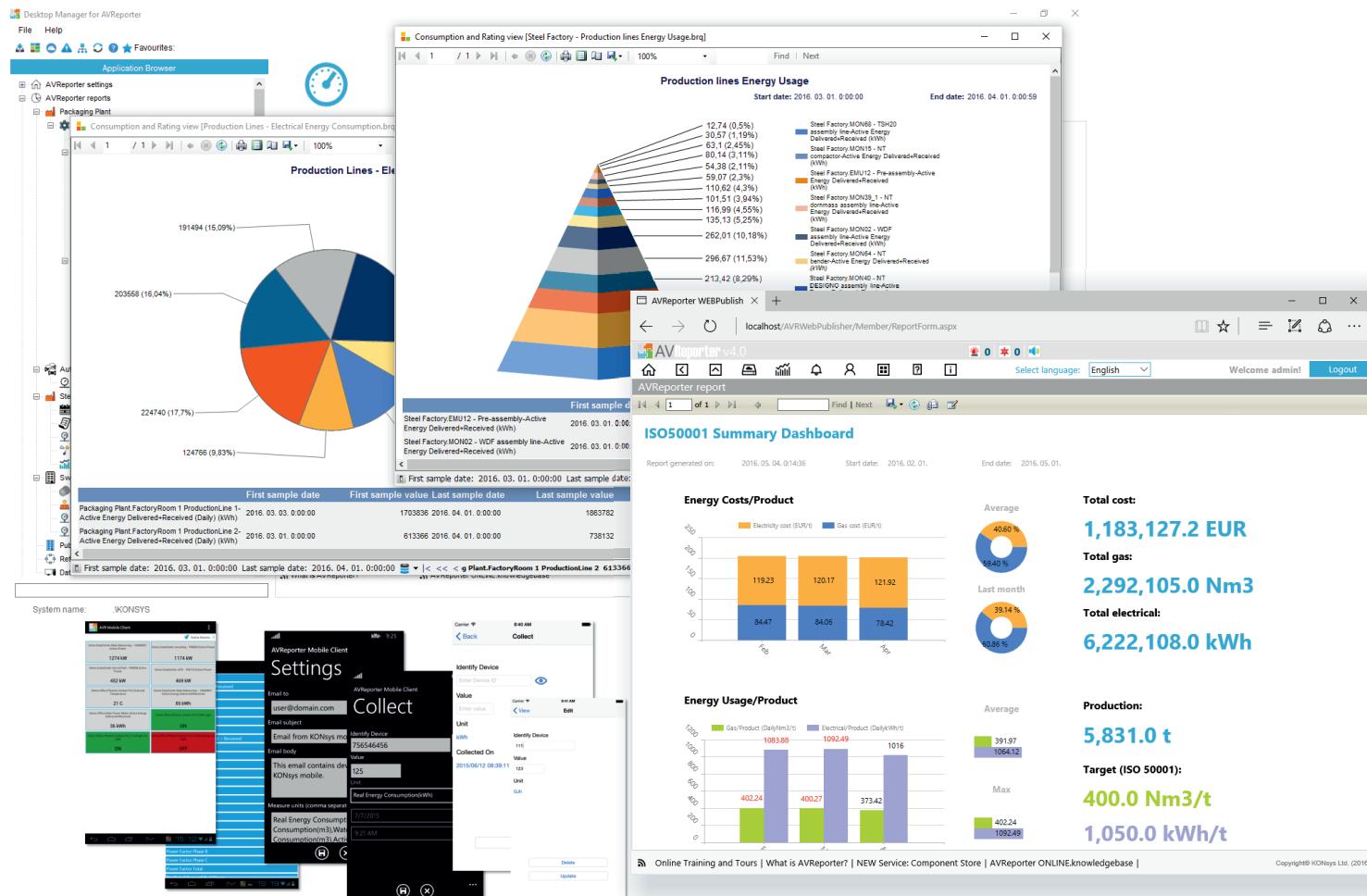
Practical

We offer fine-crafted energy management software designed and improved by an expert team of software engineers, energy managers, auditors (UNIDO Level), engineers and energy management hardware specialists, NOT ONLY SOFTWARE DEVELOPERS.



Supported

We provide some of the best TechTeam support you will find anywhere and we promise not to leave you alone with a problem. Apart from the free TechTeam support it is possible to hire our TechTeam to execute certain tasks, projects or to solve project difficulties.





Features of AVReporter and typical applications

ONE APPLICATION PLATFORM



Desktop

Tablet PC

Smart Phone

Cloud

Web

Easy to adopt:

User friendly interface with guided help and online Knowledge Base support.

Quick report building:

User can create just the right view and summary of their data easily in both web and desktop environment by the wizard. Due to the simple user interface, preparing a report does not require any particular professional knowledge (Trend analytics, Consumption and Rating report, Regression & Forecasting analysis etc.).

Advanced Reporting & Analysing:

AVReporter provides solution for those, who need completely unique or highly individual reports: by applying mathematical and statistical curves, individual loggings, search funnel requirements and individual models. (Production KPIs, Reports for the maintenance process, Reports & dashboards needed for certifications (FMG, energy audit, ISO50001, NABERS reports, LEED, etc.), support the energy value targeting process)

Individually suited:

While AVReporter provides a comprehensive suite of energy management reporting tools, it has also been designed to remain flexible. Custom add-on modules can be simply „plugged“ into the base application.

Localised:

On the fly multi-language support with several languages already embedded and additional language packs are also available on request.

Flexible Integration:

AVReporter can be integrated into this environment easily, connecting with all the other systems and providing one surface where all the data, reports, analytics can be viewed or worked with, avoiding using many excel sheets for analytics.

- Connect to OPC Server (SCADA, PROFIBUS, BACNET, LON, etc.)
- Connect to external data source (BMS, ERP, etc.)

Plant Personal



Site Manager



Regional Accounting



Central Management



BMS system



SCADA system



ERP system



Field devices



Manual Import



AVReporter can be installed directly to field devices
AVReporter can be installed stand-alone with links to existing SCADA, BMS, ERP, Production Management System, etc.

Electrical, Gas, Water meters, PLCs, etc.

The image displays a comprehensive screenshot of the KOINys AVR WEBPublisher software environment. On the left, a large window titled 'AVReporter v4.0 Advisor' shows a library of reporting and visualization tools, including 'Create new report' options like 'Create Table report', 'Line Column Scatter, Area, TOU and Regression chart', 'Column Chart', 'Chart Area', 'Gauge Chart', 'Basic Reporter' (for Histogram, Consumption (Gas, Water, ...), Multi-Y (technology), Statistical data of Query, Electrical Energy Usage chart, Cost allocation and Billing, Alarms and Events, Business Intelligence), 'Cost A. and Billing module', and 'Alarm Browser module'. Below this are sections for 'Connecting' (Realtime Device Manager, Connect to Device (Power, Gas, Water, Meters...), Connect to Data Concentrator, OBD Data Manager, AVR OPC Configurator, Connect to Datasource (ERP, BMS...), AVR Connection Center, AVR Data Editor) and 'Manual Data Entry'. The central and right portions of the screen show various operational dashboards. One main dashboard, 'DataCenter MainDashboard', features a 'Server Park' section with a gauge for 'Cooling system' at 25°C and a red 'Alarms' box listing 'UPS failure' and 'Cooling failure'. Another section shows a 'Fan coil' status with a temperature of 25. Below these are 'Average' performance graphs and a detailed 'Production lines - Gas Energy Usage (kWh)' report with a pie chart and a table of data for Packaging Plant Gas PLC 1 through PLC 4. To the right, a smartphone displays a simplified version of the dashboard, illustrating mobile access. At the bottom, a footer bar includes links for 'Home', 'Support', 'Help', 'About', and 'Contact', along with copyright information: 'KOINys AVRWEBPublisher - For more information please visit our website: http://konys-international.com | Copyright KOINys Ltd. (2010)'.

Communication:

AVReporter has also been designed for direct communication with field devices of any brand (Gas and Water Meters, Revenue Meters, Logging Power Meters, PLC's).

Alarming and Monitoring:

Whilst historic alarms help to analyse certain events and provide information for prevention, real-time alarms allow users to react quickly to current problems saving expensive machinery or products.

Global Solution:

AVReporter can be installed using a Server-Client solution and/or a web based solution; this combination is used to meet the specific requirements for access to individual sites of International or Multi-site applications.

Fast:

The high performance modular structure, the scalable system (fast operation, efficient application of resources) and the sharp real-time function contribute to the flawless and fast system operation.

These very qualities and the specifically designed strategic developments make AVReporter the perfect solution for handling Big Data.

Security:

Comprehensive Multi-User and Security Access Level Management, whereby each user has a login name and password, providing access to specific menus and features.

Cost-Production:

Provides energy reports per product or shift as may be required to track utility costs against production or staff productivity. Your specific KPI's can easily be configured using the tools embedded in AVReporter.

Utility supported:

Facilitates the creation of billing and cost allocation summaries for multi-tenanted facilities or multi-departmental operations.





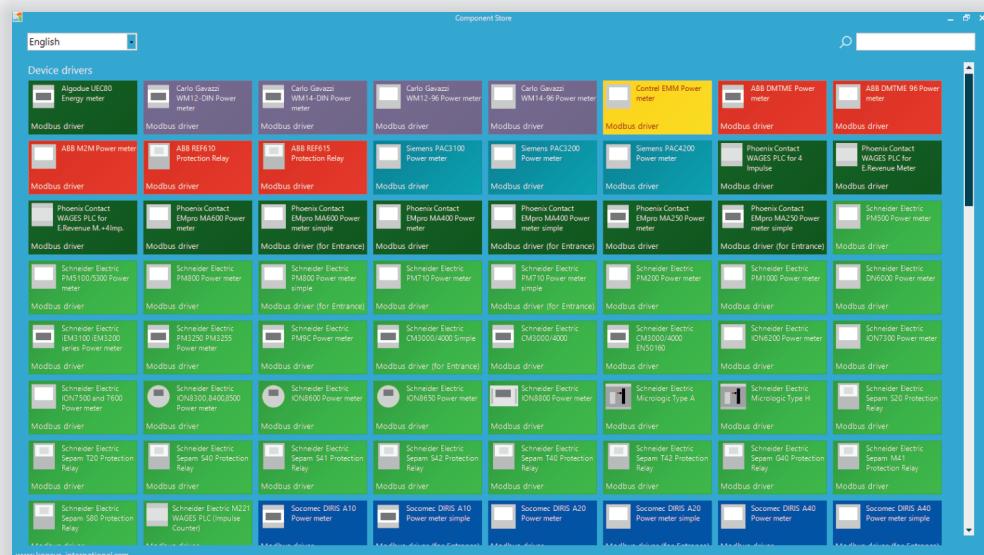
Typical AVReporter Screens



Surface mapping - monitoring the utilisation of production lines

This screenshot illustrates manual data entry. It shows three overlapping windows: 1) A main window titled 'AVReporter Data Editor [Paper Factory - Energy Costs.deg]' containing a table of energy consumption data for a swimming pool and revenue electrical meter. 2) A smaller window titled 'AVReporter Data Editor' showing a list of collected data points for a 'Costs' device. 3) A modal dialog box titled 'Collect' for sending data via email to 'user@domain.com'.

Examples of manual data entry.



The AVR Component Store contains many drivers and pre-created template reports free to use.

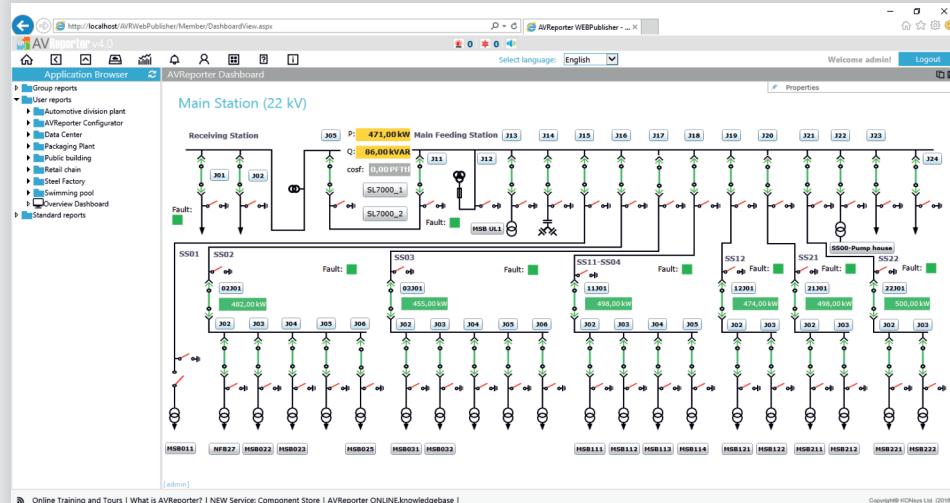
The screenshot shows a detailed report titled "Capacity Utilization Rate report" generated on 2016.05.04.21:07:28. The report lists various production lines with their respective start and end times for shifts, production, and breaks. A legend indicates that yellow cells represent "Not running".

Production line	No-load threshold (kW)	Start of shift	Start of production	End of production	Start of break	End of break	Start of production	End of production	Start of break	End of break	Start of production	End of production	End of shift
EMU12 - Pre-assembly	0.07	0:00	0:00	08:10	0:20	0:40	08:40	11:15	11:15	11:25	11:25	14:00	14:00
MON15 - NT compactor	0.11	0:00	08:08	08:54	0:20	0:40	Not running	Not running	11:15	11:25	Not running	Not running	14:00
MON16 - NT compactor + MON_16	0.35	0:00	08:00	08:20	0:20	0:40	08:40	11:15	11:15	11:25	11:25	14:00	14:00
MON21 - NT assembly line	0.2	0:00	08:00	08:20	0:20	0:40	08:40	11:15	11:15	11:25	11:25	14:00	14:00
MON26 - NT assembly line	0.2	0:00	07:58	07:58	0:20	0:40	Not running	Not running	11:15	11:25	11:43	14:00	14:00
MON39_1 - NT dommata assembly line	0.25	0:00	08:00	08:20	0:20	0:40	08:44	11:15	11:15	11:25	11:25	13:47	14:00
MON39_2 - NT ISL assembly line	0.25	0:00	08:00	08:20	0:20	0:40	08:40	11:15	11:15	11:25	11:25	12:46	14:00
MON40 - NT DESIGNO assembly line	0.2	0:00	08:00	08:20	0:20	0:40	08:40	11:15	11:15	11:25	11:25	12:56	14:00
MON51 - NT assembly line KB 200 - 600	0.18	0:00	08:01	08:15	0:20	0:40	08:42	10:39	11:15	11:25	13:07	13:53	14:00
MON64 - NT bender	0.16	0:00	08:00	08:20	0:20	0:40	08:46	11:15	11:15	11:25	11:25	14:00	14:00
MON70_1 - NT assembly line 1	0.25	0:00	08:07	08:18	0:20	0:40	10:46	11:15	11:15	11:25	11:25	14:00	14:00
MON70_2 - NT assembly line 2	0.45	0:00	08:20	08:20	0:20	0:40	08:40	11:15	11:15	11:25	11:25	14:00	14:00
MON70_3 - NT assembly line 3	0.27	0:00	08:00	08:20	0:20	0:40	08:40	11:15	11:15	11:25	11:25	11:28	14:00

The utilization report shows utilization rates and capacity utilization, enabling organizations to plan resources and budget.

The screenshot shows a dashboard titled "Carbon Footprint Report" with a background image of a tree. It displays total CO2 emissions of 7,852.8 tCO2e and the requirement of amount of new trees at 9,619.7 km². Below this, a bar chart shows CO2/Products (tCO2e/tPaper) for three categories: Jan (1.46), Feb (1.28), and Mar (1.29). The dashboard also includes a legend for CO2/Product (tCO2e/tPaper).

Targeting made easy with AVReporter. For example this dashboard provides Carbon Footprint insight.





The economic benefits of deploying AVR Energy Management System

Implement AVR Energy Management System to **increase energy efficiency and savings**, using all the necessary information and data for valuable analysis this energy management system can provide.

As the system can **communicate to departments** on different levels, (production, facilities, data centres and municipalities) it will adjust to the differences in the priorities of the values, targets and expected results.

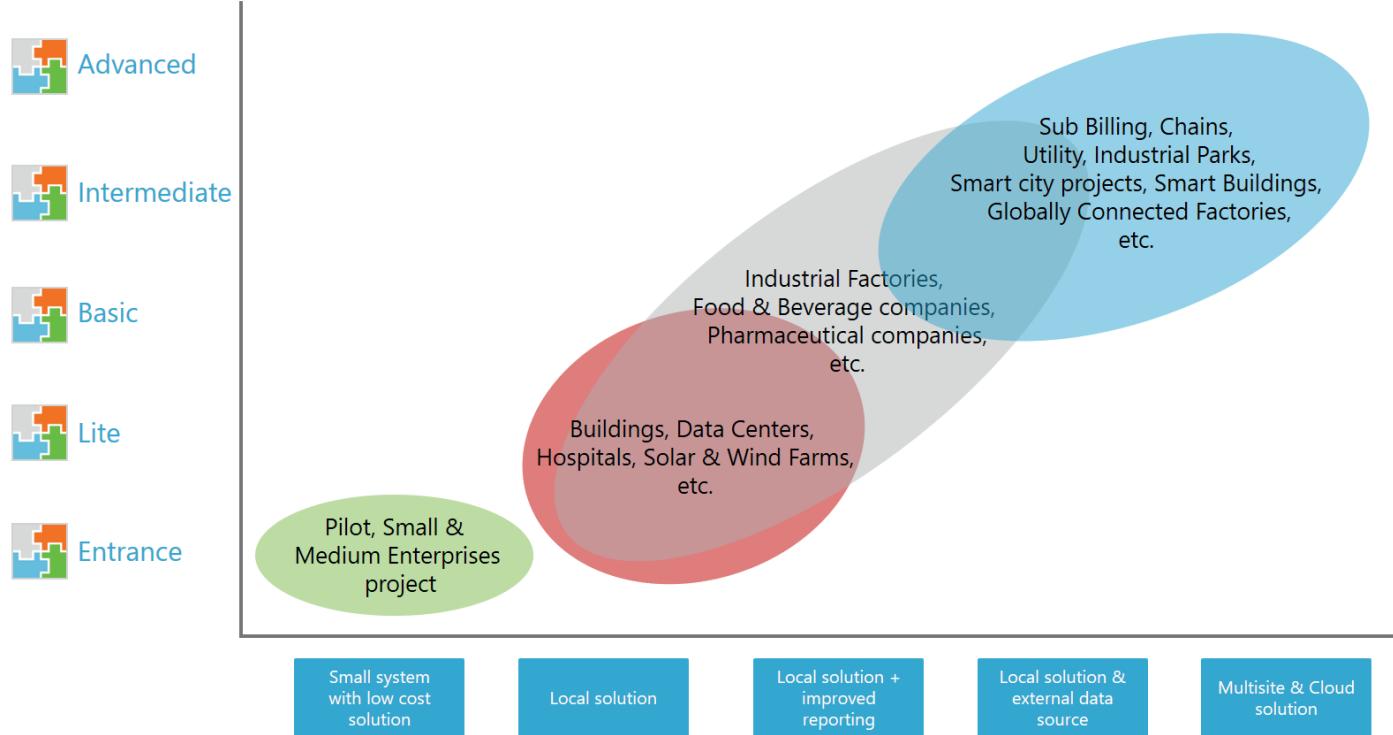
- **Financial advantages:** the direct economic benefits materialised in **energy and technology investment savings** and **competitive market advantage** (e.g. by the performance optimization, enabling to predict the exact percentage of the savings on energy bills)
- **Indirect economic advantages:** **enhanced brand image**, increased customer and partner engagement etc. (e.g. in the case of a car manufacturer company, using green technology improves the brand's image and its values.)

Find few of the economic and financial benefits of the AVReporter Energy Management systems listed below:

- Savings on administration and human resources at corporate level.
- Savings by operational safety (example: analyse and isolate the source of power quality problems, disturbance detection minimize downtime).
- Cost savings from service contract and energy recovery optimization (example: reduce peak demand and power factor penalties).
- Savings by maintenance support and optimisation (example: schedule maintenance on the bases of equipment's' operation numbers).
- Being aware of the information provided by the energy management system, the cost saving opportunities could be identified and interpreted via the optimisation of the production and operational processes.
- Studying the data provided by the energy management system, costs can be saved by the exclusion of the ineffective consumers.
- The measurement data and analyses, can lead managers to plan any technology investments to improve the energy efficiency carefully and with no or very little wastage.
- The energy management system provides economic benefit in the allocation of the energy costs and the place of consumption (e.g. energy consumption by one product, what gives market advantage in the pricing process).
- The energy efficiency and green solutions increase the brand image and corporate social responsibility commitments of the company and elevate the product.
- Implementing energy management systems on national economic levels is also highly important. Improving the energy efficiency and utilising capacity correctly the unnecessary power plant investments can be avoided.
- Energy management projects can help to reduce the greenhouse gas emission and this way the global warming can be reduced resulting in decreasing economic damages.



AVReporter Editions for different segments



Entrance

The Entrance Package is an entry level energy management software solution at low cost. It contains the higher level software packages reporting and analysing functionalities. It is a great option for trial or pilot projects.

Lite

The right solution to cover the energy management, monitoring needs and requirements of local enterprises (factories, office buildings, stores etc.), as it contains most standard analytical and reporting functionalities.

Basic

Suitable solution for more individual corporate needs (individual reports, analytics, modelling functionalities) and practical aid for the integration of industrial communication devices.

Intermediate

The Intermediate edition is recommended for end-users, who also wish to connect to external data sources (BMS, ERP, Production Management System, etc.).

Advanced

Advanced Edition integrates powerful qualities for those clients, who wish to use the latest cutting edge tool to its best abilities, a fine example of a solution supporting the requirements of "Integrated Industry". This edition can also connect to unlimited external data sources and serve multi-site or cloud applications "Global Energy Management Solution".



Building up your own AVReporter Energy Management Software

FUNCTIONALITIES	FEATURES	ENTRANCE PACKAGE
Core application of AVReporter, It provides an interface to AVReporter's reporting and dashboarding module, databases, user settings and management functions	Desktop Manager for AVReporter	Yes
Sending e-mail automatically, scheduling reports, including printing features, etc.	Standard plugins	Yes
Change languages on the go, Change currency on the go	Multinational Package	Yes
Direct communication to measurement devices (Modbus TCP or RTU), real-time measurement readings, controlling functions, virtual meter calculation	Real-time module (with 10 device licences)*	Yes
Creating reports and fast analytics, consumption-pattern monitoring, regression curves, etc.	Basic Reporter module	Yes
Web-based report creation, supervisory system dashboards and monitoring function, Tablet functionality	AVReporter WEBpublisher module	Yes (1 web user)
Mobile Client is able to display the real-time measurement values, controlling switches and manual inputs, browsing Active and Historical alarms	Android Mobile Client (Real-time for Android)	Optional

*15 quantities allowed per device

FUNCTIONALITIES	FEATURES	LITE	BASIC	INTERMEDIATE	ADVANCED
Core application of AVReporter, It provides an interface to AVReporter's reporting and dashboarding module, databases, user settings and management functions	Desktop Manager for AVReporter	Yes	Yes	Yes	Yes
Sending e-mail automatically, scheduling reports, including printing features, etc.	Standard plugins	Yes	Yes	Yes	Yes
Change languages on the go, Change currency on the go	Multinational Package	Yes	Yes	Yes	Yes
Opportunity to customise to corporate brand	Brand Package	Yes	Yes	Yes	Yes

CONNECTING

FUNCTIONALITIES	FEATURES	LITE	BASIC	INTERMEDIATE	ADVANCED
Direct communication to measurement devices (Modbus TCP or RTU), real-time measurement readings, controlling functions, virtual meter calculation	Real-time module	Yes	Yes	Yes	Yes
Direct communication with data concentrators and import measurement data from their onboard memory into the AVReporter database	On-board Data Importer	Optional	Optional	Optional	Optional
Integration of the most common industrial systems through OPC servers (SCADA, BMS, field devices via PROFIBUS, BACnet, LON protocol, etc.)	Connection to OPC server	No	Yes	Yes	Yes
Integration of the most common industrial systems through Redundant OPC servers	Redundant OPC server connection	No	No	Optional	Optional
Integration into the user's Active Directory	Company Integration Services	No	No	Optional	Optional
External ERP, EMS, BMS, Production management systems database connection	AVR Connection center plugin	No	No	Connecting to one system	Unlimited

VISUALIZATION (Report and Dashboard Creation)

FUNCTIONALITIES	FEATURES	LITE	BASIC	INTERMEDIATE	ADVANCED
Creating reports and fast analytics, consumption-pattern monitoring, regression curves, etc.	Basic Reporter module	Yes	Yes	Yes	Yes
Flexible and easy-to-use energy consumption report creator, for displaying charts on daily, weekly, monthly, annual, etc.	Energy Manager Summary	Yes	Yes	Yes	Yes
Alarm and event browsing management, alert functions	AlarmBrowser Module	Yes	Yes	Yes	Yes
Complex analytics, CO2 emission, GHG, ISO 50001, Benchmark reports against set standards, fully customised financial calculations, forecasting, Key Performance Indicators, unique reports, dashboards)	Business Intelligence module	No	Yes	Yes	Yes
Web-based report creation, supervisory system dashboards and monitoring function, Tablet functionality	AVR WEBpublisher module	Optional	Optional	Optional	Optional
Provides access to HTML5 responsive reports and dashboards in mobile and tablet environments	AVR Manager's Dashboard*	Optional	Optional	Optional	Optional
Generate bills for building tenants based on an accurate record of their energy usage	Cost Allocation and Billing	No	Optional	Optional	Optional
Mobile Client for real-time monitoring and controlling, Alarm browsing features	Android Mobile Client	Optional	Optional	Optional	Optional

*Requires Microsoft SQL Server 2016 Enterprise Edition

HISTORICAL DATA MANAGEMENT

FUNCTIONALITIES	FEATURES	LITE	BASIC	INTERMEDIATE	ADVANCED
The Time Of Use module can be used to divide the time periods (Peak and Off Peak, First shift, etc.)	Time Of Use Module	Yes	Yes	Yes	Yes
Calculate UFER, DCR, Power Factor Inductive and Power Factor Capacitive	UFER & DCR Module	Yes	Yes	Yes	Yes
Creating virtual values based on historic data (CO2 emission calculations, cost calculations, etc.)	Virtual Value Calculator	25	50	Yes	Yes
Data filtering, swapping and validating based on set criteria(s)	Data Quality Manager	Optional	Optional	Optional	Optional
Consistency in monitoring and calculating on-going consumption data	Rollover configurator plugin	Optional	Optional	Optional	Optional
Calculates forecast values, based on specific indicators, e.g. production, temperature etc.	Forecasting Calculator	Optional	Optional	Optional	Optional

ADDITIONAL MODULES

FUNCTIONALITIES	FEATURES	LITE	BASIC	INTERMEDIATE	ADVANCED
Import data values into the system from desktop application	Desktop Data Editor (Manual Data Entry)	Optional	Optional	Optional	Optional
Import data values into the system from Excel	Excel Data Editor	Optional	Optional	Optional	Optional
Import data values into the system from Windows Phone	Windows Phone Mobile Client	No	Optional	Optional	Optional
Import data values into the system from Iphone	IOS Mobile Client	No	Optional	Optional	Optional
Import weather forecasting data into the system from Webservice	Weather Service Plugin	No	Optional	Optional	Optional

For more information of the AVReporter modules, please visit our website!

Partners



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