product data sheet

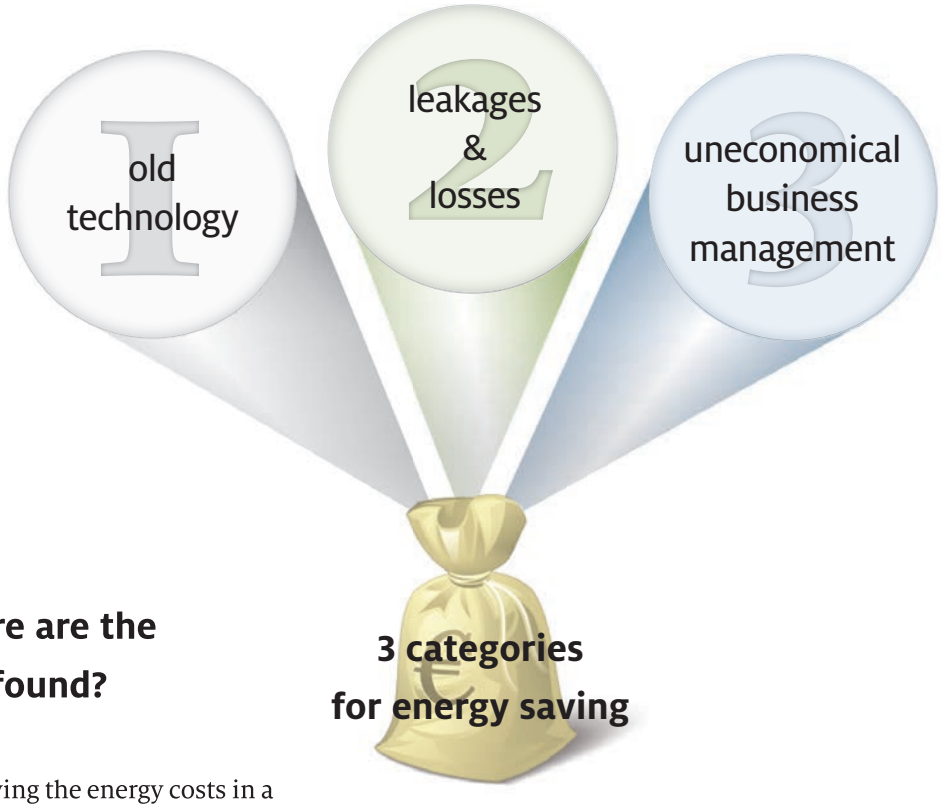
ACRON 50001 – Energy data management system (EdMS)

Find and exploit treasures

- TÜV certified according to ISO 50001
- With Plan-Do-Check-Act (PDCA) module

ACRON 50001

The energy revolution, with all of its residual effects, is a continuous topic in the press. It is a similar case of affairs with the associated price developments with the accompanying raw materials and energy sources. It is necessary to reduce energy costs both in the industrial and private sectors. “Keeping doors and windows closed” is not enough, though.



The start – where are the treasures to be found?

When intensively observing the energy costs in a company it rapidly becomes clear that a reluctance to take measures does not bring any genuine advantage.

It is initially necessary to answer the following questions with sufficient exactitude:

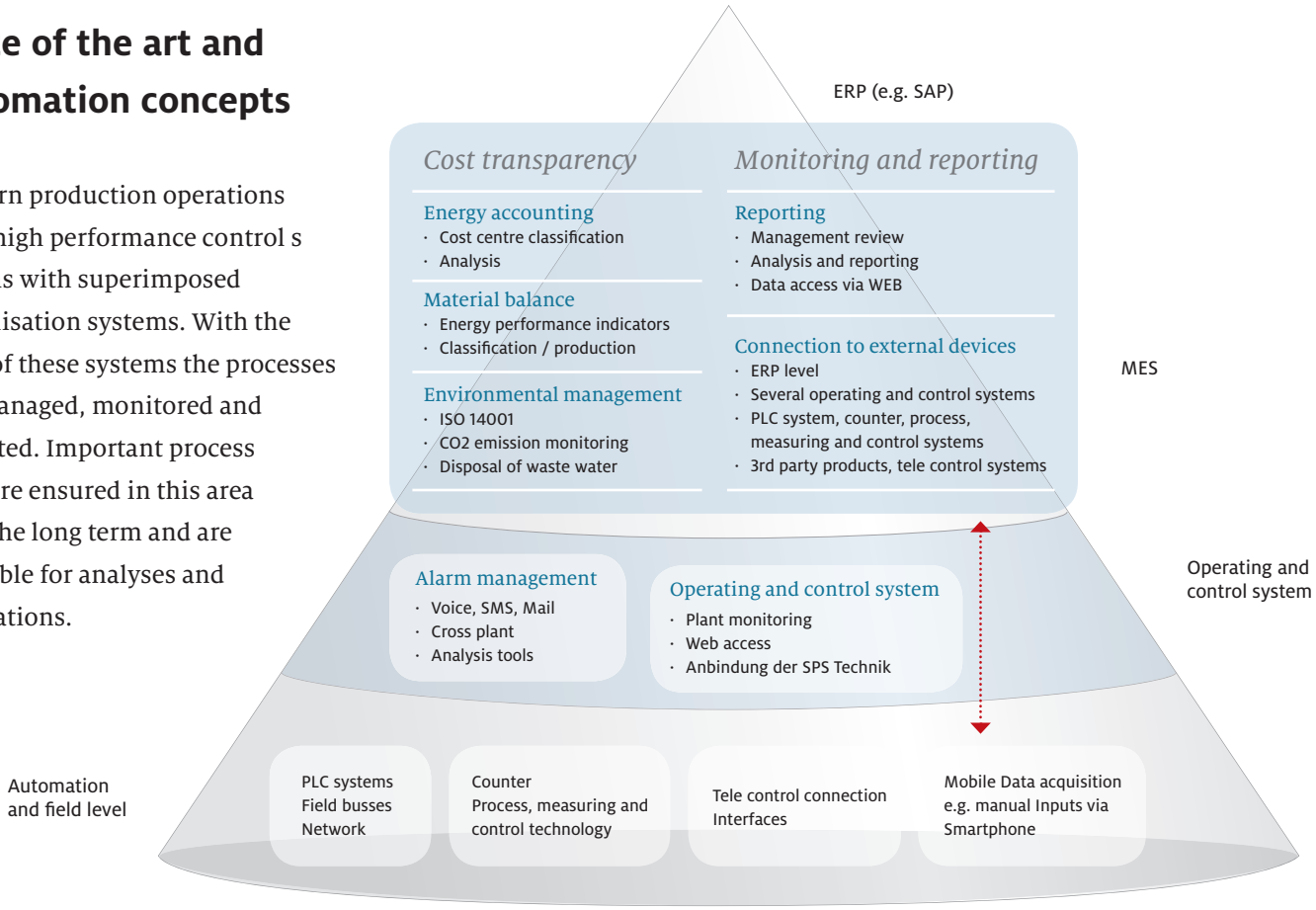
- How big is the possible potential saving?
- How high are the investment costs?
- How is such a project successfully started?

Experiences in wide ranging applications have shown that the potentials are hidden in the following areas:

- The use of old fashioned technology
- Leakages and losses in networks and buildings
- Uneconomical operational sequences

State of the art and automation concepts

Modern production operations have high performance control s ystems with superimposed visualisation systems. With the help of these systems the processes are managed, monitored and operated. Important process data are ensured in this area over the long term and are available for analyses and evaluations.



ACRON – the database and analysis tool

ACRON is a widespread database system with highly sophisticated functions in the area of long term archiving and data analysis, and is generally used as an ADD ON system for typical SCADA and guidance systems. Users now make successful use of the advantages of this system in over 15,000 installations world wide

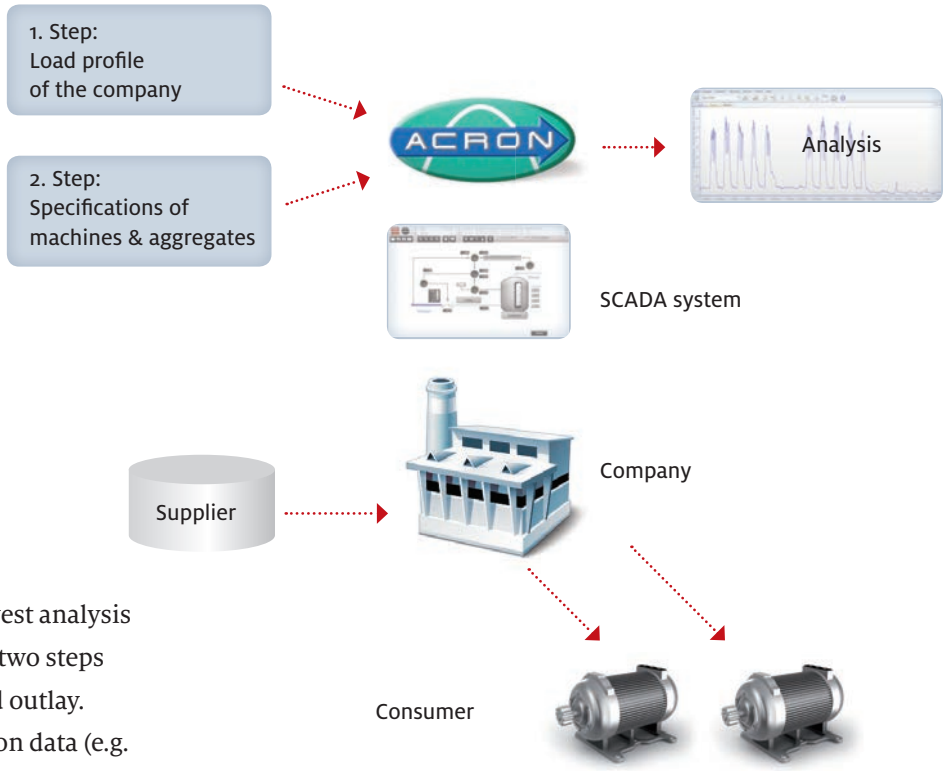
With TÜV certification as an 'inspected energy management system' according to ISO 50001, ACRON impressively supports the key functions of a high performance energy data management system (EDMS).

Practice shows that the important company information is to be found in differing data sources (databases, guidance systems, commercial settlement systems). ACRON has a wide range of providers with whom these systems can be 'tapped'.

The centrepiece of the EDMS is the ACRON database system. This is a protected, but not closed off unit, in which all information is saved over the long term. In addition to processing data, calculated values (e.g. key figures) and manual inputs for cost rates or tariffs are also stored here. The calculation of the ratios takes place via the DB engine for every measured value. The results are saved especially as compressed data.

Report and graphics tools are available to the 'normal' user for analysis purposes. In the expert area, access to the results occurs via interfaces such as OPC or ODBC, as well as free Excel Add-In modules. No external aids are required for the purposes of configuration – ACRON is a complete solution.

The zero invest analysis



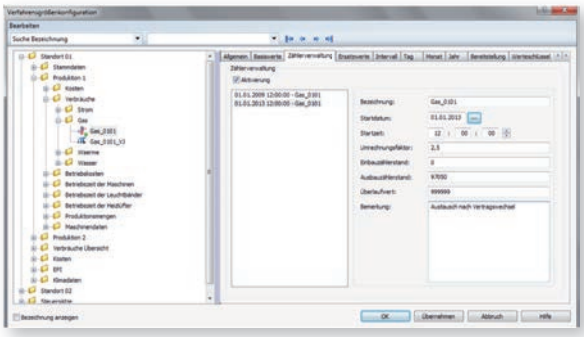
In recent years, discussions with customers and users have shown that at the beginning of improvement processes of this sort within a company, there is a certain level of reservation surrounding the willingness to invest. People want to know quickly whether the investment is going to be worthwhile. In addition, the wish is often expressed for payback periods to be as short as possible.

On the basis of ACRON, with the zero invest analysis these requests are taken into account in two steps without additional measurement related outlay. Firstly, it is necessary for the consumption data (e.g. the 15 minutes average values, which the supplier can provide as a CSV file) from recent years to be imported into the system. In a first graphic evaluation, according to circumstance, it is possible for potentials such as peak loads and examples of uneconomical consumption (like machines running on idle during break times) to be identified. In addition to this, the analogue values and operational notifications of the existing data providers (e.g. visualisations / guidance systems) can also be imported.

In a second step, the 'load distribution' within the company can be looked at more closely. In this context the operation times of machines and assembly units are calculated in connection with a guidance system. Typical performance values are saved in the system per assembly unit, and settled with the operating times. The existing meters can be incorporated in the concept easily, and managed by a metering management.

An initial impression of the load distribution in departments or cost centres will provide the decision makers in the company with arguments for further measures in the form of graphs or reports.

Meter management



Consumption data for the most important energy sources are frequently determined in systems with meters from diverse manufacturers. The meter readings then enter the command level via a connection with the automation technology. From there, the consumption data are transferred to the ACRON database. In addition to this, the meters can also be connected directly or transferred to ACRON via bus systems. If no connection is intended, the values can still be entered manually. This means all data are saved for the long term and available for evaluation.

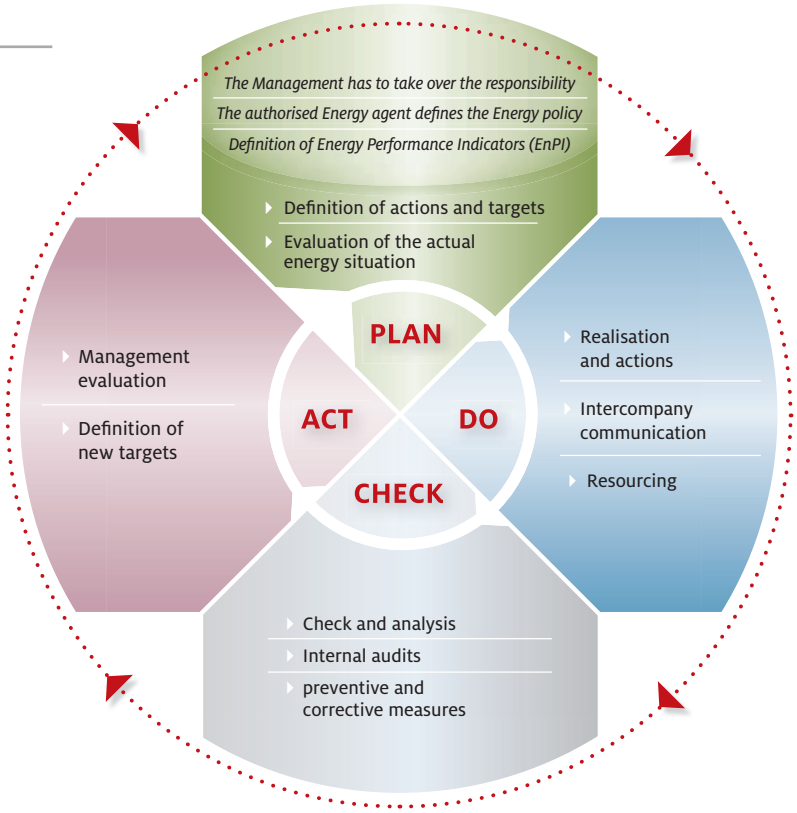
Meters in the field are exchanged due to different reasons, however (defect, fault, etc.). For the service technician on location, a long journey then begins to incorporate the new meter, which in many cases as a used device with an initial value > 0, into the system on the technical data level. At this point, the ACRON meter management steps in.

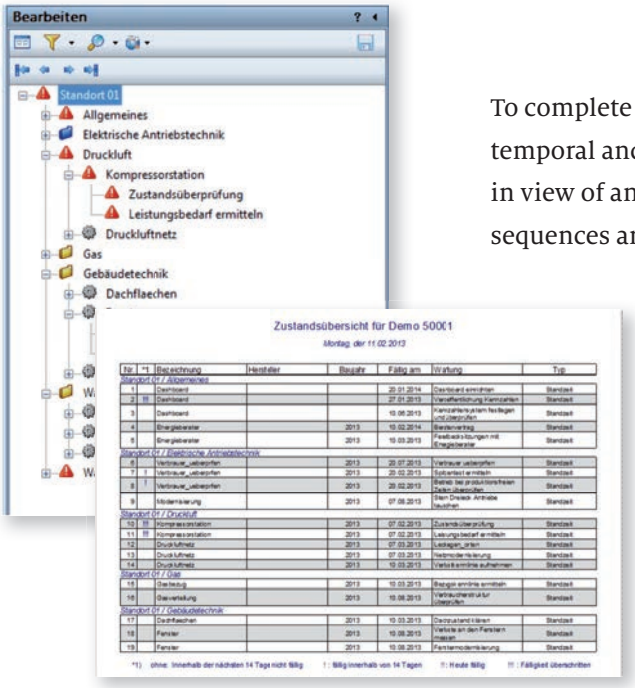
In the ACRON Designer, consumption measurements can be defined as meters. When changing a meter in the field, the relevant data from the old and new meters are entered in a straightforward dialogue. Without further expense, ACRON determines the consumption data with the values of the new meter. With ACRON, the journey ends with just a few keystrokes. It is then available to the company again and in a position to fulfil important tasks.

The PDCA module

Saving energy in a company is not self-propelling and does not simply occur by itself. Goals have to be defined and target values for the saving of different sources of energy have to be specified.

For companies themselves, it is necessary to define measures for the inspection and possible renewal of the systems technology in the different departments. These often represent long term and continuous improvement processes.





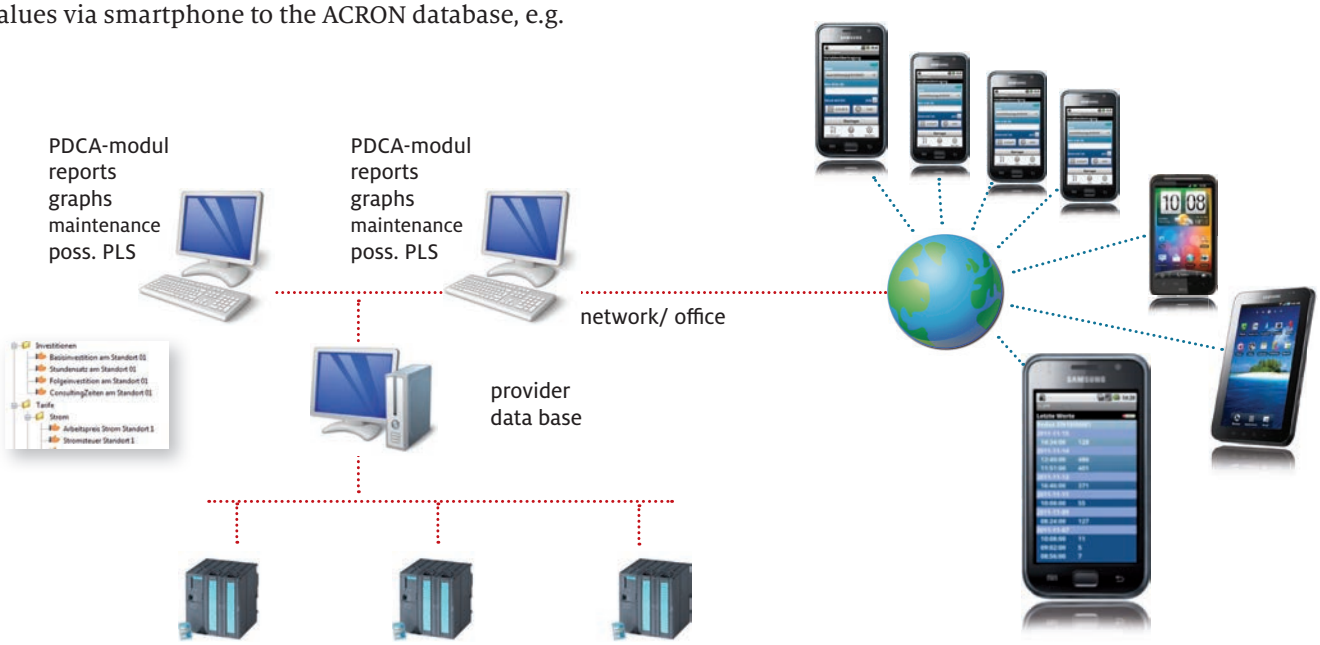
To complete these activities, personnel requires clear instructions. A temporal and content-based examination of this work is indispensable in view of an expedient implementation. At the practical level, these sequences are summarised under the term PDCA (Plan, Do, Check, Act).

ACRON supports this cycle exactingly with the PDCA module. Action and work instructions are saved in the system on the basis of the completed goal definitions. The personnel gains the opportunity to report work back to the system on a content and time related basis. With reports and clear tables, it is therefore possible to manage work assignments on a time and content related basis and to monitor and evaluate the completion.

Mobile data acquisition

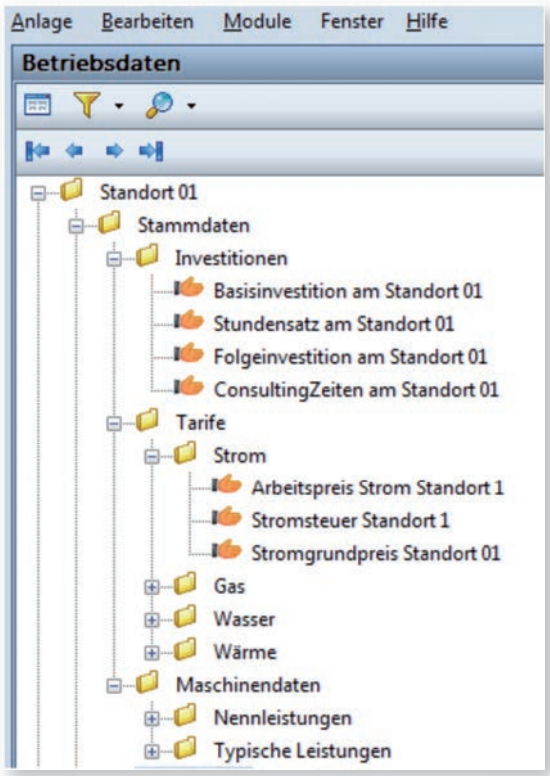
‚The world goes WEB' – this sentence accompanies us each day in almost all situations. Mobile devices not only characterise use in the private environment, they have also entered a wide range of different places in the automated world.

V.APP is the VIDEC product for transferring manual values via smartphone to the ACRON database, e.g. when reading of meter values during operations. This APP is available for Android and Windows Mobile Systems and can optionally extend the functionality of the ACRON system. The data transfer occurs according to the system concept via the internal WLAN or via external access points (GPRS, EDGE, LTE, ...).



System configuration and master data

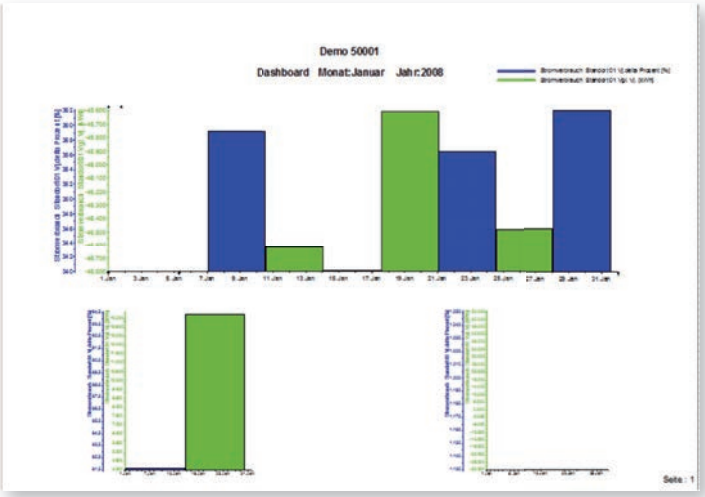
Important master data such as costs and tariff rates are mapped out in the system and continuously settled with the process meter data. With continuously increasing costs, a monitoring of the straightforward consumption values is not sufficient for achieving the required financial savings. The definition of departments and cost centres enables a clear allocation of the consumption levels and costs in the company. An integrated user administration, which can also be connected with network user administrations such as Active Directory, coordinates access to the system and controls the use of sensitive company data.

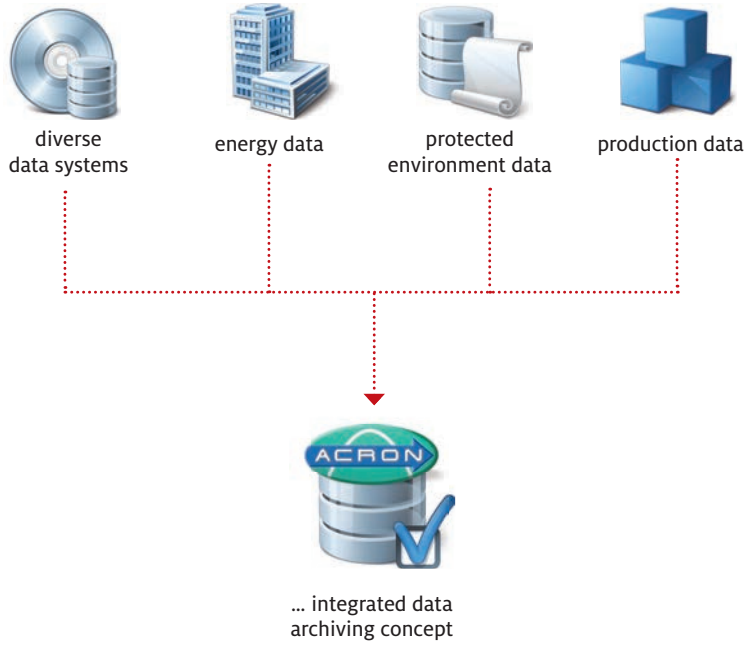


Key figures

Key figures are often dismissed as ‚bean counting' and are not especially popular with many employees. This may also be because the calculation of important values often takes place with considerable effort, tables and manual work, they also arrive too late and are highly prone to errors.

ACRON takes over the determination of the key figures and makes the results available in different ways on an up-to-date basis (e.g. printed reports sent by email). In addition to the typical statistical functions (sum totals, average values, frequencies, MIN-MAX evaluation), energy performance indicators (EnPI) are also defined and continuously calculated independent of the type of operation. With ACRON, it is possible to calculate and update all of the key data that are defined in VDI RL 4661. In this way, the relationship between the operational environment (production quantities, floor space of buildings, etc.) and the accompanying use of energy is created. In cases in which the limit values are infringed, notifications that are issued by the system (e.g. email) can inform a selected circle of users.





... integrated data archiving concept

Evaluations and reports

Necessary ROI calculations are supported via possible savings in comparison with the previous reporting or analysis period. The possibility of a location-spanning evaluation within a company group is also optionally available.

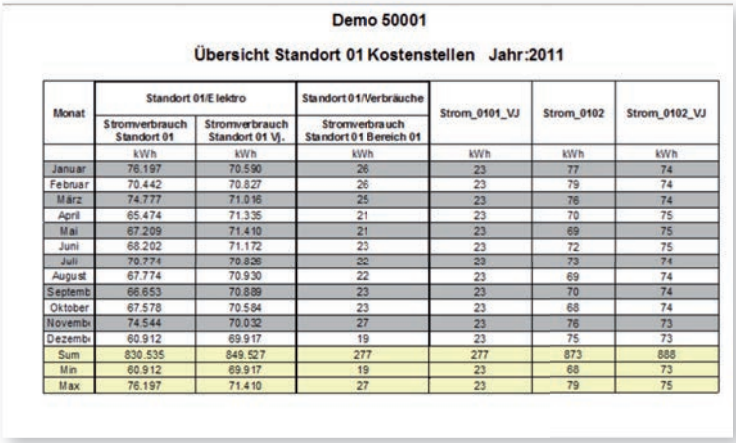
A continuous comparison of the current consumption parameters compared with the previous reporting period shows the consumption situation in operations in detail. A continuous target-actual presentation of consumption goals and their attainment supports the evaluation on the achievement of the targets with the required savings.

Validation of the system diversity

The introduction of an energy data management system (EDMS) is not a never ending story but, depending on the intensity of the work, lasts a few months. In the normal case scenario, the company uses the system after its introduction and therefore has an effective tool for controlling costs in the area of the supply and consumption of energy.

Practical experience shows, however, that ACRON users rapidly transfer the straightforward usability of the analyses and reports to further applications in the company. An additional data capture in the production and environmental area is possible with further ACRON communications modules (providers) without any problem.

ACRON has a high performance database system with the help of which the data logging and its analysis is available for many years. As a complete package the system includes all of the tools and aids. The licence model can be adapted to your application with regard to the size of the company and the number of users.



Demo 50001

Übersicht Standort 01 Kostenstellen Jahr:2011

Monat	Standort 01/E lektro		Standort 01/Verbräuche	Strom_0101_VJ	Strom_0102	Strom_0102_VJ
	Stromverbrauch Standort 01	Stromverbrauch Standort 01 Vj.	Stromverbrauch Standort 01 Bereich 01			
	kWh	kWh	kWh	kWh	kWh	kWh
Januar	76.197	70.590	26	23	77	74
Februar	70.442	70.827	26	23	79	74
März	74.777	71.018	25	23	76	74
April	65.474	71.335	21	23	70	75
Mai	67.209	71.410	21	23	69	75
Juni	68.202	71.172	23	23	72	75
Juli	70.774	70.826	22	23	73	74
August	67.774	70.930	22	23	69	74
Septemb	66.653	70.889	23	23	70	74
Oktober	67.578	70.584	23	23	68	74
Novembe	74.544	70.032	27	23	76	73
Dezembe	60.912	69.917	19	23	75	73
Sum	830.535	849.527	277	277	873	888
Min	60.912	69.917	19	23	68	73
Max	76.197	71.410	27	23	79	75

Summary

The new ACRON 8 software generation is rising to the challenges of years to come. New concepts and technologies should make it easier for existing and future customers to process and analyses their business-wide process data. With the ISO 50001 TÜV certification we have once again extended our spanning sector applications. Whether it is environmental management according to ISO 14001, the tough requirements in the area of water / waste water or, for instance, the specifications of 21CFR11 from the pharmaceuticals sector – ACRON fulfils all norms. ACRON also remains a straightforward and easy to use tool for the user. These attributes mean potential success is improved during use, and the option for making corresponding savings is also available.

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