

Weather on the web: using the internet to prevent energy wastage.

Anticipation provides quick and correct reactions.

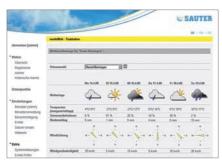
It's starting to feel unpleasant; it's too hot or too cold; there's a draught. People no longer feel comfortable, reaction time is high – and consumption with it. Response times when the weather situation alters are among the main factors that cause inefficient use of heating and cooling energy. This problem can be counteracted by an efficient 'network', in the literal sense of the word.

Built-in internet.

If we hear the word 'alarm', we think of risks to safety, failures or emergencies and technical problems that require us to react. But if a system, or perhaps even an automation station, has web access, combined with an intelligent weather module, it's possible for the weather forecast to intervene in the building's automation system; for example. the position of the solar protection equipment can be changed, a technician can be summoned to the scene, and energy-related decisions can be made automatically. It's not just a matter of checking systems, calling up historical data or changing settings: web compatibility means that the weather man is actually on hand to sound the alarm for people and technical equipment so that energy consumption is minimised.

Accurate weather data virtually on your doorstep.

With the constant increase in computer performance and capabilities, weather forecasting models have become more and more refined in recent times. The require-



Calling up weather data with total geographic accuracy.

ment for including the weather forecast in control technology for buildings – a precise, location-specific forecasting period of 6-18 hours, for example – is now the standard. Weather data such as temperature or global solar radiation forecasts are made available to the building automation system from the SAUTER internet portal.

Outsmarting the cold and the heat.

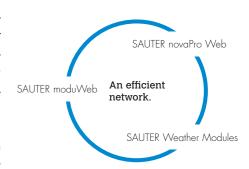
Weather data are called up, forecasts are analysed and settings are made automatically according to the expected energy requirement.

The increasingly frequent use of thermoactive concrete core systems as heat and cold accumulators calls for new control strategies. Their large storage capacity is offset by high inertia, so foresighted decisions are required on whether or not to use them, or whether to charge or discharge them before the requirement actually arises.

'Unexpected' changes in the outside temperature are virtually a thing of the past, and costly energy wastage due to changing weather conditions is prevented. Air-conditioning with low-cost energy can be guaranteed. When these benefits are combined with tracking for solar protection equipment according to the sun's position, the energy efficiency in any building will rise just as quickly as energy costs decrease.

Never keep the facade up for too long.

The building shell is another increasingly important factor in high-sensitivity air-con-



ditioning, and hence in energy efficiency. In intelligently designed new buildings, the shell is one single large component that records light and temperature, and it plays a key part in optimising the indoor climate and the energy consumption. Depending on environmental influences, all or parts of the facade change their storage capacity and permeability to heat, cold and light. The result: even greater energy efficiency.

No refurbishments without predictive control based on weather forecasts.

According to the latest findings, connecting weather data up to the building automation system, combined with control of solar protection equipment, can achieve energy savings of up to 35%*. For this reason, a control system of this kind is an obvious requirement for new buildings and refurbishment projects alike. Where an outdoor sensor is used in tandem with weather forecast data, 10-15% of heating energy can be saved.*

*Source: Haustech, September 2008

8 | SAUTER FACTS N° 20