www.energizedanalytics.com

SANDY FORECAST SERVICE:

Intelligent Heating Plan

SANDY
Energized Analytics

An innovation of EnBW

"With the help of our 'Intelligent Heating Plan' rooms are only being heated, if they are in actually use."

SAFE HEATING COSTS ON A GRAND SCALE

Schools, offices and administration buildings of long past building years are presenting over average, high heating costs. Either old heating systems or outmoded insulation or inefficient and strictly scheduled thermostats contribute to a wasteful operation.

With the help of our “Intelligent Heating Plan” rooms are only being heated, if they are in actually use. It adapts fast to changing user behavior and makes essential cost savings possible without costly renovations.

Based on the established SANDY Forecast Service our “Intelligent Heating Plan” is simple, fast, and reasonably priced, also it is easy to integrate into existing systems because the service is reachable with a standard interface.

PRODUCT ADVANTAGES IN DETAIL

Today`s heating controllers are either manually controlled, or strictly scheduled and do not use live information about actual room usage. This way, if schedules use changes, energy is wasted and a room is over heated.

Our **"Intelligent Heating Plan"** is based on data of attendance sensors, which are triggered by movement and acoustic. As a result a continuously custom user profile is created.

The used Sandy machine learning algorithms make the manual creation and care for heating plans obsolete. Continuous self-learning ensures actuality of user profiles and records unscheduled changes in room usage. This way you can offer your users the latest heating plans and make noticeable heating savings possible. Instead of time consuming inefficient manual planning a self-learning system is established. The heating plans are easy to integrate into your existing product through standard interface and can be used to automatically program heating controllers.

“That’s smart: the heating programs itself and only heats the rooms, when they are used.”

TARGET AUDIENCE

- Heating valve producers, smart home companies, heating technology producers, energy management system providers, energy contractors, et al.

SURPLUS VALUE FOR YOUR CUSTOMER

- customers receive an intelligent and attractive smart home product
- heat is used in a modern and automatic way
- reduction of energy consumption and costs, since rooms are heated only if used
- preheating moment is constantly matched through automatic learning
- adjustment of heating plan by continuously and automated learning, even if room usage changes.
- explicit increase of comfort since creating and adjusting manual heating plans is no longer required

SURPLUS VALUE FOR YOUR COMPANY

- intelligent and innovative extension of your products
- expanding your business portfolio with key accounts since larger buildings of companies and administrations can be served
- increase of customer satisfaction and loyalty
- fast, easy and cost-efficient system integration
- all benefits of “software as a service”, i.e. High availability, automatic updates, no maintenance
- no utilization of user sensitive data necessary
- flexible scaling with growing customer base
- high security by using safe and encrypted interfaces

“Optimal availability, automatic updates and no maintenance expense thanks to the software as a service.”

USER SCENARIO

Many schools and other public and private commercially used institutions do not have intelligent heating controllers. At best the heating system is centrally controlled and temperature in all rooms is lowered at night. Even if there is a smart controller in use, it only regulates at set hours, it does not adapt dynamically to change. Actual use of certain rooms is being disregarded.

Figure 1 shows the temperature progression of a school classroom with a manual controlled heating system. Every row signifies the daily temperature flow during 24 hours.

The heating of the classroom start at times of room use. The room is being heated starting at 6 a.m. and ending at 8 p.m., due to evening classes. The heating plan is set up for the entire week even on Saturdays classes take place, on Sundays the classroom is not being used.

It becomes clear, that the weekly temperature is around 22 °C unaffected by weekdays, time or actual use.

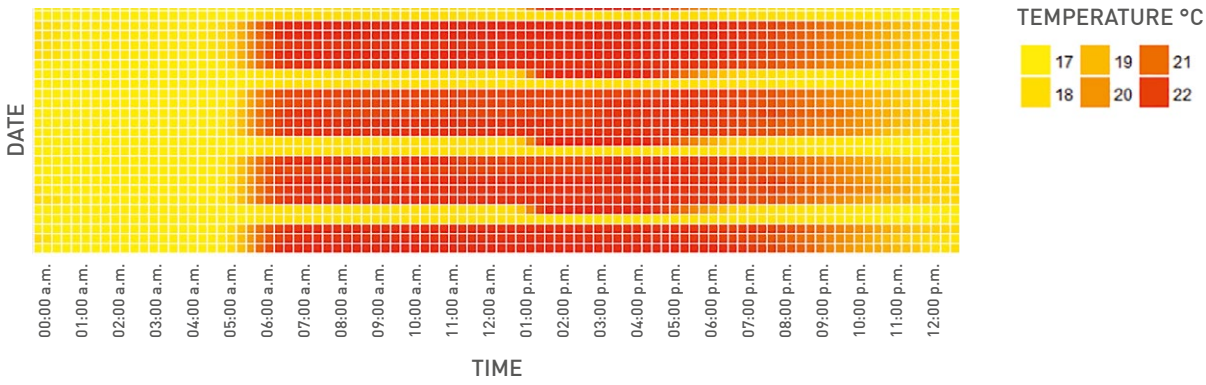

Abb. 1: Heating without intelligent heating plan

Figure 2 displays temperature progression with intelligent heating of the class room under consideration of the "**Intelligent Heating Plan**". The heating of the room now starts later than before and depending on the scheduled first class either at 8 a.m. or 9:30 a.m..

In addition, it managed to single out days where the room is not being used after noon. The heating plan then adjusted the heating pattern automatic and also matched the pattern of the one evening class to its actual duration until 9 p.m..

30%

"The intelligent heating plan can reduce energy consumption up to 30 percent."

As it turns out the room is used differently than planned on the weekends as well, as at Saturdays the room is not being used and does not need to be heated at all. The intelligent heating plan reduced the times of heating for this room by 15 % and saved about 30 % of energy.

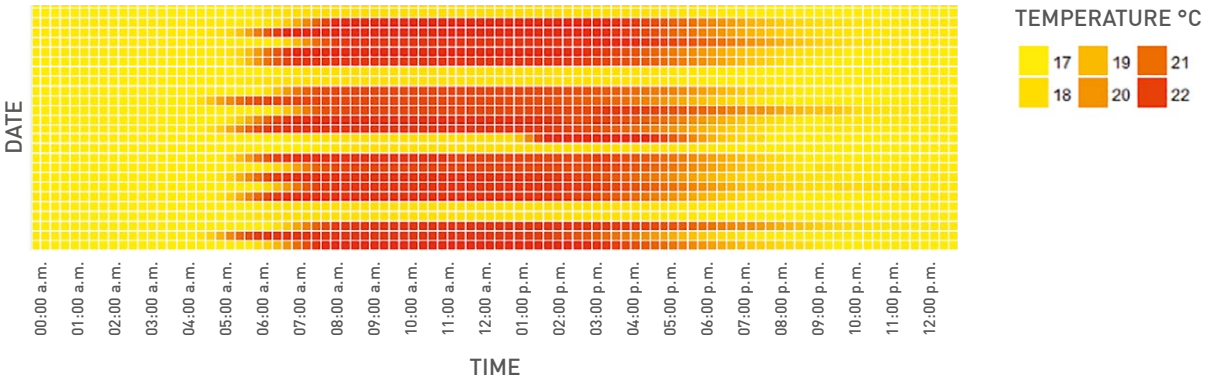

Abb. 2: Heating with intelligent heating plan

TECHNICAL DETAILS

- cloud service
- communicates over RESTful API
- Input:
  - sensor thermostat data measures attendance with motion or sonic sensors
  - optional: incorporation of holidays school breaks
- Output:
  - live operation: individual heating plan on basis of room specific use
- Security:
  - encrypted data transfer with HTTPS
  - individual authorization API-key
  - steady operation in Microsoft Azure Cloud

"Predicted consumption of customer for the forecast period."

A SOLUTION WITH MANY POSSIBILITIES

The used service logic behind our **"Intelligent Heating Plan"** can be used in modified form for other operations i.e. air conditioning or optimizing of cooling cycles. Furthermore a customization of client specific interfaces is possible.

WE ARE HAPPY TO HELP YOU!

Profit from our innovative SANDY-Concept and contact us today.
We are looking forward to your request.

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"We look forward
to your inquiry!"

SANDY TURNS DATA INTO VALUES

SANDY Energized Analytics supplies companies with innovative, cloud-based analytics as a service solution. We deliver realtime data based decision-making recommendations to our customers for the continuous increase of the value of their products, services and processes – quick, precise and safe. Our young dynamic team unites the functional competence from IT expertise and business model development and shares the passion to discover great things in small things. From complete solutions to an individual Carefree Service Package, we have the perfect answer to your digital challenge – for your decisive competitive edge.

New perspectives for your business

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