



Automation and Control Systems

Energy Management for Buildings and Businesses

Increasing demands in terms of climate protection and rising energy prices are presenting energy and facility managers in various industries with ever-greater challenges. Tackling these challenges will entail innovative and industry-oriented concepts for the planning and carbon-optimal operation of production facilities and technical building systems.

Fraunhofer IIS/EAS offers numerous services to support efficient energy management, thanks to expertise ranging from the acquisition and analysis of relevant data to the optimization of existing systems and the development of self-learning, integrated energy management systems.

Achieve greater transparency with regard to your energy consumption and reduce your energy costs thanks to individual and intelligent monitoring systems. Use these insights to make well-founded decisions regarding the optimization of your infrastructure and operating strategies.

Our Services

- Assessment of energy-saving potential based on operating data
- Automatic monitoring systems
- Energy alerts to identify anomalies in energy consumption
- Acquisition of additional data using proprietary measurement technology
- Simulation of operating strategies for buildings or installations
- Design of predictive regulation and control strategies

Added Value for you

- Reduction of energy consumption and energy costs
- Simplified continuous monitoring of energy consumption
- Error detection and troubleshooting
- Support with decisions relating to the optimization of system concepts, the planning of new systems and buildings, and the operation of complex systems

More Information

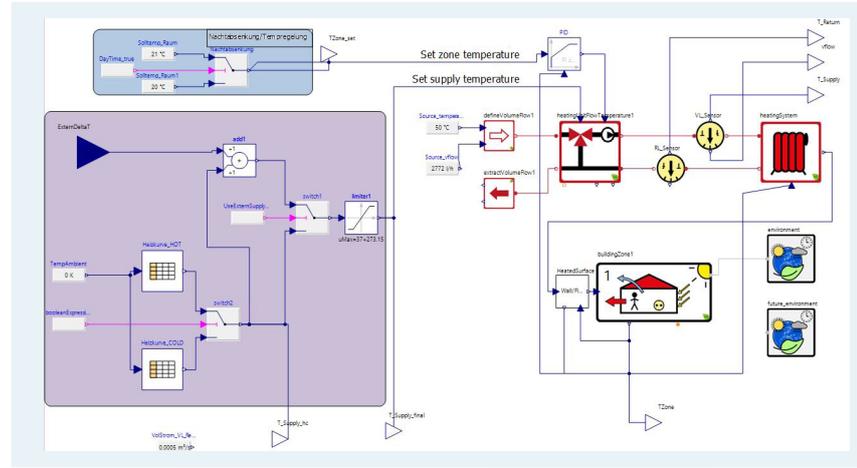


Part of



left:
Drone with thermal imaging camera in action.

right:
Simulation example for the optimization of building energy management systems.



What we offer you when it comes to efficient energy management

Energy consumption is a major cost factor, particularly for industrial companies with very energy-intensive production processes, companies with large real estate portfolios, and retailers with an extensive network of branches.

We therefore provide methods and solutions that allow you to take a holistic view of your energy consumption and to optimize it on an individual basis. To this end, we develop tailor-made monitoring systems that automatically alert you if there is a deterioration in the efficiency of the overall system.

Moreover, you can boost the efficiency of your energy system with the help of our experts and suitable simulations. By combining mathematical/physical models and data-based approaches, we optimize the operating and regulation strategies for your energy loads, generators, and storage devices, taking account of weather forecasts or variable energy costs. This allows you to reduce your CO2 emissions and operating costs. Benefit from our longstanding experience in modeling and simulation and establish tailor-made monitoring and optimization measures for your application in the shortest possible time.

Our equipment for the acquisition of relevant data

- Measurement equipment with various sensors, including for temperature, pressure, heat, CO2, and current
- Thermal imaging camera, optionally coupled

with a moisture sensor

- Drone with a thermal imaging camera for the analysis of roofs, solar installations, tall buildings, etc.
- Flow analysis technology for buildings
- Test benches
- Thermal test bench with climatic chamber
- Source/sink system for simulating electrical storage systems, solar modules, and fuel cells

Users

Our services, models, and software tools are aimed at:

- Building operators and building system providers
- System integrators
- Building system planners
- Energy-intensive production facilities

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