



*Simulating energy efficient buildings  
and calculating the optimal use  
of energy resources*

Founded in 2006, EA EnergieArchitektur started off with the development and introduction of a CO<sub>2</sub> heat pump for buildings and regulating industrial process heat. Later, they initiated the research project "Residence and Mobility" with the aim to employ local solar and wind energy in all aspects of modern life.

EA's cross-system energy management optimizes energy yield and consumption with respect to storage systems and additional consumers, such as electric cars for modern mobility on renewable energy.

## Challenge

### Comprehensive simulation of energy flows

EA needed a simulation tool for the layout and comparative evaluation of different system configurations. Reliable information was essential and would have to take all components from all physical domains as well as electric vehicles into account.

## Solution

### SimulationX' Green Building Library

The interdisciplinary simulation tool helps to model different energy system configurations. The simulation is based on local weather data and allows for dynamic stress tests and cost calculations. Thanks to the COM interface, external control and efficient post processing are possible.

## Benefits

### Optimization from the start

By using modern simulation approaches, EA can now optimize local energy systems. SimulationX guarantees fast simulations of entire systems and diverse benchmark tests. It also provides interfaces to databases and energy management systems to support a comprehensive operating strategy.

»With the help of SimulationX and its Green Building library, we are not only able to analyze all energy flows, but we can also optimize system layouts, control algorithms and business cases.«

René Unger, Product Development Manager,  
EA EnergieArchitektur GmbH



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SimulationX

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