Siemens accelerates the draft and validation of concept designs of new devices using SimulationX.

Siemens AG is a global powerhouse in electronics and electrical engineering, operating in the industry, energy and healthcare sectors. For over 160 years, Siemens has stood for technological excellence, innovation, quality, reliability and internationality.

The company is the world’s largest provider of environmental technologies, generating €2.3 billion – nearly one-third of its total revenue – from green products and solutions. In fiscal 2009, which ended on September 30, 2009, revenue totaled €76.7 billion and net income €2.5 billion. At the end of September 2009, Siemens had around 405,000 employees worldwide.

Challenge

Simulating Transient Behavior

In order to reduce the development time of new circuit breakers, to improve component functionalities, and to minimize expensive tests and overall R&D cost, Siemens’ engineers looked for a tool to predict the switching behavior of switches and circuit breakers (ACB, MCCB and MCB) in normal operation, overload and short circuit situations.

Solution

SimulationX Professional Edition

SimulationX is used for the development of MCCB circuit breakers, in particular for the transient simulation of the interruption behavior and the breaking ability for different breaking cases. The MCCB system simulation model couples the simulation results of component level subsystem models with theoretical and empirical subsystem models, allowing the analysis of complex interactions between different disciplines.

Benefits

No More Expensive Testing

System simulation helps to estimate the performance of the overall system behavior thus replacing expensive tests. Engineers use the SimulationX model to quickly predict the transient behavior of current interruptions e.g. for the interaction of the arc model with the power network, parameter optimization and the reliable estimation of the let through current, switching capacity and heat transfer energy. The analysis of the results leads to new solutions.