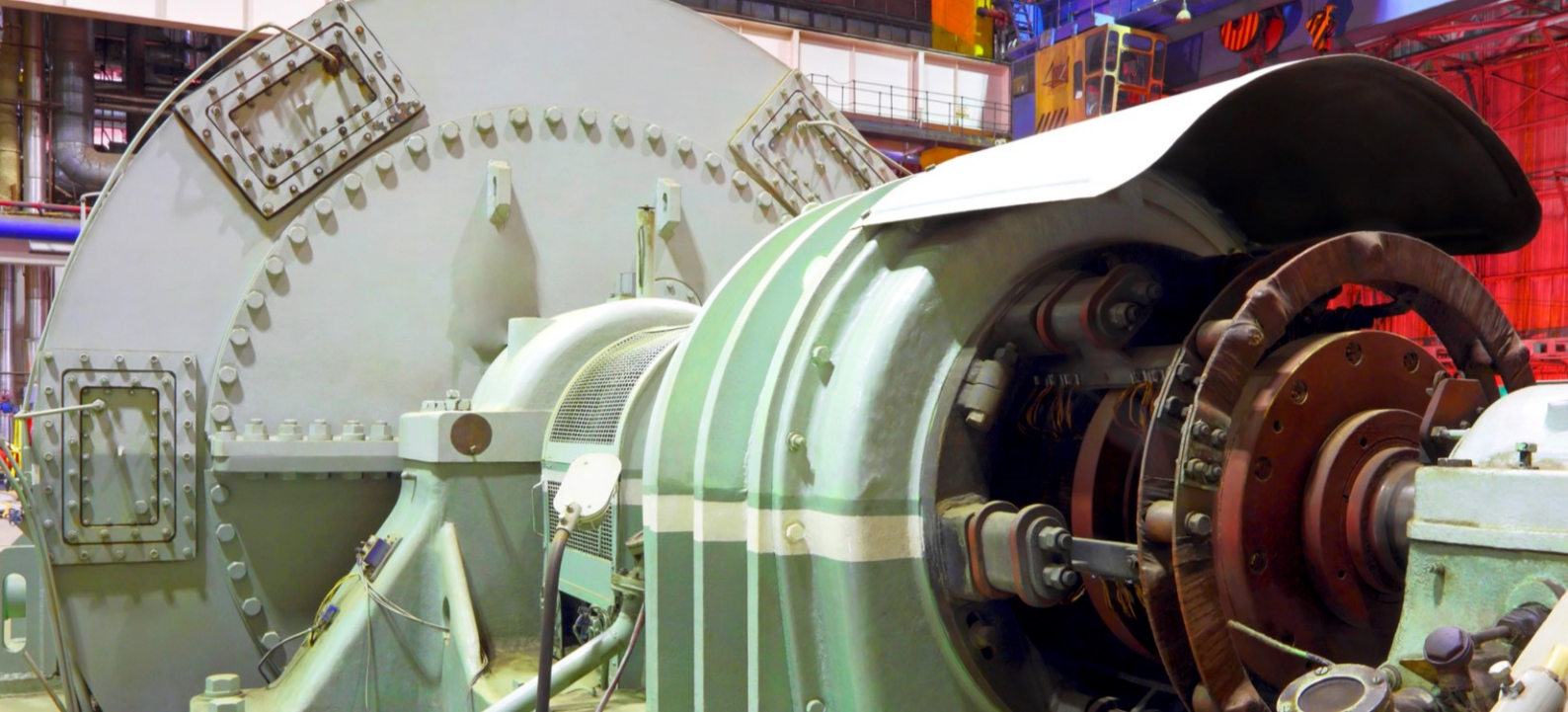




SYSTEM DYNAMICS AND CONTROL OF OSCILLATIONS

Dynamic performance of **generators**

At a glance

One important task in power system operation is the damping of inter-area oscillations. Reliable solutions can be found by simulating the respective network and performing an eigenvalue analysis of the installed controlling devices.

Siemens Power Technologies International (Siemens PTI) can support you with

- world class power system planning software from the PSS® product suite for detailed simulation and calculation results,
- high-quality power system consulting and long-term support, including specialized training,
- tailored and innovative technical solutions.

The challenge

In electrical systems, a variety of control tasks need to be performed, including voltage and frequency control, as well as the damping of oscillations of generators among one another or among coherent groups (inter-area oscillations). To this end, control systems must be modeled along with the generators and a number of analyses must be performed, e.g., turbine and voltage control. The controllers represent the exact transient behavior of the generator (closed-loop speed control, speed capacity control). They must take into account the reserve behavior of the system (primary and secondary reserve) to evaluate the control response in case of an outage and to adjust the settings or change the controlling strategies when required.

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