THE RTDS® SIMULATOR

REAL-TIME SIMULATION AND HARDWARE-IN-THE-LOOP TESTING FOR THE POWER INDUSTRY

RTDS Technologies
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THE TECHNOLOGY

The power system is evolving, and a corresponding evolution is taking place in the way engineers model and test power system behaviour and equipment in order to enable a reliable and resilient grid. Real-time power system simulation and hardware-in-the-loop (HIL) testing with **the RTDS Simulator** is becoming increasingly involved in the success of electric utilities, protection and control equipment manufacturers, research institutions, universities, and consultants in our industry.

The RTDS Simulator consists of custom hardware and software, specifically designed to perform **real-time electromagnetic transient (EMT) simulation**. It operates continuously in real time while providing accurate results over a wide frequency range. It provides a greater depth of analysis than traditional stability or load flow programs. Real-time operation enables **hardware-in-the-loop (HIL) testing**. Hardware-in-the-loop testing allows allows power system professionals to de-risk the integration of novel systems, anticipate and mitigate negative interactions, and optimize device performance by connecting real equipment (often power system protection and control devices) to a simulated network.

Using the RTDS Simulator, analytical studies can be performed much faster than with offline EMT simulation programs. Hardware-in-the-loop testing allows for multiple control and protection devices to be tested simultaneously, allowing for system-level testing for comprehensive validation of device performance prior to deployment.

THE COMPANY

RTDS Technologies Inc. provides power system simulators and simulation support to customers in over 50 countries around the world. Our product, the RTDS Simulator, was the world's first real-time digital simulator, and continues to serve as the world's benchmark.

RTDS Technologies is based in Winnipeg, Manitoba, Canada - a hub for power systems expertise.

Our customers are the world's leading electrical utilities, power system equipment manufacturers, research institutes, universities, and consultants.

We are continuously developing our hardware and software features and capabilities in response to the industry's needs. **At RTDS Technologies, we are dedicated to equipping our users with what they need to push the limits in power systems research and development.**

150 Innovation Drive, Winnipeg, Canada R3T 2E1 • + 1 204-989-9700

YOUR WORLD IN REAL TIME.
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APPLICATIONS

Click on a topic to learn more on our website.

- Protection System Testing
- Renewables Integration Studies
- Microgrid Control Testing
- Inverter Testing
- HVDC & FACTS Scheme Testing
- Smart Grid & Distribution Automation

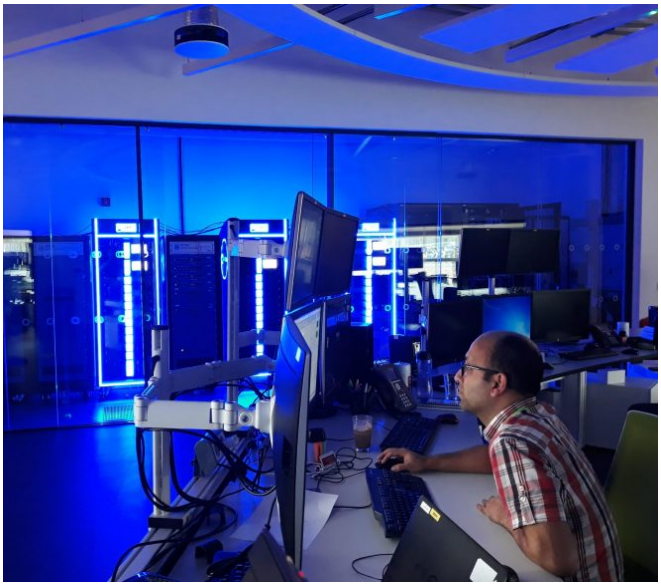
Testing a real-time automation controller for microgrid control with the RTDS Simulator

Click to check out our webinar on this topic!

USER SUCCESS STORIES

Click on a topic to learn more on our website.

- De-risking a revolution in power flow control at Smart Wires
- Ensuring interoperability for multi-vendor HVDC via replica testing at RTE International
- Testing centralized automation for digital substations at ABB
- De-risking HVDC at Great Britain's National HVDC Centre
- Reducing risk and supporting optimal design for HVDC and renewables integration at TasNetworks
- Using travelling wave relay testing to protect high-voltage lines at SEL Engineering Services
- Hardware-in-the-loop testing of generator and transformer protection at BC Hydro



Running a real-time simulation at the National HVDC Centre in Scotland

Click to check out our webinar on this topic!

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