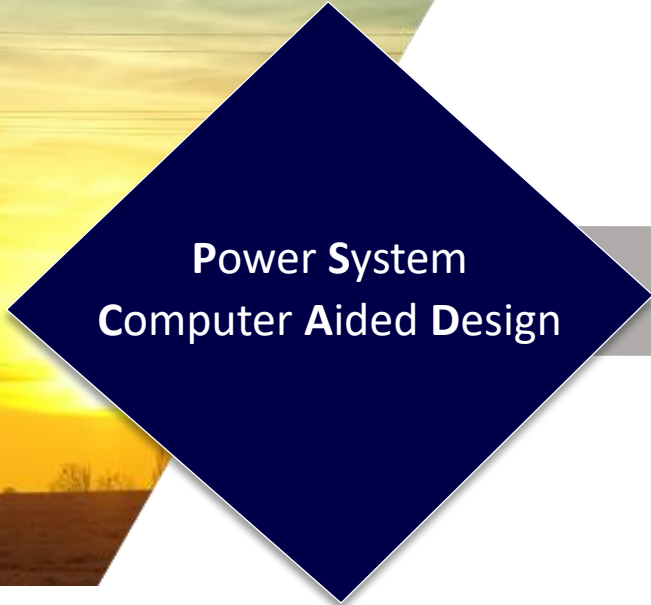




PSCAD / EMTDC

Power system analysis

A dark blue diamond shape containing the text "Power System Computer Aided Design" in white. The background of the slide features a photograph of high-voltage power lines and towers against a sunset sky.

Power System Computer Aided Design

Power system simulation tool

As power systems evolve, the need for accurate, intuitive simulation tools becomes more and more important.

PSCAD™ enables the user to schematically construct a circuit, run a simulation, analyse the results, and manage the data in a completely integrated, graphical environment. Online plotting functions, controls and meters are also included, enabling the user to alter system parameters during a simulation run, and thereby view the effects while the simulation is in progress.



PSCAD™ comes complete with a library of pre-programmed and tested simulation models, ranging from simple passive elements and control functions, to more complex models, such as electric machines, full-on FACTS devices, transmission lines and cables.

PSCAD™ has benefited from over 40 years of continuous research and development.

Today, approximately 35000 PSCAD licenses are used by over 2500 organizations in 80 countries.

PSCAD™/EMTDC™ employs parallel processing techniques to exploit the power of computers, running multiple-core processors, to significantly reduce simulation times. Extremely large and complicated power system can be broken up and simulated many times faster when the processing work is spread over multiple cores, using the Parallel Network Interface (PNI) feature.

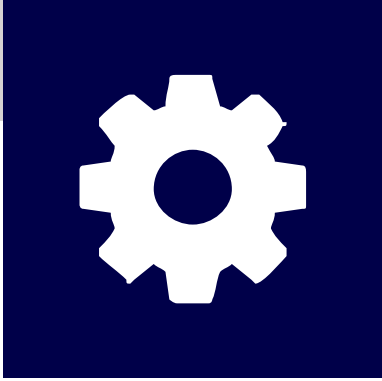
Our easy-to-use interface, parallel processing, and automation and scripting features offer unrivaled reliability, speed, and accuracy in a range of applications:

- 
- ☐ *Insulation coordination: lightning, switching, TOV, and TRV;*
 - ☐ *Harmonics, ferroresonance, and power quality;*
 - ☐ *Power electronics: HVDC and FACTS;*
 - ☐ *Wind, solar, and distributed generation;*
 - ☐ *Protection and relays;*
 - ☐ *Equipment failure analysis;*
 - ☐ *Control system design and tuning.*
- 

Why should I choose PSCAD/EMTDC?

- ❑ EMTDC represents and solves differential equations in the time domain, and electrical quantities are calculated based on a fixed time step. Most of the competitors, such as load-flow and transient stability programs are instead based on phasor-domain solution engines. Since these tools work with steady-state equations to represent the power system, they can output only fundamental frequency magnitude and phase information.
- ❑ It takes advantage of parallel computing technique, the use of HPC platforms can massively increase the simulation efficiency and reduce the time required to extract the results.
- ❑ Power electronic devices and advanced control systems can easily be added inside any PSCAD/EMTDC model. EMTDC may also be used in its *Multiple Run* mode, which enables the possibility to automatically perform multiple simulations on the same case, while changing one or more variables each run, to find an optimum response to a disturbance or a worst-case working condition for a system.





MAIN FEATURES

- ☐ Comprehensive models library
- ☐ Advanced control schemes
- ☐ Blackboxing module
- ☐ Optimization
- ☐ HPC-enabled
- ☐ Integration with MATLAB/Simulink



EXAMPLES OF STUDIES

- ☐ Insulation coordination
- ☐ Steep front and fast front studies
- ☐ FACTS devices
- ☐ Power quality
- ☐ Lightning strikes and faults effect
- ☐ Filter design



FIELD OF APPLICATION

- ☐ Electrical power system
- ☐ Renewable energy
- ☐ HVDC link
- ☐ Wind power
- ☐ Utility
- ☐ Smart grid

CONTACT US

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