



Advanced simulation software for multiple purposes

- ✓ Process Engineering and Optimization
- ✓ Automation Testing
- ✓ Accident and Transient Analyses
- ✓ Training Simulators

Are you building a new plant, operating an existing one or designing a new concept? Apros can give you increased profit, higher performance and an even more reliable plant as well as improve the skills of your operators and engineers. Apros has proven to be an excellent tool for everything from safety analyses of fast transients at nuclear power plants and operator training at conventional power plants to research and development by universities and research institutes.

Made for comprehensive modelling

You gain the most by exploiting a comprehensive Apros model of your plant, including all the main process, automation and electric systems and using it extensively for safety analyses, dynamic process and automation testing, training simulators, optimization etc. However, Apros is also the best tool for several lighter applications such as simulation and testing of simple process change before building the actual system.

Users worldwide

Since the introduction of Apros in 1986, the software has been utilised in 26 countries worldwide. The users are mainly from the nuclear and combustion power industry, but the robustness of Apros has proven that Apros gives priceless help also for instance to automation suppliers, desalination plants, paper mills and solid oxide fuel cell system developers.

Simple usage and high accuracy

The easy-to-use graphical user interface makes Apros highly appreciated by engineers. In addition the openness of the software has showed to be valuable in connecting Apros to other systems, i.e. automation systems.

The performance of Apros has been very extensively validated by comparing results to separate effect tests and real data from power plants. At each version change a large number of tests are conducted to assure continued highly reliable calculations. The reliability of Apros meets fully the high requirements of nuclear plant licensing.

Case: VVER-440 Automation Renewal

APROS is utilized extensively at Fortum for Loviisa NPP to assure that the renewal of I&C systems can be realized safely and economically. The engineering simulator is used in the design and validation of the modifications of the renewed I&C systems. The development simulator is aimed for the design, testing and acceptance of the new control room interface. The testing simulator is used for the testing of the new I&C systems and retuning of the controllers mainly during the factory acceptance tests. The training simulator will be used in training the operators and the other technical personnel in the operation of the digital control room facilities.

For further information please contact Apros product manager

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Selected referenses

Thermal Power Research Institute, China

Coal fuelled power plant training simulators for a total of eleven different plants. Since 2002.

Teollisuuden Voima Oy Olkiluoto 3, Finland

Areva EPR- nuclear power plant Accident analyses and engineering applications. Since 2005.

Honeywell Automation India Ltd/India, Doosan/Korea, NTPC/India

Fossil-fuelled power plant model. Engineering and training simulator. Since 2009.

International Atomic Energy Agency (IAEA), Egypt

Engineering Simulator and Plant Analyser for nuclear power plant use. Since 2007.

Wärtsilä Corporation, Finland

Fuel cell power plant model. Design license. Since 2004.

ABB Power Automation GmbH, Baden, Switzerland

Power plant process and automation simulator development. Design license. Since 2000.

Other successful Apros applications:

Desalination plants
Pulp and paper models
District heating models

For more information see:

www.apros.fi