

Versatile Dynamic Power Plant Simulator with High-fidelity Plant Model



Brings Operational Excellence

“We cannot imagine operating our plant without Yokogawa’s full-replica simulator.”

Nguyen Khac Son, CEO of Pha Lai Thermo Power Joint Stock Company, a subsidiary of the biggest power producer in Vietnam, Electric of Vietnam

(EVN), said, “Through simulator training, our probationary and new operators can quickly learn how to operate our 300-megawatt coal-fired unit using exactly the same operator interface as the real system. Even experienced operators can effectively learn how to deal with every conceivable accident because it’s so realistic. We cannot imagine running our plant without Yokogawa’s full-replica simulator. It is essential not only for our plant but also for operators at EVN’s other plants. In addition, many power plant operators of PVN[†] come here for simulator training to learn how to operate a coal-fired power plant with Yokogawa DCS. So, our simulator is used to train most operators of the biggest and second biggest power producers in Vietnam.”

[†] Vietnam National Petroleum Group, also known as Petro Vietnam. PVN is the biggest economic group in Vietnam and owns power plants.



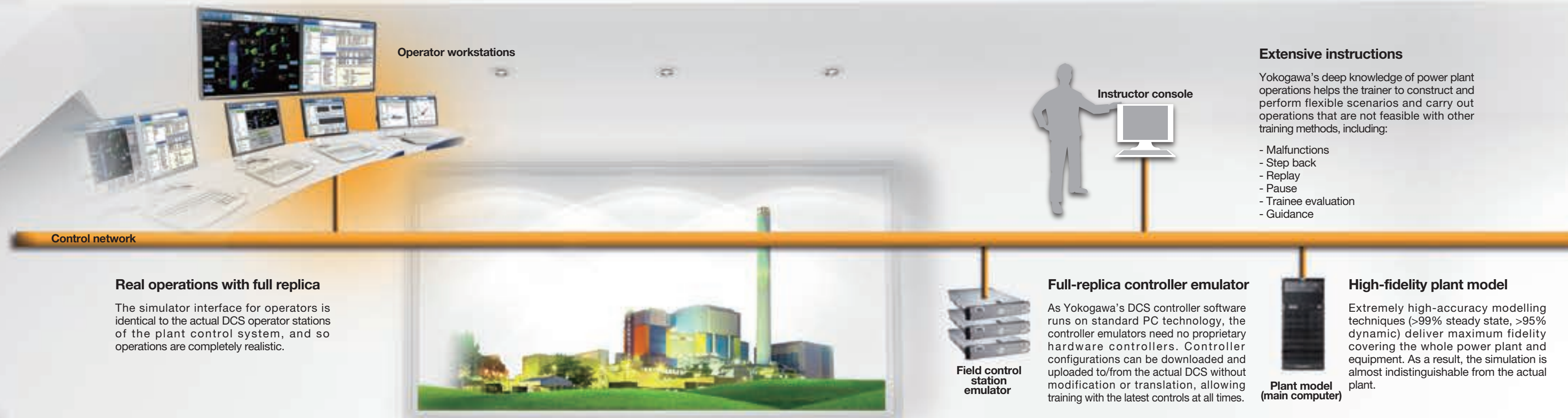
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The clear path to operational excellence

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Yokogawa Simulator - modeling future plants today



Safe and flexible operation

By raising the skills of all operators to the same level, abnormal situations can be managed in a consistent manner by any operator on any shift. This ensures agile load-following operation and quick recovery from problems, thus increasing the availability of the plant.

Improved control and plant efficiency

The simulator can minimize the downtime required to change and optimize the DCS control logic and algorithms after a change in plant or operation. Detailed offline testing with the simulator helps to streamline such modifications and the transition to optimal plant operation with maximum efficiency.

Minimum outage and faster start-up

Offline pre-tuning with Yokogawa's simulator minimizes plant downtime when replacing or upgrading the control system, as well as the time for hot commissioning (test running until the plant starts generating electricity). This increases the availability of the plant and slashes the fuel cost for commissioning.

Yokogawa's decades of power plant experience are embedded in this dynamic power plant simulator with a high-fidelity plant model. The simulator is ideal not only for operator training and up-skilling, but also enables you to keep upgrading your control system flexibly and safely with minimal time for outages and commissioning.



Up-skilling of operators

In addition to ensuring that workers know how to operate the plant and understand the interface of the control system, every power plant must raise the skills of new recruits and harness the expertise of skilled operators. Yokogawa's operator training simulator (OTS) enables this to be done efficiently and effectively. A simulator is the only way to rehearse what to do when a plant fails.

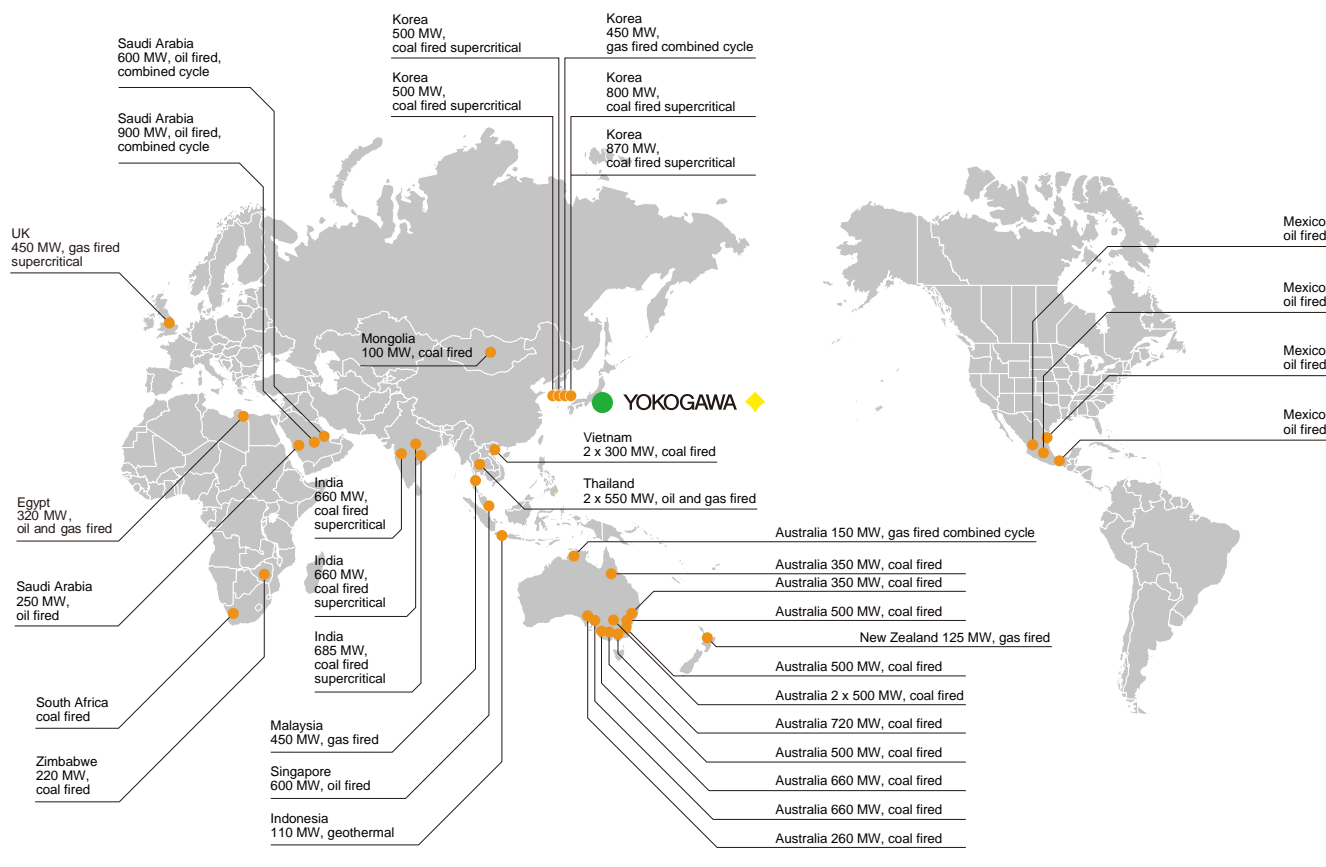
Off-line evaluation of plant control

Yokogawa's simulator is ideal not only for training operators, but also for testing the DCS control functions offline and improving them. Whenever there is a change in plant and equipment such as an upgrade, equipment modification, switch of fuel, or change in plant operation, the control system needs to be changed accordingly. The full-replica simulator and high-fidelity plant model can check whether the intended changes to the control logic, algorithms, and operating schemes will function as expected.

Optimization of tuning parameters

Over the long lifespan of a plant, the control system is usually replaced or substantially upgraded several times. Each time, a vast number of parameters of the new or revised system must be tuned. By using full-replica simulation with a high-fidelity plant model, the parameters can be tuned offline in advance, and the tuned settings can then be easily copied to the actual plant control system.

Yokogawa Vigilance at your service worldwide - representative simulator projects



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The clear path to operational excellence

SEE
CLEARLY

KNOW
IN ADVANCE

ACT
WITH AGILITY

VigilantPlant is Yokogawa's automation concept for safe, reliable, and profitable plant operations. VigilantPlant aims to enable an ongoing state of Operational Excellence where plant personnel are watchful and attentive, well-informed, and ready to take actions that optimize plant and business performance.

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