**SIEMENS**
**enerGY**

# T3000 simulates what T3000 controls
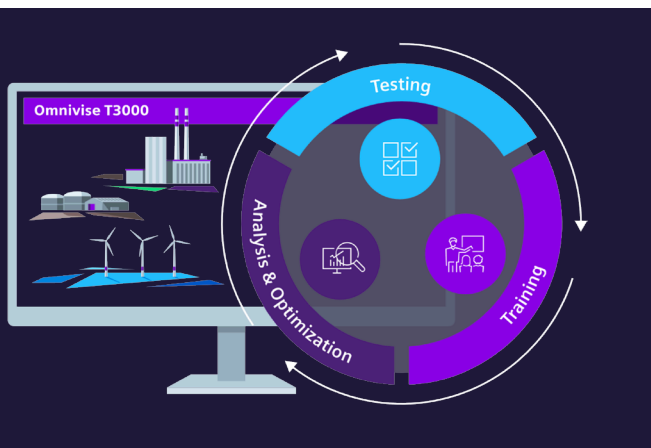
## Omnivise T3000 Simulator

## The challenge

Even with the best control system, operating generation units is no easy task. In-depth knowledge of the plant remains indispensable for critical situations. Especially in remote locations, skilled personal is sometimes hard to find, and experienced plant operators must train and qualify new operators on site.

Simulation not only supports training, but also provides the ability to test the initial engineering of the control systems or changes in process engineering before possible faults may impact plant operation. In addition, simulation enables you to virtually commission and optimize plants.

Most I&C simulation systems are based on the introduction of dedicated simulation software and hardware, which requires additional investments and implies coordination efforts.

## Your benefits

- **1:1 simulation**
  Digital twin of T3000 shows the real plant behavior before any real change is made

- **Keep and build plant know-how**
  Hands-on staff training with the actual control system already during commissioning

- **Better basis for decision-making**
  Detailed testing of the effects of measures in engineering, changes or adjustments in Omnivise T3000

- **Easy handling and cost security**
  No additional software/hardware required



## Our solution

T3000 Simulator is our fully integrated digital process and automation twin of Omnivise T3000 and all kinds of generation units that rely on T3000. It is not a separate system; it is part of Omnivise T3000 and thus provides immediate and direct simulation in the T3000 Workbench.

Training and testing directly in T3000 are possible from the very beginning and overcome synchronization problems: Simulated engineering data can be easily implemented in the actual T3000 configuration.

As the simulation is running on the Application Server, no separate hardware, physical instructor stations or software applications are needed. Licenses and libraries – which you can download – are the only things you need to start.

Integrated process models and the coupling of external process models enable simulation from low- to high-fidelity.

## Lean system setup

Since the Omnivise T3000 Simulator is fully embedded in Omnivise T3000 and thus runs on the existing T3000 hardware and software, system startup is easy.

- Simulation running on Application Server

- Automation Server, I/O modules, field devices and processes integrated in T3000 Simulator

- Integrated process models provided

- Control functionality
  - Run, Freeze         – Snapshot
  - Load IC               – Malfunctions
    (Initial Condition)  – Backtrack



**Thin Clients**

**Server**

Application Server

Automation Server

**I/O modules**

**Processes**

Simulated in Omnivise T3000
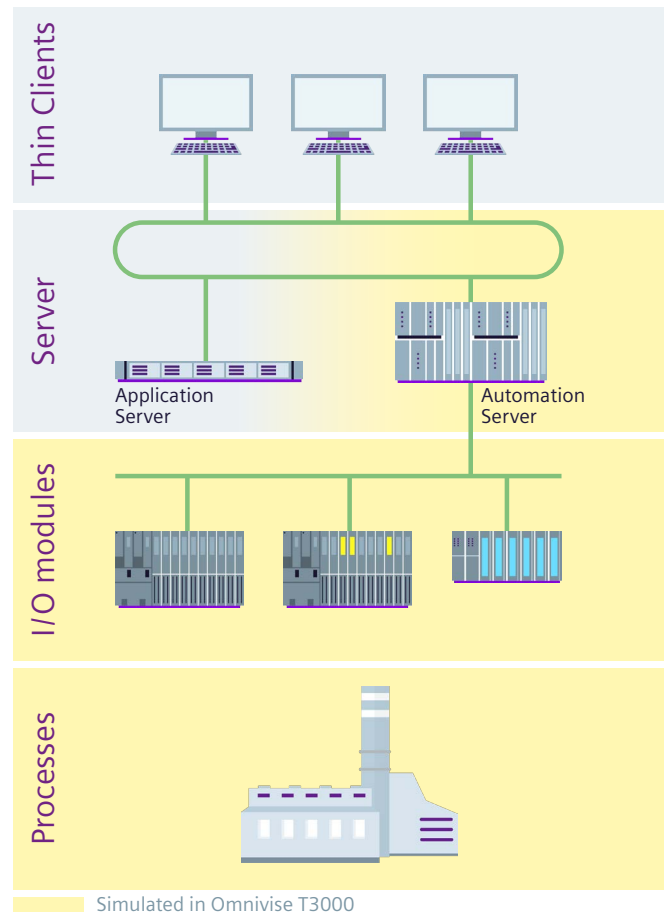
## Only 4 steps to simulation

**1**
**Open simulation in T3000 Workbench**
Start a new project via the T3000 Workbench.

**2**
**Load initial condition**
Open the "Instructor Station" application. Select and load a snapshot. All the real settings of this plant fragment are now simulated.

**3**
**Operate simulation**
Select a view to adapt parameters and witness the direct implications in the selected view.

**4**
**Start Training with malfunctions**
Select a malfunction in the library (e.g., steam leakage), adjust and trigger it (e.g., leakage amount, activation time, ramp time). The instructor may assign a malfunction to the trained operator, who can now test his skills in finding the malfunction and take action.