



The NuScale Energy Exploration (E2) Center

The NuScale Energy Exploration (E2) Center is an innovative learning environment that offers users an exciting, hands-on opportunity to apply nuclear science and engineering principles through simulated, real-world nuclear power plant operation scenarios. The E2 Center employs state-of-the-art computer modeling within a simulator of the NuScale VOYGR™ small modular reactor (SMR) power plant control room.

The E2 Center allows users to take on the role of the “control room operator” at a NuScale 12-unit VOYGR-12 plant in order to learn about the groundbreaking features and functionality that are unique to NuScale’s SMR technology. The E2 Center is intended to look and feel like the NuScale main control room design. Workstation interfaces allow control room operators to input a set of parameters, run a variety of simulated scenarios, and observe the plant’s response to these inputs and each workstation is able to view the status of any of the 12 units within the model.

NuScale’s simulator development team built a state-of-the-art custom human system interface that provides controls and indications between the models and the operator, allowing them to manipulate the controls of the plant that are expected to be manipulated by the control room.



Energy Exploration Center

The E2 Center's custom-built human system interface (HSI) models the following features of the control room of a NuScale 12-unit small modular reactor (SMR) plant:

- Process Library
- Tiered Notification System
- Fully Automated Systems
- Integrated Emergency Procedure

The E2 Center supports a diverse of research opportunities related to human factors engineering, HSI development, advanced diagnostics, control room automation, and integrated nuclear plant operation. Founded on principles of research, education, and public service, this collaborative learning environment will inspire the energy innovators of today and tomorrow.

Several innovative features are incorporated into the E2 Center simulator that are unique to NuScale's VOYGR power plant control room design, such as:

- A library of digital procedures and automations to ensure that operators are performing the correct actions on the correct unit.
- A tiered notification system that informs operators of abnormal conditions and provides alarms, cautions, and notices.
- Using fully automated sequences, operators can elect to change power, change electrical output, and control selected equipment.
- Integrated emergency procedures that graphically inform the operator of the condition of the reactor safety functions and link to applicable procedures.

These unique features allow users to engage in hands-on learning about human factors engineering, human-system interface design, advanced diagnostics, control room automation, integrated nuclear plant operation, and more.

NuScale provides a team of experts to assemble and install the E2 Center onsite, including training to ensure that the customer can operate the system. A user manual and exercise guide are provided to the customer. Technical support is also provided by NuScale during the period of the contract.

The E2 Center yields significant opportunities for students, researchers, customers, investors, policymakers, members of the public, and other stakeholders to better understand small modular reactor technology and provides an engaging platform for learning about nuclear power's role in creating a safe, clean, and secure energy future for the U.S. and the world.

If you are interested in having an E2 Center at your organization, contact communications@nuscalepower.com for more information and a quote.



1100 NE Circle Blvd., Suite 200
Corvallis, OR 97330
Phone: (541) 360-0500
communications@nuscalepower.com

