



**3DEXPERIENCE®**

# ENERGY, PROCESS & UTILITIES **SOLUTIONS FOR NUCLEAR POWER PLANTS**

Ensure plant sustainability while reducing risk



## **CREATE SAFE AND RELIABLE OPERATIONS THROUGH INNOVATION**

Governments and regulatory authorities need to ensure safety and security for nuclear development, while achieving costs competitive with other energy sources. Nuclear power has always been under strict control because of the risks, operations, and huge impacts a single problem can have on the environment and the population. Companies face growing challenges in design, construction, operation, and maintenance during the whole plant life cycle—from initial construction to decommissioning.

With solutions powered by Dassault Systèmes **3DEXPERIENCE®** platform, engineering, procurement, construction companies and owner-operators, for whom minimizing project schedules is crucial, can gain tighter control of operations, monitor costs, and reduce construction time, helping improve market competitiveness.

## KEY BENEFITS:

- Improve construction, engineering, operations, and facilitate maintenance by increasing digitization of both assets and activities with best-in-class plant lifecycle management and the latest 3D simulation technologies
- Facilitate decision-making using dynamic and role-relevant business information
- Increase collaboration with all the project stakeholders, traceability, compliance, and consistency by connecting enterprise asset management, resource planning, business information, and processes

## SAFETY FIRST THROUGH DESIGN, CONSTRUCTION, AND OPERATION

The demanding complexity of the “defense-in-depth” safety approach for nuclear facilities has dramatically increased over the last decades and more recently since the Fukushima accident in Japan. A paradigm shift is now required in prevention, monitoring, and operation in order to both comply with stronger new safety requirements and to limit cost increases.

Dassault Systèmes **3DEXPERIENCE** platform provides a unified view to help ease governance and safety management in a broad range of engineering or operating activities. Precision digital simulation benefits both deterministic and probabilistic safety approaches. Engineering consistency and traceability that links requirements and physical implementation helps enforce high quality standards in design and construction. Finally, utilizing 3D virtual training helps improve human performance when preparing for daily work or emergency situations.

## EASE COMPLEXITY MANAGEMENT

In any company or project, the use of numerous systems and their inability to operate with one another creates barriers between disciplines, departments, and subcontractors. The **3DEXPERIENCE** platform provides extensive and flexible access to system and process information so senior management can have a better understanding of activities, promoting quicker, more accurate decision-making. Governance tools facilitate project collaboration while enforcing clear responsibilities for each stakeholder.

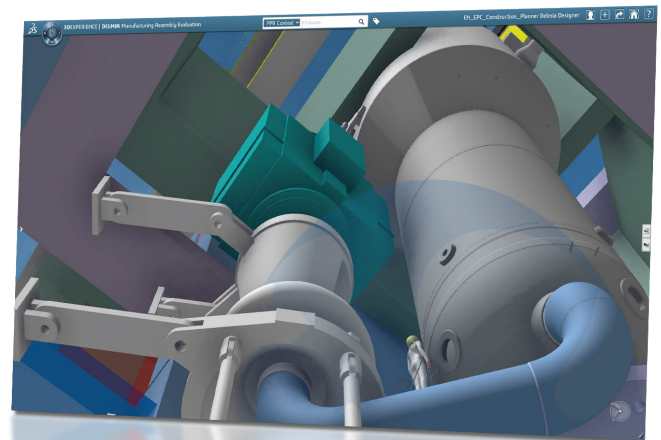
The platform will help you collaborate efficiently to master and control project schedules, and avoid delays. Project stakeholders can access customized applications and widgets that aggregate information in the overall 3DDashboard.

Traceability is ensured as all information is captured and stored, combined with the plant asset’s lifecycle in a unified environment. Configuration management helps enforce standardization, 3D language removes ambiguity, and full traceability helps comply with regulations and generate reports quickly.

## IMPROVE REVENUE AND MARGIN

Capital project delivery in the nuclear industry has often had cost overruns and delays, as well as numerous uncertainties that can impact a facility’s lifecycle. Realizing an overall competitive return on investment (ROI) is a journey that can run over decades.

Improved collaboration between teams, realistic simulations, and multidisciplinary design integration provided by **3DEXPERIENCE** solutions can help avoid costly rework late in a project by foreseeing potential problems in the early design stages. Leveraging these capabilities, as well as utilizing 4D simulation and key performance indicators, can help increase availability and improve margins for power generation by managing risks and optimizing scheduled maintenance, outages, and refurbishing activities.



## Our 3DEXPERIENCE® platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3DEXPERIENCE**® Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes’ collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 190,000 customers of all sizes in all industries in more than 140 countries. For more information, visit [www.3ds.com](http://www.3ds.com).

