



3DEXPERIENCE®

ENERGY, PROCESS & UTILITIES **CONSTRUCTION EXCELLENCE**

Deliver on time and on budget



ROBUST PLANNING AND EXECUTION FOR FIRST-TIME-RIGHT CONSTRUCTION

Capital projects within the Energy, Process and Utilities industry face many challenges during the construction or overhaul lifecycle. Finding and applying the right information to make the right decisions can eliminate project delays, cost overruns and unnecessary variations in specifications, improving project safety and sustainability. These risks, alongside the waste of resources, can be managed by using an integrated decision support framework and robust project planning tools.

Based on the **3DEXPERIENCE®** platform, Construction Excellence enables Engineering/Procurement/Construction companies and Owner/Operators to deliver first-time-right construction projects. It is a comprehensive planning, site management, field execution, and commissioning solution that enables precise execution for a true design-for-construction approach.

LIFECYCLE STAGES



INTRODUCING CONSTRUCTION EXCELLENCE

Construction Excellence combined with Capital Facilities Information Excellence delivers one source of information for every stage of the plant lifecycle, from engineering to construction. Together they provide secured information access for robust business process control and continuous improvement of operations.

Advanced work packages management for lean construction and collaboration

Construction Excellence, both independently and in combination with Capital Facilities Information Excellence, integrates project management information from different systems, lifting information out of silos and into one single source of information. This enables businesses to access all project data, forecast activities and monitor resources and project status in real time. As a result, program managers can make more effective decisions and identify and resolve issues before they become critical. **One company reported a 60% reduction.**

Multidimensional construction modeling and planning to improve project schedules

Enabling construction planners to develop assembly sequences in a virtual environment is the first step towards first-time-right construction. Using 3D modeling and 4D virtual assembly technologies, equipment and tooling are modeled to create a true representation of the working environment. Work instructions, for both humans and construction equipment, can be planned and tested before release to the construction team in the field. Animated step-by-step construction

sequences give workers clear instructions about the tasks they need to complete, helping to minimize mistakes and improve worker safety. Construction Excellence seamlessly integrates with Capital Facilities Excellence and Engineering Excellence to ensure that all stakeholders have visibility of the project appropriate to their role and organization. Allocation and procurement of materials are linked to the real-time status of the project, The volume of work can be estimated and potential conflict areas can be resolved, maintaining construction on schedule and on budget. Hired machinery, materials and laborers are scheduled only when they are needed, saving additional time and resources.

Digital commissioning test management and monitoring for flawless start up

All non-conformance issues, system acceptance reports and test certifications can be accessed and recorded in one environment to ensure that remedial work and retesting is completed on time with minimal impact to the overall schedule. All testing schedules are digitally tracked and managed in a single environment with links to individual test items. Compliance is achieved and related directly to initial project requirements. **Capitalizing knowledge from commissioning protocols during factory acceptance tests and making it available to Owner Operators reduced, for one company, commissioning engineering and operator hours by 25%.**

KEY BENEFITS

- Simulation improves field worker safety and efficiency and reduces cost and scheduling deviations
- Better visibility of project status accelerates and improves decision-making
- Advanced workflow and scheduling technologies improves resource utilization and reduces overall construction costs
- Capitalize and reuse knowledge and best practices from previous projects for faster execution on new programs

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 210,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.

