



CASE STUDY

Technip Energies leverages Octave OnSite Visualize Max for digital engineering excellence in complex construction projects



Key facts:

Company:
Technip Energies

Website:
[technipenergies.com](https://www.technipenergies.com)

Industry:
Energy, construction

Octave products used:
OnSite Visualize Max
(iConstruct Max)

Description:

Technip Energies is a global engineering and technology company for the energy sector, with leadership positions in liquefied natural gas (LNG), hydrogen and ethylene.

Over the past two decades, digital transformation has proved critical to the success of EPC companies in the energy sector. In a volatile economic environment, the use of digital engineering tools for design, construction, procedure management and operations has helped enhance project performance and predictability.

Born from the 2021 spinoff of multinational energy company TechnipFMC, Technip Energies has emerged as a global leader in the field. The company operates in 35 countries and executes some of the world's largest and most complex engineering and construction (E&C) projects.

Challenge: Unifying data management practices across projects to eliminate silos and blind spots

As the company gained a global presence, it faced growing challenges with managing its technical data. In the complex realm of 3D modeling, ensuring the accuracy and usability of data is paramount. Technip Energies recognized the importance of streamlined and unified data management, especially for the seamless integration of EPC (Engineering, Procurement and Construction) data into its 3D models. To tackle these challenges and establish a robust digital framework for their projects, Technip Energies adopted Octave's OnSite Visualize Max in 2019. This tool became central to its strategy, enhancing data accuracy in 3D models and ensuring the effective integration of EPC data, elevating project efficiency.

OnSite Visualize Max's software provides Building Information Modeling (BIM) that serves as a basis to manage the entire project lifecycle – from user input and 3D model conditioning to operational data use. It helps clients bring efficiency, collaboration and logic to projects that involve many parties, suppliers, designs and data sets.

“OnSite Visualize Max is a powerful solution. It saves us a lot of time by automating steps that used to be performed manually and eliminating human errors in the process.”

Domenico Moriello
Construction System
Group Leader,
BIM & Power BI,
Technip Energies



Models that are conditioned with OnSite Visualize Max are then shared through cloud-based collaboration platform, and used in the internal cloud application, making it an ideal choice to centralize the models conditioned in all of Technip Energies' projects. It is also easy to export data to external software applications such as Power BI or Microsoft Excel and to automate frequently used workflows.

A lightweight interface to access all necessary information across project phases

Using OnSite Visualize Max's capabilities, Technip Energies has transformed its traditional data management approach and adopted a 3D model-based system that provides an enriched project overview.

For each project, the company produces a detailed 3D model sourced from the engineering department. Starting from this 3D model, using OnSite Visualize Max, a "second version" is created to reduce the size and split by zone/discipline. This version allows to have a more streamlined version. Additionally, information is incorporated from external databases when necessary. This approach conserves processing power while allowing engineers to access the level of information they need.

"Generating a 3D model with OnSite Visualize Max is easy and effortless, and it does not affect your workflows. You can select and export the information you need by splitting the entire plot plan, constructing the hierarchy, and define the data that needs to be linked with the databases," construction system group Leader Domenico Moriello said.

From 20,000 separate references to clear hierarchies, in a single place

OnSite Visualize Max has also helped Technip Energies move from basic, unlinked tag lists to multidimensional data, organized and grouped in effective hierarchies to meet project needs. Piping is one of the applications that provides the best example of OnSite Visualize Max value. In a recent project, the company received 130,000 IFC (Industry Foundation Classes) files sourced from Intergraph Spoolgen, a piping prefabrication database. Each Isometric corresponded to a distinct IFC file, based on the engineering department's input, to be used by the construction department.

Technip utilized OnSite Visualize Max's batch utility tool, BIMflow, and efficiently processed over 130,000 files. The process was conducted by removing outdated revisions, reconstructing the piping hierarchy, and dividing the vast dataset into ten distinct federated models. OnSite Visualize Max had a pivotal role in the refinement and organization of this data through its Integrator. Once they completed the 3D processing, they uploaded the cleaned datasets to Technip's cloud infrastructure.

“For several years now, Technip Energies has been using OnSite Visualize Max products to meet our construction needs. It is a powerful software application that improves our efficiency and the quality of our data.”

Erik du Boullay
Project Manager,
Technip Energies

The result is greater value from data: “We are now giving a 3D dimension to our data. Tags linked to a pipe are no longer just a string of characters or a code, they are associated with a 3D geometry and relevant properties,” Moriello said. Alignment between engineering and construction teams is made much easier, while risks of human errors, delays and cost overruns are reduced. Stakeholders can also easily obtain a clear view of the ongoing projects.



A tool that seamlessly integrates with Technip Energies' existing processes

OnSite Visualize Max also helps Technip Energies ensure that data can be pulled from various sources while ensuring its validity – a common concern since workflows often involve multiple platforms. One of OnSite Visualize Max's most helpful features for this purpose is the tool Integrator, which lets users test, adapt and edit data using already familiar Excel formulas.

The Integrator also allows users to create custom data tabs within Navisworks® that can pull and combine data from various sources and combine it in a single location. “It's a fantastic tool for us, and it saves a lot of time that used to be spent performing a series of manual operations,” Moriello said.

Results: Improved project performance that fosters Technip Energies' data culture

Since its implementation, OnSite Visualize Max has brought significant value to TEN, improving project performance and driving collaboration and efficiency.

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A factor in its rapid adoption is the software's user-friendliness. On average, new users can start using the software after a single day of training. And, as projects become increasingly complex and involve a growing number of suppliers and stakeholders, relying on effective, user-friendly tools and reliable project data is essential.

Moriello said: “In large engineering projects, a lot of data is created by multiple stakeholders, with significant challenges in using the data on the entire lifecycle of an EPC project. For this, you need to know what's right and what's actionable and to ensure data is well-structured, with clear hierarchies and good data quality. From my perspective, we are making progress

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

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