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Reducing Decision-Making Time with a Forge-Based BIM Dashboard: The Saipem Experience

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Learning Objectives

- Understand how to integrate data coming from different data sources and couple them to the model geometry
- Understand how Forge brings data to the center
- Learn the importance of providing BIM data on the web in an easy-to-consume format to a wider audience

Description

Saipem is a large, international turnkey contractor in the oil and gas industry. One of the main challenges the firm has faced is the complex communication between projects' stakeholders and the need for harmonizing data regardless of the software used. With a new organization and structure, the Offshore Division started several initiatives to overcome this issue, trying to save time and facilitate the decision-making process. With the Forge platform the game is changing! The Offshore division is starting to implement a Data-centered BIM (Building Information Modeling) dashboard to aggregate data coming from different sources (SmartPlant Foundation, Oracle, Navisworks, and others) and present them in the model context. During this session, we will present the benefits of the implemented solution, where BIM has been introduced in traditional workflows. In particular we will focus on how the new tool helps Saipem managers, and discipline leads make quicker decisions, improving project delivery quality, while cloud technology provides access from any device.

Speaker(s)

Stefano started working as a 3D/2D designer in a small engineering company and later became employed at Saipem s.p.a. in 2005 as a 3D administrator. From 2013 he moved to the IT department as a business application architect and Innovation Agent. Since 2015 he has worked as an organizational manager for project collaboration software and visualization systems, recently involved in BIM implementation for the Oil and Gas industry and organizational manager for the IT department in Saipem's E&C Offshore Division.

Luca is a solution architect with the EMEA consulting group in Autodesk’s Customer Success Organization. He received his Computer Science bachelor's degree from University of Genova, Italy. He has worked in IT as a consultant for the past 15 years, in EMEA and in North America countries, covering different roles and moving from pure software development to solution design and implementation, from gathering requirements to final delivery. Luca joined Autodesk in 2008 based in Italy, he is now working in Europe and Middle East, where he has been designing and implementing solutions for several Autodesk customers in the AEC and MFG industries. During the last couple of years, Luca has focused his activities mainly on BIM, Collaboration and Data Management domains, working close to customers to define and implement the technology platform that supports their needs.

Session Details

In this Industry Talk of about 60 minutes, the speakers will describe their experience in defining a solution to support different stakeholders to take decisions in a more secure, efficient and fast way, giving them the ability to rely on a data-centric dashboard accessible to everyone from any device.
The aim of the session is to describe the reasons that led Saipem to take specific decisions, as well as the role played by the Autodesk Customer Success Organization team.
During the session, the solution will be presented together with the goals achieved so far and future plans on further developing the solution.
The following is a deeper overview on the Learning Objectives of this class.

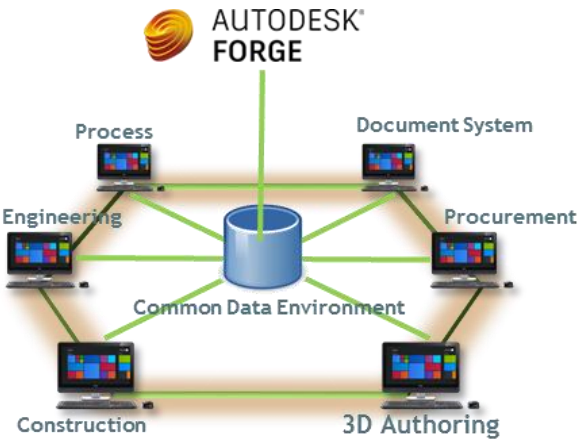
Understand how to integrate data coming from different data sources and link it to the model geometry

One of the challenges Saipem faced in the past, and is still facing to some extent, is the traditional approach of managing documents rather than data.
There are many problems with a document-centric approach and the most common one is the use of documents as databases, which results in the creation of data silos, an increased number of entry points for individual portions of data and an almost un-quantifiable amount of wasted effort and redundant processes.
In short, the document-centric approach adopted by Saipem, led all departments involved in a project to rely on redundant emails, calls, folders, hundreds of different storage locations, and siloed and inconsistent document databases, preventing good, smooth collaboration.

Document-Centric Approach

Moving to a data-centric approach, means accessing data instead of documents in a seamless way, while being sure that retrieved data is always the latest and most relevant one. Moving from a document to data-centric model has not been easy though; it required a huge commitment from different stakeholders as well as changes in processes and workflows that for many years were accepted and fully adopted by all users.
The chosen approach was to start identifying few disciplines first (e.g. Piping and Structural) and the tools used to elaborate complex analyses related to costs, material availability, orders

and scheduling, with the objective of trying to export this information to a database in an easy way.
Now, by leveraging Saipem's internal initiatives, and thanks to the deep know-how of expert engineers, data have been made available and usable in a central repository with the active support of Autodesk Consulting.

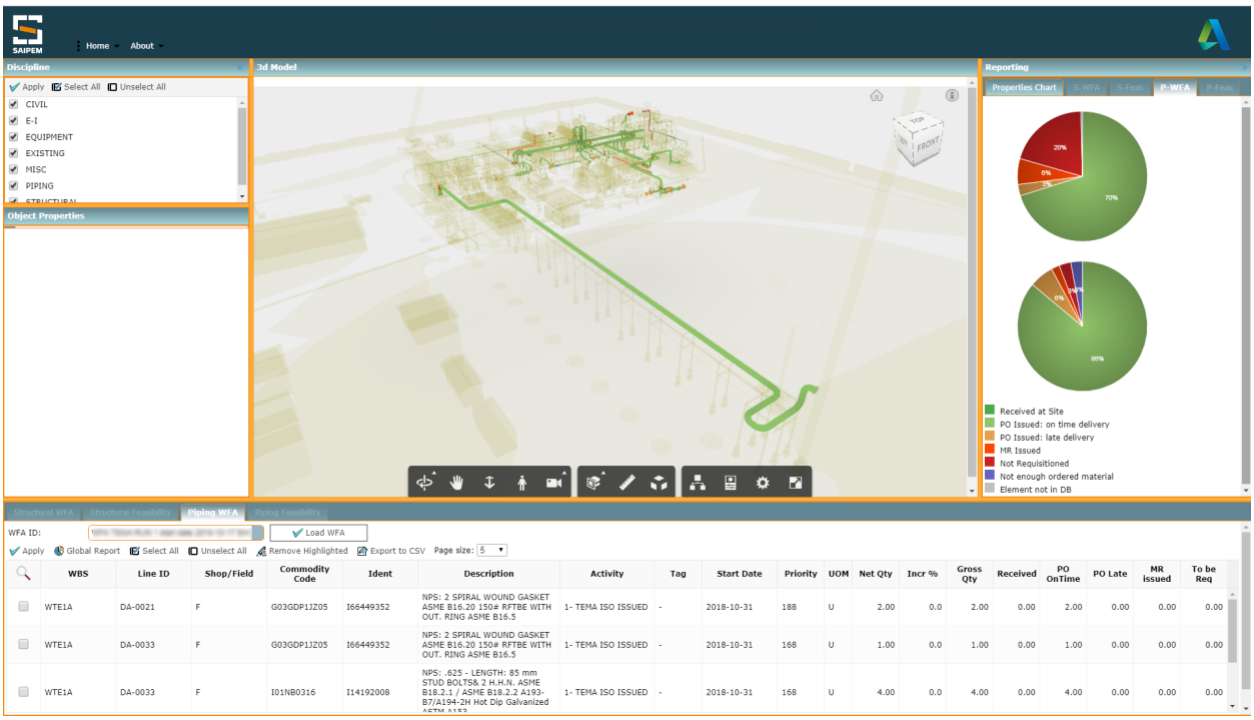


Data-Centric Approach

To summarize, being based on one single source of the truth, a data-centric approach enables optimized data flows between people and processes.
Once data have been made available, relating them to model geometry has been quite immediate, thanks to the Autodesk Forge Platform and a web solution accessing the platform APIs.

Understand how Forge brings data to the center

As described, one of the goals achieved since the very first release of the solution has been the possibility of linking information to geometry. Besides this, the most important achievement has been the ability to validate the accuracy of the information coming from all systems, as well as the quality of modelling and drawing process. Users have begun to see data represented in the model context thanks to Forge, and they are able to see discrepancies between the different data, allowing them to take initiatives to identify and solve such gaps quickly. As an example, thanks to the solution, the users can easily understand through a user-friendly and easy-to-use interface if the materials needed for the construction site still need to be ordered or are already available, if elements still have to be modeled and if there is any other issue preventing project completion in time.



Forge-Based Dashboard Solution

Learn the importance of providing BIM data on the web in an easy-to-consume format to a wider audience

The target users for this solution are mainly Project, BIM or Discipline managers, that do not necessarily have advanced computing skills. Historically to them, the use of authoring tools or even 2D or 3D desktop viewers was a kind of show stopper. Moreover, understanding geometry and related information coming from other systems, both in digital and paper-based format, was time consuming and most of the time this led to headaches, mistakes and inaccurate analysis. The solution helped speeding up the decision-making process by at least 20%, thanks to the ability of the users to access all the information they needed and already related to the model, from any device everywhere, in an easy-to-use interface that doesn't require any specific technical skill.