What an EPC Contractor Should Know While Adopting Forge

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Learning Objectives

- Learn how to boost your consolidated workflows by adopting Forge
- Learn how to develop a cloud platform through Forge to use your data
- Discover the lessons learned by an EPC contractor in developing applications using Forge APIs
- Discover the essential benefits gained by Forge adoption

Description

Retailers, banks, and other industries are making the most of the data deluge. So what keeps the architecture, engineering, and construction (AEC) industry from embracing the digital wave at the same pace? This class will showcase how to get the most out of your data using Forge. We will present the adoption by Maire Tecnimont, an oil and gas international player, illustrating all the steps necessary to design and build a cloud-based application. This class will share best practices and tips for setting up a powerful project dashboard. We'll showcase how to bring together data from different sources (Oracle, third-party applications, and different 3D-model formats), taking advantage of connection with BIM 360 software. In conclusion, we'll use several examples to discuss the benefits gained from using Forge technology to improve analysis and the decision-making process across our company.

Maire Tecnimont Group

Think about 8,000 highly skilled professionals operating in the oil & gas processing, petrochemicals and fertilizer industries. This is Maire Tecnimont Group. An industrial leader in Engineering & Construction, Technology & Licensing, and Energy Business Development and Ventures. Listed on the Milan Stock Exchange, the Group is among the top-ranking worldwide engineering contractors.

Fabio Bitetto

Fabio is a Plant Information Management Coordinator at Maire Tecnimont a worldwide general contractor specialized in the oil & gas and petrochemical industry. He received his master's degree in Building Systems Engineering from the "Politecnico di Bari", Italy. Despite his young age, Fabio made several work experiences in which he grown his BIM and project management expertise focusing especially on energy and utilities. He also collaborated with the City of Milan for the European project "Horizon 2020", focused on smart cities and energy efficiency. Fabio started the development of BIM in Maire Tecnimont, focusing on Underground Services. This year he has started a new experience in the CAE Systems Department.

Luca Bazzocchi

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.

Marco Mellacqua

Marco is a Plant Information Management Coordinator at Maire Tecnimont a worldwide general contractor with a specific focus on the oil & gas, petrochemicals and fertilizer processing industries. He obtained his master's degree at Politecnico di Milano with thesis abroad on Building Information Modeling and Management at Northumbria University UK. During the degree activities he collaborated to the research project, funded by the Italian Ministry of Economic Development, for setting up the Italian BIM construction database in order to push a radical innovation into the Italian construction sector. In the last years he is strongly involved in BIM methodology development for plant design and information management of engineering data.
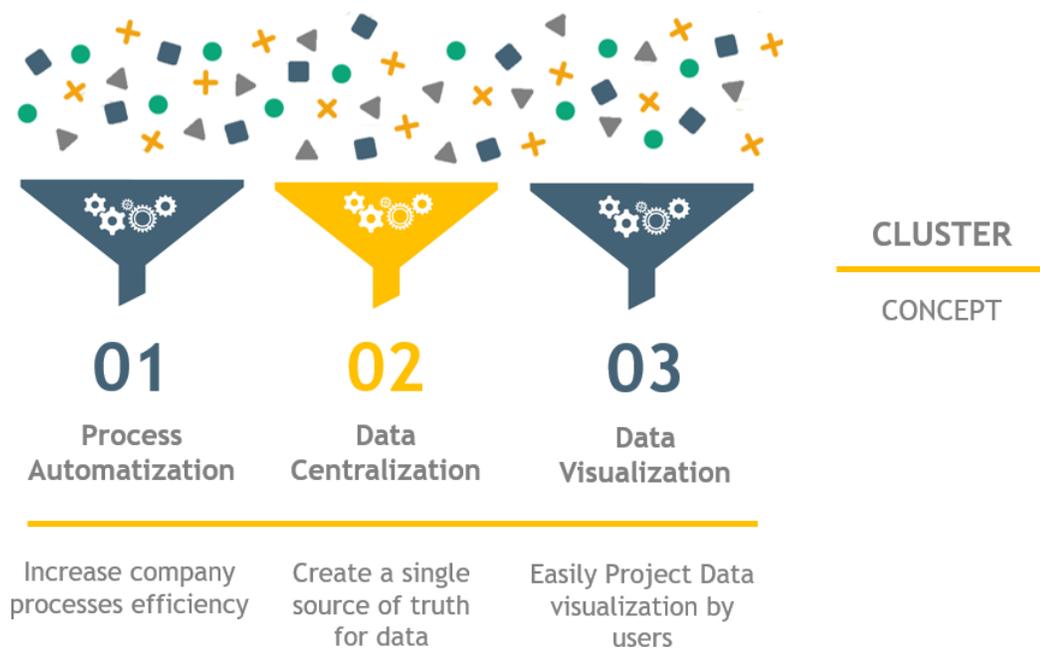
Learn how to boost your consolidated workflows by adopting Forge

One of the challenges that Tecnimont faced in the past and is still facing to some extent, is how manage data and integrate them in the traditional company's workflows.
The oil and gas industry seem reluctant to adopt data-centric and innovative solutions to face the challenges that digitalization presents us. In our case we have found a useful ally in the Autodesk team and in Forge technology.
Our journey began with two simple questions: why and what Forge?
Indeed, in our experience, it is crucial to identify the areas of application of the technology as accurately as possible. As Tecnimont we have identified some Forge technology application clusters, each of them characterized by a specific concept. This will allow you to concentrate your efforts on specific workflows that you want to digitize within your reality.

CLUSTER
CONCEPT

01	02	03
Process Automatization	Data Centralization	Data Visualization
Increase company processes efficiency	Create a single source of truth for data	Easily Project Data visualization by users

Learn how to develop a cloud platform through Forge to use your data

During the session will be presented how to develop your own application using Forge. The process starts identifying in deep all the functional requirements of the solution. In particular we will share tips and trick in order to recognize your needs, formalize them and how focus on the most important features from user's point of views. A clear document which collects all your functional requirements, is an essential starting point for the developing and will allows you to not waste time during this critic process.
It will be presented how build your architecture from concept to execution. In particular, we will focus on how connect data coming from different data sources in order to create a cloud platform. A one single source of the truth, a data-centric approach that optimizes data flows between people and processes.
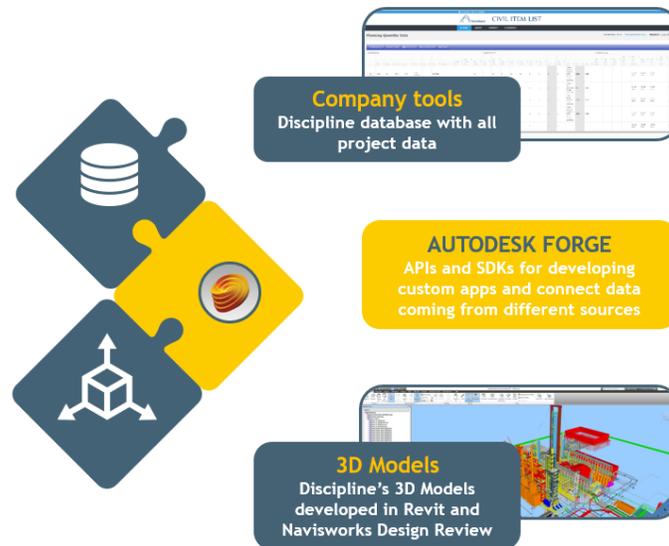
In the end, it will be shown where to start the development and deployment process, how anticipate risk during the application evolution and what could be the critical challenges to face up.

Discover the lessons learned by an EPC contractor in developing applications using Forge APIs

During the session will be presented the projects developed by Tecnimont using Forge technology. In particular, we will show two project dashboards examples:

- Civil Master Data: dashboard for managing all the civil engineering workflow;
- Piping Feasibility: dashboard for managing and run feasibility analysis of piping components.

Civil Master Data

This application allows users to manage and visualize all civil engineering information of a particular project. The dashboard is divided into four sections:

1. **Eng Status**: users can visualize on 3D Model, with different colors, the issuing status of each civil structure. In additional, there are dynamical reports connected to the 3D model, that show baseline, actual, delayed, over budget and saved quantities/items;
2. **Hold**: Visualize holds with different colors into the 3D Model. In additional, there are dynamical reports connected to the 3D model for analyzing the percentage of each hold type and the departments that generate the holds;

3. **Design Quality**: reports connected to the 3D Model that display design performances indexes;
4. **Quantities**: Reports and summaries for easily monitoring project progress and performance.
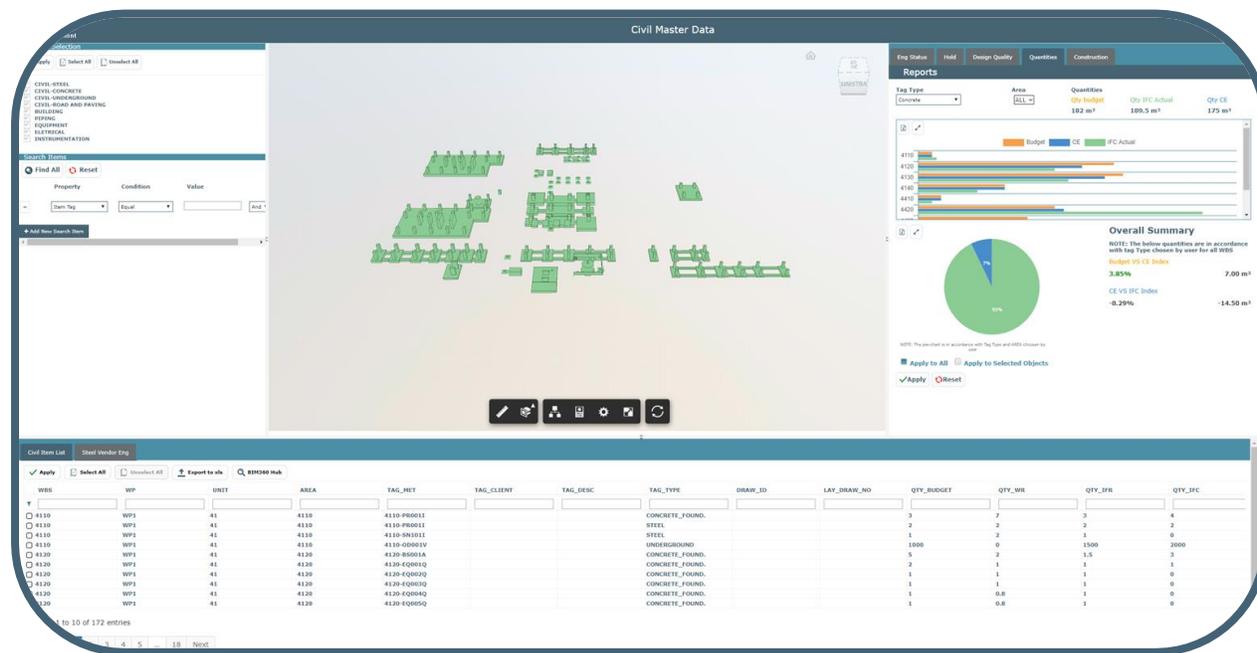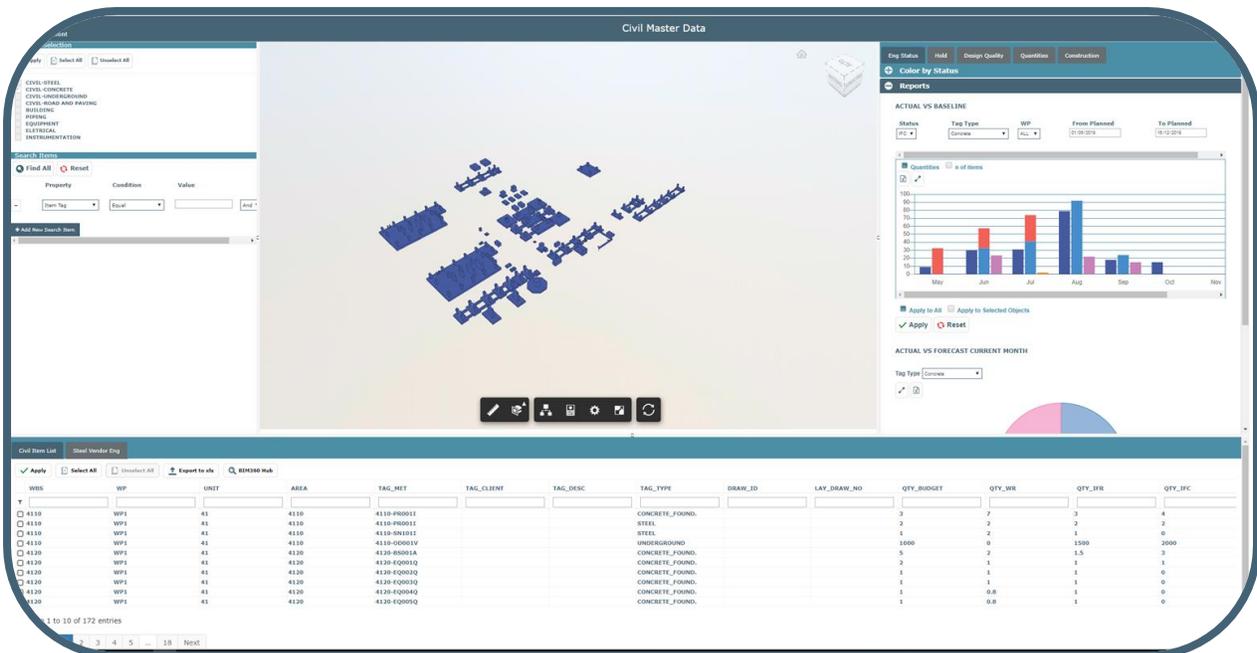
Piping Feasibility

This application allows users to manage and visualize feasibility analysis regarding piping components. In particular:

1. Visualize on 3D Model the feasibility run already set in company material management tool;
2. Create new feasibility run in the company material management tool through the dashboard;
3. Create and manage work packages directly through the 3D model;
4. Dynamic reports.
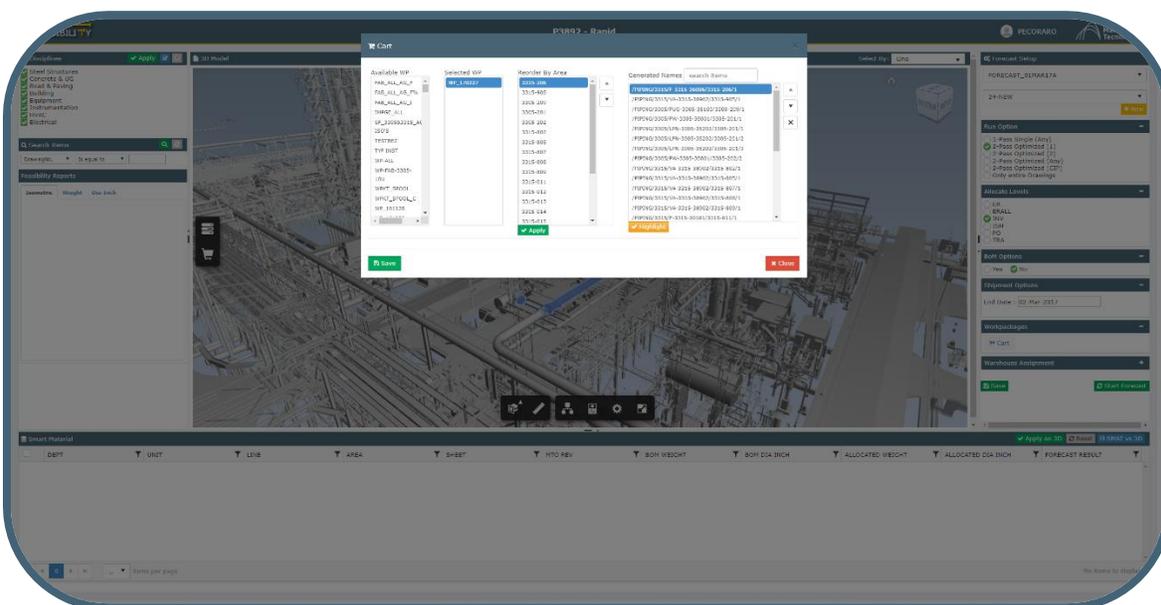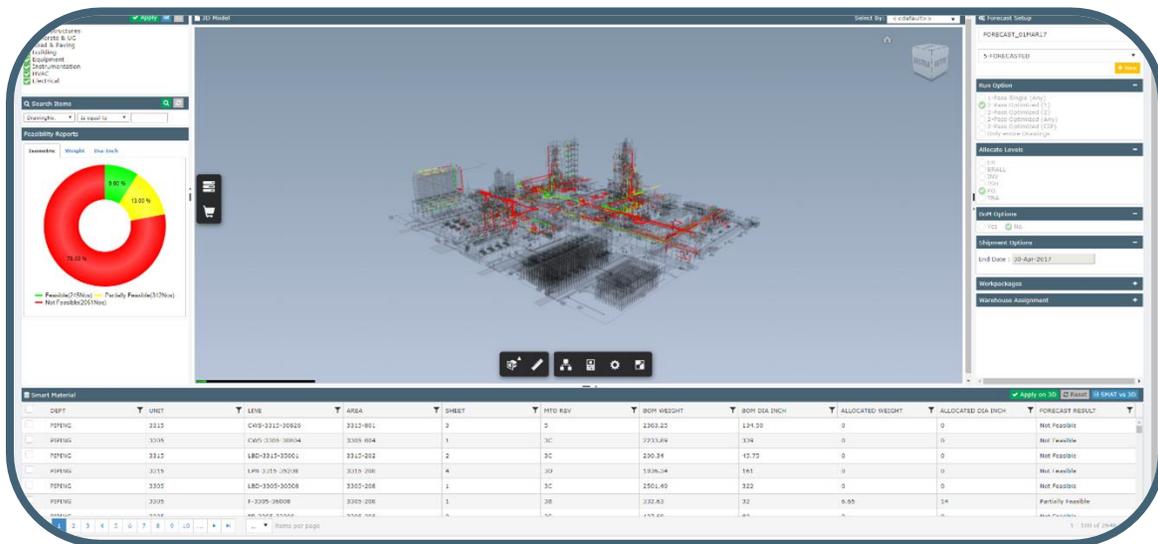
Discover the essential benefits gained by Forge adoption

The last part of the session will be dedicated to analyzing the benefits gained through the adoption of Forge technology. In our experience, the key advantage of integrating Forge lies in leveraging data and sharing the information required to complete a streamlined workflow in an optimal manner. A company familiar with Forge can help improve user workflows and efficiency. Data can be made accessible by creating a centralized dashboard to aggregate project data in one place, improving project status visibility. In this way, your company can give employees, external partners and customers visibility into every project stage by enabling 3D digital model-based data views. It provides a next-generation fast graphics engine that enables designers to take greater advantage of their models for engineering, construction and operation phases.