Have You Ever Gotten VR from Your Model in 30 Minutes? Tenova Does It. Learn How

Raffaele Sammarco  Consulting Project Manager
Simone Cappochin  Implementation consultant
Did you survive at your first day of AU Las Vegas 2018?
Are you ready for the 2nd one?

Did you have your favorite breakfast?

Are you ready to start?
Ok, Let’s start
Agenda

• Introduction
• Customer and Project Background
• Technical slides
• Conclusion
Introduction
About the speakers

Raffaele Sammarco
Autodesk Consulting Project Manager with more than 8 years’ of experience on international projects delivered in EMEA region.
Over 20 years of experience in technical/project leading and project management, strongly focused on Customer success oriented

Simone Cappochin
Implementation Consultant in the EMEA region of Autodesk Consulting.
Lead and support all the activities related to BIM transformation, leveraging Autodesk products and their flexibility and interoperability: works to create a solid partnership with customers and lead them through the most innovative solutions based on latest Autodesk technology.
Class summary

During this class, we are going to exploring industry practice and workflows

This class will outline the real case study of virtual reality (VR) technology adoption by Tenova, an industrial machinery company for mining and metals, supported by Autodesk Consulting. After a brief introduction to Tenova and the project’s background, attendees will see activities run by Autodesk Consulting and Tenova to lead to the adoption of a tailored process for using VR for design review and visualization.

The audience will see the workflow implemented, and they’ll learn the process to use 3ds Max software and 3ds Max Interactive to navigate a Filmbox file with Live Viewer. Come and learn the best practices to follow for VR.
Learning Objective

- **Learning Objective 1** - Learn how to use a VR environment for design review purpose
- **Learning Objective 2** - Discover how to adopt VR in your business processes
- **Learning Objective 3** - Gain an overview of the VR workflow implemented for Tenova (3ds Max and 3ds Max Interactive)
- **Learning Objective 4** - Learn how to optimize models using 3ds Max, and use 3ds Max interactive to package VR using Live Viewer
Customer and project background
Customer Background

Customer overview

Tenova is a worldwide supplier of advanced and technologies, products and engineering services for the Iron & Steel and mining industries providing innovative, integrated solutions for complete process areas.

Tenova was founded in 1940 and is part of Techint Group (www.techint.com)

Business areas

• Iron & Steel products and technologies
• Mining & Minerals technologies and services

Key figures

• 4,000 employees
• Operating in 26 countries in 5 continents
• Operating Companies: 70
Customer Background

Global footprint and brands
Customer Background

Product and technologies

Mining
- Mining systems & equipment
- Bulk material handling
- Air enviromental & specialized equipment
- Services & components
- Mineral processing

Metals
- Metal making
- Hot formed
- Processing
- Alluminum
- Cold rolling
- Services & components
How many of you know the **EBA** (Enterprise Business Agreement) agreement?

Please raise your hand.
Who works for a company with an EBA agreement with Autodesk?

Please raise your hand
Customer Background

EBA engagement

Tenova has subscribed for the second time a 3-year agreement with Autodesk that include: Tokens for products, Enterprise Premium Support and Consulting services.
Consulting deployment approach

Step-by-step

1. Mobilization Meeting
   - Mobilization Plan

2. Alignment & Review
   - Agreed on deployment goals, tactical details and measures

3. Configuration & Training
   - Learning & Communication Materials
   - Configure solution and train your Key Users

4. Deployment Support
   - Sample Data Sets & Implementation Guide
   - Support your Key Users and teams

5. Close-Out Meeting
   - Success Measures & Close-Out Report
   - Review achievement of deployment goals and measures

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<th>Description</th>
<th>Delivery</th>
<th>Audience</th>
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<tbody>
<tr>
<td>Agree on deployment goals, tactical details and measures</td>
<td>Remote</td>
<td>Wide audience</td>
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<tr>
<td>Prepare your stakeholders and Key Users (Champions)</td>
<td>On site and remote</td>
<td>Stakeholder and Key user</td>
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<tr>
<td>Configure solution and train your Key Users</td>
<td>On site and remote</td>
<td>Key User</td>
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<td>Support your Key Users and teams</td>
<td>On site and remote</td>
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<td>Stakeholder and Key user</td>
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Who works for a company with an EBA agreement with Autodesk?

Please raise your hand
Project Background

As-is situation

Heterogenous situation

Tenova as most of the company has a heterogenous situation in his organization in terms of design approach and software using. There are BUs most advanced that starting the design directly in 3D and others, that for business constraints, still start designing in 2D or designing entirely in 2D. Same situation in terms of software versions.

Needs of interoperability to improve processes

One of the requests from the customer was the needs to improve software interoperability to reduce waste time ad re-working to convert data from one file format to another.

Needs to communicate their value

In the Social era, Tenova needs to communicate better and clearly, the value of their products using the new communication channel like social and the innovation technology available now. Up to this moment they using a 3D video animation.
Project Background

Compelling event

In October 2017 Tenova representatives attended FOMT event in Milan.

During the event, they saw Autodesk Live and they decided to investigate this topic using PACs creating an ad hoc SCO.
We decided to use VR as driver to move Tenova from 2D to 3D use 3D model for collaborative purpose
Technical slides
SCO Objective

- Use VR based on Live Viewer;
- Use Live Viewer to navigate Models not authored with Revit;
- Have a simple workflow;
Learning Objective

- **Learning Objective 3** - Gain an overview of the VR workflow implemented for Tenova (3ds Max and 3ds Max Interactive)
Process Overview

Authoring Tools

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| P3D | FBX | TR Nimble

Data Preparation

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<tr>
<th>MAX</th>
<th>LIVE</th>
<th>INTERACTIVE</th>
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Data Visualization

| L VIEWER | renova |
|---|---|---|
Model with 2,700,000 Polygon

Live Viewer
Model with 20,700,000 Polygon

Live Viewer
Learning Objective

- **Learning Objective 4** - Learn how to optimize models using 3ds Max, and use 3ds Max interactive to package VR using Live Viewer
Autodesk Revit

Create a Revit project with at least one 3D object and one Camera View

Revit Live Service

Use Go Live Cloud service to create Live Scene Template
3ds Max Interactive

Create a 3ds Max Interactive project using Live Scene Template

3ds Max

Link FBX File delete 2D geometry and assign material
3ds Max and Max Interactive

Connect 3ds Max with 3ds Max Interactive and Send the model

Assign the physical condition
Now you are ready for VR experience.
Conclusion
Direct benefits

**Input data**

**Video**

- 40 Days + Tenova Coordination time
- 120 PACs each time
- Static video
- Outsourced

**Purpose**

- Commercial proposal, events, social media

- No data readable

- To reuse models, it needs to adapt/simplified for video purpose consuming time and PACs

**VR**

- 1 day
- 80 PACs One time already done
- Dynamic VR Navigation
- Internal

- Commercial proposal, events, *Design review, *Customer review, *trainings

- Data readable but encrypted

- Easy reuse of the most of existing models (90%). Large size (>1GB) models need to be simplified
Contacts

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