Intelligent 3D model conversions in AVEVA™ E3D Design

Thiago Oliveira
Agenda

- Scenario and motivation
- Why should I consider this?
- The how: different conversion options
- Unlocking new opportunities
- Success stories
- Call to action
Scenario and motivation

A little of our customers’ reality in using different software vendors

- Several 3D database formats
- Complex quality and integrity checks
- Unawareness of all 3D conversion options

- Heavier infrastructure vs different software requirements
- Different skill sets required
- Multiple software contracts

- Different data set formats
- Lack of clarity on scanning parameters for the quality of data sets
Scenario and motivation

**CORRELATION PROCESS**

External software vendor

1 → A
2 → B
3 → C
4 → D

**OTHER SYSTEM**

**COMMON OUTCOME**

- Import geometries with some data only (not a conversion)
- Increased efforts in using referenced model
- Uncertainties regarding the support of some of the external vendors’ tools
Why should I consider this?

- Simplify quality and integrity processes
- Less maintenance efforts
- New technology possibilities
- Clarity on scanning requirements
- Only one format required - .LFD
- Improve design and integration time
- Strengthen teams’ skills in AVEVA software
- More value extracted from AVEVA software
- Provide customers with new business models
- Help customers in their digital journey
The how: Different conversion options

Not just a simple model import

SOFTWARE A FROM MAJOR VENDOR

SOFTWARE B FROM MAJOR VENDOR

- Use or not existing catalogue data in E3D
- Different levels of conversion

SOFTWARE B FROM MAJOR VENDOR

- Use or not existing data in SOFTWARE B
- Supporting different versions

INTELLIGENT 3D DB CONVERSION
The how: Different conversion options

Not just a simple model import

1. Use or not existing data in E3D
2. Different levels of conversion
3. Use or not existing data in Software B
4. Supporting Different Versions
The how: Different conversion options

Advantages of the process

- Cats & specs + attributes and materials
- Project reuse for different purposes
- 3D multi-discipline support
- Project audit before conversion
- Enable deliverables generation in E3D
- Executed as a service by AVEVA (CaaS)
Unlocking new opportunities

No need to stop at the 3D databases

Intelligent PI&Ds (manually created)

Schematics and 3D model integration

Automated data comparison
Unlocking new opportunities

No need to stop at the 3D databases

Laser scanning integration

Drawings with 3D model and laser scanning data

Clash detection between 3D model and laser scanning
Unlocking new opportunities
Unlocking new opportunities

Digital twin

AVEVA™ Asset Information Management

Physical asset

Native Formats
Spreadsheet
3D Model
Laser Scan
Documents
Drawings
Images

Plant sequential Data

Link to real-time data

Plant structured and unstructured data

Maintenance Data
Inspections Data
Simulation Data
Spares Data

Transaction data
Success stories

Hundreds of successful conversions
- Different industry segments
- Different regions

The project size is not an issue
- Massive projects
- Medium projects
- Small projects

Different goals – one solution
- Using 3D to develop engineering projects
- Using cats & specs for new projects
- Using 3D for AIM
Success stories

PETROBRAS

- One of the most advanced O&G companies in oil exploration and production in deep waters
- Fleet with over 200 ships and rigs
- Almost 100 conversions from old 3D format into AVEVA E3D Design
Success stories

PETROBRAS
Success stories

PETROBRAS
Success stories

PETROBRAS
Success stories

PETROBRAS

REAL Oil Rig: P-51

3D Model in E3D: P-51
Success stories

**REPSOL SINOPEC AND PETROBRAS**

- R&D project to develop predictive maintenance models with 3D visualization – 1 FPSO
- Integration with operation and maintenance data
- Integration with AVEVA™ 3D Asset Visualization and predictive maintenance system (AVEVA™ Predictive Analytics)
Success stories

REPSOL SINOPEC AND PETROBRAS
Success stories

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Success stories

REPSOL SINOPEC AND PETROBRAS
Call to action

• Review your existing legacy 3D models and re-evaluate optimization opportunities
• Check the possible opportunities you might be losing by using one specific 3D format or multiple ones
• What other technologies are you not using in their optimized state because your current 3D technology doesn’t allow you to do so?
• Call AVEVA if you are unsure about your scenario or if you have new situations
THANK YOU

Thiago Oliveira

Director, Technical Support, Americas

- AVEVA
- Thiago.Oliveira@aveva.com
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