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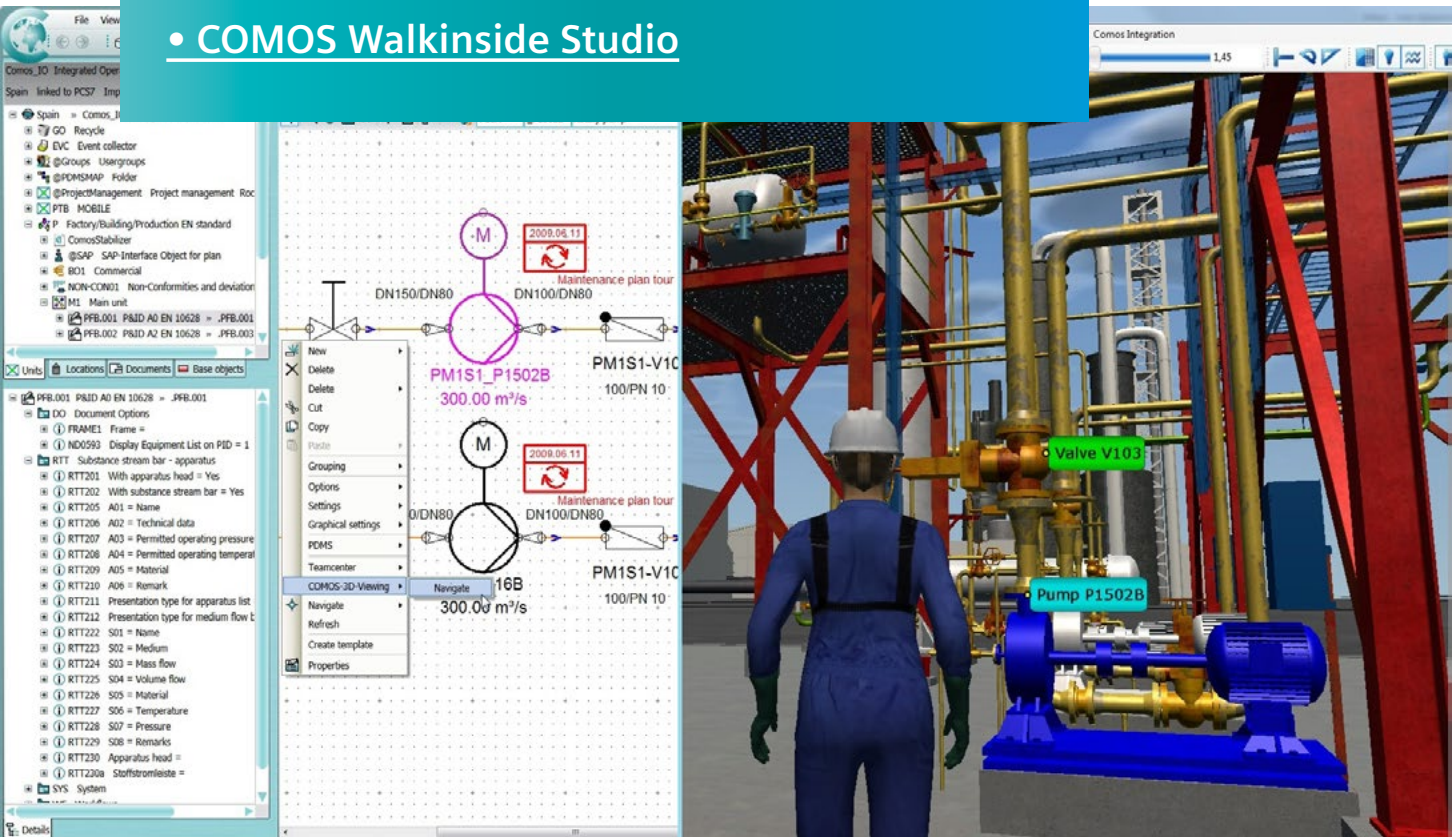
COMOS Walkinside
Product Information
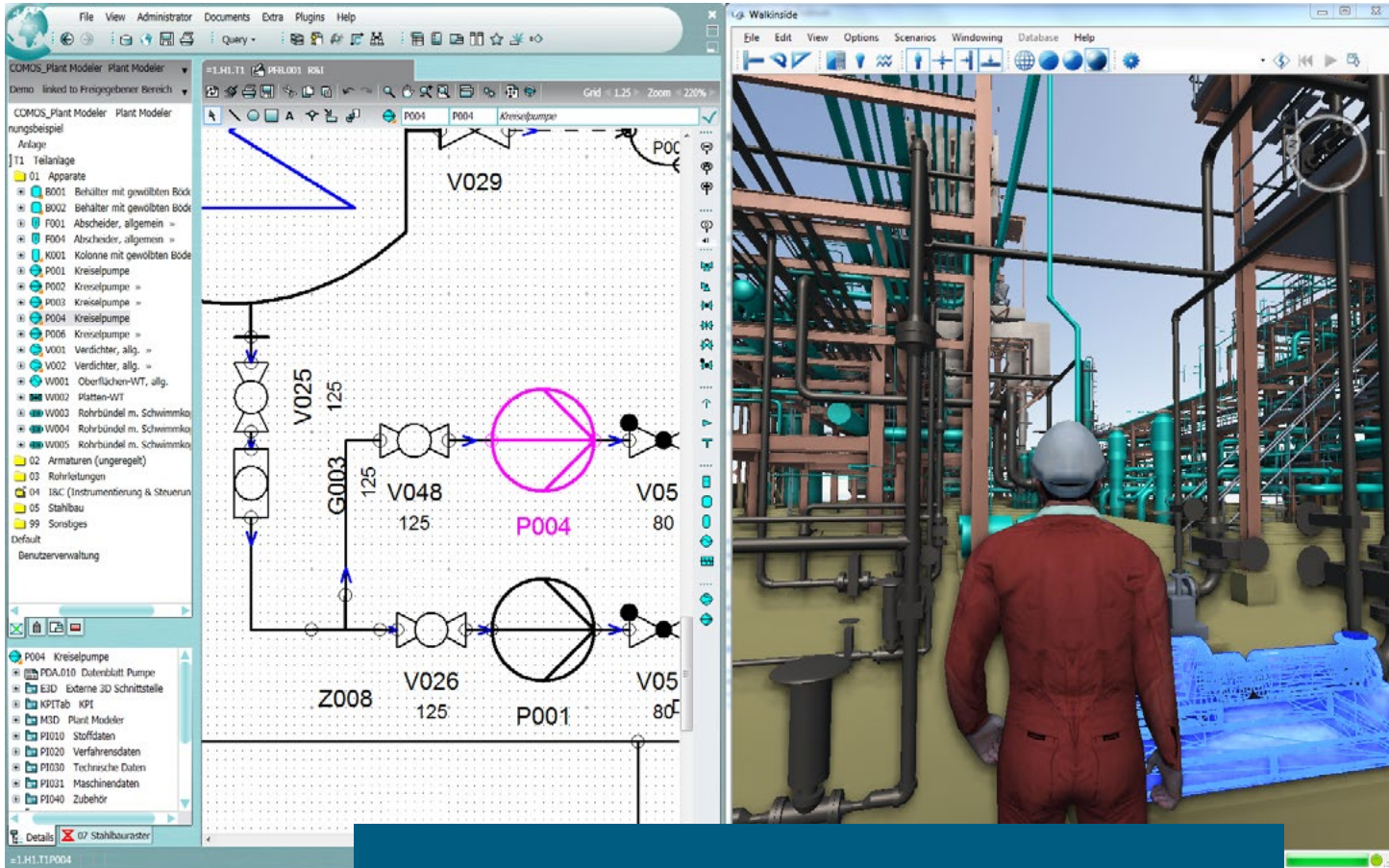
siemens.com/comos

COMOS Walkinside is a virtual reality platform for Asset Lifecycle Management (ALM). Its powerful 3D visualization enables the end user to intuitively navigate through the virtual asset model, run through various scenarios to train field operators or make safety assessments. COMOS Walkinside can be easily integrated with other tools that are part of the ALM solution, resulting in a complete ALM solution with an easy to use Virtual Reality access point.

COMOS Walkinside portfolio is divided into two main categories:
- **COMOS Walkinside Asset VR**
- **COMOS Walkinside Studio**

Content

COMOS Walkinside Asset VR

COMOS Walkinside Asset VR category helps the Owner Operators to create static environments to be used during the daily operation over the entire asset lifecycle.

Right from the Design phase, where Owner Operators are involved to provide feedback based on Accessibility Design reviews or Safety Design Reviews, COMOS Walkinside Asset VR is used to easily and intuitively walk through the engineered 3D project without the need for complicated engineering tools.

When the 3D project also has intelligence attached to it, the Owner Operator can easily use the 3D model as a color-based dashboard to quickly analyze the system status at any time during the asset lifecycle.

Its intuitive navigation allows COMOS Walkinside to be used for the planning phases of commissioning, maintenance operations, daily tasks such as inspections or alarm mitigation, etc. It is helping the planning team to make sure that all required points of view, including the surrounding area of interest, have been taken into account. Thus they can make better, faster and safer decisions without having to visit the asset.

COMOS Walkinside Asset VR category includes the following products:

1. COMOS Walkinside Viewer

COMOS Walkinside Viewer is a product for users who want to work with COMOS Walkinside on a daily basis in order to achieve various objectives.

From the very early Design phase, where Owner Operators are involved in providing feedback based on Accessibility Design Reviews or Safety Design Reviews, COMOS Walkinside makes it easy to intuitively walk through the engineered 3D project without requiring any engineering tools.

The COMOS Walkinside Viewer allows the user, in addition to the standard navigation, to interface with PI (Process Information) from OsiSoft or OPC Servers for displaying real time values, LFM Server for visualizing Point Clouds, load CFD simulation results from FLACS and load status from CSV. In addition Stereo and Head Mounted Displays (HMDs) such as Sensics zSight or Oculus Rift are supported.

By using the SDK, developers can also enhance or develop new functionality to fulfill their individual needs.

If the project is available on a centralized server, the COMOS Walkinside Viewer can directly access the online project and use it for daily tasks such as adding notes or comments. These notes are immediately distributed to all other users.
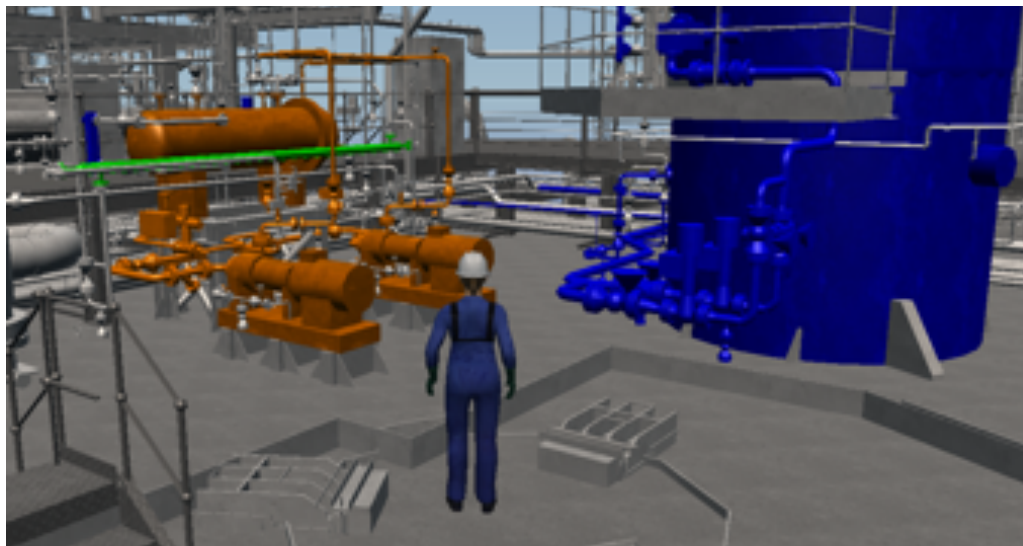
2. COMOS Walkinside Publisher

COMOS Walkinside Publisher allows the 3D model administrator to build the 3D Virtual Reality COMOS Walkinside project from the Engineering CAD design. The COMOS Walkinside Publisher also allows the administrator to visualize the built 3D projects and ensure that future users have a proper Virtual Reality environment.

Once these 3D projects are generated, the administrator can immediately distribute them to all other users via the COMOS Walkinside Server.
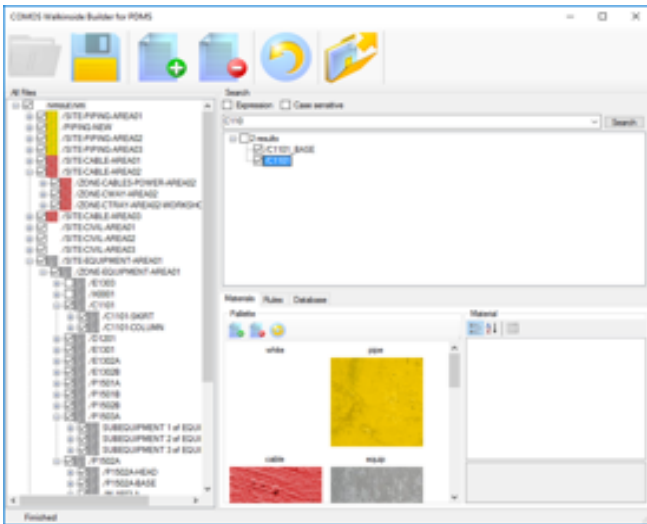
The following CAD formats are supported:

- **Intergraph SmartPlant 3D:** Based on SAT and XML files, the generated COMOS Walkinside project contains geometry and attributes.

- **AVEVA PDMS:** Through RVM and attribute dump, the generated COMOS Walkinside project contains geometry and attributes. The Builder for PDMS also allows the generation of rules in order to automate the removal of non-required geometry. In addition, the Builder for PDMS allows the generation of rules in order to automate dedicated coloring and texturing.

- **JT:** The Builder for JT generates a COMOS Walkinside project that contains geometry, textures and JT properties.

- **Intergraph PDS:** The PDS project export (dgn, prp, drv, dri) generates a COMOS Walkinside project that contains geometry and attributes. Hint: MicroStation from Bentley must be installed as a prerequisite.

- **Autodesk 3dsMax:** Direct export from 3dsMax to generate a COMOS Walkinside project that contains geometry and textures.

- **Autodesk AutoCAD:** Direct export from AutoCAD to generate a COMOS Walkinside project that contains geometry.

- **Bentley MicroStation:** Direct export from MicroStation to generate a COMOS Walkinside project that contains geometry and textures as well as Mstags.

- **Dassault Systèmes SolidWorks:** Direct export from SolidWorks to generate a COMOS Walkinside project that contains geometry and textures.

3. COMOS Walkinside Server

COMOS Walkinside Server is a Client-Server solution with web service communication. It has the following features:

- Central storage of COMOS Walkinside 3D projects and Management of the various models in an IT-controlled environment ensuring that users always work with the latest version of the project.

- Support of automatic archiving of previous 3D model versions so these can be kept as backup until the final erasure of an older version desired.

- Support authenticated user access via their active directory or local account. The model geometry data is transparently transferred to the client PC which allows maximum real-time Walkthrough performance because the geometry is locally rendered. This avoids rendering performance losses due to Client-Server architecture.

- Multiple users are able to work simultaneously on the same Walkinside model, and different viewpoints, redlines or other information can be entered by any of them. All data added is automatically stored in the centralized database.

- Optionally, software distribution can be centralized on the web portal for managing Viewer client software updates and deployment.

- Execute automatic upgrades, upload and publish new COMOS Walkinside project versions, automating the whole process; from CAD model export to end user publishing using different batch jobs.

- Handling a centralized Virtual Room service for multiuser environment setup, allowing the users to virtually meet and work together on different scenarios.

4. COMOS Walkinside PreViewer

COMOS Walkinside PreViewer is a very basic free viewer that allows the users to have a quick and basic review of the 3D projects.. It is only available for existing COMOS Walkinside users.

Your Benefits with COMOS Walkinside Asset VR:

- **Faster project execution, commissioning and "time to market" through improved collaboration**

- **Cost savings through consistent plant information available at all times**

- **Higher plant availability**

- **Safe and efficient plant operations**

COMOS Walkinside Studio

COMOS Walkinside Studio category helps the Owner Operators to develop interactive environments for the simulation of various scenarios.

These interactive scenarios can later on be used to gain new competencies or enhance already available competencies through training. The interactive scenarios can also help with maintenance planning, commissioning planning, etc.

Some examples of these interactive scenarios are:

- Familiarization training: A future Field Operator can gain competency on how to locate different equipment, valves, instruments or systems of an asset where he/she will be working.

- Health Safety and Environmental training (HSE): Gain competency for emergency situations through virtual reality emergency training, where the Field Operator reacts to different incidents such as fire, gas leak, man down, etc.

- What if scenarios: Field Operator acquires competency based on defined actions to be executed in order to solve a given incident such as, for example, a high pressure fire.

- Standard Operating Procedures (SOP): The Field Operator is able to enhance his/her daily Standard Operating Procedure competencies by simulating the steps to be taken in advance, for example, to maintain a pump.

- Non Standard Operating Procedures: The Field Operator gains competencies on non-Standard Operating Procedures, for example, Start Up or Shut Down procedures.

- Safety assessment: Safety managers can create interactive scenarios to check if all the emergency scenarios that should be taken into account are correct. Safety managers can also check if the safety measures that need to be taken are in place; for example, if the deluge system is correctly located in case of a given high pressure fire affects a critical equipment from a given direction.

Collaborative interactive scenarios are available in order to make sure that the Field Operator teams can work together to gain global team competencies.

It is very important to have competent Field Operators and Field Operator Teams working on the asset.
The better prepared the team is, the less downtime for the asset, the higher the safety standards that can be met, and better and faster decisions can be made at any time.

COMOS Walkinside Studio category includes the following products:

1. COMOS Walkinside Player

COMOS Walkinside Player is the product for those users who want to be able to 'play' the interactive scenarios that were previously prepared using the COMOS Walkinside Editor or COMOS Walkinside Instructor products.

The Scenario Player contains a simple and intuitive GUI to start the available scenarios in a single project and also allows the integration of an existing virtual room for collaborative scenarios, for example, to gain further competency in the various areas through training and simulation.

In order to keep track of the completed scenarios, the COMOS Walkinside Player can provide a final report including all the actions taken while completing the training.

If the project is available on a central server, the COMOS Walkinside Player can access the online project directly and execute the corresponding scenarios from a secure environment avoiding extra copies of the same COMOS Walkinside project on each local client.

The Scene Player also allows the user to perform all the daily tasks as it contains all the functionality of the COMOS Walkinside Viewer.

2. COMOS Walkinside Editor

COMOS Walkinside Editor allows the administrator of the VR 3D model administrator in charge to prepare different interactive scenarios to make sure that the engineering CAD drawingsare sufficient to build the 3D Virtual Reality COMOS Walkinside project and that the interactive scenarios can be created on top of this using the Scenario Editor, the Incident Editor and the Smart object Editor.

The moment that these scenarios are generated the administrator can also immediately test them or publish them using the COMOS Walkinside Server for all the other users.

The supported CAD formats are:

- **Intergraph SmartPlant 3D:** Based on SAT and XML files, the generated COMOS Walkinside project contains geometry and attributes.

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The process that the model administrator should follow from the moment the 3D CAD model is received until it is published for the standard COMOS Walkinside Player users is the following one:

Build
COMOS Walkinside Project

Create
Interactive Scenarios

Upload and publish in
COMOS Walkinside Server

3. COMOS Walkinside Instructor

COMOS Walkinside Instructor is the product for training instructors who will need to manage interactive collaborative scenarios as well as editing already existing scenarios to be improved or create new ones.

The training instructor will be able to guide predefined interactive scenarios such as Standard Operating Procedures or non-predefined Emergency Scenarios that need to be addressed by a team.

At the end of each session, the instructor will be able to get a complete report with the individual actions taken by each and every trainee that participated in the training session.

The main difference compared to the COMOS Walkinside Editor is that with this product the user will not be able to generate the 3D Walkinside projects directly from the CAD engineering drawings, but will be able to become the instructor that guides/manages collaborative multi user trainings.

If the project is available on a centralized server, the COMOS Walkinside Instructor can access the online project directly and manage the related interactive scenarios from a secure environment.

Your Benefits with COMOS Walkinside Studio:

- Fewer incidents and accidents
- Faster time to productivity
- Retention of key knowledge
- Reliable documentation

Product/Feature table

Solution Name	COMOS Walkinside Asset VR			COMOS Walkinside Studio		
Product Name	COMOS Walkinside **PreViewer**	COMOS Walkinside **Viewer**	COMOS Walkinside **Publisher**	COMOS Walkinside **Player**	COMOS Walkinside **Editor**	COMOS Walkinside **Instructor**
Builder Functionality						
Convert 3D CAD models to Walkinside .vrp files			•		•	
AutoCAD plugin			•		•	
3ds Max plugin (textures supported)			•		•	
3ds Max Design plugin (textures supported)			•		•	
MicroStation with textures plugin (textures supported)			•		•	
MicroStation batch builder			•		•	
SolidWorks plugin converter (textures supported)			•		•	
JT Standalone Converter (texture Supported)			•		•	
JT Properties as DB Supported			•		•	
JT batch builder			•		•	
Multiple database support			•		•	
PDMS standalone converter			•		•	
PDMS CAD Hierarchy			•		•	
PDMS Engineering database			•		•	
PDMS batch builder			•		•	
PDMS rules based builder			•		•	
PDS plugin MicroStation			•		•	
PDS Engineering database			•		•	
PDS batch builder			•		•	
SP3D Data Stractor			•		•	
SP3D standalone converter			•		•	
SP3D System Hierarchy			•		•	
SP3D Engineering database			•		•	
SP3D batch builder			•		•	
Standard Viewer / PreViewer Functionality						
Real-Time Interactive Viewer	•	•	•	•	•	•
View Walkinside *.vrp, vrz, vrn files	•	•	•	•	•	•
Multiple rendering modes	•	•	•	•	•	•
Fly-through Navigation	•	•	•	•	•	•
Set performance settings	•	•	•	•	•	•
Altimeter & Compass	•	•	•	•	•	•
enable/disable heightmap	•	•	•	•	•	•
Set heightmap	•	•	•	•	•	•
Enable/disable Ocean	•	•	•	•	•	•
Enable/disable logo	•	•	•	•	•	•
Set logo	•	•	•	•	•	•
Static Skybox	•	•	•	•	•	•
Dynamic Skybox	•	•	•	•	•	•
Back Face Culling	•	•	•	•	•	•
Locked Vertical Position Navigation	•	•	•	•	•	•
Enable/disable Back Light	•	•	•	•	•	•
Point-to-Point distancwe measurement	•	•	•	•	•	•

Solution Name	COMOS Walkinside Asset VR			COMOS Walkinside Studio		
Product Name	COMOS Walkinside **PreViewer**	COMOS Walkinside **Viewer**	COMOS Walkinside **Publisher**	COMOS Walkinside **Player**	COMOS Walkinside **Editor**	COMOS Walkinside **Instructor**
Standard Viewer / PreViewer Functionality						
Point-to-Point angle measurement	•	•	•	•	•	•
Import XML Viewpoint list	•	•	•	•	•	•
View Viewpoints	•	•	•	•	•	•
Create, Import & Export Viewpoint	•	•	•	•	•	•
Import XML Redlines list	•	•	•	•	•	•
View Redlining Comments	•	•	•	•	•	•
Full screen mode	•	•	•	•	•	•
Save/Reload Walkinside model settings & window layouts	•	•	•	•	•	•
Screenshot Capture	•	•	•	•	•	•
Support for DirectX Game Controllers	•	•	•	•	•	•
Multi-Screen support	•	•	•	•	•	•
Access CAD hierarchy through 3D Model	•	•	•	•	•	•
Access Fuctional Reference Tree hierarchy through 3D Model	•	•	•	•	•	•
Jumpto X,Y,Z position	•	•	•	•	•	•
Publish to VRZ	•	•	•	•	•	•
Advance Viewer Functionality						
Immersive Navigation in first person mode		•	•	•	•	•
Gravity & Collision Detection		•	•	•	•	•
Locate Position on 2D Key Map		•	•	•	•	•
Create, Import & Export 3D Redlining		•	•	•	•	•
Create, Import & Export Viewpoint		•	•	•	•	•
Multiple Engineering Database format support		•	•	•	•	•
CAD hierarchy Query		•	•	•	•	•
View Engineering Database Attributes		•	•	•	•	•
Access 3D Model through CAD hierarchy		•	•	•	•	•
Engineering Database SQL Lite Query		•	•	•	•	•
Advanced Engineering Database Query		•	•	•	•	•
Basic Quick Search		•	•	•	•	•
Colorize Quick Search Results		•	•	•	•	•
Show Only Quick Search Results		•	•	•	•	•
Infotip		•	•	•	•	•
Clipping		•	•	•	•	•
Hide/Show Objects		•	•	•	•	•
Functional Reference Tree		•	•	•	•	•
CAD Based Measuring		•	•	•	•	•
Attach Walkinside Submodels in Assembly model		•	•	•	•	•
Move Walkinside Submodels		•	•	•	•	•
Scale Walkinside Submodels		•	•	•	•	•
Walking Avatar (including safety avatars)		•	•	•	•	•
Immersive Navigation in third person mode		•	•	•	•	•
Hands-up, run, crawl, swim, fly, climb stairs & ladders		•	•	•	•	•
Choose Avatar		•	•	•	•	•
Resize Avatar		•	•	•	•	•
Curve Editor		•	•	•	•	•
Animation Manager		•	•	•	•	•

Solution Name	COMOS Walkinside Asset VR			COMOS Walkinside Studio		
Product Name	COMOS Walkinside **PreViewer**	COMOS Walkinside **Viewer**	COMOS Walkinside **Publisher**	COMOS Walkinside **Player**	COMOS Walkinside **Editor**	COMOS Walkinside **Instructor**
Advance Viewer Functionality						
Video Recording		•	•	•	•	•
Load Status from excel		•	•	•	•	•
Dynamic URL for document management		•	•	•	•	•
Walkinside HTTP Server		•	•	•	•	•
Training Functionality						
Connect to a Virtual Room for collaboration session		•	•	•	•	•
Report after the Scenario is finished				•	•	•
Play the available Scenarios through easy access toolbar				•	•	•
Use available Inventory				•	•	•
Create familiarization Scenarios					•	•
Create HSE Scenarios					•	•
Create Standard Operating Procedure Scenarios					•	•
Create What If Scenarios					•	•
Create Fire Incident					•	•
Create Smoke Incident					•	•
Create gas leak Incident					•	•
Create liquid leak Incident					•	•
Create High Pressure Fire Incident					•	•
Create Proximity Zone Incident					•	•
Create Man down Incident					•	•
Create Alarm incident					•	•
Attach game object					•	•
Create Smart Objects					•	•
Import/Export Scenarios					•	•
Import/Export Incidents					•	•
Create a Virtual Room						•
Control Multi User collaboration Scenarios						•
Start collaboration trainings						•
Set settings for the training session						•
God mode to follow trainees						•
Messenger with trainees						•
Publish Globally HSE incidents						•
Access to logs						•
Export logs into XML						•
Add-on Functionality						
3D Stereo Support		•	•	•	•	•
CFD Interface FLACS		•	•	•	•	•
LFM Server Interface		•	•	•	•	•
OSIsoft PI Interface through direct comunication		•	•	•	•	•
Unidirection OPC Server Interface		•	•	•	•	•
Sensics zSight HMD		•	•	•	•	•
Oculus Rift HMD		•	•	•	•	•
SDK Runtime		•	•	•	•	•