Remarkable simplification of the engineer's daily business

UniversalPlantViewer is a popular tool suite that has been consistently expanded thanks to customer feedback. That's why the software is able to do much more than just visualise 3D plant models.

Process and engineering industries are among the most exciting career paths you can choose today. However, it will probably take some time before planners, engineers, and maintenance personnel in this sector can benefit from standardisation and modularisation that already are common in other industries. Add to that all the individual challenges of working with teams, suppliers and regulators on site: No internet connection, proprietary documentation, problems with coordinating tasks, and so on.

Munich based CAXperts GmbH addresses these challenges with its software solutions. UniversalPlantViewer is a popular tool suite that has been consistently expanded thanks to customer feedback. That's why the software is able to do much more than just visualise plant models.

Just for everyone

Software for plant modelling is usually expensive and difficult to understand for beginners. That's why visualisation is often done with simpler solutions that restrict information or aren't interactive. That makes proper access difficult. UniversalPlantViewer is a software that can be started without prior installation. Everyone can download it to his computer or their smartphone and can use it without training. It's based on an efficient game engine that allows to display even large 3D models with little computational power.

The viewer runs on various hardware platforms and also facilitates work for engineers and technicians. Even without internet connection everyone can compare what's planned for the project. You can define individual tasks for every component and every employee. After completion those tasks can be collected for a new status.

The vendor has customised the system for individual customers so that maintenance personnel simply has to follow a pre-defined workflow. Welds, valves, etc. that need to be checked can be accurately described and displayed inside the 3D model. Every component can be linked to the model with a QR code that can be scanned using UniversalPlantViewer on a portable device. This can shorten the training period for maintenance personnel and makes it easier to check every component. An employee can simply look at his assignment while the viewer will lead him to the right place so that he can check or repair the part and insert a comment or a photo for confirmation directly from his device.

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UniversalPlantViewer
– make the digital model accessible

Solutions for planning and maintenance tasks

Comprehensive design tools for industrial plants offer a level of detail that is often unnecessary. If a tool is too complex, planners rather prefer a whiteboard to work with. And if rendering takes too long, every subcontractor has to wait for an unnecessary long time to get all information.

The viewer offers an integrated sketching tool that can also be used on large touchscreen monitors. The existing plant model can be modified without prior training or easily extended with templates for pipes, containers, and so on. Changes can easily be saved and sent as a separate file without the need to recalculate the whole model. This can be used to create different variants in just a few minutes. In addition, the viewer offers the possibility to exclude specific areas and thereby provide information to individual project participants that is relevant to them or that they are allowed to see.

For further information with respect to latest data review technologies visit **www.caxpert.com**

One source for all documents

The product family includes UniversalPlantViewer Builder which supports all industry-standard data formats, covering point clouds for merging them into a virtual model. Any links to online and offline resources such as web pages, documents, P&IDs, or Microsoft Excel spreadsheets can be included. Most file formats can be opened natively in UniversalPlantViewer which saves time and computing resources.

The viewer provides a seamless transition between 3D view, P&ID, and isometrics. With one click users can switch to the next pipeline section on another document or navigate between 3D and 2D views.

From visualisation tool to multi-function tool for the process industry

Occasional users of the viewer appreciate its straightforward user interface. When using it in more detail you will discover that it offers many helpful use cases for the process industry. The tool can be easily controlled with deep linking from external documents such as Microsoft Excel spreadsheets or websites. What once was a time-consuming procedure is becoming a single click. It is possible for example to select

all pipelines in a certain area, to expand the view to fill the screen or to grey out all other components. The colour tool can also be controlled externally for example to highlight the construction progress. And thanks to the application programming interface (API), UniversalPlantViewer can also be easily integrated into other tool chains in order to tailor the control and output of data to specific tasks.

Keep track of large projects

CAXperts put great emphasis on developing an intelligent search function. Users will get results from 3D and 2D data, even if they are searching with wildcards. All attributes such as material, date of last edit, and dimensions can be searched with exact matches and a fuzzy search. You can adapt how a plant model is displayed and load your customisation when UniversalPlantViewer starts.

The plant model always remains the same and provides the proper perspective for your current needs. With UniversalPlantViewer you are never in doubt if a plant model is still up-to-date. At start up, all available models and additional data will be displayed. You can set an expiration date for each model that forbids further use after it has expired. In the tool you can save various views and display options (colour, transparency, insulation) for later use or to quickly jump back and forth between them.
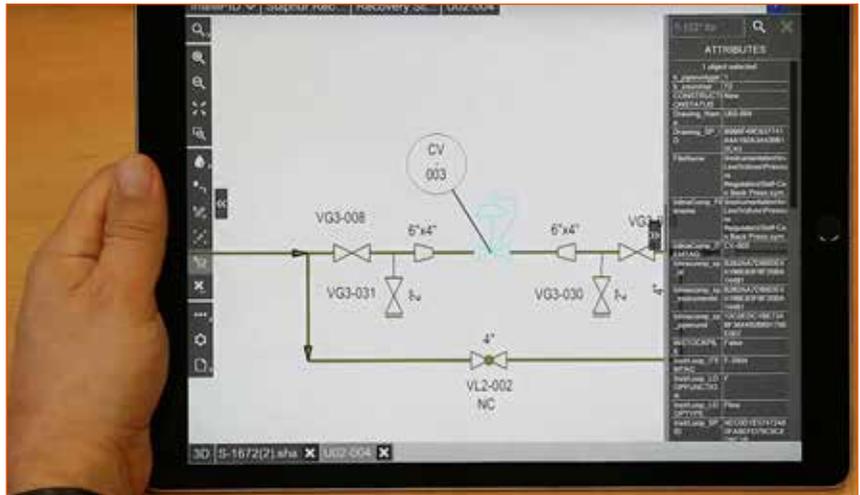
Insert custom attributes. UniversalPlantViewer also offers great flexibility when working with attributes. Existing attributes are kept when creating the model, but you can also add your own attributes. With this feature it is possible to add information quickly and to restructure existing data.

Easy reporting. Reporting in UniversalPlantViewer and the entire tool is designed for quick and easy use. With predefined reports, users receive all existing information without delay. You can personalize the tool to exactly get the data you need. It is available as Microsoft Excel export or directly in UniversalPlantViewer. There information can be searched, filtered and visualized as 3D model and attribute data.
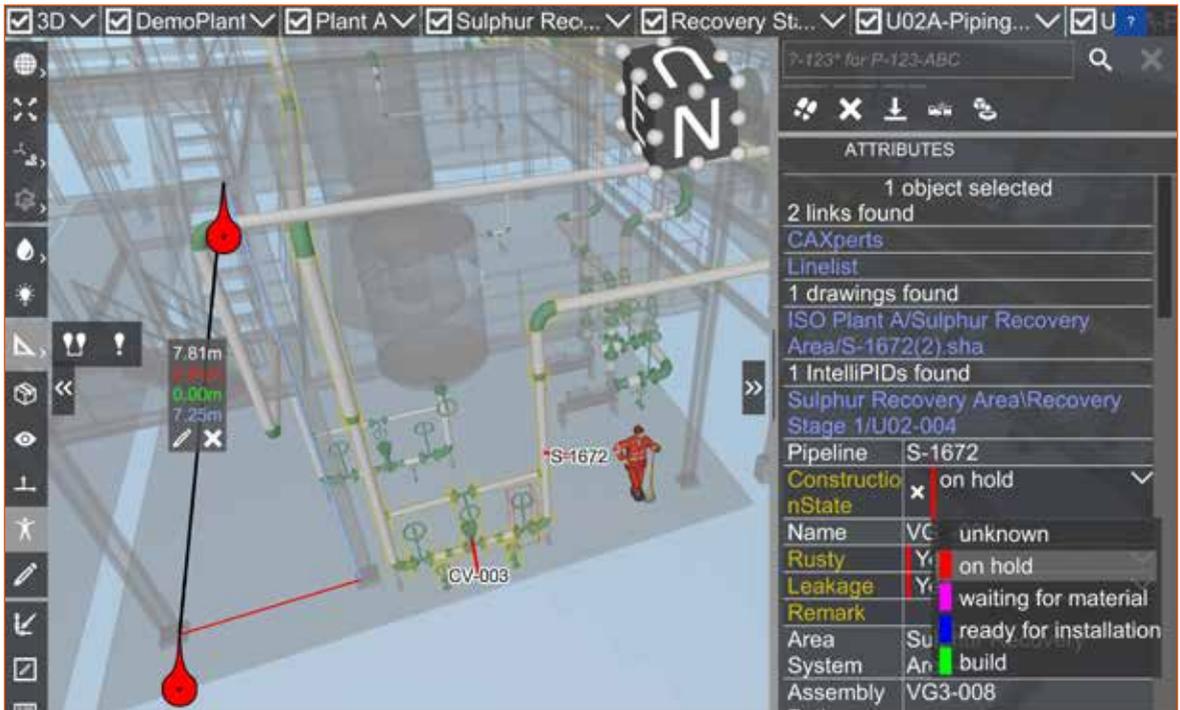
Working with UniversalPlantViewer

Simplifying work in the process industry is no end in itself but should end unnecessary costs. The vendor's innovative license system contributes to this and viewing on all devices (iOS, Android, Windows) is free of charge. Thus, every internal and external team member can use the 3D model including all associated documents and functions.

Working with UniversalPlantViewer is very easy. With basic computer skills and the documentation available directly in the viewer, on the website, and as tutorial videos, you get quickly familiar how to benefit. The software supports several language versions, so even multilingual teams can collaborate based on the viewer. Additionally, there is training available by CAXperts consultants.

↑ *UniversalPlantViewer*
– same information also mobile

UniversalPlantViewer provides a perfect overview about what's going on in the project. This allows you to transfer the benefits of digitalisation to the design, construction and maintenance of industrial plants. In seconds you can find individual components and modules, information is available all the time and tasks can be coordinated and executed wherever and whenever you want.

↑ *UniversalPlantViewer*
  – access and edit all information

↓ *UniversalPlantViewer*
  – redline/sketch/design for everybody