



CUSTOMER CASE STUDY

Wacker Chemie ups efficiency with cloud-hosted engineering environment

Wacker Chemie - www.wacker.com
Industry - Chemicals

Challenges

- Inconsistent and out-of-date 3D plant models hindered operational efficiency, increasing costs and risks
- Decentralized data hosting required excessive administration and engineering effort to share plant models with stakeholders in the global engineering supply chain

Solution

- Deployed AVEVA™ Unified Engineering to establish cloud-based data sharing across its global supply chain, enabling—in concert with AVEVA™ Point Cloud Manager—an evergreen digital twin

Results

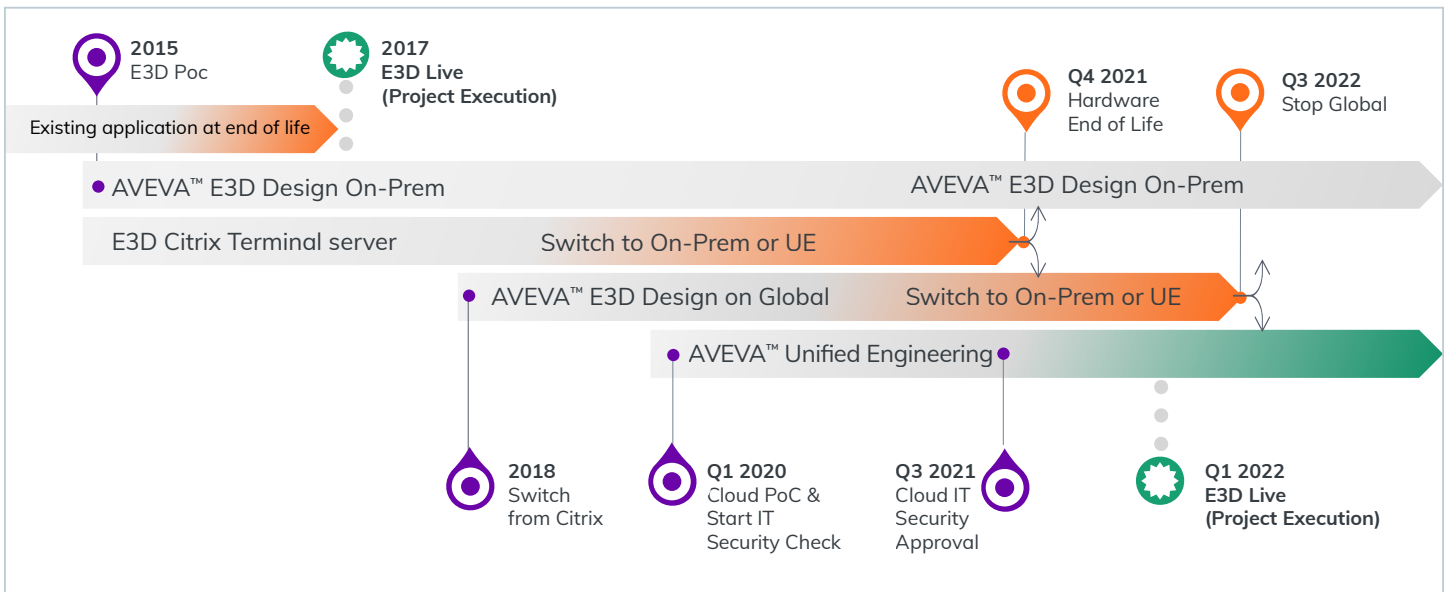
- Digital twin in the cloud will increase operational efficiency
- Reduced administrative time and effort significantly
- Digital engineering environment improved project flexibility and scalability
- Cloud-based data storage increased IT security

The German chemicals company, Wacker Chemie, has been innovating for over 100 years. Founded in 1914 by Dr. Alexander Wacker, the company remains family-owned and based in Munich, but its operations and aspirations are now global. To reach its targets of €10 billion sales by 2030 and net-zero emissions by 2045, it needed to run concurrent engineering projects more efficiently. However, its decentralized data hosting meant that it had to rely on administrators to manually propagate its updated projects across its hosting platforms to ensure that its engineering teams were on the same page. To resolve this inefficiency and take a step toward its targets, Wacker Chemie set out to construct and implement a centralized data environment with AVEVA Unified Engineering that would enable collaboration and concurrent engineering across its global teams.

“We deployed AVEVA Unified Engineering to enable central data hosting, concurrent engineering, global access and flexible scaling.”

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Thomas Mairhofer
 Director of Digital Engineering Applications, Wacker Chemie

AVEVA E3D Architecture Implementation



Wacker Chemie already had a relationship with AVEVA when it began searching for a cloud-based data hosting solution—and found the right one for the enterprise with AVEVA Unified Engineering

The promise of concurrent engineering

Wacker Chemie produces a diverse array of biosolutions, silicones, polymers and polysilicones for a wide variety of commercial sectors, from the automotive and transport industries to the industrial biotechnology sector. Working globally and across so many industries and sectors simultaneously, Wacker Chemie knew it could reap huge benefits from increased efficiency if it could more seamlessly integrate its diverse set of stakeholders and external contractors in its parallel projects.

Before it adopted AVEVA Unified Engineering, Wacker Chemie's traditional installation of on-premises servers required manual updating and reconciliation. This meant that there could be different versions of the 3D plant models across the different stakeholders involved in a project. To ensure that consistent data was readily present, the teams relied heavily on administration assistance to maintain the data across the multiple locations, increasing project time and cost.

After Wacker Chemie adopted AVEVA Unified Engineering, administrators no longer had to work on multiple models on multiple systems, but could simply operate directly on the single model in the cloud. As a result, the company can implement large capital investment projects with unprecedented speed.

The high performance of the 3D engineering environment

By the beginning of 2024, Wacker Chemie had successfully migrated 90% of its new projects in Europe to AVEVA Unified Engineering on the cloud. The platform was able to handle parallel projects such as optimization, maintenance, and shutdown procedures. It could also successfully resolve many of Wacker Chemie's data sharing problems.

Wacker Chemie chose AVEVA Unified Engineering after its experience with AVEVA™ E3D Design On-Premises since 2015 and AVEVA™ E3D Design on Global as an intermediate solution between 2017 and 2021. Working with AVEVA, Wacker Chemie has been able to create a cloud-hosted digital engineering environment that enables it to unleash the power of concurrent engineering. It now can benefit from new flexibility and scalability of projects and can integrate new designers and contractors more quickly than ever.

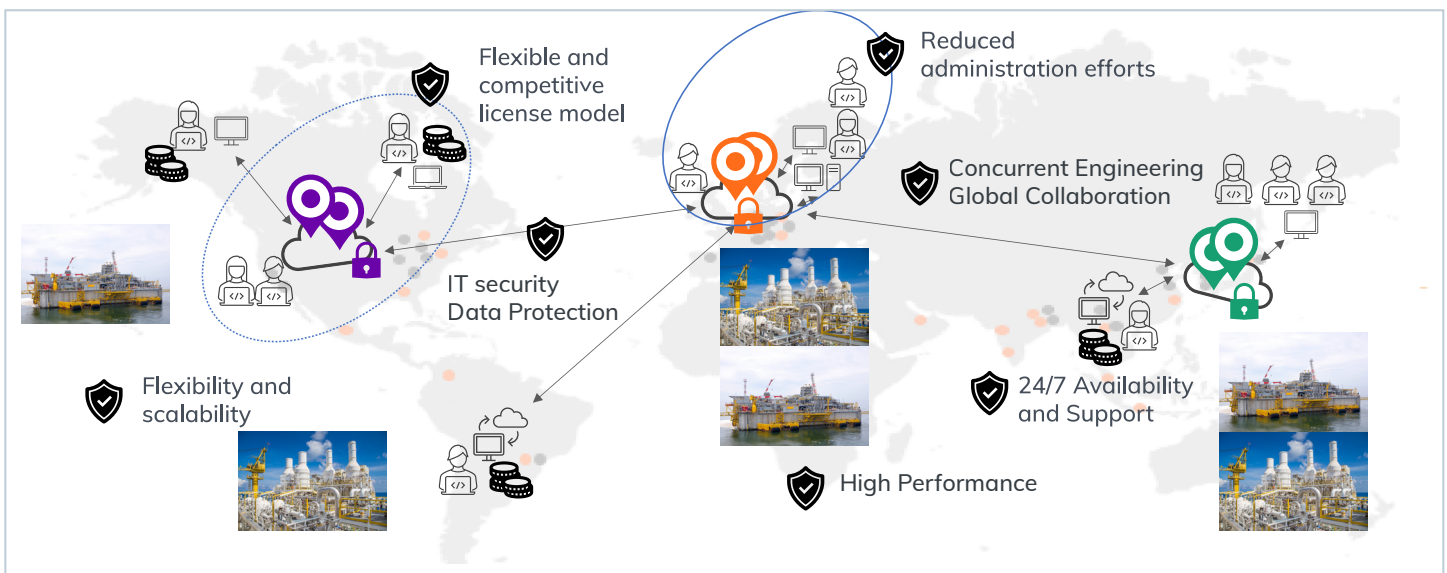
“AVEVA Unified Engineering is a very good combination with AVEVA Point Cloud Manager. Together, they provide the best view on our models.”

Thomas Mairhofer

Director of Digital Engineering Applications, Wacker Chemie

AVEVA Unified Engineering as strong foundation to overcome our data-sharing challenge

WACKER



With the cloud data hosting of AVEVA Unified Engineering, Wacker Chemie has been able to reduce administrative efforts necessary for global collaboration in its concurrent engineering projects

A secure cloud-based foundation for a digital twin

The company conceives the cloud-based data sharing as the prerequisite for Wacker Chemie's first digital twin—an evergreen 3D plant model. By combining AVEVA Unified Engineering with AVEVA™ Point Cloud Manager, Wacker Chemie can reference laser scans both on premises and in the cloud. The central hosting enables Wacker Chemie to gather together the regularly updatable and detailed data that is needed for a true digital twin.

Wacker Chemie has also benefitted from cloud-based data storage's increased IT security. Now that it can easily grant its contractors and stakeholders access to the data on the cloud, the company no longer has to use portable hard drives to allow for multiple stakeholders to engage project models.

With everyone synced on one place in the cloud, Wacker Chemie is both more efficient and more secure—as its teams have visibility on its data at all times.

“AVEVA Unified Engineering is the right solution for efficient and performant data sharing with stakeholders and strategic partners in the global engineering supply chain. The solution is an important pillar for achieving our strategic goals—growth and sustainability.”

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Joey Greear

Engineering Manager, Process Control and Digital Engineering Applications, Wacker Chemie

Additional product capabilities and space for improvements



Unified Engineering and Point Cloud Manager

- UE: Centrally hosted 3D data (E3D + laser scan) to create a true, available and detailed “Digital Twin”
- PCM: Lasers can be referenced on-prem or within Unified Engineering with E3D
- PCM: No data leakage by distributing the data using portable hard drives “Need to Know”
- Project engineering and plant management access for simple monitoring and reviews



Contractors to bring and use their own credits



Improve connectivity with existing application environment

- Existing CAE Application
- Document Management



Global rollout

- EMEA: Progress 90%
- AMER: Started, currently only administrative tasks
- APAC: Focus on a solution for China



Wacker Chemie has used AVEVA Unified Engineering's cloud-based data hosting to create the foundation for an evergreen digital twin—and continues to seek out further applications.



Because of the new security and efficiency benefits, Wacker Chemie is now focusing on rolling out its new model in the United States. It has already begun beta testing at its facility in Charleston, Tennessee and expects the new cloud-based model to facilitate the improved collaboration and more evergreen modeling from which its

European teams are already benefitting. Wacker Chemie is also looking forward to collaborating with AVEVA to expand its cloud-driven use of AVEVA Unified Engineering to the Asia and Pacific region, where it hopes to realize similar efficiency gains in its operations in China.

References:

Greear, Joey and Thomas Mairhofer. Wacker Chemie AG: "The path to efficient and consistent processing of 3D plant models." resources.osisoft.com/presentations/wacker-chemie-ag--the-path-to-efficient--consistent-processing-of-3d-plant-models-in-the-cloud

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