Wacker Chemie AG: The path to efficient and consistent processing of 3D plant models

Joey Greear, Thomas Mairhofer
WACKER Supplies Products and Solutions for Key Global Industries

Wacker Chemie AG

• Is a technology leader in the chemical and semiconductor industries
• Forges ahead with technical innovations and the development of new products for the world’s key industries
• Offers solutions and innovations for a broad range of sectors:
Over 100 Years of Success

Wacker Chemie AG

• Founded in 1914 by Dr. Alexander Wacker
• Headquartered in Munich, Germany

WACKER Group (2022)

• Sales: €8.21 billion
• EBITDA: €2,081 million
• R&D: €178 million
• Investments: €547 million
• Employees: 15,725

Presence in Growth Markets

- Production sites
  (Europe 10 | The Americas 8 | Asia 9)
- Technical centers
  as a basis for sales
Attractive business portfolio with many growth opportunities

Sales in 2022
€8.21bn

- Wacker Polysilicon
  €2,287 million (28%)
- Wacker Polymers
  €1,996 million (24%)
- Wacker Silicones
  €3,453 million (42%)
- Wacker Biosolutions
  €331 million (4%)
- Other
  2%
Concurrent Engineering drives Wacker’s Strategy - Growth & Sustainability

Challenge

• Efficient and performant data sharing of 3D plant models with several contractors and internal stakeholders in the global engineering supply chain
• Not up-to-date 3D plant models impacts operational efficiency -> project and optimization duration, costs and risk's
• Decentral data hosting led to higher administration and engineering efforts

Solution

• Deployed AVEVA™ Unified Engineering for 3D plant design to enable central data hosting, concurrent engineering, global access and flexible scaling -> We spent extra miles to get there!

Results

• Implemented an environment to provide central hosted 3D plant models for investment projects and optimization measures – Rollout in Germany nearly completed, rollout for the US region started
• Created a prerequisite for evergreen 3d plant modeling – Digital Twin
• Reduced administration efforts significantly
Main challenge and Requirements on 3D engineering environment

- Multiple Locations distributed globally
- Internal Project Core Team
- Detailed Engineering mainly by external Eng. Partners
- Parallel Eng. Activities (Optimization, Maintenance, Shutdown, Projects)
- Implement large capital investment projects quickly

Complex Models including large point clouds
- High Performance

- Concurrent Engineering
- Global access
- Flexible scaling
- Competitive license model

Strict Requirements on
- IT security
- Data Protection

- 24/7 Availability & Support
- Low Administration Efforts
E3D Architecture Implementation

- **AVEVA™ E3D Design On-Prem**
- **E3D Terminal server**
  - Switch to On-Prem or UE
- **AVEVA™ E3D Design on Global**
  - Switch to On-Prem or UE
- **AVEVA™ Unified Engineering**

**Timeline:**
- **2015** E3D PoC
- **2017** E3D Live (Project Execution)
- **2018** Switch from Citrix
- **Q1 2020** Cloud PoC & Start IT Security Check
- **Q3 2021** E3D Live (Project Execution)
- **Q4 2021** Hardware End of Life
- **Q3 2022** Stop Global
- **Q1 2022** Cloud IT Security Approval

Existing application at end of life
AVEVA Unified Engineering as strong foundation to overcome our data-sharing challenge

- High Performance
- Flexible and competitive license model
- IT security
- Data Protection
- Concurrent Engineering
- Global Collaboration
- 24/7 Availability and Support
- Flexibility and scalability
- Reduced administration efforts
- High Performance
Additional product capabilities and space for improvements

**Unified Engineering & Point Cloud Manager**

- **UE**: Centrally hosted 3D data (E3D + laser scan) to create a true, available and detailed “Digital Twin”.
- **PCM**: Laserscan 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 & 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
“AVEVA Unified Engineering is the right solution for efficient and performant data sharing with various stakeholders in the global engineering supply chain. 

The solution is an important pillar for achieving our strategic goals - 
Growth & Sustainability ”
Questions?
Please wait for the microphone.
State your name and company.

Please remember to...
Navigate to this session in the mobile app to complete the survey.

Thank you!
Thomas Mairhofer
Director Digital Engineering Applications
• Wacker Chemie AG
• Thomas.Mairhofer@wacker.com

Joey Greear
Engineering Manager, PC & Digital Engineering Applications
• Wacker Chemical Corp
• Joseph.Greear@wacker.com
This presentation may include predictions, estimates, intentions, beliefs and other statements that are or may be construed as being forward-looking. While these forward-looking statements represent our current judgment on what the future holds, they are subject to risks and uncertainties that could result in actual outcomes differing materially from those projected in these statements. No statement contained herein constitutes a commitment by AVEVA to perform any particular action or to deliver any particular product or product features. Readers are cautioned not to place undue reliance on these forward-looking statements, which reflect our opinions only as of the date of this presentation.

The Company shall not be obliged to disclose any revision to these forward-looking statements to reflect events or circumstances occurring after the date on which they are made or to reflect the occurrence of future events.
ABOUT AVEVA

AVEVA is a world leader in industrial software, providing engineering and operational solutions across multiple industries, including oil and gas, chemical, pharmaceutical, power and utilities, marine, renewables, and food and beverage. Our agnostic and open architecture helps organizations design, build, operate, maintain and optimize the complete lifecycle of complex industrial assets, from production plants and offshore platforms to manufactured consumer goods.

Over 20,000 enterprises in over 100 countries rely on AVEVA to help them deliver life’s essentials: safe and reliable energy, food, medicines, infrastructure and more. By connecting people with trusted information and AI-enriched insights, AVEVA enables teams to engineer efficiently and optimize operations, driving growth and sustainability.

Named as one of the world’s most innovative companies, AVEVA supports customers with open solutions and the expertise of more than 6,400 employees, 5,000 partners and 5,700 certified developers. The company is headquartered in Cambridge, UK.

Learn more at www.aveva.com