





### Effective layout planning at FILL

### Dynamic and efficient use of available space using AREAPLAN

For more effective layout planning of their machine assembly halls, Fill decided to move away from 2D cut-outs and use 3D simulations instead. The growing machine and plant manufacturing company now use AREAPLAN to optimize assembly hall areas with up to 30,000 m² of configurable space. The new 3D solution supports both scheduling and capacity planning in construction site assembly and is based on VISUAL COMPONENTS simulation platform for three-dimensional factory simulation.

#### World market and innovation leader

Fill GmbH is a leading international machine and production line supplier for clients in the automotive, aerospace, wind energy, sports and building industries. With special expertise in a variety of materials, the company is seen as a market leader and innovator for aluminium de-coring, foundry machines, and wood bandsaw processing lines. Also with composites, Fill is the forerunner for ski and snowboard production machinery. Andreas Fill and Wolfgang Rathner are the managing directors. They founded the fully family-owned company in 1966, that today employs over 850 people.



#### YOUR FUTURE

### The Challenge: Installation of a large system within a limited floor space

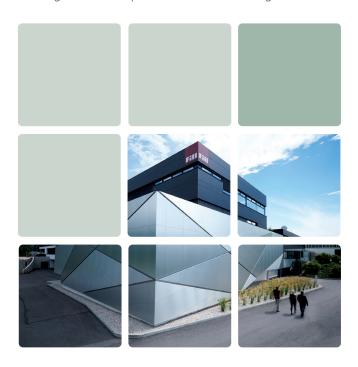
Often Fill needs to assemble a part of, or an entire factory project in their own production area for pre-commission testing prior to delivery and installation. To plan an effective hall layout, the available floor space needs to be optimized taking into account any physical restrictions such as height clearances, gantry crane capacity, and buffering areas for storage of sub-assemblies. With several ongoing projects being assembled at the same time, Fill needed a way to manage the available floor area the best way possible.

With DUALIS, Fill specified a solution for efficient floor space planning and called it AREAPLAN. It is based on VISUAL COMPONENTS' 3D simulation

platform and supports the ideal use of spatial and temporal degrees of freedom. Fill uses AREAPLAN to manage the assembly halls and all their project-relevant dates and times. In addition, Fill uses several VISUAL COMPONENTS software licenses to simulate their own production processes.

# The Initial challenge: Difficulty optimizing the assembly hall capacity

"Up until 2018 we used a pin-up board with 2D cut-out figures to plan the hall layout. Name and info labels were handwritten and stuck on to the individual equipment cut-outs. The process became quite complex and difficult to manage when several projects were stacked on top of each other to simulate a time schedule. Also, because every employee could make changes to the board and the layout, we ran into procedural difficulties very often," says Günter Redhammer, Team Leader for Parts Manufacturing and Team Manager for Component Manufacturing at Fill.





Finding a suitable software that fitted Fill's complex requirements was difficult. As Günter Redhammer continues: "Market-standard solutions are focused on one-off modelling of static assembly areas and do not support a dynamically changing production hall sufficiently enough."

Günter Redhammer, Team Leader for Parts Manufacturing and Team Manager for Component Manufacturing at Fill

### AREAPLAN: Digital tool for optimizing assembly hall capacity

As no satisfactory tool could be found, and based on several years of cooperation with DUALIS, the idea developed to create a tool to help with the management of the assembly hall areas. A logical next step was to combine Fill's requirement and clear specification, with DUALIS's expertise and focus on manufacturing, to develop a customized tool. DUALIS is the main reseller of VISUAL COMPONENTS within the German speaking European countries, and offers complementary services for developing add-ons based on the platform, with a special focus on networked factories.





The result of the collaboration was AREAPLAN that is now used by Fill managers to plan their customer projects from initial space requirements, to construction and testing, through to commissioning for the customer. With a maximum assembly area of 30,000 m² and 350 personnel employed in the production area, Fill estimate that the assembly area will need to be reconfigured two to three times a year.

The introduction of AREAPLAN went quickly, and was implemented in parallel with the existing 2D cut-out solution. From the initial delivery the application was functional and reliable. Based on Fill's existing knowledge of VISUAL COM-PONENTS, the majority of the project meetings between Fill and DUALIS were through teleconferencing and team-viewers. Fill uses a high-powered computer setup with a dedicated graphics card to project the layout concepts onto an 85-inch screen for all participants to see.

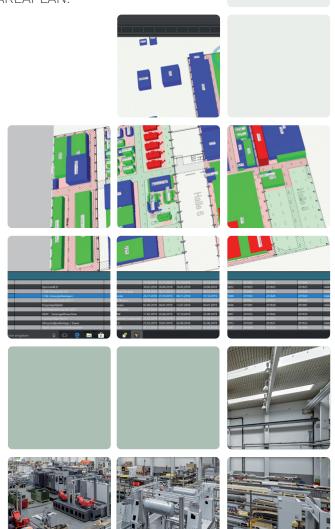
# The Benefits: Transparency and efficiency throughout the process

"Everyday assembly planning and running through different configuration options has become much easier and clearer since the introduction of AREA- PLAN. The strength in the solution is the improved project transparency for everyone. Future projects can be viewed over their complete time-frame. Any delivery delays that could affect the customer's dead-lines are immediately highlighted, and clear for everyone to see," explains a relieved Günter Redhammer.

#### **Looking Forward**

Fill would like to automatically transfer relevant project data from the customer order to the current planning models. An interface to their ERP system is currently being specified. This will allow the assembly floor managers to access inventory data for a customer line without having to manually request it or search for it on other systems.

The concept is for all assembly tools and materials to arrive at the assembly areas in a timely and controlled order based on the project planning from AREAPLAN.



#### **Numbers and Facts**

100% more efficient area planning



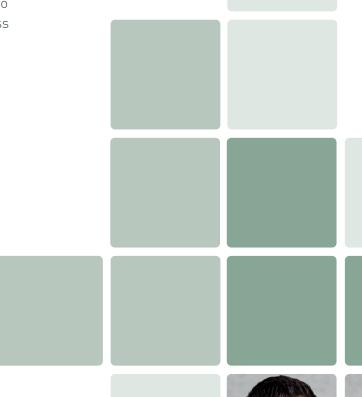
Significant savings in costs through optimised processes paired with a uniform database and ability to easily follow production progress



Higher transparency for all process participants



Future-ready: can be scaled • for expanded floor areas and additional functionality



"With the new transparency in our processes, it is easy to see the progress on projects, and to manage it. The problems from using the 2D cut-outs method, mainly confusion and a lot of costs, were solved one hundred percent."





Günter Redhammer, Team Leader for Parts Manufacturing and Team Manager for Component Manufacturing at Fill

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Your way to **AREAPLAN** 



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