

# ADVANCED ENGINEERING



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Genesis' Advanced Engineering group utilizes Delmia V5 and FANUC's WeldPRO robot simulation software to visualize and optimize the manufacturing environment. These software tools allow customers to stay involved and informed throughout the Concept, Design, Build, and Application Process. Our customers see benefits through shortened product launches, overall cost savings and a higher quality solution.

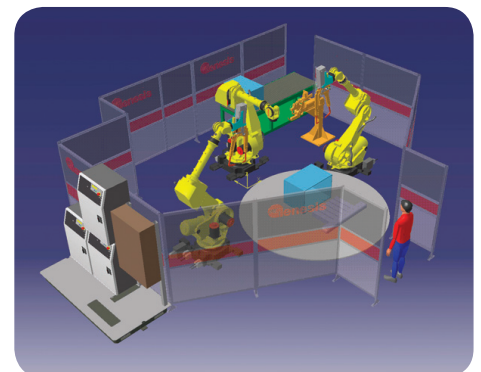
Genesis achieved success in utilizing the software tools with a custom resistance welding solution to process multi-drawer storage boxes.

### PROOF OF CONCEPT

With Delmia V5, Genesis' customer had a 3D visualization of the proposed solution. This allowed concept refinements to best match floor space constraints, eliminate potential material flow issues and optimize production throughput. To understand cycle times and production capabilities, the customer was able to see the system run production through cycle simulation video capabilities.

#### Project Benefits:

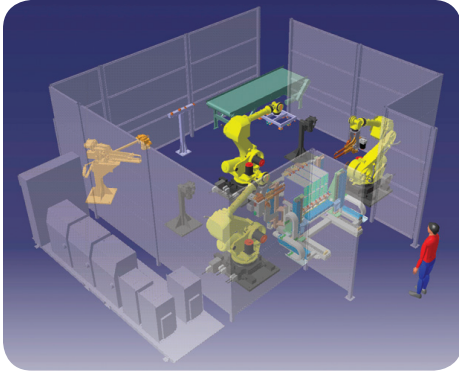
- Easily understood visualized concept
- Optimized inbound and outbound material flow
- Reduced preliminary system cost by 20%
- Reduced initial footprint by 28.5 sq. ft
- Optimized throughput thru cycle time reduction and balancing



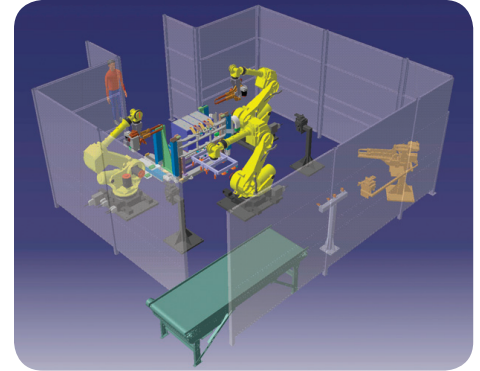
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## PROOF OF DESIGN

Viewing the solution in Delmia V5 with interactive web meetings, the customer was able to quickly and confidently verify our design solution to meet the challenging needs of the project. By utilizing simulation software throughout the design phase, costly design errors were avoided.



Delmia V5 allows precision robot placement to maximize robot reach with 3-D verification of all potential obstacles.



## PROOF OF PROCESS

Utilizing WeldPRO, FANUC's offline programming and simulation software, the customer received a 3D visualization of the proposed weld process. This created opportunities for multi-robot cycle time balancing, verification of tool access and earlier definition of the weld sequence. These activities were done simultaneously with the machine build to reduce tight project schedules and deliver the final solution earlier for a quicker product launch.

### Project Benefits/Outcomes:

- **Verified tool access**
- **Balanced and optimized robot cycle times**
- **Reduced project schedule**
- **Calibration tools provide accurate virtual to real world hand-offs**
- **17 different part models programmed 25% quicker with offline tools**
- **Customized WeldPRO training course created**

