

COMPANY

Barry-Wehmiller Design Group

LOCATION

United States

SOFTWARE

Autodesk® Factory Design Suite

Perfect packaging

Barry-Wehmiller Design Group uses Factory Design Suite to design and communicate layout ideas visually—and win new work

Autodesk Factory Design Suite allows us to assemble preliminary 2D or 3D layouts for proposals. But every time we use Factory Design Suite to create a 3D proposal, we get a 'wow' reaction from the client. A 2D proposal simply cannot compete in terms of generating confidence and excitement.

—**Brian Strothcamp**
Senior Designer
Barry-Wehmiller Design Group

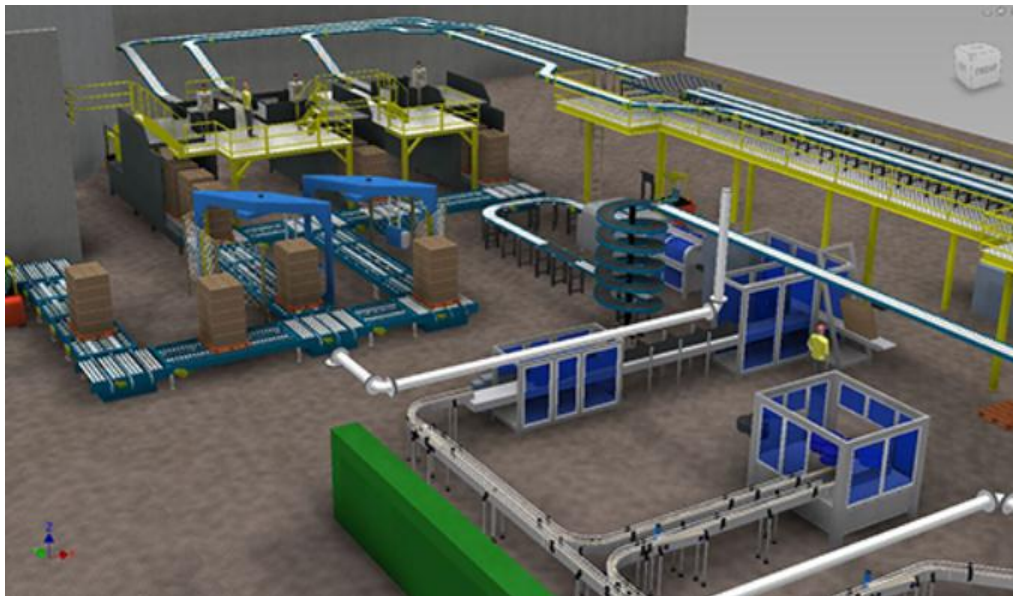


Image courtesy of Barry-Wehmiller Design Group.

Project summary

Barry-Wehmiller Design Group (Design Group) was founded 25 years ago to meet manufacturers' need for supplier-neutral engineering services. Serving a range of industries, including food and beverage, health and beauty, home products, and life sciences, Design Group has since grown from one office with just a few engineers to 20 offices with 600 professionals. Not content with its success, the firm continues to expand the services it offers and plans to maintain a disciplined growth strategy to better service their client's needs.

Design Group thrives on providing solutions to its customers' most pressing needs. For instance, manufacturers want their facilities to be as responsive as possible to shifts in demand. Nowhere is that more true than in the food and beverage industry. Food and beverage companies are constantly changing their manufacturing lines to accommodate different packaging and new products. Design Group is often challenged by their clients to implement these changes within aggressive lead times. In the past, Design Group relied on 2D design software, but recently has embraced the Autodesk® Factory Design Suite to help develop factory designs more efficiently.

Autodesk Factory Design Suite includes integrated 2D and 3D tools that help Design Group generate optimized layouts and visualize factory lines and equipment more effectively. "The Autodesk Factory Design Suite allows us to model factories in a digital environment," says Brian Strothcamp, senior designer with Design Group. "We can generate multiple options more efficiently to discover innovative and practical solutions. Interactive, 3D walk-throughs give our clients confidence that our factory layouts will satisfy all their needs." Using Autodesk Factory Design Suite, Design Group has been able to:

- Save substantial time—often several days—when making design changes
- Reduce design review times by a day or more per review cycle
- Develop more accurate plans, helping to avoid costly delays during installation
- Win new work with proposals that include 3D factory layouts

Autodesk Factory Design Suite helps Barry-Wehmiller Design Group easily create sophisticated proposals in 3D

The challenge

One of Design Group's longtime clients, a major beverage producer, came to the firm looking for a better solution to one of the industry's most pressing challenges: adding capability to an already space-constrained packaging facility while minimizing downtime.

At the time, Design Group's team used the 2D capabilities in AutoCAD® software to engineer an innovative solution to the problem. The engineered solution: add a mezzanine above the existing packaging line to provide flexibility to run new packages on the existing packaging line. But the client needed convincing because the solution was difficult to visualize due to the multilevel design, new raw material flows, and modified operator ergonomics. Strothcamp explains the drawbacks of that approach: "The client could visualize our idea, but it was time consuming to create the 3D version of the design from 2D layouts. In a sense, we produced a 3D image of the design—not a true digital model. Making changes involved going back and forth between the 2D and 3D versions. In Autodesk Factory Design Suite, we saw an opportunity to put models of our ideas in front of clients at every stage of the design process."

The solution

Design Group turned to Autodesk Factory Design Suite when it needed to execute a similar project for the same client at a different facility. This time the team got started by modeling the packaging line in 3D. Factory-specific functionality in Autodesk Factory Design Suite made developing the basic layout much faster and exploring alternatives much easier. As on the earlier project, Design Group felt that 3D visualization would be the best way to illustrate a solution for the client, but in contrast to the prior project, convincing them proved to be much easier and more efficient.

"From the beginning, we were able to explore the layout with the client using virtual walk-throughs and fly-throughs," says Strothcamp. "The client could see that our proposed solution fit the space without creating clearance problems. We gained buy-in—and enthusiasm—for the layout very quickly. Being able to conduct live design reviews in 3D is much faster overall. It can cut a day or more of back and forth from each review cycle."

Strothcamp notes that Autodesk Factory Design Suite has not forced the firm to move away from 2D design entirely. He explains, "Factory Design

Suite includes AutoCAD software, so we can design in 2D when it makes sense. You can drag 3D models of factory assets on top of a 2D floor plan, and easily generate 2D installation drawings from 3D models. Our staff has a lot of AutoCAD expertise, and with the 2D and 3D bidirectional synching functionality, we're continuing to take advantage of it."

Faster changes

Before installation of the new equipment, the client decided to make some last-minute modifications. "I was able to go into the model and move things around easily," says Strothcamp. "Routine layout tasks are much more automated. Similar changes would have taken several days or longer with traditional methods. The workflow is much more streamlined using Factory Design Suite."

A total project view improves installation

With the firm expanding its services to include factory process and building design, Design Group is facing an increasing need for software that accommodates a variety of formats. Autodesk Factory Design Suite facilitates this total project approach by allowing the firm to aggregate files in a number of formats into a single factory model. This helps Design Group develop more accurate—and comprehensive—plans to support equipment installation and commissioning in the field.

Aggregating data from different suppliers

"We can bring a variety of files into our model," says Strothcamp. "Architects, engineers, and equipment manufacturers can provide designs in whatever formats they use. There's no need to convert them to another format. We can connect the whole project team to a common project model for project coordination, which enhances collaboration and revisions. Having an accurate, coordinated model helps reduce installation and commissioning time in the field. It avoids a lot of the issues that can cause delays or warranty work."

Winning more work

Autodesk Factory Design Suite software is helping Design Group not only to deliver better solutions faster, but also, win more work. When potential clients reach out to the firm, Design Group now has the option to create more sophisticated proposals in 3D.

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The result

From visualization to developing layouts faster to winning new work, the Autodesk Factory Design Suite is making an impact at Design Group. "For us, the value of Factory Design Suite comes down to quality and reducing warranty," says Strothcamp. "It's not just about developing a layout that works. It's about trying more options to find a solution that meets all our clients' space, time, and production needs. Factory Design Suite gives us the flexibility and time to try different scenarios—and the ability to help clients visualize layouts."

Strothcamp adds, "Thinking about value added, we really see the advantages a 3D model provides. 2D can still illustrate an effective solution, but the 3D model takes the quality of what we show clients to the next level. With Factory Design Suite, we work faster and gain buy-in from clients more easily."

Learn more

Use Autodesk Factory Design Suite to develop and explore 3D factory layouts. To learn more, visit www.autodesk.com/factorydesignsuite.