

Why FlexSim is superior for material handling

A white paper by FlexSim Software Products, Inc.

A Choice in FlexSim

Over the last decade, FlexSim has increasingly become the new standard for large and complex material handling simulation projects. Companies like Coca Cola, FedEx, Under Armor, and Nebraska Furniture Mart have turned to FlexSim to model these complex systems, manage costs, and reduce bottlenecks. These companies know that in a highly competitive market, it is essential to know the impact of change before it is implemented into a system.

Our latest developments are the result of a long, determined look at the current state of material handling

simulation. We saw a capable industry standard that had existed for decades, but we also saw room for improvement and advancement. FlexSim's new material handling features bring those ideas to light, leveraging the latest technology to bring complex models into visually stunning 3D.

Our free Conveyor Module is the star of the show, and it sets a bold new standard for conveyor system modeling. Slug building and release, once one of the most complicated aspects of sawtooth merge systems, can now be modeled in minutes. Picking strategies, with their many pick

up and drop off points, are displayed accurately and set up with only a few mouse clicks. And these features, plus many more, are available at no extra cost with a standard FlexSim license, making our simulation solution the greatest value in the industry.

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- + Slug building and release without a single line of computer code.
 - + Improved realism in picking operations.
 - + Industry-leading value, with all modules included in the price.

Bill Nordgren is the Founder, President, and CEO of FlexSim Software Products, Inc. He has spent 27 years in and around the simulation modeling industry, co-founded and served as Vice President of ProModel Corporation, and introduced three different simulation engines (Taylor II, Taylor ED, and FlexSim) to the software market. Bill holds a BS in Manufacturing Engineering Technology and an MS in Computer Integrated Manufacturing from Brigham Young University.



William Strong is a Senior Simulation Consultant at FlexSim Software Products, Inc. His more than 20 years of experience as a simulation engineer includes 15 years as an independent consultant specializing in manufacturing systems and automated material handling systems. William's past clients include the Federal Reserve Bank of New York, Chrysler, FedEx Ground, Frito-Lay, and Volvo Construction Equipment. He received a BS in Statistics and an MBA from Brigham Young University.



About the Authors

Complexity Made Simple

In most warehouses and distribution centers, cases are picked to a belt conveyor and then transported to a sawtooth merge – where slugs of cases are built and released.

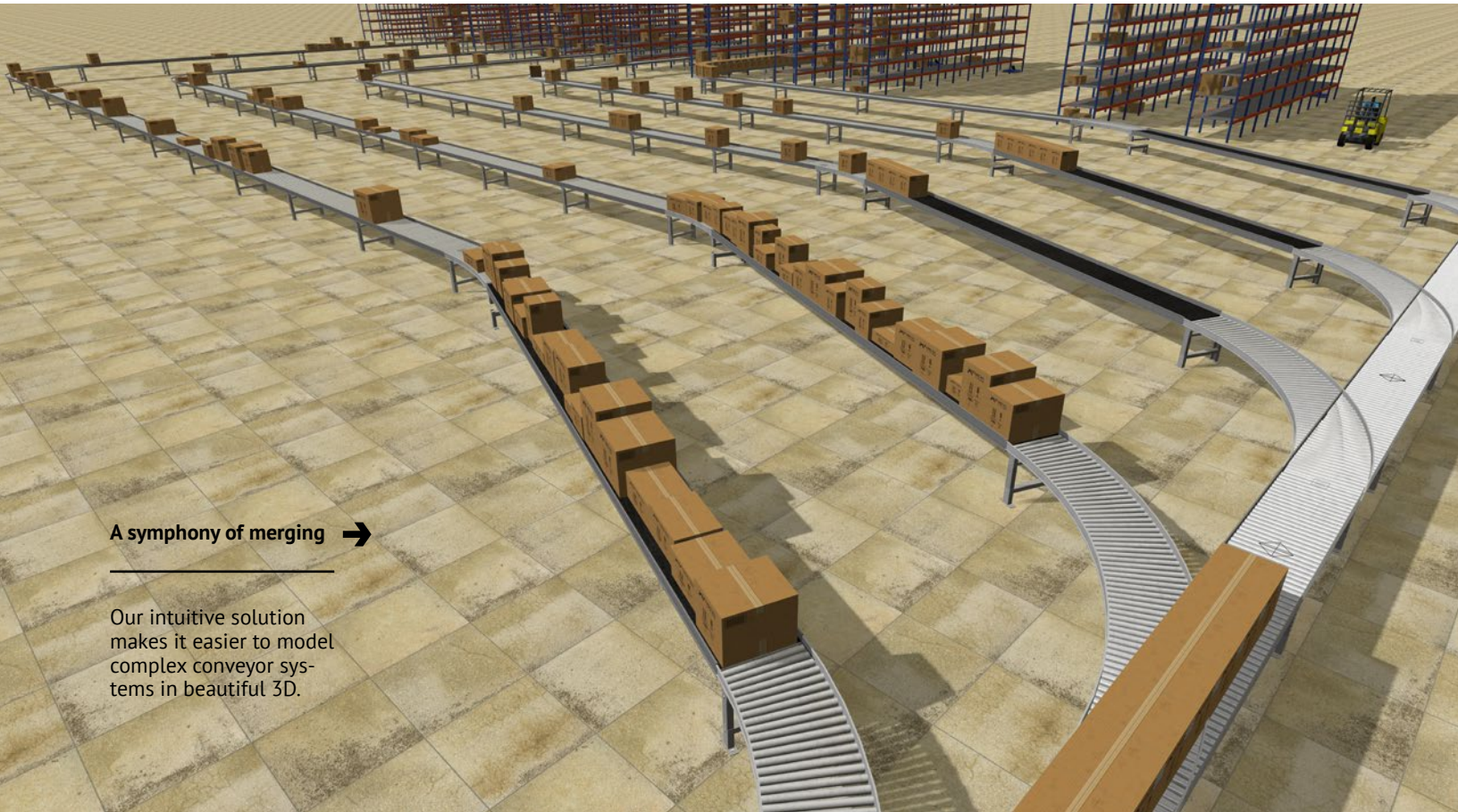
Any experienced modeler can implement slug building and release logic, but the task is often time consuming. For an inexperienced modeler, creating a litany of stations and photo-eyes, not to mention writing computer code, can be a difficult task.

But that's what it takes using today's conventional

methods for material handling simulation: too many objects and a significant amount of custom computer code.

FlexSim has changed that. Our Conveyor Module enables formerly complex or tedious material handling tasks to be modeled quickly and intuitively, without unnecessary computer code.

Our built-in options cover a wide range of real-world scenarios and bring new meaning to the term "point and click."



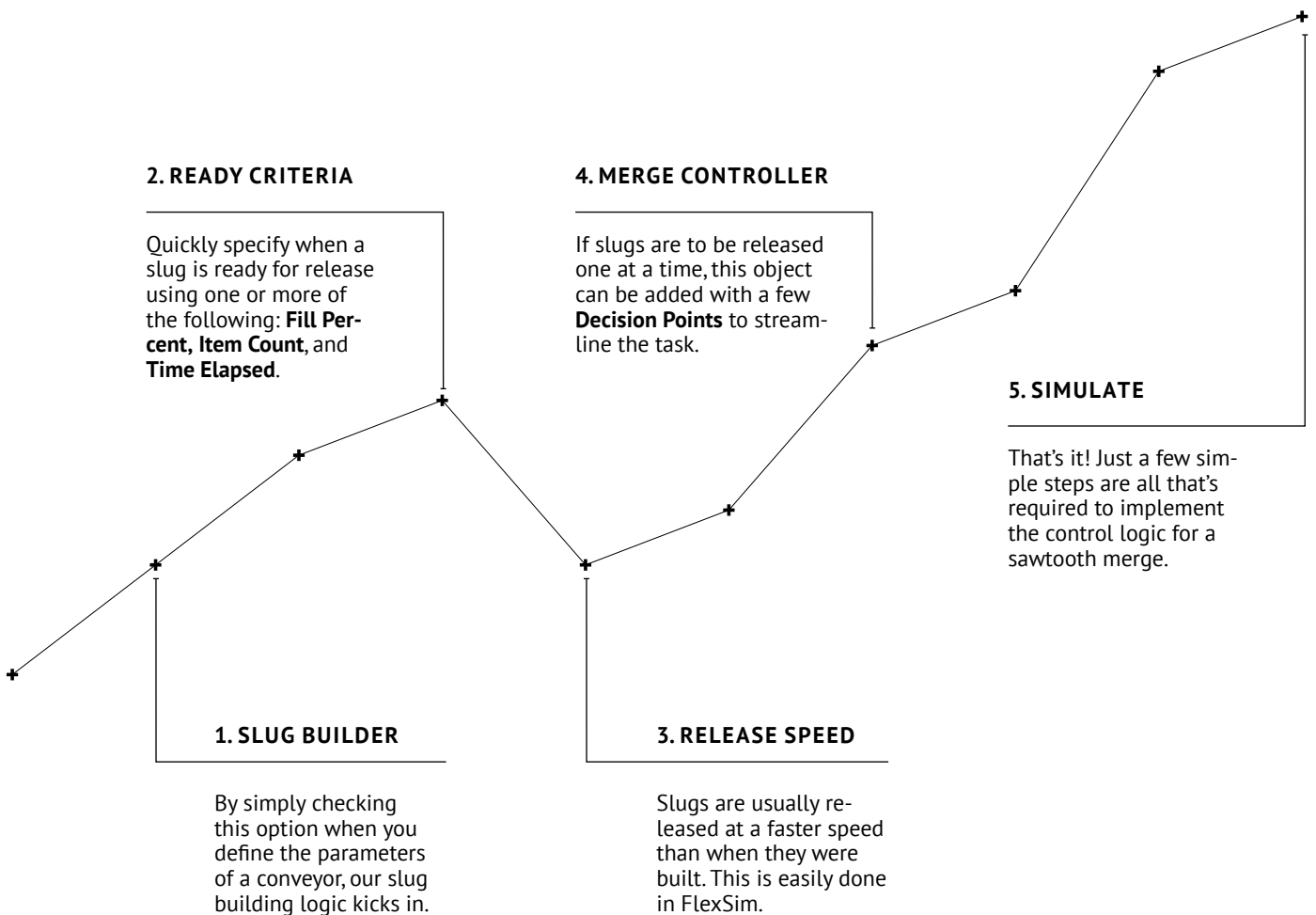
A symphony of merging →

Our intuitive solution makes it easier to model complex conveyor systems in beautiful 3D.

5 Steps to Slug Building

SLUG BUILDING SIMPLIFIED

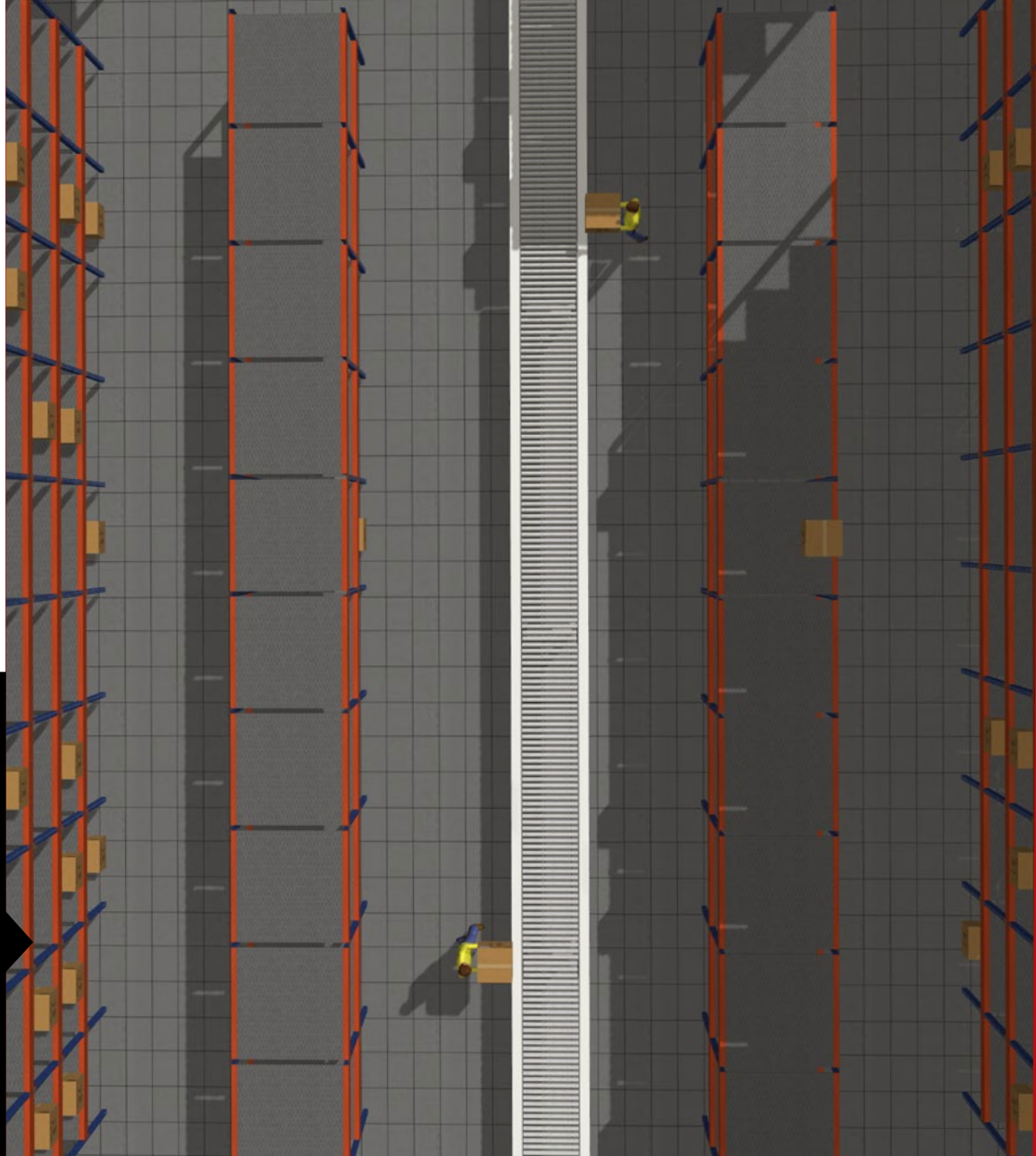
FlexSim has developed a slug build and re-release process that requires **no computer code** to model a sawtooth merge. In fact, it also requires **no photoeyes and fewer stations** than other popular simulation packages. View our process below to see how FlexSim has taken the tedium out of modeling complex conveyor systems.



IT'S IN THE DETAILS



Operators can now pick up and drop off cases anywhere along the conveyor length, instead of a single fixed point.



Picking Realism

When modeling large warehouses or distribution centers, the picking operation is usually not modeled in detail because of the time involved using other simulation packages.

Showing cases being picked from a rack and placed on a belt conveyor requires time, effort, and a load of pick up and drop off points. Most modelers save time by having cases placed at the end of a belt conveyor in a picking area and then transported to a merge. But if a modeler could quickly specify a *range* of pick up and drop off points on racks and conveyors, actual pickers could be added to a simulation model in minutes instead of hours. **The level of realism would be greatly enhanced, and presentations to clients or management would be better understood.**

FlexSim is the only company in the industry to provide this capability. Operators can now pick up cases from a range of possible pick up points in a rack and drop off cases at a range of possible drop off points along the conveyor, rather than a single fixed point. It all makes for easy simulation of picking operations.

Industry-Leading Value

There are dozens of choices when it comes to discrete event simulation software. These solutions come in all sorts of combinations of features, support, and capability, and can range from hundreds of dollars to over \$50,000 per license.

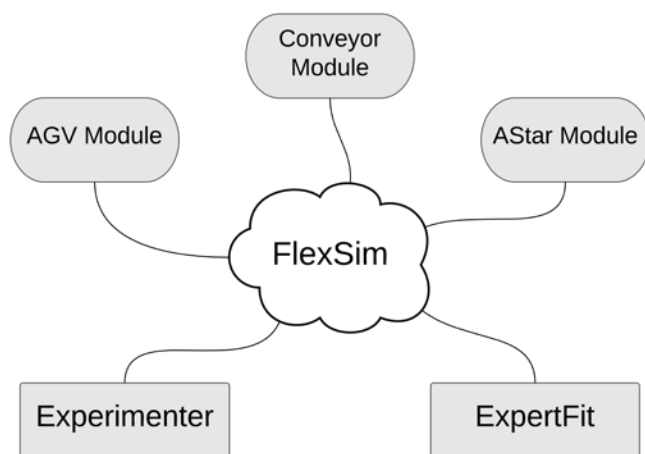
The myriad options in simulation software can seem disorienting – many companies tend to list their most important needs (much like our example list to the right) and identify the software package that fits best.

The questions on whether the software is accurate enough and detailed enough are fairly straightforward, but the issues of price and ongoing development might not be as obvious. Don't be fooled by the price tag – the most expensive software doesn't necessarily equate to the best software. There are products on

IMPORTANT QUESTIONS TO ASK:

- + Which software can accurately model the types of systems that will be simulated?
- + Which software allows the modeler to input the appropriate amount of detail for the types of systems that will be simulated?
- + How is the software priced?
- + Is there ongoing development of the software product?

All inclusive with FlexSim



the market that charge twice as much as other software packages, but don't contain twice the features. Also, some software packages appear to be priced the same as others but will charge extra for every add-on and premium feature.

FlexSim, on the other hand, does not charge extra for our premium modules.

And what about the software's ongoing development? In order to keep up with the ever-changing, technology-driven world that we live in, simulation software needs continuous development. Shouldn't those annual maintenance fees be worth the cost? **FlexSim is fully committed to regular product development based on the feedback of our valued customers.**

Make the Best Choice

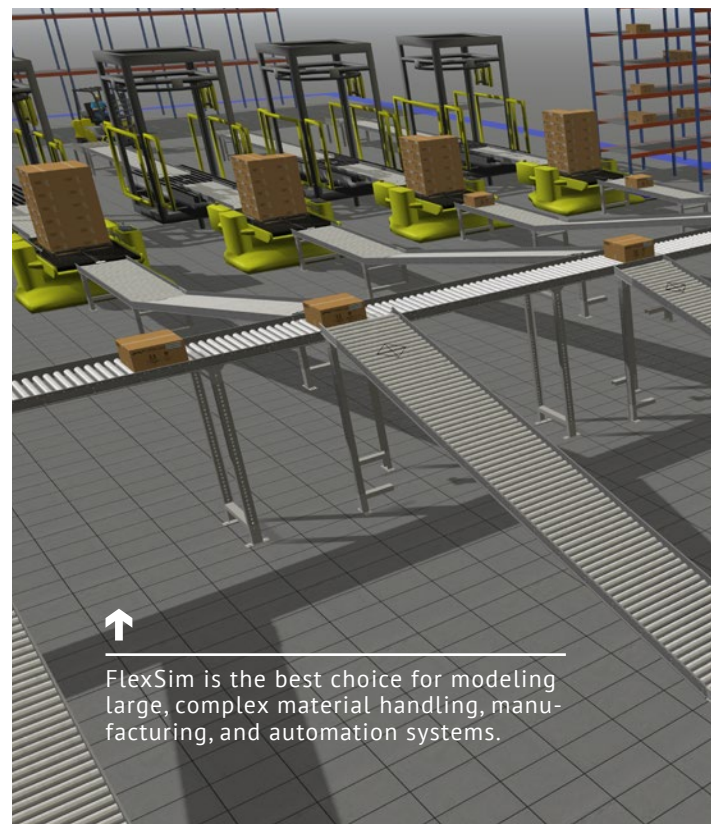
Businesses need to know the impact of change before it is implemented into a system. They need this information quickly, accurately, and at a price that fits their budget. FlexSim's simulation software has taken on complex projects from some of the world's top companies to meet this need – and delivered beyond expectations.

How have we managed to do this? **By investing time and resources into developing a better simulation product, geared toward the unique needs of companies that work in material handling, manufacturing, and automation.** FlexSim provides a host of complex building blocks that make modeling material handling systems intuitive and hassle-free.

FlexSim is the best choice for

modeling large, complex systems because we're focused on your needs. You've already seen how our latest updates deliver a high level of detail and realism in simulation models. FlexSim has leveraged the latest technology for faster and more impressive 3D simulations, and you can rest assured that we're committed to ongoing development and updates based on customer feedback.

All of this is available in the industry's best value for an enterprise simulation package, complete with personalized support throughout your simulation experience. Choose FlexSim, and get your problem solved today!



FlexSim is the best choice for modeling large, complex material handling, manufacturing, and automation systems.

Contact us today for a free demo of your facility



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About FlexSim

FlexSim is the world leader in 3D discrete event simulation technology. Our software offerings are the most powerful tools available for modeling, analyzing, visualizing, and optimizing any imaginable process.

Started in 1993 by the co-founder of ProModel, FlexSim is driven to produce bold new advancements in the flexibility, ease-of-use, and graphics customers expect from modern simulation modeling technology.

We realize that most simulation projects begin with a need for answers. **FlexSim is here to help you find them.**

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