



REPORT

The 5 Biggest Problems with Supply Chain Design Technology

...and How to Fix Them Today

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Designed to Fail: Supply Chains and Design Technology are Broken

Supply chain design technologies like modeling, optimization, and simulation are not new—so why have these once bleeding-edge tools fallen so far behind? Perhaps it's because the way we're optimizing supply chains is all wrong.

Over the past 25+ years, supply chains have been designed to be fragile and break by delivering adequate service as cheaply as possible—and ignoring risk. In today's new reality of continual disruption and uncertainty, using mathematical optimization to simply remove redundancy and reduce inventory doesn't work.

The next generation of supply chain design requires the ability to understand trade-offs across service, financial performance, and systemic risk to predict the best designs.

What's Wrong with Supply Chain Design Technology ...and How to Fix It

Let's look at the top five ways traditional supply chain design technology went wrong and how to step into a new era of design for resiliency, delighted customers, and shareholder value with the 100% SaaS-based Optilogic Cosmic Frog supply chain design platform.

The Old Way	A Better Approach
Tied to slow desktop machines	Cloud-native, accessible-from-anywhere design
Fragmented optimization and simulation	3-in-1 optimization, simulation, risk platform
Designing supply chains that ignore risk	Include a risk rating with every scenario
Cost-prohibitive	Try a free account, and get flexible pricing options
Rigid modeling environment	Create tailored solutions that fit your reality

1. The Old Way: Tied to Slow Desktop Machines

Modeling, optimizing, and simulating complex supply chains almost always requires powerful machines. To utilize robust solvers, in-house IT teams go through a tedious process of solver set-up and configuration on desktop machines.

While the result of such a long process may work, dependence on desktop machines ends up chaining you to your office with limited ability to share, update, and scale. In a world that's getting progressively more mobile, you miss out on the freedom of being able to design supply chains from anywhere.

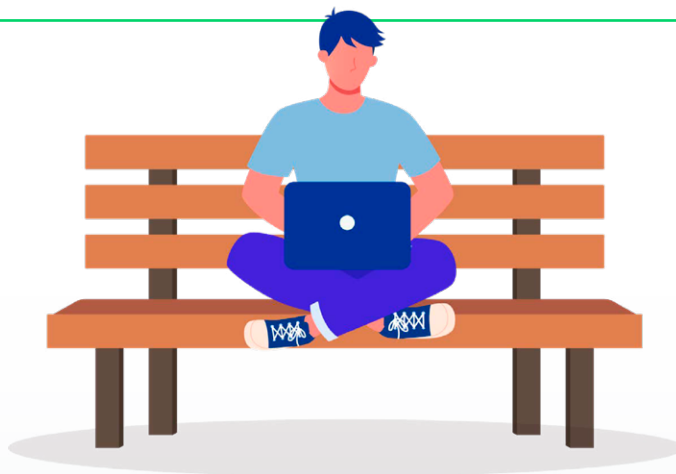
License installation and management for traditional desktop solutions also require extensive time and effort, extending the time it takes to generate value from your supply chain models.

A Better Approach: Cloud-Native, Accessible-from-Anywhere Design

Optilogic Cosmic Frog is a fully cloud-based supply chain design platform with advanced integrated solvers including optimization and simulation technologies. Not only are the solvers ready to be used, but all the technology you need is already set up, tuned and ready to scale.

If you're wondering how a cloud-based platform could possibly contain a robust enough solver, we've partnered with Gurobi—the fastest commercial MIP solver on the market. Plus, you can use hyperscaling technology to allow hundreds of models and scenarios to run in parallel.

Using a cloud-based design platform with the world's most advanced solvers, you have the power to tackle even the toughest supply chain questions from anywhere—a meeting room, a coffee shop, or across the ocean. You just need an internet connection and a Cosmic Frog account.



2. The Old Way: Fragmented Optimization and Simulation

What happens when your model is complex enough that just one solving technique won't do? Do you need to optimize inventory strategy? Do you want to model the order, SKU, and operational details, in addition to optimizing your supply chain?

It's time to throw out the traditional, sequential thinking that has dogged single technique solutions. A blended simulation and optimization approach opens the doors to more sophisticated modeling techniques to meet your business objectives.

A Better Approach: 3-in-1 Optimization, Simulation, Risk Platform

Cosmic Frog is the only cloud-native supply chain design solution that combines optimization, simulation, and risk ratings. By balancing cost considerations, service levels, and systemic risk, you can predict the best, most resilient supply chain designs.

Our discrete event simulation engine provides a straightforward, data-driven approach for supply chain analysts to build models of their network, simulate the flow of products through a network, and calculate related operating costs, service levels, and other key performance indicators over any number of hours, days, weeks, or months.

Using our integrated simulation solution, you can answer questions like:

- What happens if the company sources product-to-need versus to-ocean container sizes?
- How does the introduction of new products affect OTIF (on-time in-full)?
- Should we adjust policies or stocking locations for changes in product mix?
- Does it make sense to centralize stocking of slow movers to one location?
- How would the above changes impact mode mix delivery to customers?

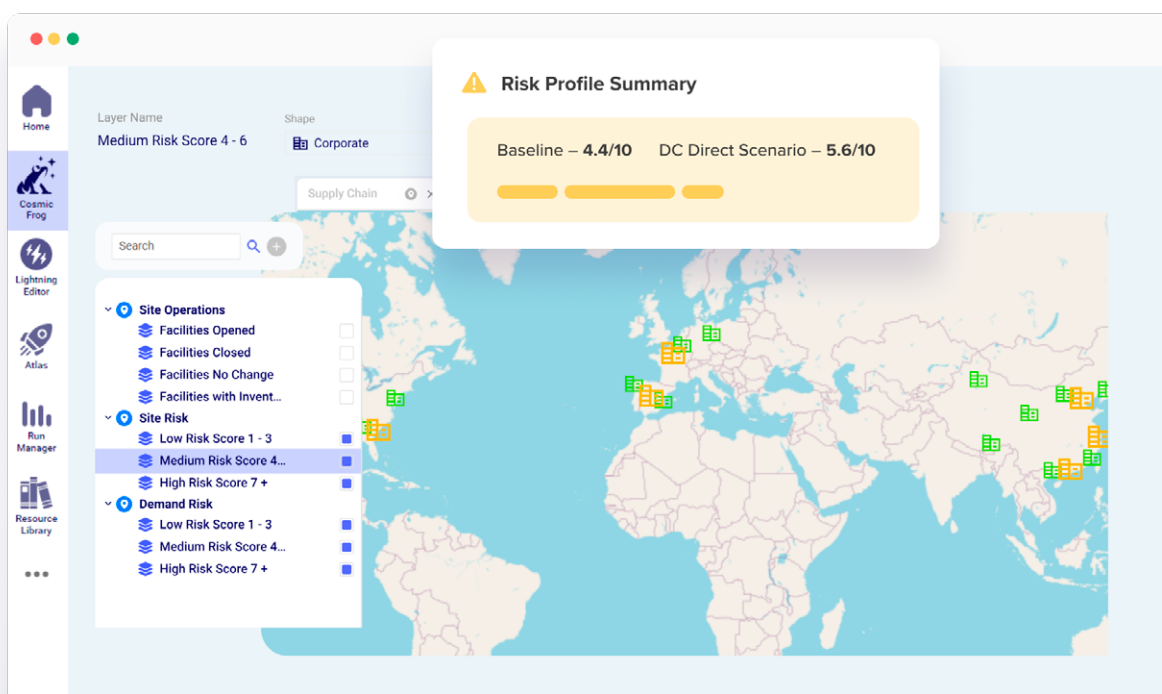
Need even more flexibility? Use our built-in Python development studio to write optimization and simulation models tailored to your precise business needs.



3. The Old Way: Designing Supply Chains that Ignore Risk

Traditional solutions design supply chains that deliver adequate service at the lowest cost—and often high risk.

Ensuring that your goods arrive on time is only a piece of the whole. Identifying risky aspects of your network, understanding the impact of potential disruptions, and using the design process to mitigate and reduce risk is an essential part of creating a resilient supply chain.



A Better Approach: Include a Risk Rating with Every Model

Decisions made in the supply chain design process should no longer be made with a singular focus on cost—a company must understand the tradeoffs between financials, service, and risk. Supply chains are susceptible to natural disasters, import and export policies, local labor markets, and numerous other factors.

Cosmic Frog's risk rating engine considers risk factors and calculates a risk rating for every supply chain model and scenario you create.

4. The Old Way: Cost-Prohibitive Design Software

Traditional supply chain design software can cost hundreds of thousands of dollars. A price tag like this makes it that much harder for small to medium sized businesses to acquire design technology. And even for the companies that can afford the licenses, it's a big chunk of the engineering budget.

We know cloud-based design is a game changer for organizations to become more efficient and make better decisions, so why is inflexible design technology pricing shutting so many companies out?

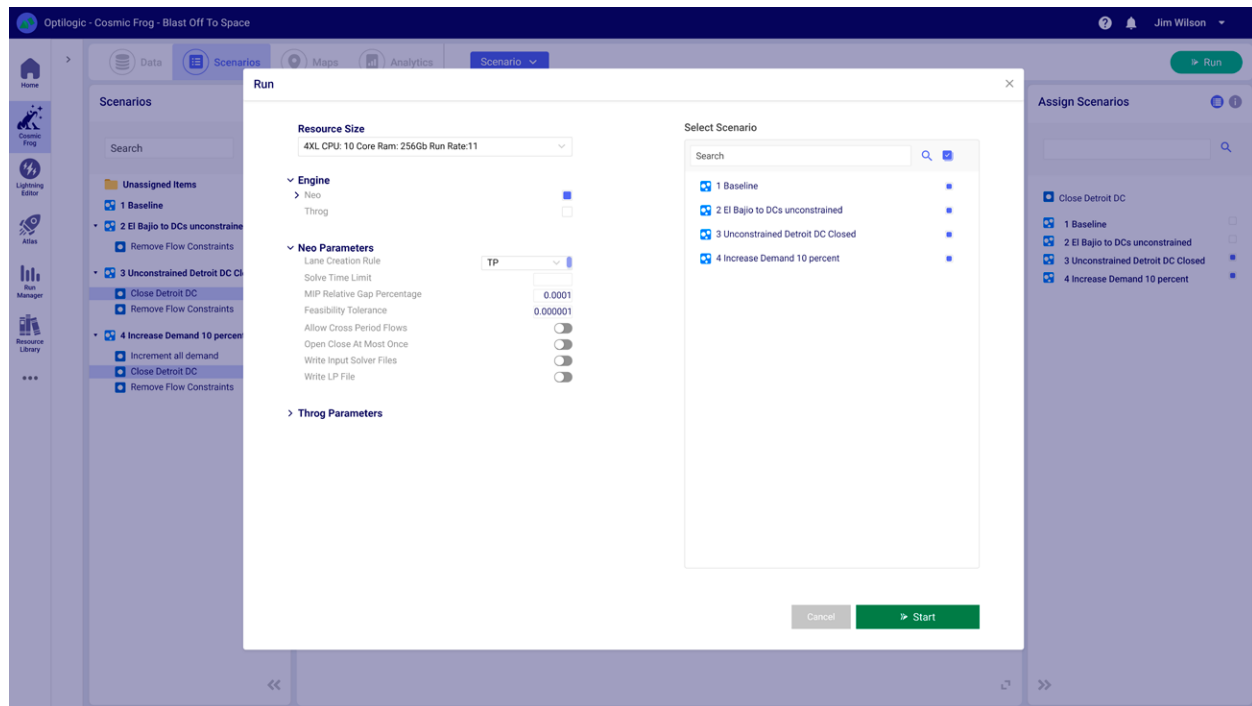
Not sure how to start?
Our Professional Services team and Applied Research analysts are here to help get a project going.

A Better Approach: Try a Free Account, and Get Payment Options You Can Afford

With Cosmic Frog you can get started for free and when you're ready, step up to full cloud-based design at pricing you can afford. Our mission is to make cutting-edge solving capabilities available to anyone—at a fraction of the cost of traditional desktop solutions.

[Check out Cosmic Frog pricing options](#)





5. The Old Way: Rigid Modeling Environment

For some companies, out-of-the-box solutions will work just fine. For others, more tailored solutions are needed. But configuring solutions is typically very expensive and limited, often proving to be a less than ideal undertaking.

A Better Approach: Create Tailored Solutions That Fit Your Reality

The Cosmic Frog platform includes a built-in Python coding environment for analysts and developers who want to take the next step to build unlimited bespoke supply chain solutions. With hundreds of preconfigured Python models to select and tailor to your needs, API technology to configure data inputs and visualization outputs, scalable solvers to run multiple concurrent scenarios, you can apply agile problem solving to any application that requires advanced solving technologies.

You always have the choice to use the model as-is or tailor any model to fit your specific needs. Need help? Tap into our team of experts or connect with our partners to quickly configure an application to fit your needs. It's time for platforms to meet the needs of business, rather than businesses conforming to the capabilities of platforms.

Ready to Join the New Supply Chain Design Movement?

We can't keep making excuses for supply chain design technology that's stuck in its past. Built to be the new standard for modelers around the globe, Cosmic Frog is a 100% cloud-based design platform with built-in optimization, simulation, and risk engines.

Optilogic's ethos is to combine the art and science of supply chain modeling and democratize the technology. We're working toward a future where there shouldn't be roadblocks for an organization that wants to do things better.



Ready to step up to the new era of supply chain design?
[Create Your Free Cosmic Frog account](#) and start modeling today.
Questions? Email us at hello@optilogic.com