

Operations Practice

# Safer, greener, faster: AI-powered supply chains in action

Companies across industries have a wealth of data. Samsara's AI solutions help uncover actionable insights that enable everyone—from the front line to the boardroom—to work better, faster, and safer.



**Logistics companies** are striving to improve safety, efficiency, and sustainability. Yet, traditional methods often lack real-time data and insights to drive meaningful change.

In this episode of [McKinsey Talks Operations](#), Samsara's CEO and cofounder, Sanjit Biswas, joins McKinsey's Renee Jackson to discuss how AI-driven digital solutions are transforming logistics operations, from reducing accidents to optimizing asset utilization.

This conversation has been edited for length and clarity.

**Daphne Luchtenberg:** In a recent episode, we talked about technology in supply chains and how digitization is accelerating across the operations value chain. We were fortunate to be able to include an excerpt from an interview with Sanjit Biswas, the CEO and cofounder of Samsara, a company that creates AI solutions that infuse safety, efficiency, and sustainability into logistics operations.

In this episode, you'll hear the full conversation Sanjit had with my colleague, Renee Jackson. They talked about how digital solutions can be integrated into new—previously hard-to-reach—physical environments, such as delivery networks and field maintenance operations. They also describe real-life use cases that illustrate the opportunity that's up for grabs.

Their conversation begins with Renee asking Sanjit to introduce Samsara and its work.

**Sanjit Biswas:** Samsara partners with people in physical operations across different industries to make their operations smarter. Many of our customers are in logistics and supply chain, but we also work with construction companies, energy utilities, and local governments.

We help our customers reduce preventable accidents by gathering data, training AI models to find insights in that data, and enabling frontline workers to take action based on those insights. After deploying our technology, our customers usually see a 20 to 80 percent reduction in accidents by adopting safer behaviors.

We also help them digitize processes and workflows—about 260 million workflows run through our system every year. This increases efficiency tremendously, saving our customers a lot of time.

We do the same thing for sustainability. Providing our customers with data about their logistics and supply chain operations helps them plan day-to-day operations and operate equipment in a smarter way. Even small improvements matter. Reducing fuel usage by 2 to 5 percent decreases carbon emissions massively and creates huge cost savings—measuring in the millions for a lot of our customers.

**Renee Jackson:** How is gen AI bringing your customers value? Could you share some examples?

**Sanjit Biswas:** Let's start with safety. DHL has been one of our customers and partners for many years. We work with their [DHL] Express division and their [DHL] Supply Chain division. They care tremendously about the safety of their front line. They have thousands of delivery drivers working every single day, around the clock, in all kinds of weather conditions. For them, making sure their front line is safe is paramount.

They already had safety coaching and safety programs, but they were lacking operational data and context. In other words, what was happening out on the road? Were things like mobile phones and notifications distracting their drivers? They put our technology in the field four or five years ago and immediately saw a reduction in the number of events. They got into about 26 percent fewer accidents, year over year. Some of the accidents prevented were the most severe, so their costs decreased by 49 percent.

DHL started recognizing drivers for the incredible work they were doing in the field, like defensive driving. The frontline workforce appreciated the investment DHL made in their safety, and they saw that it was part of a positive cultural transformation. These efforts cut the driver turnover rate in half. That's a win-win situation. Frontline workers were kept safe on the road, and the decrease in accidents lowered costs.

**Renee Jackson:** Are there other areas where you're seeing surprising impact?

**Sanjit Biswas:** Once you have data about what's happening in field operations, you can really start optimizing them. Some of this is fairly obvious. If you did a ride-along with every driver, you'd ask questions like, "Why are you taking that route?" or "Can we make the start-of-day and end-of-day processes faster?" It's only when you can see it at scale that you realize how much operational-efficiency potential there is, and that happens in different companies in different ways. The net result is that you save time. For instance, when drivers start their shift, they have to do a lot of paperwork, inspect the truck, and input bills of lading—all of this can be automated and digitized.

Most of our customers run asset-heavy operations, but many of those assets are underutilized. It can be hard to identify what's actually being used because, if you talk to regional managers, they'll tell you they're using everything. Meanwhile, sensor data might tell you that a trailer actually hasn't moved in 30, 90, or 180 days. That equipment can be reallocated. If you need it later on, you can relocate or rent it, but you don't need to own it at that site. For many of our customers, 10 to 20 percent of their assets are underutilized. They can sell those assets off and raise tens of millions of dollars. This capital was already sitting on their balance sheet, but now they can put it to work in a more productive way.

**Renee Jackson:** There's a sense that gen AI is overestimated in the near term but underestimated in the long term. Do you agree with that sentiment?

**Sanjit Biswas:** Every new major technology goes through a hype cycle. Back in the '90s, when the World Wide Web was launching, people thought it was going to transform everything really

fast. But we ended up with the dot-com bubble. Everything did change, but it took 20 to 25 years, not two to five. We saw this happen again in the late 2000s when the iPhone came out. There was a moment where people wondered, “Are we overinvested? Have we gone too far on apps?” But today, it’s hard to imagine life without smartphones.

New technology like gen AI can [absolutely unlock long-term value](#). The question isn’t whether or not to adopt it, but how fast should you adopt it? Which areas will provide the most value? And how do you implement it successfully? Gen AI is in the steepest part of the hype cycle. It might not be worth overinvesting right now, but it is changing things for the better. Gen AI allows you to make sense of vast amounts of data. You can collect all the data you want, but it won’t do you any good if you can’t pull out insights and take action from it. Gen AI can help you identify which processes to change or automate.

Every leader I’ve spoken to wishes their team were larger. They’re looking for leverage and ways to be smarter, so gen AI is a new tool in their toolbox.

**Renee Jackson:** When you start working with a new customer, where do you typically begin?

**Sanjit Biswas:** Most organizations have already identified an opportunity for improvement, like reducing the number of accidents or transitioning to electric vehicles. We focus on that initial project and think about how data can help with that. This involves a trial process, where the customer deploys a few dozen to a few hundred of our devices and tests them on the front line. That derisks the project, and we can do it in a few weeks or months—much faster than traditional tech projects.

For example, traditional ERP [enterprise resource planning] upgrades can take anywhere from five to ten years, and they’re arduous. Now, we have plug-and-play hardware, easy-to-use apps, and integrations that work out of the box. So, our customers usually start with a pilot and focus on solving a specific problem, rather than starting with a technology and figuring out which problems it can solve.

**Renee Jackson:** Have most of your customers already attempted to integrate gen AI unsuccessfully? Or are they usually pretty early in their gen AI journey?

**Sanjit Biswas:** [Most companies are early in their journey](#). While gen AI has only been in the spotlight for the last two years, many of our customers were already digitizing their operations. They have the raw ingredients, like digital systems and apps, but these are often siloed or clunky. Now, they’re looking to use gen AI to bring everything together into a unified system of record across their physical operations. This allows them to work with the data more naturally, using natural language or new apps and workflows.

In a nutshell, the problem is fragmented, siloed systems, and the solution is consolidating them and leveraging new technologies like gen AI to unlock their full value.

**Renee Jackson:** It sounds like Samsara is truly helping companies find the value and drive tangible, measurable impact. One of our experts recently said that gen AI is helping to “un-nerd” supply chains.<sup>1</sup> It’s funny to think about it like that, but it really rings true when you think about truck drivers being able to use data to operate better, more safely, and more efficiently.

What do you see as the future of gen AI in logistics?

**Sanjit Biswas:** Gen AI shows [a lot of potential in maintenance data](#). It’s not something we usually think about, but supply chains are powered by tens of thousands of trucks. That translates to hundreds of fault codes, check engine lights, and warnings every year. Historically, people have ignored this data because there’s too much to process and it’s cryptic. For instance, a truck might have an engine fault code like P0245. To understand whether this is a critical fault, you have to pull out a service manual or ask a mechanic. Gen AI can decode these fault codes, providing insights like, “This filter needs to be swapped out. It’ll cost \$300, but it’ll prevent a \$10,000 unplanned downtime event in three weeks.”

That’s an exciting level of insight that wasn’t practically accessible before. Companies are starting to use gen AI to unlock insights in the data they already have. They can start proactively managing maintenance, driven by real-world data, not maintenance schedules. It feels like an obvious solution, but it offers tremendous ROI and value. It helps prevent unplanned downtime, improves asset lifespans, and saves costs across the system—simply by using the data that was already there.

**Renee Jackson:** Is there anything we haven’t touched on that you’d like to add?

**Sanjit Biswas:** There’s a lot to be excited about. Many companies have invested in digitizing their operations but have captured varying amounts of value. It’s important to keep a positive outlook on what technology can offer. Going digital is clearly much more efficient. The key is to identify pockets of unrealized value.

For example, many of our customers’ customers are asking for reports on Scope 1 and 2 emissions. Usually, companies calculate this manually in pivot tables and spreadsheets, but this process can actually be automated with a modern system. Those are the kinds of real-world problems we’re excited to tackle.

Digital tools are evolving so quickly, whether it’s gen AI or big data warehouses, and you can capture a lot of value with a [careful and practical approach](#). I encourage leaders to spend time with their operational teams to understand their frustrations and identify manual, repetitive processes that can be digitized. Trying to digitize everything at once can be really frustrating. But it can be really exciting if you start with what success looks like and work backward.

**Daphne Luchtenberg:** It is so powerful to hear about the areas where AI and technology are making a difference. In particular, I was intrigued by Sanjit’s comments about the hype cycle of gen AI and the opportunities to break through siloed functional areas and create stronger synergies.

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<sup>1</sup>“Supply chain leadership secrets revealed: Insights from McKinsey’s Knut Alicke,” PharmaSource, August 12, 2024.

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**Sanjit Biswas** is the CEO and cofounder of Samsara. **Daphne Luchtenberg** is a director of communications in McKinsey's London office, and **Renee Jackson** is a communications manager in the Chicago office.

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