

GUIDE

Standardize Globally, Execute Locally

A Practical Guide to Single-Instance
Multi-Site MES with TrakSYS™



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The Road to Streamlined Multi-Site Functionality

Today's manufacturers rarely operate out of a single plant. They're spread across networks of suppliers, partners, and production facilities that often span countries, if not continents. As operations scale, so do business challenges: global supply chain shifts, region-specific regulations, variable customer demand, and the constant push to maintain consistency across it all.

Even when facilities are built to mirror one another, each site must contend with its location's unique, unchangeable qualities. This makes it harder to sustain performance, ensure quality, and maintain visibility across the enterprise.

Unified, scalable platforms—such as [manufacturing execution systems \(MES\)](#) like [TrakSYS™](#)—help teams meet these challenges at scale, bringing centralized governance and real-time data access to create synergy across sites, regardless of location. TrakSYS integrates seamlessly across the plant floor, collecting real-time, actionable data from machines and processes to bring teams actionable insights.



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For many manufacturers, deploying these capabilities site by site provides them with the support and visibility they need. However, when the goal is speed, standardization, and global scalability, Parsec's [Single-Instance Multi-Site \(SIMS\)](#) deployment model can offer a streamlined and repeatable means of implementing TrakSYS across an entire production network.

In the sections ahead, we'll walk through the SIMS offering, when it makes sense, and how to deploy it successfully so you can effectively scale your MES strategy.

Understanding the SIMS Deployment Offering

Thanks to advancements in remote connectivity, high-speed networking, and cloud infrastructure, technologically advanced manufacturers can more easily adopt cloud-based, multi-tenant solutions. A SIMS deployment allows manufacturers to run a single, centralized instance of TrakSYS and access it remotely across multiple sites. While all connected sites operate from this shared instance with centrally managed license components and standardized solution frameworks, each location interacts only with the data, screens, and workflows pertinent to its operations.



With role-based access controls, enterprise users view only the metrics applicable to their jobs, maintaining both clear boundaries and contextual relevance at the site level.

SIMS supports standardized configurations while still enabling site-specific adjustments, ensuring that remote locations can operate semi-independently and retain their operations and responsiveness while staying connected to the central hub for infrastructural support. So long as the proper infrastructure exists between remote sites and the central TrakSYS instance (which we'll explore momentarily), SIMS provides a reliable and scalable foundation for multi-site MES management.

For those familiar with TrakSYS, this may sound similar to a traditional multi-site deployment. And you're right: Both SIMS and Multi-Site support distributed operations. The difference is in the infrastructure: traditional multi-site deployments manage separate TrakSYS instances at each site, while SIMS uses a centralized instance to serve multiple locations, which are connected and managed over a secure remote network to improve standardization and streamline control.

The benefits associated with a SIMS deployment include:

- **Enhanced standardization:** SIMS enables manufacturers to define and enforce global standards from the central TrakSYS hub—workflows, naming conventions, tag structures, pick lists, and more—driving consistency, avoiding version drift, and embedding best practices across connected sites.
- **More efficient expansion and scalability:** Once the core instance is in place, the process of bringing on each consecutive site becomes increasingly streamlined. Shared templates and architecture reduce the time and effort typically associated with multiple stand alone implementations.
- **Simplified IT processes:** Remote sites connect directly to the central instance, removing some of the IT barriers for smaller or newer sites.
- **Streamlined features and updated rollouts:** Platform updates and configuration changes are made once, at the central level, and automatically distributed to all connected sites, ensuring alignment without duplicated effort.
- **Opportunities to lower total cost of ownership (TCO):** While savings aren't the primary goal, SIMS can reduce total licensing expenses by consolidating the system into a single TrakSYS instance, supplemented by per-site access fees.

SIMS as a Response to the Cloud

Remote deployment models, such as SIMS, have been developed in response to the growing popularity of cloud services and manufacturers' shift towards Industry 4.0.

Our sector was far from the first to adopt the cloud-based solutions. The first commercial cloud was released in 2006, with adoption truly taking off in 2012, with a [71 percent increase in cloud use](#) among small and medium-sized businesses.

Cloud-based tools quickly became of interest for industries such as financial services, telecommunications, and e-commerce. In fact, as of 2025, telecommunications dominate private cloud use, with [64% using private cloud infrastructure](#).

On the other hand, manufacturing faces unique challenges that—until recently—have limited cloud adoption, including:

- Need to connect with physical equipment
- Low-latency environments
- Reliance on legacy, on-premises systems
- Lack of robust IT infrastructure within facilities

But in recent years, innovation has started to address these needs, prompting more manufacturers to leverage cloud environments as part of their digital transformation strategy. As of 2024, [73% of manufacturers say cloud migration efforts are very effective or extremely effective](#).



Examining SIMS in Action

SIMS can meet the needs of manufacturers managing operations across distributed networks. As the demand for global standardization and real-time control continues to grow, more and more TrakSYS customers are choosing SIMS to unify their multi-site operations. One Parsec customer that leverages the SIMS approach is Cortceira Amorim (Amorim).

The world's largest producer of cork, Amorim has facilities in Europe, North America, and Asia. As a centuries-old company that leverages both traditional craft and modern industrial production processes. Before TrakSYS, they faced challenges with limited visibility into plant floor activity, reliance on paper-based systems, manual data entry, and inconsistent production tracking across sites. They needed a way to standardize the company's operations while maintaining site-level flexibility.

Partnering with Kaizen Tech, Amorim chose to test TrakSYS at one of its facilities and eventually rolled out the platform across its global footprint. With four TrakSYS databases hosted on centralized regional servers, they were able to remotely connect each of their twenty-five facilities to business-changing MES capabilities.



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Each site is empowered with key TrakSYS features, including Production and Performance Management, Algorithmic Production Scheduling (APS), Statistical Process Control (SPC), and Quality, Inventory, and Batch Management. Amorim configured standard dashboards, KPIs, and reporting tools and deployed them globally, maintaining a consistent monitoring and governance structure. At the site level, Amorim integrated TrakSYS with legacy systems and over a thousand total pieces of shop-floor equipment to gather crucial production data and enable cross-site performance measurement.

With this deployment method, Amorim achieved centralized control and real-time data collection across their production sites worldwide. Today, more than 200 users across their global footprint access real-time production data via role-based permissions. They have the visibility and control needed to work independently while contributing to shared metrics and enterprise-wide alignment. They've also reduced their reliance on paper processes, improved data accuracy and timeliness, established end-to-end traceability, prevented quality issues, evaluated standard and comparable KPIs, and achieved faster and more reliable decision-making to align with their long-term business and digital transformation goals.

The SIMS Implementation Roadmap

Now that we have taken a look at the history of cloud-based solutions—and a prominent TrakSYS-SIMS success story—It's time to dive into the heart of this piece: how to determine if/when SIMS is right for you.

Successfully managing multi-site operations starts with a clear understanding of your business goals, technical capabilities, and organizational structure. This SIMS Implementation Roadmap is designed to help

teams evaluate fit, navigate setup, and roll out TrakSYS across multiple sites in a scalable, standardized, and sustainable way.

Step 1: Decide whether SIMS is Right for You

The success of a SIMS deployment hinges on the reliability of an organization's IT infrastructure. At a minimum, you will need:

- A robust, secure, and high-performing central server (either physical or cloud-based).
- Reliable, high-speed internet connectivity and bandwidth at all sites.
- Strong failover and redundancy solutions to minimize the risk of downtime.

Beyond the technical details, it's important to assess whether your organization's overall structure and business goals align with what SIMS can offer, ask yourself: Is the proximity of your server location critical to site operations? Is there common downtime between sites for coordinating software upgrades and maintenance across all locations? How similar are business functions and production goals across sites? How reliable is the remote internet connection within your facilities?

Consider SIMS if:

- Produce 1,000,000 additional bottles per year
- Improve bottle line OEE by 10%
- Improve multiple line OEE by 40%
- Strengthen operator engagement
- Gain access real-time performance data
- Optimize plant-wide reporting

Consider Multi-Site if:

- Your sites want to share a subset of common business functions but vary significantly otherwise.
- There are substantially different business needs across sites
- Your sites have independent production schedules with no common downtime for updates.

Choosing a deployment model is complex. At Parsec, we evaluate each client's architecture on a case-by-case basis. By considering a range of factors, our team can help determine what deployment strategy, and supporting architecture, is best for your unique instance of TrakSYS.

Ultimately, the ideal prospect for a SIMS implementation is an organization with:

- A. **Robust IT infrastructure.**
- B. **A desire for standardized manufacturing practices.**
- C. **A need for long-term operational alignment across sites.**

That said, SIMS does not have to be an “all-or-nothing” strategy. Diverse international teams may choose to deploy multiple, regional SIMS instances—or global SIMS alongside single-site or traditional multi-site instances—based on what works best for their global footprint.

Step 2: Align on a Hosting Environment

Once you’ve confirmed that SIMS aligns with your organizational structure and goals, the next step is to deploy your core TrakSYS instance. The first thing you’ll need to do is decide where this instance should be hosted—where your “center” will be.

TrakSYS can be deployed:

- On servers located at a centralized data center.
- On servers located on-site at a manufacturing facility.
- In a private cloud environment.



Your deployment choice is determined by the strength and format of your existing infrastructure and its capacity to connect to and support additional remote sites. One critical consideration: regardless of location and hosting method, this central TrakSYS instance will be connected remotely to additional sites through the internet. Since all remote sites depend on this central server, any downtime or network outage is likely to impact all connected plants. That's why hosting decisions should prioritize resiliency—strong uptime, failover support, redundancy, and IT responsiveness.

Host Facility Assessment – On-Premises

Whether hosted at a production facility or in a centralized data center, choosing the right on-prem hosting environment starts with a readiness assessment. To determine whether a site is a good candidate, ask:

- **What is the facility's IT infrastructure like?** It should be robust, stable, and reliable enough to maintain operations.
- **Is it centrally located or in proximity to other key sites?** Consider locating it close enough to other sites in the deployment to support efficient and reliable network connectivity.
- **Is it prepared to weather outages?** This site will be the “brain” that supports the rest of your SIMS “nervous system.” It needs to have failover and redundancy capabilities in order to ensure continuity in the event of a server failure.

Host Facility Assessment – Cloud-Based

For centralized cloud-based deployments, ask:

- **What does our cloud capacity look like?** Your cloud infrastructure will need to be able to meet TrakSYS' uptime, scalability, and performance demands through load balancers, redundant servers, and real-time responsiveness.
- **Is the cloud protected against outages?** Like on-prem deployments, your cloud host must be prepared to withstand any failures or disruptions in service.
- **Is our cloud environment secure?** Privacy and security are integral to the operation of a controlled and reliable cloud-based MES solution.



Step 3: Rollout and Monitor Critical KPIs

Once the host environment is selected, you can begin the standard TrakSYS deployment at your root site, utilizing features and capabilities needed across all facilities. Allowing all locations to connect to a single, central TrakSYS database equipped with standardized data, configurations, user interfaces, and more.

That said, site operations do not need to be *identical*. While SIMS delivers standardization and consistency at scale, it does not require complete and total uniformity. It's important to note that services, such as data collection and advanced planning and scheduling (APS), have the option to run independently at each plant. Site-specific language, time zone, UI, and licensed functionality will also be optimized to each facility's unique needs.

Once the central TrakSYS instance is implemented, it is time to expand your rollout. As each new facility comes online, it's essential to track performance using a consistent set of KPIs. This ensures alignment with enterprise goals and enables proactive course correction when needed.

Focus on KPIs that reflect site-level performance and can also be benchmarked across your broader network, including operational efficiency, maintenance, quality, compliance, and supply chain. Collecting these KPIs at the site level and analyzing them centrally enables visibility into performance benchmarks across your entire SIMS network. This allows you to be able to identify outliers, illuminate best practices, and adapt your implementation to local or global needs as necessary.

Remote SIMS Assessment

As with your host server, it's critical that you assess remote site locations to ensure that they align with your SIMS goals. To determine whether a remote site is a good candidate, ask:

- **How do its operational workflows compare to other SIMS locations?** Each facility should fit the operational “standard” that you want to implement. Locations with wholly unique needs, features, or processes should not be involved in a SIMS rollout.
- **What are the data requirements?** What kind of data is generated at this facility, and who needs to see it? Will it need to share this data with additional sites? This will help ensure alignment with governance standards.
- **Are there any current integrations (SCADA, PLCs, ERP, etc.) to consider?** MES is not likely to be the only manufacturing solution in a modern facility. It's important to understand which other kinds of solutions you may need to integrate with to create a streamlined and standardized SIMS rollout. [NA36]

Scaling Sustainably with SIMS

Managing distributed manufacturing operations isn't just a logistical challenge; it's a strategic one. As organizations continue to scale across regions and markets, the need for consistency, governance, and real-time visibility is non-negotiable.

Parsec's SIMS deployment model meets these needs head-on, offering manufacturers a smarter and more unified means of managing TrakSYS across multiple facilities. From initial deployment through site expansion, SIMS empowers teams to move faster, standardize their best practices, and monitor performance through a single source of truth. Whether you're managing five sites or fifty, SIMS helps ensure that your MES strategy fosters long-term alignment, cross-site collaboration, and measurable impact.

To learn more about SIMS—and see if it's the right fit for your organization's global manufacturing needs—[contact the Parsec team today](#).

About Parsec

Utilizing their 30 years of experience in manufacturing, Parsec created TrakSYS™: a best-in-class operations management software application and solution platform designed to significantly improve manufacturing operations. TrakSYS aggregates data from multiple sources to deliver real-time, actionable intelligence that helps manufacturers reduce production costs, decrease lead time, and improve profitability. TrakSYS is deployed at thousands of factories, in over 140 different countries.



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