



ENACT | WHITEPAPER

5 Ways to Optimize Manufacturing Production Operations

Use the quality data you already collect to optimize products, processes, and performance.

InfinityQS[®]
Quality Re-imagined



Just apply your quality data to the right tools.

Today's manufacturers are savvy. Across business divisions, you've invested in a variety of information management tools to help you juggle global regulations, customer demands, and industry disruptions without breaking a sweat. But when it comes to moving away from manual processes on the plant floor—your best source of operational information—you might be at a loss. Manufacturing operations generate an enormous amount of process information, and moving from manual data collection to a digital solution can seem overwhelming.

The bad news? In today's high-stakes manufacturing industry, integrating production data digitally into your operations management isn't a choice. Sticking with the status quo prevents you from realizing critical advantages where they matter most: in the manufacturing and assembly processes at the core of your business.

The good news? You don't need to do everything at once. Switching to a digital quality solution is a process—one that starts with the data you already have. By improving how you manage that data, you can quickly see measurable benefits and positive ROI while building a framework for bigger transformation goals.

Your quality management system is key to optimizing all your operations—from suppliers to production processes to quality checks, packaging, and shipping. After all, quality data is essential in every step of manufacturing. When you effectively collect, use, analyze, and act on that data, you strategically improve not just one part or process, but all of them—across the enterprise.

This is true modern **manufacturing optimization**. And it starts with a hard look at your data.



You need to see the problem to fix the problem.

The underlying causes of performance, quality, and production challenges can often be traced back to one problem: your data.

Dysfunctional data is—

- Incomplete
- Isolated
- Inconsistent
- Inefficient

Such data not only exposes you to greater risk—it also impedes your ability to improve operational performance.

Incomplete Data

You might have valuable quality or operational data. But can you use it to inform operational improvements? If not, you have incomplete data. What causes this?

- Unreliable data collection methods that lead to gaps
- Outdated methods, such as manual quality checks and paper records
- Inability to surface information that delivers intrinsic operational value

When your data is incomplete, your insight is incomplete.

Inconsistent Data

Inconsistent data can take many forms. Look for variations in—

- Naming conventions
- Measurement units
- Sample rates
- Procedures and methods
- Calculated metrics

These variations can occur across processes, shifts, or plant locations. And they make cross-comparison of your data nearly impossible.

“Data collection is the engine that drives your quality improvement efforts ... It reveals things about your operations that you might never know from walking the plant floor.”

— Eric Weisbrod
InfinityQS VP of Product Management

Isolated Data

Disparate data cannot easily be compared or analyzed to yield the insights you need to improve processes. Such data is typically—

- Inaccessible, stored in a remote location, separate systems, or proprietary format making them available only when you have physical access to that paper
- Only on paper, making it available only when you have physical access to that paper
- Siloed across spreadsheets, Enterprise Resource Planning/Manufacturing Execution System (ERP/MES), or proprietary legacy systems

Isolated data might serve its primary purpose, but its value ends there.

Inefficient Data

Manual data collection and reporting are resource-intensive and time-consuming—in other words, inefficient.

- Manual data collection is slow and fraught with errors
- Analysis of paper charts can be cumbersome and difficult to collate, cross reference, and share
- Arcane reporting methods are a time killer, requiring hours spent collecting, analyzing, and presenting information that a digital quality management software system delivers instantly
- Extracting meaningful insight from densely-populated tabular reports or spreadsheets can be difficult

Take a hard look at how you collect data—and what you do with it. If your data is dysfunctional or your processes are inefficient, it's time for a tool like Enact® by InfinityQS.



The Challenges of Dysfunctional Data

Dysfunctional data inevitably leads to three fundamental operational challenges:

- **Impaired operational visibility.**
To institute real change and improvement, you need a complete view into your manufacturing and quality operations.
- **Uninformed decision-making.**
A lack of insight prevents decision making—or worse, leads to decisions based on unreliable evidence.
- **Quality compliance risks.**
Uninformed decisions create unnecessary risk through performance impacts or failure to comply with quality standards or customer-, government-, or industry-specific requirements.

Welcome to the big picture.

Intelligent data is the opposite of dysfunctional data. Intelligent data is—

- **Correct.** Manufacturing and quality data that has intrinsic value is reliably collected and stored in a way that enables insights into every facet of your manufacturing operations.
- **Consistent.** Consistent measurement methods use the same units of measurement, naming conventions, and metrics across data sets, products, processes, and plants.
- **Unified.** Storing data in one unified, centralized repository enables you to efficiently extract meaningful information you can use to confidently cut costs, reduce or eliminate waste, and save time and resources.
- **Efficient.** Automating data collection, analysis, and reporting functions—or even simply moving those tasks from manual to digital—can quickly boost efficiency.

Put Intelligence to Work

How do you put this intelligent data to work? By combining it with a tool like Enact.

Enact is “cloud-native”—built in the cloud, for the cloud—and designed for the enterprise. The platform provides the features and functionality you need to turn intelligent data into actionable intelligence for your business.

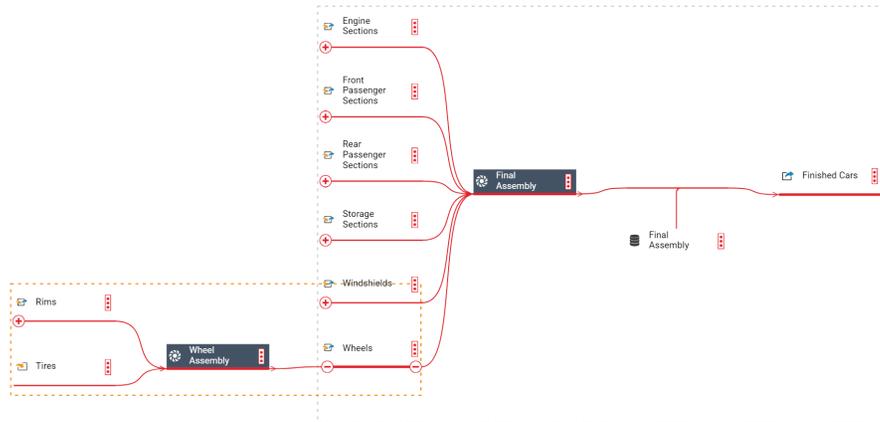
“Extracting manufacturing intelligence from the quality data you already collect isn’t hard. You just need systems that support plant floor, enterprise-wide data collection and a means of aggregating those data to make them easily consumable and understandable by managers, engineers, and quality professionals.”

—Doug Fair
InfinityQS COO



Process Models

These visual, reusable representations of your processes enable you to build out workflows in a step-by-step fashion—so you can error-proof your processes and simplify operations management.



Unified Data Repository

Get a look at data—across one production line, your plant, or your entire enterprise—in aggregate form to dig in and uncover the greatest opportunities for operational improvements.

Reusability

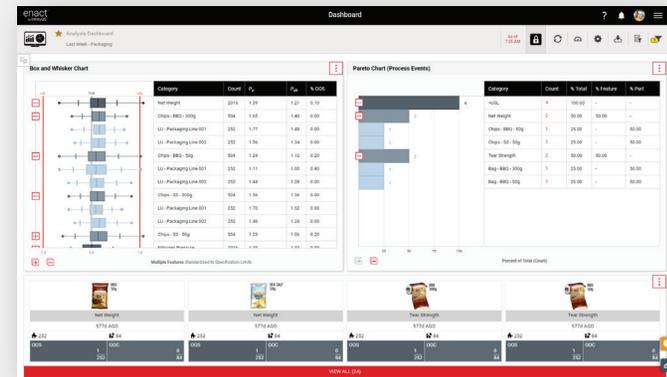
Organizations often struggle to keep up with quality software system configuration and updates. Enact provides reusable dashboards, process models, data collections, and sampling requirements to simplify these processes—and save you valuable deployment and maintenance time.

Standardization

Enact rewards standardization, simplifying deployment and maintenance. With standardized data in a unified data repository, teams can leverage powerful reporting capabilities to share insights, strengthen compliance efforts, and reinforce best practices across sites.

Dashboards

Enact takes control charts to a new level with dashboards that deliver actionable information to the right person at the right time—in a visually engaging way.



Flexibility

Features that account for differences between product families—such as language labels and adaptable work practices—make Enact flexible enough to manage differences on the plant floor. You can quickly implement a change in data collection requirements or specification limits with a few mouse clicks. Plus, your staff always has the latest and greatest version of the software, on any device that has a browser. Enact's software-as-a-service (SaaS) model means no servers to purchase or set up, no software to install, and no need for time-consuming software upgrades.

Thanks to these capabilities, Enact can help manufacturers—

- Achieve greater levels of real-time operational visibility
- See past the gaps or blind spots within your data
- Uncover trends to inform your biggest areas of opportunity
- Make decisions based on accurate and reliable data—across your entire enterprise

Increase efficiency, reduce costs, and improve agility.

With a tool like Enact, you can achieve greater levels of real-time operational visibility. And with that increased visibility, you can see past all the gaps or blind spots within production and quality operations. Your decision making becomes better informed—based on accurate, reliable data.



A Fine Balance: Cost, Value, & Risk

Informed decision making is key to keeping up with increasing competition—and tougher operational challenges—prevalent in today's manufacturing environment. Informed decisions lead to substantial improvements in your manufacturing processes across three dimensions:



Cost

From supply chain to packaging, logistics to distribution, and energy to equipment, your cost base is largely influenced by factors such as waste, rework, and productivity.



Value

The value of your operations depends not just on the quality of your products, but on your ability to be agile and responsive—and to drive product and market innovation.



Risk

Mitigating operational and strategic risks—from quality or production issues to major quality events that can damage your brand reputation—is always a top concern for manufacturers.

But efforts to minimize cost, maximize value, and mitigate risk must be finely balanced. Focus too much on cutting costs, and you can unintentionally harm quality—and thus, value. Think only of increasing the product quality, and costs can skyrocket. Develop an unhealthy obsession with risk avoidance, and your organization becomes rigid and inflexible.

You need to balance these three dimensions. **Manufacturing optimization** helps you find that balance. When you optimize operational efficiency and productivity you reduce costs. You also increase the overall value of your manufacturing operations by helping mitigate risk. So how do you reach those new levels of efficiency and productivity?

Don't Forget Agility

The more agile your business, the better you can respond to—and even take advantage of—unexpected market changes and opportunities. A lack of agility can also affect cost; for example, missed opportunities or client dissatisfaction can impact revenue.

The COVID-19 pandemic illustrates the necessity of agility. As certain products and services were suddenly deemed nonessential, others (e.g., specific consumer packaged goods, medical supplies) saw incredible spikes in demand.

Modern and emerging IT solutions improve agility. But many manufacturers still rely on on-premises, legacy, or monolithic plant-floor applications that are costly to purchase, implement, and maintain—and that do little to make operations more agile.

Switching to a cost-effective, flexible SaaS solution empowers manufacturing optimization and agility. Using a SaaS product like Enact, you can be flexible—changing the specifications of your products as market demand shifts.



Operators, Supervisors & Managers

Some manufacturers have high levels of automation—production lines, filling lines, packaging lines, and mixing processes—but they flank that automation with manual quality management processes. When operators must manually monitor machine parameters and perform quality checks—while carrying out quality, process, and administrative tasks—efficiency and productivity suffer. Automating repetitive and mundane tasks and giving operators the tools to perform their roles more effectively brings them into the “plus” side of the optimization equation.

The same applies to supervisors and managers. Significant time is spent manually collecting data, preparing that data for reporting analysis, and distributing that data—which is highly inefficient. Automating those processes enables management to spend more time analyzing data—and acting on insights.



Consistency is the key.

Once decision making improves—because of greater insight and visibility—you're ready to implement robust quality procedures and policies to optimize your operations. But wait—not so fast.

The success of proactive, enterprise-wide optimization efforts hinges on implementing standards consistently across all operations. Enterprise-wide consistency is key to making significant gains in both quality and performance.

Yet quality and performance are often managed at the local or—at best—the regional level. Local variants can easily become entrenched, creating inconsistency across the enterprise—a significant barrier to strategic improvement.

Achieving enterprise-wide consistency relies on adopting a standard approach to data collection methods, monitoring, and analysis.

The Dangers of Inconsistent Data Handling

The consistency of the data you collect—and of the collection methods you use—is important.

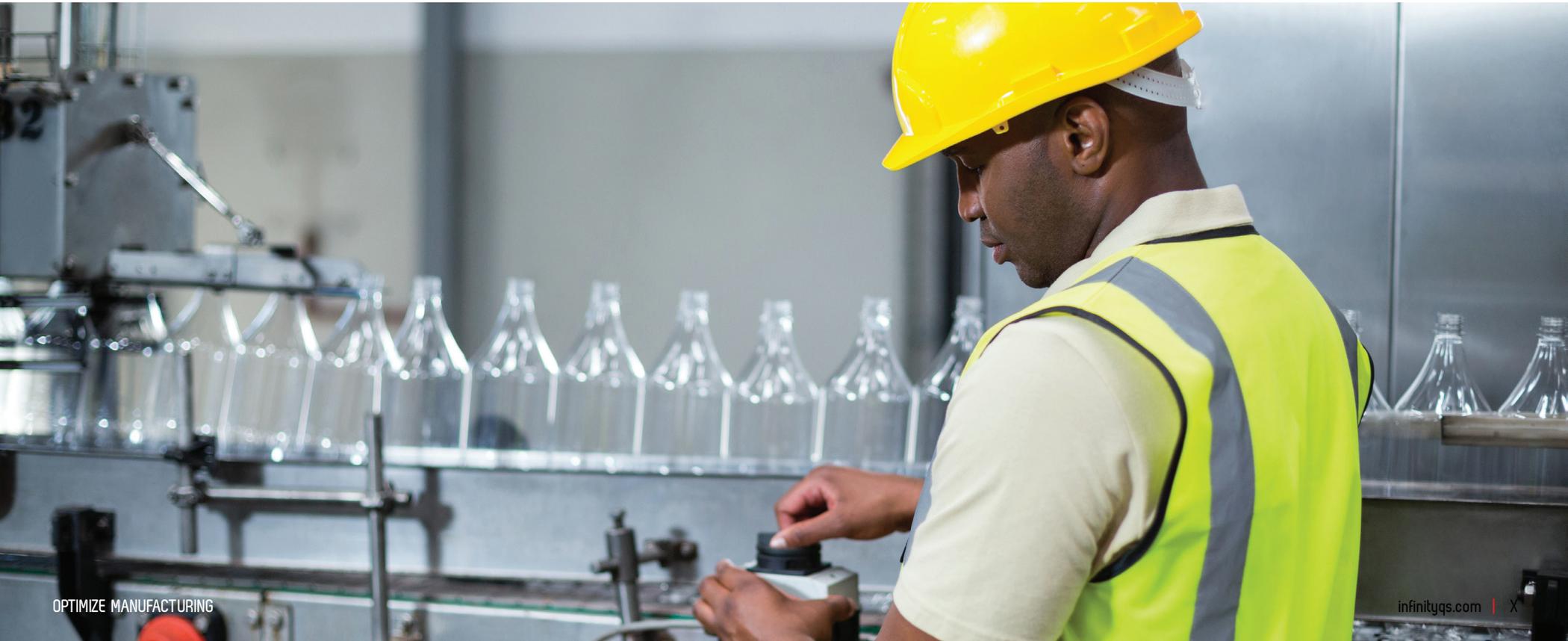
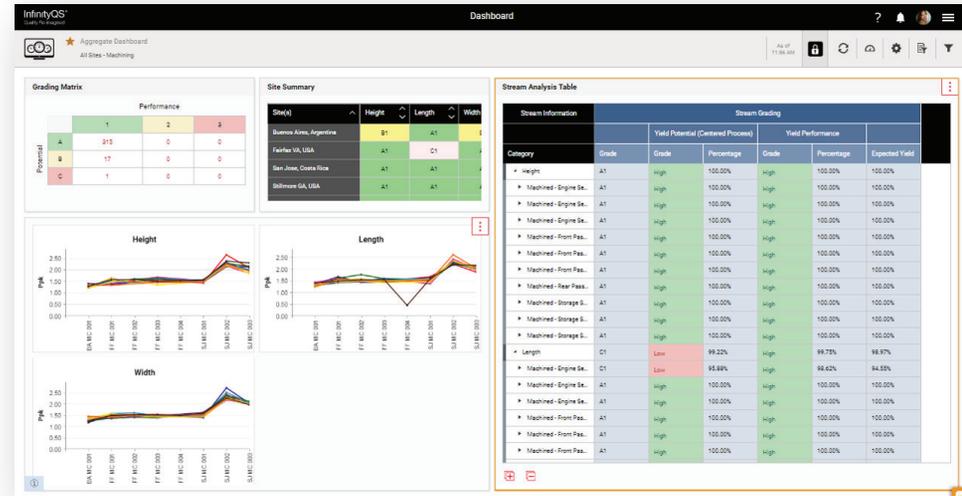
- How and when do you perform quality checks?
- When, where, and how do you collect data?
- How do you record this data?

Inconsistency in these areas creates issues with cross-comparisons and analyses: the old “apples-to-oranges” problem. And that leads to more ominous questions:

- How can you be confident that quality standards are being met if the method used to perform quality checks across lines, plants, and sites differ?
- When issues occur, how can you ensure that corrective actions are followed correctly and consistently—across all your operations?
- How do you ensure that everyone—from operators to executives—are interpreting data and KPIs in the same way, and are making consistent decisions based on those insights?

A Consistent, Centralized Approach to Data

Data consistency enables you to attain the big picture, so you can gain a true measure of performance across your manufacturing operations. Enact makes data consistency a reality because it centers around a unified, centralized data repository. When all your methods, data, monitoring, and analyses are consistent—because all your data are stored in, and accessed from, a single repository—enterprise-wide strategic improvement is not just attainable ... it's a natural result.



You'll be amazed at what's possible.

The thought of adopting new technology or even just upgrading legacy systems can be scary. But most of the perceived barriers to optimization are just that—perceptions. With Enact, you can optimize operations—without disruption or overuse of your resources.

What's Holding You Back?

Barriers typically boil down to one thing: everyone's plate is already full. Whether managing and maintaining servers and IT projects, or running day-to-day production, no one has time to take on new projects.

Plus, switching to a digital quality solution is perceived as costly and complex. Many organizations believe that such projects will compete with budget constraints—and take money away from other high-value projects.

Enact breaks through those barriers. Thanks to its secure, on-demand SaaS model, Enact provides a practical, tactical, and actionable approach.

Save Time and Money

Enact is subscription-based, with no long-term contracts. You only pay for the number of licenses you use each month, and you can increase or decrease that number at any time. No long-term contract means you are not locked into a significant financial commitment up front—making the solution virtually risk free. As an added bonus, Enact's subscription-based licensing model makes it an ongoing, monthly operational expenditure—not a capital expenditure.

Proven Value

Enact requires no software to be installed locally; the platform is accessible via a web browser using any internet-connected device. There is no commitment to hardware or infrastructure up front. Enact enables you to start small—and take time to assess the real and tangible business benefits and value. Then you can expand at a pace that meets your business needs and works within constraints, such as resource availability.

Begin with a few Enact licenses and set them up on a single filling or packaging operation. You'll be able to quickly assess the significant value that manufacturing optimization brings to your individual plant or entire enterprise.

"SaaS enables process and quality improvement experts at the corporate level—from anywhere around the globe—to sort, slice, and dice data anyway they want from across plants, departments, regions, even across the entire enterprise."

—Doug Fair
InfinityQS COO



Build a solid foundation—and a roadmap for expansion.

Ready to take the first step toward manufacturing optimization?

Enact is easy to try, and the low-cost initial setup—with its potential to quickly demonstrate impactful results—helps ensure rapid adoption of Enact as well as a solid return on your investment. In a short time, you'll gain:

- Buy in from users and executives
- An established configuration model to help easily expand your implementation
- The ability to reproduce and scale what you've learned across products, lines, and plants
- A streamlined roadmap for rollout and adoption

Take advantage of the technology at your fingertips today. Contact an account manager for more information.

Connect with an account rep to get the process rolling.

Call 1.800.722.7978 or
visit the **InfinityQS website.**



About InfinityQS

InfinityQS® is the leading global provider of Manufacturing Quality Intelligence software and services. Powered by a robust Statistical Process Control (SPC) analytics engine, the company's cloud-based Enact solution delivers unparalleled visibility and strategic insight across the enterprise, from the shop floor to the boardroom. This extensive deep-dive capability enables manufacturers to improve product quality; decrease cost and risk; improve compliance; and make strategic, data-driven business decisions. Headquartered near Washington, D.C. and with offices in Seattle, London, Delhi, and Beijing, InfinityQS has thousands of customers around the world, including Ball Corporation, Boston Scientific, Graham Packaging, and Medtronic.

For more information, visit www.infinityqs.com