Milliken Performance System
The Systematic Approach to Operational Excellence

Performance Solutions™ by Milliken.
Most executives can point to a few improvements within their plants — waste taken out of a process, reduced changeover time for a piece of equipment, higher output from a specific line or work cell. Yet these firms are missing far more enhanced productivity and profitability. Why? Because they don’t pursue improvement in a systematic way — one that closely links every improvement action to corporate objectives through a well-defined system for continuous improvement.

Making the leap from isolated initiatives to a self-sustaining systematic improvement approach is a critical step in developing and maintaining competitiveness. At best, individual initiatives offer short-term or limited benefit while risking distraction as employees fail to focus on what really matters to plant or corporate success. At worst, individual initiatives are actually counter-productive — pushing problems from one department to another while adding complexity and frustration. It’s easy to recognize improvement initiatives — and their shortcomings — in today’s manufacturing facilities:

- **Silo improvements:** A manager accountable for his or her own department and its performance does whatever will demonstrate success — regardless of how those efforts might affect other departments or overall resource availability. Even though silo initiatives often yield short-term, localized results, they rarely align with other corporate actions, don’t take advantage of cross-functional synergies, and are usually abandoned when the responsible manager leaves or more resources are required to sustain or grow localized gains.

- **Broad, shallow, tool-based:** Popular improvement methods such as lean manufacturing have spurred adoption of individual tools associated with those methods, such as 5S, six sigma statistical analysis, or kaizen events. But broad, plantwide implementation of a tool without a strategic objective seldom delivers bottom-line results, and often ends up overwhelming managers and employees with make-work and meetings to keep disconnected initiatives alive. Phil McIntyre, director of business development for Performance Solutions™ by Milliken™, the performance consulting division of Milliken & Company, says initiative approaches are “very much tool-based rather than a methodology that identifies where to apply tools and the correct tools to use.”

- **Short-term focus:** Manufacturers — especially public companies — too often emphasize short-term results over long-term planning and investments for improvement. Craig Long, Performance Solutions™ by Milliken executive director, says, “I often ask myself, ‘Would Milliken have ever pursued such a venture if we had been publicly held?’ It took us nine years to get all the way through our company to put the Milliken Performance System in.” Those years paid off handsomely in the long term for Milliken, a 150-year-old multinational group of textile, chemical, and floor-covering operations that now boasts world-class performances, satisfied customers, and awards (see Milliken Performance System).

- **Meaningful but not aligned:** Without clear alignment to corporate strategies and objectives, isolated initiatives can produce localized results but not advance the overall fortunes of a company. “At the end of the day, companies are not seeing their high-level metrics change,” says Long. “And the reason is that they’re not working on the right thing. The concept of losses on an activities basis [i.e., identifying detailed costs associated with underperforming activities] helps guide an organization in what is the right way to do work,
McIntyre initially asks executives how they select their corporate improvement projects, which indicates how they allocate resources and prioritize action. “How companies establish projects gives us an understanding of whether they have a systematic improvement approach in place and if it is tool-driven or some other type of effort.” Not surprisingly, only 34% of U.S. plants report that they have a strategy/policy deployment process by which to identify, prioritize, and cascade corporate objectives and actions. Even among plants that have an improvement method in place (e.g., lean, six sigma, total quality management), only 38% use strategy deployment (see Figure 1).  

**Searching for an Improvement System**

Without a corporate architecture of system-wide strategy, planning, support, and implementation — along with systems to monitor and respond to conditions on a daily basis — improvement initiatives are doomed to plateau or fail. Performance Solutions™ by Milliken helps executives think differently about their organizations and how to transform those companies via a systematic improvement approach.

“I think anybody that comes to us is consciously aware that what they’re doing is not working,” says Chris Glover, director of the Milliken Performance System. These companies are often better than industry average, he adds, but remain unable to disseminate isolated successes throughout their organizations. “Everywhere we go, we find pockets of excellence — they’re just not replicated, and they

<table>
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Figure 1.


Milliken & Company has steadily implemented the Milliken Performance System, the backbone of how the organization operates. The system is characterized by a foundation of safety and strategic clarity (i.e., identifying and executing improvements most beneficial to the organization) and is supported by key pillars (principles), such as quality management, planned maintenance, and production control, which drive Milliken to be a lean enterprise.

Milliken’s tireless adherence to its systematic improvement approach has led to stellar operational performances and countless industry awards, including the Malcolm Baldrige National Quality Award, European Quality Award, British Quality Award, Canadian Quality Award, Japan Institute of Plant Maintenance TPM Excellence Award, America’s Safest Company, Fortune’s 100 Best Companies to Work For, and World’s Most Ethical Companies.

Performance Solutions™ by Milliken is the operational consulting division of Milliken that helps other manufacturers make similar advances.
don’t sustain because people will get promoted, it was their secret sauce, and it was very much dependent on the individual, not the process. It’s very pocketed, very heavily individual or situational.”

“A systems-based approach is more long-term thinking,” says Long. “There’s a higher level of discipline. It’s more robust. Milliken really thought when we put our system in that it was going to be a two- to three-year initiative, and then we’d be on to something else. What surprised us when we put it in is that we stopped chasing initiatives — and for us that has really been the differentiator.”

Long believes that one reason companies seek Performance Solutions™ by Milliken assistance is to overcome what he calls a “leadership dilemma.” Executives are looking for a model that helps them move away from short-term, budget-driven initiatives, and within Milliken they see such an alternative: systematic planning and identifying priorities, application of common standards, and education and training investments that lead to sustainable performance and, ultimately, bigger payouts.

The application of common standards across Milliken’s operations particularly impressed one client, a manager of a process plant; he wanted consistency for his facility. The facility established common measures and ways to prepare and present measures — the same format and same principles across work areas and functions. For example, when investigating losses anywhere on site, a consistent DMAIC (define, measure, analyze, improve, control) process is used to identify root causes and guide action. It’s not one process in the quality department and another process in the maintenance department, it’s one process throughout the facility.

Bob Masching is vice president, program management, at ConAgra Foods, Omaha, Neb., which has worked with Performance Solutions™ by Milliken (referred to as Performance Solutions) for approximately five years.

“We were seeking outside expertise that had in-depth experiences with a TPM-based [total productive maintenance] performance system, both from skills and capability-building as well as practical experience in using that performance system to drive meaningful supply-chain or business results within a manufacturing facility,” says Masching.

ConAgra Foods, a company that had grown primarily through acquisitions, maintained a collection of disparate plant performance systems with little commonality. Masching says it was necessary to keep these legacy systems — for a while — to support each plant’s unique leadership and culture. “As we started to look for one supply-chain strategy and one performance system, that’s what led us to being very prescriptive in architecting that... The premise was that ConAgra could accelerate results and better enable the movement of people and the interchangeability of talent across one performance system vs. multiple systems.”

ConAgra was especially interested in improving employee safety, lowering defects, and increasing overall equipment effectiveness. “And that’s where we targeted learning and coaching from Milliken, around how to do that in a sustainable way... We were looking for them to help us with architecting the ConAgra Performance System, assisting us in deploying that performance system as one solution or one performance system design, and implement that across roughly 40 plants.”

Performance Solutions helped ConAgra to first identify its manufacturing losses based on zero-based thinking (see Zero-Based Thinking Focuses Effort, Drives Improvement) and then to develop a clearer understanding of where and why those losses occur. Understanding where losses have the greatest impact on an organization is key in developing a systematic improvement approach. Performance Solutions challenges its clients to identify zero-based losses — i.e., if a process or activity were perfect, how much more pro-
Zero-Based Thinking Focuses Effort, Drives Improvement

Zero-based thinking is a performance management mind-set in which there is no acceptable level of failure: no poor quality, no breakdowns, no delays, no customer complaints, no manufacturing wastes, etc. “We try to calculate, to the zero base, what the real opportunity is,” says Craig Long, Performance Solutions executive director. “What we’re talking about is perfection.” This way of thinking pushes manufacturers to consider the size of the overall loss composed of all failures, which is typically an impressive number. Just as important, says Long, “it’s going to directionally point you where you want to go work.”

Zero-based thinking forces companies out of “budget thinking” — an acceptable, budgeted range of failure. Despite being difficult or impossible to achieve, it’s hard to argue that zero shouldn’t be the goal, particularly for employee safety or quality. “When you measure success toward an absolute zero goal, there’s nowhere to hide,” says Long.

“Zero base stretches you to perfection,” says Chris Glover, director of Milliken Performance System for the consulting division of Milliken. “What are the activities keeping you from perfection, and what are the costs of the activities keeping you from perfection? Understanding the cost of those activities allows you to work on the critical few things that control your greatest cost expenditure.” Focusing attention on activities that increase costs also eliminates the frustration of trying to achieve vague mandates — i.e., reduce labor costs, increase EBITDA, reduce overhead — by linking corporate strategy and goals with frontline execution. “Focusing on losses allows you to get down to the activities and to the measures at a line level that are much more actionable for the associates to grasp and change once you provide them the tools, the methodology, and the system.”

At ConAgra Foods, Omaha, Neb., zero-based thinking is the focus of the company’s systematic improvement approach, says Bob Masching, vice president, program management. “The systematic approach starts with having a stronger capability to identify and quantify losses and prioritize those losses at the line level in order to point you to what to go work on or what to improve. It starts with zero-loss analysis and prioritization of losses, focusing you around what’s most important to go work on. Second, once you prioritize the losses, the selection of the methods and the tools to go reduce those losses are clear — it’s very clear in what we call ‘site master planning’ for where you’re going to go work and in what order you’re going to go work. And the third element ... is we are building new skills and capabilities in our pillars that are able to sustain performance long term, as opposed to individual discrete projects or initiatives that come up.”

Performance Solutions provides clients with extensive details of Milliken’s zero-loss calculation, which helps executives at these firms to understand the concept, minimizing their resistance to stretch goals, says Phil McIntyre, Performance Solutions director of business development. “It’s not just a theoretical model we talk about. We go through specifically how we calculated it, and what the numbers are. They recognize the huge opportunity when you show those numbers.”
productive and profitable could the organization be? “I think part of our power is we come in and we challenge existing paradigms to the zero base rather than the standard of ‘this is normal for our industry,’” says Glover.

**Embedding a Systematic Improvement Approach**

Establishing a systematic improvement approach doesn’t just happen. A manufacturer must methodically embed a systematic improvement approach unique to its own culture, supporting that approach with the Milliken Performance System. The six steps of this transformation are:

1. **Accommodate, educate, and demonstrate:** Seeing is believing. A manufacturer frustrated by a parade of improvement initiatives typically starts its transformation by observing the system (and results). “We bring a leadership team to Milliken, and then we take them to our facilities. They can see our associates’ engagement level and our operations — associates actually running the systems,” says Glover. “I think that helps build some clarity around what’s possible and helps shape a common vision for that leadership team.”

2. **Assessment:** Once a manufacturer commits to working with Performance Solutions, it invites Milliken practitioners to assess its operations. MPS practitioners have typically spent an average of 20 years working within six different Milliken facilities, says Glover, who has been a plant manager at two different Milliken sites. “We go into their operations and evaluate their current systems against our pillar processes and criteria. This is where we do gap analysis and strength discoveries. A component of that also is a very deep-dive sampling of their culture, with interviews of the associates and operators in the production side as well as leadership. We’re getting the 360-degree view.”

3. **Corporate master plan:** With a better understanding of strengths and weaknesses, executives develop a plan for systematically addressing weaknesses. The corporate or site master plan aligns the organization, establishes “proofs of concept” (demonstrations that a method is feasible and metrics are achievable), and defines the role of leadership during the transformation. Executives create their own pillars and their own terminology for their company, with Performance Solutions™ practitioners helping to ensure that critical issues aren’t overlooked and that specific pillars aren’t under- or overemphasized. “We don’t get hung up on the nomenclature,” says Glover. “We’re more about, ‘Does it solve this process?’ But the nomenclature is critical for organizations because it has to resonate with their people.”

4. **Plant implementation plan:** After master planning, executives identify the first plant(s) to adopt the improvement system. At this step, notes Glover, “we’re shifting more from strategic to tactical.” Note: during the assessment and site master-planning stages, executives have learned how to standardize processes for the plant implementation and have begun to “compartmentalize” operations and equipment to ease replication of improvements.

5. **Model within a plant:** The fifth step is identifying a specific area, line, or even piece of equipment within the selected plant(s) to begin transformation. The model is selected based on criteria such as urgency, capacity to replicate standards to other areas, and the ability to completely improve the area. “Don’t minimize the concept of modeling,” advises Long. “I think a lot of companies take on the whole operation, take on the whole company, swooping down from corporate. We go into an operation and just take one little line or machine and say, ‘We’re going to spend whatever time we need’ — and sometimes it may be months — ‘to bring this line or piece of equipment up to world-class standards.’ That’s how the initial knowledge transfer takes place. When they convert the concept on that one line or machine, it gives them the conviction there’s no reason that they can’t improve every line or piece of equipment to that standard.”

6. **Replication:** Once the model area is completely transformed, concepts and standards are deployed to other areas within the plant. This is
where improvements gain velocity, because personnel have already learned how to transform an area in its entirety. And unlike a siloed improvement initiative, this transformation (and each that follows) is based on standards applied throughout the plant and company. For example, technical sheets, standard work sheets, equipment guides, etc. are established that can be transferred to other areas, lines, and pieces of equipment.

The speed of implementation depends on the number of plants and the resources committed

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Practitioner Role

Performance Solutions™ practitioners engage clients at the most senior corporate level down through frontline associates, assisting them in four ways with development of a systematic improvement approach and implementation of their own versions of the Milliken Performance System:

- **Educators:** Using a combination of visual, auditory, and hands-on training, our practitioners help clients build the Milliken concepts into their day-to-day routines. “We’re educators tied very closely to an activity, so there’s real learning, not just education,” says Glover. “We’ll go through some visuals to create that background understanding, and then we go out onto their floor and either do the activity with them or describe what activity we would do. For example, if the learning targets a piece of equipment, the operator of that machine must attend and assume hands-on responsibility for improvement.”

- **Coach/mentor:** Practitioners bring a wealth of knowledge and experiences to clients, helping them to avoid common problems and to quickly move through obstacles that could slow improvements. At the leadership level, MPS practitioners provide mentoring in establishing a corporate master plan and identifying model plants and model areas. On the plant floor, guidance is more tactical, such as describing why an activity or process did or didn’t get a desired result.

- **Challengers:** Practitioners have firsthand experience in how far organizations can stretch. This allows them to push clients toward higher standards that clients often see as difficult to achieve. “We hold them to the objectives of the pillar methodology and zero base,” says Glover.

- **Validators:** As clients begin to drive replication and improvements on their own, practitioners periodically return to assess/audit progress. “Since we are proponents of modeling, since we do like the investment approach early on, there have to be agreed-upon metrics, agreed-upon team members with both our business and the company with which we’re working,” says McIntyre. “We’re going to get together and review progress at certain points in time, and that’s one of the things that helps companies get off the initiative-driven mind-set — we’re going to hold their feet to the fire every three months, every four months, whatever it is. We’re going to circle back and evaluate the progress of the implementations and the metrics to find out where they’re going.”
to the implementation; the relative ease of implementation, says McIntyre, is a direct result of careful selection of the initial model. “You want to pick a model that moves the needle. You don’t want to pick something that’s obviously going to be very easy, and you don’t want to pick something on the other end of the spectrum either. You want to pick something that will prove its worth to the organization as we improve it.”

At ConAgra, Performance Solutions helped to architect the key tenets of its performance system, and also helped in deploying the system to plant locations. ConAgra’s deployment plan segmented plants into 14 lead sites and other mirror sites, with practitioners providing coaching sessions to plant management teams every six weeks. Representatives from one to three mirror sites also participated at the lead sites.

Masching says that ConAgra first selected models/pilot lines “where you’re going to go prove building skills and capabilities and demonstrate results.” The second stage is “building on maturity and replicating what you learned in the models into other areas of the plant. Stage three is sustaining the performance, and then stage four is more continuous improvement.” He points out that “sustaining” is different from continuous improvement in that it’s “more focused around having the right daily management systems and the right review-and-response line checks in place to sustain the improvements that the teams worked on. Continuous improvement is more focused around how do you then, on an ongoing basis, look for the next level of opportunity or the next level of losses as you mature.”

**Systematic Results**

Investments, training, rigorous pursuit of zero-based targets, and application of common standards mean little if manufacturers don’t actually improve and drive meaningful business benefits. The Milliken Performance System is designed to provide wins along the way, validated by daily checks and practitioner reviews/audits, while also delivering long-term, sustainable leaps of improvement.

“Incredible” improvements at a process-plant client have included improved OEE and decreased downtime; the client’s plant manager now believes the facility is on track to be an industry leader. It’s important to note that this was already a good facility — with solid performances for delivery, quality, safety, budget adherence — yet the plant’s leaders and workforce committed to learning how to identify improvement opportunities, where and how to reduce costs, and how to keep the transformation alive. Says the plant manager: “We’ve established this as a part of our process, not, ‘This is what we do on the side.’ We’ve implemented this as part of our everyday process.”

ConAgra Vice President Masching says his company’s deployment of a systematic improvement approach has reached “very good maturity,” and is registering impressive returns:

- Declining costs per unit,
- Greater than 50% reduction in quality defects,
- Significant reduction in safety incidents (“in many of our mature plants, working accident free”),
- Greater than 50% reduction in equipment breakdowns,
- 50% to 75% reduction in minor equipment stops, and
- 12-percentage-point improvement in overall equipment effectiveness/equipment reliability.

Masching says that zero-based thinking also has changed the culture of the organization. “Previously we may have been an organization — and many organizations are — focused on variance-to-standard cost, or variance or oppor-
tunity vs. budget. When you adopt a zero-loss mind-set, it certainly helps you think about losses through a different lens. I would say that would be one qualitative benefit.” In addition, through ConAgra’s safety pillar, autonomous manufacturing pillar, and focused-improvement pillar, employees have begun to “own” their lines, equipment, natural work areas, and tangible business results in those areas. “That is another really exciting outcome of where we’re maturing to, which has been very positive.”

“It’s really pushing the decision-making and the knowledge base further down in the organization, closer to the floor,” says Long. “The knowledge actually resides much, much lower in the organization. We think it’s one of the keys because it actually frees leadership’s time to work on other things rather than trying to direct improvements operationally from headquarters.”

Early during ConAgra’s performance-system deployment, Masching recalls, there was angst that building new skills and capabilities through training was incremental work that got in the way of doing “real” work. “Once you get into a certain level of maturity, it is becoming the work and the firefighting goes away in the organization. You’re left with a feeling that working within the performance system is the work. It is no longer incremental work. And the life of an operator, the life of a frontline leader, the life of a plant department manager becomes much more efficient and effective, and working within the performance system becomes the work. It’s part of maturing... That’s another significant benefit.”

The loss opportunity that Performance Solutions uncovers in most companies, notes McIntyre, is typically two to four times greater than a client’s leadership team will quantify across the company. “In the first two years, you ought to get close to 30% of that, and you ought to get close or north of 50% shortly thereafter,” adds Long. “Then it becomes a matter of continuing to work the system.”

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Put Performance Solutions™ by Milliken to Work For You

Each experienced practitioner uses Milliken’s world-class and award-winning approach that has been developed through two decades of benchmarking best practices around the world. Milliken’s approach is grounded within an organic, associate-based culture. Discover how Milliken’s practitioners work alongside leadership, management and associates from all manufacturing disciplines to create higher performing and safer organizations.

Visit www.performancesolutionsbymilliken.com to learn more about Milliken’s consulting and education services.

Worldwide Contacts:

Phil McIntyre, Director, Business Development & Marketing
864-503-1780
Phil.McIntyre@Milliken.com

Jeff Rosenlund, Director, Business Development
864-503-1780
Jeff.Rosenlund@Milliken.com

European Contacts:

Chris Poole, European Business Development Manager
+44-(0) 7834-608-255
Chris.Poole@Milliken.com

Nick Bailey, European Business Development Manager
+44-(0) 7747-756-208
Nick.Bailey@Milliken.com