

MILLIKEN PERFORMANCE SYSTEM

Food & Beverage Manufacturers: Be First — or Fall Behind



Performance
Solutions 
by *Milliken*

Today's emerging food trend can rapidly turn into yesterday's news. Food and beverage (F&B) manufacturers are keenly aware of this, and strive to create agile organizations that rapidly adapt to new concepts and business requirements:

Changing consumer eating and drinking

habits force product changes and subsequent production realignments. For example, the special-diets category — which includes gluten-free, paleo, vegan/vegetarian, raw, and biohacking foods — will reach \$144 billion in sales by 2018, up from \$92 billion in 2014. F&B manufacturers with the potential to serve this niche are already planning major changes to capture new revenues.

Regulatory changes and evolving industry

standards impose increasing burdens on F&B manufacturers for enhanced products, packaging, and labeling. For example, the new Nutrition Facts label for food products requires most companies to implement new labels by July 26, 2018, incorporating updated information for calories and servings, as well as major changes to calories-from-fat information (e.g., "Total Fat," "Saturated Fat," and "Trans Fat"). Other regulatory changes demand food safety and tracking capabilities, both within plants and across supply chains.

Major economic changes can alter financial plans, impacting capex budgets and forcing F&B manufacturers to deploy assets in new ways amid changing production schedules. For example, a proposed tax on products from Mexico could add cost to agricultural products from Mexico (approximately \$11.6 billion in 2016). Will F&B manufacturers in the United States look for local suppliers instead?

Intense competition for customers of all kinds and battles for shelf space place a premium on value — high quality at low cost. Some F&B manufacturers use new packaging to increase shelf space by selling across multiple categories and grocery departments, but these changes can require substantial revisions to production processes and equipment (i.e., refrigerated products converted to shelf-stable products).

Sales, marketing, and R&D functions develop concepts to meet the latest consumer demands, but production must adapt and transform those concepts into profitable products — at a pace that increases each year. Agility is critical and must be developed in concert with performance improvements that boost quality, safety, and competitiveness.

Most F&B companies are feeling increased market pressures, and that is not necessarily a bad thing. "There absolutely must be a burning platform to inspire change," says Bill Kelsey, a practitioner with Performance Solutions by Milliken, the operations-excellence consultancy of Milliken & Company. For Milliken & Company in the 1980s, the burning platform was safety-related. For other companies, especially in the F&B industry, production performance and food quality are also drivers for improvement.

"Until people understand the danger of maintaining the status quo, nothing happens," adds Kelsey. "Only when they realize that they have to change — or else face an alternative that is not pretty — will they take a chance on change."

THE SPECIAL-DIETS CATEGORY — WHICH INCLUDES GLUTEN-FREE, PALEO, VEGAN/VEGETARIAN, RAW, AND BIOHACKING FOODS — WILL REACH \$144 BILLION IN SALES BY 2018, UP FROM \$92 BILLION IN 2014

Master Planning F&B Improvement

To meet new challenges and beat the competition, F&B manufacturers must understand the competition and the markets in which they operate — factors that drive the need to improve production agility and performance. Without this understanding of external conditions, executives could lead their organizations through improvement initiatives that, ultimately, fail to connect to market requirements and impact their bottom lines.

Evaluating the competitive position of an F&B organization is a critical first step performed by Performance Solutions. During this master planning stage, F&B senior executives who have already seen the improvements possible with Performance Solutions (see Accommodate, Educate, Demonstrate) meet with practitioners to complete a SWOT analysis (strengths/weaknesses/opportunities /threats):

Strengths

Which competitive advantages can be leveraged (e.g., unused capacity, technical expertise, key customers expanding internationally)? In large organizations, it's easy to lose sight of strengths, especially in companies with underdeveloped knowledge-sharing capabilities. One function may not be aware of innovations developed by other functions — innovations that could be replicated throughout the organization.

Weaknesses

Where is the company operationally vulnerable? Weaknesses can be self-inflicted (low morale, high labor turnover) or related to the improved capabilities of competitors (e.g., lagging speed-to-market, limited product variety)?

Opportunities

Which emerging trends align with product-development plans (e.g., single serving, ethnic ingredients, locally sourced)? Forward-thinking F&B executives plan years in advance by investing in adaptable equipment, securing flexible supplier agreements, and developing relationships in areas for potential sales and operations.

Threats

Which external factors — financially vulnerable suppliers, new regulations — could put the company at risk? For example, many food products (such as Olestra) are banned in some countries, but not in the United States. Domestic manufacturers serving overseas markets need to be aware of emerging country-specific food laws or watch their products pulled from those markets.

“EVALUATING THE COMPETITIVE POSITION OF AN F&B ORGANIZATION IS A CRITICAL FIRST STEP PERFORMED BY PERFORMANCE SOLUTIONS.”

“We make sure that everybody’s arrows are pointed in a straight line as we work through the master planning process,” says Bobby Reddick, Performance Solutions practitioner. “With the leadership team, we walk through that process, and from that we craft a vision for what the company will look like five to 10 years from now.” The master plan and SWOT analysis are then distilled into a “Y page” for leadership — a concise document that funnels assessments into a corporate vision — which explains “why” the company needs to improve.

This corporate vision is also translated into objective statements for QCDISME (quality, cost, delivery, innovation, safety, morale, and environment), creating a common language for improvement among managers and workers. For example, rather than identify “Zero total incident rate” for a safety objective, everyone focuses on: “Nobody gets hurt.”

Although Performance Solutions staff facilitate the master planning process, executives from the F&B company develop the vision and objectives in ways consistent with the organization’s culture. Next, these leaders work with Performance Solutions practitioners to define key performance indicators (KPIs) by which they’ll measure progress. This sounds simple, but there are countless ways to measure even the most common objectives — e.g., quality can be tracked by scrap, rework, customer rejects rates, warranty costs, among others. Many of these metrics are meaningful in one company, but can be misleading in another; it takes time to find the right measures.

ACCOMMODATE	EDUCATE	DEMONSTRATE
F&B executive teams are invited to Spartanburg, S.C., to become acquainted with Performance Solution leadership and staff.	Performance Solutions Presents the fundamentals of the Milliken Performance System (MPS) to visiting executives, identifying how the system works within Milliken, and the results that have been achieved.	Executives visit high-performance Milliken facilities, witnessing first-hand what MPS looks like, and enhanced engagement levels among managers and production associates alike.

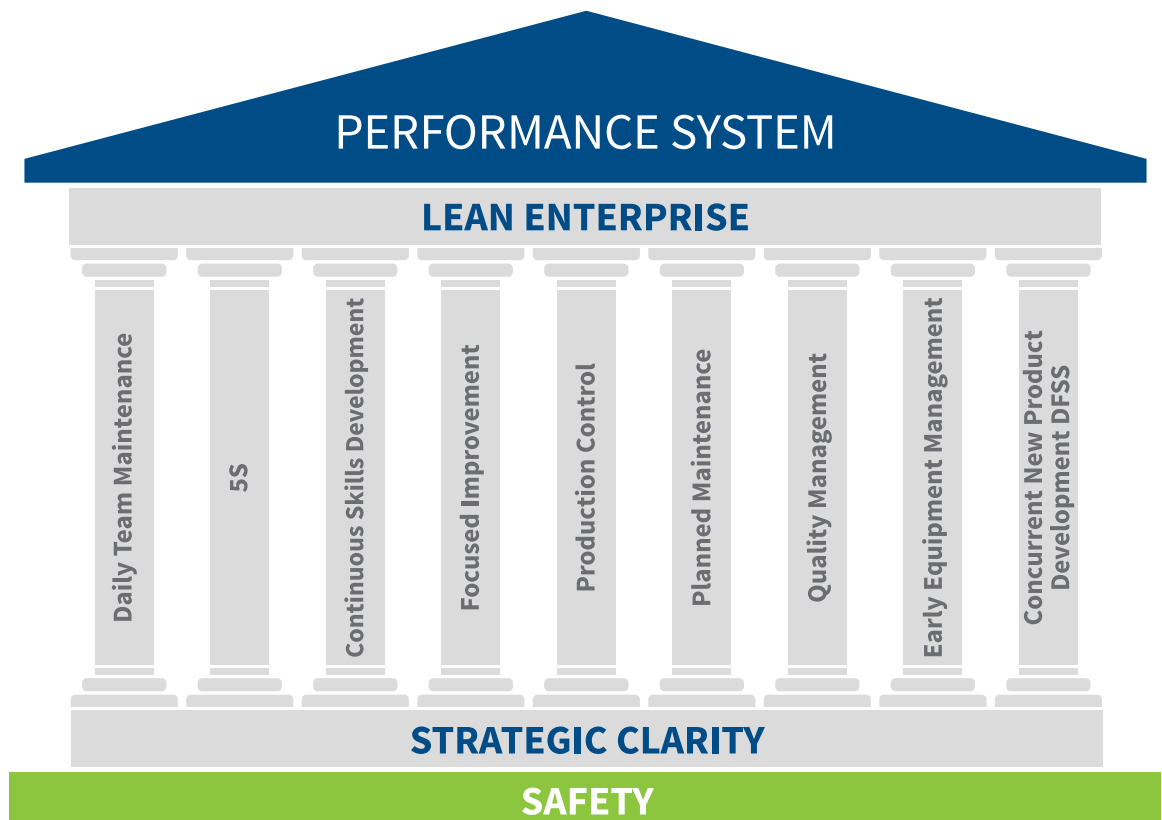
In particular, KPIs should not only establish targets, but also report the rate of improvement — how much, and by when. “This is how you’re going to keep score at a location,” says Reddick. “How do you tell if you’re winning or losing? That’s why we keep KPIs to a minimum. We’ve gone into locations where there have been 40 or more KPIs. How in the world do you manage that? The answer is: Well, they can’t.”

The objective for F&B manufacturers is to establish a sustainable system for managing improvement toward their KPIs — the Milliken Performance System (MPS). “A systematic approach requires long-term thinking and discipline,” says Phil McIntyre, Managing Director, Performance Solutions. “F&B executives want a model that helps them in moving away from short-term, budget-driven initiatives.”

MPS is comprised of nine pillars, built upon a foundation of safety and strategic clarity. Originally deployed by Milliken & Company, MPS has been relied upon to continuously improve the company’s operations, surface new strategic opportunities, and achieve unprecedented performance. Performance Solutions practitioners help F&B executives use MPS for the same results in their own companies.

“MPS offers F&B leaders a complete approach to organizational improvement,” adds McIntyre. “Systematic planning and identification of priorities; application of common standards; and education and training that lead to sustainable performance — and dramatic returns on their effort.”

“A SYSTEMATIC APPROACH REQUIRES LONG-TERM THINKING AND DISCIPLINE.”



Plant-Level, Systematic Improvement

Following master planning with F&B corporate leadership, a Performance Solutions engagement begins improving plants — facilities that have been identified for MPS implementation. Performance Solutions practitioners first conduct a zero-loss analysis at the target facilities; identify potential plant-level savings if all problems are eliminated (downtime, quality rejects, injuries, time and resource wastes); and then apply a dollar figure to each.

The zero-loss analysis seems — at first — impossible to most F&B executives. While they recognize that zero-loss planning can offer directional guidance for improvement, they typically remain skeptical that zero-loss targets can actually be reached — until they see their results and actually approach zero losses.

Focusing staff on tracking zero-loss measurements allows everyone to “understand that they have an opportunity or a problem, and then address it as a group, from frontline associates to plant management,” says Shawn Smith, Performance Solutions practitioner. “We help leaders develop a plan. And then we help to create accountability, with regular visits and observations, to make sure that the plan is executed.”

After zero-loss targets are established, a model line or machine is selected for improvements. The model is highly visible, critical to overall plant performance, and usually in great need of improvement (i.e., it offers high potential to exhibit the loss-analysis process). Improvements on the line or machine address all MPS pillars until the model is fully transformed toward zero-loss targets. This initial effort typically takes eight to 12 months, with a continuous focus on loss reduction. The results during this time can be significant: for example, **one F&B snack plant improved operating equipment efficiency (OEE) from 44.6 percent to 90.9 percent in less than a year** when improving the model area.

As the model area improves, MPS starts to take root in the plant, as those working in the model area develop skillsets and pillar capabilities that they can share with coworkers, such as:

Continuous skills development

This standardized training process ensures that all associates do the right things, the right way, every time.

5S

This lean method to organize and maintain the workplace environment improves productivity and safety, and reduces or eliminates wastes and non-value-added activities.

Daily team maintenance

Operators are given the knowledge and skills to proactively prevent breakdowns and quality issues caused by equipment deterioration and abnormalities. This operator-led pillar results in improved reliability and stability, and reduces minor stops, breakdowns, and changeover times.

Quality management

The quality pillar emphasizes systems to identify and eliminate the root causes of defects.

Planned maintenance

This pillar combines preventive, predictive, and zero-failure activities. Maintenance technicians, leaders, and engineers manage maintenance schedules to address problems before they occur.

Develop Expertise, Deliver Results

After an F&B model area is improved, the processes and best practices demonstrated there are expanded to 50 percent of a plant's A-ranked lines and equipment. Once those areas have been transformed, changes are applied to all other A-ranked lines and equipment. Performance Solutions helps F&B clients to develop their internal capabilities during this two- to three-year period, managing MPS in ways consistent with their own cultures and exponentially improving operations and agility. In doing so, F&B plants develop their own practitioners, so that when the Performance Solutions practitioners leave, the plants have a sustainable improvement process.

"Toward the end of an engagement," says Smith, "we meet with more teams, with far more improvement initiatives going on." The number of company practitioners increases dramatically, while the number of Performance Solutions staff and time remains limited.

As MPS becomes the way to work in the plant, a scorecard and auditing system is developed to monitor progress. Performance Solutions practitioners help to develop and communicate "centerlines" of criteria (i.e., the "sweet spot" for optimum performance). For example, centerlines could include guidelines for machine tolerances (e.g., speed of operation), as well as product quality. Visual communication boards inform operators of variations from a centerline, and are shared across shifts.

"Once a line is operating within the centerlines and confirmed with visual controls," says Mark Rush, Performance Solutions practitioner, "any variation would trigger problem solving and root-cause analysis to determine why it occurred." Variations could result from operator decisions (e.g., a need to accelerate line speed based on management or customer request); machine problems (e.g., spillage causing a minor stop); or ingredient issues (e.g., quality of grower ingredients). This focus on centerlines steers engaged frontline staff to issues that have the greatest impact any given week, day, or hour.

As ownership of plant operations migrates from leaders to frontline associates, managers can pursue broader goals, preparing the plant and organization for the industry's next challenge. Most importantly, KPIs are achieved as operations become more agile, and performance improvements turn into top- and bottom-line results. Typical F&B improvements achieved with help from Performance Solutions include:

- 💰 Returns on investment (ROI) that range from 7-to-1 to 37-to-1
- 👍 Zero safety incidents in many plants
- 🔧 Equipment breakdown performance improvements of 68 percent or more
- ⬇️ Minor stops reduced by 85 percent or more
- 📉 Rework reduced by 53 percent or more
- 💧 Waste reduced by 68 percent or more
- 🔑 Equipment changeover times reduced by 58 percent or more.

"We are helping F&B manufacturers push knowledge and decision-making closer to the plant floor," says McIntyre. "Improved productivity often frees enough capacity and resources that F&B companies can avoid investing in new lines or plants. It also allows organizations to leverage changing F&B trends. Managers can now focus on future improvement opportunities, and tomorrow's profits, instead of worrying about today's operations and problems."

68%

LESS
WASTE

53%

REDUCED
REWORK

68%

FEWER
BREAK-
DOWNS

Performance Solutions and MPS Deliver Expanding Results

Performance Solutions by Milliken® works side-by-side with companies interested in strengthening and improving their operations. The strategic approach that made Milliken one of the safest, most efficient manufacturers in the world is the backbone of the consulting and educational services that Performance Solutions offers worldwide. Performance Solutions by Milliken practitioners are serving over 350 operations, in 27 countries, and covering a wide variety of industries. Visit www.PerformanceSolutionsByMilliken.com to learn more about Performance Solutions' consulting and education services.

