Coffee By Design Opens “Playground for Coffee Geeks” with Help of Systematic Layout Planning

Successful expansion earns owners SBA Small Business Persons of the Year award

Portland, Maine: When Coffee By Design decided to invest in a new roastery in the East Bayside section of Portland, company co-owners Alan Spear and Mary Ellen Lindemann saw it as the culmination of 19 years of entrepreneurial success. The owners envisioned the facility as a “playground for coffee geeks,” a headquarters that would combine a coffee roastery with a new retail store and state-of-the-art education space for employees, client partners and the coffee-loving public.

Events were progressing rapidly when the Coffee By Design contracted for a 45,000 square foot warehouse building in the up-and-coming East Bayside neighborhood of Portland. A company team began the process of allocating space and laying out the roastery. But as the team developed several alternative proposals, the owners became increasingly uncomfortable and recognized that with this size investment they had to get the design right.

Following up on a suggestion by Kristine Schumann, a Governor’s business account executive in the Maine Department of Economic and Community Development, the owners contacted the Maine Manufacturing Extension Partnership (Maine MEP) for help with the project.

Led by Project Manager Bill Whittier, Maine MEP introduced Coffee By Design to the principles of Systematic Layout Planning (SLP), a universally-recognized process for objectively optimizing the proximity of related functions and minimizing transportation within industrial facilities.

“Systematic Layout Planning is the world’s most practical and organized method for rearranging existing facilities or laying out new ones. It is team-based and can be adapted to factories, warehouses, labs, offices and hospitals,” said Whittier, a certified SLP expert.

The Maine MEP project manager convinced the Coffee By Design owners that SLP was the missing piece of the puzzle and launched the initiative by assembling the entire roastery staff for training in Lean Manufacturing. At the end of the training, each member was given a log book and asked to record examples of waste in their everyday work. The results were impressive, as the team brought more than 95 examples to the follow-up meeting. The examples were compiled and included in the next phase of the planning process.

A sub-team then began meeting twice a week to go through the six-step SLP process. Team members charted the relationships, established space requirements, diagrammed activity relationships, drew block space relationship layouts, evaluated and scored alternative arrangements, and detailed the selected layout plant. The SLP process was completed just as Spear and Lindemann closed with their lender on the purchase of building, so the architect and construction firm had the SLP layout and flow charts in hand as the retrofit began.

The process efficiencies became apparent as soon as Coffee By Design began operating out of its new facility. The redesign and standardization of four packaging areas using Lean manufacturing-inspired cellular design produced immediate improvements.
“The results are pretty amazing,” said Head Roaster Dylan Hardman. “Packaging has traditionally been backed up, finishing their work two hours behind roasting. Now packaging is complete 5 to 15 minutes after the last batch is discharged from the roaster."

The thorough analysis of all material handling processes during the SLP also created noticeable efficiencies.

“We have drastically improved safety in the operation and are enjoying an 80 percent reduction in the amount of lifting that our team members must do,” stated co-owner and founder Alan Spear. “This is especially helpful in the Green Coffee area where the bag weights can exceed 100 pounds. Where previously people were lifting and carrying, things are now rolling. The new space and layout are allowing us to use our equipment more efficiently.”

The new plant layout also reduced the chaos that formerly impeded employee training and complicated visitor tours of the roastery.

“We went from a very chaotic production environment to a calm, energized, efficient, healthy workplace with a much more efficient level of flow,” noted Spear. “Training of employees and partner clients is much easier now. It is hard to train in chaos. We get lots of requests for tours and this layout makes much more sense when we take people through.”

Spear also agreed that the design has given them significant opportunity for expansion without significant additional investment.

“We won’t have to move or change anything to double or even triple our capacity,” the owner noted. He cited the configuration of the loading docks as one example of the kind of improvement that would not have occurred without SLP.

“Our original straight-line design terminated in the rear of the facility. Had we gone forward with this, we would have incurred major construction expense to create additional loading docks. The final design is a U-shape, which gives us the right amount of space for processing and allows us to use the existing loading docks at the front of the building,” Spear stated.

The co-owner concluded with a strong endorsement for the Maine MEP-led process.

“Maine MEP and their Systematic Layout Planning process produced great results for us, because the process and facilitator pushed us to become heavily involved at a very detailed level. We were asked to think way beyond where we would have. And that additional planning has given us the ability to expand without large future investments. Our new roastery demonstrates the success of Lean manufacturing, the Coffee By Design founder stated.”

The impressive growth of Coffee By Design was recognized earlier this year when the company’s founders were awarded the U.S. Small Business Administration’s top honor as Maine Small Business Persons of the Year. Celebrated during National Small Business Week in Washington, D.C., in May and at a recent state award ceremony in Freeport, the company is well-positioned for future growth and illustrates the path by which small Maine entrepreneurs can become regional leaders.

About Maine MEP

The Maine MEP is a program of the Maine Department of Economic and Community Development and an affiliate of the National Institute of Standards and Technology (NIST) under the U.S. Department of Commerce. The national MEP system is a network of manufacturing extension centers that provide business and technical assistance to smaller manufacturers in all 50 states, the District of Columbia and Puerto Rico. Through MEP,
manufacturers have access to more than 2,000 manufacturing and business professionals whose job is to help firms make changes that lead to greater productivity, increased profits and enhanced global competitiveness. For information on the Maine MEP program, please visit www.mainemep.org, or phone 1-800-MEP-4MFG.