

By Steve Hahn, TBM Director of U.S. Consulting

Henry E. Steinway founded Steinway & Sons in 1853 with a single ideal: to create the world's finest pianos. And in less than a decade after Steinway opened his New York City factory, Steinway pianos were the talk of the piano industry and well on their way to dominating the music world.

Then, during the next century and a half, handcrafted Steinway pianos became the benchmark by which all other pianos were measured. For quality. For unsurpassed sound and power. For innovation.

In fact, innovation and an unyielding resistance to the status quo are what have kept Steinway & Sons in the forefront of piano design. While scores of piano makers have ceased production, generations of Steinway descendants, designers, craftspeople, and dreamers have been granted an

unmatched 115 patents to improve and refine what has come to be known internationally as *The Steinway Sound*.

But being great—even being the best—wasn't good enough for Henry E. Steinway in the 19th century and it isn't good enough for the people at Steinway & Sons today.

Steinway's elegantly complex instruments are created from 12,000 components—some massive, others delicate—that blend craft and technology into the piano played by 98 percent of all concert pianists performing with major symphony orchestras in the United States.

Yet, as always, the Steinway philosophy remains, "We can do better."

Therefore, it wasn't surprising that Steinway & Sons would decide to implement LeanSigma® concepts to explore ways to refine manufacturing processes. With its 155-year track record of continuous improvement, Steinway was looking for ways to create its world-class pianos in a more efficient and productive environment.

Keep in mind, however, that Steinway officials certainly weren't exploring ways to cut corners on what most music experts consider the world's finest pianos. But given the company history of innovation, finding better ways of doing things was inbred in the corporate psyche and should be explored.

Consequently, Steinway & Sons embarked on its lean journey in March 2004. And while it was uncharted territory for the vaunted piano maker, LeanSigma already had produced noticeable operational improvements at Steinway's sister company, Conn-Selmer, the nation's leading manufacturer of orchestral and band instruments.

Companies considering the lean philosophy often explain that because their products or corporate cultures are unique, lean principles would be difficult to implement. Steinway was no different.



Steinway grand pianos are created from handcrafted components, and each piano takes up to a year to build—as anachronistic in today’s high-tech world as the company’s 440,000-square-foot Civil War-era manufacturing facility in Long Island City. Located minutes from New York’s LaGuardia Airport, the Steinway factory is in one of the world’s most expensive business centers, and employs a culturally diverse workforce of about 500 people speaking as many as 35 languages. Moreover, Steinway is the only unionized piano factory in the U.S.

“We had all the classic stumbling blocks and then some,” explains Andy Horbachevsky, vice president of manufacturing at Steinway & Sons. “Culture, language, a shrinking industry, a craft environment that emphasized individual contributions, and an old-line union. And yet, we’ve been able to weave lean concepts throughout the organization and be successful with it.”

That success is measured in double-digit improvement in scrap and re-work, a reduction in floor space, increased productivity, “and no one lost their job,” Horbachevsky points out with pride.

Ever mindful that Steinway’s core value is quality, the lean journey also helped identify what Horbachevsky calls “accumulating nickel-and-dime issues,” everything from minor dings on piano cases during shipping to maintenance and factory organization.

“The whole lean journey is extremely humbling,” admits Horbachevsky, who has been the driving force behind Steinway’s Continuous Improvement (CI) Program. Despite his 20 years of experience at

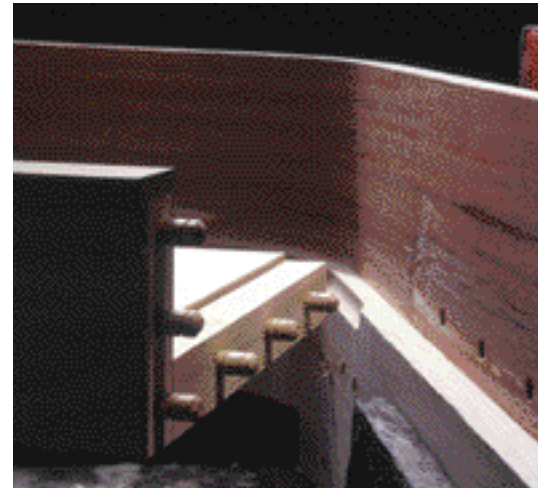
Steinway, Horbachevsky says each CI event was an eye-opener. “You think you know it all, but it’s not until you get out there on the shop floor that all of a sudden it hits you: ‘Why do we do it this way?’”

People who talk about lean often use the word *transformation*, but it’s important to note that Steinway had no intention of transforming its manufacturing process, at least not with respect to the “fundamental recipe” for making a Steinway piano a Steinway.

But, after 80 CI events, Horbachevsky says, “We constantly realize unanticipated gains with each event we hold.” Productivity has improved dramatically, as well as cleanliness and organization. “But, the really big thing is culture change.”

Lean concepts taught everyone to examine the entire piano-building process—not just their department or job. Where people and departments used to work in isolation, now there is connectivity and visibility throughout the whole manufacturing process. Where pride of craftsmanship once was reserved for individuals, lean concepts have spread that pride across the entire organization.

Steinway’s employee roster is a microcosm of immigrant waves that have landed on U.S. shores during the past century. “Pick a period in U.S. history and on a rotating basis, whatever wave of immigrants entered the country at that time, that’s who we have working here,” says Mike Anesta, Steinway’s director of personnel.



CASESTUDY



However, even this cultural diversity has not been an obstacle because implementing lean principles doesn't require a common language or similar job titles. In fact, the very foundation of CI team events is dissimilarity, bringing together people with different backgrounds from various departments and different job titles, and company presidents working side-by-side with craftspeople and billing clerks and janitors and marketing staff.

The primary focus is to break down barriers between departments so that when members of upper management are on a factory tour with guests, they not only know workers' names, but they know what their jobs entail. It's an instant morale booster.

At Steinway & Sons, many CI events involved spirited discussion, Horbachevsky admits. "Some people who are the most passionate don't let language get in the way. There was vigorous debate; people cared about their point of view."

At one such meeting, Mike Mohr, director of assembly, coined the slogan "*It's all about the piano*," which has become the battle cry for every decision made on the lean journey.

"Mike's motto was liberating," Horbachevsky says. "At the end of the day, every decision was based on the quality of the piano—not the cost or the operator or any other reason." It also looks good on company T-shirts.

At Steinway & Sons, piano-making is as much about art and craftsmanship as it is about production. As such, employee retention is extremely important and the fact that Steinway boasts scores of craftspeople that have been with the company for 20 years or more is a great source of pride for the company.

"We respect our workforce," says Horbachevsky, who adds that Steinway sought and received full cooperation from the factory's labor union before undertaking the lean journey. And it certainly didn't hurt that Steinway assured union officials that no jobs would be lost as a result of lean activities. The fact is, Steinway even added positions. A few workers have been re-assigned, but neither seniority has been lost nor pay reduced.

Achieving and sustaining the success of Steinway's lean transformation is the result of management's flexible implementation of lean concepts. For instance, shortly after launching its CI initiative, Steinway management realized that elements of the lean philosophy could control production abnormalities that directly affect quality. However, not all lean tenets applied to piano manufacturing.

"The fact that Steinway pianos require a year to complete may seem in conflict with lean concepts," Horbachevsky points out. "But we won't reduce the length of time it takes for wood to cure because it would reduce quality. In the case of piano construction, that is considered value-added time."

That is not to say, however, that Steinway didn't want to improve productivity; it simply means that time spent on the art and craft of piano-making was not, in fact, waste.

However, implementing the concept of *kitting*—pulling together individual parts into a set that is assembled at the same time—was an excellent solution for workflow problems, increasing productivity, lowering inventory, as well as reducing the distance that those parts must travel in the factory.



As the program continues to gain momentum, lean concepts have become daily priorities producing tangible results in all manufacturing and administrative areas, and especially where housekeeping and organization are concerned.

Steinway's factory tour has been ranked among the nation's "Best Indoor Sightseeing" by *Reader's Digest* magazine in its annual list of *America's 100 Best* people, places, ideas, and programs. "No one is more impressed by the organization and cleanliness than visitors taking factory tours," Horbachevsky observes. "This shows everyone who comes here that pride and attention to detail are evident in everything we do at Steinway & Sons."

But more than simply improving the factory's public image, lean concepts that reduce and reorganize Steinway's production area into cells has freed up floor space, which, while not a specific goal of any CI event, was the natural consequence of improved process and work flow.

It also represents a significant source of savings. More usable floor space means pianos don't bump into each other, so there is less re-work. The company also has consolidated the number of floors used, reducing energy costs and overhead.

For employees, greater floor-space efficiency has provided a new cafeteria and a break room with foosball and ping-pong tables, vending and ice cream machines.

Horbachevsky vows the company will be "relentless" in its pursuit of further lean improvements. Thus far, Steinway has completed 80 events—36,000 hours—and projects that sometime next year, it will have completed the 100 week-long events needed to make its first complete pass through the plant. But it won't end there. Steinway intends to revisit events to make further improvements.

"We're not just event-driven," Horbachevsky notes. "Lean has become part of the lexicon of how we do things here, and it's also how we deal with our vendors and customers."

Satisfying customers always has been the sole focus of Steinway & Sons, but the lean process has helped Steinway employees expand their definition of *customer* beyond those who purchase these fabulous instruments. They have learned that their co-workers are *internal customers* who should be cared for as well.

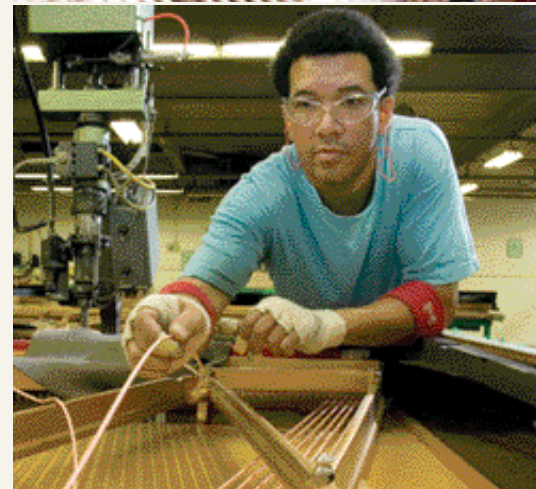
For instance, as piano components are made, they are shipped elsewhere in the factory. Now everyone asks, "Do these parts meet every need of my internal customers?"

For Steinway, lean is not about cost reduction, unless it reduces the cost of doing business. "Clearly we need to use less power, reduce overhead, and optimize our materials to remain competitive," says Anesta. "But the one thing we'll never do is cheapen a piano."

When it comes to producing quality pianos, cost isn't a consideration. "If we think something adds value to the piano, we will add cost back in," Horbachevsky says. "The overarching goal is to improve our product so if, for example, we must choose between A and B, we will always choose the answer that's best for the piano."

Henry E. Steinway had three basic principles for his fledgling piano company that continue to direct every decision of today's management team: Build to a standard, not a price. Make no compromise in quality. Strive always to improve the instrument.

It's interesting how Steinway & Sons always has found a way to dovetail such time-tested philosophies with its current standards of performance. In this case, a hallmark of Steinway's lean transformation is what is known as *standard work*, which has



taken the best practices of each Steinway craftsman and consolidated them into a series of volumes known as “the bible.” In this way, the company has secured the knowledge of its most skilled craftsmen to ensure that consistent high quality is standard on every instrument.

Steinway & Sons has a proud history of continuous improvement, never hesitating to introduce technical innovations or to try different methods for the good of the product. In the past few years, lean has become a force at this venerable company, a logical extension of a company culture that prizes hard work, creativity and change for the better.

“As the head of manufacturing, you think you’ve got it all figured out,” Horbachevsky says. “If your ego prevents you from embracing the lean approach, you will miss a tremendous opportunity. Get past it. Give more power to people on the front line and you’ll make improvements. You *do* continuous improvement; you don’t *talk* about continuous improvement.

“Probably the most valuable tool that the TBM team brought to the table at Steinway was providing us with a fresh set of eyes to identify a problem, and then giving us tools to develop a solution. During the process of implementing lean concepts, the people from TBM act as guides who provide paths to improvement.

“But what has made the journey invaluable here,” he adds, “is that all Steinway employees explored the possibilities *together*, generating a company-wide investment in better processes and systems. That’s an investment any company should be more than happy to make.” ■

