

## CASE STUDY | Borusan

Just because Borusan is one of the largest and most successful Turkish companies doesn't mean it likes to rest on its laurels. In fact, one of the reasons for the company's ongoing success is its commitment to attaining perfection through Lean Six Sigma—an aim Borusan has been pursuing since 2002 across its many businesses.

One revenue-related project created financing opportunities for Borusan customers and enabled one segment of the company to increase market share by 82 percent. The project followed the DMAIC methodology, leveraging such tools as the Kano house of quality and TRIZ to inject creativity into the problem solving process. Another project increased line production efficiency by 33 percent and saved \$62,000 in annually recurring costs.

These examples are a veritable drop in the bucket. In all, Borusan has trained more than 2,500 Lean Six Sigma practitioners (called green belts), over 500 green belts (called expert green belts) and about 140 black belts who've completed about 1,500 process improvement projects. The total annually recurring benefit from the initiative now exceeds \$125 million.

### Success breeds problems

Every improvement program unfolds in a way that creates problems—even as great success is achieved along the way. Borusan is no exception. "We had been building the black belt education program for several years," says Master Black Belt Berna Cigeroglu Okcu. "But then we reached a point when it became necessary to evaluate our classroom training and make it even better."

Okcu's cohort and colleague, Yeşer Balmumcu, describes it this way: "Once the scale of the program became large, it was challenging to mentor and manage projects outside one's curriculum silo. Also, we couldn't engage in rotating our teaching across these silos—we wanted to drive a quality learning experience consistently across the board."

Borusan was convinced that it needed to add an e-Learning component to its classroom training. Such a blended learning approach would improve the learning and application process.

Borusan then reached out to several Lean Six Sigma providers—including Lean Methods Group—seeking the best blended learning solution it could find.

"From our many choices, we chose Lean Methods Group because its eLearning content and delivery was the best we could find," says Balmumcu. "We also felt that their extensive classroom training experience, and performance excellence experience in general, was a huge plus."

### Blended learning solution

That set the challenge for Borusan and Lean Methods Group: take the different classroom curricula and figure out what could be delivered in an absolutely standardized way via eLearning, then what could or should be delivered in the classroom environment only.

Lean Methods Group's Randy Herrera recalls the task: "The team started with the English-language black belt curriculum, comparing Borusan's classroom modules with Lean Methods Group's eLearning modules in three stages. First we decided which modules were best delivered solely through the online learning system. Next we figured out which modules were best to learn initially online and later reinforced in the classroom with deeper instruction and application focus. Finally, the team designated some modules for classroom delivery only."

*"We have adopted Lean 6 Sigma as a part of our corporate structure since 2002 at Borusan. Through the Lean 6 Sigma methodology, we have managed to create an innovative, fast and productive corporate culture that always aims to do the best."*

- Ahmet Kocabiyik  
- Chairman of the Board



### SUMMARY

#### Industry

Industrial Conglomerate

#### Business Problem

Improve training efficacy and lower cost

#### Methodology

Customized learning program configuration

#### Solution

- Instituted a blended learning approach
- Designated and developed eLearning modules
- Translated eLearning modules from English to Turkish

#### Benefits/Results

25 percent cost reduction in training logistic expenses, increased retention, improved satisfaction among black belt and green belt candidates

#### Key Tools Used

- ▶ Current state assessment
- ▶ Future state modeling
- ▶ Swim lane map
- ▶ Learning style assessments (Honey and Mumford)
- ▶ Standardization
- ▶ Seven Smarts (Thomas Armstrong)
- ▶ Facilitated curriculum review
- ▶ Design workshop
- ▶ Student feedback reviews



In the end, Borusan's classroom black belt modules were supported with Lean Methods Group's eLearning modules—and the total DMAIC classroom time was decreased from four to three weeks. The system was launched, and the new Lean Six Sigma learning approach became a reality.

"I'm not going to say there weren't any problems," says Okcu. "We had some technical issues that Lean Methods was more than happy to help us resolve. Overall, though, the initiative was a huge success."

After the blended learning implementation, Borusan reported a 25 percent cost reduction in training logistics. The learning experience became clearly more convenient and was also improved.

Okcu says: "Knowledge retention was increased. Many people reported that they simply learned better through this controlled mode. Frankly, sometimes students had trouble staying focused and interested in class because they couldn't grasp all the content. But after having learned online, they were much livelier, engaged and interactive during the classroom time."

Noting research that says corporate learning is best delivered via a blended mode, the Borusan experience testifies to this truth. In the words of one blended black belt student, "I can't imagine having this training without eLearning. It gives us a common understanding of the subjects, and the teachers fill the gaps in the class."

### Another problem solved

As well as the blended learning approach was working in English for the black belt population, Borusan is, after all, a Turkish company with a large number of Turkish-speaking employees. Given this, the company decided it was time to take the blended learning approach one step further by translating 60 percent of the black belt modules into Turkish—essentially creating a fully Turkish expert green belt online curriculum.

"We did this to speed up the Lean Six Sigma expansion, to give our expert green belts the same great experience with blended learning that the black belts had," says Okcu.

Lean Six Sigma at Borusan isn't about going after certain improvements here and there; it's about creating culture change that's sustainable over time; it's about defining and driving the nonstop pursuit of excellence.

So with the blended learning problem solved in general, the new specific task for Lean Methods Group was to assist Borusan in making the English-Turkish eLearning module translations—including the narratives, graphics and online lecture notes.

*"We plan to implement more waves of blended training for the coming years. We are in a great position to leverage all the great work Lean Methods Group has done for us."*

- Yeşer Balmumcu  
- Borusan master black belt

To do this, Lean Methods Group created a rolling project plan. The Define and Measure phase online content would be translated first, allowing the first wave of green belt training to start. While this wave was underway, the Measure, Analyze and Improve phase content would be translated, tested and brought into full functionality.

In the end, the experience for the Borusan expert green belts was essentially the same as it was for the black belts: sponge up knowledge online using the new translated modules, then refine that learning in the classroom before implementing actual process improvements.

As an aside, these Turkish language modules have enabled Borusan to package them and deliver them to any number of smaller audiences for any number of specific purposes. The general improvement practitioners have many reasons to learn specific modules or refresh their knowledge after having gone through training. Expert green belts and black belts, too, have reason to revisit the eLearning training modules as they engage in specific activities and analyses.

*"We plan to implement more waves of blended training for the coming years,"* says master black belt Balmumcu. "We are in a great position to leverage all the great work Lean Methods Group has done for us."

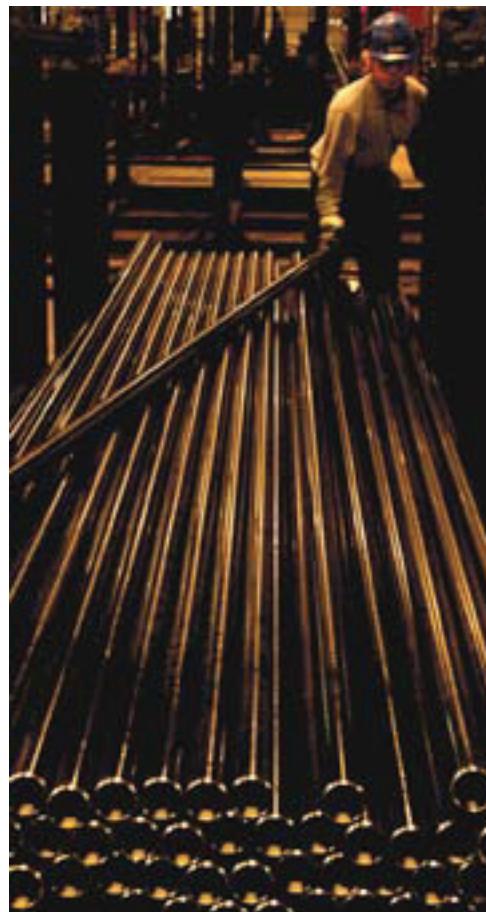
Knowing Borusan, whatever it does, it's going to effectively push itself one step closer to perfection.

*"I can't imagine having this training without eLearning. It gives us a common understanding of the subjects, and the teachers fill the gaps in the class."*

- Ugur Uzun  
- Borusan eLearning student

### Who is Borusan?

Borusan is one of the largest industrial conglomerates in Turkey, with revenues exceeding \$4 billion and more than 5,000 employees mainly involved in steel, distributorships, logistics and energy.



#### ABOUT LEAN METHODS GROUP

Lean Methods Group enables companies throughout the world to identify and solve their most important business problems, with a strong emphasis on sustainable results. During its long history, we have developed solutions for a broad spectrum of businesses across many industries, driving the success of process-improvement, design and innovation initiatives. Just a few of our clients are General Dynamics, TNT Express, Avis Budget Group, China Chemical, Graphic Packaging, Siemens, Hitachi and Philips Electronics. For more information, please visit the Lean Methods website at [www.leanmethods.com](http://www.leanmethods.com)