

# Lean Six Sigma for all

Though originally developed to improve industrial practices, the principles of continuous improvement are today being applied to processes in all sectors, including healthcare, service, education, finance and government.

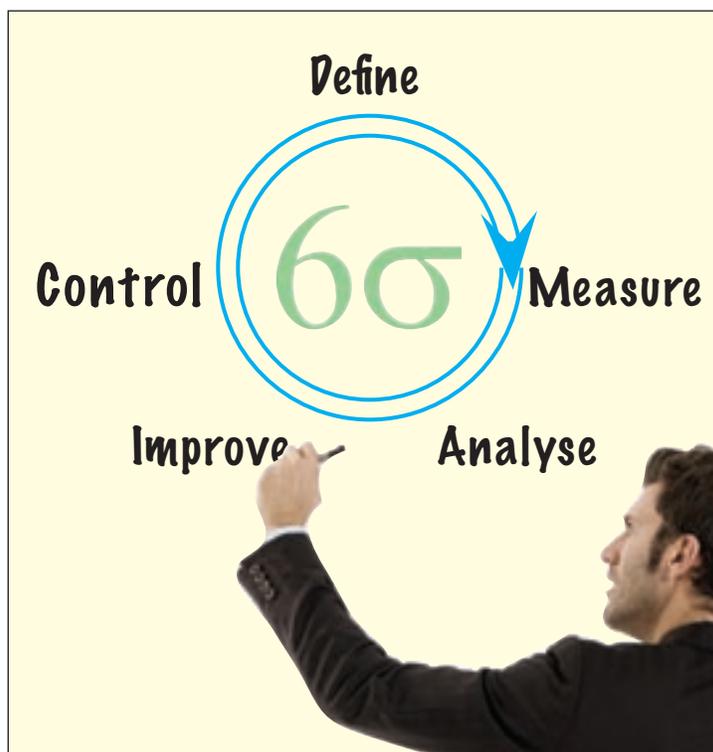
**T**here have been many approaches to driving continuous improvement over the past decades.

Methods such as total quality management, quality circles, problem-solving, process re-engineering, just in time, and others are familiar to many. While some organizations have had great success with one or another of these, others have struggled or experienced numerous “false starts.” Two other popular approaches are lean and Six Sigma. Lean, in general, focuses on eliminating waste and decreasing cycle time, while Six Sigma is geared toward reducing variability and improving quality. Today, more and more organizations are fully integrating these two continuous improvement methodologies. Lean Six Sigma (LSS) focuses on eliminating waste in systems and on implementing statistical methods to drive breakthrough improvements to an organization’s processes.

There are several reasons why LSS has been successful where other quality efforts have failed. A key reason is its focus on the financial impact of the project. By keeping track of the impact cumulative projects have on the organization’s bottom line, management is more convinced about the value of the program and more readily supports it.

A second reason for success is found in the tools of the typical LSS toolkit, which have

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been demonstrated to lead teams to positive results. Third, using the DMAIC (Define, Measure, Analyze, Improve, and Control) structured problem-solving method can significantly reduce waste and variability, lead to preventative solutions, and ultimately improve customer satisfaction. And, finally, the effort to seek breakthrough improvements keeps an organization ahead in this highly competitive environment

## Organizations Using Lean Six Sigma

While the DMAIC problem-solving process and many of the concepts and tools were originally developed to improve industrial practices, today they are being applied to processes in all sectors including healthcare, service, education, finance, government and

others.

In manufacturing companies, many LSS projects still tend to be focused on issues in production, assembly, packaging, quality, shipping, and inventory, but there is also a growing recognition in that major improvement opportunities exist “off the production floor,” commonly referred to as transactional processes. These processes include business development, customer surveys, product development, forecasting, hiring, information technology, order entry, payroll, quoting, software, and the warranty process.

Many small and medium size organizations have benefited from using Lean Six Sigma methodologies. Steven Pomeroy, President of Schatz Bearing Corporation, says “Our goal at Schatz has been to get the right people and give them the right tools. These are powerful tools. After

sending numerous people to Yellow Belt and Green Belt training, we have completed several successful projects and have many more in progress. We have targeted processes that we use regularly. The results have been impressive (in excess of \$100,000 per year savings) and there are endless future opportunities. Every company recognizes the need for continuous improvement. This is the way to do it.”

## Training Levels

There are various levels of training and certifications available for Lean Six Sigma, and there is significant variation in the programs among training providers. RIT, for example, offers a comprehensive set of courses ranging from an introductory 1-day White Belt seminar to an intensive 24-day Black Belt certification. A three-day Yellow Belt and a 12-day Green Belt program provide participants with an appreciation of the value of a structured problem-solving approach as well as the tools to help a team identify and implement sustainable solutions.

Ideally, everyone in the organization will, at some point, become a team member of a continuous improvement effort. Consequently, many organizations decide that White Belt training is advantageous to give all employees a general awareness of the DMAIC process as well as some of the basic tools and have developed internal White Belt training materials. This approach helps develop a common language for implementing continuous improvement within the organization.

Yellow Belt training gives participants an excellent background in the basic problem-solving tools so that they can support Green Belts and Black Belts as effective team members. The Yellow Belts get experience going through the DMAIC process by working on making improvements to a process within their organization. At the conclusion of the training they come up with recommendations on improvements that might be implemented, but are not expected to actually carry out those strategies. It is suggested that up to 20% of the organization be trained at this level.

The Green Belt receives more training, in the course of which they will work on a project. Typically, once they complete the program, Green Belts spend only a portion of their time on projects, leading some smaller projects and assisting Black Belts with some larger projects. The suggestion is that up to 10% of the organization be trained at this level.

Black Belts get the most intensive training. In some larger companies the Black Belt may spend up to 100% of his or her time on projects, while in small to medium size companies this is not feasible. Consequently, it is recommended that they spend up to 50% of their time on the projects and that there be one FTE Black Belt per 100 employees.

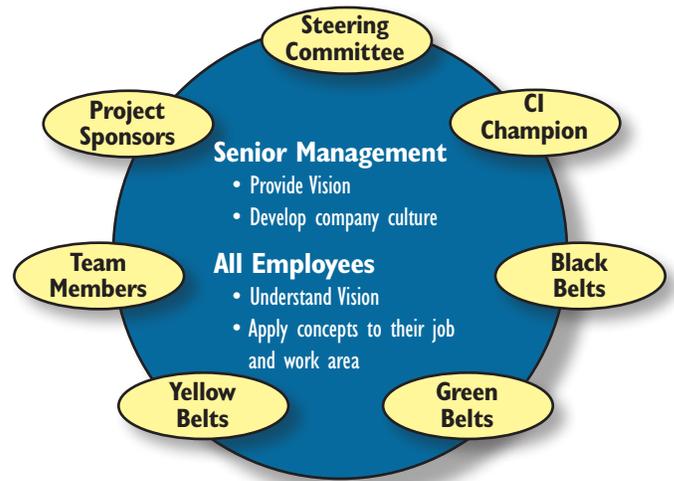
## Organizational Structure for a Successful LSS Journey

Regardless of the organization, it is important that any training be supported by an organizational and communication structure that will sustain Lean Six Sigma. As with most initiatives, strong leadership is a requirement. A second key element is the focus on metrics. Metrics are critical to help determine the improvement opportunities, identify the root causes of problems and to evaluate the overall success of the Lean Six Sigma program.

There are several central roles that must be filled:

- Senior management support of and vision to develop a company culture that includes the involvement of all employees are critical and hence at the center of the diagram.

- A Champion drives and oversees the deployment of all continuous improvement efforts throughout the organization. These include prioritizing improvement opportunities, coordinating training, assigning



The way many companies have designed their organizational structure to successfully implement Lean Six Sigma. The recommendation is that all of an organization’s continuous improvement efforts (e.g. quality, safety, cost, delivery etc.) be included within this structure.

and monitoring project teams, maintaining a database of all the projects completed and underway, and evaluating the success not only of the projects, but also of the entire continuous improvement program. It is important that the person be a respected member of the organization and have a general knowledge of the system and its services. It also helps if the person is a Black Belt, or at least a Green Belt.

- The steering committee is the third critical component of the organizational structure. This group, typically chaired by the Champion, helps to establish the policies and procedures that will guide continuous improvement within the organization. The committee also helps to monitor the success of the program and to celebrate accomplishments. The size of the steering committee will vary, but it is recommended that it be a relatively small group (4-6 people) and that its membership be drawn from the leadership level and represent various functional areas. The members of the steering committee do not have to be Green Belts or Black Belts, but should have an understanding of the Lean Six Sigma methods.

- Each project team will have a sponsor who is typically a manager in the area where the project is focused. The sponsor’s role is to help the team gain access to resources that may be required, such as subject matter experts. In addition, the sponsor will help monitor the progress that the team is making. Sponsors do not have to be Green Belts or Black Belts, but they should have an awareness of the Lean Six Sigma approach. The recommendation is that sponsors complete the Yellow Belt training so they are introduced to some of the fundamental tools and given guidance on what to look for during the project review sessions at the end of each step in the DMAIC process.

LSS really needs to be aligned with the strategic goals and business objectives of the organization. These goals help provide the basis for the selection of the right projects, using factors such as the project’s value, resources required, and timing. Once the projects have been identified, the right people with the appropriate training need to be selected, and they need to follow the DMAIC structure problem-solving approach to make the improvement. All of the various improvement projects need to be managed, with frequent reviews and sharing of information. And, finally, organizations need to continually seek additional improvements while making certain that whatever improvements have been made are sustained. The finish line is perfection, so enjoy the journey!

Profile: Central Hudson Gas & Electric

## The Bridge to Excellence

Since Central Hudson launched its continuous improvement initiative—dubbed “The Bridge to Excellence”—nearly four years ago, the tools and training of the Lean Six Sigma system have become deeply embedded throughout the entire organization. We have been able to create a culture of continuous improvement so that, on a daily basis, all employees are driving continuous improvement through a collaborative and innovative work environment.

Our goal was simple: leverage continuous improvement to transform our business so that Central Hudson could improve customer service, moderate bill pressures for customers and realize benefits that impact the bottom line! The Lean Six Sigma system was a perfect fit for our organization because it is data driven and fact based – just like we are – and once the results are obtained, they are permanently sustainable.

All Central Hudson employees have participated in Lean Six Sigma training and more than 500 projects have been implemented company-wide. As the tools provided by Lean Six Sigma have been assimilated into our employee’s daily responsibilities, continuous improvement is no longer seen as something done in addition to essential duties and responsibilities but as a fundamental activity.

Furthermore, our executives are deeply committed, visible and inspirational when it comes to continuous improvement. In fact, most serve as project sponsors and help ensure that continuous improvement projects align with business needs. The Champion serves as the leader and main catalyst of change to drive continuous improvement results across the Company. There are 15 Group Champions — key employees in each business group — across the organization who improve the flow of ideas through implementation and have helped accelerate the pace of continuous improvement at Central Hudson.

In summary, Central Hudson has made tremendous progress with its continuous improvement effort in four short years. Over 2,100 ideas have been submitted since inception and the company has realized over \$15 million in annualized benefits. Most important, continuous improvement and the Lean Six Sigma system have allowed Central Hudson to create a common language to reduce waste and deliver results, which has taken our performance to an even higher level.

— By Andrew Lindsay, LSS Champion

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