



MSME TECHNOLOGY DEVELOPMENT CENTRE  
(Process & Product Development Centre - Agra)  
Ministry of MSME  
Govt. of India Organization

PROGRAMME  
STARTS ON

01<sup>st</sup> JAN 2023

Weekend Batch

## ONLINE LEAN SIX SIGMA CERTIFICATION

### LEAN SIX SIGMA GREEN BELT

- ❑ 01 Month | 36 Hrs
- ❑ Online Exam | 02 Hrs
- ❑ Fee: Rs 5000/- (incl. Taxes)

### LEAN SIX SIGMA BLACK BELT

- ❑ 02 Month | 36 Hrs\*
- ❑ Online Exam | 03 Hrs
- ❑ Fee: Rs 10000/- (incl. Taxes)

### DUAL BELT (GREEN + BLACK)

- ❑ 02 Month | 36 Hrs (GB) + 36 Hrs (BB)
- ❑ Online Exam | GB-02 Hrs + BB-03 Hrs
- ❑ Fee: Rs 14000/- (incl. Taxes)

TRAINING DAYS  
(SAT – SUN)

TIMING-EVENING  
18:00 – 21:30

Register  
Now

### HIGHLIGHTS

- ✓ Live & Interactive Training.
- ✓ Soft Course Material.
- ✓ Exposure to Minitab.
- ✓ Project Discussion | 04 Hrs

### TRAINER'S PROFILE

Mr. Srinivasan Kidambi,

- Master Black Belt - ISI
- Black Belt - ASQ
- Certified PMP- PMI USA
- Post Graduate - IIT Madras
- 30 + Yrs of Industry Experience



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\* 34 HRS LSS GB Optional

# LEAN SIX SIGMA GREEN BELT – 36 HOURS

## **THE TRAINING SESSION TOPICS:**

Introduction to Six Sigma Methodology Identification, Prioritization and Selection of Improvement opportunities, Roles Responsibilities in Six Sigma implementation Over view of Six Sigma Project execution [DMAIC (Define Measure Analyze Improve Control)].

Development of Business Cases Translating the needs of the customer into the specific requirements Development of Project Team and Charter, Define and Map Processes to be improved (SIPOC-COPIS) Identification of Critical to Customer Critical to Business characteristics.

Data Collection planning, Type of Data, Introduction to statistical software packages for data display and analysis, Measurement System Evaluation (Gauge R&R) for attribute data, Understanding variation special causes vs common causes through dot plots, box plots, histogram and control charts, Stratification methods through Pareto, Bar Diagrams, etc Evaluation of Process Capability and Sigma level.

Process Mapping essentials Activity flow chart, identification of Value added and Non value added activities (Lean Sigma), Organizing for potential causes using Cause and effect diagram, Verification/validation of causes, using work place investigation (Concept of correlation and Regression and use of the same in validating causes), FMEA, Concepts of Test of Hypothesis like 2 Sample t, Chi-Square, ANOVA etc and use of the same in validating the causes, Concepts of industrial experimentation

Selection and prioritization of solutions for the validated causes including concept of risk analysis, Developing plan for pilot and full scale implementation.

Development of the process control plans Evaluation and monitoring mechanism( comparison of results after implementation of the solutions, institutionalization and integration of the solutions, closing of the project.

# LEAN SIX SIGMA BLACK BELT– 36 HOURS\*

*\*Optional 36 hours GREEN BELT Refresher*

## THE TRAINING SESSION TOPICS:

Overview of Six Sigma Methodology, Identification, Prioritization and selection of Improvement opportunities, Roles and responsibilities in Six Sigma implementation.

Overview of Six Sigma Project execution(DMAIC) (Define-Measure-Analyze-Improve & Control) Development of Project Team and Charter, Define and Map Processes to be improved (SIPOC- Supplier, Input, Process, Output, Customer), Identification of Critical To Customer / Critical To Business (CTQ/CTB) characteristics, Concept of tree diagram, Voice of Customer.

Types of Data, Statistical distributions-Binomial, Poisson and Normal; Prioritization Matrix, FMEA and their use in Data Collection Planning.

Introduction to software packages for data display & analysis like Excel, Minitab, understanding in usage & interpretation of output along with each topic, Measurement System Evaluation for measurable (Gauge R&R) for variable as well as for attribute data (Kappa Value and Confidence interval for agreement with expert); Understanding variation-Special causes vs. Common causes (like Dot Plots, Box Plots, Histogram and Control Charts), Stratification methods (like Pareto, Bar Diagrams, Stratified Dot Plot, Stratified Scatter Plot, Box Plot etc), Normality test of a data and concept of confidence interval; Evaluation of Process Capability for Data, Concept of Short Term, Long Term Process Capability and assessment of Sigma level.

Identification of Value-Added and Non-Value-Added activities, Value Stream Mapping (VSM)(use of lean concept), Organizing for potential causes using Cause & Effect diagram, FMEA & Tree Diagram; Verification/validation of causes using workplace investigation (GEMBA), Concept of correlation and Regression and use of the same invalidating causes; Concept of Test of Hypothesis like 2-Sample t, Chi-Square, ANOVA etc and use of the same invalidating the causes; Sample Size determination for a given confidence level; Concept of Multiple Regression and Logistic regression and use of the same invalidating the causes; Concepts of Exploratory Data Analysis.

Concept of Design of experiment and details of full factorial, fractional factorial and screening designs.

Lean Concepts, including Kaizen, Solution Evaluation Criteria ,Evaluation of solutions and selection of solutions, Change Management Process dealing with resistance to change, Process of piloting the solutions, Risk Analysis through use of FMEA correlated methodologies, Concept and Examples of Poke Yoke, Visual Workplace, Planning for full scale implementation.

Evaluation of results after implementation, Monitoring the results through statistical Process Control (like Control Charts, Pre-Control Charts etc)after implementation of the solutions , Monitoring the results as a part of established QMS, Institutionalization and integration of the solutions, Process of Closing the Project.

## Programme Info

- Online Classes will be conducted on Weekends (Saturday & Sunday) in Evening Hours (**18.00 hours to 21.30 hours**)
- Minitab 17.1 or above is required during the training for statistical analysis.
- No Recordings maintained or made available.
- Seats are limited. Enrolment on First-come-First-serve basis.

## Certification Process

- Certificates are provided to successful participants upon qualifying in the Online Exam. (Qualifying % informed before the exam)
- Maintaining 100% Attendance

## Registration Link

[CLICK HERE TO REGISTER FOR LEAN SIX SIGMA GREEN BELT](#)

[CLICK HERE TO REGISTER FOR LEAN SIX SIGMA BLACK BELT](#)

[CLICK HERE TO REGISTER FOR LEAN SIX SIGMA DUAL](#)



**MSME TECHNOLOGY DEVELOPMENT CENTRE**  
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Foundry Nagar, Hathras Road, Agra (UP)