



*Training Course:
Lean Six-Sigma Green Belt Certification
Programme*

*10 - 21 February 2025
Barcelona (Spain)
Grupotel Gran Via 678*

Training Course: Lean Six-Sigma Green Belt Certification Programme

Training Course code: MA1133 From: 10 - 21 February 2025 Venue: Barcelona (Spain) - Grupotel Gran Via 678 Training Course Fees: 9000 € Euro

Introduction

This high impact programme skillfully trains the participant to become certified as a Lean Six-Sigma Green Belt. This certification enhances professional core competencies in World-Class business processes. Additionally, participants are better qualified to increase operational effectiveness, engage employees, reduce operating expenses, improve industry reputation, and leverage business excellence. Customer value creation awareness is a prime element of this unique training initiative.

In this hands-on learning experience, you will:

- Understand how to deploy the potential of Lean Six-Sigma as a strategic business tool.
- Learn the basics of Lean Processing and Six-Sigma applications to focus on the reduction of operational costs.
- Learn to maximize profits by reducing process variation and expanding operational control and stability.
- Re-define your perception of "normal" to "excellent" with the skillful application of Lean Six-Sigma tools.

Upon successful completion of this worldclass high-impact programme, which includes all established certification skill points of Lean Six-Sigma Body of Knowledge, participants would receive Lean Six-Sigma Green Belt Certification

Objectives

Participants attending this programme will:

- Enhance their understanding of the basic level Lean Six-Sigma process.
- Learn to successfully deploy Six-Sigma into current business operations for effectiveness through teamwork.
- Learn the basics of Lean Six-Sigma methodology, statistical analysis, and its analytical integration into the business process.
- Learn to integrate the principles of Lean Six-Sigma to establish process control and minimize process variation, subsequently, reducing operational costs.
- Develop their understanding of the skills and behaviours required to fully deploy Lean Six-Sigma into your organization.

Training Methodology

This high impact training and development is a proven blend of Lean Six-Sigma theory, lecture, hands-on classroom exercises and video programmes to facilitate the learning experience.

This is a highly interactive program which involves the participant in every level. We "learn by doing" in a safe classroom environment. This is "hands-on, common-sense" learning in which we skillfully utilize proven elements of contemporary adult learning theory.

Many of the exercises emphasize the integration of teamwork to facilitate Six-Sigma success. We use workplace examples from all types of business processes to make this training more applicable to the participant's work

environment.

Organisational Impact

The organization will benefit from Six-Sigma integration by having more money returned to working capital. This is facilitated by the reduction of process errors and a more stable process. Subsequently, more time is available to the management team by reducing process variation. This will allow the organization to gain a competitive advantage with more accurate material flow and processing.

Personal Impact

Delegates attending this programme gain a deeper appreciation and understanding of Six-Sigma methodology and the skillful application of this World-Class concept. Additionally, Six-Sigma deployment enhances the managerial skill set and professional competency of the participant.

SEMINAR OUTLINE

Understanding the strategic power of Six-Sigma Methodology

- VoC, stakeholders & process owners, CTQ elements
- The basis of Six-Sigma; history and development; Understanding DMAIC process
- Strategic concepts & benefits of Benchmarking
- Six-Sigma deployment: DMAIC Concept
- Tollgate concept for Six-Sigma organizational functionality
- The power of data analysis in organization effectiveness and clarification
- Concepts of the Kano Analysis—three key elements of customer awareness
- Six Sigma in action. Project charters—Six-Sigma project integration
- The impact of lean process and Six Sigma, the perfect algorithm
- “Do It Yourself Six-Sigma” The application of Project Templates
- Defining Timelines and Deliverables—a clear project game plan
- The focus on value creation in business processes
- “Speed and Accuracy” Blending proven processing concepts
- Quality function deployment QFD for business operations
- Six Sigma as a Strategic Strategy and a Measurement of organizational quality
- Data driven decision making—removing subjectivity in business decisions
- Key Metrics & Drivers for Organizational effectiveness—market share
- World-Class Transformation to enhance competitiveness
- Kano analysis; three levels of customer responsiveness

Six-Sigma Deployment for organization effectiveness

- Calculation: The costs of poor quality: COPQ; Understanding ROI
- Attribute and Continuous Data—recognizing the differences for application
- Descriptive and Inferential statistics—knowing when to use what
- Histograms. Measures of central tendency—normal statistical distributions
- Normal Distributions, Standard Scores, Z tables
- Student’s t-Tests , statistical degrees of freedom
- Process Capability - voice of the process; central tendency of the data set
- Statistical Mean, Median & Mode; Calculation of Sigma Failure Rates; DPMO
- Microsoft Excel & Minitab Statistical Software Applications
- Process Base Line; Data Collection Plan
- $Y = f(x)$ - Matrix; Identification of KPIV

- Graphing Discrete & Continuous Data; software interface
- Graphing Discrete & Continuous Data; software interface
- Population & Sample data; \bar{x} , s, & σ
- Central Limit Theorem, confidence intervals
- Hypothesis Testing for the mean, Type I & Type II Errors, alpha risks
- Process Capability, 1- $\frac{1}{2}$ σ drift
- Process Tolerance, Measures of Dispersion, central tendency, Cp & Cpk,
- Statistical natural process Limits & Customer Specification Limits: LCL & UCL
- Bivariate data analysis in Six-Sigma applications
- Gauge R&R; Measurement Systems Analysis MSA

Concepts of Lean Processing

- History of Lean Manufacturing
- Lean Analysis: transformation from current state to future state
- Cycle Time Compression; improving process throughput
- Supply Chain Acceleration
- Value Stream Mapping; focus on value creation: value chain identification
- Muda: Identifying Seven Types of Wastes
- Muri: Work complexity & fatigue factors
- Mura: Focus on Process Flow; Roll Throughput Yield RTY
- 5S concepts for workplace organization & effectiveness
- Visual controls, Poka Yoke concept; prevention/detection/mitigation
- SMED Concepts to speed up processes
- Team dynamics, Team conflict: forming, storming, norming, performing
- SIPOC Diagrams; three levels of Process maps, flowcharts

Blending Lean Principles in Business All Processes

- Standardized Work Applications to maximize efficiency and reduce variation
- Batch & Queue vs. Single element processing
- Kanban Inventory operational systems
- Understanding the Theory of Constraints
- Total Productive Maintenance TPM for operational costs reduction
- The effectiveness integration of RFID/bar codes
- Employee Empowerment for organizational effectiveness/Kaizen interface *
- Point of Use Supply
- Quality at the Source
- Green Process Integration
- Six-Sigma project work/team dynamics and interaction
- Cause & Effect Diagrams: Ishikawa/fishbone chart Analysis
- FMEA Matrix applications for Six-Sigma; calculating the RPN
- Production Balance: The Importance of TAKT Time Awareness
- Project tools: Gantt charts, critical path method CPM & PERT evaluation
- Brainstorming for Results, Pareto Analysis 80/20 Analysis*
- Improving the Process for effectiveness; Lean process & Six-Sigma Integration
- High level Green Analysis
- Ishikawa Diagrams, Brainstorming, Pareto 80/20
- Brainstorm for Project Benefits integration of team dynamics: the Five whys

Skillfully Applying the Tools of Six-Sigma for success

- Tools to speed analysis—finding the root cause of variation
- Measuring and tracking improvement; Establishing Process Baseline
- Hold the line... standardization/optimization
- Tools to prioritize improvement opportunities
- Successful ways to define and mitigate failure modes
- FMEA Diagrams in Action—how to identify process trouble spots
- Project Closure; Control plans that WORK!
- Continued workplace training...SOP for successPlanning for success;
- Innovative Six-Sigma deployment opportunities
- SPC; Monitoring Systems, Locking the Learning
- Control Chart Utilization; Juran, Deming, & Shewhart
- Lean Six-Sigma Certification Test Pass: 80%

Registration form on the Training Course: Lean Six-Sigma Green Belt Certification Programme

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