



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

*22 July - 2 August 2024  
Barcelona (Spain)  
Grupotel Gran Via 678*

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

Training Course code: MA1133 From: 22 July - 2 August 2024 Venue: Barcelona (Spain) - Grupotel Gran Via 678 Training Course Fees: 8400 € 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 effectivenessmarket 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, &  $\sigma$
- Central Limit Theorem, confidence intervals
- Hypothesis Testing for the mean, Type I & Type II Errors, alpha risks
- Process Capability,  $1 - 1/2 \sigma$  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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Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

### Delegate Information

Full Name (Mr / Ms / Dr / Eng): .....  
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### Company Information

Company Name: .....  
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### Person Responsible for Training and Development

Full Name (Mr / Ms / Dr / Eng): .....  
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### Payment Method

- ☐ Please find enclosed a cheque made payable to Global Horizon
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