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# Course: Lean Six Sigma Green Belt Certification Programme

Code	City	hotel	Start	End	price	Hours
260	Yerevan (Armenia)	Hotel Meeting	2024-10-21	2024-10-25	4950 €	25

## 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;  $\sigma$ ,  $\bar{x}$ ,  $s$ , &  $\mu$
- Central Limit Theorem, confidence intervals
- Hypothesis Testing for the mean, Type I & Type II Errors, alpha risks
- Process Capability, 1- ½  $\sigma$  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%)





**The Scandinavian Academy for Training and Development employs modern methods in training and skills development, enhancing the efficiency of human resource development. We follow these practices:**

• **Theoretical Lectures:**

- We deliver knowledge through advanced presentations such as PowerPoint and visual materials, including videos and short films.

• **Scientific Assessment:**

- We evaluate trainees skills before and after the course to ensure their progress.

• **Brainstorming and Interaction:**

- We encourage active participation through brainstorming sessions and applying concepts through role play.

• **Practical Cases:**

- We provide practical cases that align with the scientific content and the participants specific needs.

• **Examinations:**

- Tests are conducted at the end of the program to assess knowledge retention.

• **Educational Materials:**

- We provide both printed and digital scientific and practical materials to participants.

• **Attendance and Final Result Reports:**

- We prepare detailed attendance reports for participants and offer a comprehensive program evaluation.

• **Professionals and Experts:**

- The programs scientific content is prepared by the best professors and trainers in various fields.

• **Professional Completion Certificate:**

- Participants receive a professional completion certificate issued by the Scandinavian Academy for Training and Development in the Kingdom of Sweden, with the option for international authentication.

• **Program Timings:**

- Training programs are held from 10:00 AM to 2:00 PM and include coffee break sessions during lectures.