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 **APMG** International

Lean Six Sigma training & certification



APMG International™
Lean Six Sigma

IN PARTNERSHIP WITH

LSSA®
lean six sigma academy

Lean Six Sigma training and certification program from APMG and the Lean Six Sigma Academy.

Develop your ability to improve business processes, implement continuous improvement, reduce costs and eliminate waste.

Yellow, Green & Black Belt level certification available.



Developed in partnership with Lean Six Sigma Academy.

www.lssa.eu

Lean Six Sigma published the 'Climbing the Mountain' series of publications which underpin the APMG Lean Six Sigma syllabi.

APMG accredits training organizations to deliver approved supporting training courses globally.

Background

- ❑ Process and performance improvement is a key objective in modern business with organization aiming to improve efficiency and banish wasteful practices.
- ❑ Process and performance improvement can deliver significant efficiency & cost savings.
- ❑ Lean Six Sigma is a concept that combines Lean Manufacturing (originally developed by Toyota) and Six Sigma (originally developed by Motorola).
- ❑ The focus of Lean is speed, efficiency and eliminating waste from processes. Six Sigma focuses on effectiveness and removal of errors.
- ❑ The Six Sigma statistical model and the underlying process DMAIC (Define-Measure-Analyze-Improve-Control) were developed by Motorola and later widely adopted by others such as General Electric as a quality approach for manufacturing processes.
- ❑ When implemented properly, this combination can prove a powerful management tool that can significantly improve an organization's performance by providing a structured approach to resolving problems and enabling rapid improvements, whether in a manufacturing or service-based environment.
- ❑ Lean Six Sigma began to be widely used in the 1990s and has become a popular approach to business process improvement around the world.

What is Lean Six Sigma

Lean Six Sigma is a powerful, team-based approach for dramatically improving business processes through eliminating waste and increasing quality and efficiency, resulting in enhanced customer experience, lower costs and happier staff.



Reduced cost,
increased profit



Improved
customer
satisfaction

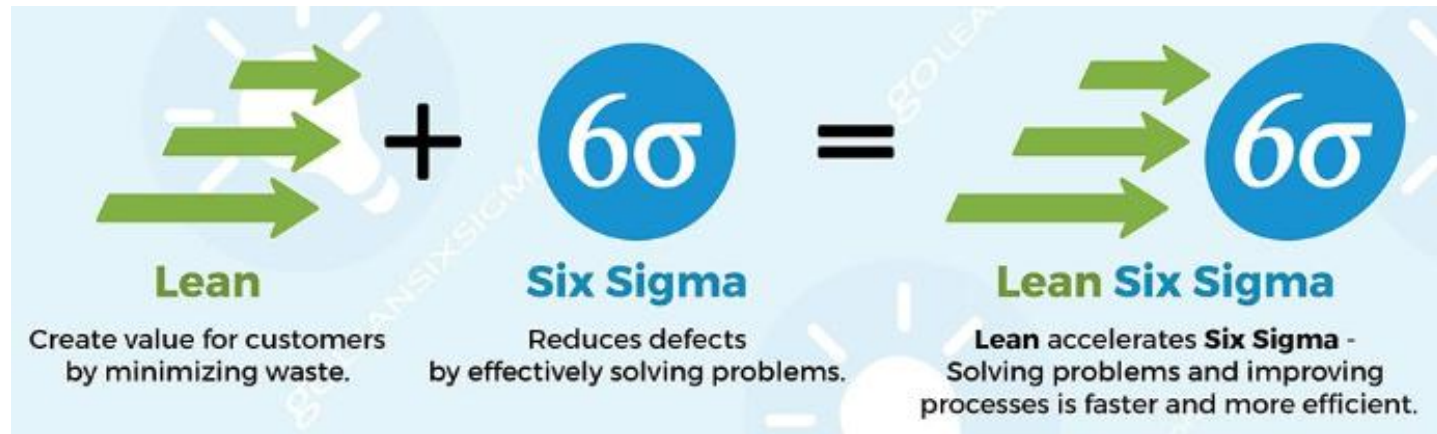


Shorter cycle
times



Improved
employee morale

Lean Six Sigma works for any sized business in any industry sector.



Lean Six Sigma is a combination of two powerful process improvement methods: **Lean** and **Six Sigma**.

- ❑ **Lean**, originally developed by Toyota, is a set of principles, practices and tools aimed at maximising customer value.
- ❑ **Six Sigma** is a structured approach aimed at increasing product and service quality by focusing on processes

Integrating these approaches provides a comprehensive and proven approach that can transform an organisation.

Lean Six Sigma: key principles

- ❑ Focus on the Customer
- ❑ Identify and understand how work gets done
- ❑ Manage, improve and smooth the process
- ❑ Remove non-value adding steps and waste
- ❑ Manage by fact and reduce variation
- ❑ Involve and equip the people in the process
- ❑ Undertake improvement activity in a systematic way



Lean Six Sigma is simply an effective methodology used to fix a problem. It is based on common sense practices and is completed in five phases:

DMAIC (Define, Measure, Analyze, Improve and Control)



Refers to a data-driven improvement cycle used for improving, optimizing and stabilizing business processes and designs. The DMAIC improvement cycle is the core tool used to drive Six Sigma projects.

The benefits of Lean Six Sigma

- ❑ Increased **productivity**
- ❑ Improved **quality**
- ❑ **Reduced** operation costs
- ❑ **Higher** customer satisfaction
- ❑ **Improved communication** among team members
- ❑ **Analyse** your organization's overall operation and find the bottlenecks
- ❑ Quickly **identify waste** within any business process
- ❑ **Added value** for customers, employees and shareholders through reduced process variation and waste
- ❑ **Learn** the right process improvement tools to apply to **boost performance**
- ❑ **Improved performance** and **reduced timescales** for Lean Six Sigma projects
- ❑ Develop the **soft skills** needed to successfully deliver change projects



Training and certification





<i>Belt Level</i>	<i>Education Level</i>	<i>Who is it for?</i>
Yellow Belt	Awareness	Anyone who wants to learn basic Lean Six Sigma principles and the most important Lean Six Sigma instruments.
Green Belt	Practitioner	Department managers, engineers, process engineers and process managers working on process improvement as team members or project leaders.
Black Belt	Expert	Project managers, department managers, senior engineers, process engineers and consultants working on process improvement as project managers.



The purpose of the Yellow Belt qualification is to confirm that a candidate has sufficient knowledge and understanding of the Lean Six Sigma process improvement methodology and practice to be able to work effectively with, or as a member of, a process improvement team working within an environment supporting Lean Six Sigma.



The purpose of the Green Belt qualification is to confirm that a candidate has sufficient knowledge, understanding and application of the Lean Six Sigma process improvement methodology, practice and analytical tools to be able to work effectively as the team leader of Lean Six Sigma process improvement projects or as a member of a Black Belt process improvement project, within an environment supporting Lean Six Sigma.



The purpose of the Black Belt qualification is to confirm that a candidate has sufficient knowledge, understanding and application of the Lean Six Sigma process improvement methodology, practice and analytical tools to be able to work effectively as the team leader of complex breakthrough Lean Six Sigma process improvement projects and to support improvement teams operating within an environment supporting Lean Six Sigma.

Syllabus

■ Eight key areas:-

- World Class Performance
- Policy Development and Deployment
- Project Management
- Level I – Creating a Solid Foundation
- Level II – Creating a Continuous Improvement Culture
- Level III – Creating Stable and Efficient Processes
- Level IV – Creating Capable Processes
- Level V – Creating Future-Proof Processes



Continuous Improvement Maturity Model

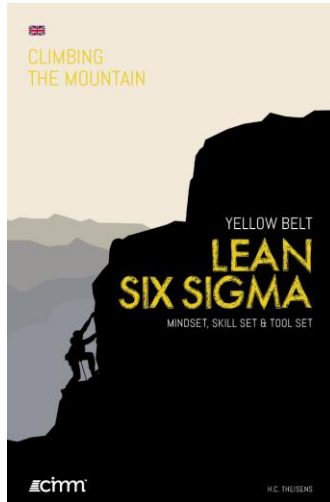
- The syllabus is based on the 'Continuous Improvement Maturity Model' (CIMM), a framework that guides an evolutionary staged approach for process improvement from a very early stage to delivering world class products.
- Incorporates best practice methods and techniques of process improvement, quality management and new product development.
- Includes best practices from Total Quality management (TQM), Kaizen, Total Productive Maintenance (TPM), Lean, Six Sigma and Design for Six Sigma.
- Model describes five maturity levels (see next slide).
- CIMM can support other maturity models, or act as a stand-alone framework.

Continuous Improvement Maturity Model

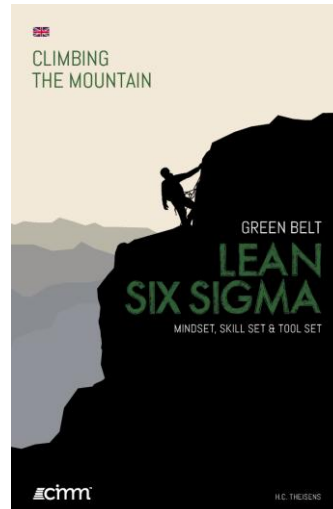


Underpinning guidance

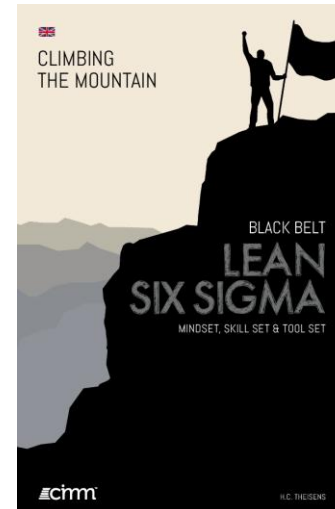
‘Climbing the Mountain’ series
(published by Lean Six Sigma Academy)



Underpins APMG
Yellow Belt
Syllabus



Underpins APMG
Green Belt
Syllabus



Underpins APMG
Black Belt
Syllabus

Target audience: Yellow Belts



Project Managers

Team Managers

HR Managers

Change Managers

Finance Managers

IT Managers

Improvement
Managers

Staff involved in business
process performance
improvement projects

Operational Line
Managers

Job Roles – Yellow Belt: Team Members, Operators, Staff

Target audience: Green Belt



Lean Six Sigma Green Belts are specialists in executing Lean Six Sigma projects. With the right combination of specialist expertise, statistical analysis and structured Lean Six Sigma methodology, the Green Belt is able to achieve significant improvements in performance and quality. A Green Belt **might work alone** or as a **junior project manager, in a team or as a team member** in larger Black Belt project.

***Job Roles:** Engineers, Process Owners, Project Leaders*

Target audience: Black Belt



Lean Six Sigma Black Belts are experts in executing Lean Six Sigma projects. As a program manager they are responsible for managing complex breakthrough projects and supporting improvement teams with tools and techniques. They have both skills for applying analytical tools and skills for leading change.

Job Roles: Senior Engineers, Project Managers, Consultants

Training

Approved training courses available via APMG ATOs
(Accredited Training Organizations)

APMG accredited processes, courseware and trainers.

Benefits / Learning Outcomes

- ❑ An understanding and awareness of Lean Six Sigma practices and how they can be tailored and applied
- ❑ The ability to analyze and adapt/refine processes to improve efficiency and remove waste
- ❑ Discover the tools and practices to reduce process variation, raise quality and improve consistency
- ❑ Exploit the principles and techniques to improve existing processes and develop effective new processes
- ❑ Deliver added value for customers, employees and shareholders through improved processes and quality
- ❑ Learn how improvement projects should be planned and executed
- ❑ Master the application of Six Sigma and statistical tools to assure a valid and reliable performance measurement system

Benefits / Learning Outcomes

- ❑ Adopt tools and techniques to visualize, analyze and improve the logistical flow of processes, making them more stable, predictable, efficient, effective, productive and agile
- ❑ Learn how to setup and facilitate of Kaizen teams, problem solving and brainstorming techniques, and basic quality tools that help to create a culture of continuous improvement
- ❑ Understand the proper and organized work environment, reliable equipment and standardized work required to create a solid foundation for further process improvement programs
- ❑ Uncover the role and responsibilities of leadership in its efforts to coach and inspire improvement teams, how teams develop and how change management is essential for process improvement deployment across the organization
- ❑ Encourage the application of Six Sigma tools in the product development process with the objective to design products and processes that will perform on a Six Sigma level from the earliest phase, creating reliable products and service for customers



Exams & assessments

Testing methods



Single, multiple-choice exam



Theory exam + practical assessment



Theory exam + practical assessment

Yellow Belt exam



Multiple-choice format

50 questions

64% pass mark (32/50)

60 minutes

Open-book

Green & Black Belt Theory exams



Multiple-choice format	Multiple-choice format
60 questions	60 questions
63% pass mark (38/60)	63% pass mark (38/60)
180 minutes	180 minutes
Open-book Minitab software may be used	Open-book Minitab software may be used

Green & Black Belt Practical Assessments



This step towards achieving the complete Green Belt certification involves the submission of a Lean Six Sigma projects to APMG/LSSA for assessment.

This step towards achieving the complete Black Belt certification involves the submission of two Lean Six Sigma projects to APMG for assessment.

The project must demonstrate savings / cost reductions of at least € 20,000 per year, or another relevant CTQ (like Lead Time) has substantially been improved.

Each project must demonstrate an achievement of saving / cost avoidance of at least € 50,000 per year.

The project must follow the PDCA, DMAIC or DMADV roadmap and be signed-off by the Champion.

Each project must be signed-off by the Champion and Financial Controller.

The Practical Assessment must be taken within 3 years of successfully completing the theory exam.

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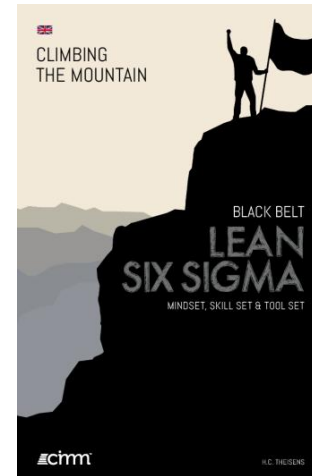
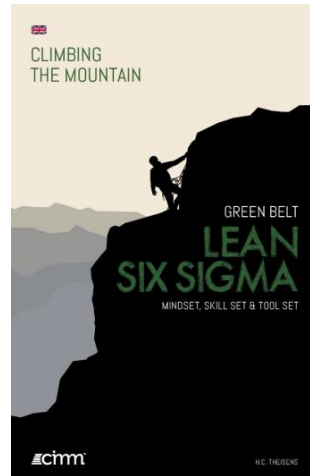
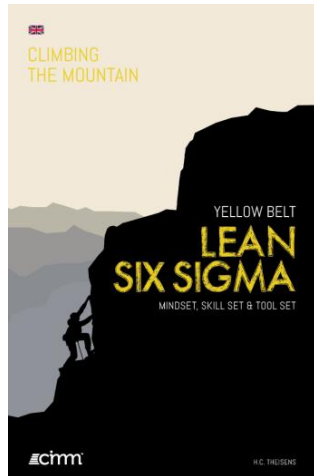
SUCCESSFUL CANDIDATES

#ShareYourSuccess

WITH A DIGITAL BADGE



Find out more...



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