SQT

TRAINING THAT DEVELOPS
REAL CAPABILITY

Lean Six Sigma Black Belt - QQI

Level 8

LSS008

Lean Six Sigma Black Belt – QQI Level 8

This is a blended programme (all dates tutor led, virtual and classroom)

Lean Six Sigma is a comprehensive and highly effective strategy for achieving and sustaining business success. Lean Six Sigma delivers bottom line savings, project by project, in an organised, proactive and highly transparent manner.

Lean Six Sigma is driven by a close understanding of customer needs, disciplined use of knowledge, facts and statistical analysis and diligent attention to a methodology to improve or reinvent business processes.

Our Lean Six Sigma Black Belt consists of 20 days face to face sessions over a six month period, over which the five modules of the course are spread. Face to face sessions are delivered over 6 training sessions (3 or 4 days in duration), this is followed a day of project presentations once projects are complete (18 months after the start date of the programme). The unique feature of our Black Belt programme is that certification is only achieved on completion of a major project, documenting application of the learning tools and evidence of the savings generated. Projects completed by learners who have attended SQT's Lean Six Sigma training courses have yielded significant cost savings, (in excess of €150 million), for Irish industry leading to increased competitiveness/improved job sustainability/company viability.

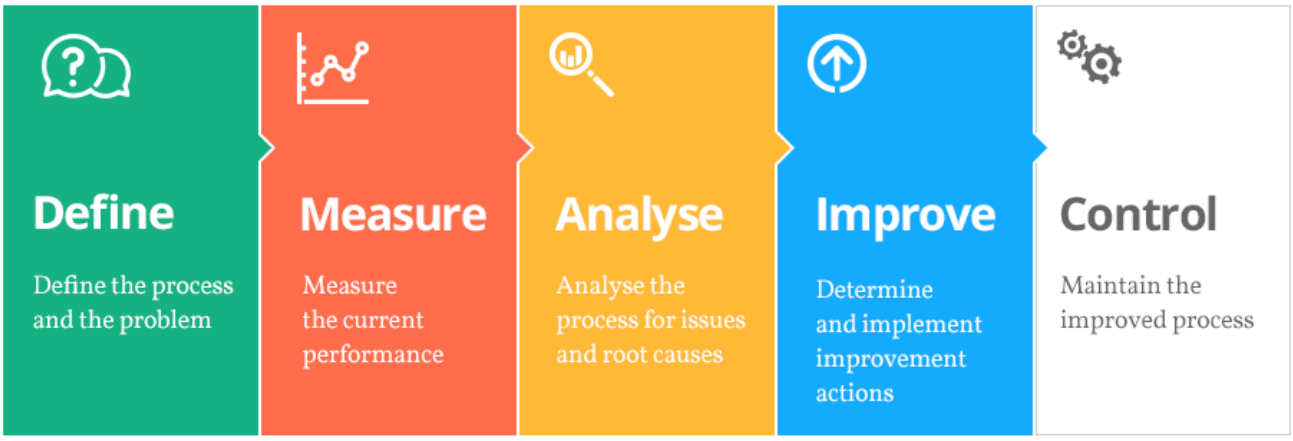
Typical Lean Six Sigma Black Belt projects are yielding savings of over €380,000 per project. The project forms a major part of the training process as it is only by 'doing', that people really learn the tools and techniques of Lean Six Sigma. For this reason our training is specifically designed to be very practical and hands-on so that learners, once they achieve Black Belt status, can go on to lead major improvement initiatives and drive lasting change within their respective organisations.

This course fully complies with the ISO 13053-1:2011 Standard and the ASQ (American Society for Quality) Certified Six Sigma Black Belt (CSSBB) body of knowledge.

Key Success Factors differentiating Lean Six Sigma from other Quality Initiatives:

- Major emphasis on analytical approach, leading to accurate data-based decision making
- Project driven using a defined set of problem solving tools
- Top management leadership focused on success and driving bottom-line savings
- Structured training at various levels to deploy tools and methodology, so that they become "the preferred way of working"

Lean Six Sigma Model



Achieving Lean Six Sigma Success…Involves A Number of Key Elements:

Customers:
You must start by focusing on the customer and identify their critical to quality requirements.

Processes:
You must ensure that your processes are designed and managed to meet these key customer requirements.

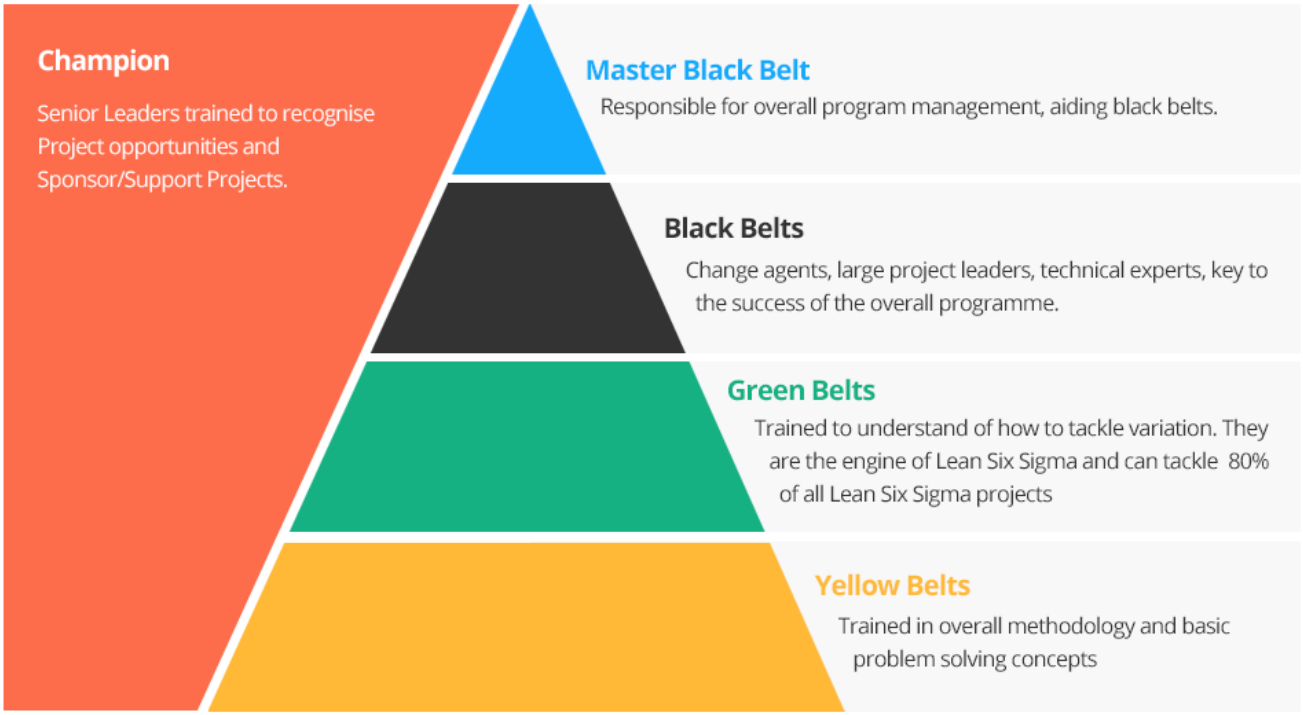
Measurements:
There must be appropriate measurements in place to understand how well you are meeting customer requirements and more importantly, how well the customer feels you are meeting their requirements.

People:
You need to involve your people, ensuring they are effectively equipped (trained) so that they are able and feel able, to challenge their processes and improve the way they work.

Tools:
Improvements are implemented project by project, using a systematic, data driven, problem solving and process improvement approach.

Leadership:
No change happens without the correct Leadership, Support and Management Behaviour, this is the real key to Lean Six Sigma success.

Lean Six Sigma Model



Duration & Price

Duration: 20 days
Delivery mode: This programme is available In-Company

Dates & Locations

Date	Venue	
24 Sep 2025 - 04 Jun 2026	Castleknock Hotel	Book Date

In-Company Training

Please contact us for more information on our In-Company training options

What's covered?

Module 1 - Define (Days 1-4)

Aim

To successfully launch a Lean Six Sigma project by defining a project, assembling a project team, garnering support for the project from process stakeholders and ensuring a common understanding of the process across all project participants and stakeholders.

Learning Outcomes

Participants achieve the following learning outcomes from the programme;

- Explain the DMAIC methodology that a Lean Six Sigma project will follow
- Examine requirements of internal and external process customers to ensure these are aligned with project goals
- Evaluate the performance of processes in meeting customer requirements
- Assemble a cross functional project team capable of completing a Lean Six Sigma process improvement project
- Review and refine a project charter to minimize risks to successful project completion
- Generate sufficient stakeholder support for a proposed Lean Six Sigma project
- Demonstrate an ability to develop a detailed project plan, considering resources and key project milestones
- Construct a high level map of a process to achieve a common understanding among project participants and stakeholders

Module 2 - Measure (Days 5-8)

Aim

To develop a factual and accurate picture of the current state of process performance, identifying areas of weakness within the process for further investigation and achieving ‘quick win’ improvements where possible.

Learning Outcomes

Participants achieve the following learning outcomes from the programme;

- Apply Lean principles to reduce waste and improve flow in processes
- Construct a suitable map of a process at an actionable level
- Prepare a plan to collect data from a process
- Evaluate stability of process output metrics
- Compute process capability indices
- Evaluate the suitability of process measurement systems for data collection activities
- Analyse and draw conclusions from historical process data

Module 3 - Analyse (Days 9-12)

Aim

To understand the drivers of poor performance in a process and select focus areas for improvement actions.

Learning Outcomes

Participants achieve the following learning outcomes from the programme;

- Identify and prioritise causal relationships in a process
- Conduct root cause analysis on the primary causes of poor performance in a process
- Compare the components of variation in a process using graphical analysis tools (such as multi-vari charts)
- Distinguish between analytical and enumerative statistical techniques
- Understand the relationship between sample size and power of a given test
- Select and apply appropriate statistical tests to examine subject matter expert hypotheses
- Use Analysis of Variance studies to assess factor significance
- Examine and prioritise process risk using process FMEA

Module 4 - Improve (Days 13-16)

Aim

To identify and implement optimum solutions using innovative thinking and considering all risks to solution effectiveness

Learning Outcomes

Participants achieve the following learning outcomes from the programme;

- Facilitate solutions workshops using creative thinking techniques
- Apply kaizen and other Lean tools to generate process improvements
- Evaluate and select appropriate solutions from a list of possible solutions
- Perform regression analysis to develop prediction models
- Conduct designed experiments to optimize solution effectiveness
- Understand experimental considerations such as Blocking, Randomisation, Repeats and Replicates

- Manage resistance to change in an organization

Module 5 - Control (Days 17-20)

Aim

To ensure solutions are sustainable and ongoing controls are institutionalized in the organisation

Learning Outcomes

Participants achieve the following learning outcomes from the programme;

- Standardise and simplify work practices to reduce potential for variation in process outputs
- Develop appropriate error proofing techniques to enhance solution sustainability
- Select critical characteristics for monitoring by control chart
- Identify and construct appropriate control charts for ongoing monitoring of critical process characteristics
- Create process control plans to identify responsibility for maintaining process performance
- Communicate the results, recommendations and lessons learned from the project to the organisation

Who should participate?

- Business Process Improvement Personnel
- Operations / Quality Managers
- Process Experts & High Potentials
- Those tasked with driving a major change initiative

What will I learn?

The aim of the programme is to produce graduates who possess advanced knowledge of theory and practice of Lean Six Sigma to enable them to establish and/or take leadership roles in process improvement efforts in manufacturing or data intensive service organisations.

Participants achieve the following learning outcomes from the programme;

- Have a good understanding of advanced process statistics, including industrial designed experiments, and their application to expanding the boundaries of current knowledge within an existing, manufacturing or service industry, process
- Have detailed knowledge and understanding of a wide range of problem solving principles, tools and techniques and the manner in which these are combined in the overall pursuit of business process improvement via Lean Six Sigma
- Demonstrate the ability to draw conclusions from data through the use of advanced analytical and/or statistical techniques
- Be able to confidently engage in and successfully resolve process engineering projects in both the technical and managerial aspects and communicate effectively their resolution.
- Demonstrate, through leading a project, that the learner thoroughly understands the rigour and discipline of the Lean Six Sigma DMAIC methodology
- Be able to apply Lean Six Sigma concepts and advanced problem solving skills learnt in a variety of contexts in manufacturing and service environments
- Deliver significant financial and/or customer benefit for the learners employer (target of €100k annualized, €50k for SME's) through a proactive, investigative and data driven problem solving approach
- Be able to research process engineering issues and solutions to issues, taking responsibility for his/her own learning in unfamiliar learning contexts
- Be able to work independently or effectively lead a cross functional team to solve complex process engineering problems
- Demonstrate the ability to overcome resistance to change in an organisation through effective communication with and influencing of key stakeholders.

What are the entry requirements?

- Honours Bachelor Degree, level 8 in National Framework of Qualifications in Engineering, Science or equivalent Technical undergraduate qualification
  or
- Certificate in Process Engineering, Lean Six Sigma Green Belt Level 7
  or
- A person who has demonstrated the achievement of this level by accredited prior experiential learning (APEL).
- Suitable project to complete during training
- Competence in basic Microsoft Office suite of software
- Laptop with the most recent version of Minitab (Data Analysis Software). See minitab.com for more details. Candidates are advised that a basic knowledge of statistics is recommended prior to commencing the programme.
- All applicants are required to demonstrate a high level of competence in the English Language. International Students whose first language is not English must provide evidence of equivalent competence in English Language of greater than or equal to B2+ in the Common European Framework of Reference for Languages (CEFRL).

Skills that are considered necessary for successful participation in the programme include:

- willingness to learn (reading, research)
- good communication skills
- ability to self-direct
- business acumen
- assertiveness

How will I be assessed?

Learners must complete an individual Six Sigma Black Belt project. A strategic and comprehensive project must be identified in advance of training which, once successful, will deliver real improvement and tangible savings of minimum €100K annualised, €50K for SMEs.

Assessment is based on:

- Project Proposal (Project Charter + Project Plan) (10%)
- The Project Charter must be submitted to SQT prior to commencement of training. Comprehensive guidelines on project selection and a sample Project Charter will be supplied in advance to all course learners
- Project Continuous Assessment (10%)
- Written Project Report (30%)
- Project Oral Presentation (30%)
- Written examination (20%)

All elements of the assessment must be taken and Learners must achieve a minimum of 40% in the Written Project Report and Project Oral Presentation and must achieve a minimum of 40% in the overall assessment.

During each week of training, Black Belts get the opportunity to present their project to the group thus developing their presentation skills as well as demonstrating and re-enforcing their knowledge of the tools and techniques. Several months after the final training session Black Belt candidates will be invited to present their completed projects to a panel. Learners have the opportunity to invite their Project Champion / Management representatives from their own company to the presentation. This provides representatives from each company the opportunity to see a wide range of different Six Sigma practical applications.

Comprehensive guidelines will be given during the course to all learners. The learner has up to 18 months from the commencement of training to complete their project.

How do we train and support you?

This classroom based course is highly interactive and uses practical exercises to reinforce tool understanding and learning. The training is enhanced by the vast experience of the tutors who have trained hundreds of Green Belts and Black Belts as well as completing numerous transactional and manufacturing projects themselves.

Lean Six Sigma Black Belt Training is challenging in terms of content and time requirement. A 'rule of thumb' for QQI validated HET (Higher Education and Training) programmes is that one credit is equivalent to approximately 25 'learner effort hours'. 'Learner effort hours' include training days, time spent at project, time spent studying/reading, learning on the job.

Mentoring

Throughout training and right through to project completion, Black Belt candidates will receive support and mentoring from their tutor.

Company Support

For companies embarking on a new Lean Six Sigma deployment, a 1 day 'Introduction to Lean Six Sigma' and a 2 day 'Lean Six Sigma Champion' training is available for company personnel, as required.

Free Access to Online Resources

SQT provide learners with access to a free online platform. The online system provides learners with access to a wealth of learning resources (such as course notes, presentations, additional reading, templates, screen casts and links to useful websites). Learners can also upload assessments and receive feedback from Tutors via the system.

Lean Six Sigma Network

Lean Six Sigma Practitioners will be invited to join the Lean Six Sigma Network where they will receive ongoing support and development in their role as a Lean Six Sigma leader and practitioner, as well as network with other companies rolling out Lean Six Sigma initiatives. Meetings are held quarterly.

In-House Courses

Course tutor will contact your organisation in advance. In-House courses can be customised to meet your organisation's specific requirements. Where appropriate, course exercises can be carried out using procedures, data etc from your organisation.

Course Manual

Learners will receive a very comprehensive course manual.

Programme accreditation

This course is validated by QQI at Level 8 on the National Framework of Qualifications (NFQ). Successful learners will receive a Special Purpose Award, Diploma in Process Engineering (60 ECTS Credits). Awards made by QQI are on the National Framework of Qualifications (NFQ).The NFQ provides a way to compare qualifications, and to ensure that they are quality assured and recognised at home and abroad. Qualifications (awards) in the NFQ are recognised in Ireland and abroad.

This programme can be used as a basis for applying for ASQ (American Society for Quality) certification. Learners can sit the ASQ Black Belt certification examination. Some further self-study will be required. ASQ certification is a formal recognition by ASQ that an individual has demonstrated a proficiency within, and comprehension of, a specific body of knowledge.

All QQI accredited programmes of education and training of 3 months or longer duration are covered by arrangements under section 65 (4) of the Qualifications and Quality Assurance (Education and Training) Act 2012 whereby, in the event of the provider ceasing to provide the programme for any reason, enrolled learners may transfer to a similar programme at another provider, or, in the event that this is not practicable, the fees most recently paid will be refunded. If transferring to another provider to facilitate programme completion, all learner records will be transferred.

How can you progress?

Successful graduates of this programme are exempt from the 'Applied Process Improvement' module on the BSc (Hons) in Process & Engineering Management (Level 8, 1 year Add-on). Candidates should contact Limerick Institute of Technology directly for further information.

Tutors

Éamon Ó Béarra
View Profile

John Ryan
View Profile

What Our Learners Say

We believe in excellence through transparency and continuous improvement. That's why we invite all our delegates to share their experiences on CourseCheck.com, an independent platform dedicated to genuine, unfiltered feedback. Learner insights help us not only to enhance our training programmes but also empower potential learners to make informed decisions. Click on the link below to read firsthand experiences and testimonials from past learners.

Click Here

SQT TRAINING THAT DEVELOPS *REAL* CAPABILITY

SQT provide a unique combination of high quality, accredited, practical training delivered by leading industry experts and supported by the most up to date learning technology and tools

LEAN SIX SIGMA, PROCESS & PROJECT MANAGEMENT

- Lean Six Sigma
- Join our Lean Six Sigma Network
- Continual Process Improvement
- Project & Programme Management

COMPLIANCE, STANDARDS & AUDITING

- Quality
- Environment & Energy Management
- Health & Safety
- Food Safety
- Life Sciences
- Laboratory
- Integrated Management Systems

LEADERSHIP & PERSONAL DEVELOPMENT

- Leadership & Personal Development
- Train the Trainer

QQI AWARD | IEMA APPROVED | CompEx Part of the JTL Group | FSPCA FOOD SAFETY PREVENTIVE CONTROLS ALLIANCE | CQI IRCA APPROVED TRAINING PARTNER | Chartered Institute of Environmental Health

SQT Training Ltd. | T: +353 61 339040 | E: info@sqt-training.com
W: sqt-training.com

Please follow us on social media for relevant news, events and updates