



BQF Lean Certification Process

Overview

The CI/Lean Certification process provides for four levels of BQF certification. These are: BQF CI/Lean Associate; BQF CI/Lean Practitioner; BQF CI/Lean Advanced Practitioner and BQF CI/Lean Master Practitioner.

The intention is that the BQF CI/Lean levels relate and compare to the equivalent Yellow, Green, Black and Master Black Belt levels of Lean Six Sigma.

Certification Process

Regardless of the level of certification that a candidate is applying for, the process is the same – just that the depth of knowledge and supporting evidence that varies.

The actual requirements of each individual certification level are detailed in the attached appendices.

Essentially the certification process requires that the candidate has to have attended a BQF recognised CI/Lean training course appropriate to the level.

The candidate must then sit an open-book examination and achieve a minimum of 80% exam score.

The candidate then presents Lean project(s) in the form of storyboard(s) or A3 planner(s) to show their use of appropriate lean tools and techniques.

At Associate Level- the candidate should be able to demonstrate that they supported colleagues in the delivery of a CI/Lean project. The evidence at this level takes the form of a letter of recommendation describing their input.

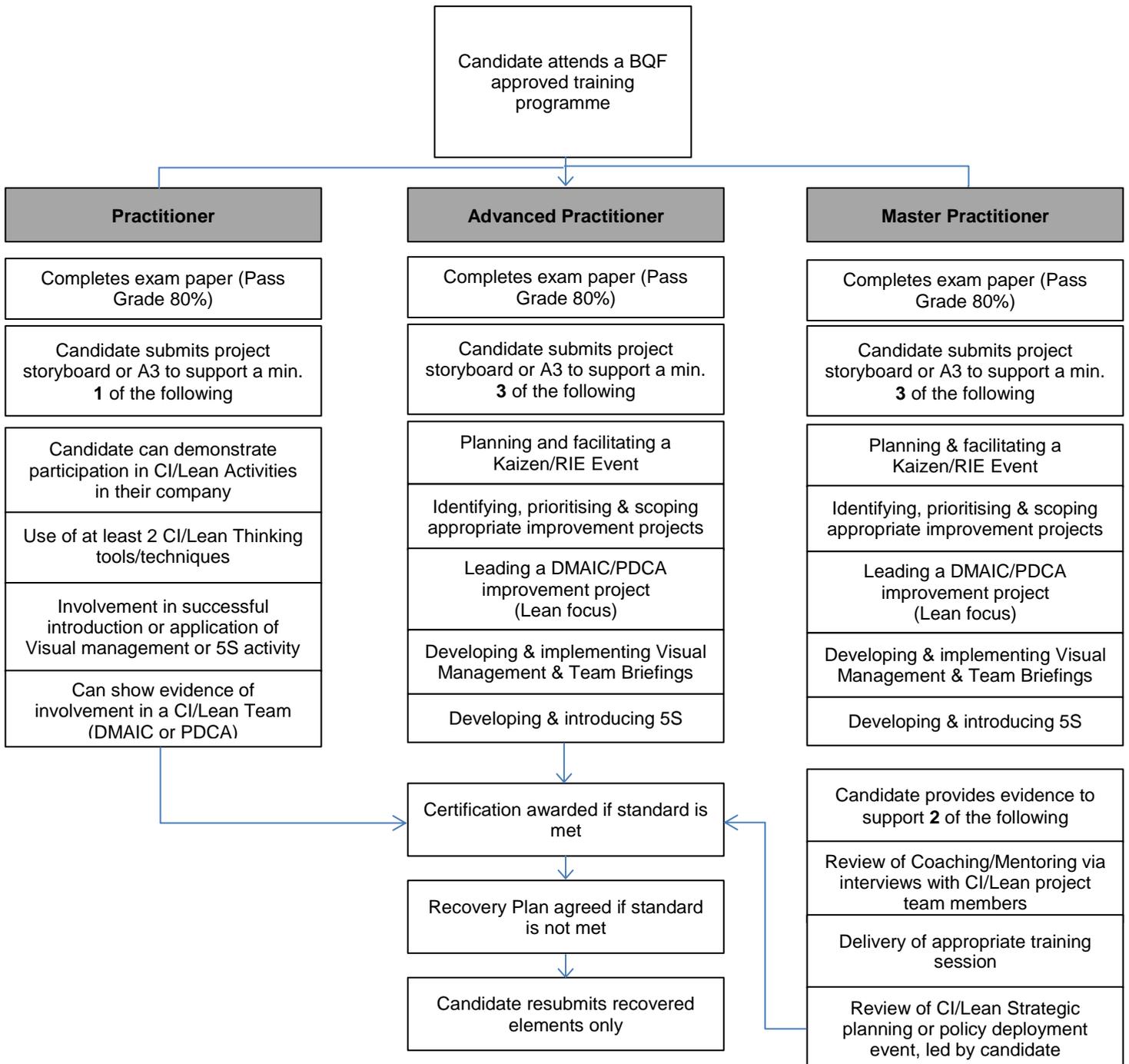
At Practitioner Level – the requirement is to present on a minimum of one project that encompasses the use of at least one area of knowledge from those listed in Appendix 1.

At Advanced Practitioner Level – the requirement is to present on a minimum of two projects that encompasses the use of at least three areas of knowledge from those listed in Appendix 2.

At Master Practitioner Level – the requirement is to present on a minimum of two projects that encompasses the use of at least three areas of knowledge from those listed in Appendix 3. There is a further requirement to also provide evidence on at least two areas from those listed in Appendix 3 – section 2. This last requirement is designed to understand if the candidate has a 'mastery' of the subject, can both coach/mentor in CI/Lean matters, and also aid in the direction setting of an organisation as part of its CI/Lean journey.

At all levels above CI/Lean Associate level a Q&A session will allow the certifier to test the candidates' knowledge of other Lean tools and techniques, as required.

Process Flow





Appendices

Appendix 1– CI/ Lean Certification at Practitioner Level

Appendix 2 – CI/Lean Certification at Advanced Practitioner Level

Appendix 3– CI/Lean Certification at Master Practitioner Level



Appendix 1

CI/Lean Certification –Practitioner Level

Overview

Candidates have an awareness and understanding of how CI/Lean Thinking has developed and evolved and how it can be applied in the workplace. They are able to demonstrate their active participation in improvement activities and the use of appropriate Lean tools and techniques.

Background

An understanding of the origins of CI/Lean Thinking and how it has evolved, identifying the key principles and concepts. This will include an awareness of the approaches taken by both Ford and Toyota, in particular, as well as an understanding of the concepts put forward by Deming, Ohno and Shingo, among others.

Understanding the Principles and Concepts

- The importance of Customers (and Suppliers), including:
 - Critical to Quality Customer Requirements (CTQs)
 - Customer Value
 - The Kano model
- How the work gets done and how well, including:
 - Understanding how the processes flow
 - Process mapping
 - Data gathering
 - Standard operating procedures
- Identifying problems and delays in the process flow, including
 - Value-Add and Non-Value-Add activity
 - The 7 Wastes
 - Waste from the customer's perspective
- Understanding the importance of team working, including:
 - The team roles required to deliver a Lean environment
 - Communication
 - Team briefings
 - The importance of Visual Management
- Participating in improvement activity, using a systematic method, including:
 - DMAIC (Define, Measure, Analyse, Improve and Control)
 - PDCA (Plan, Do, Check, and Act)
- Able to participate in the use of a range of Lean Thinking tools and techniques



CI/Lean Practitioner Level Certification Requirements

Training

Complete an approved training programme.

Examination

Pass an on-line 'open book' test – twenty questions and an 80% pass mark.

Evidence

Candidates need to demonstrate their participation and involvement in CI/Lean Thinking activity. This can take the form of any one of the following:

- Demonstrate the use of at least two Lean Thinking tools and techniques from the Appendix
- Demonstrate involvement in the successful introduction/application in the development of Visual Management or 5S/Waste Walk activity
- Demonstrate involvement as a member of an improvement team using either DMAIC or PDCA

Candidates will need to submit to BQF either a Storyboard or A3 document endorsed and approved by a certified Advanced CI/Lean Practitioner or Line Manager, as appropriate.



CI/Lean Practitioner Level - Lean Thinking Tools and Techniques

Introductory Level candidates should be able to participate in the use of the following:

- 5 Whys
- 5S
- Brainstorming
- CTQs
- Data Capture
- Fishbone
- Is/Is Not
- Kano
- Pareto
- Problem and Goal Statements
- Problem Solving/Counter-measures
- Process Mapping
- Process Stapling
- Root Cause Analysis
- SIPOC
- Solution Prioritisation Techniques
- Spaghetti Diagrams
- Standard Work (Standard Operating Procedures)
- Waste Walks



Appendix 2

CI/Lean Certification – Advanced Practitioner Level

Overview

Building on the Practitioner Level requirements, candidates have an increased knowledge of the Lean toolkit and an awareness of the importance of Change Management techniques to ensure successful change. They are able to demonstrate their active use of appropriate CI/Lean concepts, tools and techniques including, for example, the introduction of 5S and Visual Management into a work area, and the facilitation of Kaizen Rapid Improvement Events.

Background

A comprehensive understanding of the principles, concepts and origins of CI/Lean Thinking and how they have evolved, including an awareness of the Toyota Way philosophy and principles. Using the right tools and techniques, candidates can demonstrate their ability to design and deliver sustainable improvement with effective ongoing management controls.

They are also able to provide mentoring and coaching to teams and individuals, and support the development and deployment of a sustainable CI/Lean Programme.

Understanding the Principles and Concepts

- The importance of Customers (Suppliers and Stakeholders), including:
 - Developing Critical to Quality Customer Requirements (CTQs)
 - Determining the relevant process measures
 - Identifying Customer Value and the Moments of Truth
 - Use of the Kano model

- How the work gets done and how well, including:
 - Standard Operating Procedures (standard work)
 - Understanding how the processes flow
 - Creating Process and Value Stream maps, as appropriate
 - Creating Spaghetti diagrams
 - Identifying Value-Add and Non-Value-Add activity
 - Data collection and display
 - Understanding variation and the use of Control Charts
 - Developing Visual Management



- Optimising process flow, including
 - Stabilising the process
 - Reducing/removing Non-Value Add activity
 - Identifying and reducing waste including the introduction and deployment of 5S and 'Waste Walks'
 - Understanding waste from the customer's perspective
 - Demonstrating the use of the Theory of Constraints in addressing bottle-necks
 - Levelling and sequencing production (Heijunka)
 - Identifying the opportunity for Just in Time and Kanban (Pull production/Single piece flow)
 - Identifying the opportunity for enhanced workplace layout

- Understanding the importance of team working, including:
 - The team roles required to deliver a Lean environment
 - Communication
 - Team briefings
 - Ensuring the use of up to date Visual Management

- Participating in and leading improvement activity, using a systematic method, including:
 - Identifying, prioritising and scoping improvement projects
 - Following DMAIC (Define, Measure, Analyse, Improve and Control) or PDCA (Plan, Do, Check, and Act), as appropriate
 - Planning and facilitating Kaizen Rapid Improvement Events
 - Assessing and managing risk
 - Developing and maintaining Storyboards/A3s
 - Understanding $E = Q \times A$, ensuring effective 'buy-in'
 - Ensuring effective Control Plans

- Project scoping and strategic awareness
 - Use of a diagnostic scoping tool to define current status, readiness and opportunity
 - Process stability assessment
 - Team selection
 - Communication and Change management techniques

- Able to use / facilitate a comprehensive range of Lean Thinking tools & techniques



CI/Lean Advanced Practitioner Level Certification Requirements

Training

Complete an approved training programme.

Examination

Pass an on-line 'open book' test – 50 questions and an 80% pass mark.

Evidence

Candidates need to demonstrate their practical application of Lean Thinking concepts, tools and techniques. This can take the form of any three of the following:

- Planning and facilitating or co-facilitating a Kaizen Rapid Improvement Event
- Identifying, prioritising and scoping appropriate improvement projects
- Leading a DMAIC/PDCA improvement project
- Developing and introducing Visual Management and team briefings
- Developing and introducing 5S/Waste Walks

As appropriate, candidates will need to produce Storyboards or A3s endorsed by their Sponsor, line manager or Master Practitioner.

Additionally they should provide a matrix of the Lean tools used.



Advanced Practitioner Level – CI/Lean Thinking Tools and Techniques

5 Whys	Paired Comparisons
5S	Pareto
Brainstorming	PDCA
Cellular Manufacturing	Problem and Goal Statements
Change Management	Problem Solving/Counter Measures
Control Charts	Process Mapping
Control Plan	Process Stability
CTQs	Process Stapling
Data Collection	Priority Based Matrix
DMAIC	Product Families
Elements of Change ($E = Q \times A$)	Pull vs Push
Error Proofing	Quick Change Over (SMED)
Facilitation Skills	Risk Assessment
Fishbone	Root Cause Analysis
FMEA	Seven Wastes (Tim Wood)
Heijunka	Short Interval Control
Improvement Charter	Singe Piece Flow
In Frame out of Frame	SIPOC
Is/Is Not	Solution Prioritisation Techniques
Jidoka	Spaghetti Diagrams
Just in Time	Stakeholder Analysis
Kaizen	Standard Work
Kanban	Storyboards and/or A3 Reporting
Kano	Supermarket FIFO
Line Balancing (Yamazumi)	Takt Time
Moments of Truth	Theory of Constraints - Bottlenecks
Muda	Total Productive Maintenance
Mura	Value Stream Mapping
Muri	Visual Management
N/3	Waste Walks
Overall Process or Equipment Effectiveness	XY Grid/Boston Box

Appendix 3

CI/ Lean Certification – Master Practitioner Level

Overview

Building on both the Practitioner and Advanced Practitioner Level requirements, candidates have an increased knowledge of the CI/Lean toolkit and an awareness of the importance of Change Management techniques to ensure successful change. They are able to demonstrate their deep knowledge and active use of appropriate Lean concepts, tools and techniques.

Candidates should also be able to show how they influence change within their respective organisations and provide a level of training and knowledge transfer to assist project teams and managers within their respective organisations. Candidates should also be able to plan, execute and follow up on Kaizen or Rapid Improvement Events to ensure a successful outcome.

Background

A comprehensive understanding of the principles, concepts and origins of CI/Lean Thinking and how they have evolved, including an awareness of the Toyota Way philosophy and its principles. Using the right tools and techniques, candidates can demonstrate their ability to design and deliver sustainable improvement with effective on-going management controls

They are also able to provide mentoring and coaching to teams and individuals, and support the development and deployment of a sustainable Lean Programme.

Understanding the Principles and Concepts

- The importance of Customers (Suppliers and Stakeholders), including:
 - Developing Critical to Quality Customer Requirements (CTQs)
 - Determining the relevant process measures
 - Identifying Customer Value and the Moments of Truth
 - Use of the Kano model
- How the work gets done and how well, including:
 - Standard Operating Procedures (standard work)
 - Understanding how the processes flow
 - Creating Process and Value Stream maps, as appropriate
 - Creating Spaghetti diagrams
 - Identifying Value-Add and Non-Value-Add activity
 - Data collection and display
 - Understanding variation and the use of Control Charts
 - Developing Visual Management
- Optimising process flow, including
 - Stabilising the process
 - Reducing/removing Non-Value Add activity



- Identifying and reducing waste including the introduction and deployment of 5S and 'Waste Walks'
- Understanding waste from the customer's perspective
- Demonstrating the use of the Theory of Constraints in addressing bottle-necks
- Levelling and sequencing production (Heijunka)
- Identifying the opportunity for Just in Time and Kanban (Pull production/Single piece flow), including Supply Chain Optimisation
- Identifying the opportunity for enhanced workplace layout
- The deployment of Jidoka and Poke Yoke

- Understanding the importance of team working, including:
 - The team roles required to deliver a Lean environment
 - Lean Champion & Sponsors
 - Lean Manager
 - Lean Team Leader
 - The role of Policy Deployment (Hoshin Kanri)
 - Communication
 - Team briefings & Meeting management
 - Ensuring the use of up to date Visual Management
 - Facilitation Skills
 - Recognition

- Participating in and leading improvement activity, using a systematic method, including:
 - Identifying, prioritising and scoping improvement projects
 - Following DMAIC (Define, Measure, Analyse, Improve and Control) or PDCA (Plan, Do, Check, and Act), as appropriate
 - Planning and facilitating Kaizen Rapid Improvement Events
 - Assessing and managing risk
 - Developing and maintaining Storyboards/A3s
 - Understanding $E = Q \times A$, ensuring effective 'buy-in'
 - Ensuring effective Control Plans and Visual Management

- Project scoping and strategic awareness
 - Use of a diagnostic scoping tool to define current status, readiness and opportunity
 - Process stability assessment
 - Team selection
 - Communication and Change management techniques

- Able to use / facilitate a comprehensive range of Lean Thinking tools and techniques.



CI/Lean Master Practitioner Level Certification Requirements

Training

Complete an approved training programme.

Examination

Pass an on-line 'open book' test – 80 questions and an 80% pass mark.

Evidence

Candidates need to demonstrate their practical application of CI/Lean Thinking concepts, tools and techniques. This can take the form of any three of the following elements from the first section and two from the second:

- Planning and facilitating a Kaizen Rapid Improvement Event
 - Identifying, prioritising and scoping appropriate improvement projects
 - Leading a DMAIC/PDCA improvement project
 - Developing and introducing Visual Management and team briefings
 - Developing and introducing 5S/Waste Walks
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- Review of Coaching/Mentoring via interviews with Lean project team members
 - Deliver Lean Thinking training
 - Review of a Lean strategic planning or policy deployment event lead by the candidate

As appropriate, candidates will need to produce Storyboards or A3s endorsed by their Sponsor, Line Manager or CI/Lean Master Practitioner.

Additionally they should provide a matrix of the CI/Lean tools used.



Master Practitioner Level – CI/Lean Thinking Tools and Techniques

5 Whys	Paired Comparisons
5S	Pareto
Brainstorming	PDCA
Cellular Manufacturing	Problem and Goal Statements
Change Management	Problem Solving/Counter Measures
Control Charts	Process Mapping
Control Plan	Process Stability
CTQs	Process Stapling
Data Collection	Priority Based Matrix
DMAIC	Product Families
Elements of Change ($E = Q \times A$)	Pull vs Push
Error Proofing	Quick Change Over (SMED)
Facilitation Skills	Risk Assessment
Fishbone	Root Cause Analysis
FMEA	Seven Wastes (Tim Wood)
Heijunka	Short Interval Control
Improvement Charter	Singe Piece Flow
In Frame out of Frame	SIPOC
Is/Is Not	Solution Prioritisation Techniques
Jidoka	Spaghetti Diagrams
Just in Time	Stakeholder Analysis
Kaizen	Standard Work
Kanban	Storyboards and/or A3 Reporting
Kano	Supermarket FIFO
Line Balancing (Yamazumi)	Supply Chain Optimisation
Moments of Truth	Takt Time
Muda	Theory of Constraints - Bottlenecks
Mura	Total Productive Maintenance
Muri	Value Stream Mapping
N/3	Visual Management
Overall Process or Equipment Effectiveness	Waste Walks
	XY Grid/Boston Box