Quality Guideline

Certification Program

Six Sigma plus LEAN Black Belt *certification*

European
Six Sigma Club Deutschland e.V.
www.sixsigmaclub.de

Version: 1.1

Status: 27/09/2021

Contents

Changes

The following changes have been made compared to version 1.0 from September 3rd, 2015:

a) Adaptation of the document layout to the new design
b) Footer update
c) Correction of spelling mistakes

Previous issues

Version 1.0 from September 3rd, 2015

Type and scope of certification

There are two basic criteria for Six Sigma plus LEAN Black Belt certification:

1. Participation in a Six Sigma plus LEAN Black Belt training course
2. Successful practical application of the Six Sigma methodology

1 Participation in a Six Sigma plus LEAN Black Belt training course

For the Six Sigma plus LEAN Black Belt training program, a minimum of 20 days of instruction with a minimum of 200 teaching units of 45 minutes each plus breaks must be completed to teach the content described below and to achieve the required level of instruction.

Typically, this involves 25 days of teaching, totalling 250 teaching units of 45 minutes each, plus breaks. There are usually 4-6 training blocks spread over 4-6 months.

The minimum requirements for the training content of this Six Sigma plus LEAN Black Belt training course must be complied with in accordance with the guidelines of the Quality Guideline of the European Six Sigma Club - Deutschland e.V.

Participation in such a training course approved for certification must be evidenced by means of a certificate of attendance. If necessary, e.g. if the certifying Master Black Belt is not aware of the training framework and is therefore unable to assess conformity with the ESSC-D guidelines, the person to be certified must provide appropriate evidence of the duration, scope and depth of the training.

2 Successful practical application of the Six Sigma methodology

The evaluation assesses the execution of Six Sigma projects with the participation and leadership of the Black Belt. Six Sigma plus LEAN Black Belt projects are individual challenging work packages.

The evaluation of the successful practical application of the Six Sigma methodology is based on two independent considerations

1. The evaluation of the project work
2. The correct and professional application of the tools

2.1 Evaluation of the project work

The extent to which the project work has been successfully completed is assessed by the client after the project has been finalised.

The following points should be considered for this assessment:

- Do the improvement measures achieve measurable results?
- Does the certificate holder support the improvement initiatives in general?
- Is the knowledge gained being shared with others?
- Are the tools and the Six Sigma methodology integrated and applied in the daily workflow?
- Are other improvement opportunities identified in addition to those already commissioned?
- Does the person to be certified act as a coach or mentor for Green Belts and their Six Sigma projects?

2.2 Correct and professional application of the tools

The correct use of the tools is assessed by a Master Black Belt.

There are 10 categories of tools and methods for this assessment. For successful certification, 8 of the 10 tool categories must be applied.

At the same time, 2 of the 3 LEAN categories must be recognisable and correctly processed:

1. **Value Stream**
   Value Stream Mapping (VSM), Value Stream Design (VSD), Line Balancing, Theory of Constraints (TOC), Kanban, First in First out (FiFo)

2. **Waste**
   7 types of waste, Single Minute Exchange of Die (SMED), Paka Yoke, Total Productive Manufacturing (TPM), Low Waste Workplace Design (VAG), Spaghetti Diagram

3. **Tidiness and cleanliness**
   5S, Visual Management

At least one successfully completed project must be submitted with appropriate documentation and presentation. Other applications from other projects or from daily work can also be assessed if the certificate holder can demonstrate that they have been applied.

Tool categories

2.2.1 Project strategy

The DMAIC methodology must be recognisable and completed in its individual stages

2.2.2 Process sequence plans or flow charts

This includes SIPOC as well as detailed flow charts or value stream mapping and the collection of influencing factors (inputs) and results (outputs)

2.2.3 Cause and effect analysis

e.g. 5 Why, Ishikawa (fishbone diagram), analysis by type of waste or cause & effect matrix.

2.2.4 Handling of key metrics

This includes the graphical and statistical analysis of the data required for the project (descriptive statistics). For the Six Sigma plus LEAN expert, this specifically includes Overall Equipment Effectiveness (OEE), cycle times, throughput times, inventories, throughput per time unit (TH), etc.

2.2.5 Evaluation of measurement equipment

A measurement system analysis for measured values (Gage R&R or MSA type 1) or attributes (attributive correspondence analysis) must be used

2.2.6 Risk assessment

An FMEA (Failure Mode and Effects Analysis) or a risk analysis must be used

2.2.7 Statistical test methods

At least one of the statistical tests must be used. These include the t-test, the analysis of variance, regression, chi-square test, proportion test and logistic regression

2.2.8 Experimental strategy

This includes the development of statistical test plans or the set-up of a multi-variate study

2.2.9 Analysing more complex experiments

This includes the evaluation of test series with several influencing factors or results

2.2.10 Monitoring and control strategy

To ensure the consistency of the implemented improvement measures, an appropriate control and monitoring loop (monitoring instrument) must be introduced, including visual management.