Operational excellence

Lean Six Sigma Green Belt

Five days of training plus a project carried out in your company, to learn how to lead a DMAIC project from end to end and quantify its gains. Charter, voice of the customer, data collection plan, measurement system analysis, capability, hypothesis tests, simple designed experiments and SPC: every tool is applied to the project you are running. The Afflatus Green Belt certification is awarded on defence of that project.

Duration : 5 days

Objectives

1. Build the charter of a DMAIC project: problem, scope, quantified target, team, sponsor
2. Draw up a data collection plan and check the reliability of the measurement system before analysing
3. Assess process capability and the project's starting point
4. Analyse causes with statistical tools and hypothesis tests suited to the data
5. Design and test solutions, including through a simple designed experiment
6. Put the process under control, standardise and quantify the gains achieved

Programme

Day 1 — morning

• The Green Belt in the organisation: project leader, relationship with the sponsor and the Black Belt
• Choosing a good project: measurable problem, manageable scope, link with the site's objectives
• Project charter: problem statement, quantified target, scope, team, milestones
• Exercise: the charter of your own project

Day 1 — afternoon

• Voice of the customer and the tree of critical-to-quality characteristics
• SIPOC and detailed mapping of the process under study
• Stakeholders, communication and leadership of the project team
• Define phase-end review: what the sponsor must validate

Day 2 — morning

• Project metrics: output variable, operational definitions, defects and opportunities
• Data collection plan: what, where, how much, by whom; sampling principles
• Descriptive statistics and charts: histogram, box plot, time series
• Exercise: the data collection plan for your project

Day 2 — afternoon

• Measurement system analysis (MSA): repeatability, reproducibility, attribute agreement
• Process capability: Cp, Cpk, Pp, Ppk and the starting sigma level
• Non-normal data: what to check before calculating capability
• Exercise: capability study on a data set from your site

Day 3 — morning

• From symptoms to potential causes: Ishikawa, cause-and-effect matrix, flow losses
• Graphical analysis: stratification, multi-vari chart, scatter plot
• Principle of a hypothesis test: null hypothesis, alpha risk, p-value
• Choosing the right test for the type of data

Day 3 — afternoon

• Comparing means and variances: t-tests, one-way ANOVA
• Attribute data: comparing proportions, chi-square test
• Correlation and simple linear regression
• Exercise: confirm or rule out the causes in your project using your data

Day 4 — morning

• Generating solutions: idea generation, selection criteria, decision matrix
• Simple designed experiments: two-level full factorial designs, effects and interactions
• Lean solutions useful in projects: 5S, SMED, error-proofing, standardisation
• Exercise: interpreting a factorial design on an industrial case

Day 4 — afternoon

• Risk analysis of the selected solutions: simplified FMEA
• Pilot trial: preparation, measurement, before / after comparison
• Implementation plan and change management with the teams
• Improve phase-end review applied to your project

Day 5 — morning

• Statistical process control: control charts for variables and attributes
• Monitoring plan, standards, work instructions and error-proofing devices
• Quantifying the gains: calculation method and validation with management control
• Project closure and handover to the process owner

Day 5 — afternoon (workshop)

• Workshop: the DMAIC roadmap of your project up to the defence
• Project report and defence: structure, evidence, quantified gains
• Validation criteria for the Afflatus Green Belt certification
• Knowledge test on the five DMAIC phases and their statistical tools

Teaching methods

• Common thread: the DMAIC project each participant runs in their own company
• Statistical exercises on software, using data from your lines and departments
• Case studies in agri-food, packaging, automotive and pharma
• Phase-end reviews of each project, run as if in front of a sponsor
• Programme led by a Lean Six Sigma Black Belt

Assessment and documents

Knowledge test at the end of the five days, end-of-course evaluation at D+1, numbered training certificate verifiable online and training report. The Afflatus Green Belt certification is awarded on defence of the project carried out in the company with quantified gains, then recorded in the training passport.

Bilingual materials for every participant; each classroom course comes with its digital twin on OmniLearn.

Good to know

Participants who are less comfortable with statistics can first take « Applied Statistics and Minitab for Belts ». To supervise several projects and coach Green Belts, the next step is « Lean Six Sigma Black Belt ».

Practical information

Duration	5 days
Prerequisites	An improvement project identified with management before the session; comfort with a spreadsheet. The Yellow Belt course is useful but not mandatory.
Group size	Groups of 6 to 12 participants, in-company
Format	In-company, face to face on your site
Language	French, Darija or English; bilingual materials
Funding	OFPPT special training contracts (TFP), GIAC, Maroc PME: we prepare the applications with you, at no extra cost.
Programme customisation	Programme adapted to your procedures, your equipment and your audience

Frequently asked questions

What does the « + project » mention cover?
On top of the five training days, each participant runs a DMAIC project in their company. The Afflatus Green Belt certification is awarded on defence of that project, with quantified gains: the training alone is not enough.

How is the project chosen?
The project is chosen with management before the session: a measurable problem, on a process the participant can change, with an identified quality, lead-time or productivity stake. A scope that is too broad is reframed in the charter on the first day.

Is the Green Belt certification issued by an external body?
No, it is an Afflatus certification, awarded on defence of a project carried out in the company with quantified gains and recorded in the training passport. It attests to a project seen through, not just an exam passed.

Can several Green Belts be trained from the same site?
Yes, and it is often effective: several projects move forward in parallel, participants compare their analyses and management follows a portfolio rather than a single project. Sponsors then benefit from attending the « Champion: Selecting and Sponsoring Projects » day.