

MASTER LEAN SIX SIGMA

BLACK BELT PROGRAM

BONFIGLIOLI CONSULTING
Conferenze Worldwide



INTRODUCTION TO SIX SIGMA

- ✓ QM introduction: background - TQM - Lean - Six Sigma
- ✓ Six Sigma introduction: DMAIC DFSS (DMADV)
- ✓ Six Sigma introduction: roadmaps, roles and key players

DEFINE & SOFT SKILLS

- ✓ Selecting opportunities: to turn customers requests into project towards improvement
- ✓ Customers request and opportunities towards improvement analysis: Kano and 10 gaps models
- ✓ DFSS approach as tools for innovation based on customer requests
- ✓ QFD approach: a key approach for DFSS
- ✓ Economical and DCF techniques for investment and project evaluation
- ✓ Priority management for multiple project environment: models to be considered
- ✓ Time and team management approaches
- ✓ Conflict management approach: leadership and motivation
- ✓ Project management: process, mapping and rationals
- ✓ Effective presentation: how to manage information and keep focus attention
- ✓ KPIs: selection and opportunistic dynamics

Presentation and discussion of a real case study of Project Charter and Project Selection *

MEASURE

- ✓ Effective and productive data collection plan
- ✓ Statistical basics for industrial use and statistics model
- ✓ Central limit theorem: the key for sampling
- ✓ Measurement System Analysis and Gauge R&R for variable data
- ✓ Gage R&R for attribute data: hands on

Presentation and discussion of a real case study: measurement systems in terms of operations and financial returns *

ANALYSE

- ✓ Quality-quantitative analysis
- ✓ FMEA: effective risk management
- ✓ Hypothesis test recall
- ✓ ANOVA (Analysis of variance): basics concepts and single and multiple factor/s analysis
- ✓ Regression model and its validation
- ✓ Time series analysis and forecasting models

Presentation and discussion of a real case study of FMEA and ANOVA*

IMPROVE

- ✓ DoE basics recall
- ✓ Scheduling and selecting DoE plans: effective strategies and effective output analysis
- ✓ How to plan and implement a fractional DoE : basics rules
- ✓ Introduction to Robust Design Plans, Surface Response Methods and EVOP
- ✓ How to generate ideas and solutions
- ✓ Solution ranking and selection

Presentation and discussion of a real case study: improvements implementing or not DoE technique *

CONTROL

- ✓ Introductions to standards
- ✓ How to monitor performances and develop control charts
- ✓ How to define control charts for continuous data
- ✓ How to define control charts for attributes
- ✓ Control Charts evaluative models: CUMSUM and EWMA

Presentation and discussion of a real case study : inactivity towards changes , changes, control charts *

LEAN THINKING

- ✓ 2 training days at our Lean Factory School® to understand Lean principles and techniques with a hands-on approach
- ✓ WALKING TOURS IN REAL MANUFACTURING PLANS
- ✓ TUTORING TO FINALIZE PROJECT WORK
- ✓ LEAN BLACK BELT CERTIFICATION

* Case Studies are introduced and discussed during the front-lessons