



SIX SIGMA MANUFACTURING BLACK BELT 20-Day Programme ~ commences March 22nd 2010 ~ Leamington Spa



INTRODUCTION
<p>As an expert process improvement resource, Black Belts are tasked with delivering measurable benefits through quantifiable improvement projects.</p> <p>This 20-day programme will develop Black Belts who are skilled in leading, executing and completing projects.</p> <p>They will be trained as experts in Six Sigma tools and concepts, and develop their ability to demonstrate appropriate leadership, creativity and communication skills.</p>
OBJECTIVES
<ul style="list-style-type: none"> • Ensure the DMAIC flow and application of tools are fully understood • Introduce the leadership and change management skills to support the Black Belt role • Provide practitioner training in the more complex statistical tools required within the Black Belt toolkit • Provide guidance on Black Belt certification process & discuss delegate projects
ACCREDITATION PROCESS
<p>Smallpeice offer an Accreditation process for Manufacturing Six Sigma Black Belt trainees, which incorporates undertaking a project, multi-choice examination and project presentation.</p>
PROGRAMME FEES
<p>£5950+VAT per delegate, includes:</p> <ul style="list-style-type: none"> • All materials • Lunches and refreshments • Accreditation

PROGRAMME CONTENT				
DEFINE		MEASURE		
March 22	March 23	March 24	March 25	March 26
Introductions <ul style="list-style-type: none"> • Six Sigma & the DMAIC roadmap • Project selection Project Management for Six Sigma <ul style="list-style-type: none"> • Identifying Voice Of The Customer • Understanding process flow & cause & effect • Project management • The project charter 	Quality Function Deployment (QFD) <ul style="list-style-type: none"> • Overview of QFD • QFD & Six Sigma process improvement • An anatomy of QFD Failure Modes & Effects Analysis (Process FMEA) <ul style="list-style-type: none"> • Overview of FMEA techniques • FMEAs role in Six Sigma • Managing Process FMEA 	Introduction to Statistical Concepts <ul style="list-style-type: none"> • Introduction to descriptive statistics • Inferential statistics • Probability models • Basic statistical concepts Minitab Statistical Software <ul style="list-style-type: none"> • Introduction to Minitab (laptops provided in class) 	Change Leadership & Planning & Managing Process Transformation <ul style="list-style-type: none"> • Why change fails • Building a compelling need • Change acceptance for the organisation & individual • Identifying drivers, constraints, sponsors & stakeholders • Influencing & communicating 	Data Collection Planning <ul style="list-style-type: none"> • Organising robust data collection Measurement Systems Analysis <ul style="list-style-type: none"> • Measurement Systems Analysis (MSA) – attribute data • Measurement Systems Analysis (MSA) – variable data • MSA using Minitab
MEASURE		ANALYSE		
April 19	April 20	April 21	April 22	April 23
Implementing Process Transformation <ul style="list-style-type: none"> • Monitoring & control • Overcoming resistance • After action reviews • Transfer of ownership • Leading & developing your team • High performance teams • Coaching for Performance 	Graphical Analysis Techniques <ul style="list-style-type: none"> • Use of graphical methods • Graphical techniques for attribute & variable data • Visualising data using Minitab SPC & Capability Analysis <ul style="list-style-type: none"> • Introduction to SPC techniques 	Statistical Process Control & Capability Analysis <ul style="list-style-type: none"> • Control charts for attributes & variables • Introduction to capability metrics & their uses • Measuring attribute & variable capability 	Hypothesis Testing <ul style="list-style-type: none"> • Visual inferential statistics for process improvement • Introduction to hypothesis testing • Understanding power & sample size • The hypothesis testing routemap • Sampling distributions & confidence intervals 	Hypothesis Testing (Cont'd) <ul style="list-style-type: none"> • Analysing variable data • Testing for normality, location & dispersion • Analysing attribute data • Testing proportion & count data • Hypothesis testing using Minitab
ANALYSE		IMPROVE		
May 17	May 18	May 19	May 20	May 21
Introduction to Regression Analysis <ul style="list-style-type: none"> • Using regression techniques • Simple linear regression • Basic diagnostic techniques • Understanding & removing error in a model • Using residuals to improve model accuracy 	Revision Session <ul style="list-style-type: none"> • Analyse phase • Case study walkthrough Learn, Teach, Learn <ul style="list-style-type: none"> • Statistical Process Control • Measurement System Analysis • Hypothesis Testing 	Creativity Techniques & Workshop <ul style="list-style-type: none"> • Creativity theory & the human mind • Stages of innovation • Creativity techniques 	Design of Experiments <ul style="list-style-type: none"> • Introduction to designed experiments • Applications of DOE techniques <p><i>Note: DOE modules include SimWare Simulations & Minitab Analysis, as well as practical experimentation examples</i></p>	Design of Experiments (Contd) <ul style="list-style-type: none"> • Basic system optimisation techniques • Screening techniques using DOE <p><i>Note: DOE modules include SimWare Simulations & Minitab Analysis, as well as practical experimentation examples</i></p>
IMPROVE		CONTROL		
June 14	June 15	June 16	June 17	June 18
Six Sigma Report Review <ul style="list-style-type: none"> • Introduction to report criteria • Reviewing reports • Formatting feedback • Presenting recommendations Multi-Variable Regression <ul style="list-style-type: none"> • Introduction to multiple regression • Analysis of multi-variate data • Further diagnostic techniques • Advanced regression techniques 	Advanced Design of Experiments <ul style="list-style-type: none"> • Benefits & limitations basic DOE techniques • Overview of advanced techniques • Box Behnken • Plackett-Burman • Surface response designs <p><i>Note: DOE modules include SimWare Simulations & Minitab Analysis, as well as practical experimentation examples</i></p>	Advanced Design of Experiments <ul style="list-style-type: none"> • Taguchi techniques • Multi-level experiments • CCF designs • CCD designs • EVOP designs <p><i>Note: DOE modules include SimWare Simulations & Minitab Analysis, as well as practical experimentation examples</i></p>	Solution Introduction & Control <ul style="list-style-type: none"> • Solution evaluation techniques • Piloting & validating solutions • Confirming costs & benefits • Control phase: sustaining the gains • Control plans & key control techniques • Implementing the solution • Project closure • Replicating the benefits 	Achieving Certification <ul style="list-style-type: none"> • Course review • Accreditation Roadmap • Requirements for certification • Introduction to Master Black Belt roles & responsibilities • Next project rollout • Putting Six Sigma into the business place