

## Using Data Effectively with Excel (2 days)

Using data effectively is an integral component of Lean Six Sigma projects, operational management and continuous improvement. This course builds on the data tools introduced in the Green Belt programme but does not stretch to the level covered in Advanced Green Belt. As such, Minitab software is not needed and we use standard Excel and the SPC Plus package (which we supply free).

### Who is this programme for?

Green Belts, Yellow Belts, Lean Practitioners, operational managers, business analysts who need enhanced capability to collect, present and analyse data but not to the level of Advanced Green Belt. This course will often prove suitable for delegates in transactional environments.

### What will you learn?

As well as building proficiency in the use of Excel and SPC Plus, this course supports DMAIC, operational management and data driven decision making by providing a solid grounding in these essential techniques:

#### Measuring Process Performance

- Selecting measures and developing operational definitions
- Validating the capability of the measurement system
- Process Sampling
- Data collection
- Summarising and presenting performance data
- Using Statistical Process Control Charts (SPC) to display and interpret data
- Simple Process Capability Analysis

#### Analysing Process Data

- Graphical Data Analysis
- Pareto Charts
- Data segmentation
- Scatter diagrams
- The background statistical knowledge to correctly apply, interpret and communicate the above



### What are the key outcomes?

#### Outcomes for your business:

The ability to employ these tools will enhance the Lean Six Sigma toolset improving project performance, process management and promoting the development of a data based decision making in your organisation.

### **Outcomes for your personal development:**

The ability to use data with confidence to understand and analyse processes and influence your colleagues.

### **How can I take this course?**

This course is available as a 2 day open or in-house programme.

### **Support Pack**

All delegates receive

- Printed and pdf copies of the course slides
- Introductory videos on using Excel and SPC Plus

### **Course Contents**

- Selecting and operationally defining Y measures
- Types of data
- Process Sampling with continuous and discrete (attribute and count) data
- Sample Size calculations for continuous and discrete data, when you need to use it, why it matters
- Validating the Measurement System
  - Gauge R&R Study
  - Attribute Agreement Analysis
- Data collection
- Understanding Variation and SPC, Tests for Special Causes
- Individuals (X-moving Range) SPC Charts
- Control Charts in Practice
- Simple summary statistics
- Using Histograms to visualise and interpret the shape of data
- Introduction to the Normal Distribution
- DPU, DPMO, Process Sigma
- Simple Capability Analysis
- Pareto Analysis
- Segmented frequency plots
- Introduction to confidence intervals and hypothesis testing
- Scatter Plots
- Segmented Scatter Plots
- Introduction to simple linear regression

### **Course prerequisites**

Each delegate will need a PC or laptop with Excel 2007 or later (we will need to know your Excel version beforehand). We will supply SPC Plus before training and this should also be installed on each machine. Data sets will also be provided.

Delegates should have at least basic capability with entering and manipulating data in Excel