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Webinar on

3 Valuable Guide On Statistical Process Control, Process Capability And Measurement Systems Analysis (MSA)

Webinar Description

The bundle of below mentioned webinars systematically explains the foundations of statistical process control (SPC), including the effects of variation and accuracy on process quality, and the fundamentals of measurement systems analysis (MSA), or gage reproducibility and repeatability, how to calculate process capability and process performance indices that are often required by internal or external customers of manufacturing processes, and the relationship between a Six Sigma process and its performance index.

The webinar format is 1-1.5 hours of audio-visual presentation, including a brief Q&A session.

This webinar bundle includes below 3 recorded webinars:

Introduction to Statistical Process Control

Measurement Systems Analysis

Process Capability Analysis

Introduction to Statistical Process Control

Presented by William A. Levinson

This webinar will introduce attendees to the foundations of statistical process control (SPC), including the effects of variation and accuracy on process quality. The definition of a Six Sigma process will be illustrated. Attendees will learn how to construct SPC charts that provide visual controls (easily understood signals) that tell production workers when the process requires adjustment to prevent the manufacture of nonconforming work. The issue of non-normal (non-bell-curve) processes also will be addressed with control charts that reflect accurately the underlying statistical distribution.

Attendees will receive a Visual Basic control chart simulator that works in Windows 7 (it has not been tried in other versions) that illustrates variation and accuracy side by side with the corresponding control charts. This is useful for teaching the underlying concepts to production workers and technicians very quickly.

Measurement Systems Analysis

Presented by William A. Levinson

This presentation will cover the fundamentals of measurement systems analysis (MSA), or gage reproducibility and repeatability, as required by ISO/TS 16949 and highly recommended otherwise. This includes the requirements in terms of parts and inspectors, as well as randomization of measurements, for a successful gage study as well as the mathematical calculations (which are in practice now handled by statistical software) involved. Measurement systems analysis (MSA), also known as gage reproducibility and repeatability (R&R), quantifies gage precision in terms of variation. It is a counterpart to gage calibration, whose purpose is to ensure accuracy. Accuracy means that the gage returns, on average, the dimensions of the standard against which it is calibrated, while precision means the gage returns the same measurement (whether accurate or not) consistently. A gage should be both accurate and precise to perform its mission.

Process Capability Analysis

Presented by William A. Levinson

Attendees will learn how to calculate process capability and process performance indices that are often required by internal or external customers of manufacturing processes. The webinar will show the relationship between a Six Sigma process and its performance index. The webinar will then go beyond this textbook material to cover processes that do not follow the normal (bell curve) distribution, and for which the traditional calculation methods do not work properly. An off the shelf and generally accepted method will then be presented for these non-normal applications.

Process capability analysis is a key activity in quality management. Process capability and process performance indices reflect the ability of a process to meet customer requirements and are therefore often required by internal and external customers. Process capability analysis ties in with statistical process control because (1) a successful process capability analysis requires the process to be in a state of control and (2) estimation of the parameters, traditionally the process mean and process standard deviation, is required for both activities.

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740 870 0321