



## Six Sigma For IT & Software

More than just a statistical toolbox, Six Sigma developed from its initial stages to an ever more complex and far-reaching business philosophy and one of the most successful management strategies of modern times.

Originally developed in the context of manufacturing operations (early 80's), Six Sigma emphasises the importance of understanding and controlling variation in any process as the key to achieving better quality and reducing defects and costs.

Six Sigma is crossing the chasm of manufacturing and transactional processes to software engineering processes. Six Sigma is gaining momentum as an effective process improvement and change management approach within the IT and Software engineering industry. Many IT departments and Software organisations in Europe and elsewhere are embarked on this change process, including key players in the marketplace

However the methodology requires a fundamental adaptation, as software processes are model-driven and the human factor plays a critical role. Software Engineering is mainly a communication process where different actors exchange “representations” of real world entities and a higher level of abstraction is required in order to define “what is expected” from a software product. The ambiguity of these models becomes the true enemy of quality in Software. Variation can be attributed partly to this ambiguity and partly to the inherent variability of social engineering processes which is not present in other engineering and manufacturing activities.

Six Sigma, when effectively combined with maturity-based models (e.g. CMMI®, SPICE, ...), agile and lean methods, and structural system architecture and design, offers a great opportunity to achieve unprecedented quality and cost-effective software development. By quantitatively managing the quality characteristics of system life cycles and optimizing them accordingly it is possible to optimize both the process and software design, together.

Six Sigma and Design for Six Sigma (DFSS) introduce a statistical and probabilistic perspective into the software design and provides software engineers with predictive abilities in relation to the quality of their designs, therefore featuring outstanding quality and performance levels, built in “by-design”.

### HOW QT&T CAN HELP

QT&T has partnered with Systonomy Ltd , UK based organisation and leader in Six Sigma solutions.

Systonomy is specialised in Software Quality Engineering through the application of Six Sigma and DFSS methods. By combining Six Sigma with appropriate software engineering practices and process improvement methods, we help our clients to accelerate the implementation of their own IT and Software quality programmes. Our adaptive approach offers our clients an innovative and low risk move from defensive strategies to those of growth.

Systonomy has created a unique Six Sigma and DFSS framework and training for Software Engineering that is at the forefront of current knowledge and is investing heavily in research into new methods. Our training has been designed from the ground up as an IT and Software Six Sigma or DFSS training programme and is not a superficial modification of manufacturing Six Sigma.

For more info about Six Sigma for IT and Software Engineering, pls contact [sixsigma@qtnt.com](mailto:sixsigma@qtnt.com)

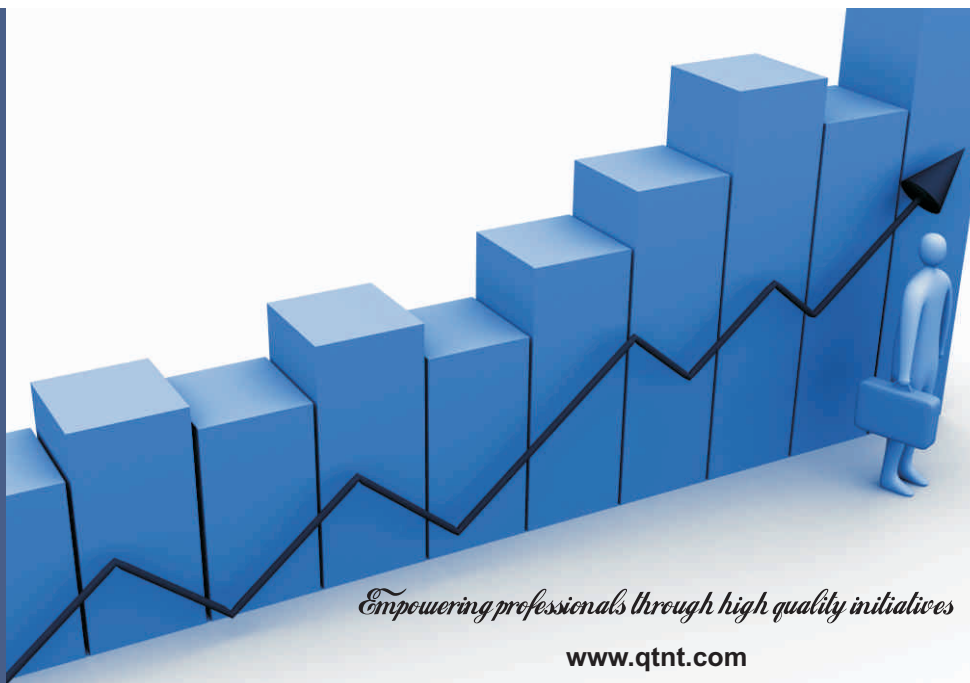
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