

MANAGEMENTUL CALITĂȚII VIRTUAL – O NOUĂ ABORDARE PENTRU OPTIMIZAREA BAZATĂ PE SIMULAREA BUCLELOR DE CONTROL AL CALITĂȚII

VIRTUAL QUALITY MANAGEMENT – A NEW APPROACH FOR THE SIMULATION-BASED OPTIMIZATION OF QUALITY CONTROL LOOPS

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Abstract: Innovative manufacturing processes and process chains are designed for maximum output during the planning stage. As long as there are no disturbing influences, this ideal process will fulfill its task. But if influences with effect to the process and its output occur, quality of the produced parts worsens and the necessity of introducing quality management techniques arises. For avoiding losses caused by expensive last-minute-changes, quality management methods have to be implemented and tested during the planning stage within virtual processes. Prerequisite is a functional model of the manufacturing process enhanced with the effects of the disturbing influences. The vision of Virtual Quality Management is to create simulation models including disturbing effects and deviations already within the planning stage, therewith processes can be tested virtually with fully developed quality control loops. Therefore amongst others a module has been set up to reproduce quality control loops from getting information by virtual measurements up to executing interventions, so that it is possible to optimize not only quality control charts alone but the whole surrounding quality control loop by the use of simulation technology.

Keywords: Quality Management, process simulation, quality control loop, heuristic optimization.