

# HIGH PERFORMANCE MANUFACTURING (HPM) A SYSTEM ADAPTING CUTTING PROCESS

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**Abstract:** *This article intends to give a brief survey of how to optimise manufacturing process of a part by combining laboratory test, measuring of machine tools and computer calculations to get more detailed information about each single cutting process. Material data of work piece and data about machine stiffness are used for improving NC - programs that produce parts of higher quality regarding e.g. geometric precision and surface roughness. This concept could not only be used for optimising cutting processes in mass production, it considers the special needs of smaller quantities. Especially machining parts made of new materials can be produced with higher performance. Overall objective is to predict quality and to reduce costs compared to expensive classical tests.*

**Key words:** *machine tool, CAM, Simulation, error compensation, stiffness, cutting force, high deformation speed*



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