

Abstract

Due to high market dynamics and growing competition in all markets as well as constantly shortening product and innovation cycles manufacturing companies are facing the challenge to repeatedly adjust their production systems within shorter periods according to the requirement of their changing environment. During the last two decades this lead to a significant increase in research activity in the context of the adaptability of production systems, mainly changeability and flexibility. The ongoing discussions in the scientific community and industry indicate, that problems related to flexibility and changeability as well as the correlating challenges have not yet been solved satisfactorily.

Thus, this paper contributes a new, more effective and efficient method in the evaluation of production system flexibility by generating a new connected database. The newly developed solution consists of a draft for a process model with an embedded innovative concept for the assessment of flexibility. This newly developed task-based assessment concept facilitates a complete as well as speedy assessment of the main types of production flexibility and thereby lays the foundation of a permanent ability for instantaneous planning. This offers the opportunity for a comparative, multicriteria evaluation of different future scenarios and embraces the idea of assistance systems as a means of decision support.