Process Planning Optimization In Reconfigurable Manufacturing Systems - Farayi Musharavati

To date, reconfigurable manufacturing systems (RMSs) are among the most effective manufacturing styles that can offer manufacturers an alternative way of facing up to the challenges of continual changes in production requirements within the global, competitive and dynamic manufacturing environments. However, availability of optimal process plans that are suitable for reconfigurable manufacturing is one of the key enablers - yet to be fully unlocked - for realizing the full benefits of true RMSs. To unlock the process planning key and advance the state of art of reconfigurable manufacturing in the manufacturing industry, a number of questions need to be answered: (i) what decision making models and (ii) what computational techniques, can be applied to provide optimal manufacturing process planning solutions that are suitable for logical reconfiguration in manufacturing systems? To answer these questions, you must understand how to model reconfigurable manufacturing activities in an optimization perspective. You must also understand how to develop and select appropriate optimization techniques for solving process planning problems in manufacturing systems. To this end, Process Planning Optimization in Reconfigurable Manufacturing Systems covers: the design and operation of RMSs, optimal process planning modelling for reconfigurable manufacturing and the design and implementation of heuristic algorithm design techniques. The author explores how to: model optimization problems, select suitable optimization techniques, develop optimization algorithms, comparatively analyze the performance of candidate metaheuristics and how to investigate the effects of optimal process planning solutions on operating levels in manufacturing systems. This book delineates five alternative heuristic algorithm design techniques Â” based on simulated annealing, genetic algorithms and the boltzmann machine Â” that are tasked to solve manufacturing process planning optimization problems in RMSs. After reading this book, you will understand: how a reconfigurable manufacturing system works, the different types of manufacturing optimization problems associated with reconfigurable manufacturing, as well as the conventional and intelligent techniques that are suitable for solving process planning optimization problems. You will also be able to develop and implement effective optimization procedures and

algorithms for a wide spectrum of optimization problems in design and reconfigurable manufacturing.Author: Musharavati, Farayi Publisher: Dissertation.Com Illustration: N Language: ENG Title: Process Planning Optimization in Reconfigurable Manufacturing Systems Pages: 00198 (Encrypted PDF) On Sale: 2013-01-01 SKU-13/ISBN: 9781599423593 Category: Technology & Engineering : Engineering (General)

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