

STELLENAUSSCHREIBUNG

Bachelorarbeit, Masterarbeit, Studentische Abschlussarbeit

AUCTION DESIGN FOR FLEXIBLE JOB SHOP SCHEDULING PROBLEMS

UMFELD

Manufacturing as a Service is a new paradigm, in which a manufacturer don't sell manufactured goods but the manufacturing process itself. As manufacturing becomes more and more a commodity, it is now possible to trade machine capacities. This challenges the organization of production, which is traditionally centralized and has to solve the flexible job shop scheduling problem (FJSP, see [1]) – one of the hardest combinatorial problems known. In future, a smart market takes the role of the planer. This smart market [2] optimizes on the economical aspects while ensuring the allocation of a feasible and as-good-as-possible solution to the combinatorial constraints.

AUFGABEN

The aim of this thesis is to design a functional auction mechanism to determine prices and allocation in a holonic manufacturing system [3] modeled as FJSP. The complex service auction [4], energy markets, or other appropriate analogues as well as preliminaries in the field [5]–[7] may inspire the auction mechanism. An evaluation of the market can be done e.g. by simulation.

WIR BIETEN

This thesis is written at FZI in corporation with Festo. This thesis is not an external thesis.

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WEITERE INFORMATIONEN

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