

# **Deadlock Control in Flexible Manufacturing with a distributed control scheme**

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## **ABSTRACT**

In flexible manufacturing system, resource sharing is used to increase manufacturing system performance. However, this arises problem such as system deadlock. A system deadlock is a situation where all components of FMS can never operate. Until now, most of FMS control studies have ignored it. This is because of the dynamic properties of FMS control and the lack of information for shop floor status. In this research, Petri Net models are applied to FMS modeling in order to handle system deadlock phenomena. The intents of this research are two-folded. Those are, first, to present a method for FMS deadlock control that utilizes Petri Net-based model for FMS and secondly, to develop various kinds of deadlock control algorithms.