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Linear optimization for dynamic selection of resources in constrained assembly line balancing problems

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Abstract

Assembly line balancing problems have been much investigated in the last decades. Most work affects static problems in which process times and resources are known in advance due to the complexity and diversity of such problems. However, the past has shown that static resource allocation for dynamic process scheduling is insufficient due to volatile market demands required by the reconfigurable production paradigm. Consequent change of resource selection by production requests affect feasible assembly lines. This paper introduces a mixed integer programming based linear optimization approach for solving the dynamic resource allocation for assembly lines modelled as Assembly Line Balancing Problem.

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