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Abstract: We present an ant-based algorithm to solve multi-level capacitated lot-sizing problems. We apply a hybrid approach where we use the ant system to optimize the decomposition of the problem into smaller subproblems. These subproblems, containing only a few items and periods, are solved using CPLEX. Then the overall solution is derived by consolidating the partial solutions. This hybrid approach provides superior results with respect to solution quality in comparison with the existing approaches in the literature.

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Buschkuhl L, Sahling F, Helber S, et al. Dynamic capacitated lot-sizing problems: a classification and review of solution approaches OR SPECTRUM 32 2 231-261 APR 2010

Almeder C A hybrid optimization approach for multi-level capacitated lot-sizing problems EUROPEAN JOURNAL OF OPERATIONAL RESEARCH 200 2 599-606 JAN 16 2010

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