Proposal of an Invited Session on “Inventory Routing Problems” by Luca Bertazzi and Demetrio Laganà

In the last decades companies increased their interest in optimizing supply chains. The spread of globalization and the development of information and communication technologies stimulated research towards the development of integrated logistics models, with the aim of reducing the total cost, thanks to a better coordination of the operations. Static and dynamic optimization models have been formulated and solved. The optimization problem that integrates Vendor Management Inventory with routing is the well–known Inventory Routing Problem (IRP). In comparison to the classical Vehicle Routing Problem (V RP), the IRP shows an added complexity due to the integration of the inventory component into a multi-period decisional process. For the deterministic setting, mixed integer linear programming models are formulated and solved exactly by branch-and-cut algorithms and heuristically by heuristics, metaheuristics and matheuristics. For the stochastic/robust setting, exact and approximate dynamic programming algorithms are designed.

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