

Support for Planning of Mobile Personnel Tasks by Solving Time-Dependent Routing Problems

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Abstract : Implementation concepts of a decision support system for planning and management of mobile personnel tasks (sales representatives and others) are discussed. Large-scale periodic time-dependent vehicle routing and scheduling problems with complex constraints are solved for this purpose. Complex nonuniform constraints with respect to frequency, time windows, working time, etc. are taken into account with additional fast adaptive procedures for operational rescheduling of plans in the presence of various disturbances. Five individual solution quality indicators with respect to a single personnel person are considered. This paper deals with modeling issues corresponding to the problem and general solution concepts. The research was supported by the European Union through the European Regional Development Fund under the Operational Programme 'Innovative Economy' for the years 2007-2013; Priority 1 Research and development of modern technologies under the project POIG.01.03.01-14-076/12: 'Decision Support System for Large-Scale Periodic Vehicle Routing and Scheduling Problems with Complex Constraints.'

Keywords : mobile personnel management, multiple criteria, time dependent, time windows, vehicle routing and scheduling

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