Record Nr. UNINA9910438066903321 Autore Ferrucci Francesco Titolo Pro-active Dynamic Vehicle Routing: Real-Time Control and Request-Forecasting Approaches to Improve Customer Service / / by Francesco Pubbl/distr/stampa Berlin, Heidelberg:,: Springer Berlin Heidelberg:,: Imprint: Physica,, 2013 3-642-33472-5 **ISBN** Edizione [1st ed. 2013.] Descrizione fisica 1 online resource (355 p.) Collana Contributions to Management Science, , 1431-1941 388.324042 Disciplina Soggetti Operations research **Decision making** Production management Sales management Computer simulation Operations Research/Decision Theory **Operations Management** Sales/Distribution Simulation and Modeling Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Introduction -- Introduction to Tour Planning: Vehicle Routing and Nota di contenuto Related Problems -- The Considered RDOPG Applications -- Review of the Literature Related to the Considered RDOPG Applications -- A New Deterministic Real-Time Control Approach for RDOPG Applications.- A New Forecasting Approach for Generating Stochastic Knowledge.- The Proposed Tabu Search Solution Method. -- Computational Results --Summary and Outlook on Future Work -- Appendix --References. Sommario/riassunto This book deals with transportation processes denoted as the Realtime Distribution of Perishable Goods (RDOPG). The book presents three contributions that are made to the field of transportation. First, a model considering the minimization of customer inconvenience is

formulated. Second, a pro-active real-time control approach is

proposed. Stochastic knowledge is generated from past request information by a new forecasting approach and is used in the proactive approach to guide vehicles to request-likely areas before real requests arrive there. Various computational results are presented to show that in many cases the pro-active approach is able to achieve significantly improved results. Moreover, a measure for determining the structural quality of request data sets is also proposed. The third contribution of this book is a method that is presented for considering driver inconvenience aspects which arise from vehicle en-route diversion activities. Specifically, this method makes it possible to restrict the number of performed vehicle en-route diversion activities.