Transport Science and Technology

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PREFACE

Transportation evolved in the past 30 years as a self standing field of research and education. This book and the conference from which we extracted a sample of presented papers showcase this unique nature of transportation practice and research. The conference Transportation Science and Technology Congress (TRANSTEC) ATHENS 2004 was held in September 1-5, 2004, at the landmark Athens Hilton Hotel, following the Athens 2004 Olympic Games. Dedicated to the truly Olympic achievements of our transportation profession, this book illustrates creativity and innovation in science and technology.

TRANSTEC's objectives were to assemble a wide range of case studies, motivate collaborations among professionals that do not usually meet in other venues, identify themes and methods that are shared by different specialties, and gather specialists to celebrate the science and technology excellence creating a unique forum for exchange of ideas across the entire spectrum of the transportation industry. There were 85 presentations and workshops from 24 countries and 150 attendees.

There are five groups of chapters in this book that start with a selection of review contributions describing the state of the art in simulation, capacity and traffic operations, soft computing for modeling and simulation, and innovations in transportation materials research. This is followed by a section dedicated to the host country illustrating the context within which the Olympic Games were planned and delivered, the solutions to transportation problems and impressive technologies employed leading to the most successful Olympic Games. The remaining three sections take us to an exciting trip around the world showcasing first the importance of human-centered designs in the section on "systemic and systematic approaches to human performance and behavior." Then, as a reflection of today's information era a group of chapters shows the pioneering science and technology role of transport systems in the section on "information systems, communication, management, and control." The final section offers a rich set of complex solutions on "logistics, supply chains, and intermodal systems" and includes contributions from maritime transportation.

There is no doubt the TRANSTEC success is due to the persons that worked hard to make it a reality. First of all, the impeccable conference organization characterized by a uniquely Hellenic hospitality and warmth is due to the ALVIA DMC and the creative genius of Nassos Stevenson. Inspirational guidance and support also came from Konstantinos Zekkos of "DROMOS" Consulting Ltd who also ensured the attendance of many of our local colleagues. The warm welcome and insights about the transportation and tourism relationship of the Deputy Minister of Tourism Anastasios Liaskos set the stage for a memorable experience.

As always a successful meeting is due to its scientific committees. TRANSTEC was fortunate to have Chandra Bhat (University of Texas), Lily Elefteriadou (University of Florida), George A. Giannopoulos (Aristotle University of Thessaloniki), Dimitrios G. Goulias (University of Maryland), Loukas Kalisperis (The Pennsylvania State

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University), Assad Khattak (University of North Carolina), Ryuichi Kitamura (Kyoto University), Hani S. Mahmassani (University of Maryland), John M. Mason, Jr. (The Pennsylvania State University), Mirko Novak (Czech Technical University of Prague), Ram M. Pendyala (Arizona State University), Konstantinos M. Zekkos ("DROMOS" Consulting Ltd), and Athanassios K. Ziliakopoulos (University of Thessaly).

Many thanks to all new and old friends that made TRANSTEC and this book possible.

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The conference participants at the Athens Hilton conference site overlooking the Acropolis