

Lecture Notes in Mobility

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Road Vehicle Automation 3

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Preface

Higher-level automated driving keeps moving at full speed toward implementation: Universities are researching solutions for environmental perception, vehicle localization, and human interaction. Companies develop new vehicle and service concepts for automated driving and start providing automated driving functions via over the air software upgrades. Governments are working on the necessary regulatory frameworks; for instance, just very recently, NHTSA decided to interpret software as the “driver” of a self-driving car.

Still, many challenges remain and require more work, for instance, automated driving in mixed traffic, the security of sensitive vehicle data, the need for a common language and for a joint strategy of the automotive and IT sectors. However, now is the time for extended testing and piloting of high-level automated driving under real-time conditions, particularly in the complexity of an urban environment, or across borders, and in consideration of multiple vehicle types.

In this context, it is a great honor for us to edit the Road Vehicle Automation books that are published under the umbrella of the Springer series Lecture Notes in Mobility. The book at hand is the third volume. It summarizes the lively discussions on the political, behavioral, technical, and organizational issues of automated driving that took place at the Automated Vehicles Symposium (AVS) 2015 in Ann Arbor, Michigan (USA). Many speakers and breakout session organizers kindly contributed chapters to this book, for which we would like to thank them sincerely on behalf of all readers. This gives researchers, engineers, and decision-makers a unique opportunity to refer to presentations and discussions after the conference, carry on their own work, and educate others on one of the most transformational transportation trends of our times.

We are proud to say that, thanks to the high quality of the contributions, the comprehensiveness of the topics covered, and the availability on the Internet and in university libraries worldwide, the Road Vehicle Automation books are having quite an impact on the current expert’s discussions on automated driving. The fact

that as of today, Road Vehicle Automation 1 and 2 have gotten already 35 and 10 thousand downloads, respectively, documents the relevance of this series in an impressive way. This success motivates us to further continue the series.

We are particularly grateful to the organizers of the AVS 2015, the Transportation Research Board (TRB), and the Association for Unmanned Vehicle Systems International (AUVSI), for their kind support. Special thanks go to Jane Lappin, Steve Shladover, and Bob Denaro from TRB for working with us on this publication. Furthermore, we would like to thank Jan-Philip Schmidt from Springer and Jakob Michelmann from VDI/VDE-IT for all their support during the editorial processes.

Berlin, Germany
Palo Alto, USA
May 2016

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Contents

Introduction: The Automated Vehicles Symposium 2015	1
Steven E. Shladover, Jane Lappin and Robert P. Denaro	
Part I Public Sector Activities	
A National Project in Japan: Innovation of Automated Driving for Universal Services	15
Hajime Amano and Takahiko Uchimura	
Accessible Transportation Technologies Research Initiative (ATTRI)—Advancing Mobility Solutions for All	27
Mohammed Yousuf, Jeffrey Spencer, Robert Sheehan and Louis Armendariz	
DOE SMART Mobility: Systems and Modeling for Accelerated Research in Transportation	39
Reuben Sarkar and Jacob Ward	
Automated Driving Policy	53
Bryant Walker Smith	
How Local Governments Can Plan for Autonomous Vehicles	59
Lauren Isaac	
Part II Human Factors and Challenges	
Shifting Paradigms and Conceptual Frameworks for Automated Driving	73
Patrice Reilhac, Nick Millett and Katharina Hottelart	
Truck Automation: Testing and Trusting the Virtual Driver	91
Steven Underwood, Daniel Bartz, Alex Kade and Mark Crawford	

Automated Vehicles: Take-Over Request and System Prompt Evaluation	111
Myra Blanco, Jon Atwood, Holland M. Vasquez, Tammy E. Trimble, Vikki L. Fitchett, Joshua Radlbeck, Gregory M. Fitch and Sheldon M. Russell	
Motion Sickness in Automated Vehicles: The Elephant in the Room	121
Cyriel Diels, Jelte E. Bos, Katharina Hottelart and Patrice Reilhac	
Potential Solutions to Human Factors Challenges in Road Vehicle Automation	131
Bobbie D. Seppelt and Trent W. Victor	
Part III Ethics, Energy and Technology Perspectives	
Connected Autonomous Vehicles: Travel Behavior and Energy Use	151
Jonathan Rubin	
The Socio-Economic Impact of Urban Road Automation Scenarios: CityMobil2 Participatory Appraisal Exercise	163
Carlo Sessa, Adriano Alessandrini, Maxime Flament, Suzanne Hoadley, Francesca Pietroni and Daniele Stam	
Synergies of Connectivity, Automation and Electrification of Road Vehicles	187
Gereon Meyer	
Part IV Vehicle Systems and Technologies Development	
Connected Truck Automation	195
Joshua P. Switkes and Steve Boyd	
Validation and Verification of Automated Road Vehicles	201
Venkatesh Agaram, Frank Barickman, Felix Fahrenkrog, Edward Griffor, Ibro Muharemovic, Huei Peng, Jeremy Salinger, Steven Shladover and William Shogren	
Trustworthy Foundation for CAVs in an Uncertain World: From Wireless Networking, Sensing, and Control to Software-Defined Infrastructure	211
Hongwei Zhang, Le Yi Wang, George Yin, Shengbo Eben Li, Keqiang Li, Jing Hua, Yeuhua Wang, Chuan Li and Hai Jin	
Enabling Technologies for Vehicle Automation	225
Mohammed Yousuf, Daniel J. Dailey, Sudharson Sundararajan and Ram Kandarpa	

Technical Evaluation and Impact Assessment of Automated Driving 237
Felix Fahrenkrog, Christian Rösener, Adrian Zlocki and Lutz Eckstein

Part V Transportation Infrastructure and Planning

Integrated Traffic Flow Models and Analysis for Automated Vehicles 249
Bart van Arem, Montasir M. Abbas, Xiaopeng Li, Larry Head, Xuesong Zhou, Danjue Chen, Robert Bertini, Stephen P. Mattingly, Haizhong Wang and Gabor Orosz

Beyond Single Occupancy Vehicles: Automated Transit and Shared Mobility 259
Rongfang (Rachel) Liu, Daniel J. Fagnant and Wei-Bin Zhang

Vulnerable Road Users: How Can Automated Vehicle Systems Help to Keep Them Safe and Mobile? 277
Alma Siulagi, Jonathan F. Antin, Lisa J. Molnar, Sue Bai, Seleta Reynolds, Oliver Carsten and Ryan Greene-Roesel

Implications of Vehicle Automation for Planning 287
Sivaramakrishnan Srinivasan, Scott Smith and Dimitris Milakis