Lecture Notes in Mobility

Series editor

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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.

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