
Preface UR:BAN MV

This book contains the results of the research project UR:BAN “Human Factors in Traffic”. The complex interaction of various road users in city settings with future driver assistance and driver information systems, makes this research project unique.

Since the beginning of the research project, the actual research activity and the appearance of this book, the development of driver assistance systems for various reasons has drastically accelerated and the first automated driving features have already been developed. Undoubtedly, future technical development of sensors and algorithms will lead to a rise of driver assistance functionality. To benefit traffic safety, transport efficiency and user comfort, special efforts in human factors are required make these systems usable, useful and controllable for the broad variety of traffic participants.

The work presented in this book shows that, first and foremost, the use of driver assistance systems and automated systems in urban areas requires special care and methodology in design and evaluation. For the whole team of UR:BAN Human Factors in Traffic, these aspects were the center of their activities. Interaction design, methodological and technical topics were considered in cooperation with the accompanying UR:BAN projects: Cognitive Assistance and Networked Traffic System. The various contributions from five subprojects report a variety of experiments in various experimental vehicles and simulators, and developments in the field of examination and evaluation methods developed for this purpose. Moreover, the shift to urban traffic situations showed that a systemization of traffic scenarios where users use driver assistance and information systems is required for such research. Additionally, guidance regarding assistance systems and beyond are provided. It is increasingly important to understand the behaviour of weaker road users who interact in traffic with these assistance systems and in future automated systems. The investigations presented here, in simulators and field observations, represent an important foundation for future technology.

We greatly thank the Federal Ministry for Economic Affairs and Energy for their willingness to promote and support these activities over a period of four years, in a broad cooperation of partners from industry, universities and research institutes. This led to unique project in this area of research, bringing basic research results to application in industrial processes.

My thanks go to the team of coeditors, leaders of the sub-project and the group of authors contributing to this book. We thank Springer for their willingness to publish this book. First and foremost, we thank Mrs. Elisabeth Lange and Mr. Axel Garbers for their very good and insightful service and Walter Scholl and Susanne Bohnacker for leading the Project Office that supported us in an outstanding way. My personal thanks go to Christian Lehning for his excellent support in project management and Armin Eichinger for his support during the project planning phase. Both are reflected in this book by the diversity and quality of the results obtained. Also I want to thank Martin Götze for guiding the publishing process of this work, conducted in parallel to his various research activities. His excellent management skills in addition to his research activities deserve special thanks.

I also thank leaders and employees of the neighboring projects: Cognitive Assistance and Networked Traffic System. Thank you, Ulrich Kressel, Michael Ortgiese and Stefan Feit for a great cooperation that we will remember for a long time. This network and cooperation was engaged and motivated by our excellent project coordinator Eberhard Hipp.

This book shall make the results and methodological findings achieved in this project available to a wide national and international readership. The versatile author teams will inspire more cooperation and remind the contributors of a superb and inspirational project time and research. Thus, this book also serves to motivate and inform interested persons on the potential of human factors.

UR:BAN Human Factors in Traffic
Approaches for Safe, Efficient and Stress-free Urban
Traffic

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