

**Unsettled Issues
Regarding Visual
Communication Between
Automated Vehicles
and Other Road Users**

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Unsettled Issues Regarding Visual Communication Between Automated Vehicles and Other Road Users

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Printed in USA

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EPR2021016

ISSN 2640-3553

e-ISSN 2640-3544

ISBN 978-1-4606-0349-1

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About the Editor



Sven Beiker, PhD, is the Founder and Managing Director of Silicon Valley Mobility, a mobility consulting and advisory firm that specializes in technical diligence, product roadmaps, and business models for mobility topics. The engagements span start-ups, investors, and corporations in the mobility and adjacent industries. In addition, Dr. Beiker is a lecturer at the Graduate School of Business at Stanford University, where he instructs students on strategies for start-ups and corporations in the field of automated, connected, electrified, and shared mobility.

With well over 20 years of experience gained during his tenure at McKinsey and Company, Stanford University, and the BMW Group, Dr. Beiker is dedicated to the future of the automobile and personal mobility. His mission is to improve sustainability, safety, efficiency, and convenience in vehicles and how consumers use them. He combines perspectives from technology, business, policy, and human factors.

Dr. Beiker also serves on advisory boards of several start-ups in the mobility space, as an advisor to the German American Chamber of Commerce in San Francisco, and as an advisor/co-editor to the Lecture Notes in Mobility of Springer Science+Business Media. He is a continuing contributor to the SAE EDGE Research Report series.

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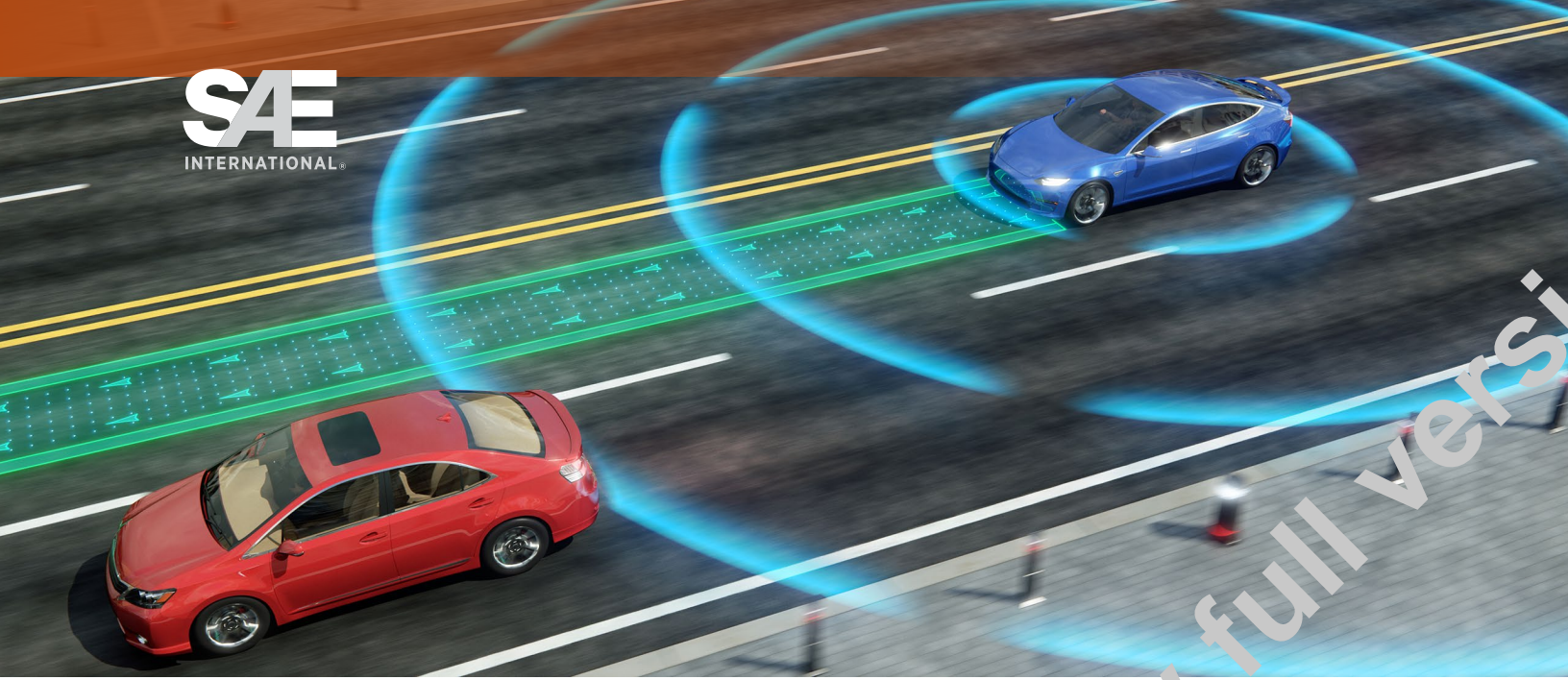
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Unsettled Issues Regarding Visual Communication Between Automated Vehicles and Other Road Users

Abstract

Automated road vehicles are about to begin their deployment into public traffic, and they will encounter human-driven vehicles, pedestrians, bicyclists, etc. with which they will need to interact for purposes of traffic flow and coordination. This requires some form of communication between those automated vehicles (AVs) and other road users, for which general aspects of visual, auditory, motion, and other modes of communication were already discussed in the preceding SAE EDGE Research Report, “Unsettled Issues Regarding Communication of Automated Vehicles with Other Road Users.”

Visual communication has particular strengths for communicating between road users as it strikes a balance between reach, clarity, intuitiveness, and other communication aspects. However, visual communication means can range from a simple light to rich text or graphics information. Therefore, this report discusses the different modes of visual communication and how they can be used for communication between AVs and other road users. A particular emphasis is put on standardization to highlight how uniformity and precedence help to increase the efficacy of communication means, and to discuss what a standardization process could look like.

SAE EDGE™ Research Reports are intended to identify and illuminate key issues emerging, but still unsettled, technologies of interest to the mobility industry. The goal of SAE EDGE™ Research Reports is to stimulate discussion and work in the hope of promoting and speeding resolution of identified issues. These reports are not intended to resolve the challenges they identify or close any topic to further scrutiny.

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ISSN 2640-3536