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Titolo	Vehicular ad hoc Networks : Standards, Solutions, and Research // edited by Claudia Campolo, Antonella Molinaro, Riccardo Scopigno
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Descrizione fisica	1 online resource (543 p.)
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Soggetti	Electrical engineering Computer networks Signal processing Image processing Speech processing systems Automobiles - Design and construction Transportation Communications Engineering, Networks Computer Communication Networks Signal, Image and Speech Processing Automotive Engineering
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	The History of Vehicular Networks -- Standardization and Harmonization Activities towards a global C-ITS -- The Physical layer of VANETs -- The MAC Layer of VANETs -- Message Sets for Vehicular Communications -- Decentralized Congestion Control Techniques for VANETs -- Multi-Channel Operations, Coexistence and Spectrum Sharing for Vehicular Communications -- Forwarding in VANETs: GeoNetworking -- The Use of IPv6 in Cooperative ITS: Standardization

Viewpoint -- Security and Privacy for ITS and C-ITS -- Mobility Models for Vehicular Communications -- Channel Models for Vehicular Communications -- Simulation Tools and Techniques for Vehicular Communications and Applications -- Field Operational Tests and Deployment Plans -- Insights into Possible VANET 2.0 Directions -- LTE for Vehicular Communications -- Information-Centric Networking for VANETs -- Future Applications of VANETs.

Sommario/riassunto

This book presents vehicular ad-hoc networks (VANETs) from their onset, gradually going into technical details, providing a clear understanding of both theoretical foundations and more practical investigation. The editors gathered top-ranking authors to provide comprehensiveness and timely content; the invited authors were carefully selected from a list of who's who in the respective field of interest: there are as many from Academia as from Standardization and Industry sectors from around the world. The covered topics are organized around five Parts starting from an historical overview of vehicular communications and standardization/harmonization activities (Part I), then progressing to the theoretical foundations of VANETs and a description of the day-one standard-compliant solutions (Part II), hence going into details of vehicular networking and security (Part III) and to the tools to study VANETs, from mobility and channel models, to network simulators and field trial methodologies (Part IV), and finally looking into the future of VANETs by investigating alternative, complementary communication technologies, innovative networking paradigms and visionary applications (Part V). The way the content is organized, with a differentiated level of technical details, makes the book a valuable reference for a large pool of target readers ranging from undergraduate, graduate and PhD students, to wireless scientists and engineers, to service providers and stakeholders in the automotive, ITS, ICT sectors.
