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Nota di contenuto	Military Communications in the Future Battlefield; Contents; Preface; 1 Introduction; 1.1 Information-Centric Warfare; 1.1.1 Two-Sided War Games in the Development of Operational Excellence and Future Capability Requirements; 1.1.2 Characteristics of Future Operating Environments; 1.2 Implications of Technology Development on Command and Control Functionality; 1.2.1 Implications of Cross-Cutting Technologies on Command and Control Functionality; 1.2.2 Command and Control in Network-Centric Environment Challenged by Autonomous Systems and Cyber Activities. 1.3 Contents of the Following Chapters in This BookReferences; 2 Scenario-Based Capability Planning in C2 Context; 2.1 C2-Related Definitions; 2.2 C2 and Network-Centric Warfare; 2.3 Capability-Based Planning and Threat-Based Planning; 2.4 Capability-Based and Threat-Based Planning from the C2 Perspective; 2.5 Key Military Definitions from an Operational Perspective; 2.6 Joint Capability Areas; 2.7 Joint Capability Areas in Identification of the Most Important Requirements; 2.8 Military Communications Scenario in the Future Battlefield. 2.8.1 Characteristics of a Military Communications Scenario in Scarcely Populated Areas2.8.2 Characteristics of a Military Communications Scenario in Rural Areas; 2.8.3 Characteristics of a Military Communications Scenario in Suburban Areas; 2.8.4 Characteristics of a Military Communications Scenario in Urban Areas; 2.8.5 Description of Fictitious Military Communications Scenario in the Future Battlefield;

References; 3 Communications Systems; 3.1 Requirements for Military Communications; 3.1.1 Command-on-the-Move; 3.1.2 Electromagnetic Spectrum.

3.1.3 Importance of Redundancy, Radio Silence, and Several Communications Alternatives 3.2 Communications Chain; 3.2.1 Communications Transmitters; 3.2.2 Communications Receivers; 3.2.3 Spread Spectrum Systems; 3.2.4 Communications Antennas; 3.3 Generic Parameters and Characteristics of Selected Civilian Communications Systems and Military Radios; 3.3.1 Military Communications Systems; 3.3.2 Short-Range Civilian Communications Systems; 3.3.3 Long-Range Cellular Communications Sys; References; 4 Situational and Context Awareness; 4.1 Context Awareness. 4.2 Interaction with Smart Objects in Location- and AR-Based Applications 4.2.1 Close-Range Interaction with Smart Objects; 4.2.2 Short-Range Interaction with Smart Objects; 4.2.3 Long-Range Interaction with Smart Objects; 4.3 Location-Based AR Applications; 4.4 Dual-Use AI-Supported Situational Awareness; 4.5 Context-Aware Military AR Applications for Improved Situational Awareness; 4.5.1 Situational Awareness Support Based on AR; 4.5.2 AR Support for Finding Communications Opportunities; References; 5 Radio Wave Propagation; 5.1 RF Propagation Phenomena in Wireless Communications Medi.

Sommario/riassunto

Taking an applications-oriented view, this unique volume delivers a forward-looking roadmap to military communications. This hands-on reference offers military and security technology practitioners insights into the key issues related to long-term development within the battlefield communications area. The book presents the technological alternatives for communication in the battlefield in unexpected situations and environments. This authoritative resource discusses unstructured formations of actors using a holistic approach that considers key capability requirements. Professionals and officers learn how to prepare for the unexpected and start building agile, adaptive and cognitive systems that are needed in future operating environments. From scenario-based capability planning ... to situational and context awareness ... to unmanned ground and aerial platforms, this easy-to-understand book covers the critical topics that practitioners need to master to achieve top performance in the battlefield.
