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Nota di contenuto	Introduction -- Introduction to 6G -- Part I: 6G vision and driving forces -- IMT vision for 2030 and beyond -- Use cases, applications, and services -- Technology trends -- Network capabilities -- Digital inclusion -- Connected sustainable world -- Ubiquitous intelligent connected society -- Part II: Enabling technologies for 6G communications -- Waveforms -- Modulations -- Channel coding -- Multiple access schemes -- Ultra-massive MIMO -- Distributed MIMO -- Terahertz communication -- Joint communication and sensing -- Reconfigurable intelligent surface -- Full duplex -- Ultra-low latency communications -- Visible light communication -- Orbital angular momentum -- AI-native air interface -- Part III: Network evolution towards 6G -- Network disaggregation -- Edge computing -- AI-native network architecture -- Semantic communications & networking -- Deterministic network -- Green networking -- UAV networking --

Integrated terrestrial and non-terrestrial networks -- Convergence of 6G and Wi-Fi networks -- Network security and trustworthiness -- Conclusion.

Sommario/riassunto

This book begins with a historical overview of the evolution of mobile technologies and addresses two key questions: why do we need 6G? and what will 6G be? The remaining chapters of this book are organized into three parts: Part I covers the foundation of an end-to-end 6G system by presenting 6G vision, driving forces, key performance indicators, and societal requirements on digital inclusion, sustainability, and intelligence. Part II presents key radio technology components for the 6G communications to deliver extreme performance, including new radio access technologies at high frequencies, joint communications and sensing, AI-driven air interface, among others. Part III describes key enablers for intelligent 6G networking, including network disaggregation, edge computing, data-driven management and orchestration, network security and trustworthiness, among others. This book is relevant to researchers, professionals, and academics working in 5G/6G and beyond. Provides an accessible but complete tutorial on the fundamentals of 6G communications and networking. Includes an explanation of the key radio technology components for the 6G communications to deliver extreme performance. Presented in tutorial applications-driven style by invited leading experts from both academia and industry.
