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Nota di contenuto	Part 1 Thinking Swarm: Foundations -- Chapter 1 Thinking about Thinking Swarms -- Chapter 2 Understanding the Roots of Swarm Intelligence in Defence to Find the Path Forward: A Scientometric Study of Autonomous Systems -- Chapter 3 Definitions, Sources and Categorisations for Thinking Swarms -- Chapter 4 A Philosophical Analysis of "Thinking Swarms" -- Chapter 5 Robots as Research and Drones as War: Unpacking Metaphors from Media Coverage of Swarm Technology -- Part 2 Thinking Swarm: Behaviour -- Chapter 6 Swarm Hermeneutics: A Preliminary Review -- Chapter 7 Identifying and Predicting Hidden Coordinated Behaviour Using Synthetic Language Narrative Models -- Chapter 8 Intelligent Swarming Narratives: Situating 'Noise' within Interacting Information Fields -- Chapter 9

Regulating Maritime Autonomous Swarms -- Chapter 10 An Approach to the Legal Review of Autonomous Swarms: The legal implications for designing thinking swarms in armed conflict -- Part 3 Thinking Swarm: Topology and Architecture -- Chapter 11 Cognitive Architecture of Aware System of Systems -- Chapter 12 Trochoids: Spirograph, Multi-agent Formation and Beyond -- Chapter 13 The Barriers and Opportunities of Effective Underwater Autonomous Swarms -- Part 4 Thinking Swarm: Cognition -- Chapter 14 Introducing Lifelong Learning in Swarm Robotics -- Chapter 15 Learner-centred, Teacher-centred and Blended Curriculum Design in Swarm Systems -- Chapter 16 Hyper-teaming: Adaptive Teaming and Coordination of Multi-domain Autonomous Robotic Systems -- Part 5 Thinking Swarm: Way Forward -- Chapter 17 Future Directions.

Sommario/riassunto

This open access book is a multidisciplinary examination of swarm systems including swarm robotics. The book starts with a multidisciplinary consultation performed by the editors with participants from academia, industry and government. The consultation suggested four themes forming parts one to four and grouping the first 16 chapters. Part 1 contains definitions, categorisations and metaphors of swarm systems. Part 2 zooms-in with a behavioural lens on interpretations, narrative theory, and legal frameworks. Part 3 sheds a topological light on cognitive architectures and formations. Part 4 illumines cognitive dimensions on swarm lifelong and curriculum learning and hyper-teaming of swarm systems. The book concludes with future research directions in Part 5. The book is suitable for graduate students and researchers looking for inspiration and novel ideas to explore, or those attempting to understand the diversity of challenges in advanced swarm systems. Examines research pathways and obstacles to making robotics swarms smarter; Explores the multidisciplinary opportunities and challenges when making robotics swarms smarter; Discusses the humanity-technology spectrum of swarm systems from various lenses; This is an open access publication.
