

1. Record Nr.	UNINA9910484144403321
Autore	Gibson I (Ian)
Titolo	Additive Manufacturing Technologies / / by Ian Gibson, David Rosen, Brent Stucker, Mahyar Khorasani
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2021
ISBN	9783030561277 3030561275
Edizione	[3rd ed. 2021.]
Descrizione fisica	1 online resource (XXIII, 675 p. 317 illus., 255 illus. in color.)
Disciplina	670.427 670.4275
Soggetti	Engineering design Manufactures Nanotechnology Engineering Design Machines, Tools, Processes
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1. Introduction and Basic Principles -- Chapter 2. Development of Additive Manufacturing Technology -- Chapter 3. Generalized Additive Manufacturing Process Chain -- Chapter 4. Vat Photopolymerization -- Chapter 5. Powder Bed Fusion -- Chapter 6. Material Extrusion -- Chapter 7. Material Jetting -- Chapter 8. Binder Jetting -- Chapter 9. Sheet Lamination -- Chapter 10. Directed Energy Deposition -- Chapter 11. Direct Write Technologies -- Chapter 12. Hybrid Additive Manufacturing -- Chapter 13. The Impact of Low-Cost AM Systems -- Chapter 14. Material for Additive Manufacturing -- Chapter 15. Guidelines for Process Selection -- Chapter 16. Post-processing -- Chapter 17. Software for Additive Manufacturing -- Chapter 18. Direct Digital Manufacturing -- Chapter 19. Design for Additive Manufacturing -- Chapter 20. Rapid Tooling -- Chapter 21. Industrial Drivers for AM Adoption -- Chapter 22. Business and Social Implications of AM.
Sommario/riassunto	This textbook covers in detail digitally-driven methods for adding

materials together to form parts. A conceptual overview of additive manufacturing is given, beginning with the fundamentals so that readers can get up to speed quickly. Well-established and emerging applications such as rapid prototyping, micro-scale manufacturing, medical applications, aerospace manufacturing, rapid tooling and direct digital manufacturing are also discussed. This book provides a comprehensive overview of additive manufacturing technologies as well as relevant supporting technologies such as software systems, vacuum casting, investment casting, plating, infiltration and other systems. Reflects recent developments and trends and adheres to the ASTM, SI and other standards; Includes chapters on topics that span the entire AM value chain, including process selection, software, post-processing, industrial drivers for AM, and more. ; Provides a broad range of technical questions to ensure comprehensive understanding of the concepts covered. .
