

1. Record Nr.	UNINA9910813405803321
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Titolo	3d printing for dummies / / by Kalani Kirk Hausman and Richard Horne
Pubbl/distr/stampa	Hoboken, New Jersey : , : John Wiley & Sons, Incorporation, , 2014 ©2014
ISBN	1-118-66068-4 1-118-66077-3
Descrizione fisica	1 online resource (600 p.)
Collana	--For dummies
Altri autori (Persone)	HorneRichard
Disciplina	004.165
Soggetti	Laptop computers
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Cover; Title Page; Table of Contents; Introduction; About This Book; Foolish Assumptions; Icons Used in This Book; How This Book Is Organized; Beyond the Book; Where to Go from Here; Part I: Getting Started with 3D Printing; Chapter 1: Seeing How 3D Printers Fit into Modern Manufacturing; Embracing Additive Manufacturing; Exploring the Applications of 3D Printing; Working with RepRap; Chapter 2: Exploring the Types of 3D Printing; Exploring Basic Forms of Additive Manufacturing; Recognizing Specialized Forms of Additive Manufacturing; Seeing the Limitations of Current Technologies Chapter 3: Exploring Applications of 3D PrintingCreating Objects Directly Using 3D Printing Today; Fabricating Tomorrow Using 3D Printing; Examining Molding and Casting through 3D Printing; Applying Artistic Touches and Personalization; Deploying Technology to Strategic Locations; Part II: Outlining 3D Printing Resources; Chapter 4: Identifying Available Materials for 3D Printing; Enumerating Extruded Materials; Identifying Granular Materials; Plastic powders; Sugar and salt; Metal powders; Sand and natural granular materials; Exploring Photo-Cured Resins; Understanding Bioprinting Bioprinting food and animal productsReplacement tissues and organs; Identifying Alternative Materials; Chapter 5: Identifying Sources for 3D-Printable Objects; Exploring Object Repositories; Designing in the Computer; Scanning Objects; Capturing Structure from Photographs; Preparing Models for Printing; Part III: Exploring the Business Side of 3D

Printing; Chapter 6: Commoditizing 3D Printing; Democratizing Manufacturing; Crafting Personal Storefronts; Creating Impossible Objects; Building New Tools; Chapter 7: Understanding 3D Printing's Effect on Traditional Lines of Business
Transforming ProductionChallenging Intellectual Property Laws; Leveraging Expired Patents; Imposing Ethical Controls; Chapter 8: Reviewing 3D Printing Research; Building Fundamental Technologies; Creating Functional Designs; Expanding Material Selection; Providing for Long Space Voyages; Creating Medical Opportunities; Part IV: Employing Personal 3D Printing Devices; Chapter 9: Exploring 3D-Printed Artwork; Adorning the Body; Personalizing Our Environment; Returning to Personal Creation; Visualizing the Abstract; Chapter 10: Considering Consumer-Level 3D Printers
Examining Cartesian 3D PrintersExploring Delta Options; Understanding Polar Fabrication; Building Emerging Alternatives; Chapter 11: Deciding on a RepRap of Your Own; Evaluating Your 3D-Printing Needs; Open, Closed, and Licensing; Selecting a 3D Printer Design; Choosing Print Media; Identifying Components; Part V: Creating a RepRap 3D Printer; Chapter 12: Assembling Structural Elements; Locating Materials; Obtaining the Printed Parts for Machine Assembly; Understanding the Machine Motion; Building the Frame Structure; Assembling the Prusa i3 Y Axis Frame; Assembling the Moving Axis Sensing the Home Position

Sommario/riassunto

Get started printing out 3D objects quickly and inexpensively! 3D printing is no longer just a figment of your imagination. This remarkable technology is coming to the masses with the growing availability of 3D printers. 3D printers create 3-dimensional layered models and they allow users to create prototypes that use multiple materials and colors. This friendly-but-straightforward guide examines each type of 3D printing technology available today and gives artists, entrepreneurs, engineers, and hobbyists insight into the amazing things 3D printing has to offer. You'll discover
