Record Nr. UNINA9910863189803321 Material Balance: A Design Equation / / edited by Ingrid Paoletti, **Titolo** Massimiliano Nastri Pubbl/distr/stampa Springer International Publishing, 2021 Cham:,: Springer International Publishing:,: Imprint: Springer,, 2021 **ISBN** 3-030-54081-2 Edizione [1st ed. 2021.] Descrizione fisica 1 online resource (VII, 127 p. 38 illus.) Collana PoliMI SpringerBriefs, , 2282-2585 Disciplina 721.04 Soggetti **Energy policy** Energy and state Technological innovations Technology - Sociological aspects Information technology Energy Policy, Economics and Management Innovation and Technology Management **Energy System Transformation** Information and Communication Technologies (ICT) Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia The Material Balance Manifesto. Scientific approach and methodologies Nota di contenuto -- Designing Responsible Material Cultures -- Digital culture and nondesigning approach -- Simulation driven design -- Material Agency and 4D Printing -- Auxetic Materials -- Bespoke knitted textiles for large-scale architectural projects -- Future façade systems. Technological culture and experimental perspectives -- Nature reloaded. Microalgae as future landscape ecology -- Towards an advanced Acoustic Ecology. This book argues that we are living in an era of deep mutation, and the Sommario/riassunto anthropocentric model no longer fits our way of living and behaving on Earth. Climate change is upsetting our relationship with nature and the environment, while artificial intelligence scenarios undermine the

foundations of human life. As the pressure to re-align based on new

modes of living and consuming increases, the first priority should be to address the way we imagine, design, produce and construct our built environment. The highly original book explores how the relation between design technology and material cultures can underpin and drive this change. It discusses the need for a new "material balance" to develop our design practice, not only from an energy and environmental perspective, but also from a physiological, cultural and semantic one, in order to re-balance the impact of material design on society. This publication is an excellent guide to understanding in detail the theoretical framing of several crucial topics in material balance design, from computational knitting to material agency, and from new acoustic ecology to future façade technologies, bio-based design and ultimately non-anthropocentric habitats, offering insights into preferable future scenarios.