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Autore	Cervone Angelo
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Nota di contenuto	Introduction -- Design and Assembly of Efficient Component-Based off-Earth Infrastructure: From Vernacular to Contemporary Form-finding Methods -- Advancing Design-to-Robotic-Production and -Assembly of Underground Habitats on Mars -- Review of Cementless Materials for 3D Printing of off and on-Earth Habitats -- Towards Additive Manufactured off-Earth Habitats with Functionally Graded Multi-materials -- Direct Ink Writing with Lunar Regolith: An Avenue for off-Earth Construction -- Scaling Airborne Wind Energy Systems for Deployment on Mars.-Airborne Wind Energy for Martian Habitats -- Afterword .
Sommario/riassunto	This volume investigates the challenges and opportunities for designing, manufacturing and operating off-Earth infrastructures in order to establish adaptive human habitats. The adaptive aspects are considered with respect to the development of adequate infrastructures

designed to support human activities. Given the limitations in bringing materials from Earth, utilisation of in-situ resources is crucial for establishing and maintaining these infrastructures. Adaptive on-and off-Earth Environments focuses, among other aspects, on the design, production, and operation processes required to build and maintain such off-Earth infrastructures, while heavily relying on In-Situ Resource Utilisation (ISRU). Such design, production, and operation processes integrate cyber-physical approaches developed and tested on Earth. The challenge is to adapt on-Earth approaches to off-Earth applications aiming at technology advancement and ultimately transfer from on- to off-Earth research. This challenge is addressed with contributions from various disciplines ranging from power generation to architecture, construction, and materials engineering involving ISRU for manufacturing processes. All chapters, related to these disciplines, are structured with an emphasis on computing and adaptivity of on-Earth technology to off-Earth applications and vice versa to serve society at large.

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