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Sommario/riassunto	In the five sections of this peer-reviewed edited volume, the design, extraction, processing, mechanical and microstructural considerations, and applications of titanium and its alloys are examined. The design section summarizes techniques for designing materials for high-performance titanium alloys. The extraction section describes the development of extraction technologies that will produce high-purity metallic materials, using the principles of extraction metallurgy. The processing section discusses low-cost preparation technologies for titanium alloys and their applications in sustainable titanium industries. Research progress on the shock response and mechanical properties of titanium alloys, and their microstructural evolution, is dealt with in the section on mechanical properties with microstructural considerations. The final section examines the contribution of titanium applications to the development of sustainability in titanium industries.