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Sommario/riassunto	<p>The present book covers the main challenges, important for future prospects of subsoils extraction as a public effective and profitable business, as well as technologically advanced industry. In the near future, the mining industry must overcome the problems of structural changes in raw materials demand and raise the productivity up to the level of high-tech industries to maintain the profits. This means the formation of a comprehensive and integral response to such challenges as the need for innovative modernization of mining equipment and an increase in its reliability, the widespread introduction of Industry 4.0 technologies in the activities of mining enterprises, the transition to "green mining" and the improvement of labor safety and avoidance of man-made accidents. The answer to these challenges is impossible without involving a wide range of scientific community in the publication of research results and exchange of views and ideas. To solve the problem, this book combines the works of researchers from the world's leading centers of mining science on the development of mining machines and mechanical systems, surface and underground geotechnology, mineral processing, digital systems in mining, mine ventilation and labor protection, and geo-ecology. A special place among them is given to post-mining technologies research.</p>