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Sommario/riassunto	The production and supply of raw materials is a basic ecosystem service, the origin of multiple production value chains. In 2011, the European Union elaborated a list of critical raw materials (CRMs), taking the economic and strategic importance for the European economy and the supply risk. Although focused mainly on the energy sector, the USA, Canada, and other countries took recently similar steps. Despite the great inertia characterising the mineral raw materials sector, some steps towards the Industry 4.0 paradigm can be envisaged. Significant challenges to the mining sector are the appropriate process design using the best available technologies; the increase in energy efficiency; the responsible use of water and handling of mining wastes; the social acceptance of the activity; and the digitalisation challenge. This book aims to propose strategies that can help face those challenges, especially in increasing energy efficiency in comminution operations.