

MODERN TECHNOLOGIES TO IMPROVE WORK SAFETY IN MINING

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The aim of the work is to present a review of innovations in occupational safety within the mining industry, with a particular focus on modern technologies. The methodology is based on an analysis of existing literature concerning the applications of cutting-edge technologies in the context of occupational health and safety (OHS). The study identifies key technologies that have the potential to significantly enhance workplace safety in mining, such as artificial intelligence (AI), virtual reality (VR), and digital twin technology. Results indicate that the use of AI facilitates hazard prediction and process automation, while VR can be utilized for training workers through realistic simulations. Additionally, digital twin technology enables real-time monitoring and optimization of working conditions. Other technologies, such as autonomous vehicles and localization systems, further contribute to improving safety by reducing human error and enhancing situational awareness. In conclusion, the development of modern technologies in the field of OHS in mining is not only feasible but also desirable, creating opportunities to improve safety in one of the most challenging professions.