

Emergency Infrastructure Rehabilitation Project II. Railway line Nikšić-Podgorica/Montenegro – Slope Risk Classification

Client:

Željeznička Infrastruktura Crne Gore AD – Podgorica (ŽICG)

Country:

Montenegro

Duration:

January 2018 - February 2019

Services:

Geological analysis, GIS-analysis, rockfall modelling, slope risk classification, design of slope protection measures

Project objectives

Slope risk classification and design of emergency infrastructure rehabilitation measures along the railway line Nikšić-Podgorica

Project description

The railway line from Nikšić to Podgorica was first put into operation in 1948 with two major upgrades in 1965 and 2006 to 2012, where the entire line was electrified. Funded by the European Bank for Reconstruction and Development (EBRD), a project was launched aiming to raise the level of safety and reliability of railway traffic on the Nikšić to Podgorica line by drastically reducing the risk of landslides and rock falls which potentially block and seriously damage the track (including the power supply) and could well result in train collisions and loss of lives.

Project data

Length of railway track: 56.78 km

Slopes investigated in detail: 239 in 8 sections

Project specifics

The railway line passes a mountainous region with high limestone cliffs, causing a serious rock fall risk. In some parts, the project area is hardly accessible and can only be reached either by foot or train.

Services

- Geological and geotechnical investigation
- GIS-analysis of terrain
- Rockfall modelling and analysis
- Slope risk classification
- Design of slope protection measures



Results Modelled trajectories (Kinetic Energy [kJ])

