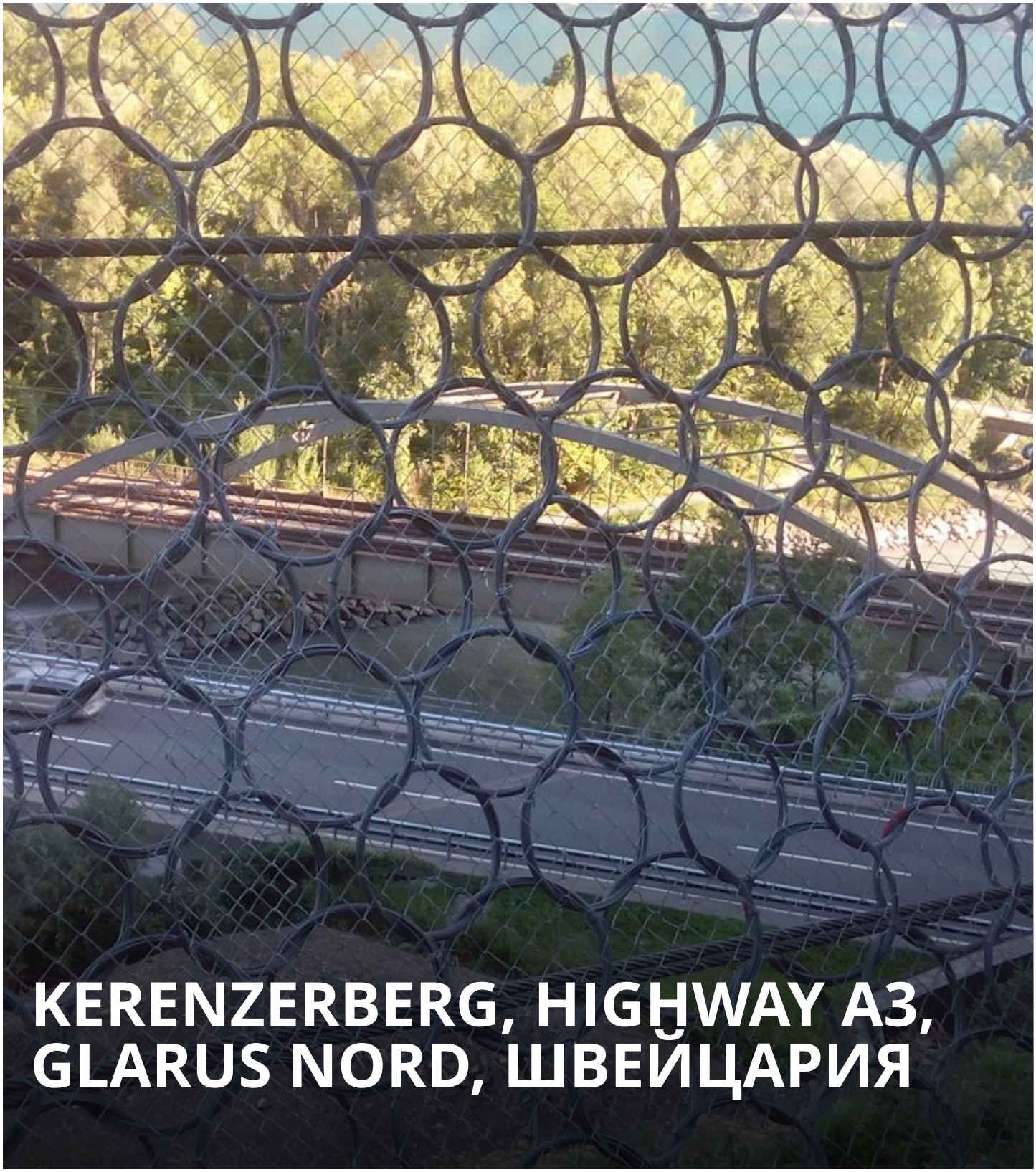

KERENZERBERG, HIGHWAY A3, GLARUS NORD, ШВЕЙЦАРИЯ

Камнепады, обвалы, осыпи

BRUGG
Geobrugg
Safety is our nature

Kerenzerberg, Highway A3, Glarus Nord

Камнепады, обвалы, осыпи

Проект	Kerenzerberg, Highway A3, Glarus Nord
Место	Filzbach
Страна	Швейцария
Год установки	2015
Клиент	FEDRO Federal Roads Office, Switzerland
Проектировщик	Project Partners Ltd Consulting Engineers, Grancia-Lugano, Switzerland
Подрядчик	CRESTAGEO, Chur, Switzerland

Ситуация

Highway A3 was opened in 1964 as a 2-lane road passing through the topographic bottleneck of the Walensee. The Walensee is one of the main thoroughfares between the Swiss plains and the mountainous regions and ski resorts. The roadway has always been exposed to rockfall and rockslides from the beginning. In 1986, due to increased traffic volume, one of the most frequented tunnels was expanded to four lanes. Naturally, geohazard protection measures were required to be installed along with the roadway expansion.

In 2012 it became apparent to the Swiss Federal Roads Office FEDRO that several hot spots for geohazards would require immediate maintenance to keep Highway A3 open. The identified hot spots include various tunnel entrances, steep slopes and sheer rock faces along the roadway. The project planning phase began in 2013, and by the end of 2015 the first protection systems of Geobrugg's newest generation were installed.

Official project name at the FEDRO, Federal Office for Roads: Glarus Nord

Overall costs of the protection project (estimated in 2014): 11 Mio. Swiss Francs

Описание

This description only details the northwest oriented tunnel entrances of Ofenegg and Kerenzerberg.

The overall project included a portfolio of Geobrugg flexible barrier systems protection measures to contain rockfall events. The selection was based on extensive rockfall analysis, taking into account bouncing heights as well as energy impacts. System strength, height and line lengths were set to maximize safety and optimize cost-effectiveness.

Above the two tunnel entrances the following Geobrugg rockfall protection systems were installed in geographical order from southwest to northeast:

- Barrier 1 : RXE-500, height 3 m, length 31 m
- Barrier 2 : RXE-500, height 3 m, length 26 m
- Barrier 3 : RXI-150, height 4 m, length 55 m
- Barrier 4 : RXI-025, height 2.5 m, length 14 m
- Barrier 5 : RXE-1000, height 4 m, length 25 m
- Barrier 8b : RXI-150, height 4 m, length 17 m
- Barrier 8c : RXE-1000, height 4 m, length 25 m
- Barrier 9 : RXE-8000, height 7 m, length 62 m
- Barrier 10 : RXE-3000, height 5 m, length 50 m

More information:
Movie of the 2015 RXE-8000 installation
Slope protection of this site "Muehlehorn"

Защищаемый объект Дорога, Железнодорожная линия

Другие конструкции	Укрепление склонов
Защита от коррозии	Оцинковка, GEOBRUGG SUPERCOATING
Энергия удара (кДж)	3000 кДж, 500 кДж, 1000 кДж, 8000 кДж
Высота системы	2.5м, 3.0м, 4.0м, 5.0м, 7.0м
Длина системы	14 m - 62 m

Для получения информации свяжитесь со специалистом в своём регионе

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