



# OLT VALLEY, KM 239+500 - 246+500, ROMANIA

Slope Stability

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## Slope Stability

<b>Project</b>	Olt Valley, km 239+500 - 246+500
<b>Location</b>	DN7
<b>Country</b>	Romania
<b>Year of installation</b>	2015
<b>Customer</b>	Compania Națională de Administrare a Infrastructurii Rutiere (C.N.A.I.R.) – Directia Regionala de Drumuri si Poduri Craiova (D.R.D.P.)
<b>Engineering</b>	S.C. IRIMAT Cons S.R.L. - Bucharest
<b>Contractor</b>	S.C. VECTRA SERVICE S.R.L.
<b>Other participating companies</b>	Sächsische Bau GmbH Dresden Germany, Sibiu Branch

### Initial situation

National road no. 7 (DN7) is one of the most important routes through the Carpathian Mountains, with heavy traffic. The Olt River runs parallel to the DN7 with high mountains, directly next to the road. In winter and spring rockfalls occur regularly. Also with unstable slopes, torrents and avalanches the risk of accidents was high.

This project was originally developed with five concrete canopies for rockfall protection. Due to costs and other restrictions, a modern solution using high tensile steel wire was chosen. After further investigation, 23 dangerous areas were found and had to be protected using two types of protection systems: active and passive.

## Description

4200 m<sup>2</sup> of TECCO® System and 560 m<sup>2</sup> of SPIDER® System were installed together with nailing as an active protection measure on the following sectors:

### **1. km 240+421 - 240+441**

TECCO® G65/3

- stabilized area: 260 m<sup>2</sup>
- slope height: 15 m
- nail pattern: 2.20 x 2.20 m
- nail type: GEWI 28
- nail length: 3 m

### **2. km 240+441 - 240+467**

SPIDER® S3-130

- stabilized area: 540 m<sup>2</sup>
- slope height: 18 m
- nail distance: 2.50 m
- nail type: GEWI 32
- nail length: 3 m

### **3. km 240+510 - 240+555**

TECCO® G65/3

- stabilized area: 585 m<sup>2</sup>
- slope height: 13 m
- nail pattern: 2.50 x 2.50 m
- nail type: GEWI 32
- nail length: 3 m

### **4. km 242+457 - 240+610**

TECCO® G65/3

- stabilized area: 1377 m<sup>2</sup>
- slope height: 10 m
- nail pattern: 2.10 x 2.10 m
- nail type: GEWI 32
- nail length: 3 m

### **5. km 242+859 - 242+940**

TECCO® G65/3

- stabilized area: 640 m<sup>2</sup>
- slope height: 13 m
- nail pattern: 2.20 x 2.20 m
- nail type: GEWI 32
- nail length: 3 m

### **6. km 243+099 - 243+179**

TECCO® G65/3

- stabilized area: 1260 m<sup>2</sup>
- slope height: 14 m
- nail pattern: 2.20 x 2.20 m
- nail type: GEWI 32
- nail length: 3 m

See also the other projects of Olt Valley.

## Protected object

Road

<b>Other installed applications</b>	Rockfall Protection, Debris Flow & Shallow Landslide Protection
<b>Corrosion protection</b>	GEOBRUGG SUPERCOATING
<b>Geology</b>	<p>Along the whole section, mica and para gneiss appear in outcrops belonging to the series of the tail (the upper Proterozoic ante) and the local packet sandstone, covered at the top by diluvium deposit (dust, sand and gravel powder blocks).</p> <p>Slopes (for the most part covered with forest) show inclinations of up to 60 - 80° and are strongly tectonized (kneading such, micro cracks) and continuous processes of disintegration. The angle of the rock packages varies between 30 - 55° (lower to higher sandstone and mica).</p>
<b>Stabilized area</b>	4700 m <sup>2</sup>
<b>Maximum slope height</b>	38 m
<b>Slope inclination</b>	48 ° - 87 °
<b>Exposition</b>	North-East

**For questions please contact our Geobrugg specialist at your side**

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