Slovenia

Name: Slovenian Society for Underground Structures

Type of structure: Non-profit association

Number of members: 115 members, 29 young members

ASSOCIATION ACTIVITIES DURING 2017 AND TO DATE

- 11th International Tunnelling and Underground Structures Conference (23rd November 2017, Ljubljana, Slovenia)
- **Participation at WTC 2017 in Bergen, Norway**

CURRENT TUNNELLING ACTIVITIES

Karavanke Tunnel

Execution design for upgrading the existing single bidirectional transalpine base tunnel with a second tube to form a twin highway tunnel tube system. The total tunnel length is 8km with more than 1000m of overburden. The tunnel passes through very heterogeneous rock materials from perm, carbon to triassic formations, squeezing ground and difficult hydrogeological conditions.

Second Track of the Divača-Koper railway line

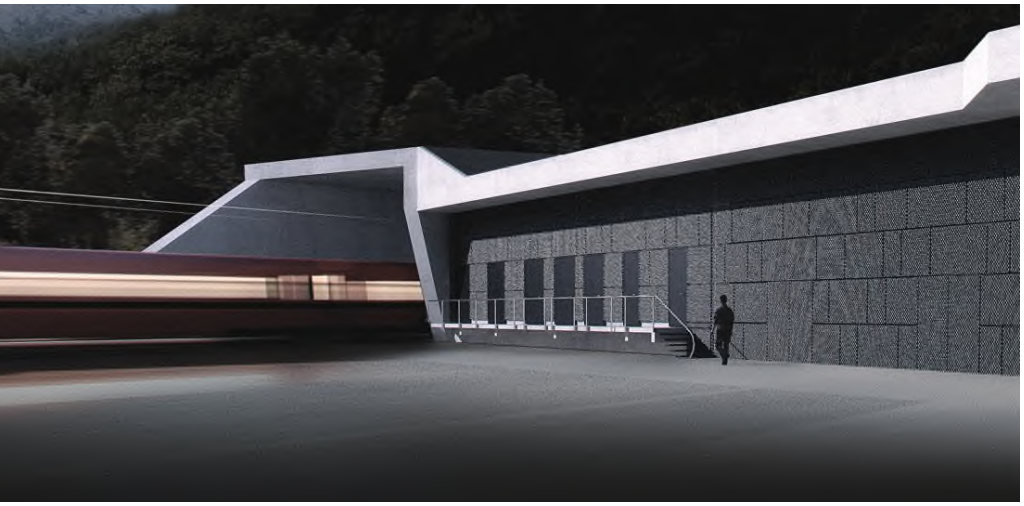
Building permit design changes for upgrading the existing single track railway between Divača and Koper with a second track. The new railway line passes through 8 tunnels (T1-T8) with a total length of 20.5km. All tunnels are single-tube tunnels; tunnels T1, T2 and T8 are designed with service tubes, which are to be used for rescue operations, while tunnels T4 and T7 have transverse exit tubes. The route of the second track runs on different formations of carbonate rocks characterised by numerous karst features (sinkholes, cracks, caverns, tunnels, underground caves, chasms etc.). The degree of karstification of individual areas is high.

Divača-Koper railway line

Karavanke Railway Tunnel

Detail design for the security and technical upgrade of the near 8km long Karavanke railway tunnel, which was put into service in 1906. The scope is to remove the double-track line in the tunnel and build a single-track line, restore the damaged parts of the structure, arrange drainage and the catenary and to set up an intervention

Karavanke Tunnel




Golovec Tunnel

corridor for signalling, safety and telecommunication devices as well as systems to ensure fire safety in rail traffic and for safe and efficient rescue in case of accidents.

Tunnel Golovec
Preparation of tender documents for the rehabilitation of the twin tube – three lane highway tunnel with a total length of 1160m. The works include the removal of the carriageway and implementation of a drainage layer in order to collect the excess groundwater and prevent further flooding of the carriageway and tunnel inner lining.

Tunnel Pekel
Building permit and detail design of a 1.5km long double-track railway tunnel, as un upgrade of the railway line Maribor – Šentilj – state border. The tunnel with a cross section about 135m² has a maximum overburden of 90m and less than 10m when crossing the existing highway H2. The last is the main challenge as the tunnel runs through a low-bearing layer of clay and highly weathered marl causing a risk of road deformation. Therefore, a stiff support system with two sidewalls is foreseen.

FUTURE TUNNELLING ACTIVITIES

Tunnel Štrihovec
Building permit design of an 810m long single tube, twin tracks railway tunnel. Excavation of the tunnel will take place in layers of siltstones with pieces of fine-grained sandstone and marl. Due to unstable slopes, the design foresees excavation under a Corinthian slab and portal structures on piles.

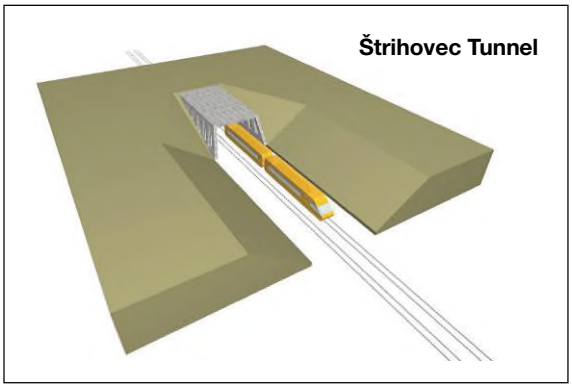
Karavanke Tunnel
Start of construction for upgrading the existing single bidirectional transalpine base tunnel with a second tube to form a twin highway tunnel system. Total tunnel length is 8km with more than 1000m of overburden. The tunnel passes through very heterogeneous rock material from perm, carbon to triassic formations, squeezing ground and difficult hydrogeological conditions.

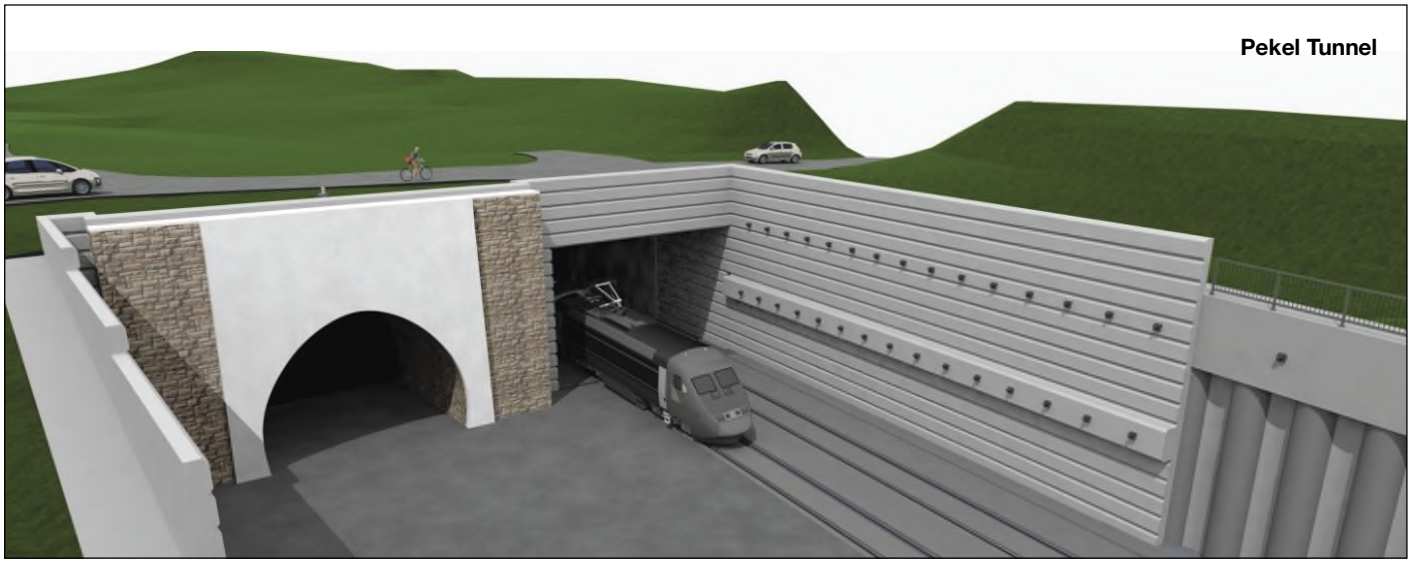
Third Development Axis – South
Building permit design for the execution of a new road link from the access point to Ljubljana–Obrežje motorway near Novo mesto to the Maline access point. Total length of the planned expressway amounts to 17.9km, and includes three bridges, four viaducts, two cut-and-covers, a 2.4km long tunnel under the Gorjanci hills, 10 overpasses, 9 underpasses and two lay-bys. The project is planned to be completed by the end of 2021.

STATISTICS

1. Length or volume excavated - % mechanized / % conventional during 2017:
   210m, 100% conventional tunnelling

2. Amount (USD or EUR) of tunnelling / underground space facilities awarded in 2017:
   €5,883,000


Štrihovec Tunnel


Pekel Tunnel