

GUIDED MICROTUNNELING

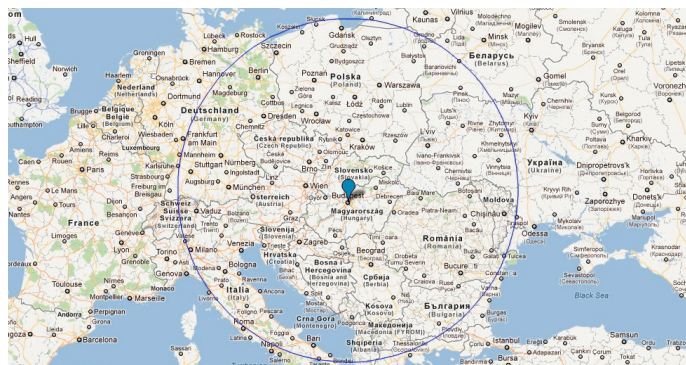
Trenchless technology is a rapidly growing sector of the civil engineering industry, since it is a cost effective and time saving alternative to open cut methods when installing pipes amidst **extensive underground infrastructure** or under **surface obstacles** undesirable to be disturbed such as frequented roads, railroads, narrow historical streets or waterways.

Pilot guided microtunneling is a trenchless technology used for installing underground utility or protective pipes usually from and to round shafts. This process can be either non guided or guided depending on the horizontal or vertical precision required (above 20 m span length a pilot guide is recommended for achieving +/- 5 cm accuracy).

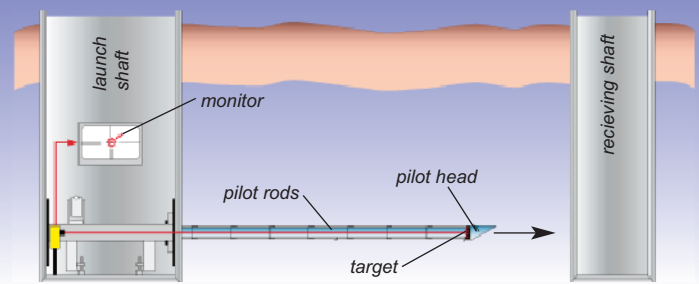
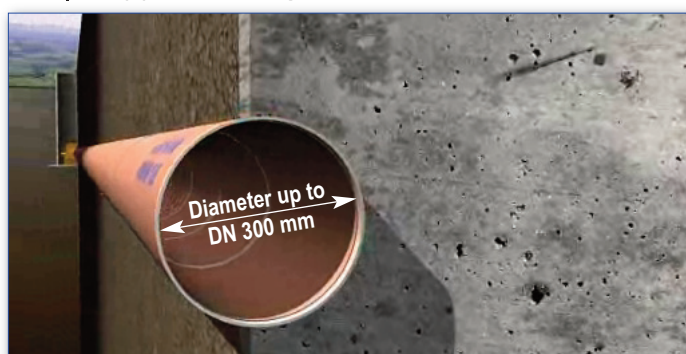
By this method, after the pilot reached the target the rods are taken out and a product pipe of the same diameter is assembled to end of the casings in the receiving pit. The threaded connection between the temporary steel casing and the product pipe provides sufficient tensile strength to resist the lateral friction of the bore hole.

Feeded from above the receiving pit and installed one by one the product pipes are then pushed together and pulled behind the casings as they get withdrawn into the starting shaft, removed and stored ready for the next bore.

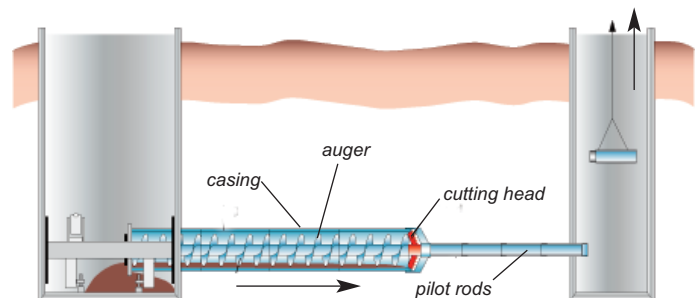
The technology is applicable in a wide range of ground conditions **from sand through clay (except for solid rock)**. It provides ready to be used water-tight pipelines usually of plastic (PE,PP,GRP) and vitrified clay material.



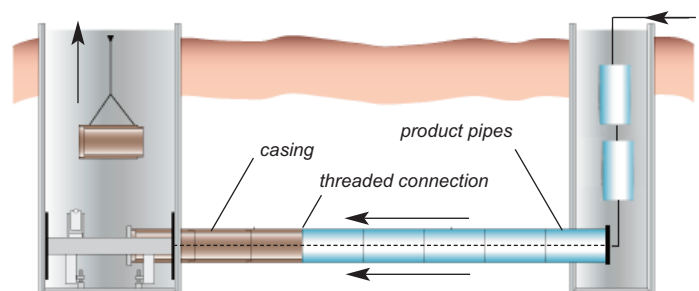
SYCONS LTD. has considerable expertise in guided microtunneling. Our complete range of equipment and several years of experience in the field enable us to competitively carry out full service construction within **800 kilometers of distance from Hungary**, providing a cost-effective alternative in the range of span lengths between **10-50 m** (in case of smaller round shafts) **up to 100 m** (in case of larger possible launch shafts) with pipe diameters **up to 300 mm**.



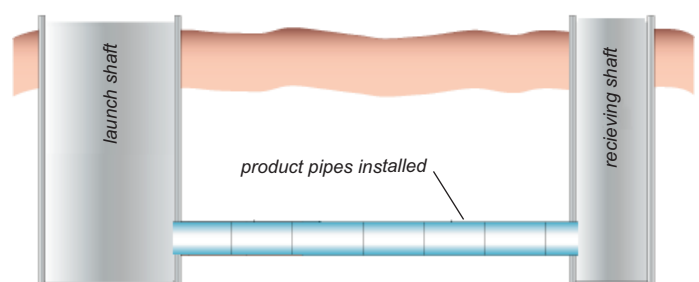
1. Directionally controlled pilot drilling assisted by the pilot system



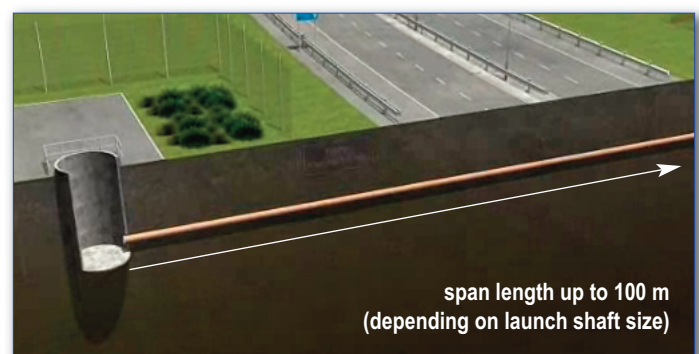
2. Drilling of steel casings following the pilot rods



3. Withdrawal of the casings and installing the product pipes



4. After the installation is ready, all the equipment is removed



span length up to 100 m
(depending on launch shaft size)