

## Dry feet thanks to Divers in an extraordinary European tunnel project

### Project

Avenue 2 groundwater monitoring

### Customers

Henk van Tongeren of Bronbemaling BV, in collaboration with Reinders-Wessemsius

### Country

The Netherlands



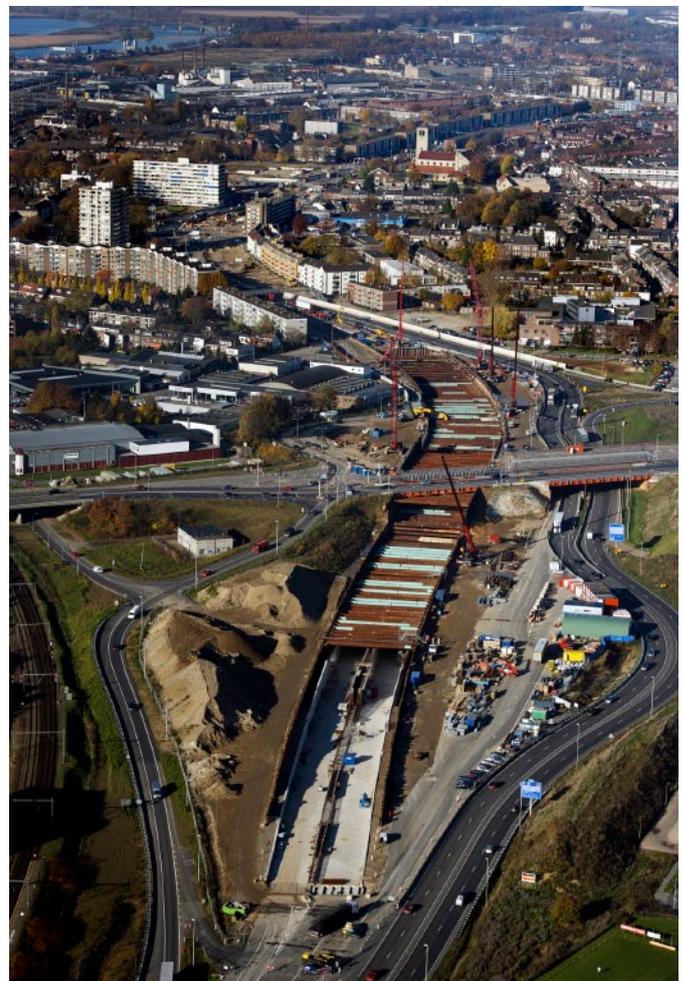
### Background and objective

The tunnel that will run underneath Maastricht as of 2016 will have a length of 2.3 kilometres. A special mega project for Europe. A double-deck tunnel suitable for lorry traffic in both the lower and the upper tube has never before been realised in Europe. Henk van Tongeren of Bronbemaling BV ensures, in collaboration with Reinders-Wessemsius, that the kilometres-long construction pit will not fill with water. Diver water level loggers and Monitoring Well Modems help in achieving this.

'By draining the water, we make sure everyone will keep his feet dry in the construction pit.' Project manager Allard van Tongeren explains: 'For us it is also a unique project that will require our employees' best efforts. We are working 24 hours a day, 7 days a week while having to deal with exceptional circumstances. We are in the middle of an urban area, which strongly limits the working space. In addition, the soil characteristics

in the south of the Netherlands are quite different compared to the rest of the country. First gravel, the so-called toutvenant, sometimes with stones with a diameter of a metre and a half, and marl below that.'

'We have little room in the construction pit, and we also need to protect the equipment. In a city like Maastricht, we inevitably have to deal with theft and vandalism of construction material. The fact that the Divers and the Monitoring well modems are so compact, is therefore a great plus.'





## Divers as alarms

'If we do not drain, the water will reach the top edge of the sheet pilings. Moreover, we return the drained water into the soil. For these so-called return fields, Diver® water level loggers from Schlumberger Water Services help us to gain insight into the groundwater levels. If the water threatens to reach ground level, a Monitoring Well Modem will give an alarm, so we can adjust our activities. We receive this alarm by means of an SMS. The data from the Divers is also displayed on a web portal that is available to us 24 hours per day. This is ideal, since it allows us to access this data anywhere and at any time.'

## Avenue2: more than a tunnel

The realisation of the tunnel is part of the Avenue2 project. This project improves the accessibility of Maastricht, a city in the south of the Netherlands with nearly 125,000 inhabitants. The project improves the safety and quality of life in Maastricht.

