Surveying Department of Ballast Nedam Infra

We take care of the translation of the design to reality

TOPCON AT WORK

"For much of the groundwork the Topcon GPS was more than satisfactory"

"Using the GPS-data we can quickly make a rough sketch"

Senior Surveyor Clemens Tierie and his colleagues of the surveying department of Ballast Nedam Infra are laying a tunnel for the Hanzelijn railroad that will pass under the Drontermeer. The Hanzelijn will be the new railroad between Lelystad, through Dronten and Kampen, all the way to Zwolle. In the future this journey will take a mere 30 minutes. Although the tunnel will probably be finished earlier, the complete Hanzelijn will be ready in 2012.

Tierie explains: "Currently the train from Amsterdam stops at Lelystad and turns around. By altering this connection to go from Lelystad, through the Flevopolder to Zwolle, the East of the Netherlands is getting closer to the rest." The tunnel under the Drontermeer is 790 meters long and will connect Overijssel with Flevoland.

Anchor blocks

"At this moment we are working on placing the anchor blocks and the shell of the tunnel." By forces in the subsoil the casing of the tunnel can start to rise, that is why Ballast Nedam is placing anchors blocks at every three meters. "These anchors blocks consist of a steel rod which is attached to the subsoil with concrete. By building vertical anchors the tunnel will stay in its place. For the tunnel, steel sheet pilings are made, and these will form a casing. In this casing we will then place the tunnel. Afterwards we will pump this construction dry and it is ready for placing the track. For a large part this has been built in the water."

Oriënting in the field

"In the beginning we have no clue of where we will start working. But using the measurements we can place stakes and start laying out the work e.g. 'the dike will start here'. This way you can get a clear picture of where the work will be. Using Topcon's GPS data we can set out a rough sketch quite quickly with stakes. This is then checked by an independent surveying agency." This way the section engineer can also get a clearer picture. "We basically take care of the translation of the design to reality. We work from rough sketches to detailed designs. We stake this all out with Topcon's GPS. Next you can start work on the shell on the location." Making measurements is a bit harder on the water. "Then we simply put out the reference points on each side of the lake to which we can refer during our measurements. On a clear day you can see the points on the other bank and thus make your measurements. The total dam partition tank was staked out this way with the GPS. For much of the groundwork and the work on the dam partition tank the Topcon GPS was more than satisfactory."

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