# Testimonial Statement

## Product: CT.Connected | Project: Elleringhauser Tunnel

For the Elleringhauser Tunnel project, the EET consortium, consisting of Max Bögl Stiftung & Co. KG, Marti GmbH Deutschland and Marti Tunnel AG, is using CT.Connected, VMT's app-based data management module. The innovative solution digitalises work cycle documentation in Conventional Tunnelling, replacing paper- and Excel-based processes with structured real-time documentation. VMT spoke with Site Manager Erich Merkle about his experience during the pilot phase and the joint development of CT.Connected.

**Q: Why did you decide to participate in the pilot project and the joint development of CT.Connected?**

**A:** In Conventional Tunnelling, there has been very little change in the way advance and shift diagrams are created over many years. Data was typically recorded by hand and then transferred into Excel. Analysing this information afterwards is time-consuming because data from multiple files has to be consolidated. CT.Connected allows us to capture data digitally right from the start and analyse it at the push of a button. For us, this was an important step towards making documentation more modern, efficient and future-ready.

*Site Manager Erich Merkle*

**Q: Were there any comparable alternatives to CT.Connected?**

**A:** In practice, Excel had been the established solution for many years. At the time, we were not aware of any comparable digital alternative offering a similar range of functionality. The pilot project with VMT therefore provided a valuable opportunity to test a new, forward-looking solution under real jobsite conditions.

**Q: What specific benefits does CT.Connected offer in terms of project workflow?**

**A:** The biggest advantage is that data only needs to be recorded once. Previously, the foreman would first write information down by hand and later transfer it into a PC. With CT.Connected, data can be entered directly on site in the tunnel using a mobile device. This eliminates duplicate work, reduces the risk of transcription errors and makes all information immediately available in digital form.

For the foremen, this also means more time spent in the tunnel and less time in the office updating documentation. They can supervise and document the work while remaining available to support the site team.

At the same time, project management can follow the progress of the advance in real-time and respond more quickly when required. This is particularly valuable during special operations or critical phases of the advance, where having access to up-to-date information at any time provides a clear benefit.

**Q: How was CT.Connected received by the site teams?**

**A:** As with any new digital tool, there is always an adjustment period at the beginning. The key was explaining why the system was being introduced: not to create additional work, but to simplify existing processes. The mobile data entry is very straightforward and intuitive, which helped overcome initial reservations quickly. Today, all foremen within the consortium work with the system and use it as part of their daily routine. Since the beginning of April, documentation for the rescue tunnel has been created exclusively with CT.Connected, completely replacing the previous Excel-based process.

Together with VMT, the layout of the generated advance diagram was also adapted to meet the project-specific requirements of the construction supervision team.

> **"We would definitely use CT.Connected again. The system eliminates duplicate data entry and therefore saves a significant amount of time. It also gives us a real-time view of the current progress of the advance and makes data analysis much easier than working with numerous individual Excel files. "**
>
> **Erich Merkle, ARGE EET / Marti GmbH Germany**

**Q:** Which features provide the greatest value for you?

**A:** The most valuable features are the ability to enter data directly in the tunnel, the real-time availability of information and the analysis functions. We can see at any time which activities are currently in progress and evaluate the collected data much more easily than when working with numerous separate Excel files. This makes workflows and performance indicators far more transparent, whether for advance times or individual work steps. The benefits go beyond day-to-day project management. The data is also highly valuable for post-project cost analyses and future project planning.

**Q:** Is there already an estimate of the time savings achieved?

**A:** It is still difficult to put an exact figure on the time savings at this stage. However, based on our experience so far, we estimate that the foreman saves roughly 30 minutes to one hour per day because data can be entered directly in the tunnel and no longer needs to be transferred later on a PC. On larger projects, where significant distances separate the tunnel face from the site office, the time savings could be even greater. We also see considerable potential when it comes to data analysis, as information no longer has to be consolidated from numerous individual Excel files.

**Q:** What role do digital solutions such as CT.Connected play in the future of Conventional Tunnelling?

**A:** Documentation, reporting and administrative requirements in tunnelling continue to increase. At the same time, younger generations entering the industry expect modern digital working environments. From our perspective, it is therefore important to keep developing these processes and adopting modern tools. Solutions such as CT.Connected help make workflows more efficient while also making jobs in Conventional Tunnelling more attractive.

**Q:** Do you have any suggestions for future enhancements to CT.Connected?

**A:** At the moment, the system meets our requirements very well. Looking ahead, we see potential in the closer integration of machine data. Many machines already generate valuable data today, but this information is often processed separately. If such data could be integrated automatically into the documentation process in the future, it would further reduce manual effort. From our perspective, this is one possible direction for future development.

**Q:** Would you use CT.Connected again on future projects, and would you recommend it to colleagues or other projects?

**A:** Yes, definitely. The system fully meets our expectations and makes a measurable contribution to improving efficiency. For that reason, we would certainly use CT.Connected again on a future project. We have already presented CT.Connected during internal project and site meetings. The feedback was very positive, particularly with regard to the simplified data analysis and the ability to manage processes in a more consistent and digital way. For larger companies running several projects in parallel, standardised solutions and a shared data basis can offer significant advantages.

**Q:** How would you rate your collaboration with VMT?

**A:** Our collaboration with VMT has been very good right from the start and continues to be so. From the beginning, there was an open discussion about what was possible and which practical requirements from the jobsite needed to be considered. Particularly when developing a new system, it is important that the process is driven together with the people who use it every day. That worked very well throughout this pilot project.

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