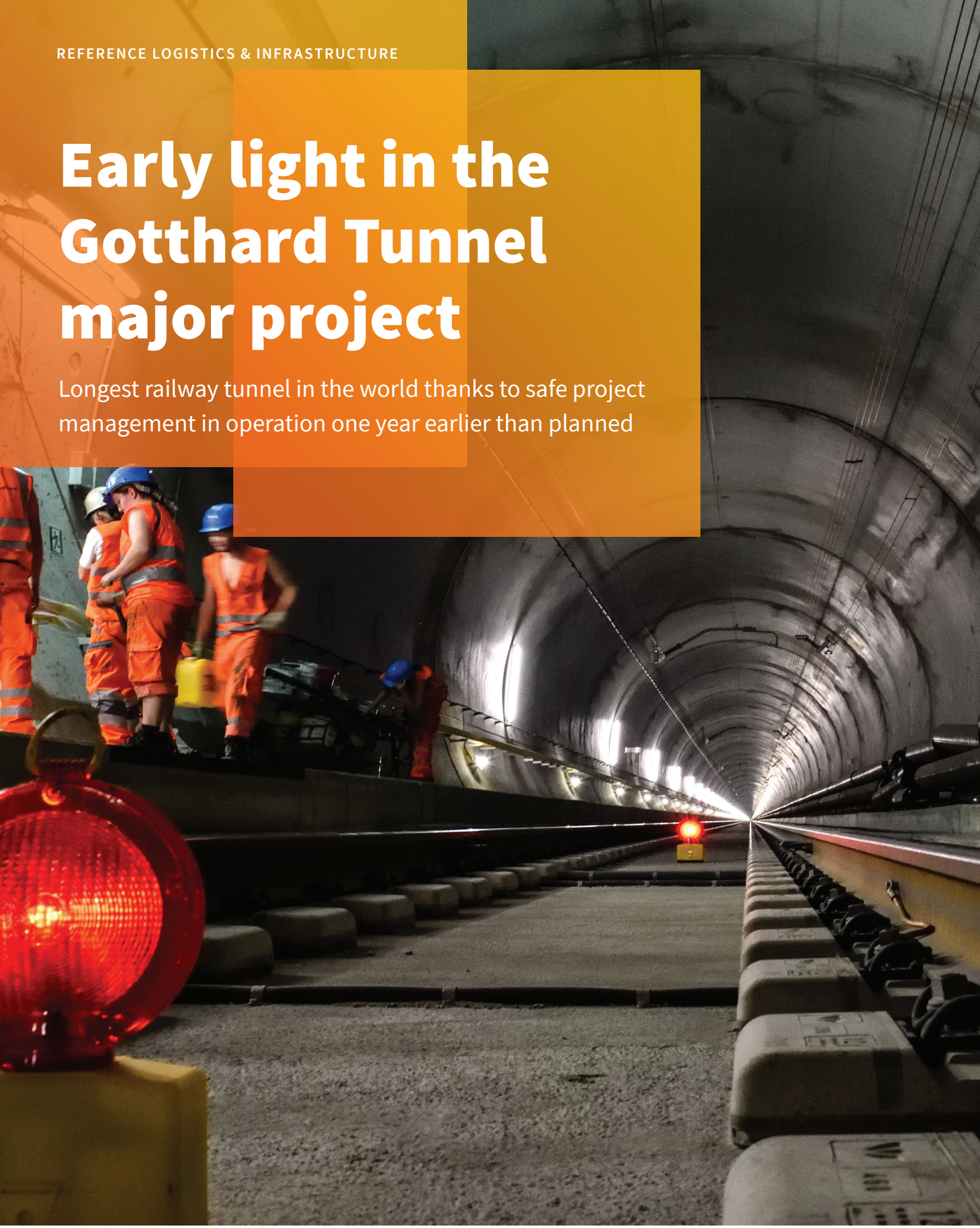
REFERENCE LOGISTICS & INFRASTRUCTURE

Early light in the Gotthard Tunnel major project

Longest railway tunnel in the world thanks to safe project management in operation one year earlier than planned



transtec gotthard

CONTACT Project Office

With a length of 57 kilometres, the Gotthard Base Tunnel is the longest railway tunnel in the world. The new line was ready for operation at the end of 2016 - one year earlier than originally planned. CONTACT Project Office enabled a secure control of this major project: The project managers at Transtec Gotthard were able to monitor the progress of the installation of the railway technology on a daily basis, weight work packages according to the possible effects on subsequent tasks and counteract delays with foresight.

Efficient project controlling

Complex, multi-year construction projects are often completed later than planned and cost significantly more than originally estimated. This is often due to deviations in the many sub-projects and in individual trades, which are successively upswinging until the end of the project and add up to considerable additional costs. Well-known examples of recent projects that have got out of hand: The Berlin Airport and the Hamburg Elbphilharmonie.

This did not happen when the railway technology was installed in the new Gotthard Base Tunnel. Lars Dietrich, who works in superordinate project management, said of the current state of affairs and the tasks ahead: „Never before has there been such a large tunnel project designed for high-speed trains. And things are going perfectly right now. We are absolutely on schedule. In 2013 and 2014, great challenges lie ahead: We want to work simultaneously in all six tunnel sections of the two tubes and also on the free tracks and the two multi-function stations in the middle“. In order to be able to steer the project safely through this hot phase, TTG had established a reliable and efficient project control system based on CONTACT Software‘s Project Office, says Dietrich.

Mapping of complex project structures

The control system depicted the complex, multi-dimensional project structure realistically and differentiated - with the various trades (track, overhead contact line etc.), the service packages of the individual trades and the track or tunnel sections where the service had to be provided. The smallest units were the work packages, which could vary in size in terms of workload and budget, depending on the trade.

Each work package was assigned costs and deadlines in the form of payment-relevant milestones that had a dual function: On the one hand, they marked the progress of the project and, on the other hand, they were relevant for the payment of the services

„For 15 years I have been looking for a software that allows us project managers to see where a project is and where it's stuck at the touch of a button. Exactly this is possible with Project Office."

Lars Dietrich, Head of Technology at Transtec Gotthard

rendered. Using Project Office's powerful reporting capabilities, project managers created milestone trend analyses that forecast planned payment dates and variances. .

Comprehensive reporting - weighting of work packages

While the milestone trend analysis reflected the project status very precisely from a business point of view, the presentation of technical work progress went far beyond classic progress reporting. Other project management tools evaluate the degree of fulfilment purely in terms of deadlines or payments, while the TTG solution also took into account the weighting of work packages for the course of the project.

The work packages had different „criticalities": While a delay in one case only affected one's own milestone, i.e. delayed payment, in the other case it could have an impact on the completion of subsequent work packages and in the worst case lead to delays in the entire construction project. These interactions, which the project managers described as critical paths and chains, were stored in the system and signaled by traffic light symbols.

Dynamic project control: Deviation management

A central tool for controlling the many changes that occur in everyday project life was the so-called deviation management. It allowed a dynamic view of the project: one could see not only the deviation, but also the reason and its possible effects on other trades. These deviations made it possible to dynamically link the milestones of different trades, for example, to make the common cause of a delay transparent.

Project Office, known at TTG as Project Controlling System (PCS), was in central use. Deviation management made the solution a tool for all project managers. This set the course for the final phase of the project. Thanks to the Project Office, Dietrich was not only confident that the major project on the Gotthard would be completed on schedule. His declared goal: „We want to put the tunnel into operation one year earlier than planned".

The Company

Transtec Gotthard (TTG) is a consortium of Alpiq, Alcatel-Lucent/Thales, Alpine-Bau and Balfour Beatty Rail, which has been awarded the contract by AlpTransit Gotthard Ltd. to install the railway technology in the Gotthard Base Tunnel. The four consortium partners contributed their expertise in the areas of track, overhead contact line, railway safety, railway and tunnel control technology, telecommunications, power supply, logistics as well as planning and execution to the joint project.

Solutions

- Multi-project management platform
- Complex, multidimensional project structure
- Around 2000 individual work packages
- Filing of costs and deadlines
- Weighting of the degree of fulfillment
- Reliable milestone trend analysis
- Visualization of critical paths
- Efficient deviation management

Benefits

- Comprehensive support for those responsible for the project in controlling and monitoring the construction measures and in ensuring that this major project can be implemented in accordance with the contract and commissioned as planned at the end of 2017.
- Reliable milestone trend analysis
- Dynamic project control shows effects of deviations.

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