Case Study | Valais, Switzerland

Customer Profile

Organization: Viagroup, hired by the Department of Public Works in Valais, Switzerland

Responsibility: Develops, reviews, evaluates, implements, and supports the design of transportation system improvements.

Network: 1500-2000km of roadway

Improving the quality of the Valais state road network

Highlights

Challenge: The Valais Department of Public Works wanted to increase the quality of their state roadway network. The department needed help developing a plan and substantiating significant budget increases.

Solution: Using dTIMS CT, Viagroup provided the department with the evidence they needed to convince local and state government to support their network improvement strategy.

Outcome: The department nearly doubled their annual budget and implemented a long-term plan to address their quality objectives for the state roadway network.

The Department of Public Works in Valais, one of the southern cantons (states) in Switzerland, needed assistance to assess the condition of their state road network. The department turned to Viagroup, a dTIMS CT certified consultant and European distributor, to help them determine the network's current condition and develop a plan to reach their long-term goals.

CHALLENGE: Analyzing a network located in a large, glacial valley

The state road network in Valais is approximately 1500-2000 km in length and is mainly located in the state's central Rhône valley. The network includes a main roadway leading down into the valley, as well as many secondary roads leading to side valleys. The area contains many popular ski resorts and tourist attractions, including views of the famous Matterhorn mountain in the European Alps.

Ensuring the quality of the network

In conjunction with the state Parliament, the department set a goal regarding the quality of the road network: to achieve an average index value of three for all roadways, based on a scale of 0-5 where five represents the highest quality. The department needed to assess the current network quality and determine the funding required to reach their quality goal within the next 4-8 years.

SOLUTION: Analyzing network data with dTIMS CT

The Valais Department of Public Works hired Viagroup, a consulting group specializing in road asset management, to complete the analysis of their state road network. Viagroup has been using Deighton software, including dTIMS CT, for almost 20 years, and the department had also used dTIMS CT themselves in the past.

Dealing with a lack of detailed data
Using dTIMS CT, Viagroup analyzed the data provided by the department. Due to the collection methods used by the department, the levels of condition data available for different sections of the network varied widely. The department had surveyed the main roads thoroughly, collecting data on roughness, rutting, bearing capacity, and so on, but had only performed a visual inspection on the many secondary roads.

This meant that Viagroup had to work with data that varied in terms of accuracy and completeness, making it more difficult to diagnose current issues with the network and determine the appropriate treatments. This lack of detailed data was a fairly common issue that the consulting firm had dealt with in the past, and they were confident they could overcome this limitation using dTIMS CT's complex modelling capabilities.

Determining the current network condition, required treatments and costs
The final dTIMS CT analysis showed that the current state of the network was below the department's goal of an average index value of three, and that to reach this goal the department would have to nearly double their annual budget. The department would need to convince the local and state government that this very significant funding increase was needed to maintain the state's roadways.

OUTCOME: Nearly doubling the road maintenance budget for the next four years

Using dTIMS CT, Viagroup provided the Valais Department of Public Works with a report outlining the issues with the network and proposed solutions. The report also contained detailed information about the factors used to analyze the roadways and calculate the best treatment options. Including this supporting information in the report provided insight into the dTIMS CT analysis methods and validated the findings and recommendations in the report.

Preparing a convincing argument
The department knew that to obtain a budget increase, they would have to answer tough questions and substantiate the need to double their funding. Government officials wouldn't have the time or patience to try and interpret a highly technical report, so the department needed to present their case simply and clearly.

Using the dTIMS CT results, the department prepared a short, concise report, containing graphs and tables that were easy for non-engineers to understand. The department presented the report to the state Parliament and received almost all of the additional funding they were requesting for the next four years.

Continuing the network improvement process
Viagroup is preparing to perform another network analysis for the Valais Department of Public Works, based on new condition surveys conducted by the department. The next dTIMS CT findings will show if the department has been successful in starting to improve the overall condition of the network and if they are on track to reach their goals.

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