

Project Note

Traffic monitoring - 280 eyes that never sleep

Automatic measuring devices record traffic count on major Swiss roads day and night. Zühlke and inNET developed software to process measured data and forward them to a data warehouse which is being realised in a parallel project.

Task


FEDRO (the Swiss Federal Roads Office) has been operating a system of automatic measuring devices for recording the traffic count separated into 10 traffic classes (e.g. cars, motorcycles, trucks) on major Swiss roads since 1962. Today, that system consists of 280 devices. The measured results are used as a basis for traffic planning by the federal government, the cantons, the regions and the municipalities.

FEDRO initiated a specialised traffic monitoring application, known as VMON for short, for the purpose of processing the raw data from the measuring devices more efficiently and of predominantly automating the complex manual validation procedure. A further purpose of VMON is to render the data more up-to-date and more available.

Implementation

The main function of VMON is to validate the traffic data. To achieve this, the system checks the raw data for implausible or missing values. It then proposes estimated values that are based on trend corrected reference data and reference load curves. The data checks are run fully automatically, the substitute values are then determined in a semi-automatic process run by an operator. In creating the software, Zühlke focused particularly on user acceptance and product quality. Each night a current build of the software was generated and its quality was checked using code analysis and unit testing. Therefore the customer was able to examine the emerging solution at regular intervals in the form of the executable software version at the end of each iteration.



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Technical Data

- Process: RUP
- Language: C#
- Tools: Visual Studio .NET
- Team Foundation Server
- Infragistics
- OpenAccess
- Platforms: Windows, Oracle

Customer benefits

- Thanks to Zühlke’s experience and effective cooperation, the team was on-schedule in reaching the agreed milestones, which the customer could then examine.
- The iterative process enabled the team to immediately assess additional requirements in relation to budget and implementation time.
- The aim of a higher degree of automation and a more easy operation allowed the system to be expanded without the need for additional personnel. Thanks to faster validation, the data are more up-to-date.

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