

## **triscon supports the government of Upper Austria at project „Housing and Energy Cost Bonus 2023“**

In order to help the residents of Upper Austria in times of sharply rising energy and heating costs, the Upper Austrian government decided to provide a total amount of 75.5 million Euros available in the form of a “housing and energy cost bonus” at the beginning of 2023. This bonus should primarily help families with children and single parents to absorb the skyrocketing prices for heating and energy.

More than 290,000 households were eligible to apply for the housing and energy cost bonus. This corresponds to 45 percent of Upper Austrian households. Depending on the size of the household, Upper Austrians could count on a subsidy of up to 800 Euros, which could be applied for in spring 2023.

The information technology department of the Upper Austrian government was commissioned to manage the project and immediately started with the technical conception. Due to the quantity structure (estimated number of applications), triscon IT-Services GmbH was initially called in to carry out load and performance tests to optimize the system and increase throughput.

It quickly became clear that the application process had to be made as simple, swift and uncomplicated as possible for the affected households, which is why the decision was made to use a structured web form. An assessment of how many form accesses would take place at the same time was only possible by estimating the quantity and the aim was to be able to offer a sufficiently dimensioned solution.

Together with the experts from the Viennese company triscon, the topic of performance engineering was dealt with holistically. Specifically, Roman Ferstl and his team offer their customers the opportunity to carry out load and performance tests.

In contrast to functional tests, which evaluate the fulfillment of functional requirements by a component or a system, load and performance tests determine the maximum user volume, acting at the same time, within shop systems, interfaces or websites (such as the application form for the housing and energy cost bonus). Spoken differently: With load and performance tests it is possible to determine how many users can work in a system at the same time without this system slowing down or going off completely. Performance problems in distributed systems often only occur at a certain number of simultaneously acting users and are therefore difficult to find without the right tool.

With load and performance tests, these problems can be recreated in test environments - independent of live systems - and the problems can be resolved before going live. The advantage: Fast, stable and fail-safe IT applications that guarantee a frustration-free user experience.

Based on the estimates from the Information Technology Department of the State of Upper Austria, triscon, for example, carried out 5,000 parallel, automated test cases – in technical jargon known as "simulated users" - which ran through the application process at different speeds. The different speeds were used as a basis in order to create a test scenario that was as realistic as possible. In addition, when carrying out the tests, it was assumed that some of the applicants acting at the same time were working on a desktop screen, while another part processed the application via their mobile phone - taking into account possible bandwidth problems of these mobile users.

It quickly became apparent at which points the application form was reaching its performance limits and which optimization measures were necessary to expand these. In parallel to these stabilization measures, it was also decided to place a waiting room area in front of the actual application process in order to reduce the number of Upper Austrians accessing the form at the same time.

Based on the results from the triscon load and performance tests as well as the optimization measures derived from them by the IT team of the state of Upper Austria, the application form for the housing and energy cost bonus was finally available from April 3rd to July 31st, 2023 - stable, correct and reliable.