Salzburg Research

TRAFFIC JAM REPORT FROM THE CLOUD

In order to optimize Austria's traffic situation, the research institute, Salzburg Research, has developed a platform that calculates and analyzes the current traffic situation down to the minute. The platform has been developed on behalf of the State of Salzburg and funded by the country's Climate and Energy Fund. Vehicles anonymously provide the institute with data about their position and speed, including via the specially developed StauFux app. It allows the system to know exactly where traffic is flowing and where it has become congested.

However, that is not the platform's only source of information: In addition, many fleet operators are cooperating with the research institute. They provide position data about their vehicles. And then there are sensors that are installed on roads which capture data about where, when and how many cars are travelling and then transfer the data to the system.

The research institute sought a secure and scalable cloud solution to enable it to visualize the data on a road map both online and in the StauFux app and to further process it for road and traffic planning. And it found it in the Open Telekom Cloud.

AT A GLANCE

The Task: Salzburg Research required cloud capacities for data collection, the visualization of traffic data on the platform and the operation of the StauFux app. In order to be able to also process fleet data not just in the test region of Salzburg but also throughout Austria, the platform had to be scalable and meet the highest requirements in terms of data security and data protection with regard to the new European General Data Protection Regulation (GDPR).

The Solution: The research institute only uses the IT resources from the Open Telekom Cloud that it needs. Salzburg Research holds the data for traffic planning or construction measures. The information is freely accessible to road users and is available to Austria's federal states.

The Advantages: Salzburg Research can integrate new data sources such as other fleets into the system, allowing for even more precise data collection. Thanks to the virtualized environment, no hardware is needed. Further developments are being tested flexibly by the Austrians in the cloud.

THE CUSTOMER: SALZBURG RESEARCH

The research institute works on developing new technologies for the realization of mobility services in order to improve the traffic situation in Austria. For this purpose, the researchers created a platform that is designed to reduce traffic congestion and improve traffic management. The data comes from the fleet operators' telematic systems, the StauFux app, which motorists can use to record their journeys, and street sensors that measure when and where many vehicles are traveling.

THE CHALLENGE

The institute initially used its own server for the platform. "This made heavy use of its hardware, which occasionally led to breakdowns," says Karl Rehrl, head of mobile and web-based information systems at Salzburg Research. He looked for a cloud solution in order to no longer have to bother with maintaining the hardware and increasing availability. "We wanted a European cloud solution," Rehrl says, "because the fleet partners in particular have a high requirement for data security and data protection, due to the new General Data Protection Regulation (GDPR)." Furthermore, IT capacities had to be flexibly scalable to allow for the storage and processing of more data – for example from newly acquired fleet partners. And the institute also wanted the new cloud solution to provide the flexibility to be able to set up test environments and further develop the traffic jam service with, for example, new software releases for the app.

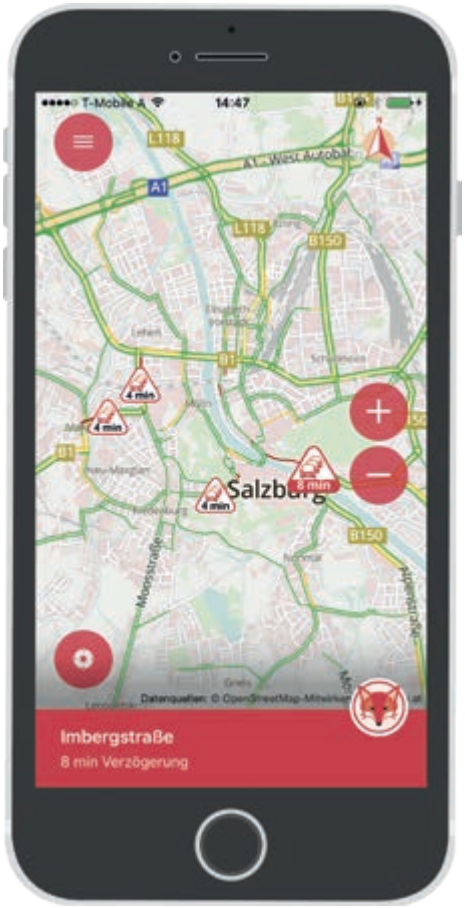
THE SOLUTION

The research institute opted for scalable IT resources from the Open Telekom Cloud. Data that is transferred to the cloud platform is only ever anonymous – from the app, the fleet vehicles' telematics systems and the street sensors. In addition, the institute operates the StauFux app and the web backend in the Open Telekom Cloud.

THE BENEFITS

The cooperation with Telekom has allowed the research institute to process more data. "The flexibility has been a big advantage for us," says Rehrl. "We are always looking for new fleets that might like to cooperate with us. Once we sign a contract, then we can easily scale the IT resources." At peak times on working days up to 5,000 fleet vehicles send their data every minute to the cloud – that is the equivalent of more than 25 million GPS data points or 1.3 million kilometers on the recorded routes that are processed in the Open Telekom Cloud.

All road users benefit from the data since the traffic jam information is freely accessible and every user can see the current traffic situation. Road operators can use this information to plan construction measures, for example to replace a traffic light system with a roundabout. Drivers can see which streets are congested and can contribute to a clearer picture by activating the app's tracking mode and providing anonymized driving data.



Don't sit in traffic: Check the StauFux-App

"The processing of the data in the high-security data centers is a compelling argument for our fleet customers," says Rehrl, who wants to augment the platform in the future with a forecast function. "Then users will not only see the current traffic situation but also where traffic jams are likely to develop within the next few hours."

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