Kapsch TrafficCom

Alternative revenue generation

Kapsch TrafficCom and Aventi have come together to explore the best approaches to deploying a high-performance road user charging solution in Norway

In Spring 2022, the share of electric and hybrid vehicles among newly registered vehicles in Norway stood at 90%, the largest share worldwide. The reason for this can be found in the various tax subsidies that the Norwegian authorities have placed on EVs with the goal of reducing CO_2 emissions.

While that goal is being achieved, an obvious side effect is the rapid decrease of vehicle-based tax revenue – from 11% of total government consumption in 2012 to 7% in 2018.

Anticipating the growing gap in funding, in 2021 the Norwegian Tax Administration and the Norwegian Public Roads Administration were commissioned to carry out a "concept selection study" to look at how to determine and collect future road user charges and tolls.

JuztDrive: the Kapsch/Aventi PoC

Based on the experience gathered in the GNSS-based nationwide tolling project in Bulgaria that Kapsch TrafficCom implemented, the company partnered with local ITS provider Aventi to conduct a road user charging proof of concept (PoC) as part of the study. The PoC, titled JuztDrive, began rollout in July 2022, focusing on vehicles in the greater Oslo area. It was based on a hardware-agnostic android app utilizing a centralized matching and rating "thin client" model. A mixture of approximately 30 real world and 30,000 simulated vehicles were captured with the system, each providing positions that were processed by the proprietary Kapsch Geo Location Platform (GLP) and used as a calculation basis for a road usage charge.

1 & 2. Governments need to finance their infrastructure, but tax revenue is declining. Images: Kapsch TrafficCom

The goal of the PoC was to test whether the combination of an existing application – operating on dozens of different smartphones and tablets – and separate rating engine could deliver a high-performance road user charging solution. As each road network is a unique entity, the goal was also to test in a series of conditions specific for Norway. Both goals were achieved with strong results. "The system was able to handle the challenging environments of the Norwegian road network, matching routes and calculating rates with an accuracy level above 99%," says Mikael Hejel, area sales manager at Kapsch TrafficCom.

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Data protection

The PoC complies with all relevant GDPR and EDPB guidelines and regulations, clearly informing the user that geolocation is taking place while only collecting data for processing the trip. Through a variety of measures, for example not storing the exact start and end positions of a trip and automatically deleting the data once the fee has been collected, user data is being handled carefully and transparently and in line with all applicable legislation.

Millions of KMs processed

In total, more than two million kilometers of trips were processed as part of the PoC, delivering valuable insights to Kapsch TrafficCom and Aventi.

"With this PoC, we are bringing together tolling technology and C-ITS in a way that has not been done before in Europe. We are excited to be at the forefront of technology and innovation once again," Hejel concludes.

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>
> **Mikael Hejel, area sales manager at Kapsch TrafficCom**