Kapsch TrafficCom Reports GNSS Viability for Large-scale Tolling

Category: Business
written by | November 28, 2024

- Norwegian Proof of Concept conducted successfully
- Millions of kilometers of trips processed
- System scalability makes it viable for nationwide deployment

Kapsch TrafficCom reports findings of Road User Charging (RUC) Proof of Concept (PoC) in Oslo, Norway. The initiative tested innovative solutions for distance-based road pricing with GNSS (Global Navigation Satellite System) technology as a sustainable alternative to traditional fuel taxes. This approach aims to address the decline in fuel tax revenues resulting from the shift to electric vehicles while ensuring fairness and accessibility for all road users.

Carolin Treichl, EVP EMENA at Kapsch TrafficCom, highlighted the projects innovation, "*With this PoC, we are bringing together satellite tolling technology and Cooperative Intelligent Transport Systems in a way that has not been done before in Europe. With over 2 million kilometers of trips processed and a rate accuracy exceeding 99%, the PoC demonstrated the viability of a low-cost, flexible, and scalable RUC system that is based on GNSS technology*."

As countries worldwide, including Norway, advance their transition to electric vehicles (EVs), governments face significant challenges in maintaining infrastructure funding. Fuel tax revenues – a primary source of road maintenance

funding – are projected to decline by more than 85% in Norway by 2050. Recognizing this issue, the Norwegian government has prioritized studying and implementing sustainable road usage charges based on the “polluter pays” principle.

The PoC leveraged a smartphone-based application paired with the GNSS tolling technology developed by Kapsch TrafficCom. The cloud-based, device-agnostic approach of Kapsch TrafficCom processes road usage data, calculates charges based on predefined tariffs, and delivers results with maximum accuracy, even in Norways challenging road environments.

Results and Insights
The PoC encompassed:

- Over 2 million kilometers of real and simulated trips
- 80 million position data points processed, achieving a 99.5% rate accuracy
- Successful adaptation to diverse conditions, including urban congestion, tunnels, and remote areas

These results underscore the systems scalability, making it a sustainable solution for nationwide implementation. The PoC also aligns with broader trends in mobility, including demand management and connected vehicles. Its cloud-based architecture reduces COâ□□ emissions by 85% compared to traditional systems, supporting global sustainability goals.

More information: Press | Kapsch TrafficCom.