



# From Tolling to Smart Mobility

Expanding Road User Charging and Fleet Management Solutions

Since 1984, Q-Free has been a global leader in tolling technology. Today, we're building the next generation of Road User Charging (RUC)—and alongside that, offering smarter, data-driven solutions for fleet management. We spoke with Ola Martin Lykkja, Q-Free's R&D Manager, about what's ahead for both innovations.

## **What is Road User Charging, and how does it differ from traditional tolling?**

Traditional tolling charges you at fixed points—like when you enter a highway or pass through a city zone. Road User Charging, on the other hand, treats roads as a service you pay for based on how much you use them. The system calculates charges by distance driven, time of day, or location, making it more flexible and fair.

It also shifts the financial model. Whereas

tolls often fund infrastructure or public transit, RUC revenues may be directed toward covering external costs—like accidents, congestion, and pollution. As fuel tax revenues drop with the rise of electric vehicles, RUC helps fill the gap, especially for private cars.

## **Why can't we just extend the current heavy vehicle RUC systems to all vehicles?**

The existing systems for trucks are bulky and expensive. They use large OBUs that often need workshop installation and constant power,

which works for commercial fleets, but isn't scalable to private drivers. For RUC to work for everyone, we need smaller, cheaper, and easier-to-install devices—especially since private car charges per kilometer are lower. We also need to design for privacy and GDPR compliance from the ground up.

**Q: How is Q-Free developing technology to support RUC for private vehicles?**

We're developing a next-generation GNSS-based tag that's compact, battery-powered, and quick to install with double-sided tape—no cables or professional installation needed. It's low-cost, high-performance, and compatible with DSRC and Q-Free's own evolving tag technology. This makes it suitable for large-scale deployment across private vehicles and adaptable to different market needs.

**Q-Free is also investing in fleet management. How does that offering fit in?**

It's a separate concept, but built on the same technology and on-board-unit as our Road User Charging solution. While RUC is designed to support governments and national infrastructure in fair and secure road user charging, our fleet management tools help businesses run operations involving large car-pools more efficiently.

With our solution they can track mileage and kilometers driven, optimize vehicle usage, and plan maintenance more effectively. It also provides insights into driving behavior, supporting improved safety and reduced insurance costs. Whether a company runs delivery vans or service vehicles, they can reduce costs and improve performance and safety.

**Who are the key stakeholders for the solutions and what are their roles?**

That varies by market. For RUC, governments usually set the policies and often collect the fees. In Norway, national road authorities also play a central role in operations. In places like Spain or Australia, private concessionaires may collect tolls. The RUC project is co-funded by the Norwegian Research Council and developed in partnership with SINTEF, the Norwegian Public Road Administration, and Skyttel. Collaboration is key to building systems that are technically sound and

publicly trusted. When it comes to fleet management, the key stakeholders are fleet owners, either rental or leasing companies, or companies owning large fleets themselves.

**What's next for RUC and fleet management solutions?**

We've already completed a successful large-scale RUC pilot through the so called GeoFlow project and we have refined the technology based on real-world user feedback. This includes miniaturizing the device and further improving user privacy. Now we are forming commercial partnerships to bring it to market. We're also conceptualizing our fleet management offerings in parallel—tackling both public and private mobility challenges with the same commitment to innovation.

**Learn more**

- Watch our RUC video
- Watch our Fleet Management animation
- Explore our solutions in Q-City

**For more information contact  
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