

European truck tolls from a single source

Toll4Europe supports cross-border trips with just one on-board unit



Reference project:



“Based on the T-Systems Tolling Platform, we offer our customers a high-quality, high-availability European road toll service. The modular structure of our service permits fast and cost-optimized modification of the requests and needs of our customers.”

Mirka Dworschak, Managing Director, Toll4Europe

The European Union – 27 member states. Due to their different histories, each member state took a different approach to collecting truck tolls. This resulted in very different technical solutions. In fact, two fundamentally different technologies are used solely to capture the movement and position data of trucks: one satellite-based (Global Navigation Satellite System – GNSS) and one microwave-based (Dedicated Short Range Communication – DSRC). The rich variety of road toll systems is also characterized by a range of billing and control processes, primarily affecting truck drivers who move across several European countries. For each country they travel in, they must install a separate on-board unit (OBU) in their trucks, conclude a separate contract with national toll operators, and accept separate invoices.

That's why EU bodies passed a directive back in 2004 to guarantee the interoperability of European road toll systems: EETS Directive 2004/52 on the interoperability of electronic road toll systems (European Electronic Toll Service – EETS). EETS is intended to simplify pan-European transport routes. This directive also paves the way for a new generation of road toll service providers that may now offer their services across national borders. The prerequisite: they have to be registered as an EETS provider in their home country and their solution must be accredited in the respective countries.

For truck drivers, this means lower costs as they only need to use a single, functional OBU throughout Europe which permits the compliant billing of the respective national road tolls via one contractor. Since 2018, Toll4Europe has been an accredited EETS provider in many European countries and offers the collection of the truck toll across several nations.

At a glance

- **Standardized road toll billing:** Summarized precisely, professionally, and succinctly for all entered toll regions.
- **Less complexity:** Toll4Europe consolidates all country-specific requirements and legal regulations. At the same time, the company acts as a link between toll collectors, sales partners, and toll-payers.
- **Fully integrated service:** Perfectly coordinated system components support all necessary business processes – from registration via the OBU logistics to billing.
- **In short:** Toll4Europe combines innovative ideas and future-oriented mobility services with excellent customer service.

Reference in detail

The challenge

Toll4Europe has taken up the challenge of mastering the enormous complexity involved – including data, interfaces, billing processes, and the entire IT infrastructure. Each country has its own different interfaces to its billing systems and other downstream IT systems, for example. Definitions for toll regions differ in the way they classify the tolls: in some definitions, they are treated like fees, while they are considered to be like a tax in others. Some toll-charging areas provide options for third-party sales, while others do not. There are also differences in invoice layouts and enforcement. Combining all of this intelligently and using state-of-the-art technology demands a lot of experience and a wide range of expertise as a systems integrator and IT system operator. At the same time, it is important to understand the needs of the customers and offer them tailored services. This is where T-Systems comes in.

The solution

T-Systems, a subsidiary of Deutsche Telekom, revolutionized road toll collection with the introduction of satellite-based systems. As an IT and telecommunications service provider as well as an integration specialist, T-Systems brings its wide-ranging expertise in route-based and usage-related road toll recording and billing to the table for Toll4Europe. With its years of international experience, T-Systems combines the IT and telecommunications domains for electronic road toll recording. T-Systems worked with Toll4Europe to develop a toll system based on the existing T-Systems Tolling Platform that meets the different needs while complying with all defined standards. A fundamental component of this solution is the custom-developed, user-friendly OBU software for the wide variety of toll and mobility services. It is based on decades of experience in the area of complex European road toll technologies. As a majority shareholder of TollEurope, T-Systems accompanied the solution from the very start: from architecture design and development to operation and maintenance. Meanwhile, T-Systems – together with Toll4Europe – is developing additional value-added services that are increasing market attractiveness. The expertise of T-Systems guarantees a high-quality standard in terms of collecting the toll as well as a seamless toll operation. As a result, the EETS service provider Toll4Europe has a partner that is a pioneer in European road tolls – with many years of experience in this area.

Customer benefits

The European road toll landscape is a puzzle consisting of many national and regional toll regions and toll collection systems. While EETS helps fit the parts of this puzzle together more easily, Toll4Europe keeps track of the big picture and combines all components intelligently. The goal: to cover all of Europe with a single on-board unit. The service is already available for Austria, Belgium, Bulgaria, France, Germany, Hungary, Portugal, and Spain, along with many tunnels. Italy and Switzerland will be joining the portfolio soon, followed by the Scandinavian and (South-)Eastern European countries.

Toll data collection, pan-technology, and cross-border with just one device:

Previously, the diversity of European road toll systems made it necessary to have different hardware units. With Toll4Europe, just one OBU is needed.

Modular, flexible system architecture, compatible with web-based services:

Toll service providers and third-party vendors can integrate the EETS platform from Toll4Europe into existing processes easily as a service module. Custom-tailored value-added services can also be provided as needed.

Greater transparency and security: Always know exactly where the end-user is located:

Thanks to switching constantly between satellite positioning, cellular networks, and short-range communication, the OBU is able to identify the vehicle location and the central system calculates the due toll. The EETS solution also makes up-to-date recorded data available every day – perfect for effective fleet management. The simple billing is completely transparent and secure. To protect customer data as well as possible and to comply with the applicable data privacy demands, the requirements of the ISO 27001 standard as well as the GDPR were taken into account when establishing the toll service provider.

Interoperability on Europe's toll roads:

Efficient, transparent, reliable, and interoperable. That's what we understand as free driving on Europe's toll roads. The foundation is EETS, the European Electronic Toll Service, with the two technologies GNSS and DSRC. Toll4Europe integrates both technologies in a single device, enabling the smooth exchange of all data and system updates over-the-air, via wireless communication.

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