



e-Highway utilization fee

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Legislation and Regulations

- What are the services to be billed for?
- Who is allowed to bill for the usage?
- Who is defining the tariffs?
- Who is allowed to do enforcement and which fines are permitted?

Technical implementation

- Which data are required for calculating the tariffs?
- Where are the data collected?
- How are the data transferred?
- How are those secured against fraud?
- Which accuracy is achievable?

A suitable billing solution has to meet legislative and technical requirements – on an European basis.

General options for eHighway billing

Options

	Flat fee	Session fee	Connected km / time fee	Consumed energy fee
Comparable Systems	<ul style="list-style-type: none"> • Monthly tickets in transport associations 	<ul style="list-style-type: none"> • Congestions charging in cities 	<ul style="list-style-type: none"> • GNSS tolling systems 	<ul style="list-style-type: none"> • Energy supply contracts
Short description	<ul style="list-style-type: none"> • Lumpsum payment is done for specific sections or regions per month or year. • Payment is independant of actual usage • Classification for different vehicle types is possible 	<ul style="list-style-type: none"> • Payment is done per use of a section or region. • Payment is independant of the usage duration or length • Classification for different vehicle types is possible 	<ul style="list-style-type: none"> • Payment is done by time or length of usage. • Energy consumption is only statistically evaluated • Classification for different vehicle types is possible 	<ul style="list-style-type: none"> • Payment by consumer kWh • Classification for different vehicle types is not required • Regulations on measurement (Eichrecht) need to be considered
Invoicing party	<ul style="list-style-type: none"> • eHighway service supplier 	<ul style="list-style-type: none"> • eHighway section operator 	<ul style="list-style-type: none"> • eHighway section operator 	<ul style="list-style-type: none"> • Energy supplier

Technical focus: Challenges for an eHighway billing

- 1 An **international alignment** is required on
 - Who is allowed to charge for the eHighway use (e.g. utility or eHighway operator)
 - Who has to pay for the usage (e.g. car owner or driver)
 - What is the provided service (e.g. “consumed kWh” or “connected km”)
 - Are there any limitations or regulations for the tariff definition
- 2 The system is an **public system**, for an unlimited number of users (from various nationalities).
- 3 The system must be able to handle a **huge number of transactions with small values**.
- 4 The system handles private data (e.g. number license) and has to fulfill the regulations **on data privacy protection**.
- 5 The system handles financial data and has to **be protected against fraud**.
- 6 User might try to use the system without registration, payment or permission. Therefore an adequate **enforcement** must be in place including fines and dunning.