Fits.toll

**Fits for Tolling
Enforcement**

Roads are an important asset and require proper maintenance. We believe road user charge and tolling should be easy to use and efficiently managed to support social equity and provide funds for infrastructure maintenance and development.

Video-based tolling enforcement based on ANPR technology allows to avoid deployment of additional devices or tags in vehicles thus making the experience for road users more pleasant, at the same time avoiding costs associated with distribution, deployment and maintenance of on-board equipment.

What problem does it solve?

Road user charge methods still quite often require purchase and distribution of on-board equipment, which is quite an inconvenience for road users, especially for tourists or other foreign vehicles. ANPR-based tolling enables a more convenient and cost-effective method of toll control and enforcement.

There are solutions that require deployment of various costly in-pavement and other road-side sensors (lasers) to identify different vehicle classes, and still these solutions may struggle to distinguish important specifics to properly classify vehicles for the use of correct vignette. Fits.toll is able to classify vehicle types just based on the image/video feed from the cameras, thus allowing to achieve the same goal with less investment required into other sensor types.

How does the system work?

Gantry Sensors

Roadside-Housing Sensors

Raw Data

Server or Cloud

Central Database

Edge Processing Unit (optional)

Prepared Data

Back Office

Users

24/7 Support
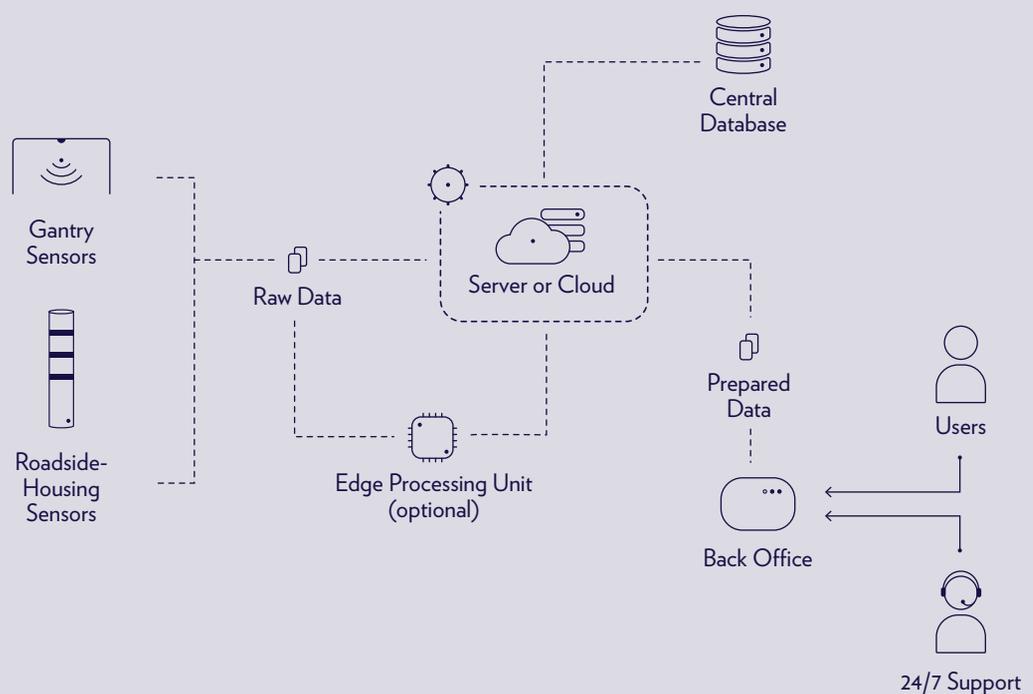
Key features
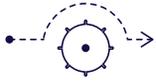
Automatic vehicle status control (road user charge, insurance, safety certificate, surveillance lists) with no interruption to road traffic.

Free-flow automatic vehicle type, time, location, country of origin detection.

Sensor vendor-independency, solution can be adjusted to leverage existing road-side sensor infrastructure.

Various statistics and reports available regarding the traffic flow.

Who would benefit?

Urban, regional and national Road Administrations

Ministry of Transportation

Key benefits

Video-based vehicle classification enables additional flexibility in road user charge pricing schemes, that take into consideration different vehicle classes (passenger car, motorcycles, inivans, buses).

Data collected into a unified store from all video sensors allows to avoid manual violation process thus decreasing operational costs.

A more convenient & cost-effective road user charge control method.

Implementing Tolling Enforcement | Fits.toll

Client

Ministry of Transport, the leading institution of state administration of transport and communications, whose mission it is to improve and implement the state policy of Latvia in the fields of transport and communications, to maintain and develop an effective, safe, competitive, environmentally friendly and flexible transport system and create a liberalized and harmonious legal and economic environment of the communications sector.

The Challenge

Roads and means of transport make a crucial contribution to the economic development and growth, bringing important social benefits with it. Poorly maintained roads constrain mobility, significantly add to vehicle operating costs, increase accident rates and the costs associated with them. Seeking for an automated go-to solution, the Ministry of Transport decided to introduce the Road User Charge - a payment for using the main state and regional Latvian roads to facilitate their maintenance and development, as well as to promote the use of environmentally friendly vehicles. However, after an in-depth examination, they noticed that the toll is often not paid according to the vehicle's gross weight. Moreover, if the Latvian border could be crossed within 3 hours of driving, both domestic and international drivers predominantly chose not to purchase the toll at all. Thus, in 2016, around 30% of the planned (> 4M EUR) revenue from the Road User Charge wasn't collected and couldn't be applied to improve the road environment.

The Solution

With that in mind, The Ministry of Transport decided to deploy a long-term, cost-effective smart toll enforcement system, combining high quality transportation sensors and a customized Fits.toll system connected to various registers in order to automatically scan the traffic flow (collecting data regarding the vehicle's type, time, location, country) and verify if the owner of the passing vehicle has purchased the Road User Charge and Insurance and has passed the Vehicle Safety Inspection, or performed other transportation-related check-ups that the client has indicated in advance.

The Outcome

Within the set time frame of 4 months and owing to a close collaboration of all stakeholders, a fully automated and integrated toll enforcement system has been installed. Today, the Ministry of Transport is able to gather valuable traffic flow information and facilitate the vehicle verification process. It has been established that within 2 months the total sum of violation protocols drawn up regarding the Road User Charge has surpassed the investments allocated to the implementation of Fits.toll. Everything being fully automated means less human intervention in administrative processes and lesser overall costs, but most importantly – the Ministry of Transport can claim full transparency and instant information regarding the overall traffic flow situation so that calculated and adjusted road improvements can be made.

« Thanks to advanced technologies, we have accessed valuable data and gained information transparency regarding vehicles on our roads. Today, as the system is fully automated, we have diminished human involvement in the administrative tolling process and are now able to focus on strategically more important tasks - how to further improve the road environment and maintenance so that every road user feels safe while driving. »

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Tolling sensors with a built-in Fits.toll system scan passing vehicles and automatically verify if all quality assurances are properly made, e.g., the owner of the vehicle has purchased the Road User Charge and Insurance, and has passed the Vehicle Safety Inspection. Afterwards, this data is pre-processed and forwarded to a law enforcement agency.

Traffic flow transparency

Facilitated verification of passing vehicles

Within 2 months the calculated violation protocols regarding the Road User Charge have exceeded the investments