

BelToll Project

1787 km of Free-Flow Tolling in Belarus

Belarus' nationwide Multi Lane Free Flow (MLFF) Electronic Toll Collection (ETC) system is called BelToll. Before its implementation in 2013 the country had operated a manual tolling system on the M1/E30 highway which only charged vehicles that exceeded a height of 2,1 meters. The Republic of Belarus sought a modern and future-proof solution for fair and transparent toll collection as a source of financing for the construction of new roads and infrastructure modernization.

A successful toll road network: 1787 km of Free-Flow Tolling.

In August 2013 Kapsch TrafficCom launched the first stage of Belarus' new nationwide Multi Lane Free Flow (MLFF) Electronic Toll Collection (ETC) system under the brand name BelToll. The first phase covered initial 815 km of public roads. The Electronic Toll Collection (ETC) system BelToll has been in commercial operation since 2013 and gradually expanded from its initial 815 to 1,787 kilometers in 2020. This extension took place in line with the long-term state program for the development and maintenance of highways in the Republic of Belarus for 2017–2020, and Kapsch acts as both developer and operator of the toll collection system in the region. The new system was based on dedicated short-range communication (DSRC) between vehicles and infrastructure.



Project Scope:

- A modern and future-proof solution for fair and transparent toll collection as a source of financing the construction of new roads and the modernization of existing ones.
- Design, install, and implement the new nationwide Multi Lane Free Flow (MLFF) Electronic Toll Collection (ETC) system that as of early 2021 covers 1,787 km of public roads and provides toll collection for commercial and private vehicle transit through Belarus, and furthers the development of transit potential of the country.
- Kapsch is responsible for the maintenance and operation of the system for a period of 20 years (2033).

The Challenges:

- The implementation of the ETC system in the Republic of Belarus was an investment project and first of its kind for Kapsch. Kapsch TrafficCom's experience in system investment financing, system design, and commercial operation has been a key factor for the project's success.

The Solution:

- The end-to-end solution includes roadside equipment consisting of tolling and enforcement gantries, and DSRC transceivers communicating with the OBUs (on-board unit) /transponders in the vehicles that pass below toll gantries
- The system also comprises ANPR cameras, compliance and enforcement Systems, a central host system, a data transmission infrastructure, back office.
- To enable various services such as account opening, contract signing and closure, OBU handout and return, account top-ups, contract closure, funds return, claims etc. for road users 24/7, more than 50 Customer Service Points were set up along the toll road network. They are located in major cities and at all border crossing points.
- Kapsch produced and supplied 500,000 on-board units to the Republic of Belarus, built 140 (out of total planned 222) gantries including 30 enforcement gantries and two modern data centers. Kapsch also provided 42 Mobile Enforcement Vehicles (MEV) and developed 23 Enforcement Check Points for the transport inspection unit of the Ministry of Transport and Communications of Belarus.
- The ETC system is based on the proven DSRC-technology, which is designed for automotive use and is based on CEN DSRC 5.8 GHz standards.
- There is no need for vehicles to use a certain driving lane; charging also takes place when a vehicle is switching lanes or even if there are several vehicles driving in close proximity.



The Added Value

- *Efficient toll collection in Multi Lane Free Flowing traffic.*