

Operation of Toll and Telematic Solutions: Road User Services, Payment Systems, Enforcement Systems.



always one step ahead

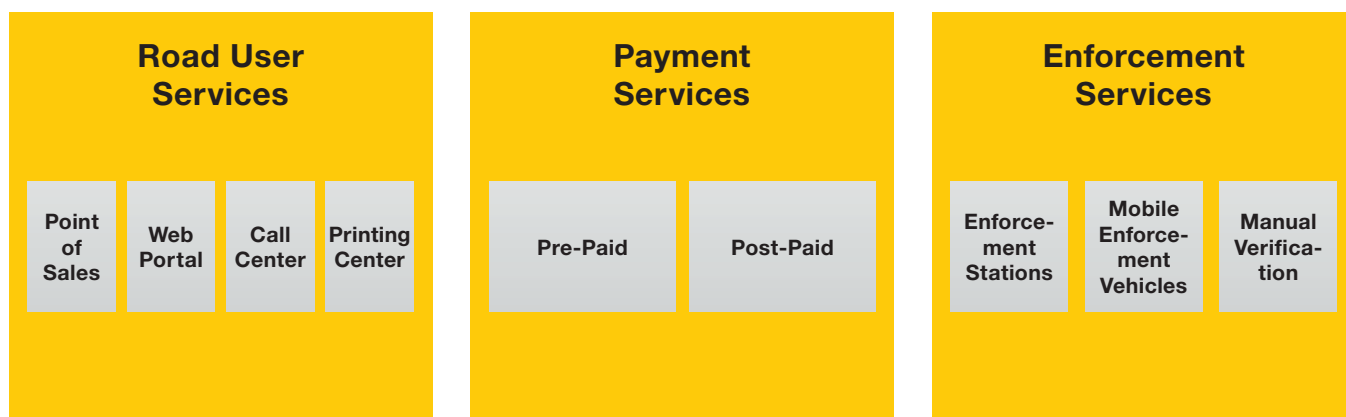
Our three core competencies for the operation of electronic toll systems: **Road User Services, Payment Services and Enforcement Services.**

Kapsch Telematic Services is a subsidiary of Kapsch TrafficCom and is responsible for the operation of electronic toll systems within the scope of Operations Management.

Our services include design and development of the organizational structure, all processes and clearly defined areas of responsibility, which are essential for the operation of the electronic toll collection systems: road user services, payment services as well as enforcement services.

The objective is to achieve optimum process management, clear communication with road users and the road owner's toll objectives.

Overview of main services



The central system, managed by Kapsch TrafficCom Operations Management, integrates all the elements of this complex process.

Road User Services and Enforcement Services are crucial for operations.

Road User Services: Information. Communication. Interaction.

Road User Services focus on communication with the road users, i.e. with the toll collection system users. This concerns all data, contact and information processes necessary to use the toll collection system efficiently and comfortably. We offer customer-specific services with interfaces necessary for the communication between the road users and the system: point of sale, call center, web portal and printing center.

Services for road users



Call Center



Printing Center



Web Portal



Point of Sale

Our point-of-sale services: The first contact is the most important.

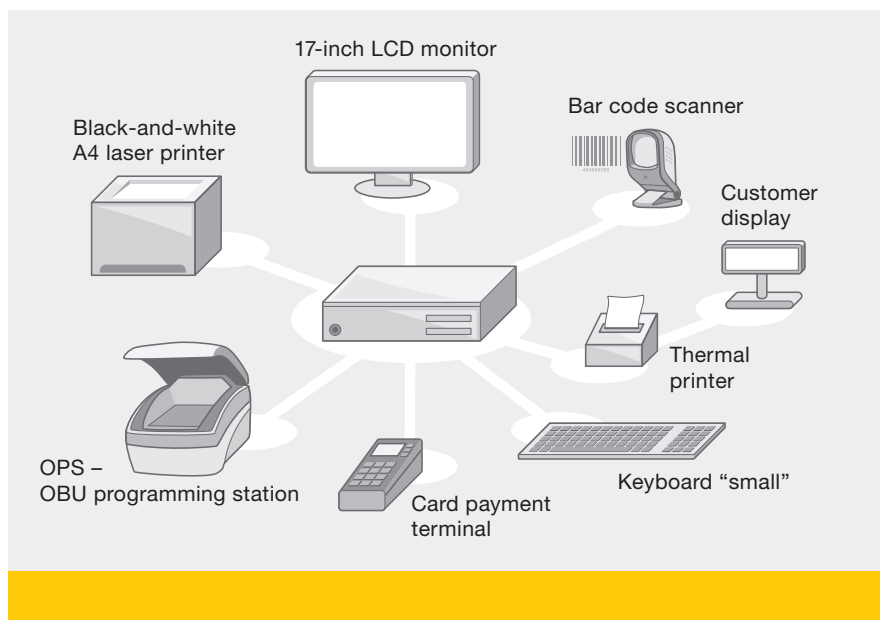
At the point of sale (POS), for example at petrol stations, the end-users have the first contact to the system.

POS services:

- Authorized access to the system
- Information about the toll collection system
- Distribution, exchange and return of on-board units
- Other useful options for road users

Sales and service points:

Around-the-clock service for road users can be supplied along the tolled road, for instance at petrol stations or similar facilities. The Contact Point allows road users to obtain OBUs, recharge OBUs, and to register or unsubscribe from the pre-pay system.



On-board units:

On-board units are responsible for the communication with the system and are ready for operation in only a few minutes. Kapsch TrafficCom engineers manufacture a variety of standards-compliant on-board units.



“How can we help you?”

Our call center offer.

The call center implemented for the toll collection system is designed as a “Contact Center” for road users and represents the heart of the solution. Depending on the agreement, access to the call center is free of charge and possible via telephone, e-mail, fax, letter or internet. All data and information is centrally managed and available via the Customer Attention Center’s database.



Call Center Services (extract)

- First-level support (front end and back office)
- IVR Services (Interactive Voice Response):
telephone, e-mail, fax, letter, callback
- Extended services for road users:
 - Toll transaction list (traceability)
 - Manual for the electronic toll system
 - Inquiries, suggestions and/or complaint processing, technical fault reports
 - Account and/or invoice requests
- Training for call-center employees
- Service optimization

The **wwweb** portal.

Kapsch Telematic Services creates a specific web portal for its toll collection systems. This portal gives access to information concerning the toll collection system and also offers special services for registered users.

All information and data in connection with the toll collection system is visible and available via the web portal: how the toll system operates, the description and functionality of the on-board units, contact information and much more. Additional information (company information, internet security) can be offered in multiple languages.



“Your documents, please!” The **Printing Center**.

The printing center organizes the infrastructure and all processes related to the printing and mailing of the documents relevant for the road users.

Printing Center Services

- Basic printouts
- Security services
- Service optimization
- Information and reports



Payment systems.

Quickly pay for themselves.

The tasks of payment systems include processing of different payment methods and means of payment as well as providing payment documentation. Our contractual partners provide invoicing services as well as banking services for this purpose.

- Billing
- Invoicing services
- Cash management
- Card services
- Credit card services
- Fleet card services
- Online payment
- Payment via call center, fax, e-mail, etc.
- Payment via debit card
- Mobile phone SMS/payment



Main payment channels and type of contracts

Pre-pay contracts

A pre-payment must be made and the amount due is deducted for each toll transaction done by a vehicle associated with this contract. When the contract balance drops below the defined contract top-up threshold, the contract must be topped up by means of one of the following options:

- **Automatic top-up:** when the contract balance drops below the top-up threshold, the defined top-up amount is automatically credited to the contract account by using the registered means of payment (credit card, fleet card or bank account).
- **Semi-automatic top-up:** when the contract balance drops below the top-up threshold, a notification is automatically sent to the customer (by e-mail or SMS), who then needs to validate the semi-automatic top-up. Once validated, the defined top-up amount is automatically credited to the contract account by using the registered means of payment (credit card, fleet card or bank account).
- **Manual top-up:** when the contract balance drops below the top-up threshold, the customer then needs to manually pay the top-up amount.

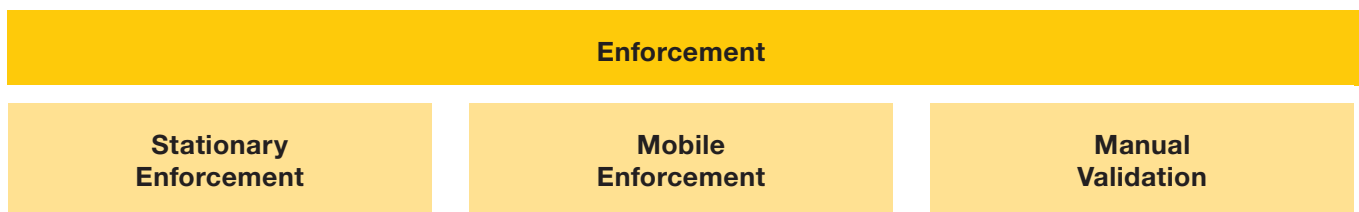
Post-pay contracts

A registered means of payment is assigned to every post-pay contract. The system manages two means of payment for automatic post-pay contracts:

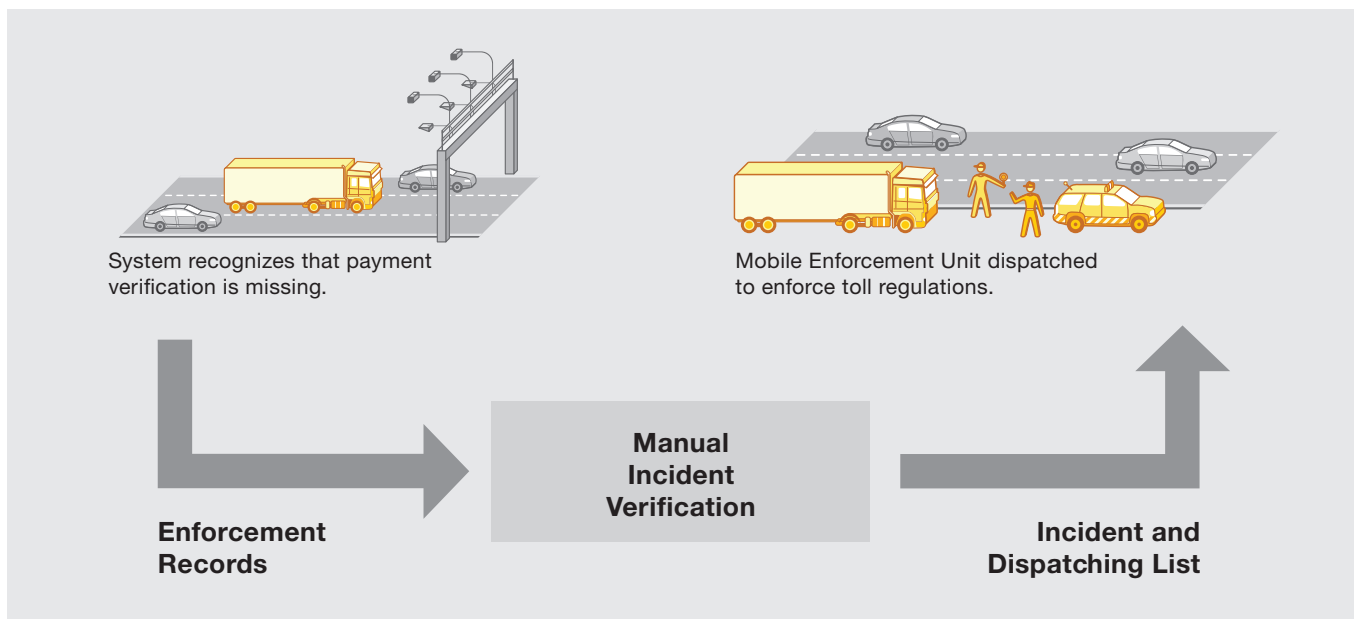
- **Credit cards or fleet cards:** periodically (typically once a month), an invoice is sent to the customer while a debit order to the credit/fleet card processor is automatically performed on a daily basis.
- **Direct debit (bank account):** periodically (typically once a month), an invoice is sent to the customer while a debit order to the bank account is automatically performed at the invoice due date (or a few days before, depending on configurable values).

Enforcement system services: Toll needs control.

Enforcement Systems by Kapsch, particularly if used together with multi-lane free-flow systems, offer a comprehensive approach to prevent systematic toll evasion, thus securing the income of the road operator and at the same time ensuring fairness to all participants in the scheme.



Enforcement



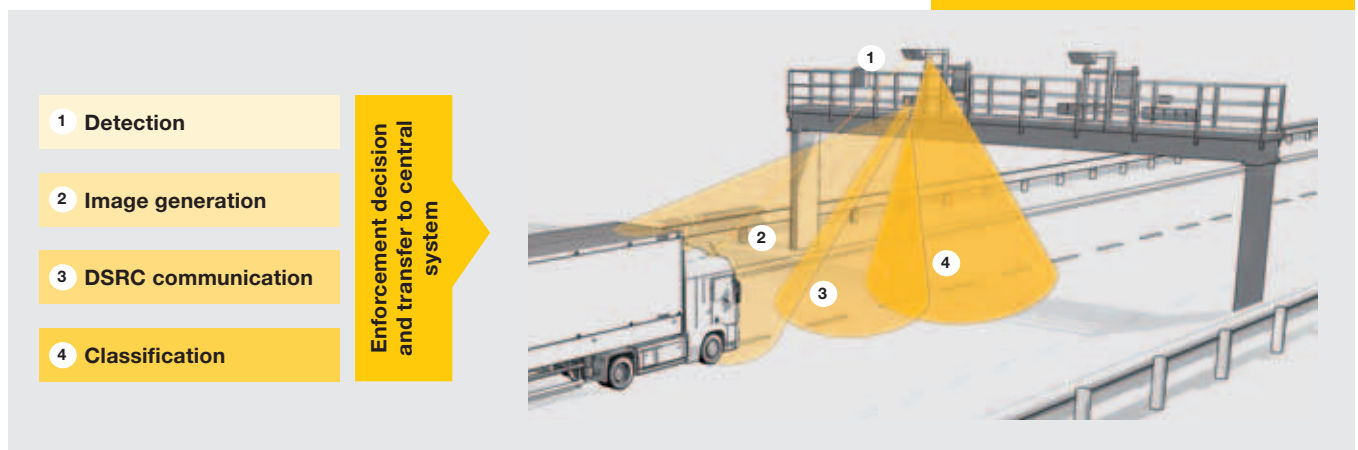
Stationary Enforcement.

Controlling toll 24/7.

Vehicles pass a fixed enforcement station, are verified by the system and classified accordingly. For enforcement, the on-board unit is “read” by means of Dedicated Short-Range Communication (DSRC). At the same time, an overview image and a frontal and/or rear photo of the vehicle are taken. All this occurs without interrupting the flow of traffic and even during lane changes within the enforcement zone. The enforcement report is automatically created and forwarded to the Enforcement Management Center for further processing.



Enforcement sequence for multi-lane free-flow system



Mobile Enforcement.

Controlling toll on the go.

Specially equipped enforcement vehicles read the on-board data while passing the vehicle under scrutiny, even at high speeds.

The enforcement equipment is specifically designed for installation in enforcement vehicles and enables spot checks in free-flowing traffic, as well as inspections of stationary vehicles, for example on parking lots or at petrol stations.



Mobile payment checks:

payment checks/monitoring on the road.

- Includes transceiver and connection to central system
- Full enforcement functionality for front-seat passenger
- Portable crash-safe keyboard with display
- Mobile office in the back
- Various payment means in the car
- Mobile online access to central system – everywhere!

Supervision of OBUs in parked vehicles:

- Check on-board units via OBU mobile reader
- Read last transactions

All the pieces come together at the **Manual Validation Center.**

The manual follow-up includes an application for manual and automatic monitoring tasks. Documents generated automatically

by fixed and portable monitoring equipment can be verified manually, if this is legally required.

Manual Incident Verification Masks

Enter license-plate number

Determine toll liability

Enter category

Verification

Kapsch Telematic Services: a subsidiary company of Kapsch TrafficCom.

Kapsch Telematic Services is a wholly-owned subsidiary of Kapsch TrafficCom, an international supplier of intelligent end-to-end road traffic telematics solutions. Kapsch TrafficCom's portfolio comprises toll collection systems, urban traffic solutions, ITS and telematics solutions, the design, development and manufacture of core technologies and the operation of road user charging systems. With over 230 references in about 40 countries, Kapsch TrafficCom has positioned itself among the leading suppliers of ITS worldwide. Kapsch TrafficCom is headquartered in Vienna, Austria, and has subsidiaries and representative offices in 23 countries.

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Kapsch Group.

Kapsch is one of Austria's leading technology corporations, specialised in the future-oriented market segments of Intelligent Transportation Systems (ITS) and Information and Communication Technology (ICT). Kapsch, headquartered in Vienna, is organised as a group company with the entities Kapsch TrafficCom, Kapsch CarrierCom and Kapsch BusinessCom. The Kapsch Group companies employ a total global workforce of over 3,000, with subsidiaries, branch offices and representatives around the globe. Kapsch. Always one step ahead.

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