

DSRC, ANPR, GPS, GNSS and  
something with a V and R and ...?

**Ask us.**



always one step ahead

# Kapsch TrafficCom: Always one step ahead.

## **Always looking to the future.**

As an international provider of ITS solutions and intelligent traffic management solutions, we maintain a tradition of visionary thinking, responsible leadership and an entrepreneurial spirit since 1892. For an optimized traffic flow, conscientious to the impact on the environment – today and in the future.

## **Always innovative.**

We focus on innovative telematics applications that deliver economic and lasting benefits to our customers. To enable this, we operate a network of six R&D facilities in 5 countries worldwide. Our goal is to create intelligent products and solutions that support our customers' end-to-end value chain.

## **Always striving for excellence.**

“Create value to generate value.” As a globally operating specialist in the Intelligent Transportation Systems/Services market, we seek technical and commercial excellence in our solutions to create consistent and sustainable benefits for our customers, partners and road users.

## **Always aware of our responsibilities.**

Taking responsibility means offering clients excellent technology solutions and services provided by committed employees – while fulfilling our obligations to society. We are committed to the responsible stewardship of natural resources, and employ an integrated quality management system.

## **Always where you need us.**

Our global presence creates sustainable value at the local level, and provides our customers important competitive advantages in their markets. With an extensive international network of subsidiaries and branch offices we are there where you need us.



# The Total Concept.

For almost 20 years, Kapsch TrafficCom has specialized in developing intelligent traffic telematics solutions in road user charging, from single products and services to fully integrated turn-key systems covering system concept and design, planning & roll out, development and manufacture of core products, system integration and implementation, customer support, maintenance and service, technical and commercial operation.

## Kapsch TrafficCom products and solutions portfolio consists of:

- Toll Collection Systems
- Urban Traffic Solutions
- ITS and Telematic Solutions
- Operations
- Products & Components

Kapsch TrafficCom offers expertise in toll collection systems which utilize CEN 5.8 GHz DSRC, 802.11 WAVE (5.9 GHz), GPS/GNSS, GSM/GPRS, infrared laser, video and ANPR technologies, roadside equipment and in-vehicle on-board units compliant with international standards, enforcement, vehicle detection systems, vehicle classification systems, vehicle registration, central systems, program development, and the operation of such systems.

# Toll Collection Systems.

## Manual and Automatic Toll Collection.

Kapsch TrafficCom supplies complete systems for conventional manual toll collection – whether for manual or automatic payment – comprised of hardware and software for lane level, plaza level and host level operation.

## Single Lane Electronic Toll Collection (ETC).

Kapsch TrafficCom is specialized in creating cost-effective and reliable DSRC-based, standards compliant single lane systems which enable an increase in traffic throughput, reduction in traffic congestion and the emissions caused.

## Multi-Lane Free-Flow (MLFF) ETC Systems.

MLFF systems provide an advantageous balance of the initial investment costs, operating and maintenance costs and collection of revenues. It is an ideal solution for Build – Own – Operate – Transfer schemes, or for other complex road networks.

## Kapsch Highway.

Kapsch Highway is an advanced MLFF system for electronic toll collection and enforcement in an unrestricted traffic environment based on DSRC microwave.

## Kapsch Area.

Kapsch Area is an integrated MLFF ETC system for all-road user charging based on GPS/GNSS and GSM/GPRS and DSRC technologies. It combines the benefits of DSRC microwave technology and satellite based vehicle positioning for toll collection applications, where the road network is extended from highways to the secondary road network.

Kapsch TrafficCom is the global leader in the supply and integration of MLFF systems, whether for open highways, interurban expressways or for urban environments with stop & go traffic conditions.



## Enforcement.

Toll needs control: only effective control ensures fairness to all users, secures all toll revenue and maintains the integrity of the system as a whole. Kapsch TrafficCom offers comprehensive solutions for stationary, portable and mobile enforcement based on video or laser-scanner technologies.

## Vehicle Detection and Classification.

Kapsch TrafficCom creates sensor systems based on laser-scanners or stereographic video image analysis for vehicle classification and detection as well as triggering of registration images.

## Vehicle Registration.

Kapsch TrafficCom offers camera systems for multi-lane and single-lane environments capable of generating overview images and automatic OCR (ANPR/ALPR) to produce legally admissible evidence of toll evaders.

## Central Systems.

The backbone of all fee collection systems are the databases and the information which they collect, process and control. The Kapsch TrafficCom central system offers a flexible solution which can be customized and scaled to accommodate systems of different size and complexity. Developed in accordance with CMM level 3, the Kapsch TrafficCom back office handles the technical, commercial, financial and legal processes to support the fee collection system:

- Interface to Roadside System for Communication with tolling points
- Creation and maintenance of lists (e.g. authorized or unauthorized)
- Tolling procedures including application of complex tariff schemes
- Enforcement procedures including validation and provision of incident data
- CRM with customer contact point applications and customer self care portal
- Billing and Accounting incl. payment reminder processes
- Reporting and Statistics for operational and financial purpose

## HGV and Truck Tolling Systems.

Kapsch TrafficCom – through its experience in Switzerland for nationwide infrastructure and enforcement system for the Heavy Vehicle Fee (LSVA), as turn-key system supplier for Austria's nationwide Truck Tolling System and as turn-key system supplier and operator for the nationwide Czech Republic Truck Tolling System – is a proven partner in this very specialized area.



# Urban Traffic Solutions.

## Decide the policy. Define the urban scheme. Choose the technology.

Kapsch Urban Traffic Solutions respond to the needs for flexible and versatile solutions for city environments: whether a city needs to limit access to city centers, or establish a charging regime for use of certain corridors, zones or areas or implement the means of on-street parking using automatic fee collection methods or simply an intelligent parking system.

Kapsch TrafficCom supplies area access points based on a combination of ANPR and DSRC microwave technologies, well suited for the city environment and discretely deployed.

## Kapsch City.

Kapsch City is a MLFF charging and enforcement system for urban areas designed to operate in congested, stop & go and undisciplined traffic conditions, in either passage-based or period-based charging schemes. Kapsch City is based on a combination of ANPR for occasional users as well as enforcement, and standards-compliant DSRC microwave communication to maximize accuracy and reliability of the charging system.





# ITS and Telematic Solutions.

ITS – Intelligent Transportation Systems – cover a broad range of technical solutions intended to enhance transportation by improving mobility and increasing safety in road traffic.

The Kapsch Incident Detection System detects events or anomalies within seconds by analysing images from standard video surveillance cameras and combines video analysis, digital storage, digital image transmission and control system integration into one system.

The Kapsch Telematics Platform uses ETC infrastructure for implementing traffic telematics solutions, such as capturing traffic data, traffic planning, traffic management, safety & security, end-user services, as well as various industry solutions on basis of the Kapsch ETC systems.

Kapsch ITS and Telematic Solutions are designed to increase road safety through timely management of critical on-road situations, support efficiency by using the existing infrastructure and contribute toward reducing environmental pollution by controlling traffic flows and managing traffic volume.



# Operations.

Kapsch TrafficCom, through its subsidiary Kapsch Telematic Services, offers operation of electronic fee collection systems. The services portfolio focuses on three core competencies – consulting, implementation and operation – to ensure a solution that is exactly in line with client requirements.

**Consulting:** We analyse the parameters and develop a comprehensive concept. Our portfolio includes the analysis of local geography and topology, and the consideration of legal and political requirements. In addition we develop technical and commercial concepts and can help optimise the existing organizations that are responsible for operation of road user charging systems.

**Implementation:** We get your new system up and running and develop efficient processes to ensure smooth operations. We design and develop the entire ICT infrastructure for your road-user charging system and put the necessary organisational structures in place. What's more, We ensure efficient operation of the system and provide comprehensive services to road users. Our portfolio also includes technical operations at a local level, supported by services from Kapsch TrafficCom, such as monitoring, maintenance and ongoing systems optimization. Moreover, we offer sub-contractor management and staff recruitment, and we provide employee training in order to ensure high-quality operations. We also offer services for the generation of statistics, reports and documentation in line with customer requirements.

**Operation:** We provide road user services, toll payment and enforcement solutions. To ensure the telematics system runs smoothly, a whole host of additional services are required. Based at local Kapsch offices, our road user services specialists ensure drivers understand the system and have the right equipment to use it. This includes a sales network with physical points of sale, a call center and a web portal. Our toll payment solutions include support for invoicing and dunning and offer a variety of payment methods, such as cash, credit card and fleet card.

In addition, we operate all the necessary systems and mechanisms for verifying and ensuring correct use of the system. To this end, experts at our own local Enforcement Center analyse the information provided by mobile and fixed enforcement units and take any necessary action.

Kapsch Telematic Services GmbH has its corporate seat in Vienna, Austria and regional companies in Czech Republic, Germany, Hungary, Slovakia.

Kapsch Telematic Services operates the electronic toll collection system for heavy vehicles in the Czech Republic since 2006.



# Products & Components.

Kapsch TrafficCom offers a comprehensive portfolio of products and components for electronic fee collection applications, including DSRC roadside infrastructure and in-vehicle equipment, as well as video and sensor products.

DSRC Product Line: Kapsch TrafficCom designs, develops, manufactures and supplies core technologies specifically created for EFC applications and other charging schemes. Transceivers are available for MLFF, single-lane and access applications. On-board units are read/write devices designed to ensure high data security and integrity with high speed internal processing.

Kapsch products are compliant with the current international standards for Dedicated Short Range Communication, DSRC, and to the international ISO standard for electronic fee collection, EFC.



# Kapsch TrafficCom: We make your traffic flow.

Kapsch TrafficCom is an international supplier of innovative road traffic telematics solutions. Its principle business is the development and supply of electronic toll collection (ETC) systems, in particular for the Open Road Tolling (ORT), and the operation of such systems. Kapsch TrafficCom also supplies traffic management systems, with a focus on road safety and traffic control, and electronic access systems and parking management. With more than 250 references in over 40 countries in all five continents, and with more than 40 million delivered on-board units (OBUs) and 17,000 equipped lanes, Kapsch TrafficCom is one of the leading suppliers of ETC systems worldwide. Kapsch TrafficCom is headquartered in Vienna, Austria, operates six engineering competence centers on four continents, and has subsidiaries and representative offices in 29 countries.



## The Kapsch Group.

Kapsch Group is among the leading international technology corporations specialized in the future-oriented fields of telematics and traffic management and Information and Communication Technology (ICT). Kapsch, a family owned company since 1892, is organized as a group company, with the entities Kapsch BusinessCom, Kapsch CarrierCom and Kapsch TrafficCom operating independently. Kapsch Group has its corporate seat in Vienna, Austria, employs a global workforce of over 3,000, and is represented on all five continents through subsidiaries and branch offices. Kapsch. Always one step ahead.

### **Kapsch TrafficCom AG**

Am Europlatz 2, 1120 Vienna, Austria

Phone +43 50 811 0

Fax +43 50 811 2109

E-mail [ktc.office@kapsch.net](mailto:ktc.office@kapsch.net)

[www.kapschtraffic.com](http://www.kapschtraffic.com)

[www.kapsch.net](http://www.kapsch.net)