

# Industry Overview.

## Four main market drivers in the road traffic telematics market

### Road user charging as a means to fund infrastructure projects

### Reduction of congestion

### Reduction of environmental pollution

### Reduction of road accidents

## Market Drivers in the road traffic telematics market.

Kapsch TrafficCom believes that the main drivers in the road traffic telematics market and particularly in the road user charging (RUC) systems market segment primarily include the funding of road infrastructure projects, the reduction of congestion, the reduction of environmental pollution and the reduction of road accidents.

**Road user charging as a means to fund infrastructure projects.** The growth in the number of vehicles requires additional financing to construct new and maintain existing roads. Tolling offers a constant source of financing and thus helps governments in providing financing required for infrastructure projects. Efficient, in particular electronic toll collection (ETC) systems, offer a significant, constant and sustainable source of additional funds for governments, public authorities and concessionaires, which can be used for the expansion and maintenance of road infrastructures. Such ETC systems may apply either to selected (mostly highways) up to all classes of roads (all-road tolling) as well as to selected (mostly heavy and light commercial vehicles) up to all classes of vehicles (all-vehicle tolling).

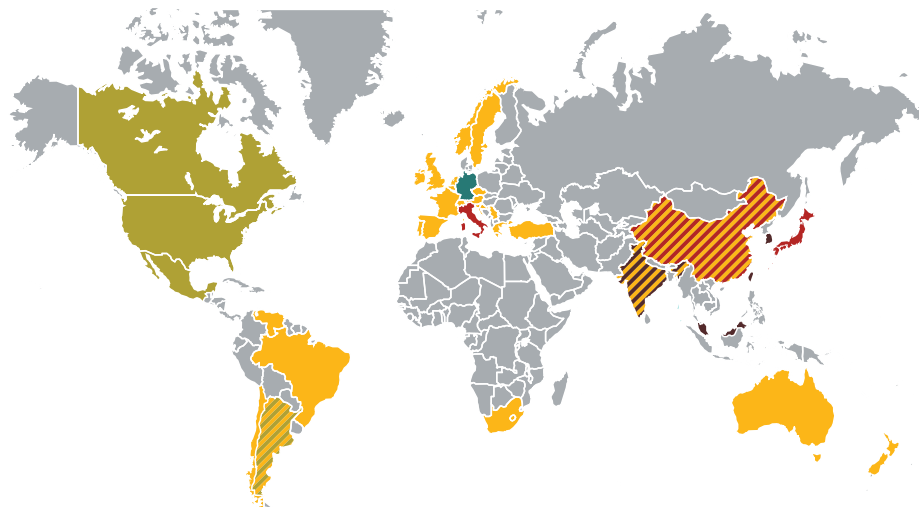
**Reduction of congestion.** Road user charging is largely perceived as an effective solution for reducing high levels of congestion particularly in metropolitan areas, as paying for road usage encourages carpooling or the use of public transportation, or to better allocate traffic over time.

**Reduction of environmental pollution.** Efforts to reduce environmental pollution have become a market driver for the introduction of road user charging systems. Road user charging systems encourage reduced or modified vehicle usage and reduce the need to further expand the road network, resulting in reduced emissions and levels of pollution. Increases in tolls would further encourage carpooling or use of public transportation, respectively to better allocate traffic over time. Increases in traffic and urban congestion necessarily result in higher levels of pollution of the air and noise. Efficient, in particular electronic toll collection (ETC) systems have a demonstrated ability to reduce environmental pollution and emissions of carbon dioxide by reducing congestion at toll plazas and not interfering with the traffic flow. City charging/tolling systems or dynamic parking management systems also reduce the levels of congestion and environmental pollution.

**Reduction of road accidents.** Traffic management systems, in particular are expected to increase the probability to survive accidents and to decrease accident rates.

## Electronic toll collection (ETC) systems worldwide.

The following graphic shows the main existing electronic toll collection (ETC) systems worldwide and the technologies primarily used:



Source: Dornier Consult (2004), ABI Resarch (2006), Kapsch TrafficCom



- <sup>1</sup> DSRC – dedicated short-range communication
- <sup>2</sup> CEN – Comité Européen de Normalisation – Committee for Standardization

Among certain countries and regions, there is still a lack of uniform technical standards for DSRC based ETC systems. Whereas in Europe DSRC based ETC systems operating on a 5.8 GHz range prevail, current ETC systems in North America operate on a 915 MHz frequency on several proprietary protocols. Various industry studies expect that the United States will gradually switch to a 5.9 GHz frequency.

In the European Union, the EU Directive 2004/52/EC of April 2004 on the interoperability of ETC systems within the EU aims at the introduction of tolling systems for all types of road networks, urban and interurban, motorways, major and minor roads and various structures (such as tunnels, bridges and ferries), which are interoperable among member states, including the introduction of a single on-board unit (OBU) to be installed in vehicles for Europe-wide toll collection.

Pursuant to this EU Directive, from 1 January 2007, all new electronic toll systems for carrying out electronic toll transactions, shall use one or more of the following technologies: 5.8 GHz microwave technology (DSRC) or satellite positioning or mobile communication using the GSM/GPRS standard (VPS).

**Electronic toll collection (ETC) systems worldwide and technologies and standards primarily used**

**Lack of uniform standards for ETC systems worldwide**

**ETC standards in the European Union**

## Market segmentation by collection method.<sup>1</sup>

Three main toll collection methods for road user charging (RUC) currently exist: manual toll collection, automatic toll collection, and electronic toll collection (ETC).



Manual and automatic toll collection systems

**Manual toll collection systems** are the oldest method of charging for the use of roads. In manual toll collection systems, toll plazas or booths are installed in various locations of a motorway, highway or the section of the road for which a toll is to be paid. Vehicles passing through the tolling zone stop and the payment is made in cash, by cheque or credit card to the operator or staff in the toll booth.

**Automatic toll collection systems** have been set up primarily to reduce human interactions at toll plazas. In automatic toll collection systems, coin machines or card readers are installed in toll plazas, so that drivers can insert coins, credit cards or prepaid smart cards to receive toll tickets, thereby reducing the loss of time associated with congested toll plazas. However, vehicles using the road are still required to stop at toll plazas and pay for the toll.



Electronic toll collection – ETC systems

**Electronic toll collection (ETC) systems** use technologies that allow to pay for the use of a road without requiring vehicles to stop at toll plazas. In ETC systems, transceivers are mounted on overhead gantries or on the roadside. The tolling zone's entry and exit boundaries are defined by transceivers and on-board units (OBUs) installed in vehicles communicate with the transceivers to register that a vehicle passed through the tolling zone. Vehicle information is then transmitted to a central computer for billing purposes. ETC systems are in line with the policy on reducing road congestion and delays at toll plazas.

## Market segmentation by lane.<sup>1</sup>

**Single-lane ETC systems** allow for the collection of tolls from vehicles equipped with an on-board unit (OBU) when driving through specifically designated lanes at toll plazas without requiring the vehicle to stop. Tolling data is processed electronically through communication between a transceiver mounted on gantries on the respective lane of the toll plaza and the transponder (OBU) in the vehicle. Single-lane ETC systems are infrastructure-based systems using DSRC technology.



Single-lane ETC systems

**Multi-lane free-flow (MLFF) ETC systems** allow for toll collection without any interference to the traffic flow by gathering and processing tolling data for a vehicle electronically and fully automatically. For MLFF ETC systems, no tolling plazas are necessary and vehicles are not required to reduce speed and may even change lanes while passing through the toll zone. MLFF ETC system can either be infrastructure-based systems using DSRC technology or satellite-based using VPS.



Multi-lane free-flow – MLFF ETC systems

## Markt segmentation by technology.<sup>1</sup>

There are three main technologies used for road user charging (RUC): dedicated short-range communication (DSRC), vehicle positioning systems (VPS) and automatic number plate recognition (ANPR) technology.

**Dedicated short-range communication (DSRC)** uses a bi-directional dedicated short-range communication frequency between roadside infrastructure (in particular, transceiver) and in-vehicle devices (transponders, also referred to as on-board unit – OBU or „tag“).<sup>2</sup>



Transceiver and transponder (also referred to as on-board units or “tags”)

**Vehicle positioning systems (VPS)** use satellite-based instead of terrestrial systems for the calculation of the travelled distance.<sup>2</sup>

**Automatic number plate recognition (ANPR)** technology uses a set of fixed cameras and mobile cameras that are placed on the boundaries of a congestion zone and at selected locations throughout the zone. These cameras are equipped with ANPR software that can accurately recognize and read images on the vehicle’s number plate and transmit data to a back office processing centre where the number plates are compared to a database containing vehicle owners’ details, and payment data are processed.



Automatic number plate recognition – ANPR

## Market segmentation by standard.<sup>1</sup>

For DSRC-based systems, both the CEN (Comité Européen de Normalisation) TC 278 Standard as well as the international ISO standard for electronic toll collection exist.

CEN (Comité Européen de Normalisation)  
TC 278 Standard

<sup>1</sup> The market segmentation follows the classification in research studies, such as Frost & Sullivan, 2004

<sup>2</sup> DSRC and VPS are described in more detail in section Technology on pages 46 to 49

# Technology.

ETC systems generally consist of three main subsystems and components



Tolling system



Enforcement system



Central system

## Subsystems and components of an ETC system.

Electronic toll collection (ETC) systems generally consist of three main subsystems and components: Tolling system, enforcement system and central system.

**The tolling system** comprises all components required for the collection and processing of the tolling data from vehicles. The tolling systems for single-lane ETC systems are infrastructure-based systems using DSRC technology. However, the tolling system for a MLFF ETC system can either be infrastructure-based systems using DSRC technology or satellite-based using VPS.

**The enforcement system** is part of single-lane and MLFF ETC systems. Both infrastructure-based DSRC and satellite-based VPS ETC systems require enforcement systems to detect toll violators. Enforcement systems support comprehensive measures to avoid toll violations, to secure revenues to road operators and to preserve the integrity of the system as a whole, thereby maintaining a high degree of fairness vis-à-vis all users. Effective and efficient enforcement is key for the success of a system.

The enforcement station is mounted on overhead gantries above motorways, or on roadsides. It consists of a video-based registration system and a classification system. The registration system consists of a high speed video camera that automatically reads the licence plates of vehicles. The classification system automatically classifies the vehicle (i.e., truck with or without trailer, passenger car, motorbike etc.). The classification system is either based on laser-scanning technology or on video technology.

The enforcement system compares the enforcement data with the data derived from the tolling system (i.e., the data transmitted by an OBU) and automatically checks whether a toll violation has occurred. In addition to fixed enforcement stations, the enforcement system also comprises mobile enforcement vehicles that are used to enforce toll violations by vehicle drivers at any point on the road.

**The central system** processes the toll transactions. The central system is in particular responsible for the processing of enforcement cases. The technical part of the central system is responsible for monitoring and technical maintenance (technical operation) of the system.

## Differences between DSRC- and VPS-based ETC systems.

**DSRC-based ETC systems** use a bi-directional dedicated short-range communication frequency between an roadside infrastructure (in particular transceiver) and in-vehicle devices (transponders, also referred to as on-board unit – OBU or tag).

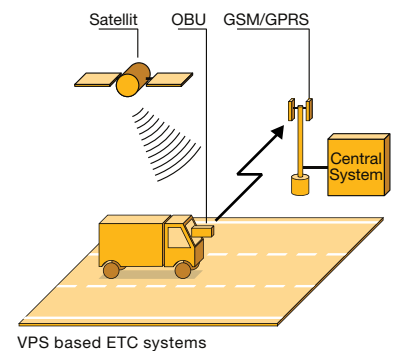
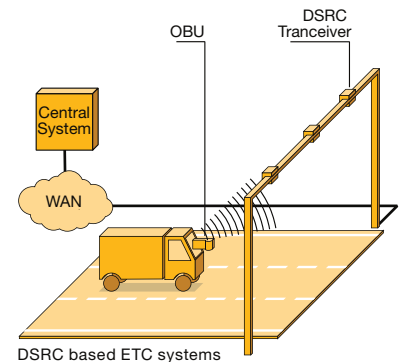
OBUs are in-vehicle devices (transponders or tags) that are mounted on the windshield of a vehicle for identification of the vehicle. The OBUs communicate with the roadside infrastructure that transmits the signals when the vehicle equipped with the OBU passes through a tolling zone. Roadside infrastructure primarily includes transceivers and local computing infrastructure for data storage and transmission. The transceivers establish the entry and exit boundaries for the respective tolling zone and are mounted on overhead gantries above motorways or on roadsides.

The communication between the OBU and the transceiver in most cases is based on DSRC technology. The tolling data is transmitted from the OBU to the transceiver and processed at the roadside computer and transmitted via a wide area network (WAN) through a data center to the central system.

**VPS-based ETC systems** use satellite-based instead of terrestrial systems for the calculation of the travelled distance.

The information about the position of a vehicle is collected through satellite-based infrastructure (e.g., GPS) and the OBU transmits the tolling data via GSM/GPRS infrastructure to the central system. To achieve sufficient accuracy for toll transaction, DSRC transceivers are frequently used in satellite-based ETC systems. In satellite-based ETC systems only limited roadside infrastructure (such as transceivers mounted on gantries) is required.

**It is not a substitute but a combination.** Kapsch TrafficCom believes that neither of these two technologies in general can be identified as being superior to the other technology. Depending on the specific requirements defined by the customer and the circumstances (in particular, the tolling scheme, number and class of vehicles subject to tolls and the structure of the road network), one technology may provide a better solution than the other. Moreover, Kapsch TrafficCom believes that neither of these two technologies may be entirely substituted by the other technology, but these technologies should, to a certain extent, be combined.



**It is not a substitute but a combination**

## Three main differences among DSRC-based and VPS-based ETC systems in Kapsch TrafficCom's view

Kapsch TrafficCom believes that the intended use is essential when evaluating the advantages and disadvantages of DSRC-based and VPS-based ETC systems. In the opinion of Kapsch TrafficCom, DSRC-based systems enjoy comparative advantages on highways and in urban environments. In particular, DSRC-based systems are more flexible and less expensive in all cases, in which the tolling system will be extended to other classes of vehicles, e.g., if the system is initially limited to trucks and is extended to passenger cars in a next step.



All-vehicle tolling

VPS-based ETC systems, however, enjoy competitive advantages of DSRC-based ETC systems in terms of flexibility whenever tolling systems are intended to cover all types of roads (all-road tolling) or, as the case may be, if the road network subject to tolling is to be expanded, e.g., if the system is initially limited to highways and subsequently expanded to all types of roads (all-road tolling).

For these reasons, a combination of both systems may in certain cases offer the better solution in the opinion of Kapsch TrafficCom.

Other than the specific use, DSRC-based and VPS-based systems differ, in the view of Kapsch TrafficCom, at least by the following three criteria.

### Reliability and accuracy of the ETC system

**Reliability and accuracy of the ETC system.** The toll transaction rate is a measure of the accuracy and reliability of the tolling system. It indicates the number of successful toll charging transactions in relation to all potential toll charging transactions of vehicles equipped with an on-board unit (OBU). A high toll transaction rate ensures maximum toll revenues.

Based on market intelligence, Kapsch TrafficCom believes that with its existing DSRC-based ETC systems significantly higher toll transaction rates can be achieved than with ETC systems based on VPS only. We believe that with VPS-based ETC systems such high toll transaction rates cannot be achieved due to the following main reasons. Firstly, the quality of positioning data varies (visibility to the satellite, signal quality and general inaccuracy of positioning data) and, secondly, the matching of the positioning data with the digital map depends on the quality of the map and the algorithms used.

The average performance rate for the Austrian truck tolling systems was approximately 99.7 % in 2007.

### Costs

**Costs.** The overall costs for ETC systems have to be divided into the costs for the installation of the systems (including tolling system, enforcement system and central system as well as the costs for the OBUs), and the technical and commercial operation.

The costs for the installation comprise the costs for the OBUs and the costs for the roadside infrastructure (DSRC-based systems, to a lesser extent for VPS-based systems). Since OBUs for a VPS-based system require significantly more complex technology than for a DSRC-based system, the costs for an OBU for a VPS-based system are significantly higher than the costs for a DSRC-OBU.

The costs for the roadside infrastructure are higher for DSRC-based ETC systems (in particular, if the tolling structure comprises a large road network and also lower class roads), since existing VPS-based ETC systems require less roadside infrastructure than DSRC-based systems (overhead gantries, for the enforcement system and DSRC-based poles).

The costs for enforcement systems and central systems for both technologies are similar.

However, the costs for the transmission of toll transactions via GSM and the higher costs for manual post-processing (due to the lower transaction rates a large portion of manual post-processing is required) lead to significantly higher operational costs for a VPS-based ETC system than for a DSRC-based ETC system.

**Flexibility of tolling structure and expansion.** The tolling structure differs in many categories and may change over time (such as size and type of road network subject to tolling, time-dependent tariffs, distance-based or access-based schemes and vehicle classes subject to tolling).

Certain road operators require that tolling systems be flexible to accommodate extension and adaptation to different tolling schemes, particularly with respect to the number and the classes of vehicles subject to tolling. DSRC-based ETC systems are in general flexible for extension, but extension requires additional roadside infrastructure and therefore result in additional costs, whereas VPS-based ETC systems may be more flexible for extension at lower costs.

Kapsch TrafficCom also believes that in the future in certain tolling projects a combination of microwave DSRC-based technology and VPS-based technology may be required. Therefore, we offer “Kapsch Area”, a hybrid solution combining the advantages of DSRC-based systems with the advantages of VPS-based ETC systems.



On-board unit (OBU)

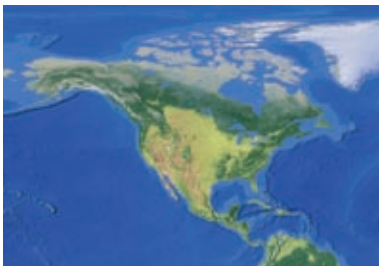
**Flexibility of tolling structure and expansion**

# Business Strategy.

## The primary objective of Kapsch TrafficCom



We intend to capitalize on our leading market positions and increase our market share



We are currently examining the expansion of our business into the North American market



We intend to expand our offerings of urban traffic solutions

**Our primary objective is** to enhance our position as a leading international supplier of innovative road traffic telematics solutions and as a provider of commercial operation services by focusing on the principal strategies set forth below:

**Exploit new and further market opportunities.** We intend to participate in the strong expected growth in the global road traffic telematics market, particularly in the road user charging (RUC) market, and believe that significant opportunities exist across the world for the provision and operation of systems.

We intend to capitalize on our leading market positions and increase our market share in the geographic markets where we already have a strong presence.

In addition, we intend to continue and intensify the regional expansion of our multinational footprint into selected new markets, including markets in certain countries in Central and Eastern Europe. We also plan to target new growth opportunities and plan to participate in selected tender procedures for tolling projects of various scales on all continents.

The company is currently also examining the expansion of its business into the North American market. For that purpose, companies were already established and a CEO was appointed.

In particular, we will participate in the tender procedures for further nationwide road tolling projects. We believe that “Kapsch Area” is a cost efficient hybrid solution, that combines the advantages of microwave technology (dedicated short-range communication – DSRC) with the advantages of satellite technologies (GPS/GSM), thereby meeting specific customer requirements (e.g., all-road and all-vehicle tolling) in larger nationwide ETC systems.

We carefully and permanently consider strategic acquisitions or joint ventures if we determine that growth in selected geographical regions could be undertaken more efficiently or our technological leadership position be strengthened or expanded.

We also intend to expand our offerings of urban traffic solutions including city charging/tolling systems, systems for parking management (e.g., automatic charging of parking fees for vehicles parking on-street) as well as electronic access systems.

In connection with electronic vignette (E-Vignette), which we believe may substitute traditional paper vignettes over time, we intend to provide advanced services, including road traffic telematics services.

**Permanently targeting for technological leadership.** We intend to leverage our technological leadership in order to further broaden and enhance our product and service portfolio.

Based on our existing know-how, we also plan to expand our offerings of intelligent video-based event recognition systems and traffic surveillance solutions including, inter alia, vehicle identification systems, vehicle classification systems (in addition to current application for ETC systems), hazardous goods management, video surveillance, congestion warning, wrong-way driver detection and vehicle, person and object tracking.

In addition, we are preparing to develop systems and products conforming to future technical standards in the North American market.

**Expand our position as a commercial operator of road user charging systems.** We plan to expand our position as a commercial operator of road user charging systems and intend to build on our experience from the successful commercial operation of the nationwide electronic system in the Czech Republic.

Through new projects where we are also responsible for the commercial operation, the technical operation of systems and the supply of supplemental equipment and components for the extension of installed systems, we plan to constantly increase the volume of recurring revenues.



We intend to expand our offerings of intelligent video-based event recognition systems and traffic surveillance solutions



We intend to expand our position as a commercial operator of road user charging and traffic management systems

# Competitive Strengths.

## Leading market positions in ETC systems and multinational presence



The world's smallest CEN-compliant OBU

## Technological leadership and strong project management capabilities

## Diverse and highly customized ETC systems and other traffic telematics solutions

The following strengths and, in particular, the combinations of these strengths, differentiate us from our competitors and provide the company with a competitive advantage in the markets in which we operate:

**Leading market positions in ETC systems and multinational presence.** Based on our own market research we believe that we are the world market leader in DSRC-based MLFF ETC systems (by equipped lanes). We believe further that we are the world market leader in CEN-compliant OBUs (based on the number of units sold) and that one of our recently developed OBUs is the world's smallest CEN-compliant OBU.

We believe that our leading market positions and our presence across Europe, Australia, Latin and North America, the Middle-East, the Asian/Pacific region and Africa allow us to capitalize on attractive growth opportunities.

**Technological leadership and strong project management capabilities.** We have established a global reputation for technological leadership in road traffic telematics solutions over the past more than 15 years. Our technological leadership is based in particular on our highly skilled employees.

Our strong project management skills and our capabilities in designing and implementing large and sophisticated projects are demonstrated by our track record of more than 140 projects and installations.

We believe that our customers associate our systems and components with high quality, reliability, accuracy and strong technical expertise. Our technological leadership is demonstrated by the high performance levels of 140 installed systems. The average performance rate in Austria was approximately 99.7 % in 2007. During the same period, the average performance rate of the nationwide electronic system in the Czech Republic (phase I) was approximately 97.5 %.<sup>1</sup>

**Diverse and highly customized ETC systems and other traffic telematics solutions.** Based on our portfolio of products and services, we offer end-to-end systems thereby covering the entire value chain from the design and development of an system to its turn-key implementation and its technical and commercial operation.

Through our own technology and know-how and our manufacturing capabilities, we are able to design, develop and supply systems and other road traffic telematic solutions tailored to project and customer requirements in a cost and time efficient manner. We believe that

<sup>1</sup> Calculation of the average performance rate is based on methodologies agreed with the respective customer comparisons of average performance rates in different projects are therefore limited.

operating costs for our DSRC-based ETC systems tend to be lower than for certain other tolling systems.

We believe that our diverse product portfolio combined with our ability to efficiently supply customized systems provides us with a competitive advantage in tender processes for new projects.

**Strong and experienced management team.** Our management team has a proven track record in the road traffic telematics business. Most members of our middle management have been with us or with our predecessors for more than 10 years.

**Strong and experienced management team**

# Research and Development.

Competence Centers in Austria, Sweden and Argentina

Research and Development are a high priority

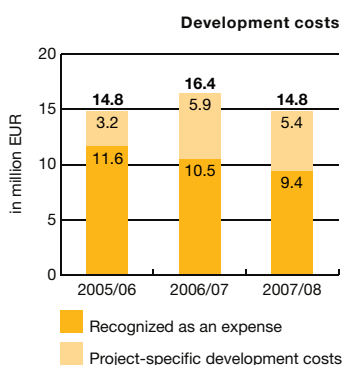
Kapsch TrafficCom has a network of research and development centers in Vienna (Austria), Jönköping (Sweden) and Buenos Aires (Argentina). Research and development activities are being coordinated from the headquarters in Vienna. As of 31 March 2008, Kapsch Traffic Com employed approximately 170 research and development engineers in the research and development activities, including project management for research projects, quality assurance and testing, documentation and certification.

Research and development activities are a high priority for Kapsch TrafficCom in light of its strategic objectives. Successful applied research and development is the foundation for the constant improvement of existing products and systems and the continuous reduction of production, installation, operations and maintenance costs, all of which are essential for maintaining our technological and competitive advantage.

Due to the fact that the competence centers cover all parts of the value chain from components to entire tolling systems and their interoperability, Kapsch TrafficCom largely focuses its activities on new and innovative applications and applied research and development for all kinds of road telematics with the goal to establish whether newest technologies are applicable for tolling, safety, security and other road traffic telematics. In the fiscal year 2007/08 approximately 36% of the research and development activities were customer-specific; the remaining 64% were generic.

The research and development activities are supplemented in some areas by joint projects and close collaborations with universities, public and private institutions and research and technology companies.

The additional research and development costs for the fiscal year 2007/08 amounted to EUR 14.8 million.



# Quality and Innovations.

We view our mission as consistently creating competitive advantages and benefits for our customers and partners while ensuring that we always live up to our responsibility with regard to the environment. With this goal in mind, we bring together technological innovation, the skills of our employees and a deep sense of dedication to professionalism, quality and profitability. Our objective is global leadership in quality and innovation for traffic telematic solutions. In order to meet this objective, we strive towards a synthesis of tradition, profitability and growth.

Kapsch TrafficCom has once again confirmed its innovative strength in June 2007 by introducing to the market “Kapsch Area” – a hybrid solution that combines the advantages of microwave technology (DSRC) with those of satellite-based technology (GPS/GSM).

Kapsch TrafficCom wins over and retains customer confidence through the focus on customer requirements. Kapsch TrafficCom intends to achieve long-lasting partnerships with satisfied customers through optimal service.

Kapsch TrafficCom is committed to a permanent and integrated innovation process that lives up to its market position as a leading European innovator and secures this position over the long term.

Kapsch TrafficCom already possesses quality and environmental certificates according to ISO 9001 and Environment ISO 14001. In future, Kapsch TrafficCom will continue to increase its social engagement. In particular, it is important to use environmental resources in an increasingly protective and responsible manner. In addition, no environmental risks exist in connection with Kapsch TrafficCom.

The quality processes at Kapsch TrafficCom have been created on the basis of ÖNORM EN ISO 9001:2000 and also meet the requirements of the V-model.

## Innovations

## Quality

# Product and service portfolio.

## The product and service portfolio



Tolling systems

Our portfolio for road traffic telematics includes the following systems, products and services that we offer to customers across the world:

**Tolling systems.** Kapsch TrafficCom develops, integrates, implements, services and maintains road user charging systems and focuses on electronic toll collection (ETC) systems, in particular for the multi-lane free-flow (MLFF) of the traffic, but also supplies single-lane ETC systems. In addition, the company supplies video-based automatic number plate recognition (ANPR) technology and manual and automatic toll collection systems.

Such systems can be nationwide truck tolling systems, like in Switzerland, Austria and the Czech Republic, as well as for road sections and for urban environments (city charging/tolling systems).

As part of ETC systems, Kapsch TrafficCom develops, integrates, implements, services and maintains enforcement systems and central systems.

Our current ETC systems are based on microwave DSRC technology at a 5.8 GHz frequency. We design and develop the majority of the core technology (hardware and software) specifically created for our electronic toll collection (ETC) applications and for electronic access systems as well as for vehicle identification and classification systems. Our roadside equipment (transceivers and other infrastructure equipment) and our OBUs are compliant with the current European CEN TC 278 standard for DSRC as well as with the international ISO standard for electronic toll collection.

In certain projects, we combine our own components with products from third-party suppliers to provide solutions tailored to specific project requirements.

In addition to the core microwave DSRC-based ETC systems, we offer “Kapsch Area”, a hybrid system combining the advantages of DSRC-based technologies with the advantages of VPS-based ETC systems. In “Kapsch Area”, we use an OBU comprising both a DSRC and a GPS/GSM interface. The “Kapsch Area” OBU can be installed easily on the windscreen of the vehicle without any professional help. “Kapsch Area” uses microwave technology on highways and GPS/GSM for the lower level street network and therewith facilitates all-road tolling.

**Components sales.** Besides the delivery of systems, we also develop components and supply these components independently from the entire systems to system integrators and road operators. The component supplies primarily include on-board units (OBUs), roadside infrastructure (such as transceivers), video cameras, and enforcement systems. Components are either manufactured by one of our subsidiaries in Vienna specializing in the production of core technology for ETC systems and electronic access systems or produced for us by third parties.



Components sales

**Operation.** In many projects we are also responsible for the technical operation and maintenance of the system. Since 2005, we have also been offering commercial operation (such as the nationwide truck tolling system in the Czech Republic where we provide services in connection with the commercial operation).



Operation

Commercial operation services include the entire logistics of distributing OBUs, transaction processing, which deals with maintaining customer accounts, booking toll transactions and customer payments to the accounts, payment processing, handling customer inquiries and manual post-processing.

The commercial operation services utilize the central system, which we develop and implement through our subsidiary Kapsch TrafficCom Argentina S.A. We offer commercial operation services through our subsidiary Kapsch Telematic Services GmbH (KTS), a joint venture company with Portuguese Brisa group, a leading motorway operator, in which joint venture we hold a beneficial interest of 74 %, and through KTS's local subsidiaries.



Urban traffic solutions

**Urban traffic solutions.** We develop, integrate, implement, service and maintain urban traffic solutions, such as city charging/tolling systems, on-street parking systems as well as electronic access systems and charging systems for off-street parking areas.

**Traffic surveillance.** We develop, design and supply road traffic management systems, including traffic safety and traffic security systems as well as traffic control systems. Our product portfolio includes vehicle identification and classification systems, hazardous goods management, video surveillance, congestion warning and vehicle, person and object tracking.



Traffic surveillance

**Others.** Through our subsidiary Kapsch Components, we also provide engineering solutions, electronic manufacturing and logistics services to affiliated entities and third-party customers.



## Currently, our most important traffic telematics projects and customers are:

**Nationwide truck tolling system in the Czech Republic.** Following a public tender conducted by the Czech Ministry of Transport, in March 2006 a consortium consisting of Kapsch TrafficCom AG, certain of its subsidiaries and other companies of the Kapsch Group as well as Asseco Czech Republic a.s. was contracted as general contractor for the implementation of a nationwide DSRC-based MLFF ETC system for trucks in the Czech Republic and services in connection with the commercial operation of such ETC system.

The completion schedule for the installation of the ETC system is divided into two phases: Phase I comprises an ETC system covering approximately 1,000 km of motorways and freeways and was completed by 31 December 2006 and has been in operation since 1 January 2007, the agreed date and to the customer's full satisfaction. Phase I of the ETC system comprises 172 toll stations (of which 147 are MLFF toll stations), 12 enforcement stations (both directions), 13 enforcement stations (one direction) as well as mobile enforcement cars, all contact and distribution points. Phase II comprises the extension of the system to another approximately 1,000 km of future motorways, the construction or extension of which is scheduled to begin by the end of 2017. As of 1 January 2008, the existing truck tolling system was already extended by 37 toll gantries to cover about 180 km of selected 1st class roads that are primarily used by international transit traffic.

The services in connection with the technical and commercial operation of the system are provided pursuant to a long-term service agreement. These services comprise corrective and preventive maintenance, repairs and spare parts management, print services and call centers, distribution and contact points, clearing and billing, manual validation of enforcement cases, public relation activities and the development and maintenance of tolling applications. Since 1 January 2007, these services are provided through a Czech subsidiary.

Until 31 March 2008, approximately 1.206 lanes had been equipped and 680.000 OBUs supplied. Until 31 March 2008, the project generated revenues of EUR 184.3 million EUR, thereof EUR 78.1 million in the fiscal year 2007/08.



Nationwide truck tolling system  
in the Czech Republic



Nationwide truck tolling system in Austria

**Nationwide truck tolling system in Austria.** Kapsch TrafficCom successfully implemented the nationwide MLFF ETC system for trucks in Austria by 31 December 2003, and toll collection commenced on 1 January 2004. In our capacity as general contractor, we were responsible for the design of the overall system concept, development and manufacture of the transponders (OBUs), the roadside infrastructure equipment (transceivers), the development of the system application software, system integration, implementation and commissioning, coordination of sub-suppliers and project roll-out. So far, the Austrian toll system is the largest full-coverage DSRC-based MLFF ETC system in the world, consisting of 430 MLFF stations (more than 2,700 lanes), of which 106 are enforcement sections.

Until 31 March 2008, approximately 2.700 lanes were equipped and approximately 775.000 OBUs were supplied and the project generated revenues of EUR 337.0 million EUR, thereof EUR 27.7 million in the fiscal year 2007/08.



Heavy vehicle toll collection system in Switzerland

**Heavy vehicle toll collection system in Switzerland.** Kapsch TrafficCom implemented the technical infrastructure part of electronic tolling stations at 86 border crossings and the enforcement system as well as the respective back-office infrastructure for the processing of enforcement cases for the nationwide distance-related heavy vehicle MLFF ETC system on Swiss motorways. The project was awarded by the Swiss Customs Authority (Eidgenössische Zollverwaltung) and the ETC system commenced operation in 2001.

Until 31 March 2008, approximately 380 lanes were equipped and the project generated revenues of EUR 33.4 million EUR, thereof EUR 3.5 million in the fiscal year 2007/08.



Projects in Santiago de Chile

**Projects in Santiago de Chile. Costanera Norte, Autopista Central and Vespucio Norte Express.** Kapsch TrafficCom successfully implemented a MLFF ETC system in connection with three highway tolling projects in Santiago de Chile so far and delivered the equipment for vehicle detection and classification (VDC) as well as for vehicle registration (VDR). These projects were awarded by the respective road concessionaires. All three ETC systems have already commenced operations (Autopista Central in December 2004, Costanera Norte in April 2005 and Vespucio Norte Express in January 2006).

Until 31 March 2008, approximately 190 lanes were equipped and approximately 1.2 million OBUs were supplied and the projects generated revenues of EUR 92.9 million EUR, thereof EUR 18.0 million in the fiscal year 2007/08.

**Projects in Australia: Melbourne City Link.** In 1999, Kapsch TrafficCom implemented the world's first MLFF ETC system for an urban motorway on Australia's largest municipal highway in Melbourne and delivered the equipment for vehicle detection and classification (VDC) as well as for vehicle registration (VDR). The project was awarded by the road concessionaire. In 2004, Kapsch TrafficCom realized the WM7 (former Western Sydney City Orbital) project in Sydney with the implementation of a MLFF ETC system and the supply of equipment for vehicle detection and classification (VDC) as well as for vehicle registration (VDR). The project was awarded by the Transurban Infrastructure Development Pty. Ltd. The MLFF ETC system commenced commercial operation in January 2006 (eight months prior to the contractual project completion date). In July 2005, Kapsch TrafficCom was awarded the Eastlink project in Melbourne. In connection with this project, the company delivered an MLFF ETC system and the equipment for vehicle detection and classification (VDC) as well as for vehicle registration (VDR). The project was awarded by the system integrator.

Until 31 March 2008, approximately 250 lanes were equipped and approximately 3 million OBUs were supplied and the projects generated revenues of EUR 101.9 million EUR, thereof EUR 21.9 million in the fiscal year 2007/08.

**Project in New Zealand.** New Zealand has decided to implement its first ETC system. Kapsch TrafficCom New Zealand Ltd. has been contracted to implement a multi-lane free-flow (MLFF) ETC system worth approximately EUR 10.7 million.

Kapsch TrafficCom is continuously evaluating new projects worldwide. The results of such research is included in a special database, which includes information on numerous upcoming tolling projects. The database is administered and updated on a continuous basis. Based on this database, the company reviews and evaluates new projects and decides whether it should participate in a tender process or in the award of contract for new projects.



Projects in Australia

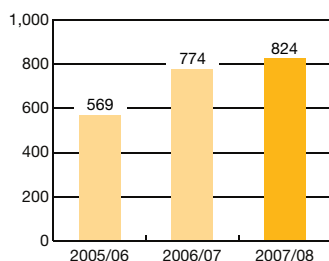


Project in New Zealand

# Employees.

## Number and allocation of employees

Development number of employees as of each 31 March



The table below sets forth the allocation of employees within the Kapsch TrafficCom Group by function and by geographic regions, in which it operates, each as of 31 March 2008, 2007 and 2006:

Number of employees	2007/08	2006/07	2005/06
<b>Breakdown by function</b>			
Road traffic telematics	647	553	285
Manufacturing and logistics (Kapsch Components)	177	221	259
Rail	0	0	25
<b>Total by function</b>	<b>824</b>	<b>774</b>	<b>569</b>
<b>Breakdown by region</b>			
Europe:			
Austria	497	475	461
Sweden	97	89	84
Western Europe	1	0	0
Central and Eastern Europe (excluding Austria)	128 <sup>1</sup>	108 <sup>1</sup>	0
Latin America	80	94	15
Asia and Africa	12	2	2
Australia and New Zealand	9	6	7
<b>Total by region</b>	<b>824</b>	<b>774</b>	<b>569</b>

<sup>1</sup> The increase is mainly a result of the services Kapsch TrafficCom provides in connection with the commercial operation of the nationwide truck tolling system in the Czech Republic.

**The average number of employees** in the Kapsch TrafficCom Group in the 2007/08 fiscal year was 791, an 8.8 % increase against an average of 727 in the fiscal year 2006/07. The reason for this increase in the number of employees was mainly the expansion of Kapsch TrafficCom AG (61 additional employees on average) and of the Prague subsidiary (62 additional employees on average). As of 31 March 2008, 824 employees (753 salaried and 71 non-salaried) were employed, which corresponds to a 6 % increase.

## Collective bargaining or similar agreements

The majority of employees in Austria and Sweden is covered by collective bargaining or similar agreements (e.g., shop agreements).

## Corporate culture and values

The management believes that the core corporate values – dynamism, respect, responsibility, family, discipline, performance, transparency and freedom – contribute to a good working environment.

Kapsch TrafficCom provides various post-employment benefits and other long-term services. In addition, small contributions are paid to an external pension fund for employees of Group entities in Austria under a defined contribution scheme, depending on the individual employee's income and the return on sales of the entity.

Kapsch TrafficCom is aware of the employees' contribution to its success and expresses this through an employee profit participation plan in which its employees participate in the profit of the Kapsch TrafficCom Group as a whole. The Kapsch TrafficCom Group rewards the commitment of its employees with a 5 % share in profit. Country-specific upper limits are set up to ensure that distribution is on par with purchasing power. The remainder from this calculation is used for internal social purposes, such as in cases of illness or social problems.

In order to promote multinational employee exchanges, a job rotation program is in place that operates at the Austrian, Swedish and Argentinean locations.

Kapsch TrafficCom AG is certified to OHSAS 18001 for occupational health and safety and has anchored the necessary measures within its internal processes.

Staff costs mainly include wages, salaries, bonuses and other remunerations, social security contributions, pension benefits and severance payments. Staff costs are allocated to the three segments by cost accounting on a project basis. Staff costs which can not be allocated this way are differentiated by revenues in the three segments. The service and employment agreements with members of senior management and salesforce provide for certain variable remuneration.

Total staff costs in the financial year ended 31 March 2008 were EUR 47.0 million, an increase of EUR 7.1 million or 17.9 % compared to the previous year (fiscal year 2006/07: EUR 39.8 million, fiscal year 2007/08: EUR 31.3 million).

#### Post-employment benefits and other long-term services

Development staff costs



# Social and cultural commitment.

In a firm awareness of its corporate social responsibility, the Kapsch Group – organized through Kapsch AG – supports a wide range of contemporary art and cultural organizations and projects, selected educational initiatives and extensive social activities. At Kapsch, this attitude is in no way limited only to activities that enhance the company's public image. The employees of Kapsch TrafficCom also value the company's corporate social responsibility as a result of numerous programs and activities.

## **Music.**

A key element of the Kapsch social and cultural commitment covers sponsoring activities related to the Vienna Concert Hall (Wiener Konzerthaus). This cultural institution has an excellent reputation far beyond Austria's borders and is characterised by its exciting and bold program – both for lovers of traditional sounds and fans of modern interpretations. Kapsch has been the main sponsor of the Vienna Concert Hall since 1992. The “Modern Vienna” festival – one of the world's best known festivals of contemporary music – has been enthusiastically supported by Kapsch since its launch in 1989.

Both involvements also receive great appreciation from employees, who enjoy discounts for the extensive range of cultural events.

## **Visual arts.**

Promoting less known artists is of particular concern to the Kapsch Group. If one takes the position that all forms of art are defined by the production of new things that have not been seen to date, there is a clear parallel to the Kapsch Group corporate culture. Young domestic and international artists in particular are supported time and again by sponsorship campaigns. One example is the photo calendar in the “Art, Culture and Communication” series that Kapsch has supported since 1994. Those involved are exclusively young, talented but less well-known artists. The calendar aims to help them achieve a greater public presence. The calendar is presented annually in late fall in a private exhibition.

## **Educational institutions.**

As a company that is led by technology and innovation, it is constantly interested in establishing contacts with the best talent in engineering at the earliest stage possible. For this reason, Kapsch TrafficCom decided six years ago to start an extensive Gold Partnership with the Vienna Technical University (Technikum Wien).

Since 2005, the Kapsch Group has also supported Universitäre Gründerservice Wien GmbH – INiTS for short – a company set up by the City of Vienna Centre for Innovation and Technology, Vienna University and Vienna University of Technology. Established three years ago, INiTS aims to support and accompany young entrepreneurs to implement ideas relating to key business concepts.

**Social projects.**

In addition to art and cultural funding, Kapsch TrafficCom takes pride in supporting selected social issues at home and abroad. This corresponds to our social self-image and partnership philosophy. Examples of the numerous projects include Cliniclowns, St. Anna Children's Hospital and "wings for handicapped", as projects within Austria, and ICEP – the Institute for Cooperation in Development Projects – as a project abroad.

**For employees.**

Supporting the employees of the Kapsch TrafficCom Group when it comes to education and training has always been a key element in the corporate philosophy. In addition to technical training measures, Kapsch TrafficCom also offers programs for the development of personal skills.

As part of the "Kapsch University", employees are offered focused training programs. Selected participants are also prepared for future roles in the young managers' program.

A forum was created within the improvement process for employees to actively contribute improvement suggestions. If feasible, these are implemented and premiums are awarded.

In addition, Kapsch TrafficCom has focused for many years on various remuneration and working time models, prizes for special effort, food subsidies and payments to the pension fund as well as such additional services as an internal doctor.

**Environment.**

Kapsch TrafficCom already has valid quality and environmental certificates in line with ISO 9001 and ISO 14001. In the future, the Kapsch TrafficCom Group will continue to increase its social involvement: it is particularly important to use environmental resources in an increasingly sustainable and responsible manner.