

EN

# Austria: a successful toll road network.



always one step ahead

# 2200KM of Free-Flow Tolling.

Within the larger context of the trans-European road network, Austria is a main artery for road traffic. The country's highway system offers travelers safe and unimpeded transit capability with a particular focus on connecting with the other EU member states.



The expansion and improvement of the existing highway infrastructure, related maintenance and service, as well as the cost of damage to the infrastructure for an ever-increasing traffic volume require a source of revenue, while ensuring a fair mechanism of charging for a greater proportion of interurban and transit highways. ETC was the means chosen to achieve these objectives. In 2001, ASFINAG, the national road authority wholly owned by the Federal Republic of Austria, issued a tender for a nationwide tolling system for heavy goods vehicles with a total admissible weight of 3.5 tons and above.

## **A turnkey system.**

The tender for Austria's tolling system focused on an operator contract which included the entire technical and operational aspects of such a model. The technical solution had to meet all requirements for an accurate, auditable, enforceable system suitable for rapid nationwide implementation and an initial volume of 400,000 commercial vehicles of over 3.5 tons in weight. In line with Austria's transport policy and European objectives, key issues of interoperability and non-discrimination of users were also critical elements within the tender.

Several consortia participated in the lengthy and thorough procurement process. In June 2002 Kapsch TrafficCom was chosen to be the sub-contractor for the fully electronic lorry tolling system. Kapsch TrafficCom is the turn-key system supplier for this nationwide system. The technology chosen was a Dedicated Short Range Communication 5.8 GHz solution that uses a simple, easily installable on-board unit and communication points located throughout Austria's interurban highway network.





On-board unit



### Scope of supply.

Kapsch TrafficCom's scope of turn-key supply for the Austrian truck tolling system covers the system concept and design, all construction and steel work, site acquisition and roll-out, planning, the complete installation of the infrastructure including critical communication components, data networks LAN/WAN, development, manufacture and delivery of the 5,8 Ghz CEN DSRC roadside and in-vehicle devices, all roadside related software applications, data security, points of sale equipment, the entire enforcement system including stationary, portable and mobile devices, LPR/OCR, an enforcement central system, the transceiver central system supporting the required interface to the central billing system, as well as the maintenance and technical operation of the system.

### System overview.

The fully electronic truck tolling system is being implemented on the entire Austrian highway network at a length of about 2.200km. The system is in a multi-lane configuration which allows tolling to occur while vehicles are travelling, creating unimpeded driving conditions. This multi-lane free-flow system is characterized by gantries placed above

the highway lanes, using transceivers mounted on the gantries to communicate with on-board units (OBUs) installed on the windscreen of passing Trucks.

Changing lanes while passing beneath the gantries does not influence the tolling transaction. In the Austrian system, road users are charged according to distance traveled, the number of axles and the emission class of their vehicle. Simply, the more axles (hence the heavier the vehicle) and the more worse the emission class, the greater the charge.

To ensure that the charge is correct, the declaration of vehicle classification, depending on the number of axles and the emission class, needs to be verified. Any anomalies need to be recorded accurately and fines collected from the road user based on secure, legally admissible evidence. Beneath the tolling, the enforcement is therefore the key part of the system concept.

Every working day the system collects and processes over 2,5 million transactions in real-time which results in a daily income of 3 million Euros for the operator ASFINAG. The system went in operation on January 1st, 2004 on time

and within budget. Since then it has been running without interruption.

### For the future.

The fully electronic toll collection system from Kapsch TrafficCom provides the road operator and the road authorities with the best technical solution available today. The system enables Austria to fulfill its objectives within its transport policy while serving the greater needs of European road traffic.

Charging for road use and paying the full cost of travel is one of the inevitable facts of life in 21st Century Europe.

Interconnected economies require interoperable technologies. From the start however, CEN DSRC standards-compliant systems from Kapsch TrafficCom already ensure interoperability with other EU member states. As Europe moves towards a European electronic toll service, DSRC is recognized as the only realistic means of achieving interoperability in Europe and paves the way for road user charging in the future.

### Kapsch Group.

Kapsch is one of Austria's most successful technology corporations, specialized in the future-oriented market segments of Intelligent Transportation Systems (ITS), Railway and Public Operator Telecommunications as well as Information and Communications Technology (ICT). Kapsch. Always one step ahead.

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