

An aerial photograph of a multi-lane highway. A white truck with a trailer is driving on the right side of the road. The trailer has the word 'Spitz' written on it in red. A signpost is located on the left side of the road. The signpost has a triangular sign at the top and a rectangular sign below it. The background shows green grass and a clear sky.

e-Toll

Slovakia

'06

**MEDZINÁRODNÁ KON-
FERENCIA, SPRIEVODNÁ
VÝSTAVA A WORKSHOP**

**O PRAKTICKOM VYUŽITÍ
ELEKTRONICKÝCH MÝTNYCH
SYSTÉMOV**

Kapsch TrafficCom AG

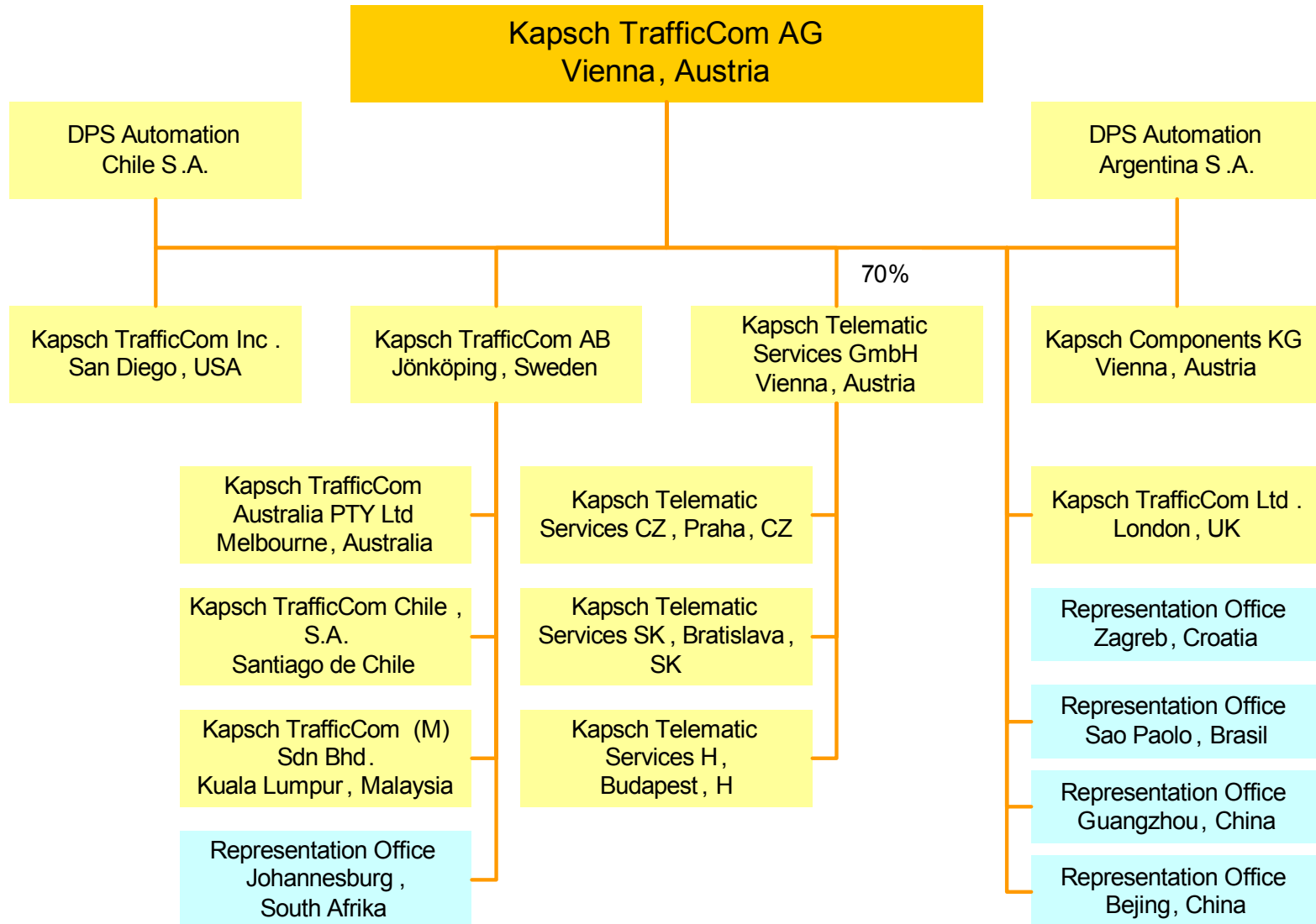
Dipl. Ing. Michael Gschnitzer
Sales Director

**Bratislava,
Sept. 13–14, 2006**

Kapsch TrafficCom AG

- > Kapsch TrafficCom AG is among the world's leading suppliers of systems for road telematics and railway communications applications (GSM-R), with over 100 installations in 30 countries. Headquartered in Vienna, Austria, the group currently has approx. 750 employees worldwide with offices and representatives in more than 10 countries.
- > Founded in 1892, the whole Kapsch Group is operated and 100% owned by the Kapsch family.





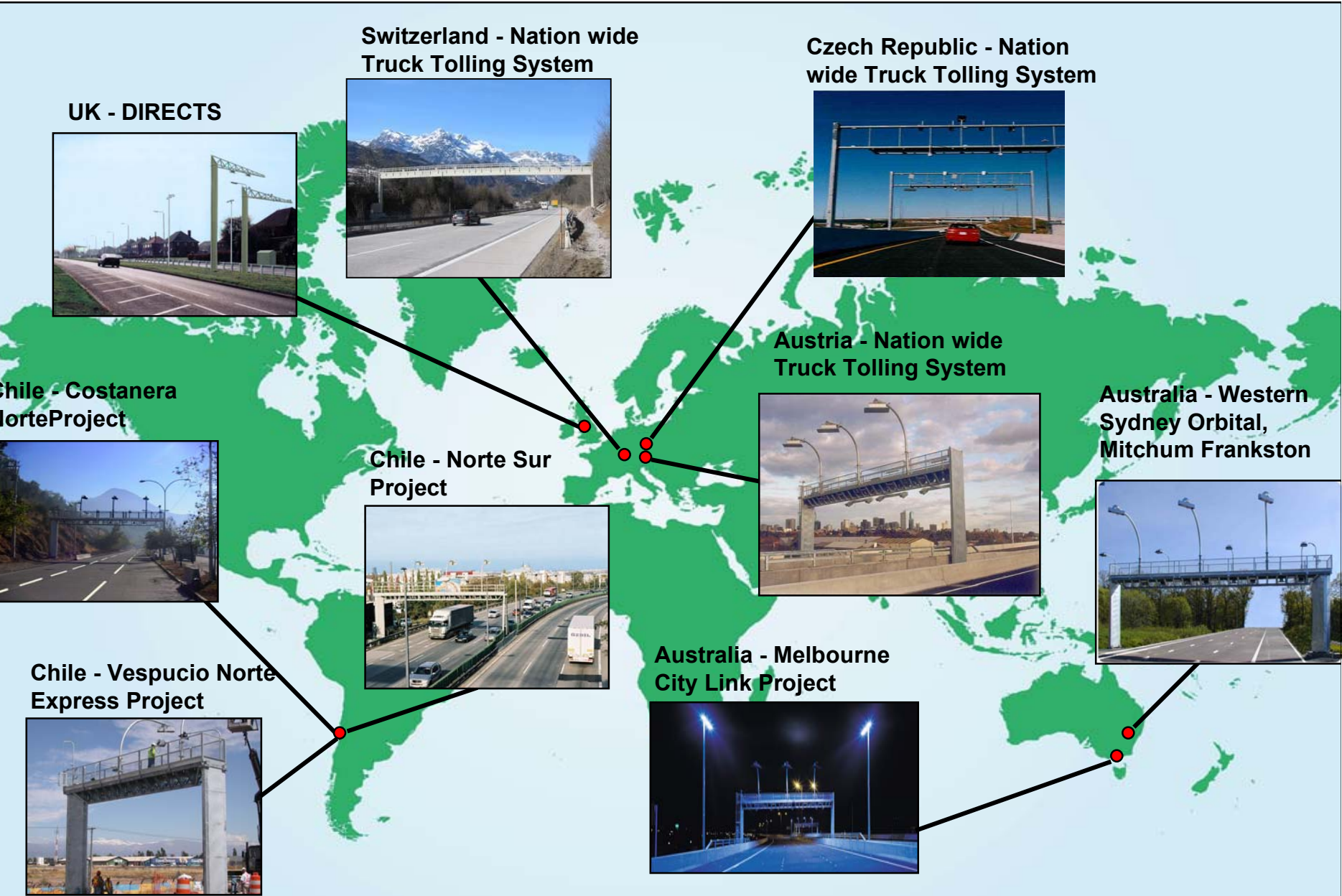
Kapsch Expertise

> From single products and services to complete, fully integrated systems, covering:

- System concept & design
- Planning & roll-out
- Development & manufacturing of DSRC products
- Software Applications
- System Integration & Implementation
- System Commissioning
- Customer Support
- Maintenance & Service
- Operations



MLFF Systems



UK - DIRECTS



Switzerland - Nation wide Truck Tolling System



Czech Republic - Nation wide Truck Tolling System



Austria - Nation wide Truck Tolling System



Chile - Costanera Norte Project



Chile - Norte Sur Project



Chile - Vespucio Norte Express Project



Australia - Melbourne City Link Project



Australia - Western Sydney Orbital, Mitchum Frankston



Kapsch - References

- > Austria (nationwide Truck Tolling, ECO Points), Czech Republic (nationwide Truck Tolling), Switzerland (LSVA) Poland (A4), Sweden (Öresund bridge), Denmark (Great Belt), Norway, France (TIS, approx. 1.000 lanes), Ireland (Dublin Ring Road), UK (Dartford River Crossing, Liverpool), Spain (Europistas, Autopistas, Abertis), Turkey, Slovenia (DARS), Australia (Brisbane, M4, M5, Eastern Distributor, Melbourne City Link), Argentina (AUSOL, Caminos de las Sierras), Chile (Santiago City Charging), Brazil, Malaysia (LPD, Sprint, Shapadu, Penang Bridge, Shah Alam Expr.Way), Philippines (Metro Manila Skyway), China, Greece (Attikki Odos)

100 installations in 30 different nations



Goals of Electronic Fee Collection

- > Increase the capacity of infrastructure
 - postpone infrastructure investments
 - reduce negative impact on environment
- > Changes in the habits of users
 - Re-routing of traffic streams
 - prevent frequent traffic jams
- > Reduce operational cost
- > Collect money in a reliable way
 - proportional / dependent on use
 - for additional investment
 - for operation
 - for safety improvement
 - for the state budget



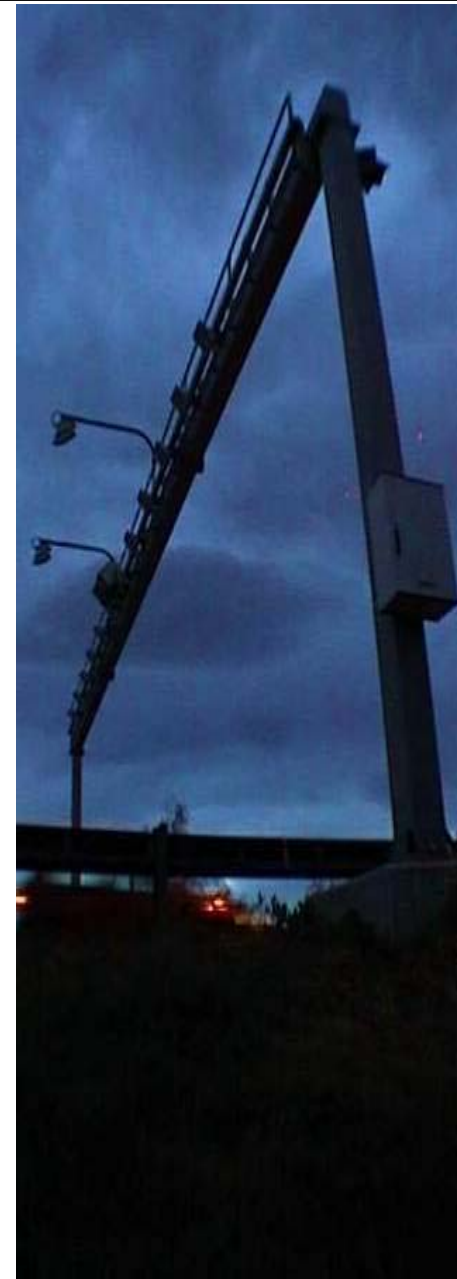
Europe today

- > Manual tolling
 - Traditional tolling, currently mostly in combination with ETC systems
- > ETC systems for single concessions
 - Based on microwave technology
 - Austria, Italy, Slovenia, Croatia, Germany, Greece, Turkey, Serbia, Sweden, Denmark, Norway, Iceland, UK, Ireland, France, Spain, Portugal
- > Nationwide tolling schemes (trucks)
 - Based on microwave technology
 - Austria, Switzerland, Czech Republic
 - Based on GNSS/CN + manual
 - Germany
- > Congestion charging schemes (DSRC)
 - London, Stockholm (Pilot)



Interoperability

- > Different levels of Interoperability
 - Technical
 - CEN TC 278 / ISO TC204
 - A1, GSS
 - CESARE I
 - CARDME 4
 - MEDIA,
 - EETS (EG11)
 - Procedural
 - CESARE III
 - MEDIA
 - Contractual
 - CESARE II/III, CARDME 4
 - MEDIA



European Union – 1999/62/EC

- > Common rules how EU states may charge heavy goods vehicles
- > Changes in **new directive 2006/38/EC**:
 - Introduction of possibility to integrate '**external costs**'
 - In addition to the TEN network member states are also allowed to toll **parallel roads** (or roads in competition)
 - As of 2012, the directive will apply to vehicles of **3.5 tonnes or more** (former for vehicles > 12 tonnes)
 - As of 2010, countries which already apply tolls or user charges will be obliged to **vary their prices according to vehicle pollution standards** (Euro standards series)



European Union – 2004/52/EC

- > In force since end of May 2004
- > Lays down conditions for **interoperability of electronic road toll systems** in the EU
 - It applies to the electronic collection of all types of road fees, on the entire Community road network
- > All ETC systems in EU starting from **1 January 2007** shall use one or more of the following **technologies**:
 - (a) satellite positioning
 - (b) mobile communications using the GSM-GPRS standard
 - (c) 5,8 GHz microwave technology
- > In order to ensure the interoperability of electronic road toll systems in the Community a **European Electronic Tolling Service (EETS)** shall be created.



European Union – EETS

- > Till **July 2006** the EETS should have been defined.
 - Interoperability on all levels
 - Principle: **One contract – One On Board Unit**
- > National operators shall offer the service by **2009** for vehicles above 3,5 tonnes, by **2011** for all vehicles.
- > **Subsidiarity** - every country is free to define its road toll schemes.
 - EETS is an additional service and optional for users.
- > On May 3rd 2006 the Commission presented its **draft for the EETS proposals** to the EFC Expert Group. The **qualified majority** in the regulatory committee (233 votes) seemed to be **unachievable** for the Commission. As a result of this situation the Commission will **transfer the issue to the European Council**.
- > Future timetable unpredictable at this stage



Road Charging Interoperability (RCI)

- > EU program (6th FP) led by ERTICO
- > Goal of RCI
 - Demonstration of ETC transactions by DSRC as well as GNSS/CN using ONE OBU
 - Means there shall be one OBU supporting all existing ETC systems in Europe
 - EU directive 2004/52/EC – EETS shall be available for all road users in Europe
- > RCI will produce a set of technical standards and requirements in each of these three fields of Interoperability
- > Two Consortia have been chosen
 - Thick client
 - Thin client
- > Duration: 36 months starting with July 2005



Success Factors

- > First priority of EFC is collecting money
 - Low risk, high efficiency and security
- > Full functional coverage - no loopholes
- > Tailor your system concept benefiting of the experience from existing (working) solutions
- > Use the know-how of experienced suppliers
- > Minimise interface risk (turn key supply)
- > Responsibility in one hand
 - Full system concept for tolling and enforcement
 - Delivery and implementation
 - Maintenance and continuous monitoring
 - Operations
- > Efficiency of the system
 - Operating cost: EU says max. 15% of revenues





Make sure it works.

